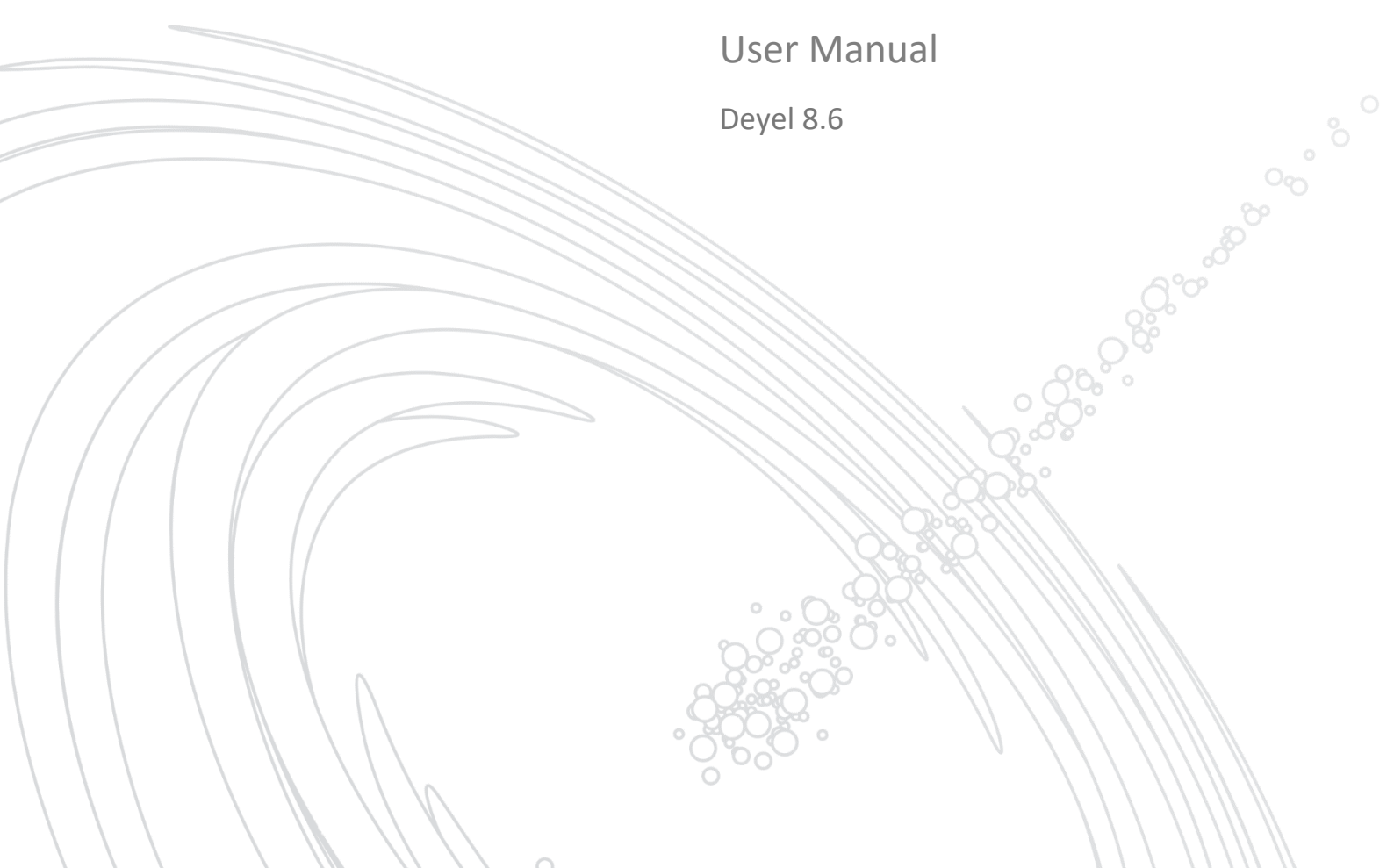


Product Documentation

User Manual

Deyel 8.6




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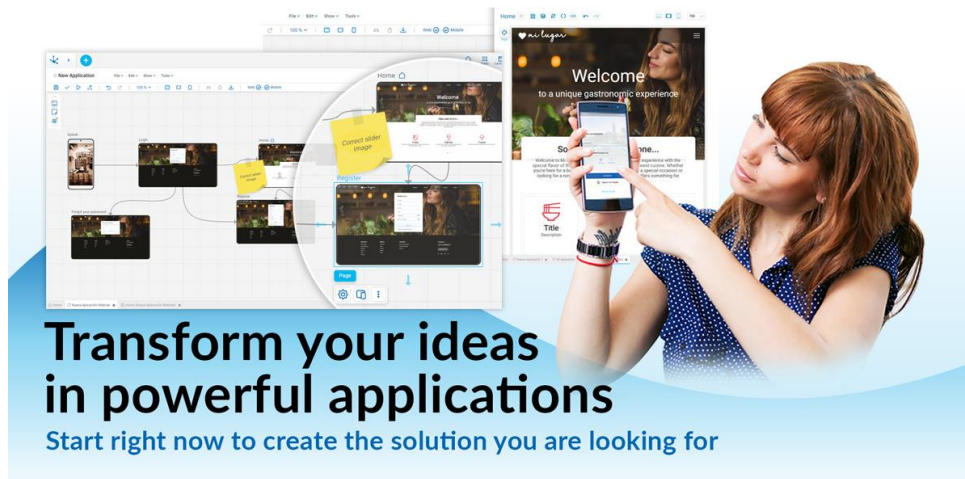
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1. Welcome to Deyel

 [Phase 1: Introduction](#)



2. About Deyel

 [Phase 1: Introduction to Deyel > Low-Code vs No-Code](#)

Deyel is a platform for creating applications. It natively gathers the required components and functionalities required to automate integral processes that impact on the entire company, adapting perfectly to the business journey, reducing the return on investment time and allowing a greater commitment and better experiences.

Do you have a good idea? Dare to make it come true



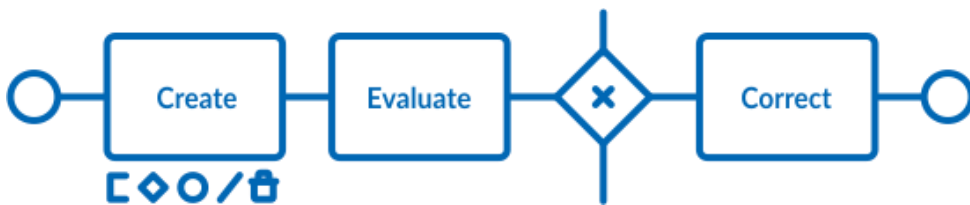
Start creating freely from the form modeler. Model all the forms you use only by selecting, dragging, drop and display. It's really very simple. A good user experience starts with receptive interfaces that can be used in all type of devices.

Secure the integrity and reliability of your information



We can all write rules and define the behavior of our forms. With the rules wizard of **Deyel**, you can create simple rules for your forms field, validations, obligatory, editability and visibility, even when you don't have coding skills. If more complexity is needed you count with tools to define advanced rules.

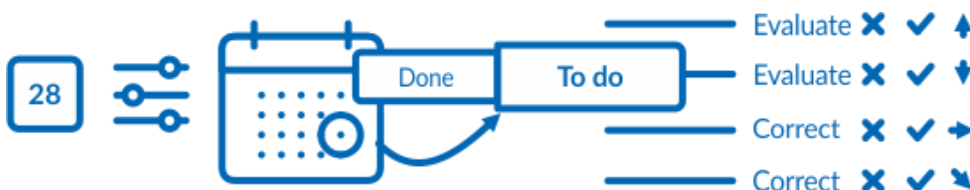
Draw your processes instead of coding them



You bring the experience... the process modeler the tools. No one knows the commercial processes better than who use them and be able to design them freely, automate to the maximum, and integrate them to the rest of the business as well as its protagonists, is the key to digital innovation and for the success of the business itself.

Process modeler is an agile tool for everyone who uses it, not just for IT connoisseurs. Generating an environment of collaborative work among business users, process experts and computer technicians.

The key... teamwork



Take advantage of new technology, simplify your tasks and keep up to day by gaining productivity. Our activities are simplified from **Deyel** portal, where everybody receives their tasks sorted by various criteria and can be seen in list form, calendar or both, facilitating its fulfillment and return.

The calendar view grants the user the simplicity and tranquility to see the whole picture and not just the short term. This is accomplished by the strong integration among business processes, their activities and the interactions between their participants with the personal calendar.

From where you are and with your favorite device



Take decisions faster and in the right time. All the applications developed in **Deyel** can be available on smartphones, tablets, notebooks and other devices as one more app. Downloads from the app store for free and you can use them where you need them with the device you have at the time.

We love to integrate with your applications ... don't worry about this



Deyel makes it easy for you for your application to play in the big leagues. Integration rules, together with the adapters already defined or the ones you can create, make the applications developed in Deyel able to interact directly with your corporate systems, web services, robots, artificial intelligence, the internet of things and your favorite apps.

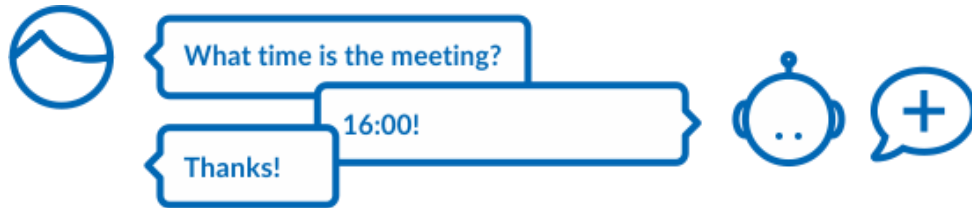
For authentication, **Deyel** has an embedded security system that can be integrated with LDAP, allowing users to be managed in an integrated way.

Visualize and control each detail of your business



Deyel dashboards are the best way to show what is important in one single place. **Deyel** portal provides you with all the information and tools necessary to define dashboards containing business indicators based on multiple types of graphs, without the need for coding. Forget about business intelligence tools.

Improve communication and share information with your whole team



Collaboration is key to improve productivity. **Deyel** has collaboration tools where users interact through messages, share information, state, comments and documentation related to your business applications and each case in particular.

Deyel's corporate social messaging, carried out through private or group chats, allows, unlike others, that all communication between sender and receiver is associated with the case as part of its execution and resolution, becoming such a fundamental piece as the process information itself.

The management indicators, based on the analysis of the execution of the applications, are defined in a very easy way through the **Deyel** widget modeler and with them, you can design your dashboards in the dashboards modeler, with high visual impact, favoring the interpretation of the evolution of your business.

Define who you interact with



Who, when and how they access your application data. Participants in a process are much more than a simple user; they are the ones who give life to the business, and its success depends in part on their performance.

Deyel participants don't necessarily have to be human. Many tasks are automated through IoT technology and others are executed transparently and efficiently by bots, driving new digital experiences in a wide range of use cases.

Deyel allows you to observe, through each participant, what tasks are being carried out, which ones have to be carried out and also how they are carried out, including their characteristics, behavior, performance and level of participation in company tasks.

3. User Manual



Architecture



General Concepts



User Portal



Agile Forms



Modeler



Integration



Business Social Network - Tedis



BAM and Process Analysis

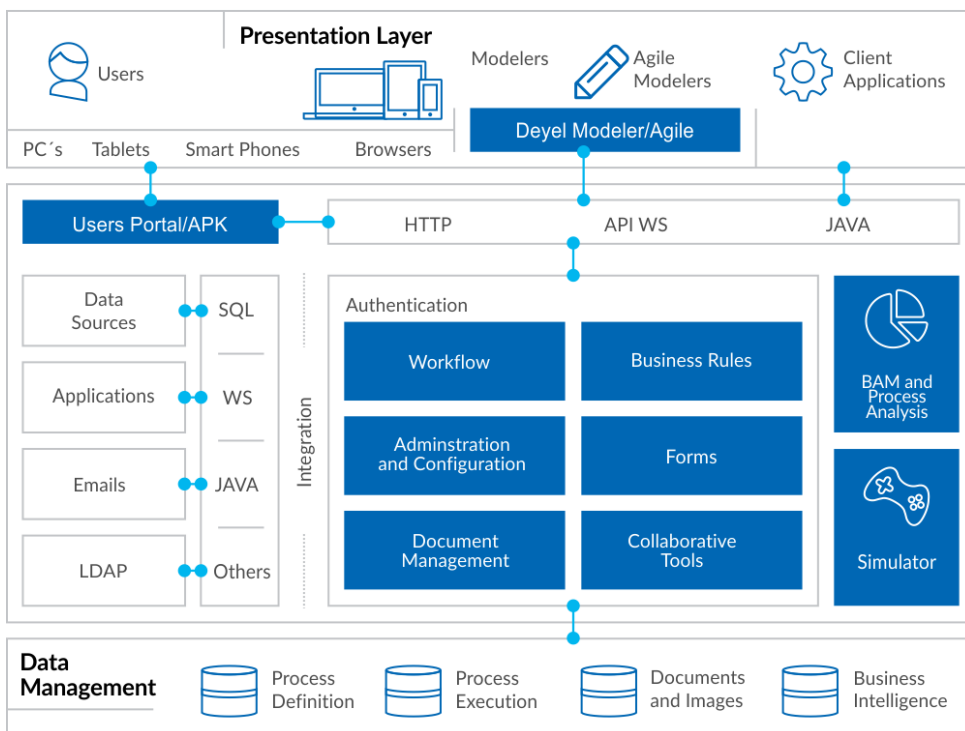


Administration and Configuration

3.1. Architecture

Deyel is a product based on Java technology, developed with modern object-oriented patterns. It supports several industry standards such as HTML5, CSS3, RWD, web services, multiple database and application servers.

The following chart describes the main components of its architecture.



Graphic Modeler

Using the [graphic modeler](#), business users can graphically design their processes using **BPMN 2.0** (Business Process Model and Notation) symbols in an intuitive and easy-to-use environment. Each process with its activities, interconnections, events, times, alerts, etc. can be defined and also documented. In this same workspace, aspects of processes implementation can be included, such as user interfaces of the activities, integration with other applications, variables and business rules, among others.

User Portal

Through the [portal](#) of **Deyel**, users can interact with their list of activities and execute their tasks, start cases of their processes, consult them, access collaborative tools, monitoring reports, etc. The administration and configuration functionality can also be used through the portal. The portal is based on standards such as RWD, HTML5 and CSS3. They can be used on mobile devices or desktop PCs through web browsers. Its appearance is configurable according to the characteristics of each organization.

Workflow Engine

The workflow engine of **Deyel** interprets and executes the definition of business processes that are modeled in the graphic modeler. The modeler stores the graphically modeled processes within the process repository, so that the workflow engine can interpret these definitions and execute them. The execution state remains in the case execution repository.

Forms Administrator

Through this **Deyel** tool, forms that represent the user interface of human activities are generated in the modeled processes. Forms contain the process variables that are used by business rules and other related objects.

Forms have an interface rich in components (jQuery and Bootstrap), support RWD (Responsive Web Design) concept and are based on standards such as HTML5 and CSS3.

Business Rules

The behavior of processes is defined by [business rules](#). Rules can be used in validations, specific business logic, process flow control, integration with other applications, etc.

Deyel offers wizards the business user that allow them to intuitively define the behavior of the rule. These wizards present the user with control structures, access to available parameters and variables, previously defined business rules, executing components, logical operators, etc. Rules persist in the object catalog of **Deyel**.

Collaborative Tools

With the [messenger service](#) of **Deyel**, users can communicate easily. Messages can be used among users in private, or they can be public when they are associated with cases or processes definitions. Associating them with cases provides a collaborative tool among the participants of the case, making these messages part of the case. On the other hand, messages related to the definition of processes enable a direct communication channel to improve processes among the participants of the case and process owners. Also, subscriptions enable an option to choose to receive messages about cases or processes of interest.

Integration

Deyel provides [tools and services](#) that allow any application to interact in a bi-directional way with the defined processes. Making use of adapters based on Web Services, Java, JDBC and others, allows to integrate existing applications or data sources.

Deyel also has Java APIs and web services that allow any application to interact with processes through them.

BAM and Process Analysis

Deyel offers powerful capabilities for [analysis and browsing of multidimensional structures](#) that allow to analyze the operation of processes and their tasks, both historically (Process Analysis) and in real time (BAM - Business Activity Monitoring).

Through predefined reports, it is possible to observe and understand the operation of processes and detect possible improvements. They analyze in brief the behavior of processes and their tasks, being able to identify what was done on time, with delay, deviations against maximum and expected durations, trends, participant performance, bottlenecks, etc.

The behavioral information is displayed as a grid and through charts, always having the reference of the expected trend curves to contrast against reality. In this way, behavior can be graphically monitored. In all cases, it is possible to drill down into the information, reaching the process level, task, executor, date range, case, etc. Multiple views of the information can be generated by navigating it through multiple dimensions, such as time, priorities, participants, initiators, states of cases and tasks, among others.

Administration and Configuration

The [administration and configuration](#) of **Deyel** allows to define the security and authentication of process participants with their different profiles and roles, their relation with LDAP repositories, workgroups, their districts, calendars, time zones, user portal appearance and also technical aspects of the solution.

3.2. General Concepts

To develop an application with **Deyel**, a set of concepts is used to allow easy and intuitive modeling of each of its objects.

Application

A **Deyel** application is a set of processes, business entities based on forms, value lists, advanced rules, adapters, roles, permissions, dashboards, widgets and reports, related to each other with the objective of solving a specific request. These objects can be defined within the same application or shared from other applications.

The applications developed with **Deyel** can be web or mobile (Android and IOs). In both cases, the applications can be developed responsively to adapt to the different devices that use them.

Through the applications modeler, independent applications can be easily and intuitively modeled. The navigation flows of these applications can be designed through the modeling of their user flows, wire-flows and the pages that implement the application interface.

Applications can be created from scratch or based on predefined templates. Using templates helps to create applications more quickly using patterns and common functionalities found in business applications.

Entity

An entity or business entity is a representation of a real-world concept in an application. For example, an entity can represent a product, a customer, or an order. Entities have attributes that describe them, such as their name, price, or creation date. Entities store application data within themselves.

Business entities can be modeled by citizen developers either in a classic tabular form or graphically, without the need for technical knowledge. Through the entity modeler, entities can be modeled as they are perceived in the real world, by dragging and dropping elements that define their appearance. These elements have properties configured with default values, so that citizen developers do not need to configure technical properties, but it allows IT developers to customize their operation in detail.

Relations can be established between different entities, whether they are business entities specific to the application or parameterization entities such as value lists. Relations with other objects can also be established through integration rules.

Entities, through their modeling, automatically generate:

- The persistence structure in the database.
- The user interface for maintaining their data and also to be used in business process activities.
- A Rest API so that the entity can be used by other applications.

Scope

Entities can be used in the application in which they were defined or in other applications as well.

Attribute

An attribute is the information unit within an entity.

Process

A process is a sequence of human or automatic tasks (services), the performance of which allows meeting a business objective. The sequence has a start, an end, and may contain connectors. It is represented as a process diagram based on the standard of **BPMN 2.0** (Business Process Model and Notation).

Scope

Processes can be used in the application in which they were defined or in other applications as well.

Form

A form is the user interface of business entities. It can be used in user activities of processes or in the data administration of the entity itself.

Business entities of applications can be modeled graphically by citizen developers without the need for technical knowledge. Through the form modeler, business entities of applications can be modeled as they are perceived in the real world, by dragging and dropping controls that define their appearance. Controls have properties set to default values so that citizen developers do not need to set technical properties but allows IT developers to adjust their behavior in detail. Relations among different entities can be established, whether they are business entities of the application, parameterization entities such as value lists or with other objects through integration rules.

The forms modeler together with the engine of **Deyel**, are in charge of solving the data model persistence generated by business entities of applications.

Scope

Forms can be used in the application in which they were defined or in other applications as well.

Examples

- The "Vacation Request" form is used in the "Vacation" process.
- The "Employee" form is used to update data stored in its fields during its life cycle. In addition, such form fields can be used from different processes related to it that contain user activities.

Control

A control allows to define the appearance of a form field in the user interface. In addition, controlling may add default behavior and persistence characteristics to the form field, which can be modeled later.

Through a set of controls, a pattern-based interface design guide can be defined in order to solve common situations and achieve a homogeneous interface.

Forms are created from a gallery of controls, each of them allows defining:

- The appearance of a form field in the user interface.
- The layout of fields and graphic elements within the form.
- Actions to do from the user interface.

Examples

- Text Box
- Integer
- Container

Page

Pages define the UI of **Deyel** applications. Through page modeling, **Deyel** applications achieve a perfect UX.

Pages show, create, and edit application entity information and also allow users to invoke automations through business processes and rules.

Pages are made up of one or more graphic elements.

Scope

Pages can be used in the application in which they were defined or in other applications as well.

Types

- Modeled Pages
Through the page modeler, pixel-perfect user interfaces can be obtained by defining the behavior of each element at any of the proposed breakpoints.
- Built-in Pages
Built-in pages in the platform are pages that are commonly used in all applications and that are already available to be used by any application without coding.

Examples

- Login pages, registration pages
- Forgot my password
- CRUD and forms grid
- Dashboards
- Chats
- To do list
- My cases
- Calendars

- User profile

Graphic Element

Graphic elements are the graphic interface components of **Deyel** pages. There are Structure elements (section, container and layout), Essential elements (text, button, image, line) and Advanced elements (carousel, catalog, search, logged-in user, etc.).

Rule

Business rules allow to define the behavior of application objects. Rules can be used in validations, specific business logic, process flow control, integration with other applications, field display control in forms, scheduled tasks, calendars, widgets and agents, among other functionalities.

There are rules that can be modeled without programming and others are based on Java code.

Types

- Embedded Rules

Embedded rules are used to define the behavior, validations, and calculations of form fields, as well as form validations. Embedded rules allow to define logical conditions and arithmetic expressions, which are evaluated using forms and their related processes. A wizard integrated in the corresponding modelers is used for definition. This wizard is found in the property definition panels of the fields and containers of forms and of flows themselves.

Scope

Embedded rules belong only to the object that contains them.

Examples

- Define conditions in flows within a process.
- Execute automatic actions in activities of a process.
- Define requirement, visibility, edition, calculations and validations in form fields.

- Advanced Rules

Advanced rules are based on Java and are used to include complex logic or integrations with other applications. They are developed using the SDK for Java of **Deyel**, both from the advanced rules modeler included in **Deyel** as in any Java IDE to be used.

Scope

Advanced rules are global for all applications.

Examples

- Execute automatic actions in activities of a process.
- Execute scheduled tasks.
- Execute business logic within the source of an widget.

Function

Software unit that performs a specific task that is executed when invoked from a programming code or from the modeling wizards. It can receive input parameters and return a result.

Value List

A value list is a set of predetermined data used to report and unify criteria when using a field. There are options that the user can drop down and select when completing the form.

Scope

Value lists can be used by the application forms in which they were defined or in other forms as well.

Examples

- Client Type
- Industry
- State

Widget

Widgets allow to know the business evolution through the use of a graphic representation, based on the execution analysis of applications. The information represented in the form of charts is obtained from application forms or by using advanced rules.

Widgets can be represented, for example, as metrics, as pie charts, column charts, horizontal bar charts, area charts or line charts, among others.

Scope

Widgets can be used in the application in which they were defined or in other applications as well.

Dashboard

A dashboard is a collection of widgets that present relevant information for the business user, with high visual impact.

Scope

Dashboards can be used in the application in which they were defined or in other applications as well.

Types

- Application

They are modeled through the dashboard modeler by IT modeler users and are defined in the applications.

- User

They are modeled by business users and can only be used by those who defined them since they are not part of the applications.

Adapter

An adapter allows integration with different applications and platforms by using advanced business rules. Its purpose is to exchange data and share behaviors.

An adapter encapsulates the complexity of communicating with an external component. It allows different advanced rules to use it to invoke the operations that such component exposes.

Scope

Adapters are global for all applications.

Types

- Built-in

They are adapters defined in **Deyel**, available in all environments from the modeler's grid. There can only be one of each type in each environment.

Examples

- Twitter
- Mercado Libre
- Deyel SDK
- Docusign
- GoogleDrive

- Standard

These adapters allow access to web services from external providers, in their different communication architectures, such as Rest API and SOAP.

- Database

Adapters that allow to define access to relational databases through the Java JDBC protocol. **Deyel** provides custom adapters for the most popular database engines on the market, facilitating configuration and optimizing interaction with such engines.

Report

A report contains entity information that is presented with a certain layout. The report can be modeled very simple way by selecting its information and quickly designing its presentation. When modeling it,

choose the fields of the entities that are part of the report and of those related entities. The order of these fields can be modeled and by using filters, the information contained in the report can be selected.

Scope

Reports can be used in the application in which they were defined or in other applications as well.

Types

- **Application**
They are modeled through the report modeler by IT modeler users and are defined in the applications.
- **User**
They are modeled by business users and can only be used by those who defined them since they are not part of the applications.

Use of Concepts

Some considerations regarding the use of concepts described in this topic are described below.

Property

They describe in general terms applications, entities, processes, forms, attributes, rules, and functions, among other objects.

Control

The term control is used only in the modeling of the graphic interface of forms.

Field

Forms store their data in a set of fields. In the forms modeler, a form field can be defined from an attribute of another entity, in this case it is called a related attribute and it can have persistence.

Attribute

It is the smallest unit of information of an entity, it corresponds to the data model.

Variable

A variable corresponds to the attribute of a system or business entity and is used by business processes to define its state and behavior. It can contain data of the temporary conditions of the instances of the processes (cases), of the business objects or references to the latter.

Scope

- Local: It can only be accessed and modified during the execution of the process case that uses it. Variables of completed cases can be accessed but not modified.
- Global: It can be accessed and modified by the operations of the corresponding form or entity, by the processes that use it or by business rules.

3.3. Deyel Applications

An application from **Deyel** is made up of a set of objects related to each other, with the objective of solving a determined request.

The applications can be web, mobile or both at the time.

The web applications can be based on the configurable design provided with **Deyel** or they can be developed with a totally free design using modelable pages.

Web Applications

Once the web application is published, it can be accessed from a web browser with the URL defined in the property [Path](#) from the application.

Deyel has the global application by default and the access to the [portal](#) from such application is done without specifying the access route.

If the global application is customized, the changes are reflected when it is published. If such publication is deleted the application is displayed again by default.

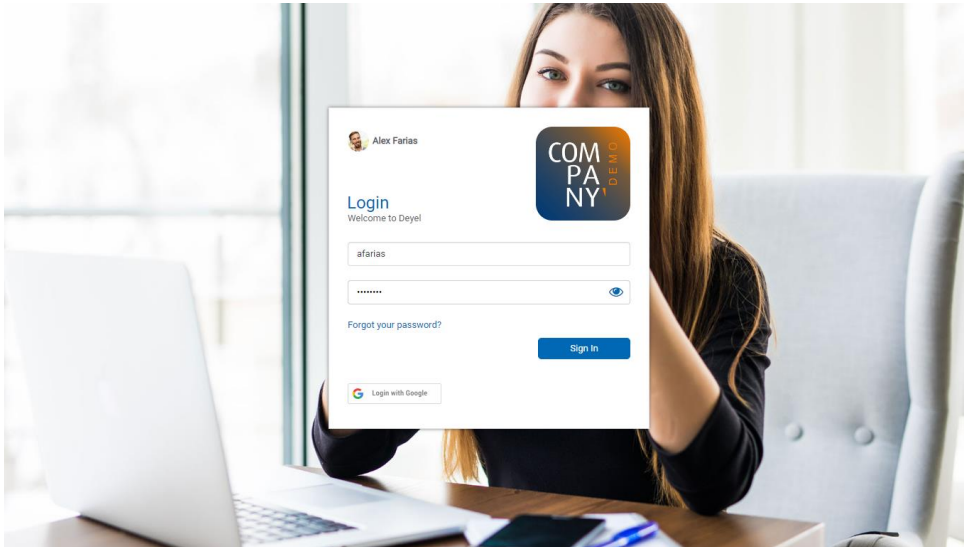
Deyel allows to model the application with the predetermined values, as well as customize the following elements:

- Access page
- Layout of the application framework
- Configuration of the menu
- Selection of the Home page according to the user permissions

Access Page

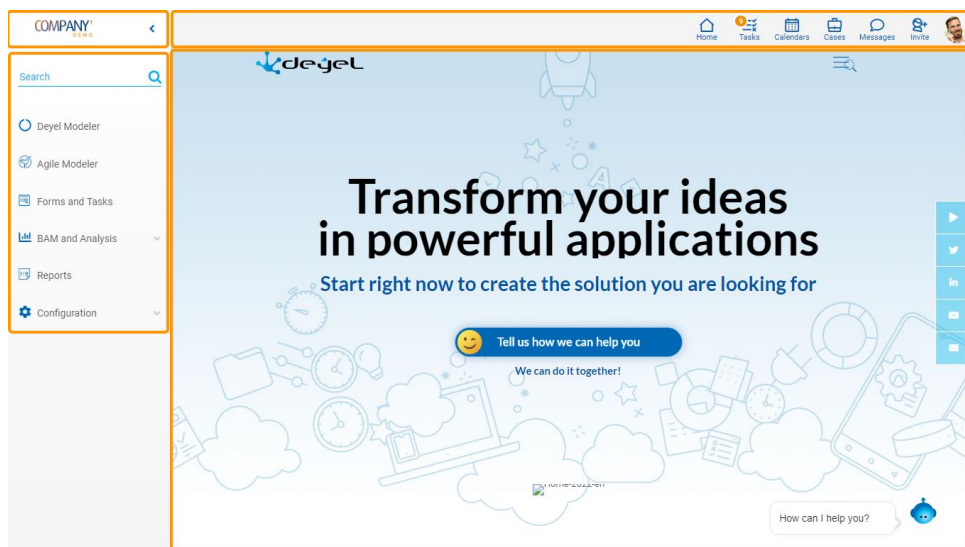
In this example, the "Demo Company" application whose route access was defined as "miam-biente.deyel.com/empresademo" has been modeled.

The background image and the company logo of the access page were customized.



Layout, Menu, Home Page

The layout theme and the icons displayed on the top toolbar have been customized, the context menu has been removed, and the company logo on the drop-down menu has been modified. An item has been added to the menu and others have been deleted. A page modeled in **Deyel** has been selected as the home page.



Mobile Applications

This type of applications can be accessed from mobile devices or tablets once installed by scanning their QR code.

The mobile application can be modeled with default values in its properties or they can be customized. Also, just like a web application, it can use pages modeled in **Deyel**.

For each mobile application their elements can be designed:

- Splash
- Login
- Home Tabs

Mobile Device and Tablet

The pages design is the same for both types of devices.

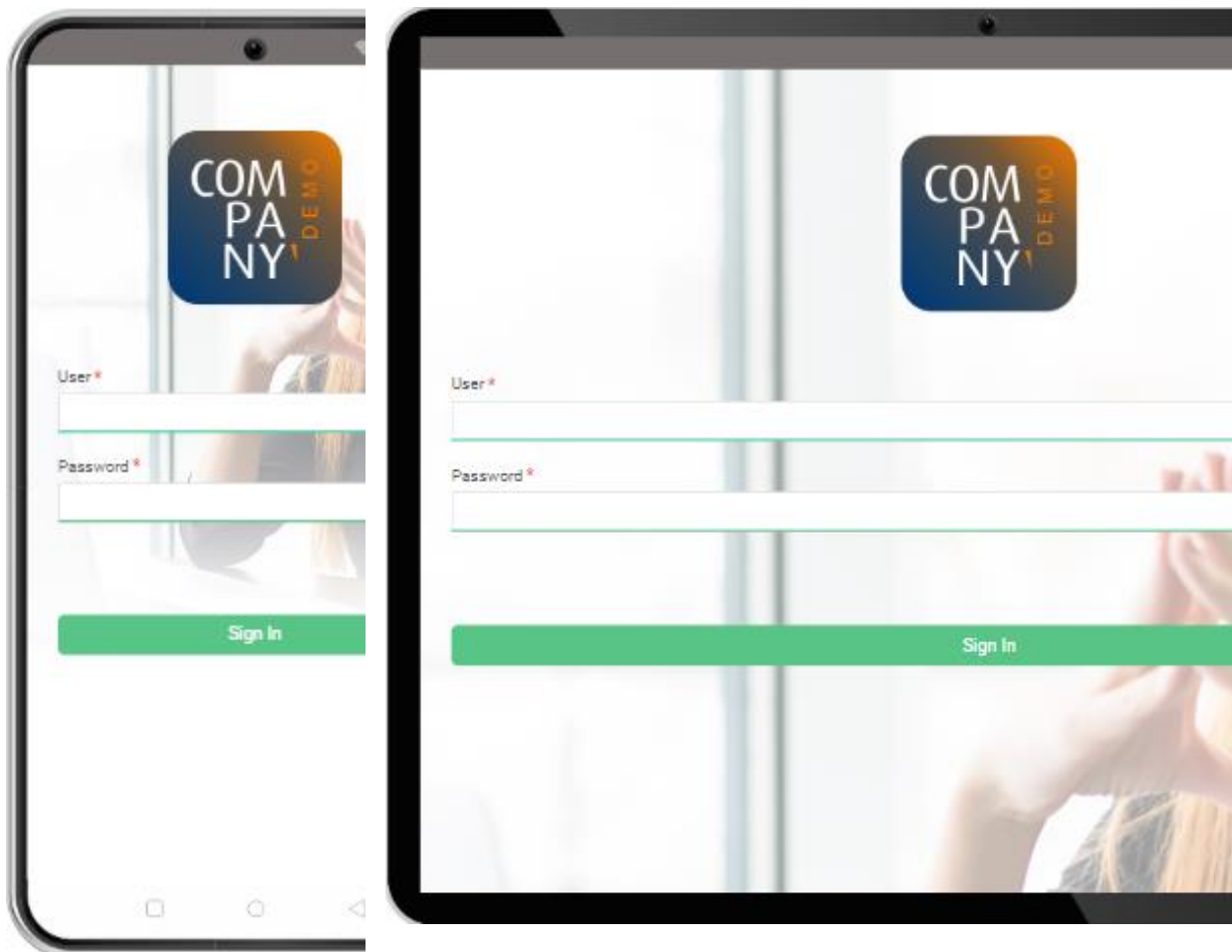
Splash

In this example the image and background color have been customized on the splash page.



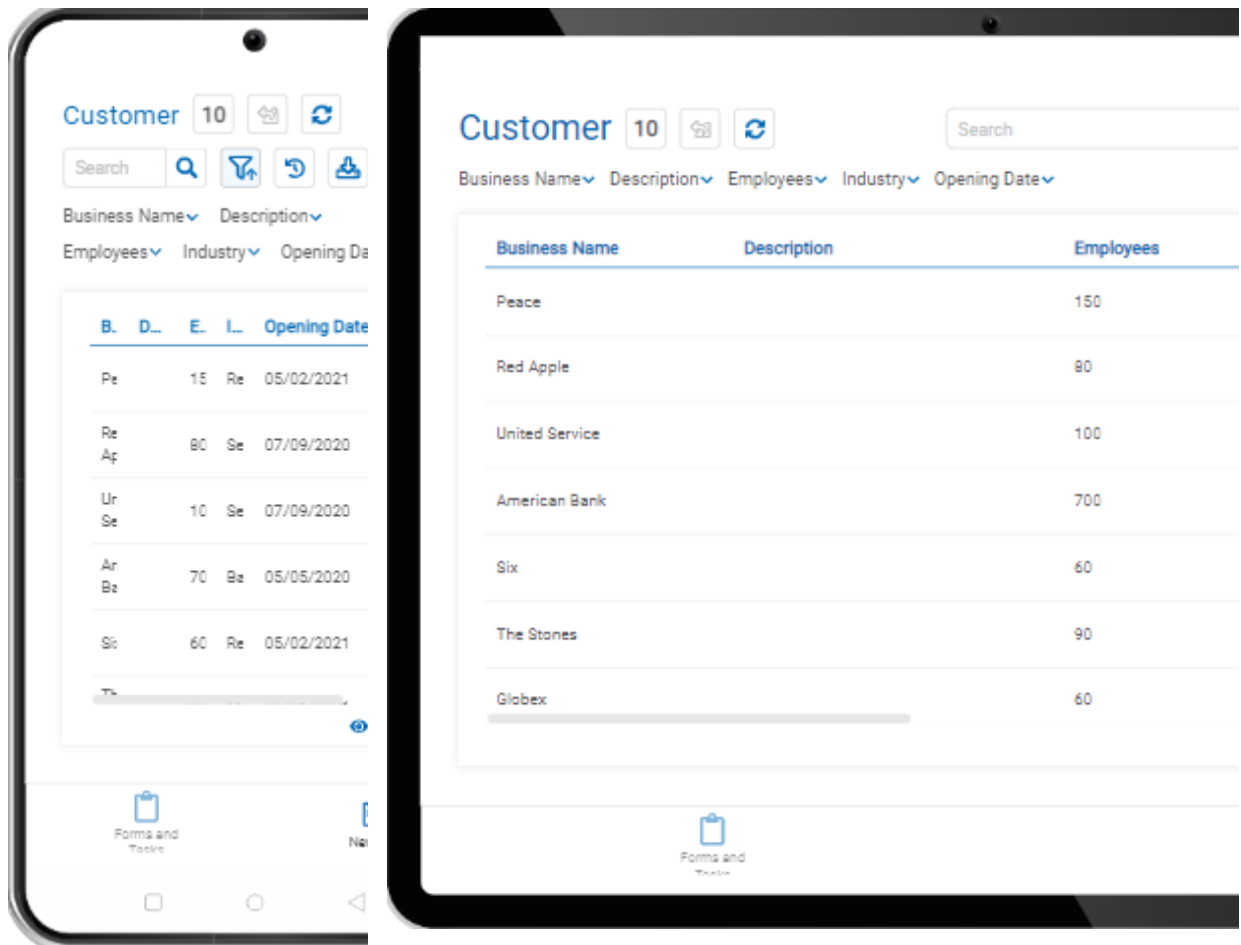
Login

The text of the username and password fields, the label and the color of the button, the company logo and the background where an image was uploaded have been customized on the login page.



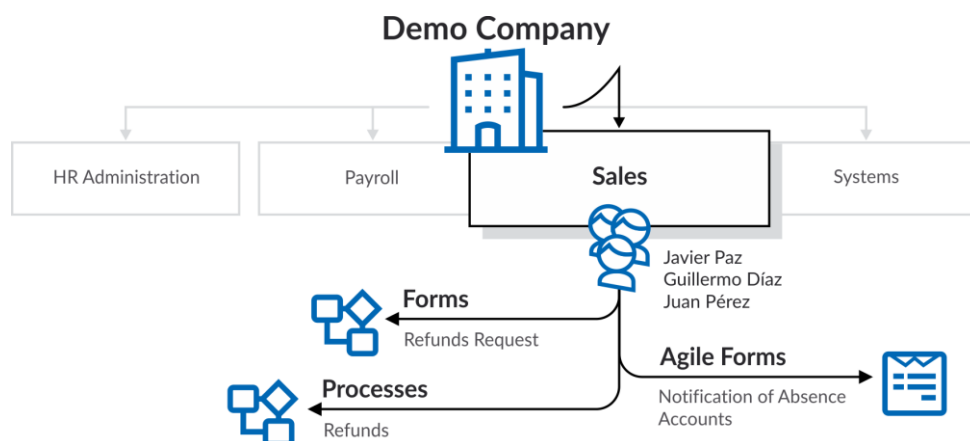
Home

The visibility of the "Home", "Chats", "Tasks" and "Forms and Tasks" tabs have been defined on the home page. The name and icon of each tab have been customized and the background color of the context menu has been changed.



3.4. Examples of Use

In **Deyel**, examples are included to quickly become familiar with the tool, in order to experience how applications can be quickly and easily modeled to promote productivity in the company. For this, a demonstration company is defined with examples of agile forms, organizational units and users.



The demonstration company can be deleted, along with all related information that may have been generated during testing. These samples can also be re-imported at any time.

Agile Forms

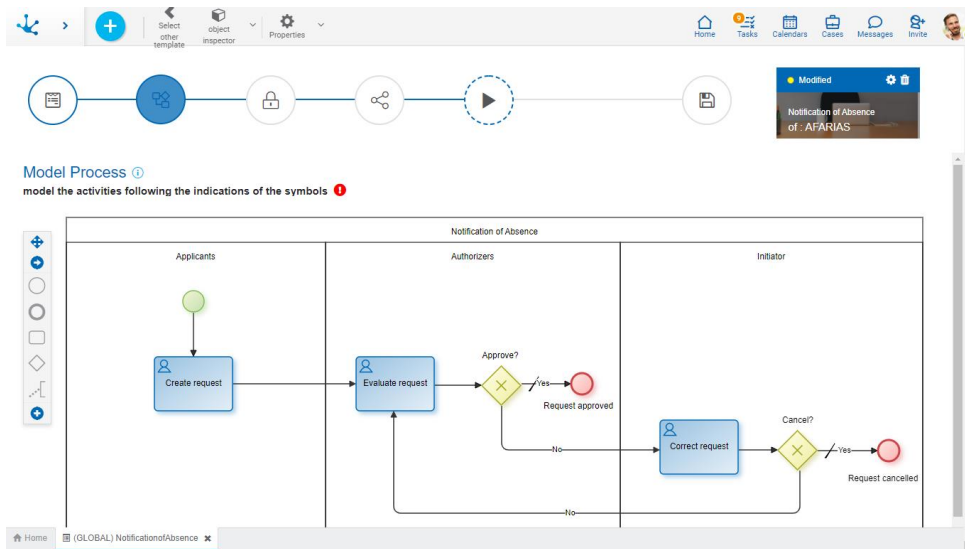
A set of agile forms modeled after existing templates, are included in the tool. Each of the forms contains a group of suggested fields, which can be extended with new fields defined by the business user according to the needs of their company.

The processes associated with these forms correspond to standard [models](#) for common use in all organizations.

Notification of Absence

Agile form with an associated process to report absences, through which company employees can report absences from work, along with the reasons for them and request authorization from a superior. The applicant should connect to the portal and start a process to communicate to their colleagues at the same organizational unit, that they will be absent. To do this, they must complete a form to record the absence period with relevant justification and send the request to the corresponding authorizer with supporting documentation. When the absence is duly justified, with medical certification or other type of documentation, the head of the sector authorizes and ends the communication. If it is not approved, it is sent for revision to the applicant, who can resend the order or cancel it.

The screenshot shows a web application interface for creating an absence request. At the top, there is a navigation bar with icons for Home, Tasks, Calendars, Cases, Messages, and Invite, along with a user profile picture. Below the navigation bar, the page title is 'Create request'. The form is titled 'Absence' and contains several input fields: 'Name' (filled with 'Alex'), 'Surname' (filled with 'Farias'), and 'Organizational Unit' (filled with 'System Departments'). There are also fields for 'Start Date' and 'Number of days', a large text area for 'Reason', and a file upload field for 'Voucher' with the text 'Select a file'. An 'Accept' button is located at the bottom right of the form.

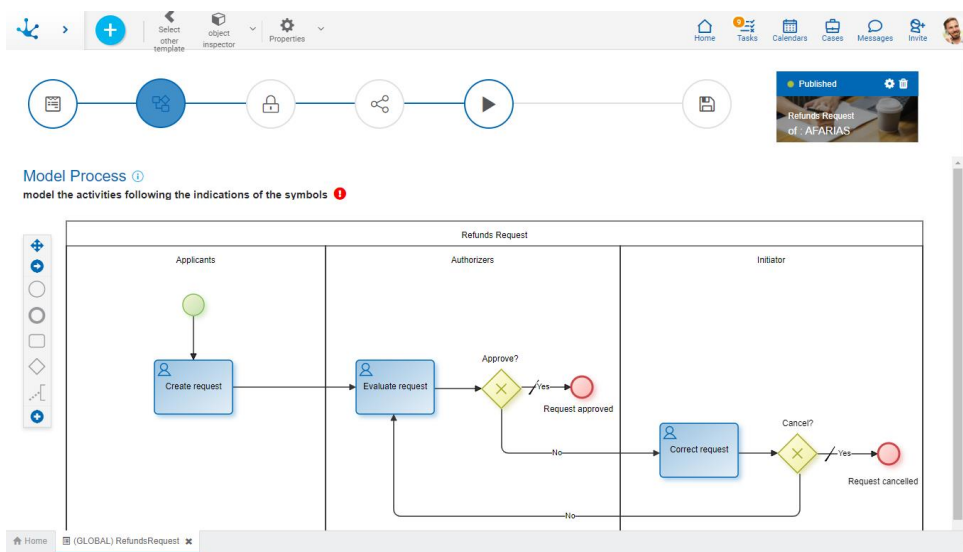


Customers

Agile form without an associated process, on which business users can perform create, show, update and delete operations, according to the permissions they have defined.

Refunds Request

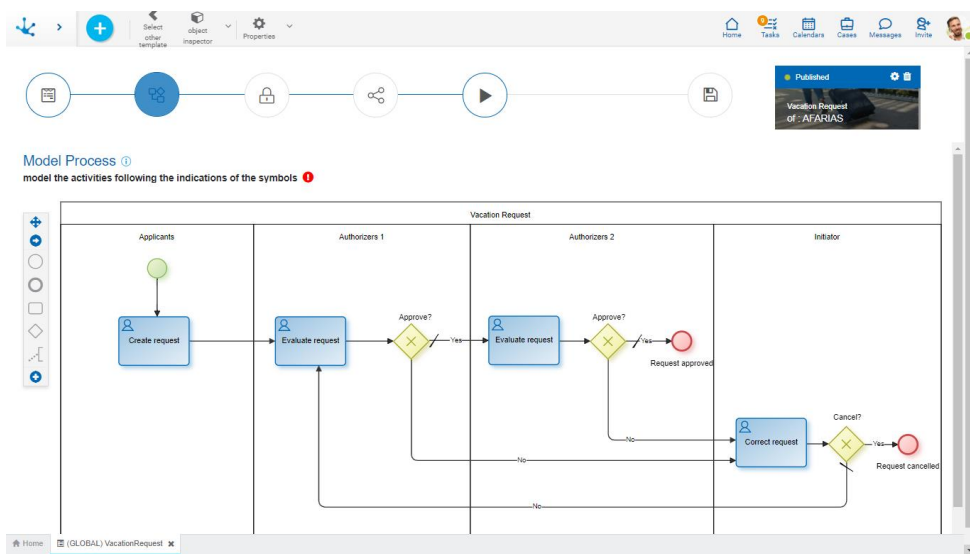
Agile form with an associated process to request expense refunds, through which company employees can complete a request form itemizing expenses with their corresponding amounts and attach their receipts. The request is sent to the corresponding authorizer to approve it or return it to the applicant for revision, who can resend the order or cancel it.



Vacation Request

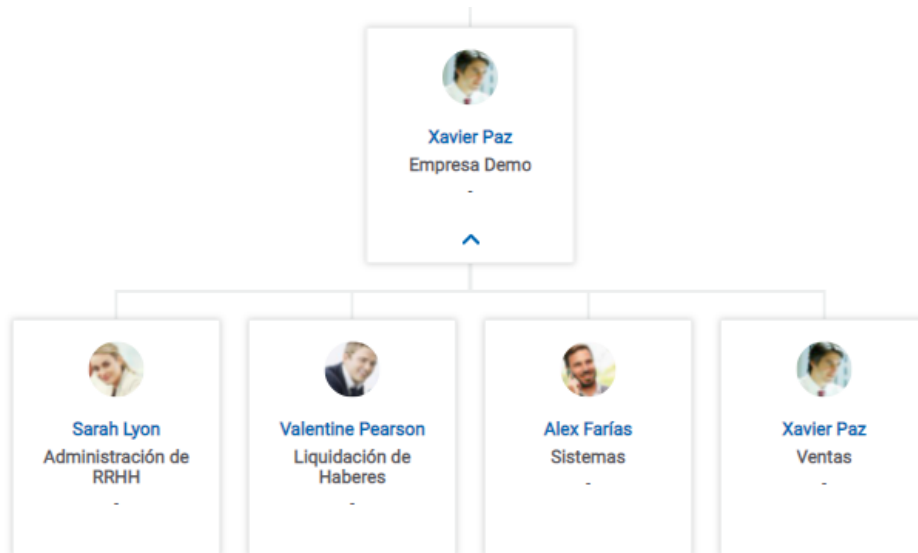
Agile form with an associated process, through which company employees can manage their vacations. To do this, they have to complete a form with the start date and the end date and send it to the authorizer. Next, the personnel administration and payroll sector performs the corresponding controls and procedures. As sectors authorize requests, they progress to their full approval. If any request is not approved, it is sent to the applicant for revision, to be corrected and resent for authorization or to be canceled.

The screenshot shows a web form titled 'Create request' for a 'Vacation Request'. The form is divided into two main sections: 'Vacation Request' and 'Additional Information'.
 In the 'Vacation Request' section, there are input fields for:
 - Name: Alex
 - Surname: Farias
 - Organizational Unit: Ventas
 - User: (dropdown menu)
 - Start date: (calendar icon)
 - Finish date: (calendar icon)
 - Application number: (text field)
 - Requesting user: (text field)
 Below these fields is an 'Additional Information' section with a large text area for 'Observations'.
 At the bottom right of the form is a blue 'Accept' button.



Organizational Structure

The demonstration company defined with data and form examples with their associated processes is called "Demo Company". In the organizational structure there are [organizational units](#) defined that correspond to company offices, which group business users.



The Demo Company can be deleted by a user with administrator permissions.

Confirming this operation deletes the following data:

- The Demo Company organizational unit and all its subordinate units.
- Users Javier Paz, Juan Perez, Sandra Lopez, Valentin Pereira, Guillermo Diaz and Alejandro Farias, who belong to the organizational unit.
- Vacation Request, Refund Request and Notification of Absence agile forms.

Users

The [users](#) defined in the demonstration company belong to different organizational units and are assigned permissions according to their position. All users use "deyel123" password to log in.

User	Organizational Unit	Permission
SLOPEZ - Sandra López	HR Administration	DEYEL- End User
VPEREIRA - Valentin Pereira	Payroll	DEYEL- End User
AFARIAS - Alejandro Farías	Systems	DEYEL - Administrator DEYEL - Security Administrator DEYEL - Deyel Modeler
G DIAZ - Guillermo Diaz	Sales	CRM - Salesperson
JPAZ - Javier Paz	Sales	DEYEL - Agile Modeler CRM - Sales Manager
JPEREZ - Juan Perez	Sales	DEYEL- End User CRM - Salesperson

3.5. Users Portal

[Phase 3: Portal](#)

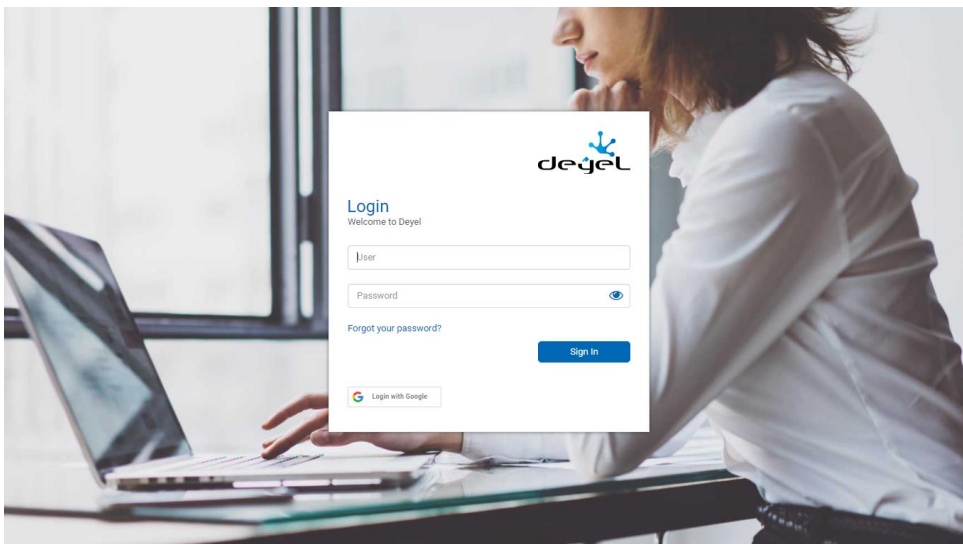
Using the portal of **Deyel**, the users can show their activities list and execute their tasks, initiate cases of their processes and show them, access collaborative tools, use their forms and set the environment, among other functionalities.

The user interface is based on the concept “model once, execute everywhere” allowing the applications implemented in **Deyel** can be executed indistinctly from any type of device, including PC workstations, notebooks, tablets and smartphones. It has been designed based on “responsive web design”, dynamically adapting to the device used to access the portal. Being able to use forms and execute business processes using mobile technologies, enables a new generation of applications, where users can connect at any time and from anywhere, executing and consulting their tasks, with the same familiarity available in the tools of habitual use.

Using standards such as HTML5 and style sheets, a modern interface is obtained and rich in functionality, which adapts and greatly increases the function of use in the different types of devices, taking advantage of the advantages of each one, such as cameras, gps, etc.

3.5.1. Portal Access

In order to access the portal, the username and password must be entered, both the username and the email address can be used, if it is defined as an alias.




It can be accessed from mobile devices, desktop PCs or notebooks, adapting the login window to each of them.

Deyel ensures the correct identification of the user and controls that they have authorization to use the selected product.

In case of not remembering the password, the user can select the option [Forgot your Password?](#) to establish a new one.

Through the icon to the right of the password field, it can be displayed.

 It allows to display the password.

 It allows to hide the password.

When a user is correctly authenticated and enters the portal from a certain device, their profile image is remembered in the access window. This way, the next time the user enters the portal from the same device, their image will be visible and by selecting it, the user is completed, only having to enter the password.

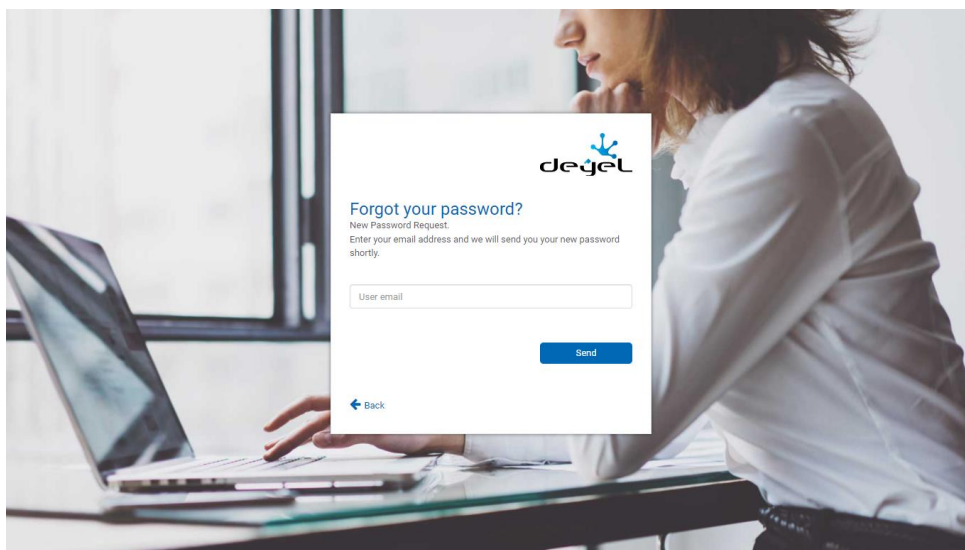
If the user leaves **Deyel** without logging out, it is protected. Therefore, the next time the user enters the portal, they will do so directly with the same user without the need to re-authenticate.

Session Closed Due to Inactivity

If a period of inactivity is exceeded during the work session, such session closes automatically. If an operation is attempted on a session that was closed, the user is sent to the login.

Forgot your Password?

When selecting the "Forgot your Password?" option in the portal access, a user can request a new access key and is asked to enter the email address registered in their profile. Once the user is identified, a new password is sent by email to the informed account.



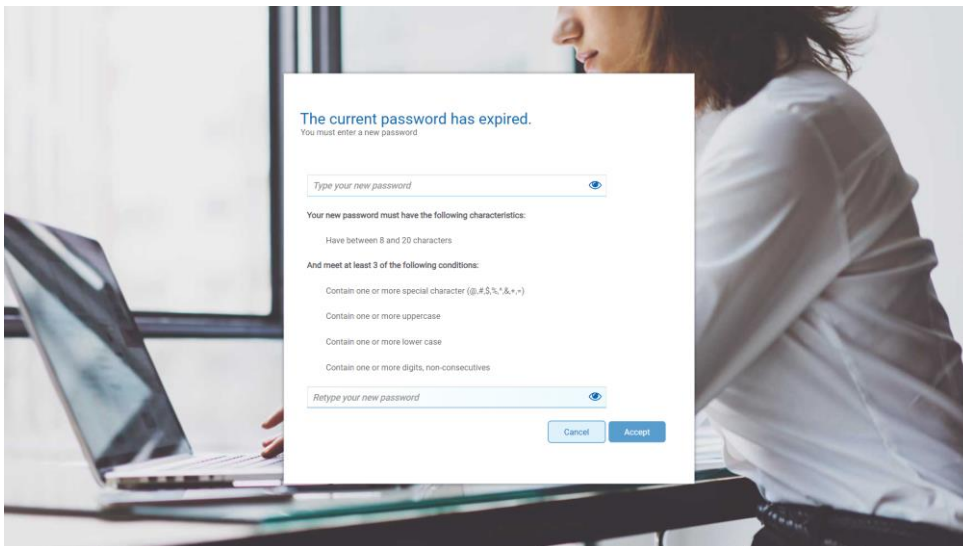
it is only available when using the [native authentication](#), where **Deyel** manages access passwords.

Passwords Expiration

Deyel allows to configure the [expiration time of the passwords](#) and the [anticipated notification](#) of these events.

When a user is authenticated in the portal, **Deyel** verifies if their password has expired. This verification is only made if the form of authentication is [native](#) or [mixed](#), forcing the user to enter a new password.


Before starting the work session, the following panel opens so that the user can set their new password.



When a user is correctly authenticated through [Deyel Rest API](#) and **Deyel** verifies their password has expired, it returns an authentication error "Your password has expired".

3.5.2. Menu

 [Phase 3: Portal > Menus](#)

The menu can be displayed from the top left corner and is represented by the icon  , when selecting it, the options that the user has enabled are displayed.



The theme used by the user portal can be defined in the [environment configuration](#).

Principal Characteristics

Deyel Modeler

Allows to [model](#) the applications and objects that make it up.

Agile Modeler

Allows to model applications based on [agile forms](#) immediately.

Forms and Tasks

Allows to display the gallery of [forms and tasks](#) from where operations can be made for each element.

Searcher

Allows to search among all the options available in the menu, forms and functionalities enabled for the user. When entering a search criteria, such as a word or part of it, a filter is applied with the search pattern used. Once the search results have been obtained, the desired option can be selected. The search criteria can be deleted by pressing the "X" that is to the left of it and it returns to the complete menu.

Solutions

The menu includes options for those solutions that the user has access to.

BAM (Business Activity Monitoring) and Analysis

This menu option allows access to the set of reports of [BAM and Analysis](#) to analyze the functioning of the processes and their tasks.

- In real time (BAM)
- Historical (Analysis)

Configuration

Under this menu option the user can select the [configuration](#) of users permissions, organizational units and of the environment, among other functionalities.



Image

Allows to personalize the solution incorporating an image. For a better display, it is recommended an image 200 pixels wide at most. To add or to delete it, the user must click on the pencil icon and a menu with the available options is displayed.

Entry

- Selecting the "Upload" option opens a window with the user's local files.
- The file that contains the desired image to incorporate into the bar must be selected.

Deletion

The "Delete" option must be selected.

3.5.3. Top Toolbar



[Phase 3: Portal > Top bar](#)

Contains the icons corresponding to the principal functionalities of **Deyel**. Allows quick access to them by clicking on the icons.

The screenshot shows the top toolbar of the Deyel application. It includes navigation icons for Home, Tasks (with a notification badge), Calendars, Cases, Messages, and Invite. Below the toolbar, there is a search bar and a table of tasks.

Case	Process	Description	Activity	Home	Responsible User	Expiration Da...	Priority
<input type="checkbox"/> 4	Consolidated Weekly Reimbursements	(MyApp) Consolidated Weekly Reimbursements v1 - Check Consolidated	Check Consolidated	18/01/2022 16:06	Alex Farias		↓
<input type="checkbox"/> 50	Consolidated Weekly Reimbursements	(MyApp) Consolidated Weekly Reimbursements v1 - Check Consolidated	Check Consolidated	26/10/2021 16:06	Alex Farias		↓
<input type="checkbox"/> 49	Consolidated Weekly Reimbursements	(MyApp) Consolidated Weekly Reimbursements v1 - Check Consolidated	Check Consolidated	19/10/2021 16:06	Alex Farias		↓
<input type="checkbox"/> 36	Refund with possible payment suspension	(MyApp) Refund with possible payment suspension v1 - Evaluate request	Evaluate request	18/10/2021 14:49	Alex Farias		↓
<input type="checkbox"/> 39	Refund of reported pending expenses	(MyApp) Refund of reported pending expenses v1 - Correct request	Correct request	18/10/2021 14:49	Alex Farias		↓
<input type="checkbox"/> 25	Refunds with Budget Control	(Global) Refunds with Budget Control v1 - Evaluate application	Evaluate application	18/10/2021 14:49	Alex Farias		↓
<input type="checkbox"/> 18	Refund of reported pending expenses	(MyApp) Refund of reported pending expenses v1 - Check availability	Check availability	18/10/2021 14:49	Alex Farias		↓
<input type="checkbox"/> 26	Refunds with Budget Control	(Global) Refunds with Budget Control v1 - Evaluate application	Evaluate application	18/10/2021 14:49	Alex Farias		↓
<input type="checkbox"/> 35	Refund with possible payment suspension	(MyApp) Refund with possible payment suspension v1 - Correct request	Correct request	18/10/2021 14:48	Alex Farias		↓
<input type="checkbox"/> 37	Refund with possible payment suspension	(MyApp) Refund with possible payment suspension v1 - Correct request	Correct request	18/10/2021 14:48	Alex Farias		↓

Bar Elements



Context Menu

It allows to create a new instance of the forms or starting a new case of the processes, to which the user has access. By clicking on the icon or hovering over it, a [context menu](#) is displayed.



Logo

Deyel allows to personalize the solution incorporating the company logo. For a better display, it is recommended an image up to 40 pixels high. To add or to delete the logo, the user must click on the pencil icon and a menu with the available options is displayed.

Entry

- Selecting the "Upload" option opens a window with the user's local files.
- The file that contains the desired image to incorporate into the bar must be selected.

Deletion

The "Delete" option must be selected.



Home

Positions the user in the initial panel of the solution in which he was authenticated, closing the menu option currently open.



Tasks

Show the total number of tasks that the user has pending execution. Clicking on this icon the list of the last three tasks assigned to the user and the corresponding action buttons available are displayed. At the end of the list it is displayed a link of [all my tasks](#) to access the tasks grid of the user.



Calendars

It is used to show and manage the [Calendars](#) available for the user.



Cases

It is used to access the cases initiated by the user themselves. If the user is a coordinator, they also display the cases initiated by the members of their team.



Messages

It is used to exchange messages and participate in conversations related to tasks, accessing the resources and benefits provided by the [Tedis business social networking](#).

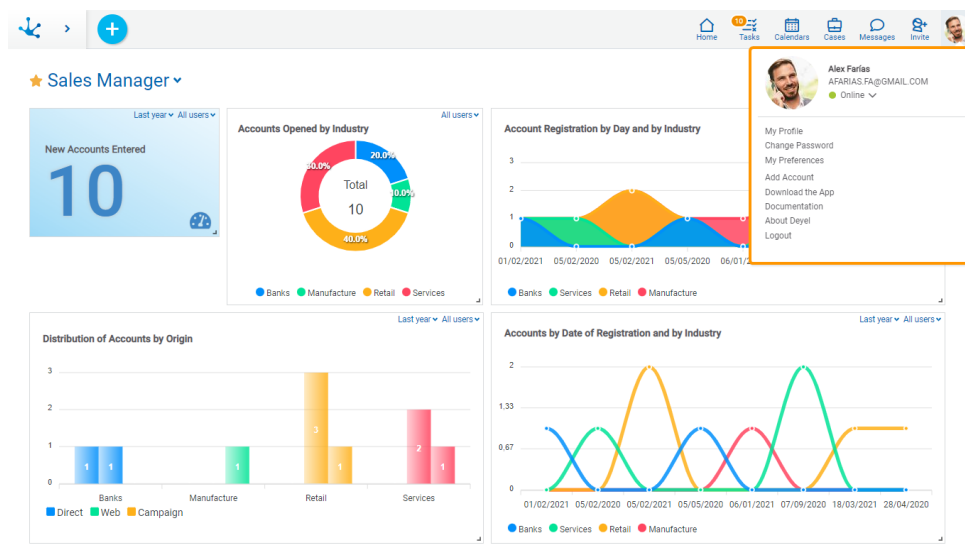
Invite

Allows to make [invitations](#) to external users so that they can join in using the environment.

Profile

It is used to quickly display a summary of the user data:

- Name
- Email
- State for the messenger service



The following options are also enabled:

My Profile

This option allows to [manage the user profile data](#).

Change Password

Allows the user to [change their password](#). This option is only available when the authentication method of the users include the [Native Authentication](#), where the key words are verified by **Deyel**.

My Preferences

Allows the user to easily define the values of a set of properties. Each of these properties can also be modified in the [environment configuration](#).

Add Account

Allows to open portal sessions in new tabs of the browser with the same or different users. This option is enabled by modeling the configurable property [Allow multiple user sessions with the same browser](#).

Start Tour

Allows to use [a guide for first steps](#) in **Deyel**, being able to select different options:

- To watch an introductory video
- To model a form
- To ask doubts through the Deyel Bot
- To access the training phases online

This option is enabled by modeling the configurable property [Show tour modal](#), within the user preferences.

Download App

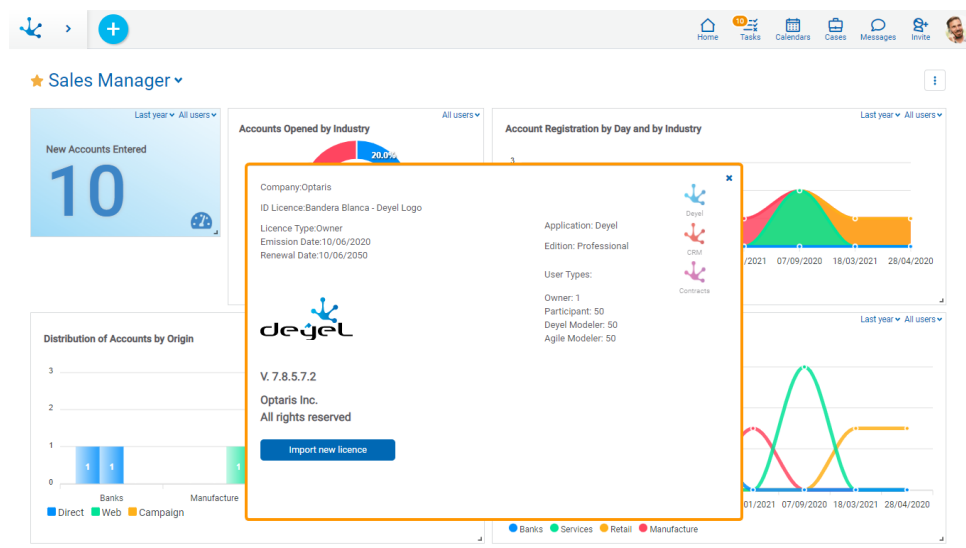
Allows to download the Deyel App in iOS and Android devices. This download can be made manually or by scanning a QR code.

Documentation

It has the reference to the user manual of **Deyel**.

About Deyel

Information related to the environment and the licensing of the solutions in use is displayed.



Logout


Logs the user out and returns to the login window of [portal access](#), for a new login.

If a user is logged in with [IDM federated authentication](#) and the property [Logout URL](#) of the adapter is defined, the user is redirected to the indicated URL to close that session.

3.5.3.1. Context Menu

The context menu is a dynamic menu, where the options depend on the functionality in use and the permissions of the logged in user. It allows to rapidly open available menu options, in pop-up form or with icons.

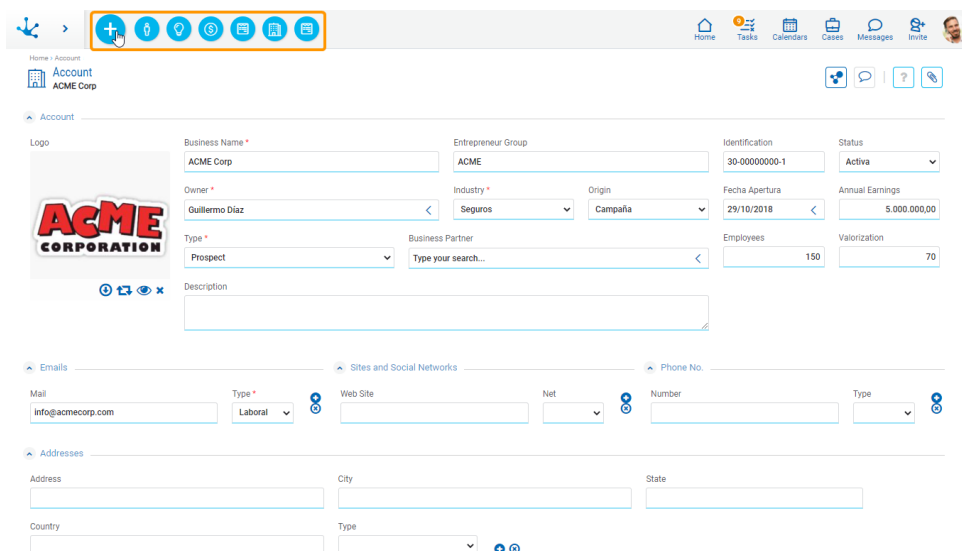
Icons Menu

This menu is enabled when hovering over the icon  and the icons that represent forms and processes corresponding to the functionality in use are enabled over the toolbar.

Pressing on any of the displayed icons you access the option to add a corresponding form instance or initiate a process case.

Example

On the next example the forms and processes available are displayed to the user, of the solution **Deyel CRM**. From the show of a selected instance of the Account form, the context menu of the icons allows to initiate the different forms and processes associated to the Account: Contact, Opportunity, Budget and Action.



The screenshot shows the Deyel CRM interface for an Account form. At the top, a toolbar contains several icons, with a plus icon highlighted in a blue circle. Below the toolbar, the Account form is displayed with fields for Business Name (ACME Corp), Entrepreneur Group (ACME), Identification (30-00000000-1), Status (Activa), Owner (Guillermo Diaz), Industry (Seguros), Origin (Campaña), Fecha Apertura (29/10/2018), Annual Earnings (5.000.000,00), Type (Prospect), Business Partner (Type your search...), Employees (150), and Valorization (70). Below the form, there are sections for Emails, Sites and Social Networks, and Addresses.

Expanded Menu

This menu is enabled by pressing the icon , expanding a panel with the sections:

- Forms and processes related to the functionality in use, in light blue color.
- Forms and processes more used by the user, in grey color.

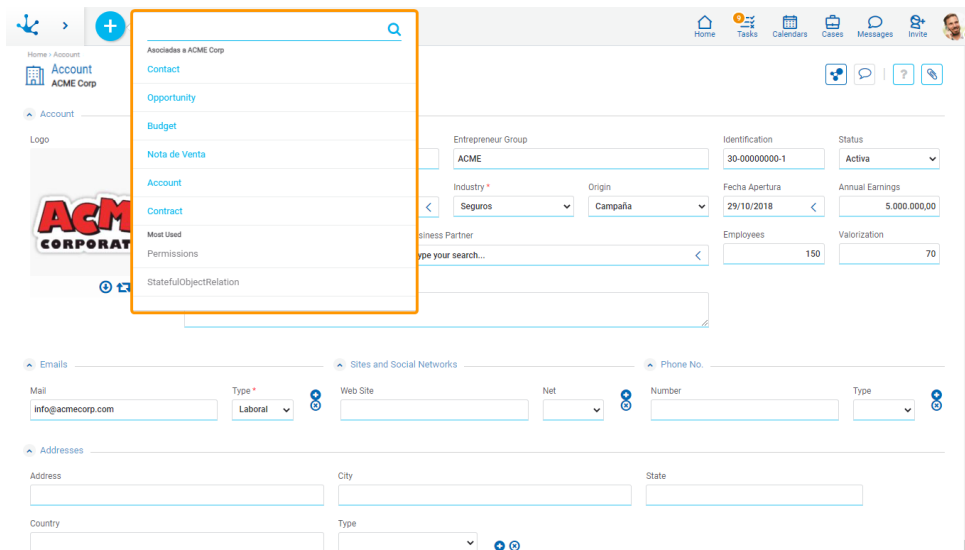
In both cases, pressing an option, it enables the functionality to add information to the form or the process selected.

The icon  allows to make the search action on the available options.

Example

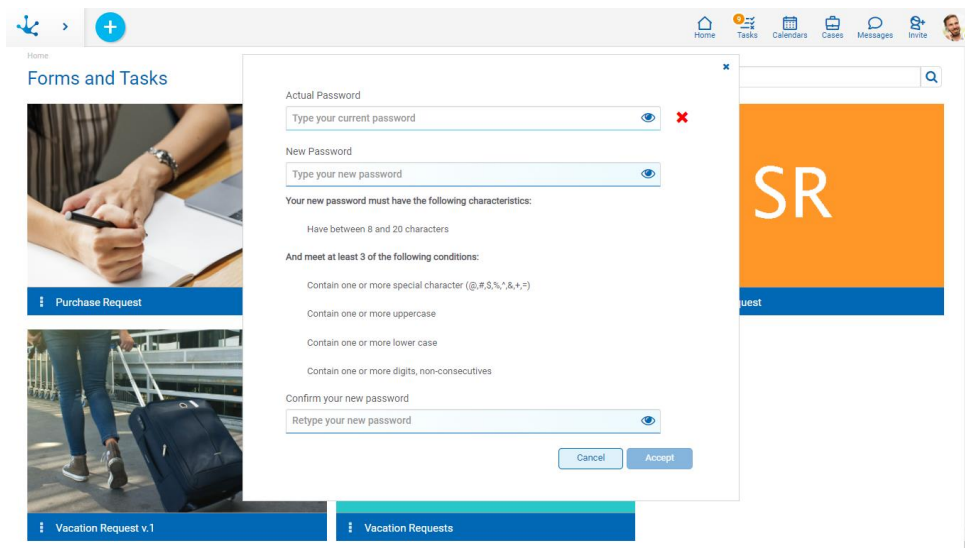
On the next example the forms and processes available are displayed to the user, of the solution **Deyel CRM**. From the show of a selected instance of the Account form, the context menu expanded allows to

initiate the different forms and processes associated to the Account: Contact, Opportunity, Budget and Action, or any of the objects that has been used more often.

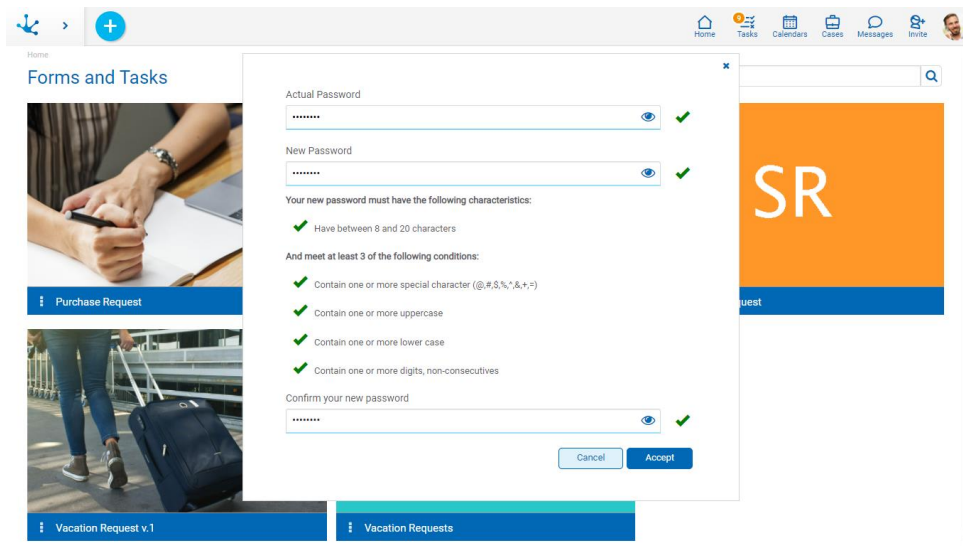


3.5.3.2. Change Password

By selecting the option to change the password from the user profile icon, a panel is enabled to enter the new password with the characteristics and conditions requested.



As the characteristics and conditions of the new password are fulfilled, the icon ✓ is displayed on each row.



Password Expiration Control

Deyel allows to configure the [expiration time of the passwords](#) and the [notification in advanced](#) of these events.

Password Repeat Control

Deyel allows to control that the user renews their passwords without repeating them. When the user establishes a new password, **Deyel** can verify if they are different from the previous N. Number N, it is established in the environment property [password history](#).

When the new password does not comply with these restrictions, the user receives a message "You have used that password previously. You must inform a different one."

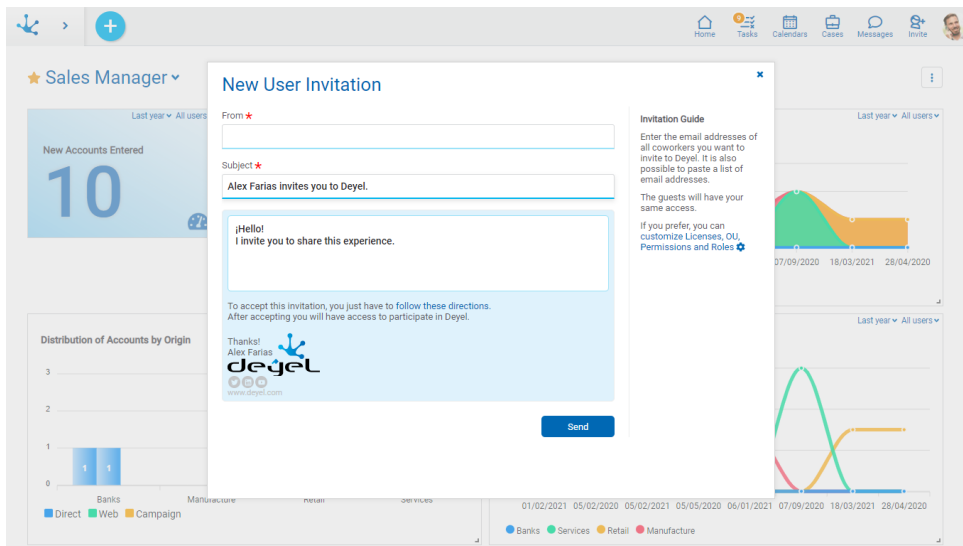
The activation of this control is only valid for the [native authentication](#), because it is the only situation where passwords persist in **Deyel**.

3.5.3.3. Invitation to Users

Allows external users to join in using the environment.

The invitation can be made depending on the [security permissions](#) defined for the logged-in user.

It is available for **Deyel** environments that use native, LDPA, federated or mixed [authentication](#) methods. When custom authentication is the only method used, inviting users is not available.



Steps to Make Invitations

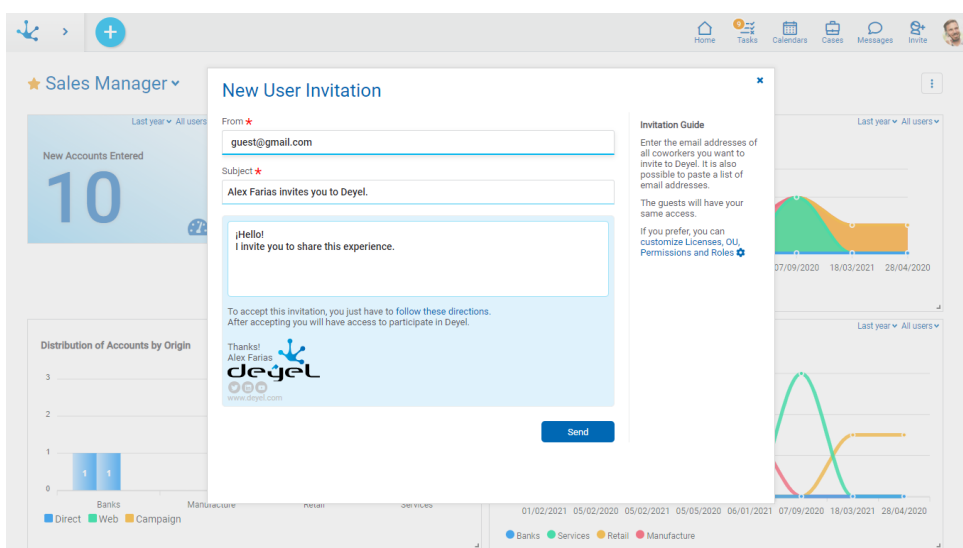
In the right part of the window, a panel is displayed with a step guide so that the user can make the invitations.

Step 1: Indicate email addresses

Email addresses of user guests must be entered, they must be valid, belong to authorized domains and not correspond to existing users in the environment.

If the LDAP authentication method is used, verify if there is a user in that directory whose email address is the one reported. If so, the invitation is accepted.

The subject and the body of the message contain default texts and the user can customize them.



An asterisk "*" on the label indicates that the field is required.

Step 2: Customize licenses, organizational units, permissions, and roles

By default, the guest user is set to have the same product licenses, organizational units, permissions, and roles as the inviting user. However, when making the invitation, these definitions can be changed by pressing the option indicated in the side panel.

- Organizational Unit.

Allows to select the [organizational unit](#) of their own or any unit dependent on it.

- Product Licenses

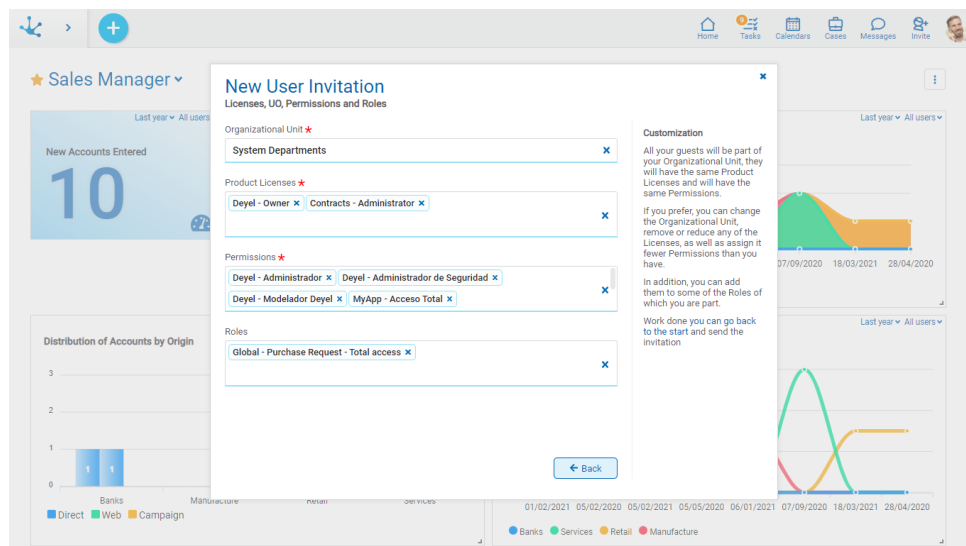
Allows to use the same user [license](#) that the inviting user has or change it for another type of license of lower hierarchy. For example, if the inviting user is a Deyel modeler, new modeling users or participating users can be invited whereas, if the inviting user is a participant, only new participating users can be added.

- Access Permissions

Allows to select [permissions](#) for a guest user. They can be all or some of the permissions of the user that is making the invitation.

- Roles

Allows to select [roles](#) for the guest user which can be all or some of those integrated by the inviting user.



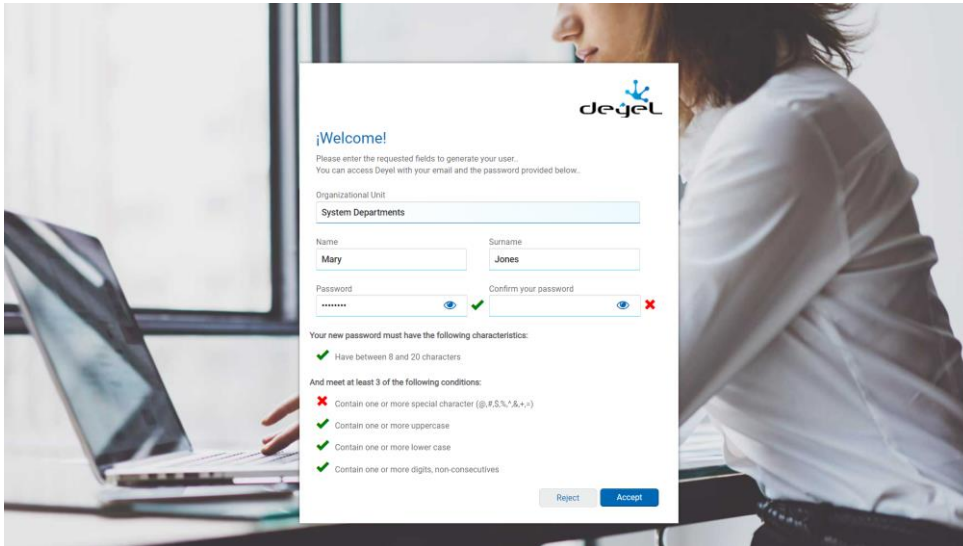
Pressing the "Back" button returns to the initial panel of the invitation.

Step 3: Send invitations

Once the invitation has been made, when the "Send" button is clicked, a notification email with the following information reaches the user guest:

- Text customized by the user that sent the invitation.
- Indications and link to accept the invitation.
- Message footer, with the signature of the inviting user.

When the guest user receives this email, they should click on the "follow the instructions" link to access the acceptance panel, where they should complete their personal data and access key.



By clicking the "Accept" button, data is validated to be correct, the user's account is activated and the user guest can access the users portal.

The user guest can also decline the invitation.

Once the invitation is either accepted or refused, the user that sent the invitation receives a notification through the social network [Tedis](#).

Access to the acceptance panel is valid while the invitation is still pending.

List of Invitations

A user can see from his [profile](#) the invitations they have sent and also delete them if they have not yet been accepted.

Guest email	Subject	Date and Time	State
rtn@gmail.com	Alex Farias te invita a Deyel.	19/04/2022 11:57	Pending
avs@gmail.com	Alex Farias te invita a Deyel.	19/04/2022 11:57	Pending
cmd@gmail.com	Alex Farias te invita a Deyel.	19/04/2022 11:57	Pending

The following fields are displayed as grid columns:

- Guest user email
- Sent email subject
- Invitation date and time
- Invitation State

3.5.4. Breadcrumb

This facility improves the user experience by indicating in summary form the steps previously executed, granting at the same time speed and intuition in the use of **Deyel**. It is immediately located below the [top toolbar](#) and indicates the route of the navigation made, allowing you to go back to any of the functionalities executed.

Home - Tasks

Check Consolidated (MyApp) Consolidated Weekly Reimbursements v1 - Check Consolidated

Graphic Container

Campaign Name: N-1 Campaign Date: 14/01/2022 Campaign Number: []

Graphic Container

Description: []

Annexed: Select a file []

Approve Correct

The image shows that you can navigate from "Forms and Tasks", until you reach the case of the "Absence Communication" process for the selected user and date.

3.5.5. Dashboard

[Phase 3: Portal > Dashboards and Widgets](#)

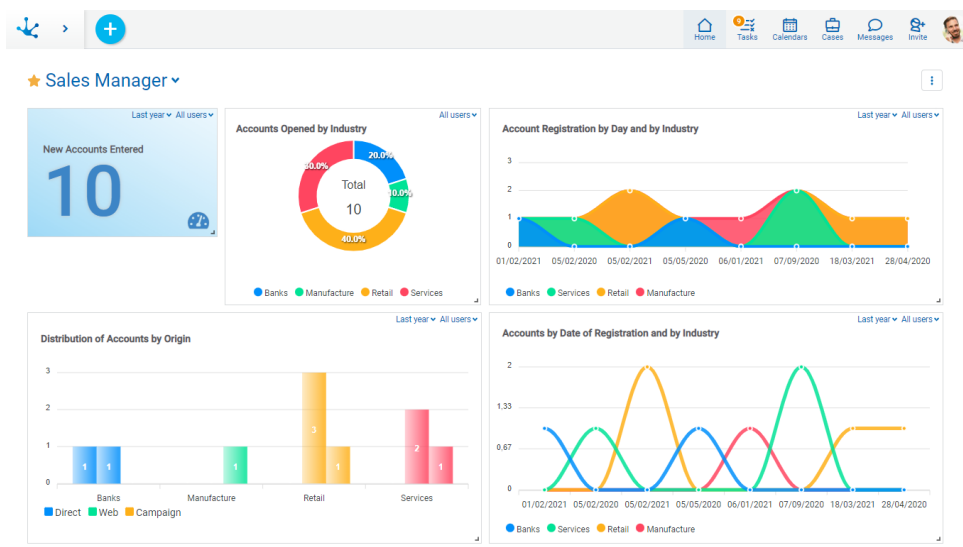
A dashboard is a collection of graphically ordered widgets that present relevant information for the user, with high visual impact.

Widgets are also known as KPIs, that correspond to the initials of Key Performance Indicator. They allow to know the evolution of the business, based on the analysis of the execution of the applications.

Dashboards can be:


- Of Applications
They are modeled through the dashboard modeler, by IT modeler users.
- Of users
All users can model their own dashboards.

When logging in or selecting the home icon in the top toolbar, the user views the dashboard indicated as a favorite. Each user can select their favorite dashboard among those applications and **Deyel** solutions, on which you have permissions.



If the user does not have permissions to use any dashboards, the starting point is the gallery of [forms and tasks](#).

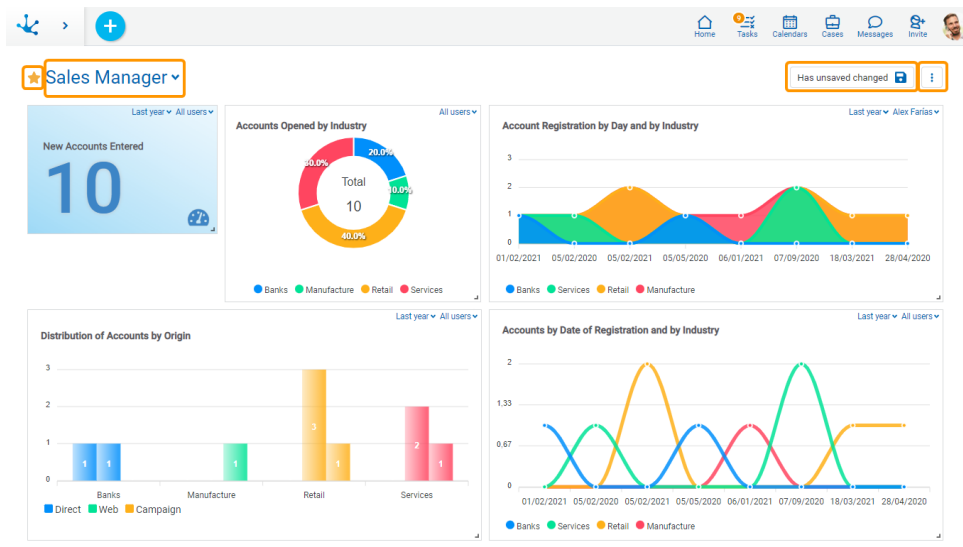
The user can create their dashboards from the [context menu](#) , positioned on the home panel.

- From the icon  displayed when hovering over the context menu.
- From the drop down menu, using "Dashboard" option.

The user can perform operations on the dashboards that are available to them through different [use facilities](#) .

3.5.5.1. Use Facilities

A user dashboard presents visual and chart resources that facilitate its maintenance.



Sections

Favorite Widget


★ Indicates the dashboard has been selected as favorite for the user.

Pressing the icon ☆ to the left of the dashboard name, the user can indicate that the dashboard is their favorite.

Dashboard Menu

To the right of the current dashboard name, a list can be displayed with all the boards that the user has available, they can be [application dashboards or defined by the user](#).

Information Area

Has unsaved changes 

When the dashboard has a modification pending to save, this button is enabled to save the changes.

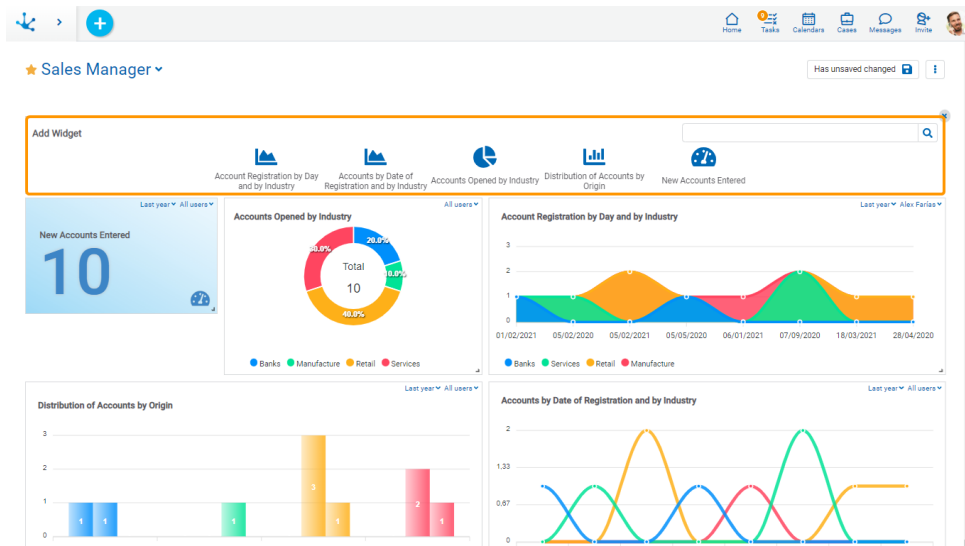
Operations Submenu



Allows to make different operations

- Add Widget

Allows to add new widgets to the dashboard, from a palette with the widgets that the user has available. To add a widget, you must drag the widget you want to add until it is in the desired position.



- Save as

Save dashboard with other name. This new dashboard is user type.

- Delete Dashboard

This operation is only allowed for a user dashboard.

Dashboard Body

In this section the previously published widgets that the dashboard contains are located. On these widgets, the user can make different operations.

- Modify size

It is made by positioning the cursor on the lower right corner of the widget and dragging it to expand or decrease the area of the widget, up to the minimum allowed.


- Modify location

Through the facility "Drag and Drop" the widget is located in a new position within the dashboard panel.

- Modify user and date filters

If the user is assigned the modification permission for the dashboard, they can modify the filters that were defined as editable and visible when modeling. Changes must be saved to retain the modification.

- Delete

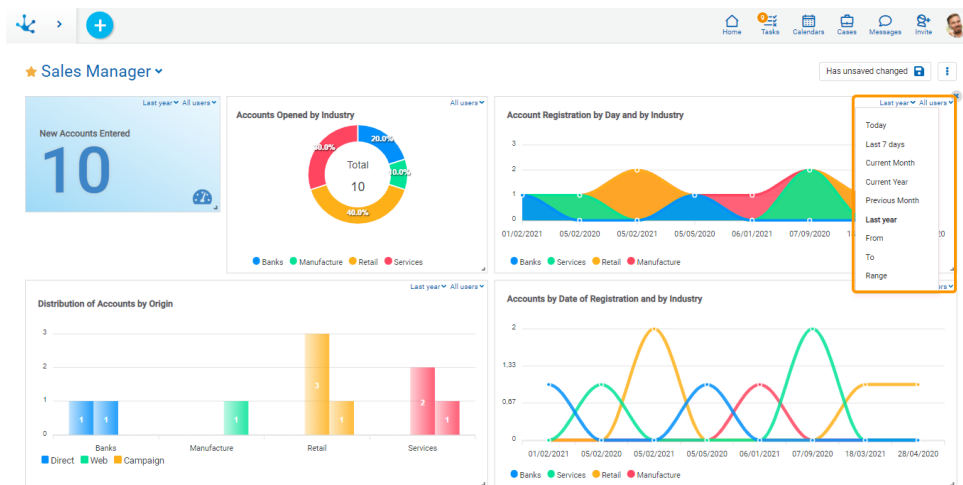
A widget can be deleted by pressing the icon  displayed in the top right corner, when you slide the cursor over the widget.

After making the modifications, when saving the dashboard the result may be different depending on the type of dashboard being modified.

- If it is a user, the changes made to the dashboard are saved.
- If it is application, the user cannot save the changes made to the dashboard and a panel opens for the user to report the name of a new dashboard. This dashboard is saved as user type.

Widget Filters

On each widget is dynamically applied the [date filters and user filters](#) that it has modeled.



Drill Down

By clicking on each value in the charts you can show the [grid](#) of the form that the widget represents, filtered by such value.

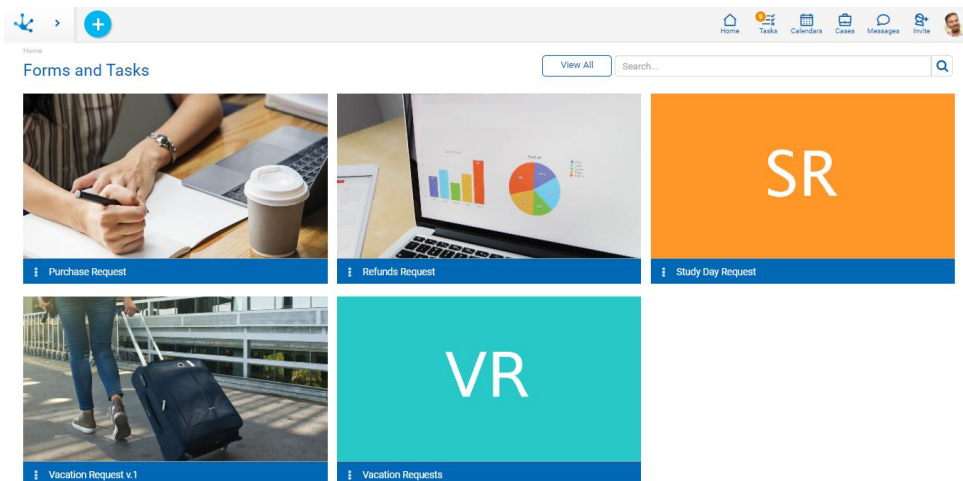
3.5.6. Forms and Tasks

If the user does not have a predetermined [dashboard](#) defined, when logging in the user displays the gallery of forms and tasks. Each element represents a form or an agile form and allows to make operations through buttons.

- On the form instances, with a quick overview of their latest updates.
- On the processes case related to a form, with a quick overview of their last tasks.

By default, a maximum of 9 elements are displayed, which are called "Recent", since they are the last ones used by the user.

Pressing the "View All" button displays all the forms and tasks.



Elements Content

Each element of the gallery is identified with the name of the form or agile form previously modeled. The content of each element and the actions that can be made depend on whether the form or agile form has a related process.

Last Updates

It has the last three instances created or modified of the form. By hovering the cursor over each one of them, the buttons corresponding to the show, modify and delete operations are enabled, provided that the user has the corresponding permissions.

At the bottom of the list, the "All Forms" option allows to open the [results and search grid](#) of the form.

It is displayed to:

- A form without a related process, or with one or more related processes and none of them is a main form. For the latter, you should not have modeled the property [Main](#) in the form for any of the processes related.
- An agile form without a process related.

Each update line contains:

- The text defined in the property [Description](#) of the form.
- The creation date and the date of the last instance modification.

Last Tasks

It contains the last tasks that the logged in user has pending to execute, in any of the processes in which the form is related and is defined as the main form. By hovering the cursor over each one of them, the execution buttons and the access icon to the chat of the case are enabled.

At the end of the list, the "All my tasks" option allows direct access to the "My Tasks" option from the actions menu of the same item.


It is displayed to:

- A form with one or more processes related, if it is the main form in any of them, that is, if it has the property [Main](#) modeled in the form.
- An agile form with a process related.

Each task row contains:

- The name of the task, preceded by the name and version of the process in which it is found.
- Date of admission and due date of the task.

Actions Menu

It is enabled when hovering over the icon  and depending on the permissions the user has, they have the following options enabled:

New

If the element contains the latest updates, it allows creating a form instance, whereas if the element contains the latest tasks, it allows starting a new case. If the form is related to more than one process as the main form, the list of processes is expanded so that the user can select the one to start.

My Tasks

Opens the tasks that are under the responsibility of the logged in user and that correspond to the process or processes in which the related form is defined as the main one.

Search

Opens the [results and search grid](#) of the form.

Form Icon

The icon modeled in the [Icon](#) property is visualized.

Search Filters

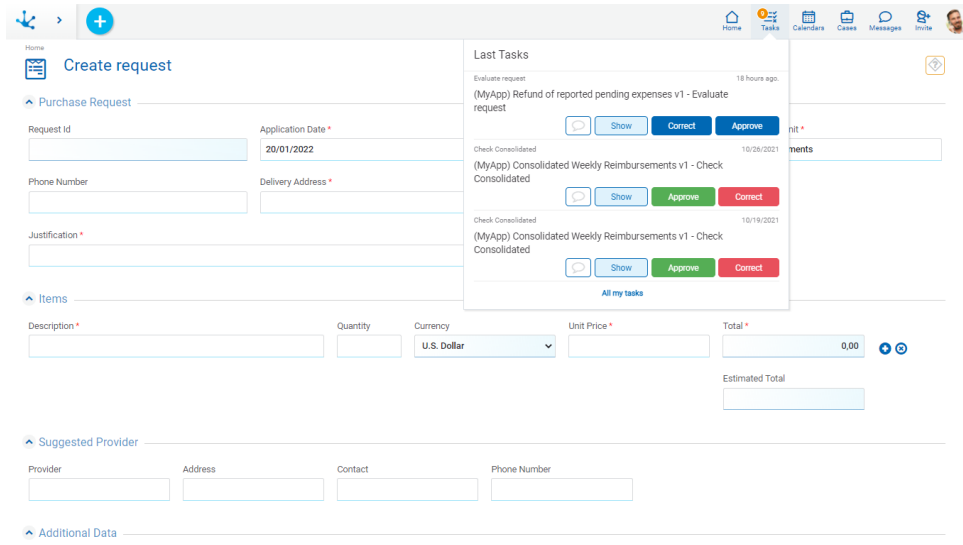
The number of items in the gallery can be reduced by using a search filter applied to the name of the form. As the user enters characters in the search field, the number of items in the grid is reduced to those forms whose names contain the entered characters.

The search is made on every existing element even if only the recent ones are being displayed.

3.5.7. Tasks

It allows to visualize in grid form all the tasks that are pending execution and are assigned to the user or their team. The latter, if the user is responsible for an organizational unit or role.

By pressing the icon corresponding to tasks in the [top toolbar](#) a panel opens where the last three tasks pending execution are displayed and the link "All my tasks" can be selected. This way they are visualized in grid form all the tasks that are pending execution and are assigned to the user or their team.



Sections

- [Top Bar](#)
- [Grid](#)

Case	Process	Description	Activity	Start Date	Responsible User	Expiration Date	Priority
<input type="checkbox"/> 7	Refunds Request	(Global) Refunds Request v1 - Evaluate request	Evaluate request	07/03/2022 13:30	Alex Farias		↓
<input type="checkbox"/> 16	Refunds Request	(Global) Refunds Request v1 - Evaluate request	Evaluate request	04/03/2022 17:04	Alex Farias		↓
<input type="checkbox"/> 13	Refunds Request	(Global) Refunds Request v1 - Evaluate request	Evaluate request	04/03/2022 17:03	Alex Farias		↓
<input type="checkbox"/> 12	Refunds Request	(Global) Refunds Request v1 - Evaluate request	Evaluate request	04/03/2022 17:02	Alex Farias		↓
<input type="checkbox"/> 50	Consolidated Weekly Reimbursements	(MyApp) Consolidated Weekly Reimbursements v1 - Check Consolidated	Check Consolidated	26/10/2021 16:06	Alex Farias		↓
<input type="checkbox"/> 49	Consolidated Weekly Reimbursements	(MyApp) Consolidated Weekly Reimbursements v1 - Check Consolidated	Check Consolidated	19/10/2021 16:06	Alex Farias		↓
<input type="checkbox"/> 36	Refund with possible payment suspension	(MyApp) Refund with possible payment suspension v1 - Evaluate request	Evaluate request	18/10/2021 14:49	Alex Farias		↓
<input type="checkbox"/> 25	Refunds with Budget Control	(Global) Refunds with Budget Control v1 - Evaluate application	Evaluate application	18/10/2021 14:49	Alex Farias		↓
<input type="checkbox"/> 18	Refund of reported pending expenses	(MyApp) Refund of reported pending expenses v1 - Check availability	Check availability	18/10/2021 14:49	Alex Farias		↓
<input type="checkbox"/> 26	Refunds with Budget Control	(Global) Refunds with Budget Control v1 - Evaluate application	Evaluate application	18/10/2021 14:49	Alex Farias		↓
<input type="checkbox"/> 35	Refund with possible	(MyApp) Refund with possible payment suspension v1 - Correct request	Correct request	18/10/2021	Alex Farias		↓

3.5.7.1. Top Bar

From the top bar different options related to the content and presentation of the task grid can be selected.

My Tasks ▾ My Tasks or my Team Tasks

Allows to select the tasks according to its execution responsibility.

- My Tasks: To-do list for user execution.
- My Team Tasks: This option can be used by those responsible for organizational units or roles to display the tasks that the users under their charge have pending execution. If the organizational unit had other units as dependents, the team tasks only reach those of the users who report directly to the responsible user.

Case	Process	Description	Activity	Start Date	Responsible User	Expiration Date	Priority
<input type="checkbox"/> 12	Refunds Request	(Global) Refunds Request v1 - Evaluate request	Evaluate request	04/03/2022 17:02	Alex Farias		↓
<input type="checkbox"/> 50	Consolidated Weekly Reimbursements	(MyApp) Consolidated Weekly Reimbursements v1 - Check Consolidated	Check Consolidated	26/10/2021 16:06	Alex Farias		↓
<input type="checkbox"/> 49	Consolidated Weekly Reimbursements	(MyApp) Consolidated Weekly Reimbursements v1 - Check Consolidated	Check Consolidated	19/10/2021 16:06	Alex Farias		↓
<input type="checkbox"/> 36	Refund with possible payment suspension	(MyApp) Refund with possible payment suspension v1 - Evaluate request	Evaluate request	18/10/2021 14:49	Alex Farias		↓
<input type="checkbox"/> 25	Refunds with Budget Control	(Global) Refunds with Budget Control v1 - Evaluate application	Evaluate application	18/10/2021 14:49	Alex Farias		↓
<input type="checkbox"/> 18	Refund of reported pending expenses	(MyApp) Refund of reported pending expenses v1 - Check availability	Check availability	18/10/2021 14:49	Alex Farias		↓
<input type="checkbox"/> 26	Refunds with Budget Control	(Global) Refunds with Budget Control v1 - Evaluate application	Evaluate application	18/10/2021 14:49	Alex Farias		↓
<input type="checkbox"/> 35	Refund with possible payment suspension	(MyApp) Refund with possible payment suspension v1 - Correct request	Correct request	18/10/2021 14:48	Alex Farias		↓
<input type="checkbox"/> 37	Refund with possible payment suspension	(MyApp) Refund with possible payment suspension v1 - Correct request	Correct request	18/10/2021 14:48	Alex Farias		↓

6

Number of Tasks

Indicates the number of tasks pending execution by the user or their team, either total or from applying a [search filter](#).





Totals by Responsibility or Totals by Processes

If the "My Tasks" option was previously selected, by pressing this icon the user can access the control panel of [totals by responsibility](#) or of [totals by process](#), according to the option selected in the first line of the totals panel.

If instead the option "My Team Tasks" was selected only the panel of totals by responsibility will be accessed.

If this icon is pressed with the totals panel open, it closes and the task grid is reloaded.

The totals panel can be expanded or hidden using the corresponding icons  or .



Grid Version

Allows to change the previous version or go back to the new one.



Update Grid

Allows to reload the updated grid, keeping the selected filters.

Search



Quick Search

Allows to filter tasks by the "Case" and "Description" columns based on the characters entered in the search field.



Advanced Search

Advanced search enables a line where the search filters can be selected.



Download Data

It allows downloading to an Excel file the tasks that are displayed in the results grid, either in their entirety or those that result from applying a filter.



Columns Display

It displays a panel with the names of the grid columns. By means of a check mark, the user can activate or deactivate the display of each column. The set of selected columns is valid until the same user modifies it again.

The screenshot shows the 'My Tasks' interface. At the top, there is a navigation bar with icons for Home, Tasks (12), Calendars, Cases, Messages, and Invite. Below this, the 'My Tasks' section is displayed with a search bar and a dropdown menu showing 12 tasks. A dropdown menu is open, showing a list of columns with checkboxes: Case, Process, Description, Activity, Start Date, Responsible User, Expiration Date, and Priority. All checkboxes are checked.

Case	Process	Description	Activity	Start Date	Responsible User	Exp
<input type="checkbox"/> 7	Refunds Request	(Global) Refunds Request v1 - Evaluate request	Evaluate request	07/03/2022 13:30	Alex Farias	
<input type="checkbox"/> 16	Refunds Request	(Global) Refunds Request v1 - Evaluate request	Evaluate request	04/03/2022 17:04	Alex Farias	
<input type="checkbox"/> 13	Refunds Request	(Global) Refunds Request v1 - Evaluate request	Evaluate request	04/03/2022 17:03	Alex Farias	
<input type="checkbox"/> 12	Refunds Request	(Global) Refunds Request v1 - Evaluate request	Evaluate request	04/03/2022 17:02	Alex Farias	
<input type="checkbox"/> 50	Consolidated Weekly Reimbursements	(MyApp) Consolidated Weekly Reimbursements v1 - Check Consolidated	Check Consolidated	26/10/2021 16:06	Alex Farias	
<input type="checkbox"/> 49	Consolidated Weekly Reimbursements	(MyApp) Consolidated Weekly Reimbursements v1 - Check Consolidated	Check Consolidated	19/10/2021 16:06	Alex Farias	
<input type="checkbox"/> 36	Refund with possible payment suspension	(MyApp) Refund with possible payment suspension v1 - Evaluate request	Evaluate request	18/10/2021 14:49	Alex Farias	
<input type="checkbox"/> 25	Refunds with Budget Control	(Global) Refunds with Budget Control v1 - Evaluate application	Evaluate application	18/10/2021 14:49	Alex Farias	
<input type="checkbox"/> 18	Refund of reported pending expenses	(MyApp) Refund of reported pending expenses v1 - Check availability	Check availability	18/10/2021 14:49	Alex Farias	
<input type="checkbox"/> 26	Refunds with Budget control	(Global) Refunds with Budget Control v1 - Evaluate application	Evaluate application	18/10/2021 14:49	Alex Farias	
<input type="checkbox"/> 35	Refund with possible	(MyApp) Refund with possible payment suspension v1 - Contact request	Contact request	18/10/2021	Alex Farias	

3.5.7.1.1. Totals

The totals section of the tasks can be expanded on the tasks grid.

Totals by Responsibility

Shows the totals of the tasks pending execution for the user or the members of their team, depending on whether the user is responsible for an organizational unit or a role. Tasks are displayed grouped by responsibility and by the priority of each of them.

Pressing on the number of tasks indicated for each responsibility and priority, the tasks grid filtered by these criteria can be displayed.

The screenshot shows the 'My Team Tasks' dashboard. At the top, there is a navigation bar with icons for Home, Tasks, Calendars, Cases, Messages, and Invite. Below the navigation bar, the title 'My Team Tasks' is followed by a search bar and a filter icon. The main content area is divided into two sections. The first section is a summary table with columns for 'Responsible', 'Total', and several status indicators. The second section is a detailed task list table with columns for 'Case', 'Process', 'Description', 'Activity', 'Start Date', 'Responsible User', 'Expiration Date', and 'Priority'.

Responsible	Total
Alex Farias	12
David Cano	1
Xavier Paz	2
Jack Perry	2
Totals	26

Case	Process	Description	Activity	Start Date	Responsible User	Expiration Date	Priority
13	Request for Contracting Services	(MyApp) Request for Contracting Services v1 - Establish schedule	Establish schedule	07/03/2022 13:31	Xavier Paz		↓
28	Request for Contracting Services	(MyApp) Request for Contracting Services v1 - Establish schedule	Establish schedule	07/03/2022 13:31	Xavier Paz		↓
7	Refunds Request	(Global) Refunds Request v1 - Evaluate request	Evaluate request	07/03/2022 13:30	Alex Farias		↓
16	Refunds Request	(Global) Refunds Request v1 - Evaluate request	Evaluate request	04/03/2022 17:04	Alex Farias		↓

Totals by Process

Shows the totals of the tasks pending execution for the user, grouped by process and priority of cases.

Pressing on the number of tasks indicated for each process and priority, the tasks grid filtered by these criteria can be displayed.

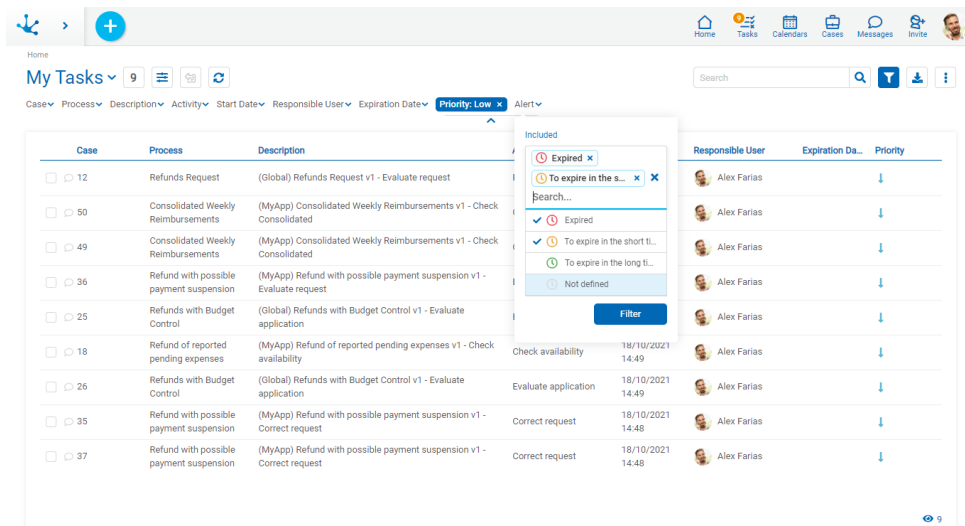
The screenshot shows the 'My Tasks' dashboard. At the top, there is a navigation bar with icons for Home, Tasks, Calendars, Cases, Messages, and Invite. Below the navigation bar, the title 'My Tasks' is followed by a search bar and a filter icon. The main content area is divided into two sections. The first section is a summary table with columns for 'Process', 'Total', and several status indicators. The second section is a detailed task list table with columns for 'Case', 'Process', 'Description', 'Activity', 'Start Date', 'Responsible User', 'Expiration Date', and 'Priority'.

Process	Total
Request for Contracting Services	2
Totals	2

Case	Process	Description	Activity	Start Date	Responsible User	Expiration Date	Priority
13	Request for Contracting Services	(MyApp) Request for Contracting Services v1 - Establish schedule	Establish schedule	07/03/2022 13:31	Xavier Paz		↓
28	Request for Contracting Services	(MyApp) Request for Contracting Services v1 - Establish schedule	Establish schedule	07/03/2022 13:31	Xavier Paz		↓

3.5.7.1.2. Search Filters

By selecting the advanced search icon, a line is enabled where different criteria to filter the tasks can be selected. The search criteria can be combined.



For each search criteria a value can be entered or selected from a list, to use it as a filter.

All the filters that are necessary can be added, each time one is added a new search is automatically executed that updates the task grid.

The filters applied in the search are highlighted where they were entered, each followed by an **X** icon. By pressing such icon the corresponding filter is deleted and a new search that updated the task grid is automatically executed.

To remove all search filters, the icon **X** must be pressed, which is located on the right of the last filter. This way the complete list of tasks is loaded again in the grid.

Filters

Case

The value entered should be numeric.
Search criteria: "Greater than", "Less Equal to".

Process, Description, Activity and Responsible User

A text by which the user wants to search can be entered.
Search criteria: "Contains".

Start Date, Expiration Date

Activities that started their execution, or that expired in a certain period of time can be searched.

Options:

- Today
- Last 7 days
- Current Month
- Current Year
- Last Month
- Last Year
- From (Requires selection of a start date)
- To (Requires selection of an end date)

- Range (Requires the selection of a start date and an end date)
- Equal (Requires selection of a date)

Priority

Allows to filter selecting the icons corresponding to the priority type, allowing to choose multiple options.

Search criteria: "Included".

Options:

- Urgent
- High
- Medium
- Low

Alert

Allows to filter selecting the icons corresponding to the alert type, allowing to choose multiple options. The alert type depends on what has been modeled on the property [Activity Duration](#) for each task. The color of this icon matches with the color of the value in the column [Expiration Date](#) of this grid.

Search criteria: "Included".

Options:

- Expired
- To expire in the short term
- To expire in the long term
- Not defined

3.5.7.2. Grid

The tasks grid allows to display the totality of the tasks pending execution or those that are the result of having applied [search filters](#). It is made up of columns and lines.

Columns

The tasks grid allows to display different columns and hovering over the name of each of them their [behavior](#) can be indicated.

The columns seen in the grid and the number of lines are configured through [environment parameters](#).

The screen resolution determines the display of the columns. At lower resolutions some columns are hidden in order to maintain an easy-to-read and easy-to-use task grid.

Case	Process	Description	Activity	Start Date	Responsible User	Expiration D...	Priority
7	Refunds Request	(Global) Refunds Request v1 - Evaluate request	Evaluate request	07/03/2022 13:30	Alex Farias		↓
16	Refunds Request	(Global) Refunds Request v1 - Evaluate request	Evaluate request	04/03/2022 17:04	Alex Farias		↓
13	Refunds Request	(Global) Refunds Request v1 - Evaluate request	Evaluate request	04/03/2022 17:03	Alex Farias		↓
12	Refunds Request	(Global) Refunds Request v1 - Evaluate request	Evaluate request	04/03/2022 17:02	Alex Farias		↓
50	Consolidated Weekly Reimbursements	(MyApp) Consolidated Weekly Reimbursements v1 - Check Consolidated	Check Consolidated	26/10/2021 16:06	Alex Farias		↓
49	Consolidated Weekly Reimbursements	(MyApp) Consolidated Weekly Reimbursements v1 - Check Consolidated	Check Consolidated	19/10/2021 16:06	Alex Farias		↓
36	Refund with possible payment suspension	(MyApp) Refund with possible payment suspension v1 - Evaluate request	Evaluate request	18/10/2021 14:49	Alex Farias		↓
25	Refunds with Budget control	(Global) Refunds with Budget Control v1 - Evaluate application	Evaluate application	18/10/2021 14:49	Alex Farias		↓
18	Refund of reported pending expenses	(MyApp) Refund of reported pending expenses v1 - Check availability	Check availability	18/10/2021 14:49	Alex Farias		↓
26	Refunds with Budget control	(Global) Refunds with Budget Control v1 - Evaluate application	Evaluate application	18/10/2021 14:49	Alex Farias		↓

Chat

An icon is displayed depending on whether or not the case has an associated chat. Clicking on the icon opens the conversation associated to the case.



The case does not have a chat associated.



The case has at least one chat associated.

Case

The number of the case that the task belongs to.

Process

Name of the process the task belongs to.

Description

Brief description of the case, modeled in the property [Case Description](#) of the process. If such description is not modeled, the process code, its version and the name of the current activity are displayed.

Activity

It is the name of the modeled activity in the process.

Start Date

It indicates the date and time the activity started.

Responsible User

The responsibility of a task may be assigned to a user, a role or an organizational unit.

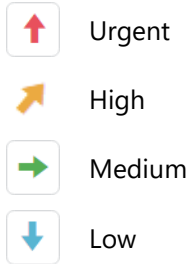
- When the task is the direct responsibility of the user, the image of the user and his full name are displayed.
- When the task is the responsibility of the organizational unit to which the user belongs, the icon of the organizational unit and its name are displayed.
- When the task is the responsibility of a role assigned to the user, the icon of the role and its description are displayed.
- When the task is the responsibility of another user but it has been delegated to the person who is consulting, the image of the user and full name of the delegating user are displayed. This allows to easily recognize who has delegated the task.

Expiration Date

It indicates the date and time the task expires. Through the property [Activity Duration](#) the due date is modeled, defining the duration of the task or by a variable in the form associated with the process. The values of this column are shown in different colors, managing to identify overdue tasks, those that expire in the short term or those that expire in a longer term. This column may not have information since the definition of the duration is optional in the processes modeling.

Priority

It visually indicates the task priority.



Set Tasks

To the left of the grid, a column of checks is displayed to select tasks by using check marks. As long as there is a task selected and the user has security permissions to do it, the "Assign" button is enabled.

If this button is pressed, a list of users is expanded, with the following characteristics:

- Be users of the same organizational unit.
- Be users of the roles where they are Coordinator.
- Be users of the organizational units where they are an Administrator.

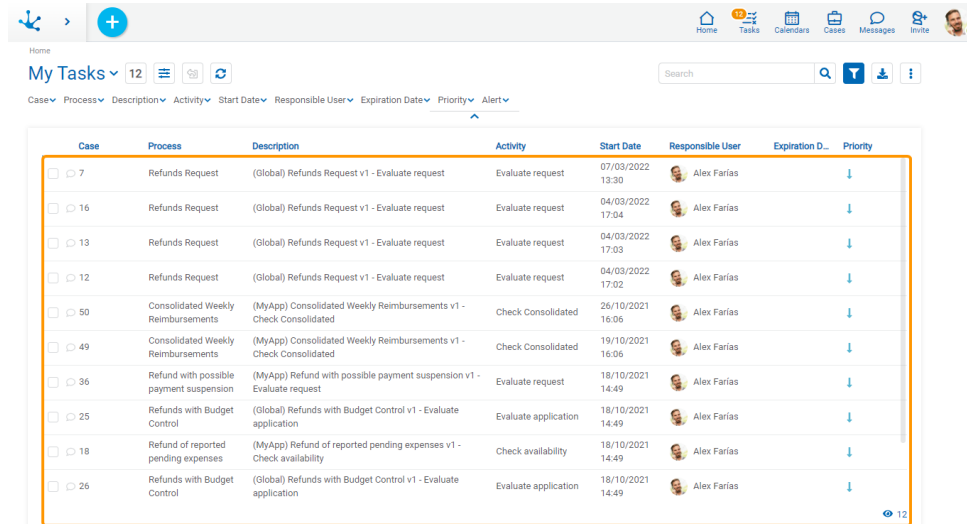
Pressing the "Accept" button assigns the task to the selected user and a message is displayed indicating that the assignment was successful.

The screenshot shows a web interface for task management. At the top, there is a navigation bar with icons for Home, Tasks, Calendars, Cases, Messages, and Invite. Below this is a header for 'My Tasks' with a search bar and an 'Assign' button. The main area contains a table with columns: Case, Process, Description, Activity, Responsible User, Expiration Date, and Priority. Two tasks are listed, both with checkmarks in the first column. A dropdown menu is open over the 'Assign' button, showing a search bar and a list of users: David Cano, Will Thompson, Xavier Paz, and Jack Perry.

Case	Process	Description	Activity	Responsible User	Expiration Date	Priority
13	Request for Contracting Services	(MyApp) Request for Contracting Services v1 - Establish schedule	Establish sche	Xavier Paz		↓
28	Request for Contracting Services	(MyApp) Request for Contracting Services v1 - Establish schedule	Establish sche	Xavier Paz		↓

Rows



Each task of the grid can be shown by clicking on the corresponding line. The operations available for each task are displayed through buttons, by hovering on the line.



Case	Process	Description	Activity	Start Date	Responsible User	Expiration D...	Priority
7	Refunds Request	(Global) Refunds Request v1 - Evaluate request	Evaluate request	07/09/2022 13:30	Alex Farias		↓
16	Refunds Request	(Global) Refunds Request v1 - Evaluate request	Evaluate request	04/03/2022 17:04	Alex Farias		↓
13	Refunds Request	(Global) Refunds Request v1 - Evaluate request	Evaluate request	04/03/2022 17:03	Alex Farias		↓
12	Refunds Request	(Global) Refunds Request v1 - Evaluate request	Evaluate request	04/03/2022 17:02	Alex Farias		↓
50	Consolidated Weekly Reimbursements	(MyApp) Consolidated Weekly Reimbursements v1 - Check Consolidated	Check Consolidated	26/10/2021 16:06	Alex Farias		↓
49	Consolidated Weekly Reimbursements	(MyApp) Consolidated Weekly Reimbursements v1 - Check Consolidated	Check Consolidated	19/10/2021 16:06	Alex Farias		↓
36	Refund with possible payment suspension	(MyApp) Refund with possible payment suspension v1 - Evaluate request	Evaluate request	18/10/2021 14:49	Alex Farias		↓
25	Refunds with Budget Control	(Global) Refunds with Budget Control v1 - Evaluate application	Evaluate application	18/10/2021 14:49	Alex Farias		↓
18	Refund of reported pending expenses	(MyApp) Refund of reported pending expenses v1 - Check availability	Check availability	18/10/2021 14:49	Alex Farias		↓
26	Refunds with Budget Control	(Global) Refunds with Budget Control v1 - Evaluate application	Evaluate application	18/10/2021 14:49	Alex Farias		↓

Buttons Over Rows Display

The user can decide if they wish to see the buttons with the operations of the task on the line.

-  Display the buttons available for each task.
-  Hide the buttons available for each task.

Scroll Bar

The lines in the grid are completed when advancing vertically, allowing scrolling up or down through the use of a scroll bar.

In the lower right corner the total number of tasks loaded in the grid can be seen.

3.5.7.2.1. Columns Behavior

If hovering over each column a set of icons that represent their behavior is displayed.

Behavior Icons

When selecting one of these icons, it displays the one chosen to the right of the column title on which the behavior has been defined. To undo the select you must click on this icon.

The ordering of the lines can be made only by a column, so if more than one ordering criterion is selected, only the last one is taken, deleting the previous one.

Anchorage

It allows leaving the column fixed when the grid is scrolled through the horizontal scroll bar. It is available for the first column of the grid.

Ascending Ordering

It allows to make the ordering of the column in an ascending way. Icon present in all columns.

Descending Ordering

It allows to make the ordering of the column in a descending way. Icon present in all columns.

Delete the Column

It allows to hide the column.

3.5.7.3. Tasks Execution

This functionality aims to execute the current activity and then evaluate the conditions to finish it. If they meet such conditions, it allows the move on to the next activity, as modeled in the process.

A task can be executed.

- From the "Tasks" icon on the portal top toolbar.
- From the tasks grid.
- From the case show.
- From the "Cases" icon on the portal top toolbar, with the "New Case" option, it is possible to request the execution of the first activity of a process.

On the next example, it executes the "Create request" activity, that creates a refund request according to the process modeled from a [one-level approval template](#). When executing the activity it displays a form related to the first activity case.

When the first activity in a case is executed, as in this example, the name of that activity is displayed in the execution header.

The fields indicated with an asterisk in red are required to be able to carry out the activity, as the behavior was defined when modeling the form and the process. If a value is not entered in a required field, the user receives a message indicating that the field must be informed.

Once the requested data has been entered, by pressing the "Accept" button, the next activity will be carried out depending on how the process has been modeled.

In the following process activities, the icons that allow access to the specific information of the case are also displayed.

Case Information



Comments Associated to the Case

Allows to open the [conversation associated to the case](#) that is being executed. The conversation title is the description of the case and the participants are the subscribed users.




Help

Allows to open a window with the description of the activity. The process modeler can include a detailed description of each activity. This information can be shown when executing the activity, so that the user knows how to carry out the task. If the activity does not have a description, the icon is disabled.



Case Information

Allows to display a panel with [case information](#). To close this panel you must press the icon again.

To display the case information in a new window, you must click the icon  on the lower left corner of the panel.



Attached Files

Allows to see the detail of the [associated information](#): file name, user, date it was associated and the origin of the attachment (from the form, chat or case). New attached files can also be added.



Graphic Show

Allows to display the case in [graphic way](#), with animations that show how it went through the different activities that make up the process the belong to and the duration times of each task.

Finish Current Activity

When the user finishes logging in and confirming the data, **Deyel** verifies the current activity meets the conditions to finish it and then it moves on to the next activity. Otherwise, a message indicates the condition that does not allow the activity to be finished.

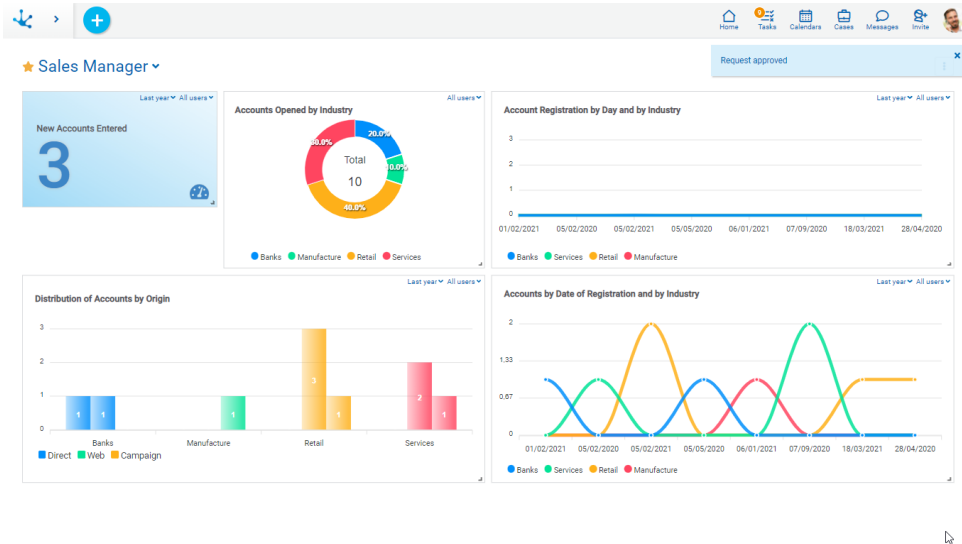
Move on to the Next Activity

When the conditions for ending the current activity are met, the procedure for proceeding to the next activity starts. This procedure depends on the widget [Continuous Execution](#) that is defined when modeling the activity in the process.

If this widget is activated and the pass to the next activity has been successful, **Deyel** analyzes its definition and if it corresponds to the user to execute it, then such execution starts automatically. This mechanism allows the user to continuously execute the case activities for which they have responsibility. In this way, when it finishes executing an activity, it goes to the next activity, without having to return to the to-do list.

In the case that the continuous execution widget is deactivated or that the next activity does not correspond to be executed by the same user, then only the activity execution message is displayed.

The following image shows as an example a message of the execution of an activity, which was modeled in the process.



3.5.8. Cases

A case is a specific execution of a process. For example, for a process of refund request, a case corresponds to a request in specific, for example from the sales area.

A user can show their cases or [initiate new ones](#) from the "Cases" option from the [top toolbar](#), or entering the "Cases" text in the menu searcher and accessing such option.


The screenshot shows the 'Cases' management interface with a search bar and a list of cases. The table below represents the data shown in the interface:

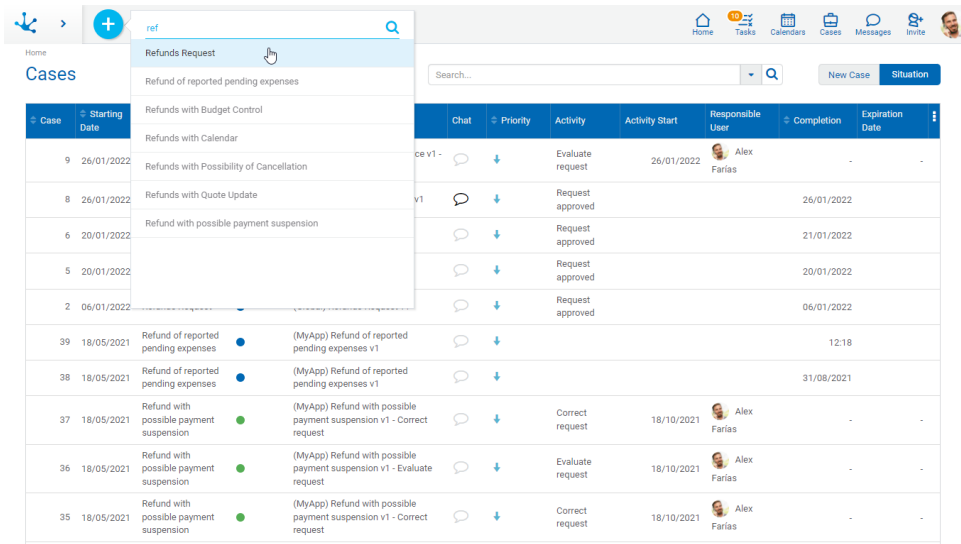
Case	Starting Date	Process	Status	Description	Chat	Priority	Activity	Activity Start	Responsible User	Completion	Expiration Date
9	26/01/2022	Notification of Absence	●	(Global) Notification of Absence v1 - Evaluate request	🗨️	↓	Evaluate request	26/01/2022	Alex Farias	-	-
8	26/01/2022	Vacation Request v1	●	(Global) Vacation Request v1 v1	🗨️	↓	Request approved			26/01/2022	
6	20/01/2022	Refunds Request	●	(Global) Refunds Request v1	🗨️	↓	Request approved			21/01/2022	
5	20/01/2022	Refunds Request	●	(Global) Refunds Request v1	🗨️	↓	Request approved			20/01/2022	
2	06/01/2022	Refunds Request	●	(Global) Refunds Request v1	🗨️	↓	Request approved			06/01/2022	
39	18/05/2021	Refund of reported pending expenses	●	(MyApp) Refund of reported pending expenses v1	🗨️	↓				12:18	
38	18/05/2021	Refund of reported pending expenses	●	(MyApp) Refund of reported pending expenses v1	🗨️	↓				31/08/2021	
37	18/05/2021	Refund with possible payment suspension	●	(MyApp) Refund with possible payment suspension v1 - Correct request	🗨️	↓	Correct request	18/10/2021	Alex Farias	-	-
36	18/05/2021	Refund with possible	●	(MyApp) Refund with possible payment	🗨️	↓	Evaluate	18/10/2021	Alex	-	-

3.5.8.1. Initiate Cases

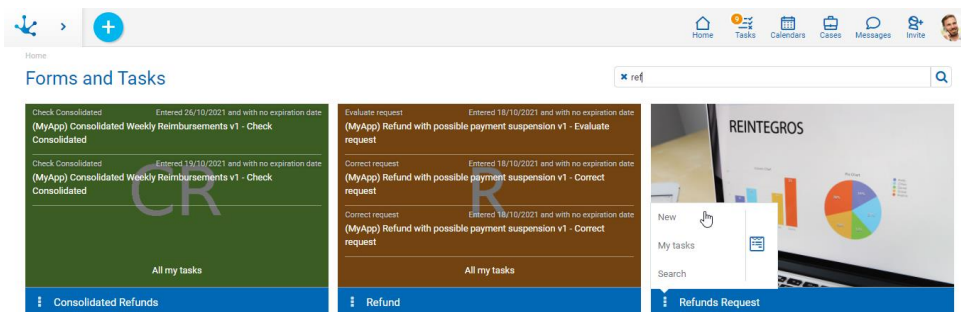
Initiating a case allows the user to make the first task of it.

A new case can be created from the:

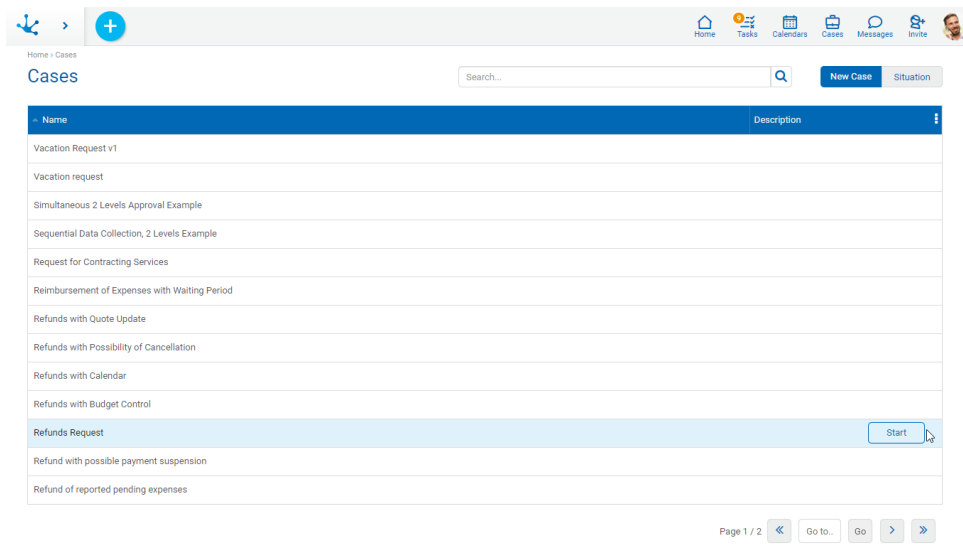
- The icon  corresponding to the [context menu](#), selecting the process from the displayed menu.




- The gallery of [Forms and Tasks](#), selecting the "New" operation in the form associated to the process.



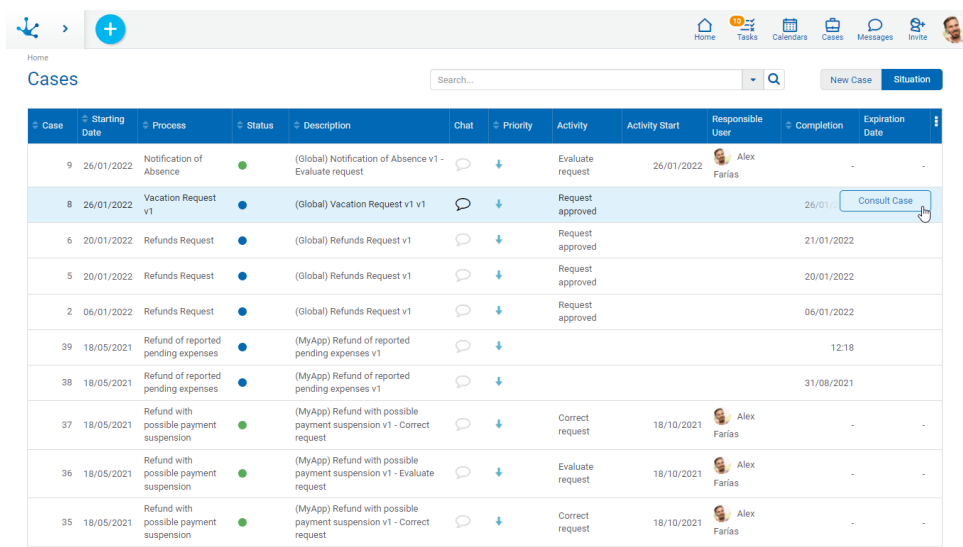
- The grid of [Cases](#), selecting the "Start Case" tab and the process name.



Quick search allows to filter all processes whose names contain one or more words entered in the search section. To return to the original list, click on the icon  of the search bar.

3.5.8.2. Situation

In the "Situation" tab the grid of cases initiated by the user or his team is displayed. This last, if the user is responsible for an organizational unit or role. If the case has more than one activity in progress a row is displayed for each running task.



Columns

Case

Number that identifies the case.

Start Date

Case start date. If the case has a start date on the same day, then only the start time (includes hours and minutes) is displayed. Otherwise the start date and time is displayed.

Process

Name of the process the case belongs to.

State

State of the case and color that identifies its state.

-  Active
-  Ended
-  Cancelled
-  Suspended

Description

Case description. It can be modified from the process modeler. By default, the description consists of the process code, its version and the name of the activity to be executed.

Chat

Allows to display or add comments in the conversation associated to the case. If the icon is highlighted, there are comments for such case. If the icon is not highlighted, no comment has been added yet.

Activity

Name of the activity or activities in progress of the case.

Activity Start

For each case activity in progress its start date is displayed. If the activity has a start date on the same day, then only the start time (includes hours and minutes) is displayed. Otherwise, the start date is displayed and clicking on it displays a visual aid, also indicating the time.

Responsible User

For each activity in progress of the case, the participant responsible for the execution is displayed. It is not reported responsible if the case is finalized. It can be a user, a role or an organizational unit and it is represented in different ways.

- The task is the direct responsibility of the user, the image of the user and his full name are displayed.
- The task is the responsibility of the organizational unit to which the user belongs, the icon of the organizational unit and its name are displayed.
- The task is the responsibility of a role assigned to the user, the icon of the role and its description are displayed on the list.
- The task is the responsibility of another user but it has been delegated to the person who is consulting, the image and the full name of the user who is consulting is displayed.

End Date

End date of the last case activity, its behavior is like that of the property [Start Activity](#) .

Expiration Date

For each case activity in progress its expiration date is displayed. The dates are visible with a traffic light, indicating the expired, at risk or on time. If the activity modeling does not indicate that it has a duration or expiration date, the activity does not show such date.

Calculation of the Expiration Date and Traffic Light

By clicking on a date you can check how long the task has been overdue. Such time is displayed using different criteria.

- More than 30 days expired: When the period is greater than 30 days.
- DD HH: Days and hours when the period is greater than a day.
- HH MM: Hours and minutes when the period is less than a day and greater than or equal to an hour.
- MM SS: Minutes and seconds when the period is less than an hour and greater than or equal to a minute.
- SS: Only seconds when the period is less than one minute.

Priority

Indicates the priority the task has using icons of different colors.

 Urgent

 High

 Medium

 Low

Operations

When hovering over the case lines the "Show Case" button is enabled, which allows you to go to [the case panel](#). If the user can execute the current activity, the "Show Task" button is also enabled which allows to [execute the task](#).

3.5.8.2.1. Case Search

Two search types can be made.

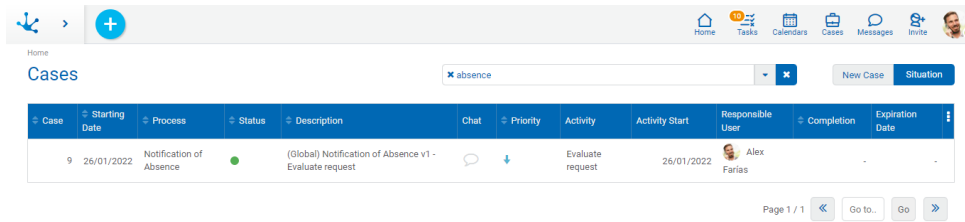
- Fast
- Advanced

Fast Search


Allows to recover all the cases which have descriptions with one or more chosen words.

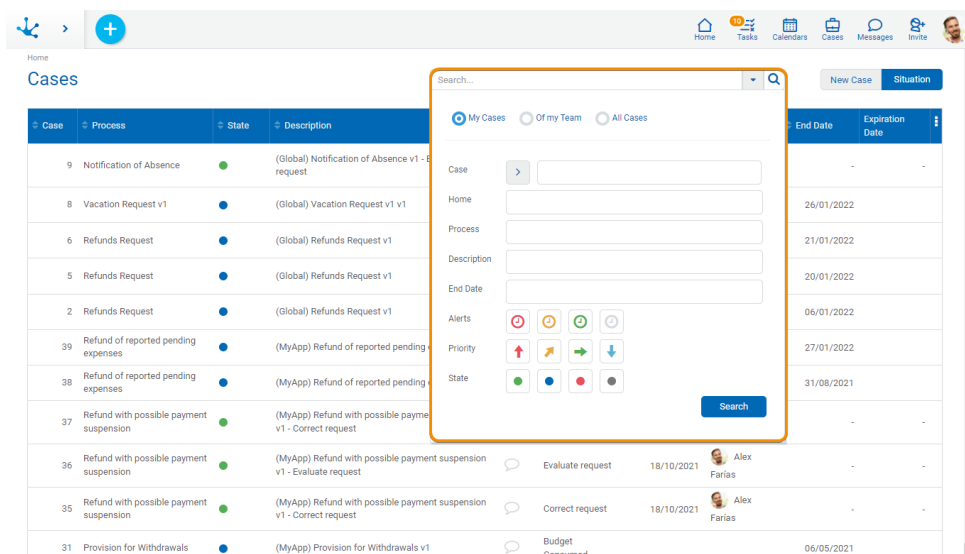
You must locate the cursor in the search section, enter the text to search and press the "Enter" key or click on the magnifying glass. In this way, all cases in whose description the entered text exists are filtered.

To delete the filter, click on any of the "X" icons, to the left of the text entered or to the right of the search field.



Advanced Search

To access the advanced search you must click on the icon  on the right of the search field. A window is opened which allows to indicate the different criteria.



Filters by Responsible

My Cases

The grid contains the cases initiated by the connected user.

Of my Team

The grid contains the cases initiated by the user himself or by the users who are members of a role or organizational unit where the user is the participant responsible.

All Cases

The grid contains all the existing cases. This option is visible if the user has the corresponding security function among their permissions.

Filters by Properties

Case

You can search by greater or less than a certain number.

Process and Description


You can search for the text you want.

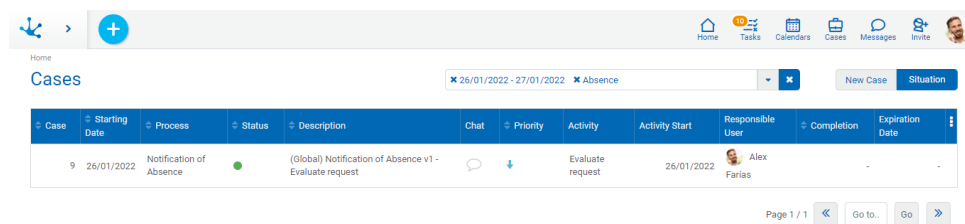
Start Date and End Date


You can search by a range of dates in which the case started or ended.

Alerts, Priority and State


Allows to filter selecting the corresponding icons.

The filters applied in the search are visible in the search section, each one preceded by the icon . By pressing such icon the corresponding filter is deleted and a new search is automatically executed that updates the grid of cases displayed.



Case	Starting Date	Process	Status	Description	Chat	Priority	Activity	Activity Start	Responsible User	Completion	Expiration Date
9	26/01/2022	Notification of Absence	●	(Global) Notification of Absence v1 - Evaluate request		↓	Evaluate request	26/01/2022	Alex Farias	-	-

3.5.8.2.2. Sorting and Visibility


The tasks grid allows to display different columns and a sorting can be indicated for each of them, though the icon . Pressing this icon changes the sense of the sorting.

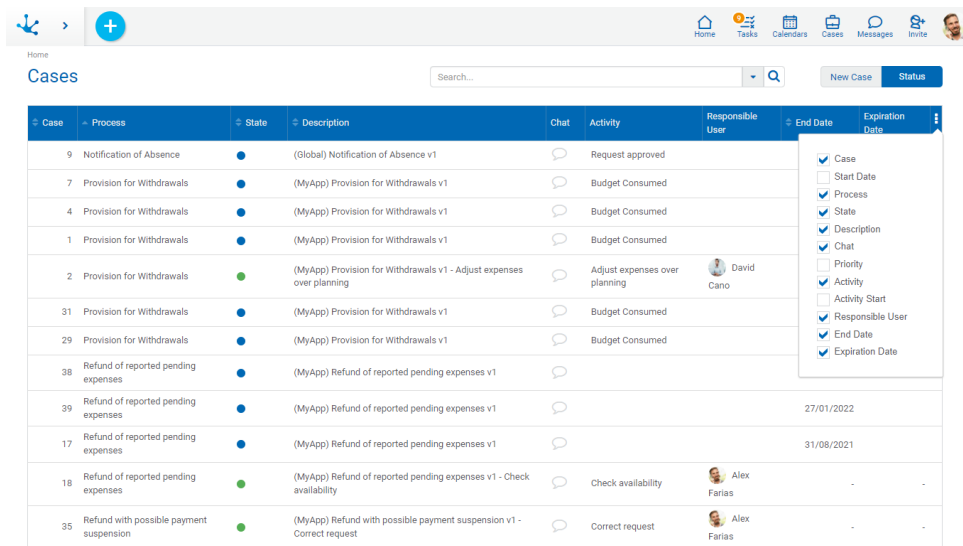
The sorting of the lines can be made only by a column, so if more than one criterion is selected, only the last one is taken, deleting the previous one.

The icon  to the right of each column title allows to hide the column.

User Preference

The columns seen in the grid and the number of lines are configured through [environment parameters](#).

Pressing the icon  it displays a panel with the names of the columns of the grid. By means of a check mark, the user can activate or deactivate the display of each column. The set of selected columns is valid until the same user modifies it again.



The screenshot shows the 'Cases' application interface. At the top, there is a navigation bar with icons for Home, Tasks, Calendars, Cases, Messages, and Invite. Below the navigation bar is a search bar and buttons for 'New Case' and 'Status'. The main area displays a table of cases with columns: Case, Process, State, Description, Chat, Activity, Responsible User, End Date, and Expiration Date. A column configuration panel is open on the right side of the table, showing a list of columns with checkboxes to toggle their visibility. The checked columns are Case, Process, State, Description, Chat, Activity, Responsible User, End Date, and Expiration Date. The unchecked columns are Start Date, Priority, and Activity Start.

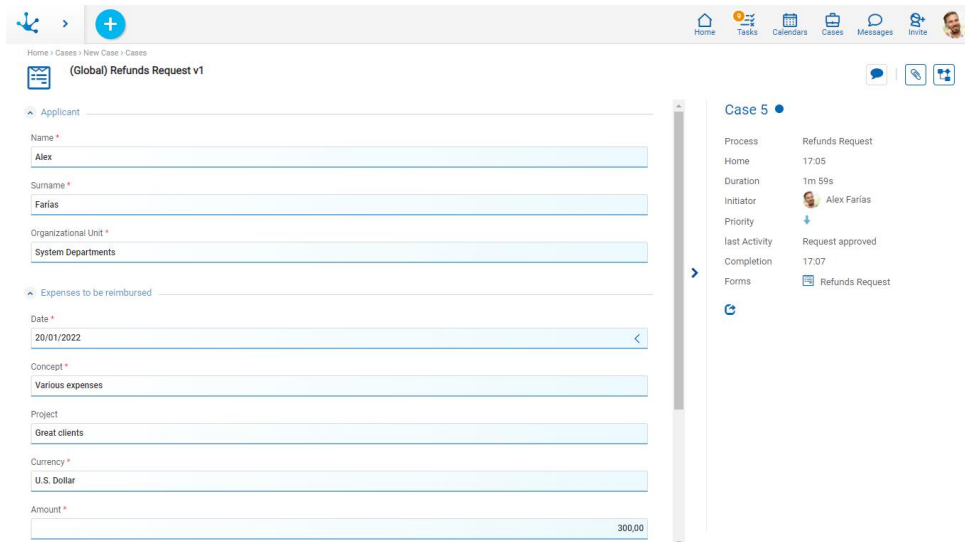
Case	Process	State	Description	Chat	Activity	Responsible User	End Date	Expiration Date
9	Notification of Absence	●	(Global) Notification of Absence v1	💬	Request approved			
7	Provision for Withdrawals	●	(MyApp) Provision for Withdrawals v1	💬	Budget Consumed			
4	Provision for Withdrawals	●	(MyApp) Provision for Withdrawals v1	💬	Budget Consumed			
1	Provision for Withdrawals	●	(MyApp) Provision for Withdrawals v1	💬	Budget Consumed			
2	Provision for Withdrawals	●	(MyApp) Provision for Withdrawals v1 - Adjust expenses over planning	💬	Adjust expenses over planning	David Cano		
31	Provision for Withdrawals	●	(MyApp) Provision for Withdrawals v1	💬	Budget Consumed			
29	Provision for Withdrawals	●	(MyApp) Provision for Withdrawals v1	💬	Budget Consumed			
38	Refund of reported pending expenses	●	(MyApp) Refund of reported pending expenses v1	💬				
39	Refund of reported pending expenses	●	(MyApp) Refund of reported pending expenses v1	💬			27/01/2022	
17	Refund of reported pending expenses	●	(MyApp) Refund of reported pending expenses v1	💬			31/08/2021	
18	Refund of reported pending expenses	●	(MyApp) Refund of reported pending expenses v1 - Check availability	💬	Check availability	Alex Farias		
35	Refund with possible payment suspension	●	(MyApp) Refund with possible payment suspension v1 - Correct request	💬	Correct request	Alex Farias		

Paging

If the number of lines exceeds the maximum number to display on a page, the buttons at the bottom right of the grid can be used to move to the previous and next page, or select a specific page.

3.5.8.3. Cases Show

In the panel of the show case, the icon of the process and the description of the case are displayed in the top left part, while in the top right part the icons corresponding to its chat, its attachments and its chart show are displayed.



Case Information



Comments Associated to the Case

Allows to show the [conversation associated to the case](#). The conversation title is the description of the case and the participants are the subscribed users.



Attached Files

Allows to display the detail of the information that has been [attached to the case](#), that is, the name of the file, the user, the date, the time and the origin of the attachment.



Graphic Show

Allows to display the case in [graphic way](#), with animations that show how it went through the different activities that make up the process and the duration times of each task.

Left Panel

The left panel displays the show for the [main form](#) of the case.

Right Panel

In the right panel the information of the case is displayed, indicating the number that identifies it and its properties.

State

State of the case identified by a color.

- Active
- Ended
- Cancelled

● Suspended

Process

Name of the process the case belongs to.

Start Date

Case start date. If the case has a start date on the same day, then only the start time (includes hours and minutes) is displayed. Otherwise the start date and time is displayed.

Duration


It is informed in days, hours, minutes and seconds.


Initiator

User that initiated the case.

Priority

Indicates the priority the task has using icons of different colors.

 Urgent

 High

 Medium

 Low

Forms

Forms created during the execution of the case.

Activities in Progress

They are the case activities that are in execution at the time of the show. They are only visible if the case is unfinished.

Start Date

Start date of the activity. If the activity has a start date on the same day, then only the start time is displayed. Otherwise, the start date and time.

Responsible User

Responsible for the execution of the activity. It is not informed responsible if the case is finalized. It can be a user, a role or an organizational unit and it is represented in different ways.

- The task is the direct responsibility of the user, the image of the user and his full name are displayed.
- The task is the responsibility of the organizational unit to which the user belongs, the icon of the organizational unit and its name are displayed.
- The task is the responsibility of a role assigned to the user, the icon of the role and its description are displayed.
- The task is the responsibility of another user but it has been delegated to the person who is consulting, the image and the full name of the user who is consulting is displayed.

Expiration Date

It indicates the expiration date of the task in progress, or the due time when it expires on the current day.

Through the property [Activity Duration](#) the origin of the expiration date is modeled. It is calculated according to the duration of the task, or it is taken from a field belonging to a form associated with the process.

The date is shown in different colors for those due, those that expire in the short term or those that expire in a longer term. The date may not be reported as it is optional in processes modeling

"Show" button

It is visible when the activity can be executed by the user who wants to show. Allows to access to the [task execution](#).

"Cancel" button

It is visible only if the case is unfinished and allows to cancel it.

It is verified a user can cancel:

- Their own cases.
- The cases of their team if they are coordinators of it.
- The cases of the participants of a role, if they are coordinator of it.

Ended Cases

If the case is finalized only some properties are shown.

Last Activity

Activity which the case finalized with.


End Date

End date of the last case activity. It is displayed in the same way as the start date of the activity.


Closing of the Right Panel

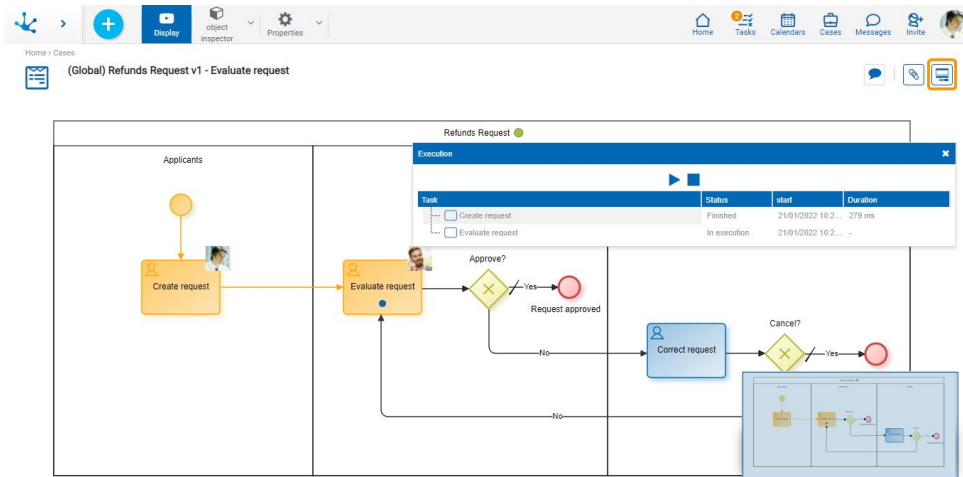
 It closes the right panel of the case information.

New Window

To display the case information in a new browser window, you must click the icon  found in the lower right corner of the side panel.

3.5.8.4. Graphic Show

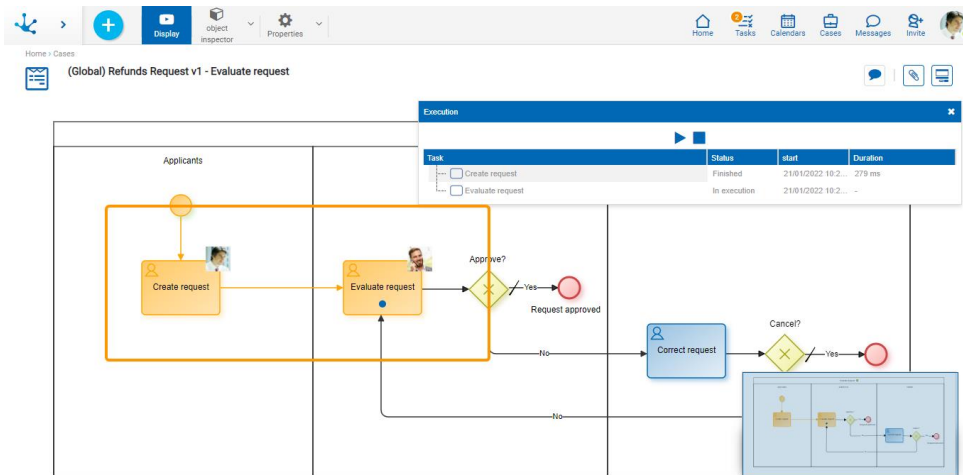
The process viewer allows to show the process diagram and the execution made so far. It also provides a set of tools to make the show. To return to the show of the case, you must press the icon .



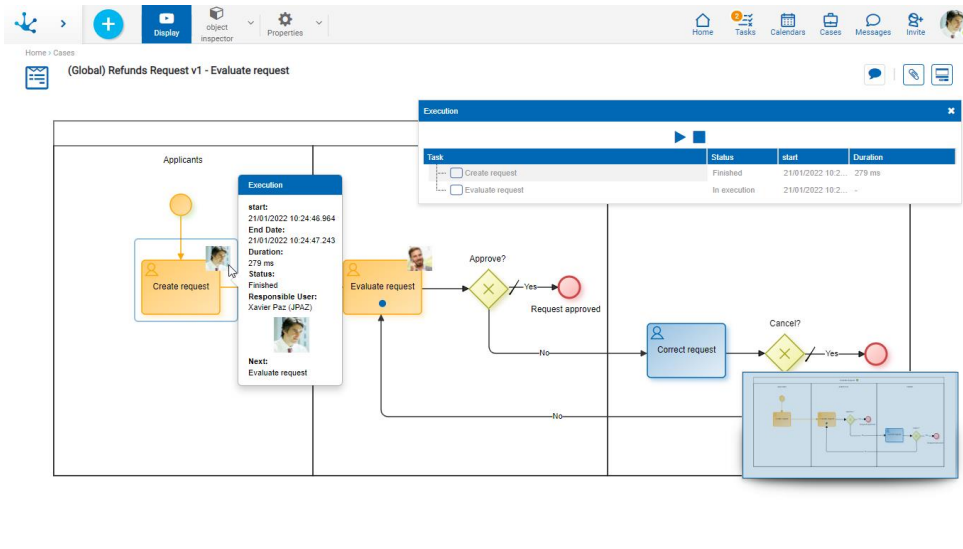
Activities Execution

The activities already executed in the case are identified highlighted in orange and in the top right part of each activity you can see the image of the person responsible for the execution.

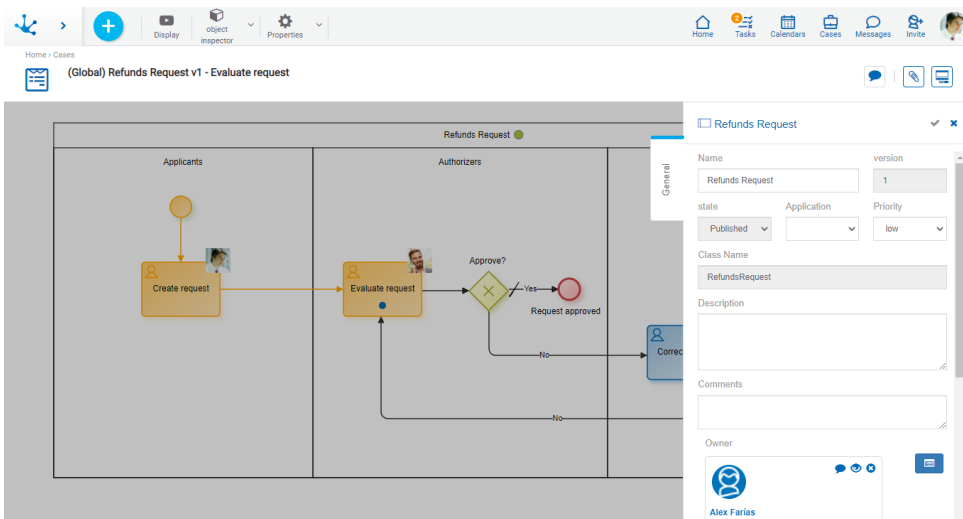
The currently executed activity has a blue dot on its shape.



When hovering over an executed activity, a panel opens with information on the execution of the activity, on the automatic activities and on the events. The next activity or event to be executed is also displayed.

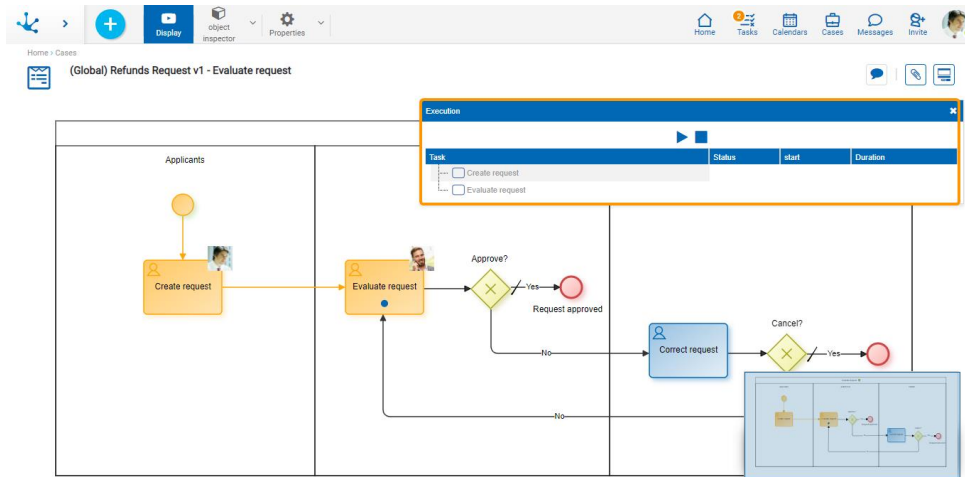


The properties of all elements of the process diagram can be shown, but cannot be modified.



Display

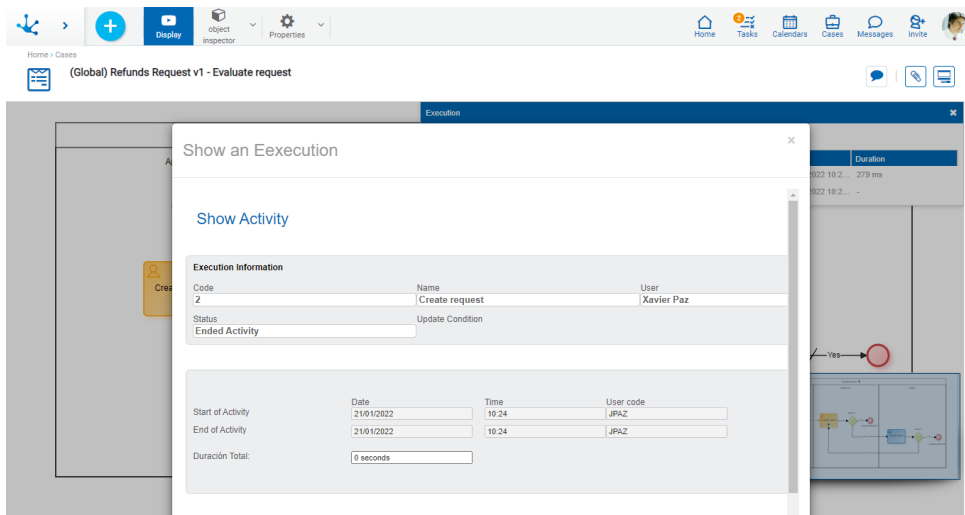
If the "Display" option is selected in the top toolbar, the execution panel opens with the detail of the executed activities and their summarized information.



This panel allows to simulate the execution of the case:

- ▶ Start the execution simulation. While the simulation is running, the icon corresponding to the pause is displayed.
- ▮ Pause the simulation. Once it has stopped, the icon corresponding to the execution is displayed.
- End the execution simulation.

When selecting an activity from the list in the display, a window opens with its detailed information.




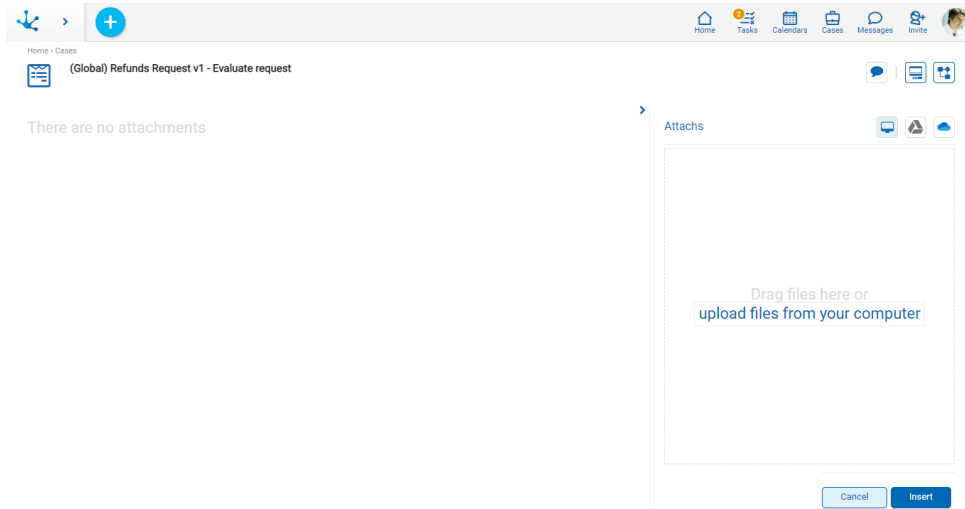
3.5.8.5. Attach Information

Information stored locally or on Google Drive can be attached to a case. Such information can be updated in different ways.

- From an activity that has a related form, where [fields of file type or image type](#) were modeled. Only the users that can execute the activity can attach information.

- From the chat associated to the case. All users involved in the case can attach information at any time. This information is available for show even when the case has been closed.
- From the case show. The responsible user for executing the activity in which the case is found can attach information.

To return to the window of the case, you must press the icon .



From the attachments panel, all the information that was attached to the case is displayed, indicating the way it was attached. In this way the user can show the attached items easily and quickly.



Indicates that the file was attached from the form.



Indicates that the file was attached from the case chat.



Indicates that the file was attached from the case show.

The name of the user who attached the information, the date, the time, and the name of the file or link are also displayed.

Hovering the cursor over each attachment enables the possibility of downloading the file to the user's local computer.

The information attached can only be deleted by the user that attached it.

3.5.8.6. Cases Related to a Form

The cases related to a form are those where the form is or has been used. If the form has modeled the property [Show Related Cases](#), the option to show their related cases and their number are displayed in each instance.

Home > Refunds Request

Refunds Request Refunds Request

Applicant

Name * Surname * Organizational Unit *

Expenses to be reimbursed

Date *	Concept *	Project	Currency *	Amount *	FILE
<input type="text" value="21/01/2022"/>	<input type="text" value="Various expenses"/>	<input type="text" value="Great clients"/>	<input type="text" value="U.S. Dollar"/>	<input type="text" value="300.00"/>	<input type="text" value="No file"/>

Additional Information

Comments

Print

By clicking on the icon corresponding to the case or cases related you access the window of [case show](#) when there is a case related, or to the [case grid](#) related, when there is more than one.

3.5.9. Calendars

[Phase 3: Portal > Calendar and collaborative tool](#)

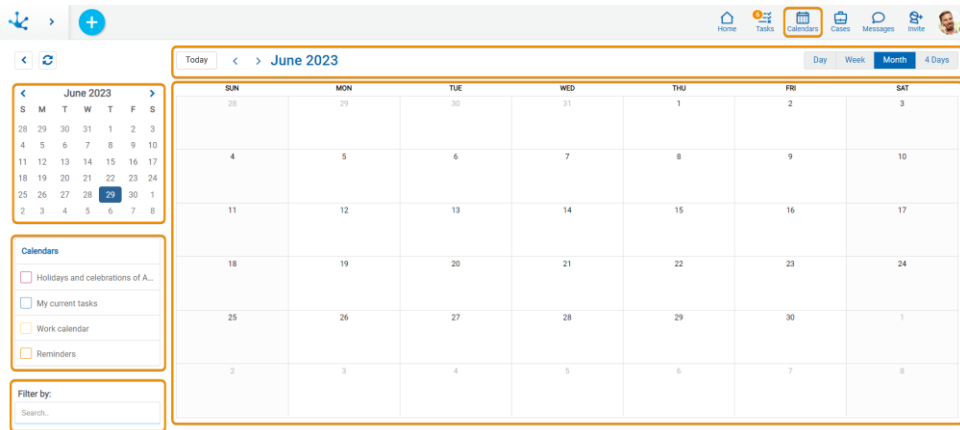
Calendars allow to display the events originated in the business processes, clearly showing their concurrence in time; in a standard interface of common use.

For example, showing at the same time the vacations requested by the collaborators and the commitments assumed in the projects, allows to detect and correct possible inconveniences when scheduling tasks.

The most relevant data is displayed for each event, allowing quick access to the show or execution of the case that originates it.

The calendar functionality can be accessed in different ways:

- From the "Calendars" option of the [Portal Top Toolbar](#).
- From the [search](#) facility.



Top Bar

The top bar displays the date or period being considered in the central area.

To the left are the buttons that move the selected date or period.

- ◀ Allows to navigate the view backwards.
 For example, if the active view is by month, it moves back one month, if the active view is by day, it moves back one day.
- ▶ Allows to navigate the view forward.
 For example, if the active view is by month, it moves forward one month, if the active view is by day, it moves forward one day.

Today Quick access to the current date.

For example, if the active view is by month, the current month is displayed, if the active view is by day, the current date is displayed.

To the right is a set of buttons that control the period view in the central area.

Day Day view.

Week Week view. ,

Month Month view. It is the default option.

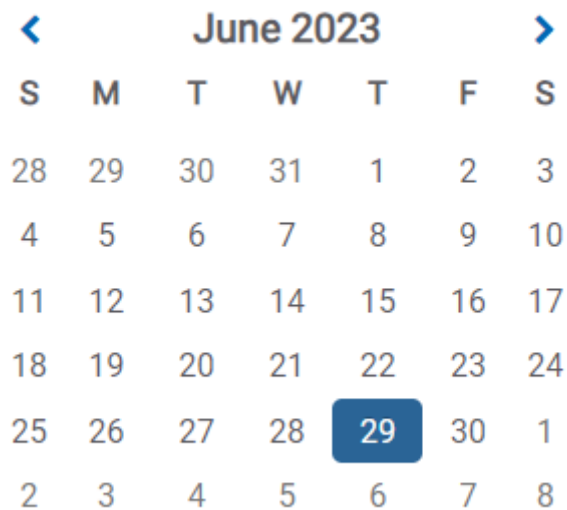
4 Days Next 4-days view.

Central Area

The events panel of the selected calendars is displayed in the central area. By clicking on any cell of this panel, access the window for [creating events and reminders](#).

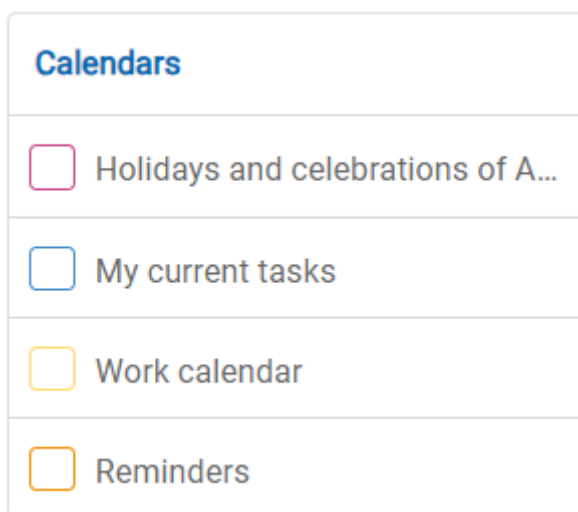
Date Picker

In addition to these navigation mechanisms described in the top bar, use the date picker, to set a specific date.



Selection of Calendars

This panel contains the list of calendars that the user can display.



In **Deyel**, there are some built-in calendars, which may be useful to the user.

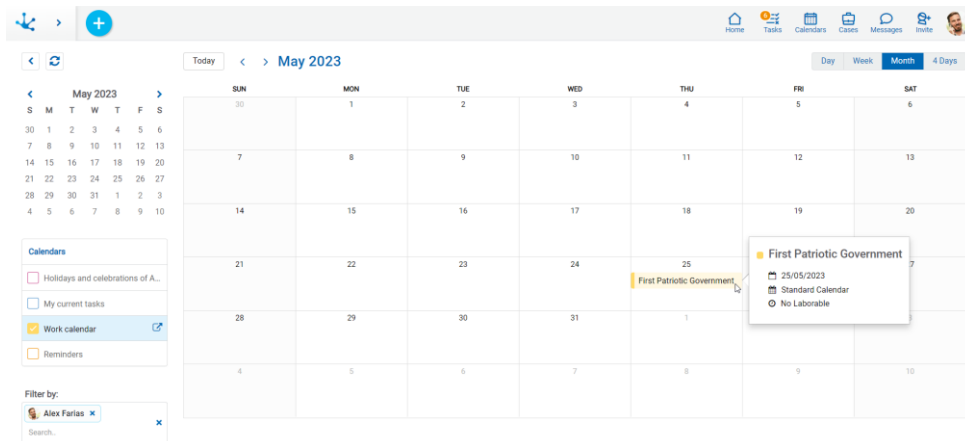
- Holidays and celebrations corresponding to the environment country of origin.
- My current tasks
Displays the user tasks in execution in graphical form.
- Work calendar
Displays the holidays and special dates defined in the different work calendars of the environment.
- Reminders
Displays user reminders.

These calendars are defined and configured using the [Calendar Setting](#).

When selecting a calendar, its events are displayed in the central area.

Several calendars can be selected simultaneously and each one shows its events with a specific color.

Deyel will remember this selection of calendars and will use it when entering the functionality again.



Some calendars have the ability to filter their events. The icon becomes visible when hovering over the calendar.

Selecting the calendar enables a line to choose the different fields and filter the events to be displayed.

If the filter icon remains visible, it indicates that there is an active filter.

Deyel will remember those filters established for each calendar and will apply them again each time this functionality is accessed, until removed.

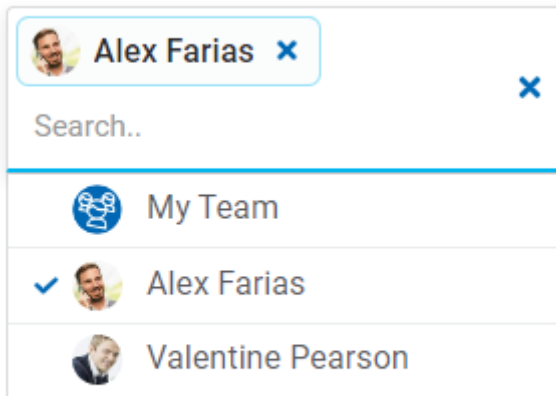


Integrates the calendar with other applications, such as Google Calendar.

Users Filter

This panel allows to select the users whose events are displayed in the central area.

Filter by:



A dropdown menu titled "Filter by:" is shown. At the top, there is a selected item "Alex Farias" with a small profile picture and a blue 'x' icon to its right. Below this is a search input field with the placeholder text "Search..". The dropdown list contains three options: "My Team" with a blue circular icon containing a white group of people, "Alex Farias" with a small profile picture and a blue checkmark to its left, and "Valentine Pearson" with a small profile picture.

Filter

The user that starts the session always appears selected in the list as enabled to view their own events.

If the user is an administrator of an organizational unit, the registered users in that unit are included in the list.

If the user is a coordinator of a role, the group of actors of the role and the users registered in organizational units of the role are included in the list.

If the list of users is very large, it is possible to search for users by entering their first or last name.

Users selected in the list are displayed at the top of the panel so they can be clearly identified.

By selecting the option "My team" all users in the list are considered in the filter.

Once the desired users have been selected, clicking the "Filter" button updates the content of the events panel.

Deyel will remember this selection of users and will use it when entering the functionality again.

3.5.10. Results and Search Grid

The results and search grid of a form allows displaying all its instances, adding the possibility of applying filters.

Each row corresponds to a form instance and each column represents those fields that were modeled using the [Grid and Filters](#) design option.

Sections

- [Top Bar](#)
- [Grid](#)

<input type="checkbox"/>	Applicant	Estimated Delivery	Application Date	Request Id	Organizational Unit	Status
<input type="checkbox"/>	Farias	17/11/2021	10/11/2021	8	System Departments	Inactive
<input type="checkbox"/>	Farias	07/04/2022	05/04/2022	7	System Departments	Active
<input type="checkbox"/>	Farias	23/03/2022	15/03/2022	6	System Departments	Active
<input type="checkbox"/>	Farias	04/04/2022	01/04/2022	5	System Departments	Active
<input type="checkbox"/>	Farias	18/03/2022	16/03/2022	4	System Departments	Active
<input type="checkbox"/>	Farias	10/03/2022	08/03/2022	3	System Departments	Active
<input type="checkbox"/>	Farias	16/02/2022	03/02/2022	2	System Departments	Inactive
<input type="checkbox"/>	Farias	02/02/2022	07/04/2022	1	System Departments	Active

3.5.10.1. Top Bar

From the top bar, different options related to the content and presentation of the results and search grid for form instances can be selected.

Number of Instances

Indicates the number of form instances, either total or that resulting from the application of a [search filter](#).

Grid Version


Allows switching to the previous version of the grid or return to the new one.

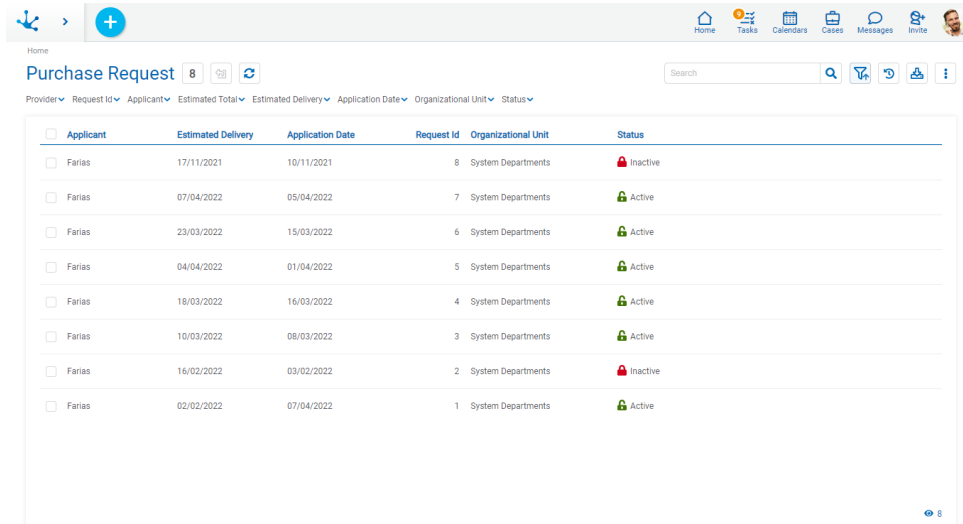
Update Grid

Allows reloading the updated grid, keeping the selected filters.

Quick Search

It allows to filter instances by the modeled fields for quick search and that contain the entered value. The quick search option only appears if it was modeled in the form.

Clicking the icon  displays the form fields on which this type of search may be carried out.



<input type="checkbox"/>	Applicant	Estimated Delivery	Application Date	Request Id	Organizational Unit	Status
<input type="checkbox"/>	Farias	17/11/2021	10/11/2021	8	System Departments	Inactive
<input type="checkbox"/>	Farias	07/04/2022	05/04/2022	7	System Departments	Active
<input type="checkbox"/>	Farias	23/03/2022	15/03/2022	6	System Departments	Active
<input type="checkbox"/>	Farias	04/04/2022	01/04/2022	5	System Departments	Active
<input type="checkbox"/>	Farias	18/03/2022	16/03/2022	4	System Departments	Active
<input type="checkbox"/>	Farias	10/03/2022	08/03/2022	3	System Departments	Active
<input type="checkbox"/>	Farias	16/02/2022	03/02/2022	2	System Departments	Inactive
<input type="checkbox"/>	Farias	02/02/2022	07/04/2022	1	System Departments	Active


Advanced Search


The advanced search enables on the results grid, the set of fields for which search filters can be selected, if they were modeled.

Favorite Searches

It allows to save the filters selected by the user and to administer them.

Clicking on the icon expands a panel with the list of saved filters and new filters can be added. Every time a search is selected, it is executed and the grid is updated.

It allows to check one of the searches as favorite, which is indicated by the icon  and can be deleted by pressing this icon.

 Indicates that the search was selected as favorite by the user.

Pressing the icon  to the left of a search, allows the user to indicate that as their favorite.

Home

Purchase Request 6

Provider Request Id Applicant Estimated Total Estimated Delivery Application Date Organizational Unit Status included: Active

Applicant	Estimated Delivery	Application Date	Request Id	Organizational Unit	Status
Farias	07/04/2022	05/04/2022	7	System Departments	Acti
Farias	23/03/2022	15/03/2022	6	System Departments	Acti
Farias	04/04/2022	01/04/2022	5	System Departments	Active
Farias	18/03/2022	16/03/2022	4	System Departments	Active
Farias	10/03/2022	08/03/2022	3	System Departments	Active
Farias	02/02/2022	07/04/2022	1	System Departments	Active

Saved searches

- Active Requests
- Inactive Requests
- Save current search

6

Data Download


Allows downloading the instances that are displayed in the results grid, either in total or those that result from applying a filter. The download can be made into an Excel or XML file, the latter is compressed with a .ZIP extension.

It is recommended to download more than 10000 instances, use the filters so as to do it in blocks.

Columns Display


It displays a panel with the names of the grid columns. By means of a check mark, the user can activate or deactivate the display of each column. The set of selected columns is valid until the same user modifies it again.


3.5.10.1.1. Search Filters

Selecting the advanced search icon  enables, on the results grid, the set of fields for which the different criteria can be selected to filter the form instances. Search criteria can be combined.

For each search criteria a value can be entered or selected from a list, to use it as a filter.

All the filters that are necessary can be added, each time one is added a new search is automatically executed that updates the task grid.

The filters applied in the search are highlighted where they were entered, each followed by an  icon. By pressing such icon the corresponding filter is deleted and a new search that updated the task grid is automatically executed.

To remove all search filters, the icon  must be pressed, which is located on the right of the last filter. This way the complete list of tasks is loaded again in the grid.

Filters

Numeric Fields

The value entered should be numeric.

Search criteria:

- Greater than
- Greater equal to
- Less than
- Less equal to
- Between
- With Data
- No Data

Alphanumeric Fields

Enter a text to search for.

Search criteria:

- Contains
- Equal to
- Starts with
- Does not start with
- No Data
- With Data

Date Fields

Searches can be made using different search criteria.

Options:

- Today
- Last 7 days
- Current Month
- Current Year
- Last Month
- Last Year
- From (Requires selection of a start date)
- To (Requires selection of an end date)
- Range (Requires the selection of a start date and an end date)
- Equal (Requires selection of a date)

DateTime Fields

A calendar opens to select the date and time, it can be filtered using different search criteria.

- From
- Until
- Equal
- Range

Value Lists Fields

The list values and the corresponding icons are displayed, if the [Icons](#) property has been modeled.

Search criteria:

- Included
- Not Included
- With Data
- No Data

File and Image Fields

Enter a text to be searched for, in relation to the name of the file.

- Search criteria:
- Contains
- Does not contain
- Equal to
- Not equal to
- Starts with
- Does not start with
- No Data
- With Data

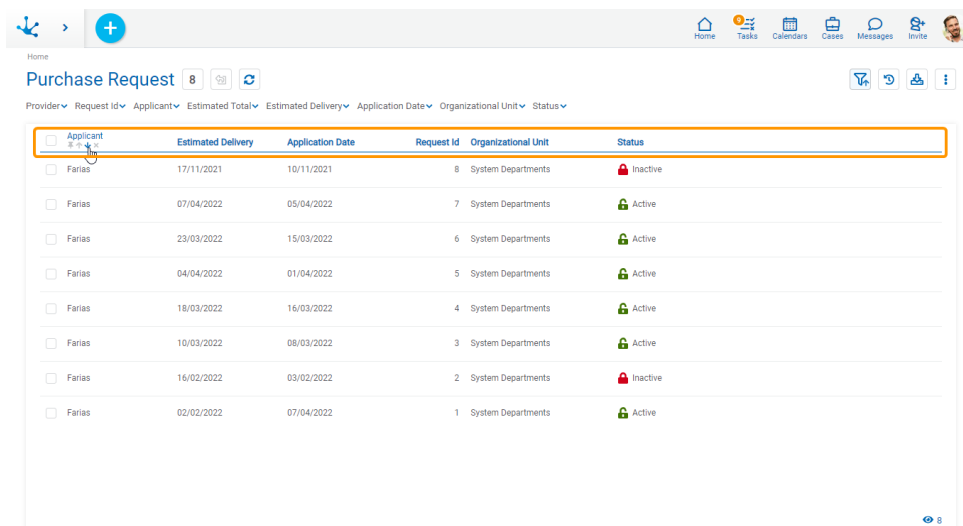
3.5.10.2. Grid

The results and search grid allows viewing all form instances or those that are the result of having applied [search filters](#). It is made up of columns and rows.

Columns

The results and search grid allows viewing different columns and by hovering over the name of each one it is possible to indicate its [behavior](#), in the same way as in the tasks grid.

The columns displayed in the grid correspond to the form fields that were modeled by checking the [Included in Grid](#) property or else by modeling the design option [Grid and Filters](#). If the field is related to a value list, in this design option, the content of the column is also modeled to be displayed with or without icons.

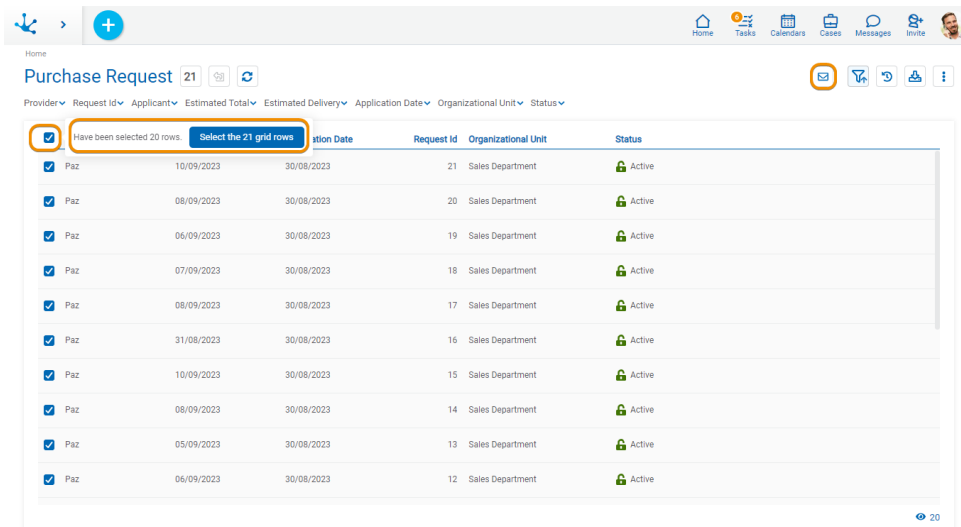



The screenshot shows a web application interface for 'Purchase Request'. The grid displays the following data:

Applicant	Estimated Delivery	Application Date	Request Id	Organizational Unit	Status
Farias	17/11/2021	10/11/2021	8	System Departments	Inactive
Farias	07/04/2022	05/04/2022	7	System Departments	Active
Farias	23/03/2022	15/03/2022	6	System Departments	Active
Farias	04/04/2022	01/04/2022	5	System Departments	Active
Farias	18/03/2022	16/03/2022	4	System Departments	Active
Farias	10/03/2022	08/03/2022	3	System Departments	Active
Farias	16/02/2022	03/02/2022	2	System Departments	Inactive
Farias	02/02/2022	07/04/2022	1	System Departments	Active

Send Email

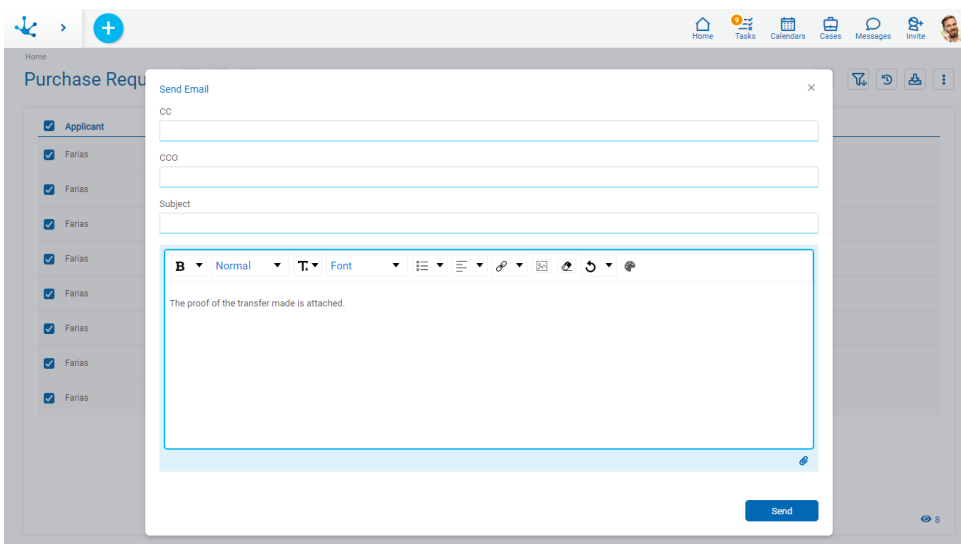
If the [Send Emails](#) form property was modeled, a checkbox column to select instances is displayed on the left side of the grid. By checking the mark field in the grid header, all visible instances are selected. If there are more instances, a message is displayed giving the possibility of selecting all of them.



Whenever an instance is selected, the icon  is displayed in the top bar.

Clicking this icon opens a panel where the following sections of an email can be configured:

- Cc
- Bcc
- Subject
- Message
- Attachments



By pressing the icon  in the lower right corner of the panel, it is possible attach:



- A file-type or image-type form field, in this way the file contained in the field of each instance is sent in the corresponding email.
- A file from the user's device, it is sent in the corresponding emails to all instances.


The email addresses of the recipients are completed with the values entered in the text fields of the form where its [Content Type](#) property is email.

The sender email address used is the one entered in the [user profile](#) that is showing the form's results grid.

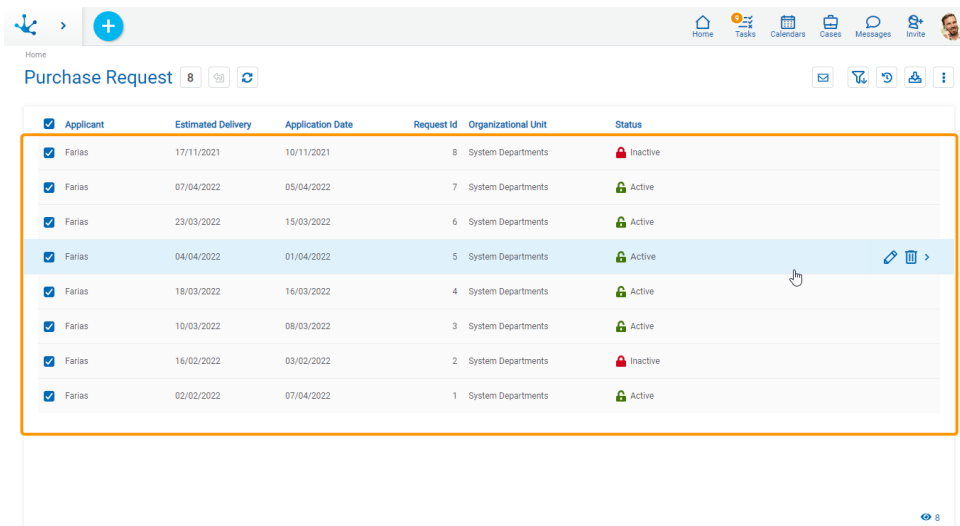
By pressing the "Send" button, emails are sent to all the selected instances of the grid. Each [email sent](#) becomes associated with its corresponding instance.

Rows

Each instance of the grid can be shown by clicking on the corresponding row, while hovering the cursor over it enables the icons  and  allows updating or deleting operations respectively.

If the row contains a file or image type field, hover the cursor over it to enable the icon , that allows downloading the file without having to enter the form instance.

In the lower right margin there are number of instances loaded in the grid. This number increases as the scroll bar is scrolled vertically.



Applicant	Estimated Delivery	Application Date	Request Id	Organizational Unit	Status
Farias	17/11/2021	10/11/2021	8	System Departments	Inactive
Farias	07/04/2022	05/04/2022	7	System Departments	Active
Farias	23/03/2022	15/03/2022	6	System Departments	Active
Farias	04/04/2022	01/04/2022	5	System Departments	Active
Farias	18/03/2022	16/03/2022	4	System Departments	Active
Farias	10/03/2022	08/03/2022	3	System Departments	Active
Farias	16/02/2022	03/02/2022	2	System Departments	Inactive
Farias	02/02/2022	07/04/2022	1	System Departments	Active

Display of Icons on Rows

The user can decide if they want to see the icons with the operations of the instances on the row.



Display the available icons for each instance.



Hide the available icons for each instance.

Scroll Bar

By scrolling vertically, rows are incorporated in the grid, allowing scrolling up or down using a scroll bar.

3.5.11. Form Instances

 [Phase 2: Forms Modeling > Display form data](#)

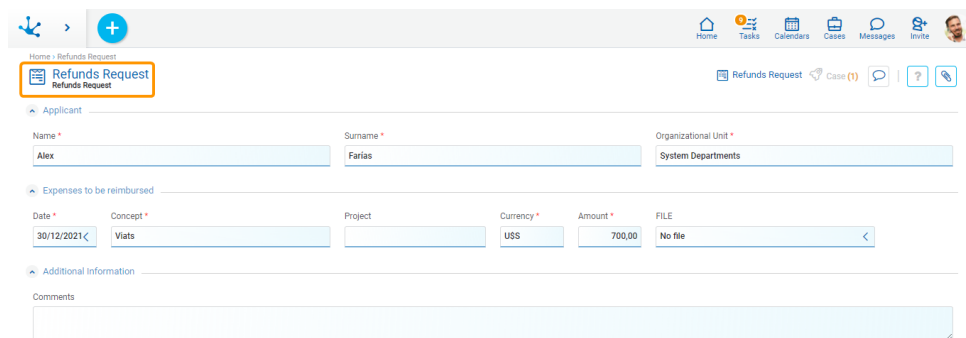
Form instances can be displayed by default or [personalized](#).

The show of a form instance is made up of different sections.

Form Header

The elements displayed in the form header are modeled as [general properties](#) of the same.

- Descriptive Name
- Icon
- Description



Home > Refunds Request

Refunds Request

Refunds Request Case (1) ?

Applicant

Name * Alex Surname * Farias Organizational Unit * System Departments

Expenses to be reimbursed

Date * 30/12/2021 Concept * Viats Project Currency * US\$ Amount * 700,00 FILE No file

Additional information

Comments

Relations Area

The relations area allows to display the set of [entities that refer to](#) the instance being showed.

It allows the user to navigate among related entities. Each relation is represented as a different tab. Selecting a tab opens the related form grid where only the related instances are displayed.

Home > Account

Account

Account

Contacts Opportunities

Logo: ACME Corp

Entrepreneur Group: ACME

Identification: 30-00000000-1

Condition: Activa

Owner: Alex Farias

Industry: Retail

Origin: Web

Opening Date: 28/04/2020

Annual Earnings: 50000000

Type: Prospect

Business Partner:

Employees: 150

Valorization: 70

Description:

Owner: Activa

Id Account: 1

Emails:

Mail: info@acmecorp.com

Type: Laboral

Sites and Social Networks:

Website:

Net: Facebook

Phones:

NUMBER:

Type: Personal

Delete Update

Fields Area

Containers and fields modeled on the form are displayed in the fields area. Their behavior depends on the [modeled properties](#) or on the definition of a [process activity execution](#) related to the form.

Home > Refunds Request

Refunds Request

Refunds Request Case (1)

Applicant

Name: Alex

Surname: Farias

Organizational Unit: System Departments

Expenses to be reimbursed

Date: 30/12/2021

Concept: Viats

Project:

Currency: US\$

Amount: 300,00

FILE: No file

Additional Information

Comments:

Operation Buttons

This section displays the buttons to perform operations on the form.

For each [operation on the form](#) instance, the buttons that are displayed vary according to the [security permissions](#) that the user has defined.

3.5.11.1. Personalización

When modeling the [properties of the form](#), of its [fields](#) and its [containers](#), it is possible to customize the display of the form instances.

Customization Tips

Different options for customizing forms are detailed below, indicating how to model different display properties for forms, containers and fields, so as to reach the desired result. All proposals are based on the Refund Request form.

Option 1

- Form Properties
 - [General Properties](#)
 - [Position](#) = Centered, [Side Margin](#) = 10.
- Applicant Container, Expenses to Reimburse Container Properties
 - [Border](#)
 - [Top](#) = 1, [Right](#) = 1, [Bottom](#) = 1, [Left](#) = 1, [Color](#) = #d4d4d4.
 - [Shadow](#)
 - [X](#) = 1, [Y](#) = 3, [Blur](#) = 6, [Color](#) = #d4d4d4.
 - [General Properties](#)
 - [Background Color](#) = white.
- Additional Information Container Properties
 - [Border](#)
 - [Top](#) = 1, [Right](#) = 1, [Bottom](#) = 1, [Left](#) = 1, [Color](#) = #d4d4d4.
 - [Shadow](#)
 - [X](#) = 1, [Y](#) = 3, [Blur](#) = 6, [Color](#) = #d4d4d4.
 - [General Properties](#)

Background Color = #e0f4ff.

Home My Refunds 1

Applicant

Name * Alejandro Surname * Farias Organizational Unit * Systems

Expenses to Reimburse

Date *	Concept *	Project	Currency *	Amount *	File
17/02/2022	Cab	Updates	Dollar	3	Cab Receipt.png
17/02/2022	Lunch	Updates	Dollar	7	Lunch Receipt.png

Additional Information

Comments

The receipts have been attached

Accept Accept and Create

Option 2

- Form Properties

- General Properties

- Position = Centered, Side Margin = 10, Background Color = #e4f3e5.

- Container Properties

- Border

- Top = 1, Right = 1, Bottom = 1, Left = 1, Color = #d4d4d4.

- Shadow

- X = 1, Y = 3, Blur = 6, Color = #d4d4d4.

- General Properties

- Background Color = white.

Home My Refunds 2

Applicant

Name * Alejandro Surname * Farias Organizational Unit * Systems

Expenses to Reimburse

Date *	Concept *	Project	Currency *	Amount *	File
17/02/2022	Cab	Updates	Dollar	3	Cab Receipt.png
17/02/2022	Lunch	Updates	Dollar	7	Lunch Receipt.png

Additional Information

Comments

The receipts have been attached.

Accept Accept and Create

Option 3

- Form Properties
 - General Properties
 - Position = Centered, Side Margin = 15, Background Color = #f0ebf8.
- Container Properties
 - Border
 - Top = 1, Right = 1, Bottom = 1, Left = 1, Color = #d4d4d4.
 - Shadow
 - X = 1, Y = 3, Blur = 6, Color = #d4d4d4.
 - General Properties
 - Background Color = white.
- Expenses to Reimburse Container and Additional Information Container Properties
 - Expanded unchecked.
- Field Properties in the Applicant Container
 - Label Position = Left.
- Checkbox Field Properties in the Informed Concepts Container
 - Label Position = Left.

The screenshot shows a web application interface for 'My Refunds 3'. The main form is titled 'Applicant' and contains the following fields:

- Name: Alejandro
- Surname: Farias
- Organizational Unit: Systems

Below the applicant information are three collapsed sections:

- Expenses to Reimburse
- Additional Information
- Informed Concepts

The 'Informed Concepts' section is expanded, showing the following options:

- Transport
- Office Supplies
- Trainings
- Others

At the bottom right of the form are two buttons: 'Accept' and 'Accept and Create'.

Option 4

- Form Properties
 - General Properties
 - Position = Default. Side Margin = 10, Background Color = rgba(241, 142, 0, 0.255).
- Container Properties
 - Border
 - Top = 1, Right = 1, Bottom = 1, Left = 1, Color = #d4d4d4.
 - Shadow
 - X = 1, Y = 3, Blur = 6, Color = #d4d4d4.

General Properties
Background Color = white.

- Field Properties in the Applicant Container
Label Position = Left.

My Refunds 4

Applicant

Name * Alejandro

Surname * Farias

Organizational Unit * Systems

Expenses to Reimburse

Date *	Concept *	Project	Currency *	Amount *	File
17/02/2022	Cab	Updates	Dollar	3	Cab Receipt.png
17/02/2022	Lunch	Updates	Dollar	7	Lunch Receipt.png

Additional Information

Comments

The receipts have been attached.

Accept Accept and Create

3.5.11.2. Related Entities

When a form is shown, the relations modeled with other entities are displayed in the upper right section, with their names and the number of instances associated with each relation.

If the relation is with a single instance, the modeled [singular name](#) is displayed and, pressing this name will show that instance. If the relation is with more than a single instance, the modeled [plural noun](#) is displayed and, pressing this name opens the [results grid](#) of the related form.

Account

Account Contacts Opportunities(1)

Account

Logo ACME CORPORATION

Business Name * ACME Corp

Entrepreneur Group ACME

Identification 30-00000000-1

Condition Activa

Owner * Alex Farias

Industry * Retail

Origin Web

Opening Date 28/04/2020

Annual Earnings 50000000

Type * Prospect

Business Partner

Employees 150

Valorization 70

Description

Owner Status Id Account

Active 1

Emails

Mail	Type	Website	Net	NUMBER	Type
info@acmecorp.com	Laboral		Facebook		Personal

Delete Update

 See Relations

This icon is displayed when the number of related entities occupy a space greater than that available in the upper line. When pressed, it shows a panel with the related entities.

Use of Context Menu in Related Entities

The [context menu](#) adopts the general characteristics of the portal but adapted to the related entities.

The default values in the new instance take the content modeled in the [value match](#) panel.

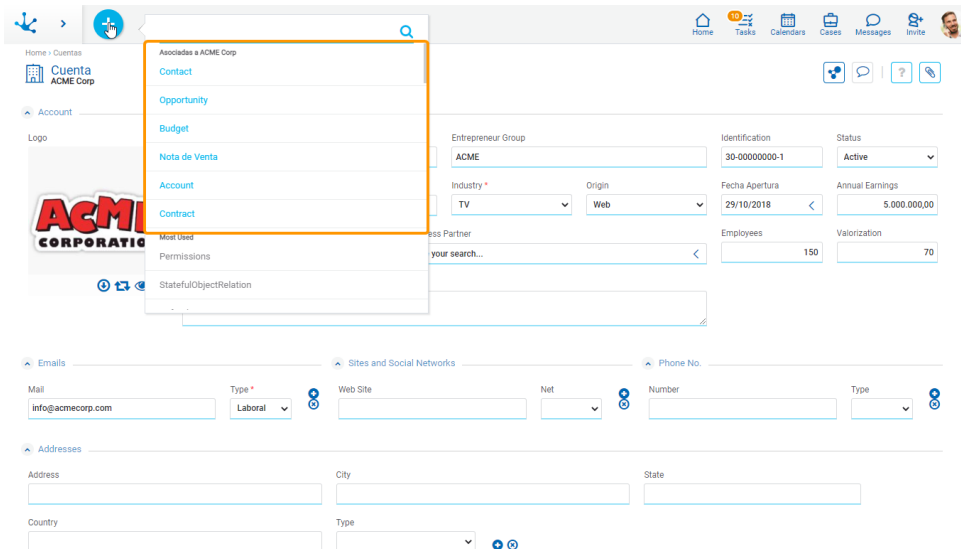
Icons Menu

On the [icons menu](#) there are icons corresponding to the related entities to which the user can create a new instance.


The screenshot shows a web-based CRM interface for an 'Account' record. The account name is 'ACME Corporation' and the logo is displayed. The form is divided into several sections: 'Basic Information' (Business Name, Entrepreneur Group, Identification, Status, Owner, Industry, Origin, Opening Date, Annual Earnings), 'Business Partner' (Type, Business Partner search, Employees, Valorization), 'Description' (text area), 'Emails' (Mail, Type, Laboral), 'Sites and Social Networks' (Web Site, Net), 'Phone No.' (Number, Type), and 'Addresses' (Address, City, State, Country, Type). A 'Contact' icon is highlighted in the top navigation bar.

Expanded Menu

On the [expanded menu](#) panel there are options corresponding to the related entities to which the user can create a new instance.



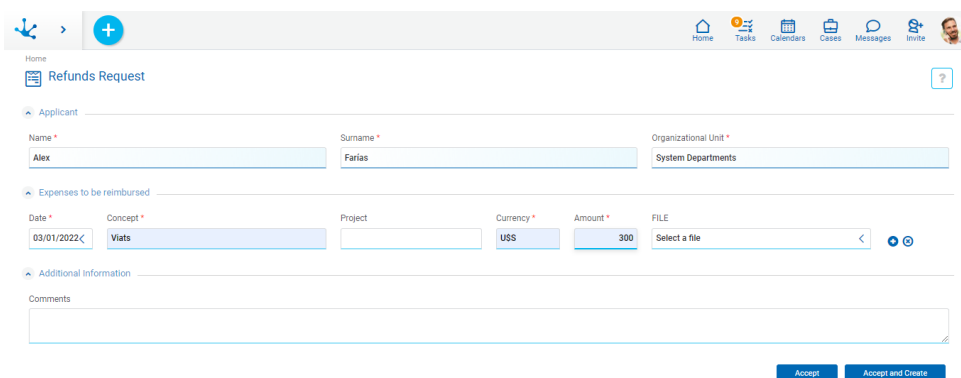
3.5.11.3. Operations

The buttons for form instances operations are enabled by hovering over each line of the [results grid](#), except for the create operation, which starts with the icon  corresponding to the [context menu](#).

To perform operations on form instances, the form should not have [related processes](#) defined in the modeling or otherwise, the [Process Variable](#) property should not be selected.

Create

The user can create a new form instance by entering the values in the fields, pressing any of the available buttons they create an instance and the user receives a message indicating that data was saved. The [validations](#) defined for the form and each of its fields are executed.



Buttons

- Accept: confirms the creation of a new form instance.
- Accept and Create: confirms the creation of a form instance and a new panel opens to create another one.

Show

Opens the selected form instance. Fields are displayed as non-editable and depending on the user's security permissions, the buttons available to operate with the instance being shown are enabled.

If the [Send Emails](#) form property is modeled, the following is displayed:

- An option to select sent emails, in the [relations area](#).
- An option to send emails, in the context menu.

The screenshot shows a web application interface for a 'Refunds Request' form. The top navigation bar includes icons for Home, Tasks, Calendars, Cases, Messages, and Invite. The form is divided into several sections:


- Applicant:** Fields for Name (Alex), Surname (Farias), and Organizational Unit (System Departments).
- Expenses to be reimbursed:** Fields for Date (03/01/2022), Concept (Viats), Project (empty), Currency (US\$), Amount (300,00), and FILE (No file).
- Additional Information:** A large text area for Comments.

At the bottom right of the form, there are two buttons: 'Delete' and 'Update'.

Buttons

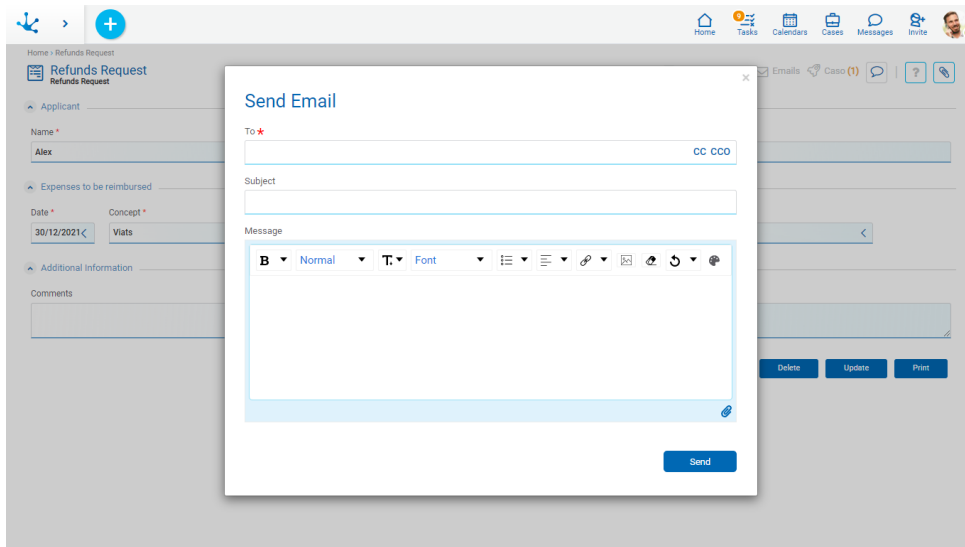
- [Update](#)
- [Delete](#)

Send Email

By selecting in the [context menu](#) the icon  or the option "Email", a panel opens and allows to send an email, which becomes associated with the form instance that is being shown.

The email addresses of the recipients are completed with the values entered in the text fields of the form where its [Content Type](#) property is email.

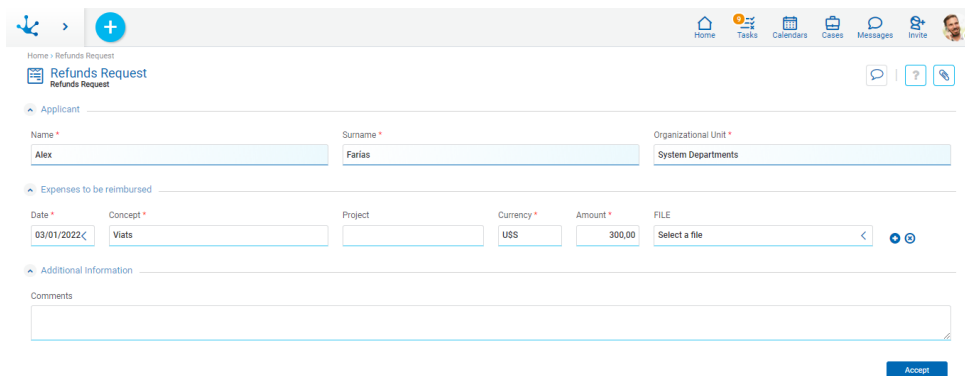
The sender email address used is the one entered in the [profile of the user](#) viewing the form.



Update

Opens the selected form instance with those fields that can be updated, as editable. To update, press the "Accept" button and the user receives a message indicating that data was saved. The [validations](#) defined for the form and each of its fields are executed.

If the [Send Emails](#) form property is modeled, then in the [relations area](#), the option to select sent emails is displayed.



Delete

Opens the selected form instance and its fields are displayed as non-editable. To delete, press the "Accept" button and the user receives a message indicating that data was deleted.

A form instance cannot be deleted if it is related to a case.

Home > Refunds Request

Refunds Request

Applicant

Name * Alex Surname * Farias Organizational Unit * System Departments

Expenses to be reimbursed

Date * 03/01/2022 Concept * Viats Project Currency * US\$ Amount * 300,00 FILE No file

Additional Information

Comments

Delete

3.5.11.4. Printing

To print a form instance, it has to be modeled with the [Printable](#) property enabled. This displays the "Print" button when a form instance is shown, along with the buttons for other operations.

Home > Refunds Request

Refunds Request

Applicant

Name * Alex Surname * Farias Organizational Unit * System Departments

Expenses to be reimbursed

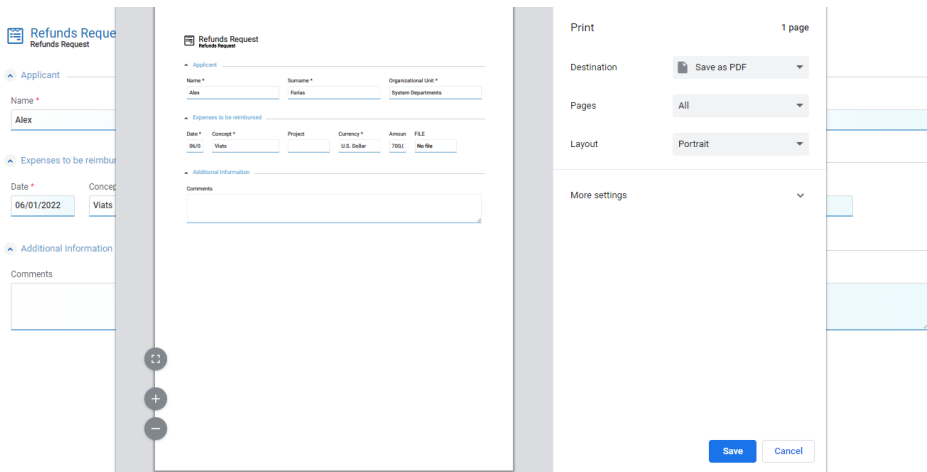
Date * 30/12/2021 Concept * Viats Project Currency * US\$ Amount * 300,00 FILE No file

Additional Information

Comments

Delete Update Print

Pressing the "Print" button gives access to print the form in the browser.



It is recommended to select Horizontal Layout and Scale to 80%.

To extend the default behavior of printing, the [modifyPrint\(\)](#) function should be defined in the advanced editing of the form.

3.5.11.5. Validations

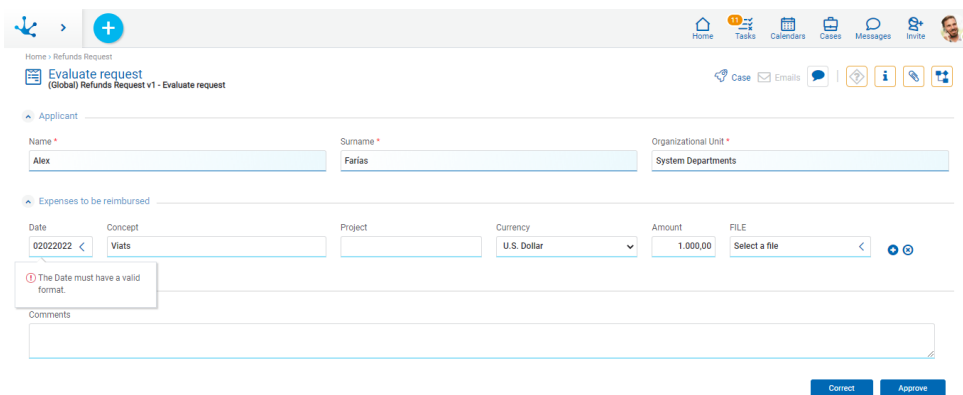
Field validations allow to control data format, fields behavior, and the business logic when using form instances, so that incorrect or invalid data for the business is not entered.

Data Format Validations

This validation is carried out implicitly for all form fields and controls that the format of the data entered by users is correct for each field.

Example

If a date does not verify the MM/DD/YY format, the user receives an alert message.



Required Validations

This validation verifies that data is entered in the required fields. In other words, a form instance cannot be created if the [required](#) input fields were not completed.

A required field is indicated by a red asterisk to the right of the label.

Example

If the Concept field is not completed, the user receives an alert message.

The screenshot shows a web application interface for evaluating a request. The form is titled "Evaluate request (Global) Refunds Request v1 - Evaluate request". It has several sections: "Applicant" with fields for Name (Alex), Surname (Farias), and Organizational Unit (System Departments); "Expenses to be reimbursed" with fields for Date (02/02/2022), Concept (empty), Project (empty), Currency (U.S. Dollar), Amount (1.000,00), and FILE (Select a file); and "Additional info" with a Comments field. A red tooltip message "The Concept is required" is displayed over the empty Concept field. At the bottom right, there are "Correct" and "Approve" buttons.

Logic Validations

Logic validations verify that the entered fields comply with the conditions modeled in the form by means of the [field validation](#) or [form validation](#) properties.

The screenshot shows the same web application interface as above, but with a different value in the Concept field: "Viats". The Amount field now contains "8.000,00". A red error message "The amount cannot be greater than 6000" is displayed at the top right of the form. The "Correct" and "Approve" buttons are still visible at the bottom right.

3.5.12. Forms Elements

A form is made up of a set of fields, containers and graphic elements, which are defined by [modeling the form](#).

When using the form, the fields and containers are displayed according to the properties modeled for each one.

- [Fields](#)
- [Containers](#)

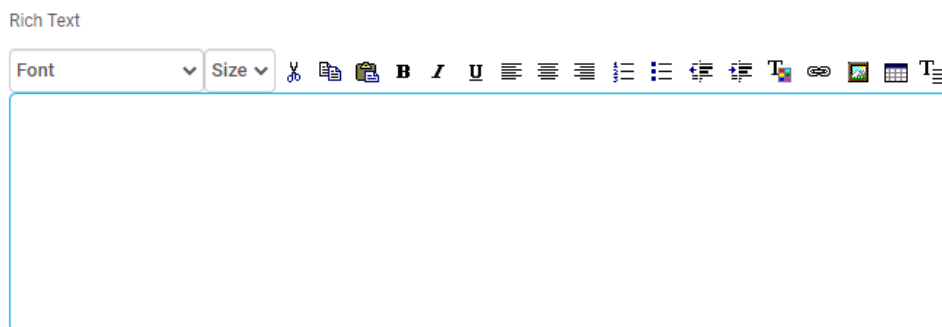
3.5.12.1. Fields

When using the form, the user visualizes the form fields, according to the properties modeled for the different types of fields. Each of them has been included in the form from the [controls bar](#).

Types

Rich Text

The [rich text type](#) control has an area for entering and modifying the text and different styles can be used. The font size, as well as applying underlining, bold and colors, among other options can be changed.

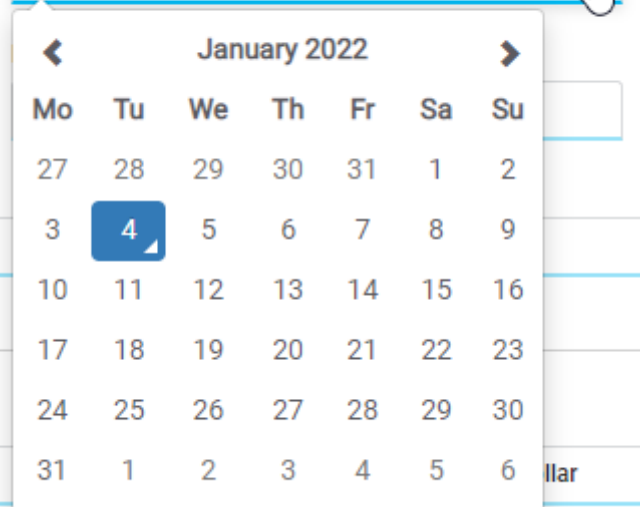


Date Picker

A date picker becomes visible when using a [date type](#) control. It allows to select the day, month and year, easily completing the field.



Application Date *

04/01/2022

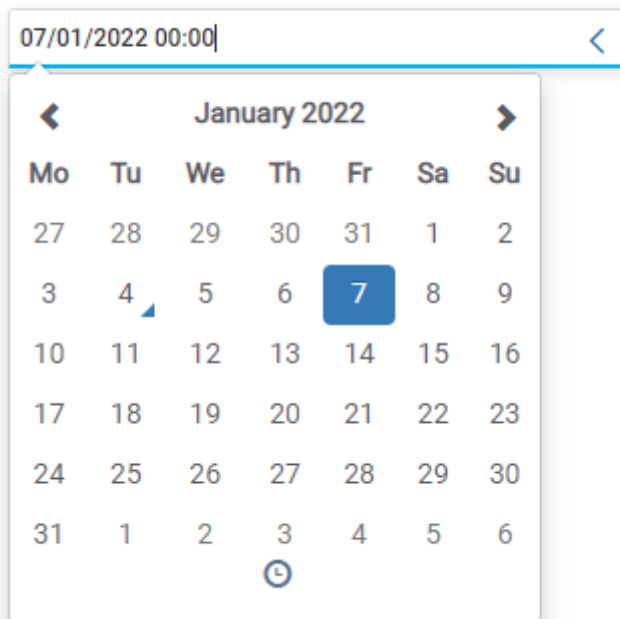


Date and Time Picker

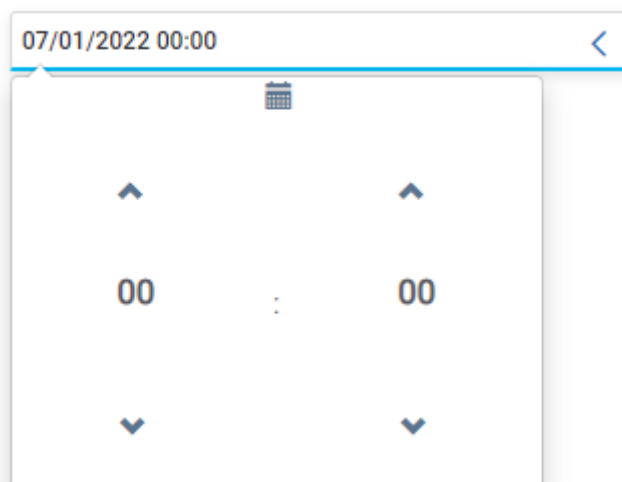
A date and time picker becomes visible when using a [date type](#) control. It allows to select the day, month and year, easily completing the field.

Pressing the icon  allows to update hours and minutes. To return to date, press the icon .

Date and Time



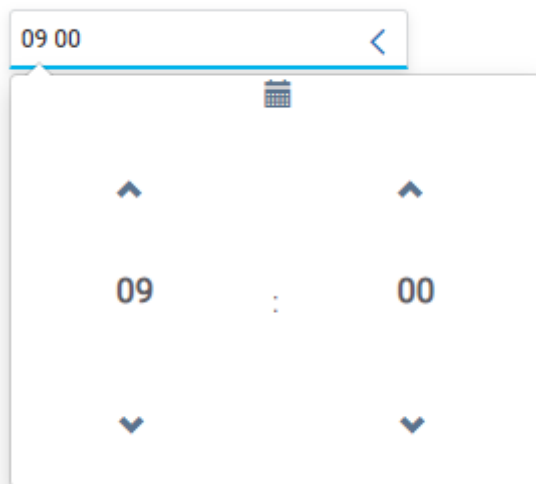
Date and Time



Time Picker

A time picker becomes visible when using a [time type](#) control. It allows to select hours and minutes.

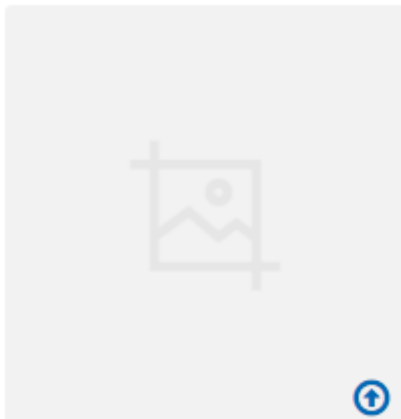
Check In Time



Image

To enter an image into an [image type](#) control, use a picker that is in the lower right part of the image field. Pressing this picker opens a panel for selecting a file from the user's computer.

Image






File

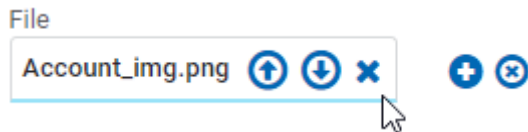
A [file type](#) control allows a file to be incorporated into the form from the user's computer or stored in Google Drive. If more than one file is to be incorporated, multiple occurrences should be modeled.




File



-  Open the window to select one or more files.
-  Generate a new occurrence to attach files.
-  Delete a file occurrence.

Once a file has been entered, operations on it can be performed.



-  Replace the file by another one.
-  Download the file to your local computer.
-  Delete the file from the form instance.

Check

A [check](#) control represents logic information, being able to take "YES/NO" values. When the control is selected, the field takes a true value and its content is "YES", otherwise it takes a false value and its content is "NO".



It can be displayed in toggle format if the [Display](#) field property was modeled.



If the field is included in the results grid, its content is represented with "YES/NO" values in the corresponding column.

A screenshot of a web application interface. The top navigation bar includes icons for Home, Tasks, Calendars, Cases, Messages, and Invite. Below the navigation bar, the text 'Refunds Request' is displayed with a search bar and a refresh icon. The main content area shows a table with the following data:

<input type="checkbox"/>	Name	Surname	User	Organizational Unit	Request Number	Active
<input type="checkbox"/>	Alex	Farias	Alex Farias	System Departments	2	No
<input type="checkbox"/>	Alex	Farias	Alex Farias	System Departments	1	No

If it is used as a search filter, "YES/NO" values can be used.

Home

Refunds Request 2

Amount Date Concept User Name Surname Organizational Unit Request Number ACTIVE

<input type="checkbox"/>	Name	Surname	User	Organ	Request Number	Active
<input type="checkbox"/>	Alex	Farias	Alex Farias	System Departments	2	No
<input type="checkbox"/>	Alex	Farias	Alex Farias	System Departments	1	No

2

Value List

The fields represented by this control propose the [value list](#) defined when modeling the field,

Currency *

U.S. Dollar ▼

- U.S. Dollar
- European Euro
- Yen
- Pound
- Franc

3.5.12.1.1. Predetermined Values

When modeling a form, [predetermined values](#) can be defined for their fields. When creating a new form instance, these fields are displayed automatically filled in with such value.

3.5.12.1.2. Autocomplete Fields

The fields modeled as autocomplete supplies a set of values that coincide with what the user starts to type in the field. In this way, the supplied values vary based on matches with earlier typed values

Example

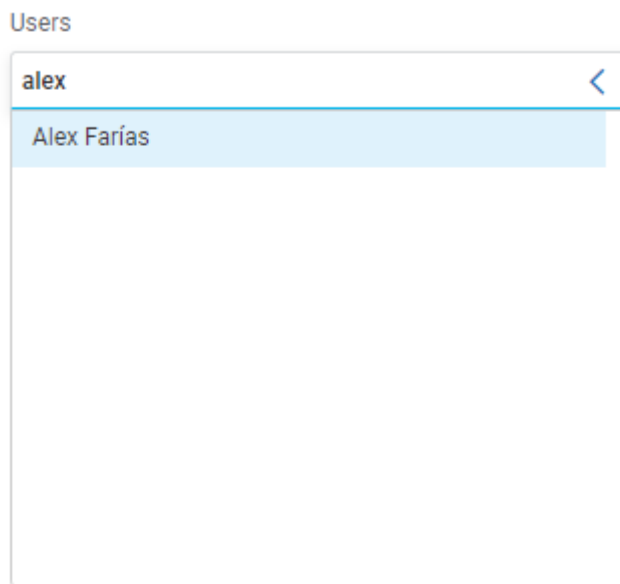
When entering the letter “p” in the field, only users that contain that letter in some position can be selected.

3.5.12.1.3. Related Fields

When modeling a form, the fields with relations to [entities](#), [value lists](#) and [rules](#) can be defined.

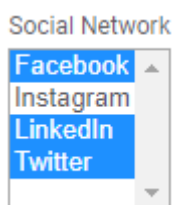
Single Selection

The values obtained from a modeled relation are displayed as a scrolled list, where the user can select one of them.



Multiple Selection

The fields modeled with a relation to a rule can be defined as multiple selection, using the [Multiple](#) property. Modeling this property allows to select more than one value from a scrolled list, holding down the 'CTRL' key while the items are being selected.



Filter Selection

A field filtered by a value selected in another form field allows the value list of related fields to become variable, depending on the value initially selected.

Relation with Entities

When using the form, in the fields modeled with [relation to an entity](#), an indicator is displayed and when hovering the mouse over the field, this enables a set of icons to perform different actions.

Clear Field

It allows to delete the value entered in the field.

Select

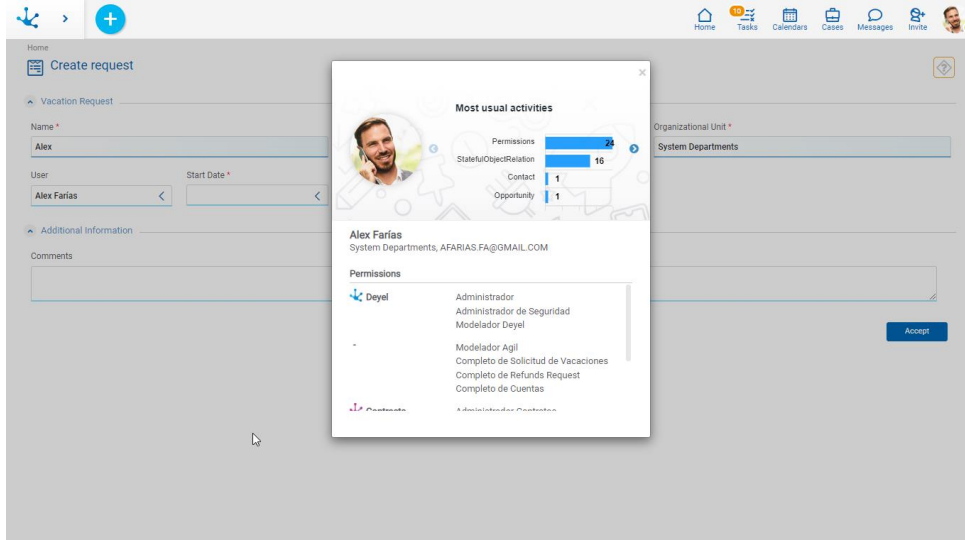
It allows to search and select instances of entities to which the field is related. Pressing this icon opens a new window with the results grid of the related entity.

Show

It allows to see the data of the entity related to the field, opening a new window with the corresponding related entity instance.

Example

If the related entity is the user, a window with the information of the user informed in the field is opened.

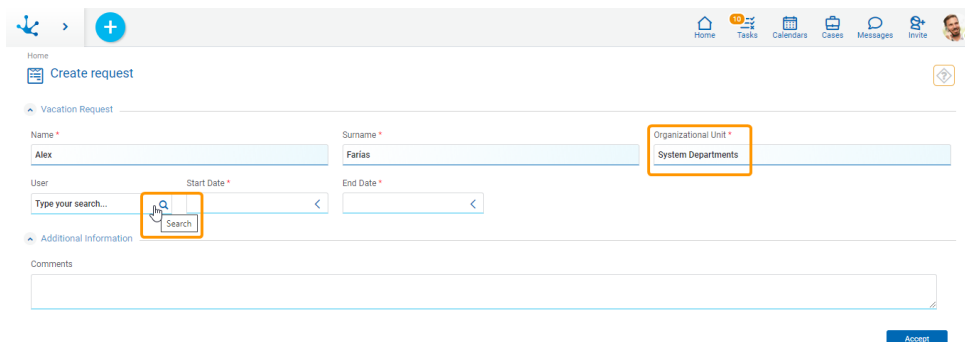


Filtered Entities

When filtered entities are modeled in forms, the values displayed from the magnifier in the show depend on the [filter](#) that has been modeled.

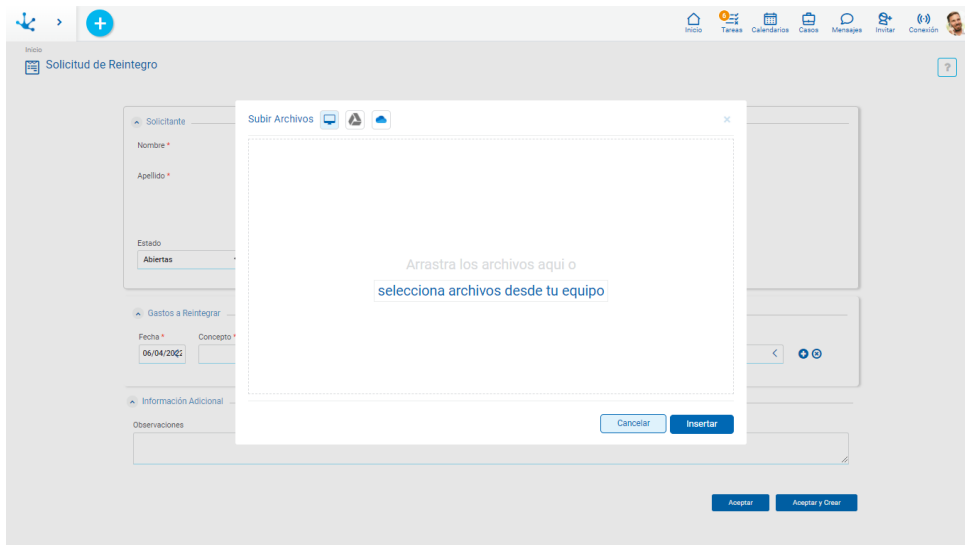
Example

The values available for the user field are filtered by sales, the previously selected organizational unit



3.5.12.1.4. Attached Files

Files from different sources can be used when using the form. To [attach more than one file](#) the field should be modeled within a multi-occurrence container.



Attach Files from User's Computer

It allows to open a window where files can be selected from the user's computer, or by using the "Drag and drop" facility if it is necessary to attach multiple files.



Attach Files from Google Drive

It allows to open a window to select a Google account of the user and then the file or files to attach.

The user should have the access permissions for the information stored in this service. The administration of Google Drive permissions is external to **Deyel**. If the user is not logged in, a window opens to enter the Google Drive username and password.

When the user connects from **Deyel** to Google Drive for the first time, an additional window opens to authorize **Deyel** to securely access their data. The "Advanced configurations" option should be selected to allow access.



Attach Files from One Drive

It allows to open a window to select a Microsoft account of the user and then the file or files to attach.

The user should have the access permissions for the information stored in this service. The administration of Microsoft OneDrive permissions is external to **Deyel**. If the user is not logged in, a window opens to enter the Microsoft username and password.

3.5.12.1.5. Audit Fields

A form may have some or all of its audit fields visible, or not, but they cannot be edited by the user since they are completed automatically.

The screenshot shows a contact form with several fields. The audit fields are highlighted with an orange border:

- Last Update User: AFARIAS
- Creation User: AFARIAS
- Date Last Modified: 15/02/2022 11:11
- Creation Date: 05/01/2022 17:28

Other visible fields include Surname (Logan), Name (Oliver), Position (Sale), Type (Contact), Status (Active), Instance Owner, Phone No. (Type: Personal), and Emails (Type: Personal). Buttons for 'Delete' and 'Update' are located at the bottom right.

Audit fields can be present in the results grid and be part of the search filters regardless of whether they are visible in the form.

The screenshot shows a list of contacts with search filters and a grid of results. The audit fields are highlighted in orange in both the filter bar and the grid:

Search filters: Creation User, Creation Date, Last Update User, Date Last Modified

Name	Surname	Status	Creation User	Creation Date	Last Update User	Date Last Modified
Taylor		Activo	AFARIAS	05/01/2022 18:38	AFARIAS	05/01/2022 18:38
Wilson		Activo	AFARIAS	05/01/2022 18:37	AFARIAS	05/01/2022 18:37
Logan		Activo	AFARIAS	05/01/2022 17:28	AFARIAS	05/01/2022 18:35

3.5.12.1.6. Instance Owner Field

An instance owner field has an implicit [relation to the entity](#) "User". It is displayed like any [field related to an entity](#) of the form.

The screenshot shows a web-based form titled 'Contact'. The form is organized into several sections:

- Contact:** Includes fields for Surname, Name, Position, Type (set to 'Contact'), and State (set to 'Active'). A dropdown menu for 'Instance Owner' is open, showing 'Alex Farias' with search and close icons. This dropdown is highlighted with an orange box.
- Account:** Includes fields for Business Name, Annual Earnings, Employees, and Industry (set to 'Banks').
- Additional Information:** Includes fields for Origin (set to 'Campaign') and Valorization.
- Phone No.:** Includes fields for NUMBER and Type (set to 'Labor').
- Emails:** Includes fields for Mail and Type (set to 'Labor').

3.5.12.2. Containers

[Containers](#) group a set of elements within a form instance. When modeling the form, different types of containers can be defined, each with its display characteristics.

- Single Container

It allows grouping elements and modeling the visibility of form sections, according to business rules.

- Graphic Container

It also allows grouping elements and modeling the visibility of form sections, according to business rules. When executing the form, graphic containers can be seen expanded or collapsed, this behavior can be modeled in the form or in the process activities that use it.

- Multiple Occurrences Container

It allows generating multiple occurrences of the fields that are within it. It can be modeled as visible or not visible according to business rules.

3.5.13. Reports

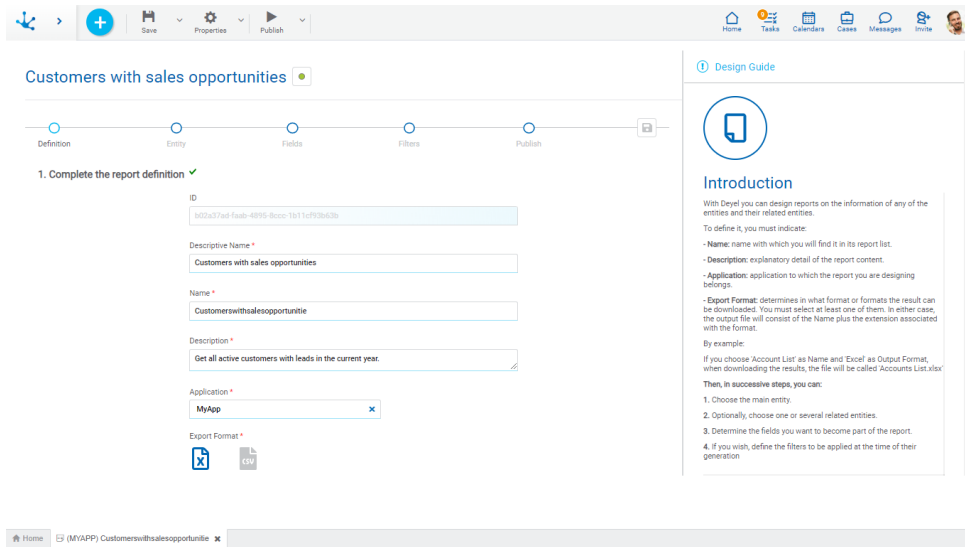
Reports allow users to get detailed information on one or more [related entities](#), with different output presentations.

Their design has a self-explaining wizard for the selection of the main entity and its related entities, its fields, filters, presentation and permissions.

The [execution of reports](#) can be done in the foreground or be received by chat or email.

Reports can be:

- **Application Reports**
They are modeled and published through the [reports modeler](#), by IT modeler users. They can be customized and executed by all users from the [portal grid](#).
An application report can be saved by a user with a different name using the “Save As” operation and it automatically becomes that user’s own report.
- **User Reports**
All users can design and execute their own reports using customized information and output format preferences from the [portal grid](#).
They can use a wizard equivalent to the one used by the [reports modeler](#) by modeling a subset of properties and using the facility to save the report instead of publishing it.
A user report can be saved with the same name using the “Save” operation or with a different name using the “Save as” operation.
This type of report is only visible in the grid of the user who created it, that is, it can only be modified and executed by such user.



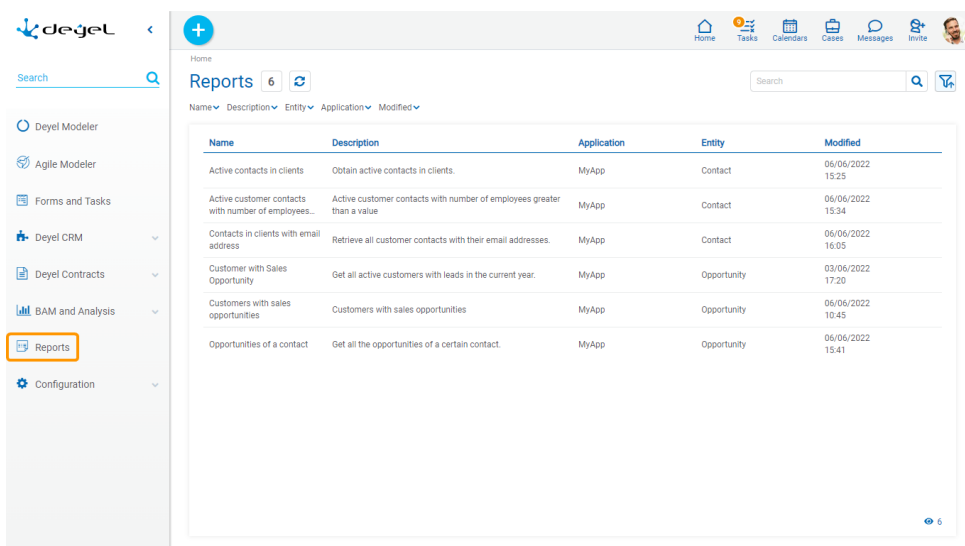
3.5.13.1. Grid

To create and perform operations on reports, access the grid from the [menu](#) of **Deyel**.

- From the "Reports" option.
- From the [search](#) facility.

Reports are displayed in the form of a grid, with the standard presentation of the [results grid](#), using the following facilities:

- Search and Filters
- Operations






The following [report properties](#) are displayed as grid columns:

- Name

- Description
- Application
- Entity
- Modified

Filters can be applied by the following properties:




- Name
- Description
- Entity
- Application
- Modified

It is possible to perform [operations](#) on each row of the reports grid. Through icons ,  and  its update, generation or deletion is performed respectively, depending on the [type of report](#) and the [security permissions](#).


3.5.13.2. Operations

The user can perform operations on each report depending on the [type of report](#) and the [security permissions](#) they have defined. Hovering the cursor over each row of the [grid](#), icons corresponding to the available operations are displayed.

With the exception of the operation "To create", which can only be done for user reports. It can be done from the [context menu](#) in different ways.


- Hover over the icon  and select the icon  to your right corresponding to the option "Report".
- Click on the icon  and select the option "Report" in the expanded vertical panel.

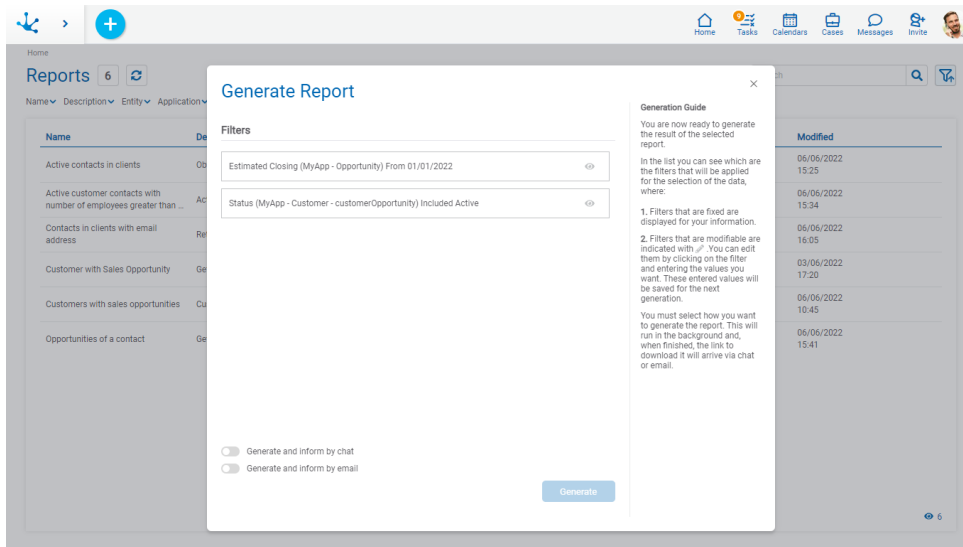
Update

By clicking the icon  in the line of the selected report, the modeling wizard opens for the user, allowing updates to be made to the values entered for all steps.


If it is an application report, the user has the possibility to save it with another name, while if it is a user report, they can save it with the same name or change it. They can also update it, execute it and not save the changes. Updates to application reports cannot be published by the business user.

Generate

By clicking the icon  to generate a report, a panel opens where the modeled filters for data selection are displayed.



A build guide is displayed on the right side of the panel to assist the user.

Filters that were modeled as editable are indicated by the icon  and they can be updated before generating the report and the new filter criteria entered are defined for the report. On the other hand, filters that were modeled as non-editable can only be informed.


- **Generate and inform by chat**

If this option is selected, the user receives a notification from Deyel Bot with a compressed file to be downloaded, containing the report in the modeled format.

- **Generate and inform by email**


If this option is selected, the user receives an email with a compressed file, containing the report in the modeled format.

Clicking the “Generate” button starts the execution of the report in the background and at the end the user is informed according to the selected method.

An icon  on a report row in the grid indicates that it is executing and if this icon is pressed, the report can be stopped.

The file name that the user receives is made up of the name of the report concatenated with the extension associated with the selected format.

Delete

By clicking the icon , a confirmation window is displayed on the selected report line and upon accepting, the user receives a message indicating that the report has been deleted.

Only user reports can be deleted.

3.6. Agile Forms

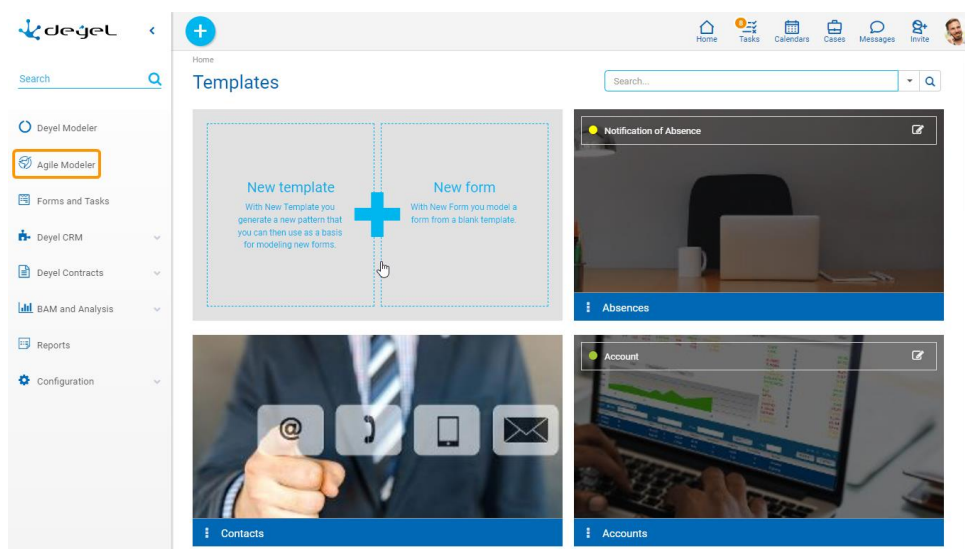
[Phase 1: Introduction to Devel > Agile Modeler - Introduction](#)

Agile Forms is a platform for creating and maintaining forms-based applications and business processes immediately.

Business users of a company can define their web forms from the [agile modeler](#), starting from templates from an existing gallery or making their complete design, adapting them to the needs of the business, adding a process to them, as well as defining access permissions and their visibility, they are finally published for use.

This way, a large number of business processes that are currently based on paper documents and manual tasks can be easily automated and optimized. Examples of this type of applications range from the authorization of invoices and proof of expenses to requests of various types, show forms, surveys and records, among others.

The use of the agile form from the option corresponding to [forms and tasks](#) of the menu, allows users who participate in the process to complete information, approve or reject from their to do list or use the business social network to comment on each instance.



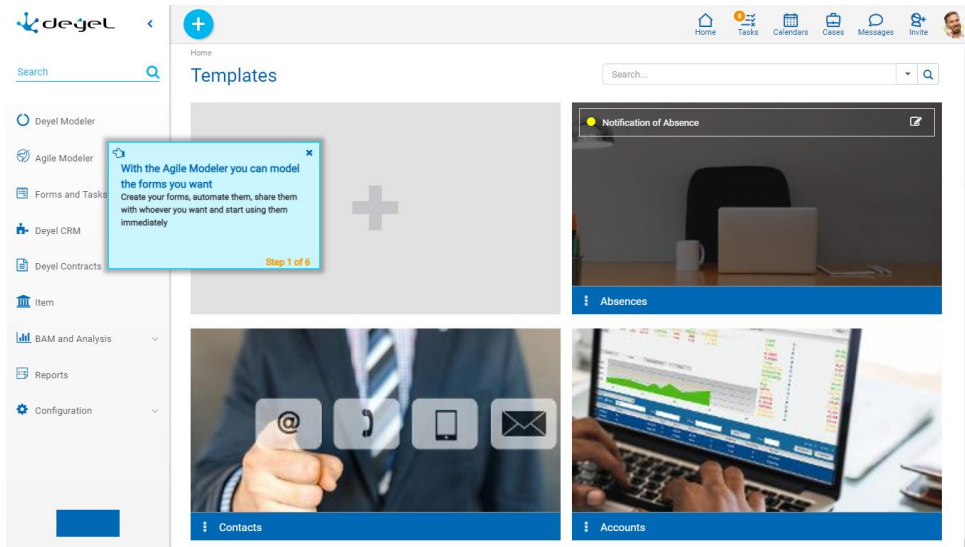
3.6.1. About Agile Forms

[Phase 1: Introduction > Agile Modeler - Part 1](#)

[Phase 1: Introduction > Agile Modeler - Part 2](#)

Here are the steps to quickly create agile applications by using a [wizard](#) and how to execute them.

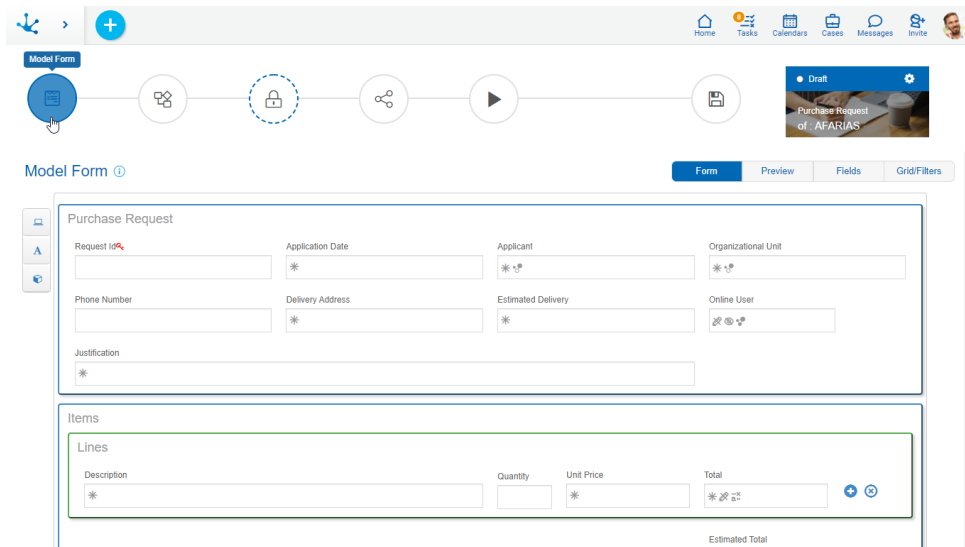
A [tour](#) guiding the modeling of the first form is available to facilitate the experience with the agile modeler.



Steps for Creating Agile Applications

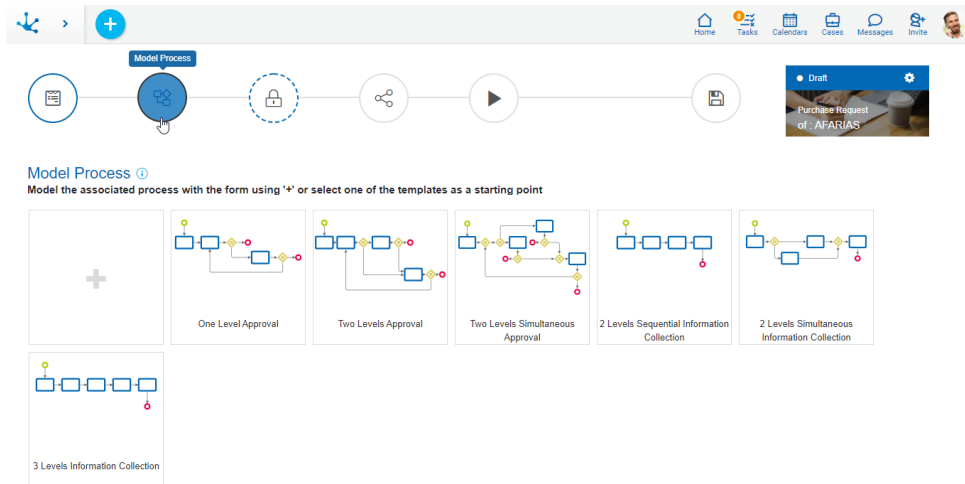
Step 1: Model Form

Select one of the existing templates in the gallery to create an agile form, which contains a set of pre-defined fields and sections. The form can be adapted to the user's needs, modifying its chart elements, incorporating relations and business rules.



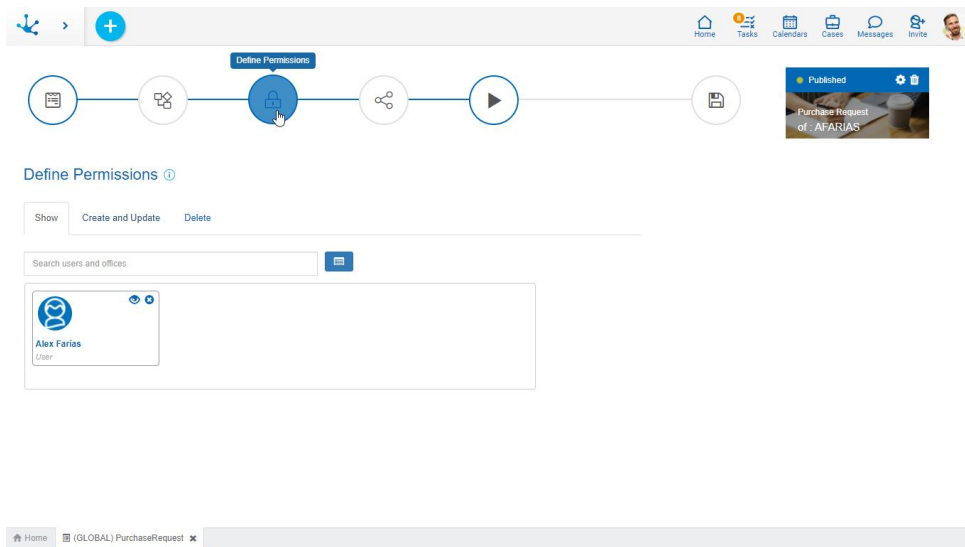
Step 2: Model Process

Associate a process to the form, linking it to one of the predefined processes, where participants can be defined and conditions allowing to determine the flow of data and their visibility can be created.



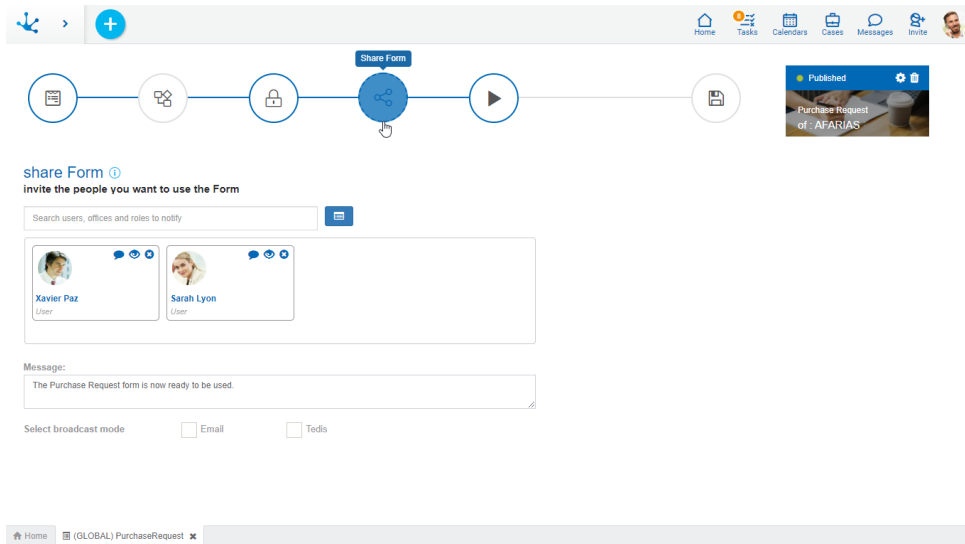
Step 3: Define Permissions

Allow the use of the form to users or groups within the organization for show, update and deletion.



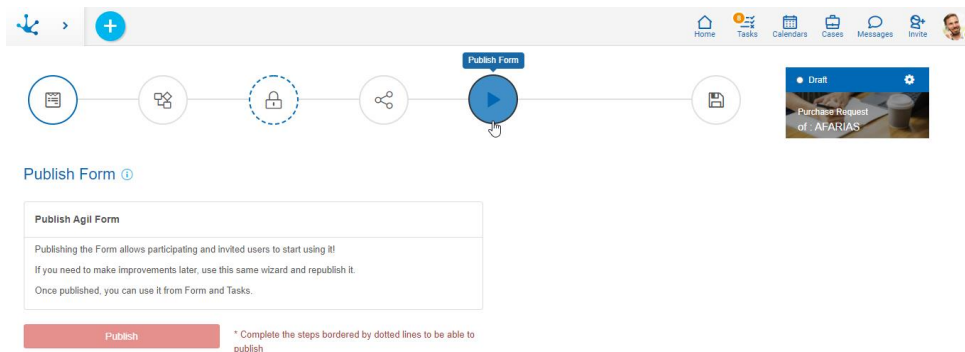
Step 4: Share Form

Share the form by spreading its functionality through email or the business social network.



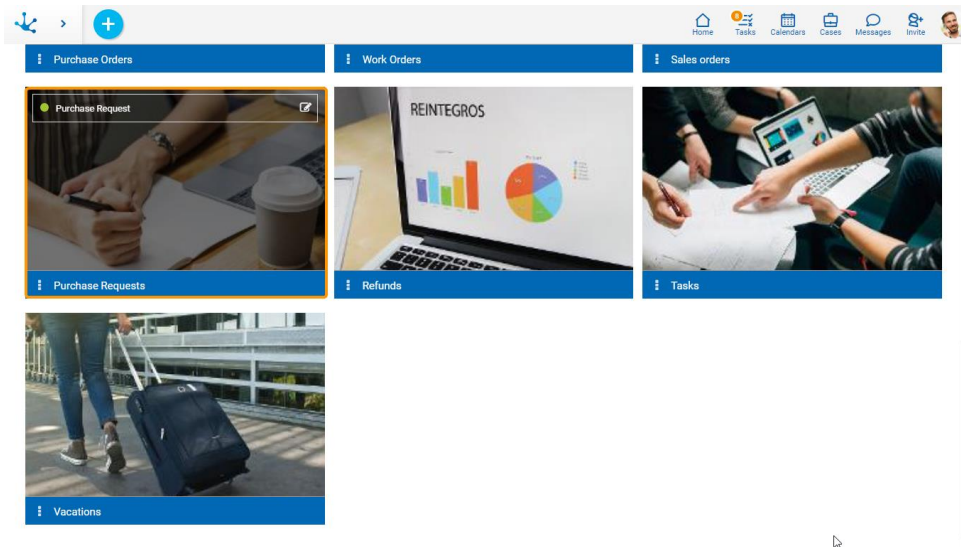
Step 5: Publish Form

Publishing the agile form implies its release and communication for its use. Once published, the form can be used by the participating users according to the permissions granted both at the level of the form and of the process if it has one associated.



Execution of Agile Applications

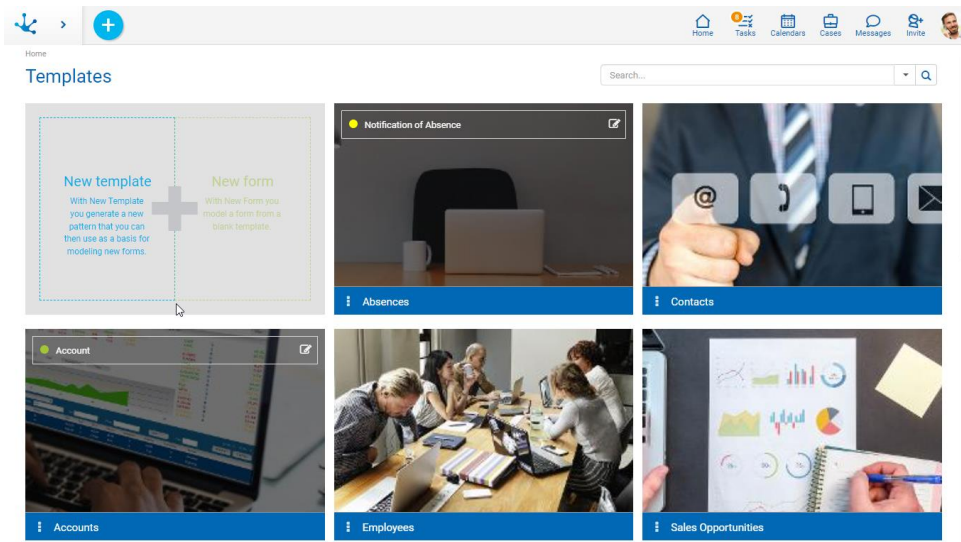
Once published, the form can be used by the participating users according to the permissions granted both at the level of the form and of the process, if it has one associated. Its execution is made from the option corresponding to [forms and tasks](#) from the **Deyel** menu.



3.6.2. Agile Modeler

The agile modeler is made up of a templates gallery. The first element allows to start new designs of templates and forms, while the following ones correspond to previously defined templates and forms. The elements identified with a blue bar correspond to templates, while those identified with a green bar correspond to forms without a template.




Each element of the gallery allows to perform different actions depending on what it represents, the different possibilities are described below.

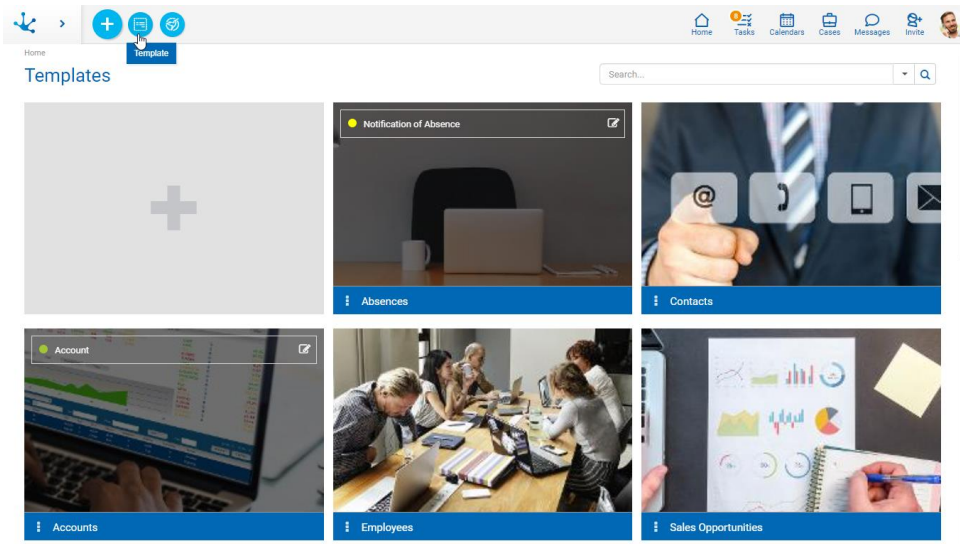


New Template

From the [context menu](#) a [template can be created](#) from its own design, which can be used to define agile forms based on it.

The creation can be done in different ways.




- Selecting the "New Template" option in the first element of the gallery.
- Hover over the icon  and select the icon on its right  corresponding to the "Form" option.
- Click on the icon  and select the "Form" option, on the vertical panel expanded.

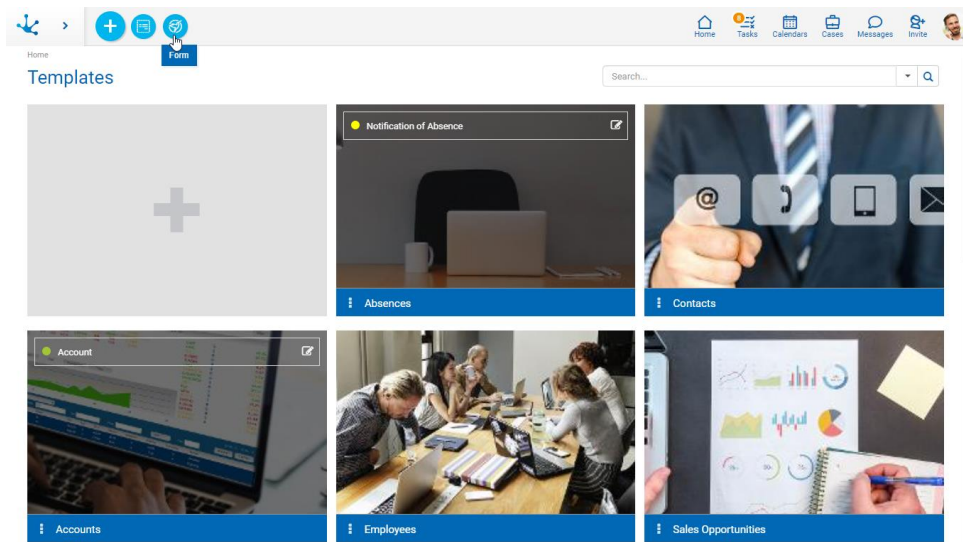


New Form

From the [context menu](#) an [agile form can be created](#) from your own design, that is, without using a pre-existing template. Such design is done using the facilities of the [form modeler](#) from **Deyel**.

The creation can be done in different ways.

- Selecting the "New Form" option in the first element of the gallery.
- Hover over the icon  and select the icon on its right  corresponding to the "Form" option.
- Click on the icon  and select the "Form" option, on the vertical panel expanded.



Template

From a template of the gallery, identified with a blue bar, [an agile form based on it](#) can be created.

Element Sections

Form Rows

If the template has defined agile forms based on it, these are displayed in different rows within each element. Each form is identified with the property [Descriptive Name](#) defined in the [agile form properties](#), at the time of its creation.

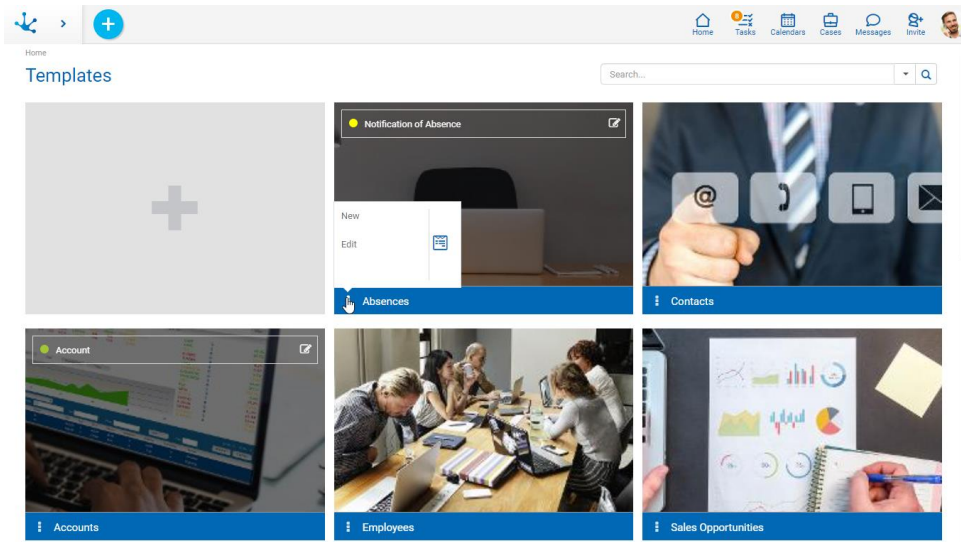
On each line, the following icons can be displayed:

- Allows to edit the agile form.
- This icon is only displayed if the form is not published and allows to delete the agile form.
- State Identifier: The [form state](#) indicates the stage of development in which it is found and is identified by a color.
- If a template has a number of forms defined greater than the one that can be displayed within an element, the user can move forth and back in the list to the right and left by using this icon.

Menu

It allows to display the actions available for the template.

- [New](#): Allows to create a new agile form based on the template.
- Edit: Allows to modify the predefined template.
- Delete: The template can only be deleted if all forms based on it have been deleted, this is done from the [identification box](#) of each of them.



Form

From a form gallery, identified with a green bar, this can be edited. Such form has been created from an own design, that is to say that it is not based on a template.

Element Sections

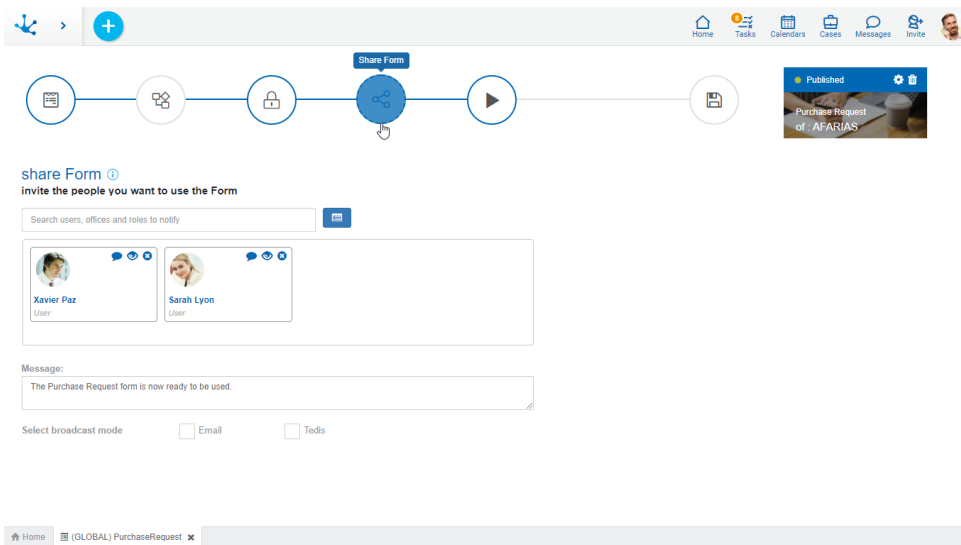
State Identifier

The [form state](#) indicates the stage of development in which it is found and is identified by a color.

Menu

It allows to display the actions available for the form.

- Edit: It allows to modify the existing form.
- Delete: The form can be deleted only if its publication has been deleted, this can be done from the [identification box](#).



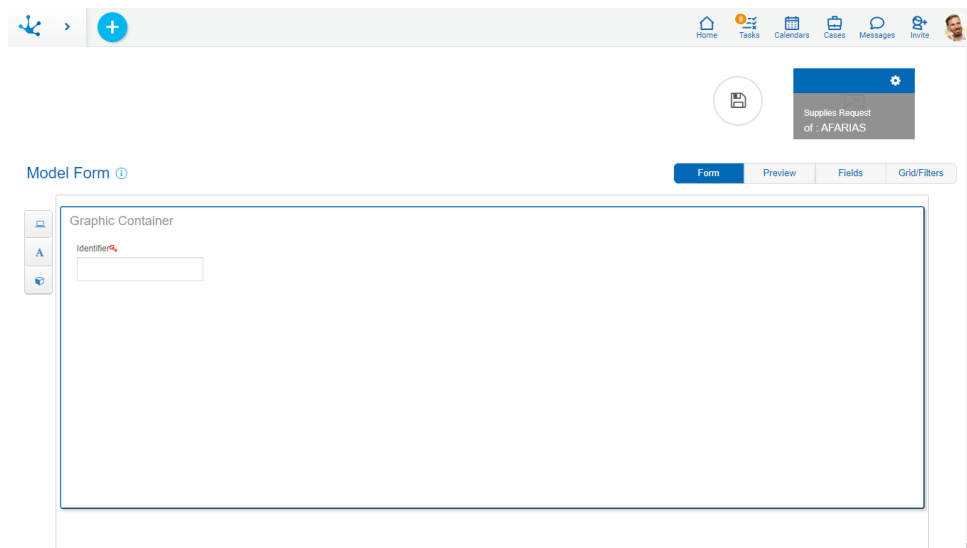
Search Filters

The number of elements in the gallery can be reduced by using a search filter, applied to the name of the element. As the user enters characters in the search field, the number of elements in the grid is reduced to those forms whose names contain the entered characters.


Filters by element type can also be added, where the user can opt for templates or forms. In the case of the latter, a filter by state can also be added.

3.6.2.1. Create Template

The modeler user can design their own template to be used for the creation of new agile forms. The design starts in a [chart modeling area](#) that is empty, containing only a predetermined identifier and a predefined chart container in the modeling area, being able to include new fields, containers and different chart elements.



Template Identification

The identification of the template and the image that has been defined to represent it are displayed on the design area. The template properties can be modified in the panel that opens by selecting the icon , these correspond to the [properties defined for the form modeler](#).

Name

Corresponds to the property [Descriptive Name](#) that is indicated when creating the template. It identifies the template in the gallery.

Owner

User responsible for the template, who made the definition of it.

Image

Corresponds to the property [Image](#) that is indicated when creating the template.

3.6.2.2. Create From

The creation of an agile form can be done from your own design or from a pre-existing template in the gallery.

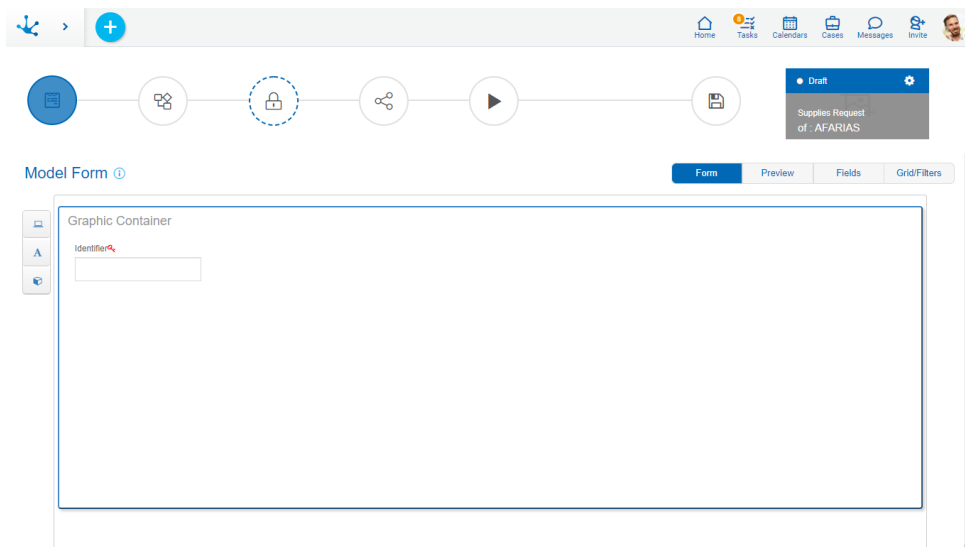
In both cases the [Agile Form Wizard](#), is initiated, where the form name is defined and the steps leading to the publication are completed.

The creation of an agile form includes the creation of the corresponding entity, as well as the generation of permissions for users and organizational units, optionally a process related to it can be modeled. Behavior can also be incorporated through the use of business rules.

Create Agile Form without Template

The modeler user can design his form from the editing area that contains a default identifier and a predefined chart container, without using a template as a base, being able to include fields, containers and different graphic elements.

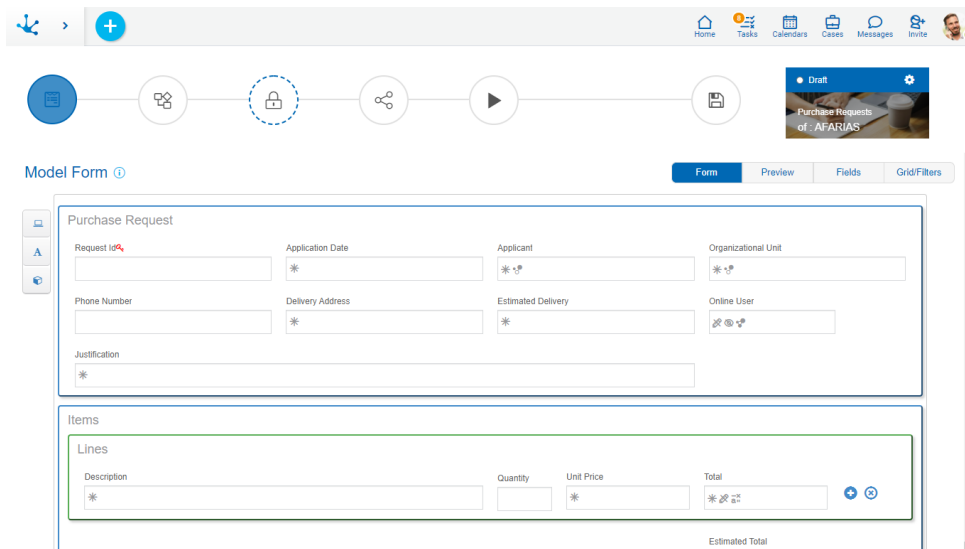
The creation is initiated from the templates gallery as a [new form](#), which leads to the [Agile Form Wizard](#), where an empty [modeling area](#) is presented to start their own design.



Create Agile Form with Template

The modeler user can create his form based on a template from the gallery, which he can customize according to his requests.

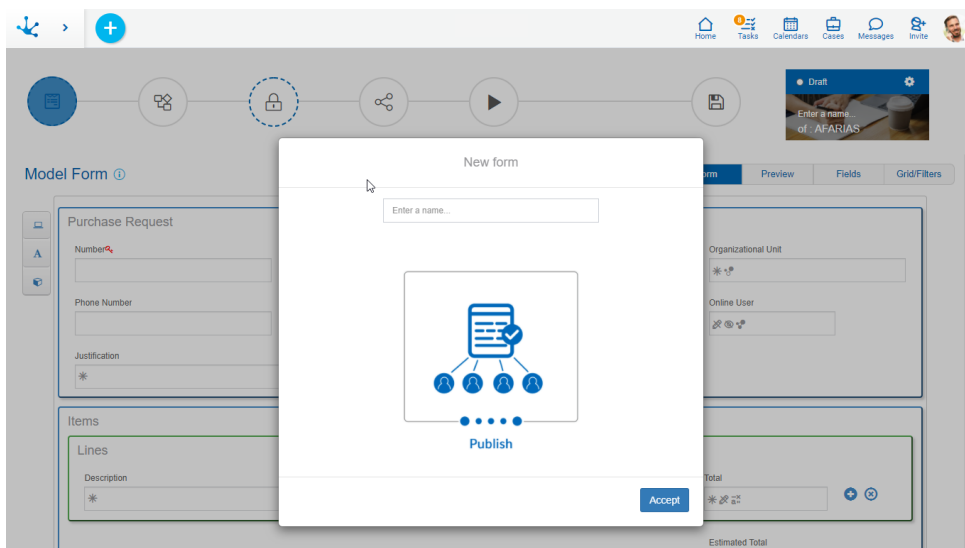
The creation is initiated from the menu of a [template](#) of the gallery, which leads to the [Agile Form Wizard](#), where a [modeling area](#) is presented with the predefined design. The form can be adapted by modifying the proposed graphic elements.




3.6.2.2.1. Forms Wizard

The agile modeler uses a wizard that guides the user through the steps required for modeling. First, the name of the agile form must be entered and then the necessary steps must be completed to model the form, optionally model the related process, define the permissions for its use, share it with those who are going to use it and finally publish it.

In each step, useful information for modeling can be shown by means of the icon .



Agile Form Identification

In the upper right part, a box is displayed with the identification of the form and the image that has been defined to represent it. The form properties can be modified in the panel that opens by selecting the icon .

Identification Area

State

The [state](#) of the agile form indicates the stage of development in which it is found and is automatically defined as the user works on the form.

Properties

Pressing this icon opens the agile form properties panel, which is a subset of the panel of [properties](#) from the form modeler.

Delete

Pressing this icon opens a [panel](#) for the user to select the information to be deleted. This icon can be displayed if the form has been saved or published.

Name

Corresponds to the property [Descriptive Name](#) that it is defined in the properties panel, at the time of its creation.

Owner

User responsible for the form, who made the definition and is in charge of publishing the form.


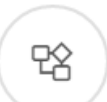



Image

Corresponds to the property [Image](#) that it is defined in the properties panel, at the time of its creation.


Steps for Generating an Agile Form

The creation of a form consists of a set of steps represented in the top toolbar of the wizard by means of circles, where the color and type of border define the mandatory nature of each action.

- Solid blue row: required action.
- Broken blue row: conditional required action, that is, it can be required depending on a previous step.
- Solid gray row: optional action.


	<p>Model Form It is used to create and modify the design of the form starting from scratch or from an existing model. This step is required.</p>
	<p>Model Process A process model is selected from the gallery of predefined models and the process related to the agile form is modeled. This step is optional.</p>
	<p>Define Permissions Defines permissions for users that use the form. This step is required if a process is not modeled in the step 2.</p>
	<p>Share Form It allows to spread the functionality the new form provides. This step is optional.</p>
	<p>Publish Form Releases the form for use. This step is optional.</p>

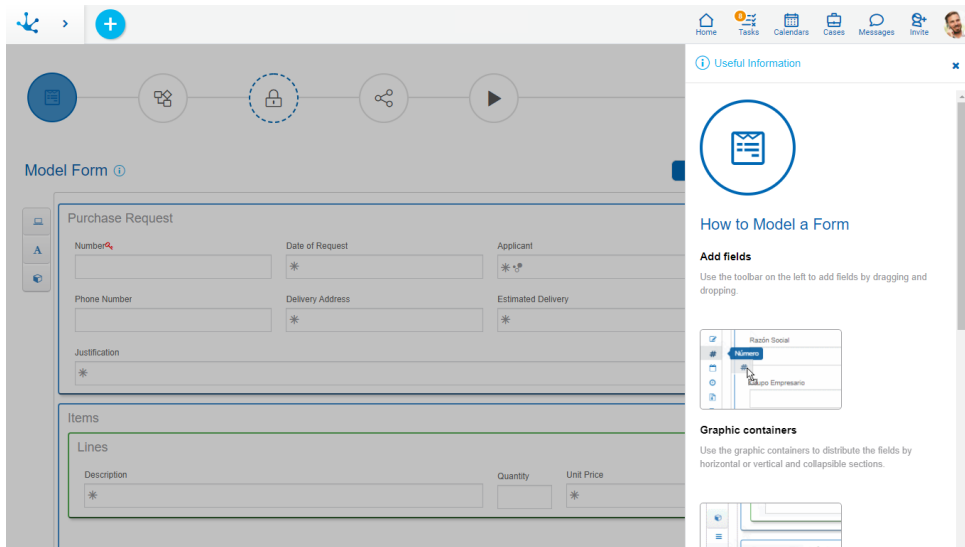
There is an additional step that corresponds to the operation "Save".

	<p>It saves the configuration and design of the form, without this implying its use.</p>
---	--

3.6.2.2.1.1. Model Form

The agile form modeling is done through the use of a subset of the [modeling facilities](#) of the forms **Deyel**, being able to include fields, containers and different chart elements in a modeling area, in addition to modeling behavior and the design of the show grid.

During the modeling useful information related to the form modeling can be showed, selecting the icon  .




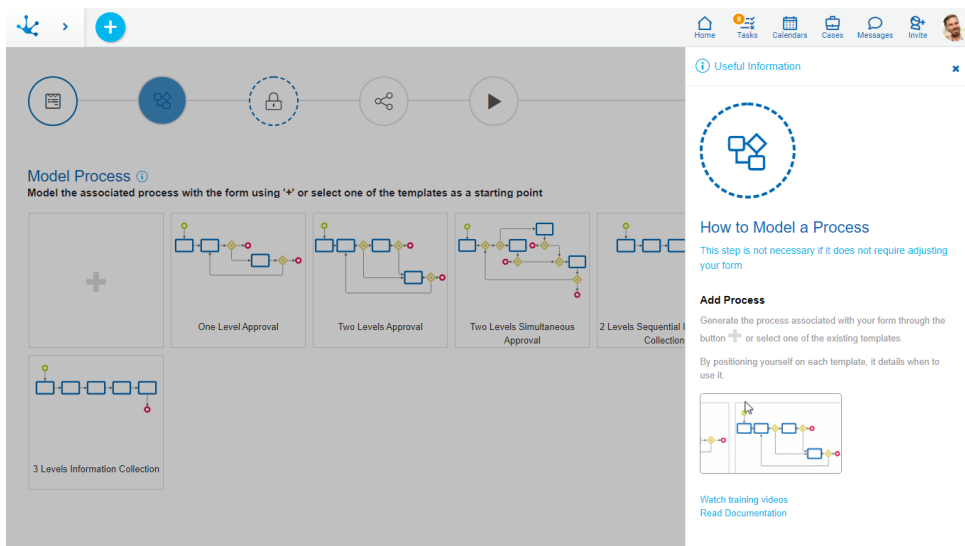
3.6.2.2.1.2. Model Process

A process can be associated to the agile form, by selecting a [predefined process template](#) or modeling it from the start.

This step of the forms wizard is optional, as it is a form and it may not be related to a process.

The [steps for creating a new process](#) must be followed, in the same way as in the process modeler.

During the modeling useful information related to the activities modeling can be showed, selecting the icon .




3.6.2.2.1.3. Define Permissions

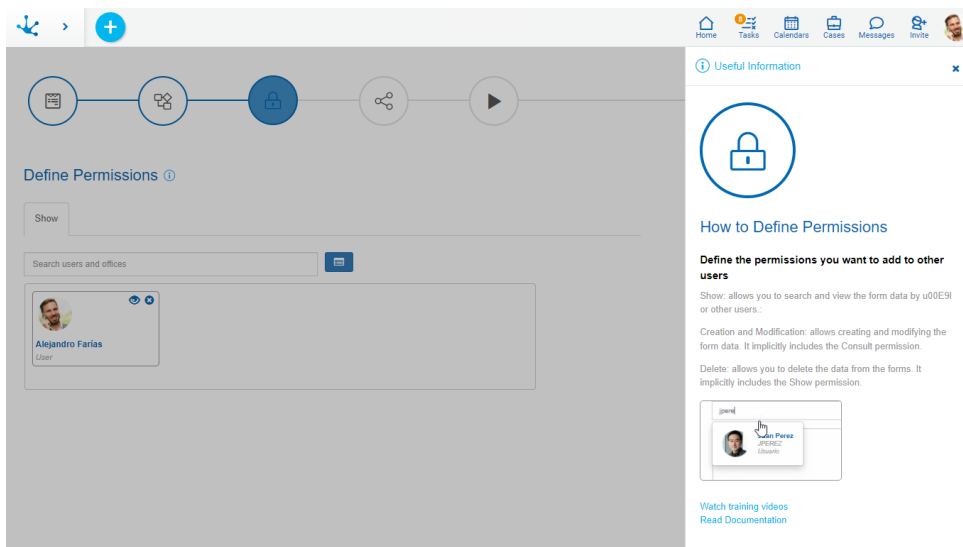
For each of the operations than can be done on an agile form, users and organizational units that have authorization to execute them can be selected.

If a process related to the agile form has been modeled, this step is optional and only the show permissions can be defined. Whereas if a related process was not modeled, it is required to complete this step of the form wizard.

Permissions to perform the following operations are defined in each of the tabs:

- **Show**
With the show permission the user can search and display the form instances previously loaded.
- **Create and Update**
With the create and update permission, the user can create and modify the form instances, implicitly including the show permission.
- **Delete**
With the deletion permission the user can delete the form instances, implicitly including the show permission.

During the modeling useful information related to the permission definition can be showed, selecting the icon .



Properties

Search bar

Users and organizational units can be searched by name, using the search bar with the autocomplete facility.

Wizard


By using a wizard, users and organizational units can be selected from a hierarchical tree.

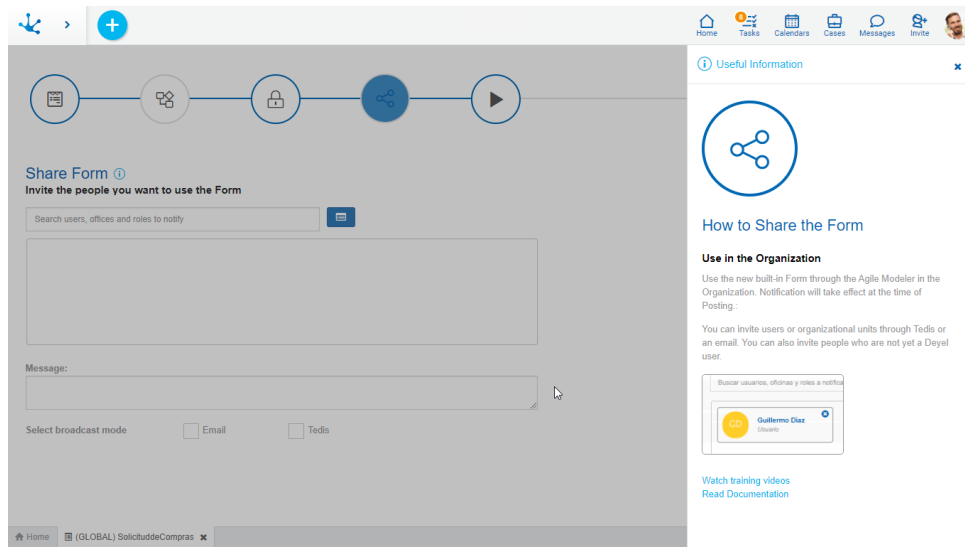
User Area and Offices

It represents the set of users and organizational units for the different tabs with permissions.

3.6.2.2.1.4. Share Form

it is possible to define spreading a message so that it is done at the time of publishing the form. The receivers can be users, offices or roles. This step is optional.

During the modeling useful information related to the spreading of the message can be showed, selecting the icon .



Properties

Search bar

Users, organizational units and roles can be searched by name, using the search bar with the auto-complete facility. When selecting an organizational unit or a role, the message is sent to one of their members.

Wizard

By using a wizard, users, organizational units, and roles can be selected from a hierarchical tree.

Notification Receivers Area

It indicates the users, units or roles that they will be notified at the time of the agile form publication.

Message

It allows to define the text used in the message to spread the agile form publication.


Broadcast Mode

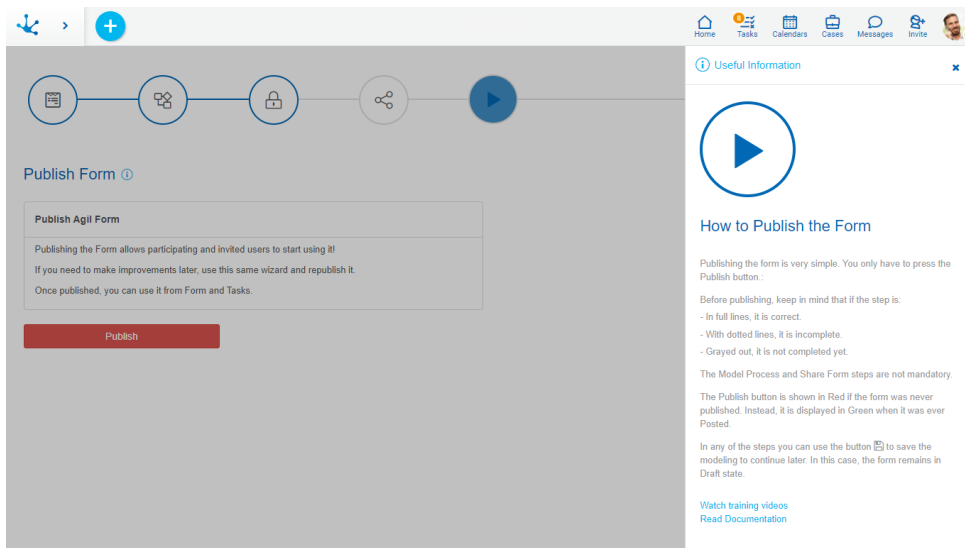
It indicates the way in which the new agile form publication is notified. It can be done by sending an email or through a [Tedis](#) text message.

3.6.2.2.1.5. Publish Form

Publishing an agile form allows users who have been assigned permissions to start using it. If a process associated with the agile form has been defined in the second step of the wizard, the publication implies that it will be available for use by all its participants.

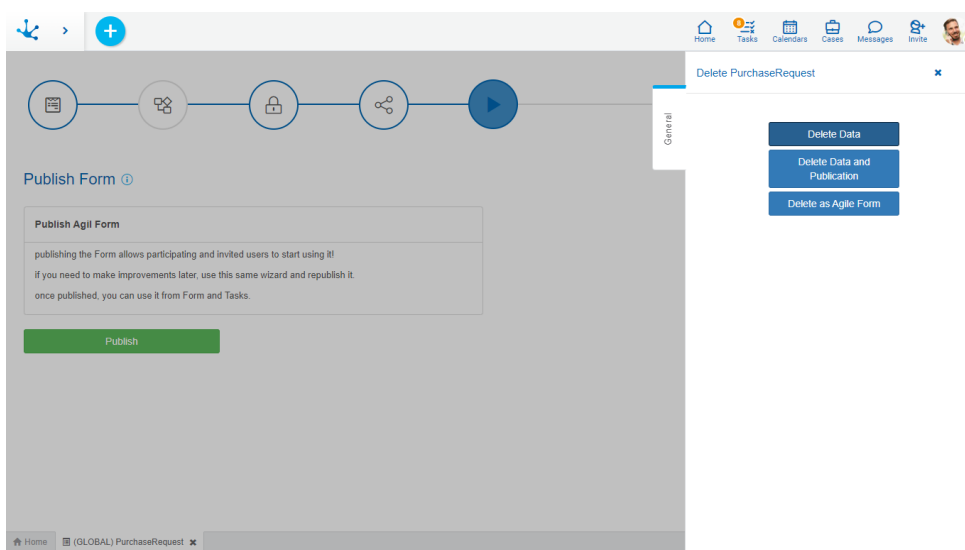
If post publication enhancements are required, the agile form must be republished using this same wizard. The button to publish the form goes from red to green once the first publication has been made.

During the modeling useful information related to the message publication can be showed, selecting the icon .



3.6.2.2.1.6. Delete Agile Form

From the [identification box](#) of the form the icon corresponding to the deletions can be selected and a panel opens with the different deletion modalities of an agile form.





Deletion Modalities

Delete Data

It allows to delete the form instances.

Delete Data and Publication

It allows to delete the form instances and go back to the publication of it, that is, its status changes from "Published" to "Draft".

Once the data of the agile form and its publication have been deleted, in the [templates gallery](#) it is enabled the icon  in the line corresponding to the agile form from the template selected. Such icon allows to delete the form that has been created from the template. If it were a form that does not have a template associated with it, then it is deleted from the menu  of the element.

Delete as Agile Form

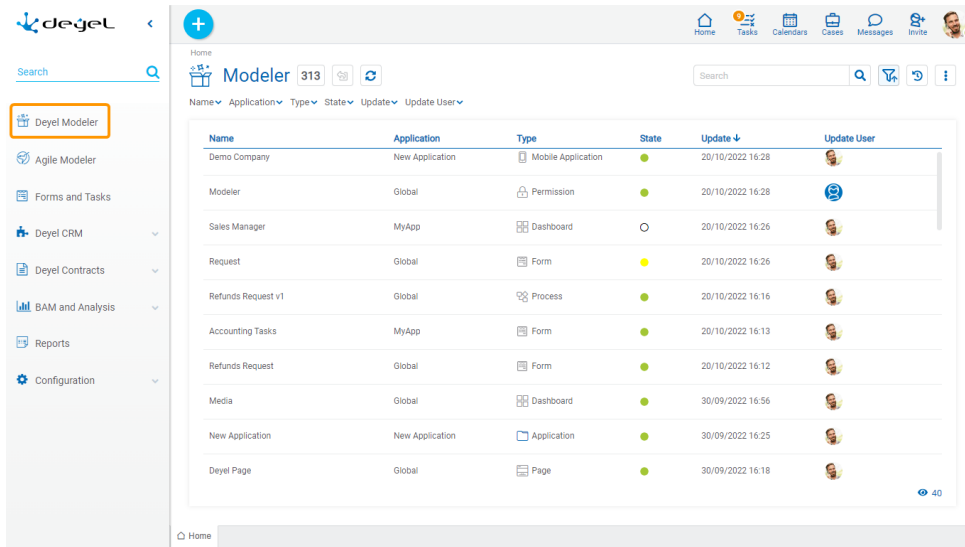
It allows to convert the agile form into a form of **Deyel**, meaning it can be used from the [form modeler](#). If the agile form includes a modeled process, then the modeled process also becomes an object of **Deyel**, that can be used from the [process modeling](#).

Once the agile form has been deleted, it stops displaying on the [templates gallery](#) and is displayed as an object of type "Form" in the [grid modeler](#). If the agile form includes a process, then a "Process" type object is also displayed in such grid.

3.7. Modeler

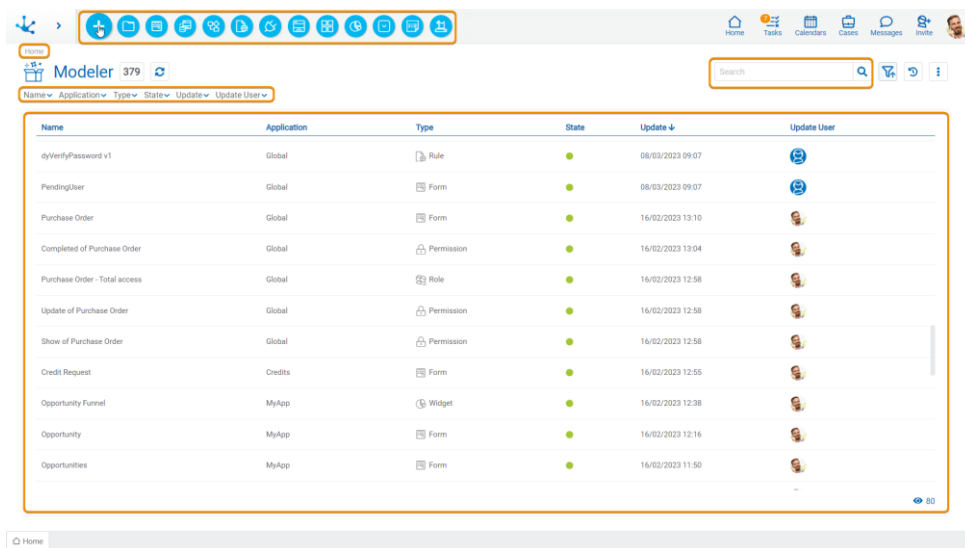
The menu option "Deyel Modeler" allows to design and build low-code applications. Using a single interface, different **Deyel** objects can be created and maintained. For each of them, specific modeling tools are used in an intuitive and easy-to-use environment.

For each type of object, its modeler allows to use a set of development functions, such as graphic modeling areas, toolbars, properties panels, and design wizards, among others.



Sections

- [Portal Top Toolbar](#)
- [Context menu](#) with the modeler's own functionality.
- [Breadcrumb](#)
- [Top Bar](#)
- [Search Filters](#)
- [Grid](#)
- [Home](#)




3.7.1. Characteristics

[Phase 2: Forms Modeling > Deyel Modeler](#)

Modeler Context Menu

The [context menu](#) adopts the general characteristics of the portal, but adapted to the modeler's own functionalities.

Icons Menu

This menu is enabled by hovering over the icon  and allows to create different types of objects and import them.



[New Application](#)



[New Mobile Application](#)



[New Form](#)



[New Process](#)



[New Rule](#)



[New Adapter](#)



[New Page](#)



[New Dashboard](#)



[New Widget](#)



[New Value List](#)




[New Report](#)



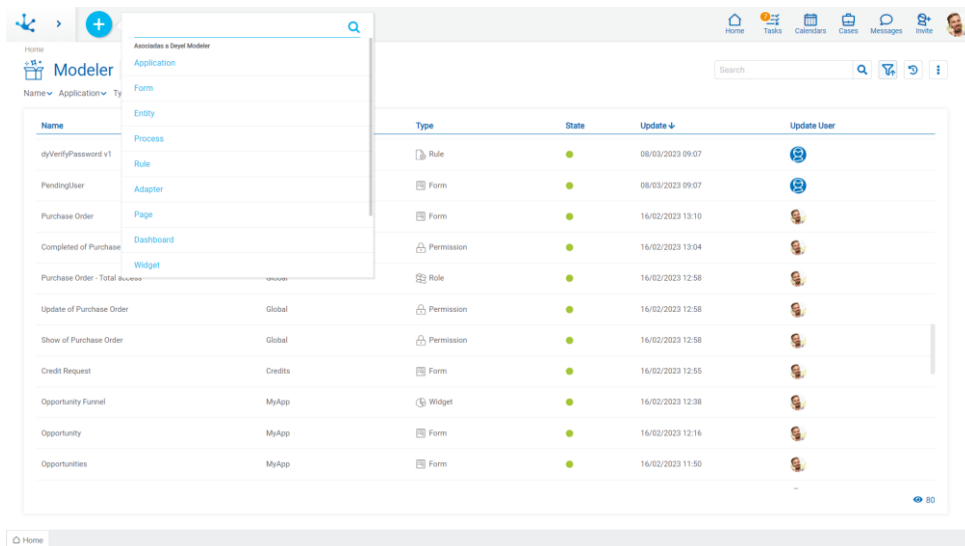
[Import](#)

Name	Application	Type	State	Update	Update User
dyVerifyPassword v1	Global	Rule	●	08/03/2023 09:07	
PendingUser	Global	Form	●	08/03/2023 09:07	
Purchase Order	Global	Form	●	16/02/2023 13:10	
Completed of Purchase Order	Global	Permission	●	16/02/2023 13:04	
Purchase Order - Total access	Global	Role	●	16/02/2023 12:58	
Update of Purchase Order	Global	Permission	●	16/02/2023 12:58	
Show of Purchase Order	Global	Permission	●	16/02/2023 12:58	
Credit Request	Credits	Form	●	16/02/2023 12:55	
Opportunity Funnel	MyApp	Widget	●	16/02/2023 12:38	
Opportunity	MyApp	Form	●	16/02/2023 12:16	
Opportunities	MyApp	Form	●	16/02/2023 11:50	


Displayed Menu

This menu is displayed by pressing the icon , unfolding a vertical panel with the following sections:

- Options associated with the modeler, in light blue.
 - Application
 - Mobile Application
 - Form
 - Process
 - Rule
 - Adapter
 - Page
 - Dashboard
 - Widget
 - Value List
 - Report
 - Import
- Most used, in gray.
 - Forms and processes most used by the user.



Home

The tab with the icon  corresponds to the modeler's grid. When opening other objects in different tabs, the home tab always allows to return to the modeler's grid.

3.7.1.1. Top Bar

From the top bar, different options related to the content and presentation of the objects grid can be selected.

938

Number of Objects

Indicates the number of objects, either total or that resulting from the application of a [search filter](#).



Grid Version

Allows switching to the previous version of the grid or return to the new one.



Update Grid

Allows reloading the updated grid, keeping the selected filters.

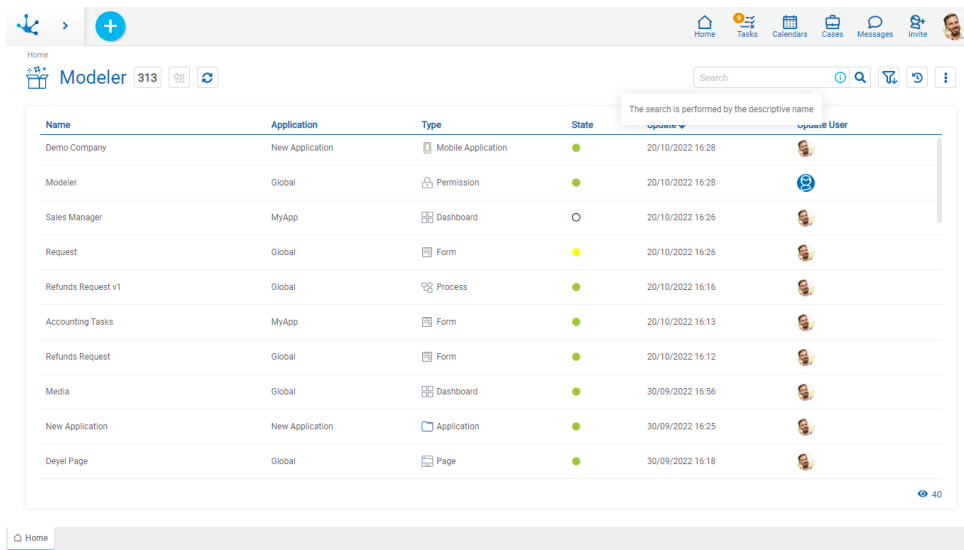
Search













Quick Search

Allows to filter objects by column **Name** based on the characters entered in the search field.

Click on the icon  to display the object property on which this type of search can be performed.



The screenshot shows the Modeler application interface. At the top, there is a navigation bar with icons for Home, Tasks, Calendars, Cases, Messages, and Invite. Below the navigation bar, the text "Modeler 313" is displayed. A search bar is present with the text "The search is performed by the descriptive name". The main content area is a table with the following data:

Name	Application	Type	State		User
Demo Company	New Application	Mobile Application	●	20/10/2022 16:28	
Modeler	Global	Permission	●	20/10/2022 16:28	
Sales Manager	MyApp	Dashboard	○	20/10/2022 16:26	
Request	Global	Form	●	20/10/2022 16:26	
Refunds Request v1	Global	Process	●	20/10/2022 16:16	
Accounting Tasks	MyApp	Form	●	20/10/2022 16:13	
Refunds Request	Global	Form	●	20/10/2022 16:12	
Media	Global	Dashboard	●	30/09/2022 16:56	
New Application	New Application	Application	●	30/09/2022 16:25	
Deyel Page	Global	Page	●	30/09/2022 16:18	


Advanced Search


The advanced search enables the set of fields for which search filters can be selected on the results grid .


Favorite Searches

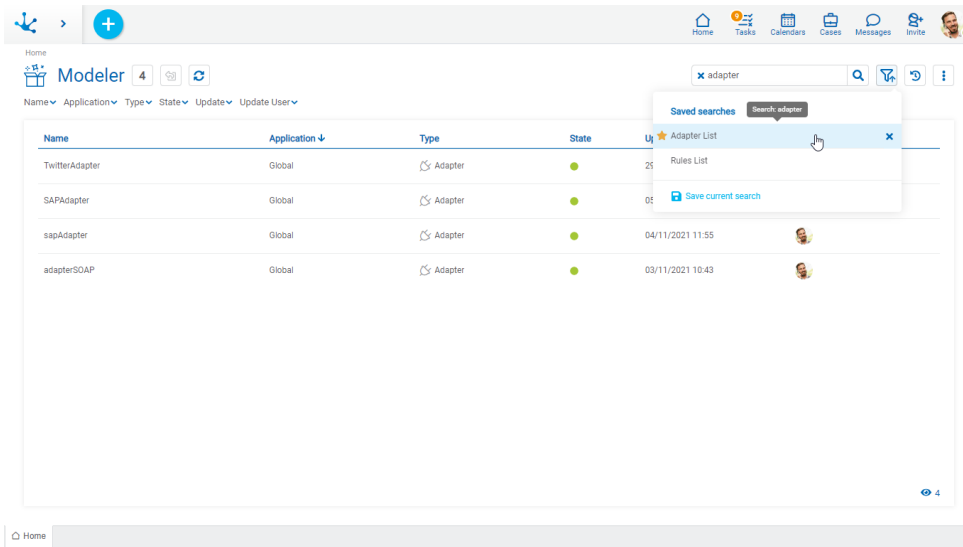
It allows to save the filters selected by the user and to administer them.

Clicking on the icon expands a panel with the list of saved filters and new filters can be added. Every time a search is selected, it is executed and the grid is updated.

It allows to check one of the searches as favorite, which is indicated by the icon  and can be deleted by pressing this icon.

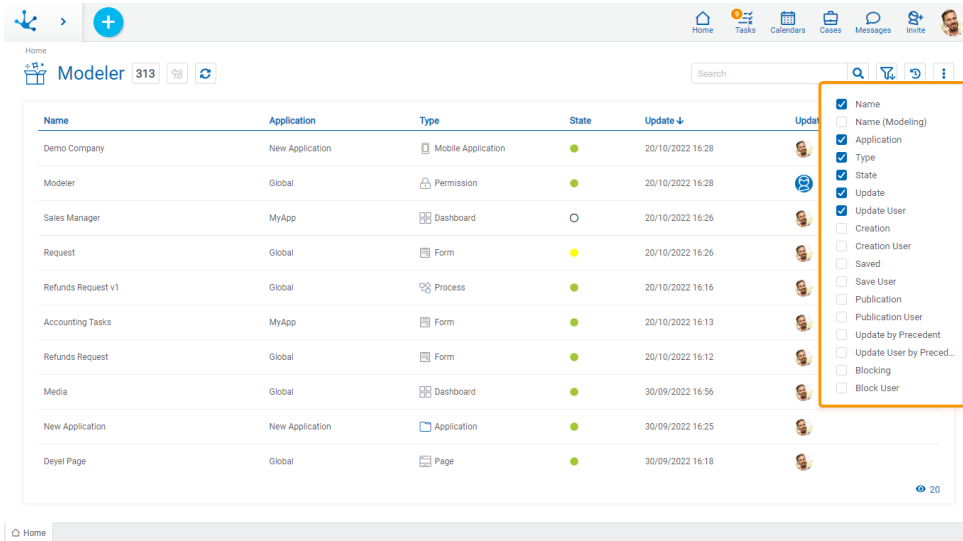
 Indicates that the search was selected as favorite by the user.

Pressing the icon  to the left of a search, allows the user to indicate that as their favorite.




Columns Display

It displays a panel with the names of the grid columns. By means of a check mark, the user can activate or deactivate the display of each column. The set of selected columns is valid until the same user modifies it again.



3.7.1.1.1. Search Filters

Selecting the advanced search icon  enables a row to select the different criteria to filter objects.

Name	Application	Type	State	Update	Update User
Demo Company	New Application	Mobile Application	●	20/10/2022 16:28	
Modeler	Global	Permission	●	20/10/2022 16:28	
Sales Manager	MyApp	Dashboard	○	20/10/2022 16:26	
Request	Global	Form	●	20/10/2022 16:26	
Refunds Request v1	Global	Process	●	20/10/2022 16:16	
Accounting Tasks	MyApp	Form	●	20/10/2022 16:13	
Refunds Request	Global	Form	●	20/10/2022 16:12	
Media	Global	Dashboard	●	30/09/2022 16:56	
New Application	New Application	Application	●	30/09/2022 16:25	
Devel Page	Global	Page	●	30/09/2022 16:18	

For each search criteria a value can be entered or selected from a list, to use it as a filter.

All the filters that are necessary can be added, each time one is added a new search is automatically executed that updates the task grid.

The filters applied in the search are highlighted where they were entered, each followed by an ✕ icon. By pressing such icon the corresponding filter is deleted and a new search that updated the task grid is automatically executed.

To remove all search filters, the icon must be pressed, which is located on the right of the last filter. This way the complete list of tasks is loaded again in the grid.

Filters

The following filters are available:

- Name
- Application
- Type
- State
- Update
- Update user

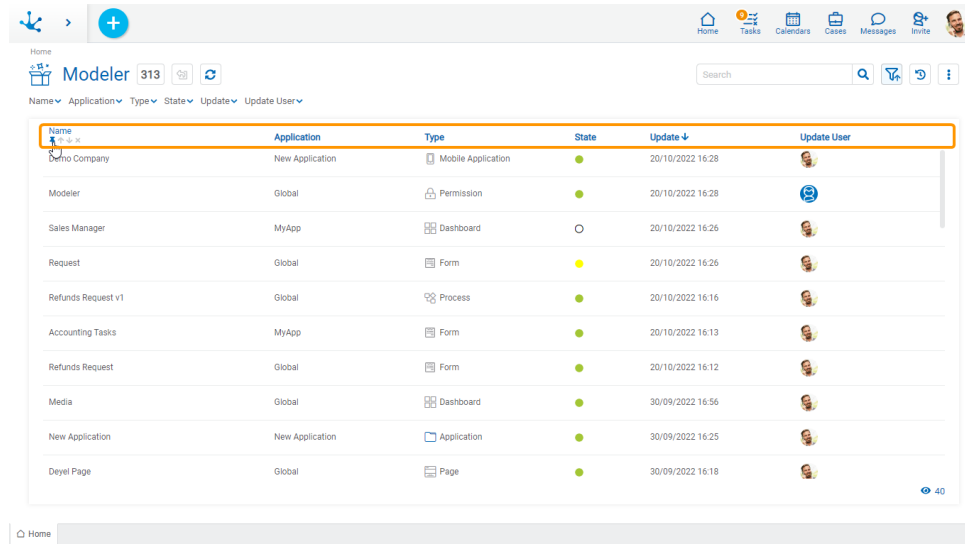
3.7.1.2. Grid

The objects grid allows to display all objects modeled in **Devel** or those that are the result of having applied [search filters](#). It is made up of columns and rows.

Columns

The objects grid allows to display different columns and by hovering over the name of each one it is possible to indicate its [behavior](#), in the same way as in the tasks grid.

The columns displayed in the grid correspond to the characteristics of the modeled objects in **Deyel**.



The screenshot shows the Deyel Modeler interface with a table of modeled objects. The table has the following columns: Name, Application, Type, State, Update, and Update User. The data rows are as follows:

Name	Application	Type	State	Update	Update User
Info Company	New Application	Mobile Application	●	20/10/2022 16:28	[User Icon]
Modeler	Global	Permission	●	20/10/2022 16:28	[User Icon]
Sales Manager	MyApp	Dashboard	○	20/10/2022 16:26	[User Icon]
Request	Global	Form	●	20/10/2022 16:26	[User Icon]
Refunds Request v1	Global	Process	●	20/10/2022 16:16	[User Icon]
Accounting Tasks	MyApp	Form	●	20/10/2022 16:13	[User Icon]
Refunds Request	Global	Form	●	20/10/2022 16:12	[User Icon]
Media	Global	Dashboard	●	30/09/2022 16:56	[User Icon]
New Application	New Application	Application	●	30/09/2022 16:25	[User Icon]
Deyel Page	Global	Page	●	30/09/2022 16:18	[User Icon]

Columns

Name

Name used in the interface to reference the object, corresponds to the [Descriptive Name](#) property of each object.

Application

Application the object belongs to, corresponds to the [Application](#) property of each object.

Type

Identifies the type of object defined in **Deyel** session is closed.

State

Indicates the [state](#) of the object: draft, modified, published.






Update

Date of last update made to the object.

Update User

Last user that updated the object.

Rows

Each grid object can be opened by double clicking on the corresponding row, and hovering the cursor over the row enables the icons , , ,  and  allows showing precedents, showing dependents, updating, deleting and exporting operations respectively.

The number of objects loaded in the grid is displayed in the lower right margin. This number increases as the scroll bar is scrolled vertically.

Name	Application	Type	State	Update ↓	Update User
Demo Company	New Application	Mobile Application	●	20/10/2022 16:28	
Modeler	Global	Permission	●	20/10/2022 16:28	
Sales Manager	MyApp	Dashboard	○	20/10/2022 16:26	
Request	Global	Form	●	20/10/2022 16:26	
Refunds Request v1	Global	Process	●	20/10/2022 16:16	
Accounting Tasks	MyApp	Form	●	20/10/2022 16:13	
Refunds Request	Global	Form	●	20/10/2022 16:12	
Media	Global	Dashboard	●	30/09/2022 16:56	
New Application	New Application	Application	●	30/09/2022 16:25	
Deyel Page	Global	Page	●	30/09/2022 16:18	

Operations

Operation icons are enabled when hovering over each row of the grid.

- **Modify**
Opens the modeler for the selected object in a new tab. A double click on the row also gives access to the object modeler.

For Permissions and Roles, it opens for object modification. If the user does not have permission to modify the object, it only shows the object.

- **Delete**
Deletes the selected object, after confirmation. This operation can be performed if the object is in [state](#) "Draft" and does not have other **Deyel** objects associated.
- **Export**
Opens a panel for the user to select and confirm the object export.
- **Precedents**
Opens the [precedents](#) grid of the selected object in a new tab.
- **Dependents**
Opens the [dependents](#) grid of the selected object in a new tab.

Display of Icons on Rows

The user can decide if they want to see the icons with the operations of the objects on the row.

- Displays the available icons for each object.
- Hides the available icons for each object.

Scroll Bar

By scrolling vertically, rows are incorporated in the grid, allowing scrolling up or down using a scroll bar.

The number of tasks loaded in the grid is displayed in the lower right margin.

3.7.1.2.1. Precedents

The precedents grid allows to determine which are the objects that a specific **Deyel** object needs to execute.

The analysis of precedents is very useful to determine which objects are necessary for the **Deyel** selected object to execute correctly. Also, it allows to determine which objects are required to perform a complete export.

The screenshot shows the Deyel Modeler interface. At the top, there is a navigation bar with icons for Home, Tasks, Calendars, Cases, Messages, and Invite. Below this, the breadcrumb path is 'Home > Deyel Modeler'. The main heading is 'Precedents' with a sub-heading 'Purchase Request' and a count of '6'. There is a search bar and a refresh icon. Below the heading, there are several filters: 'Name', 'Application', 'Type', 'State', 'Update', 'Update User', 'Level 1st Level', and 'Definition Development'. The main content is a table with the following data:

Name	Application	Type	State	Update ↓	Update User
Modeler	Global	Permission	●	07/06/2023 01:25	
Status	Global	Value List	●	07/04/2022 12:45	
Update of Purchase Request	Global	Permission	●	23/02/2022 11:54	
Show of Purchase Request	Global	Permission	●	23/02/2022 11:54	
Completed of Purchase Request	Global	Permission	●	23/02/2022 11:54	
Delete of Purchase Request	Global	Permission	●	23/02/2022 11:54	

At the bottom right of the table, there is a small icon and the number '6'. At the bottom left of the screenshot, there is a 'Home' button.

It may happen that one or more precedent objects are not found in the environment. In this case, the row is displayed in red with a warning icon.

Name	Application	Type	State	Update	Update User
△ Delete of Purchase Order	Global	Missing Object		22/06/2023 17:36	[User Icon]
Completed of Purchase Order	Global	Permission	●	16/02/2023 13:04	[User Icon]
Update of Purchase Order	Global	Permission	●	16/02/2023 12:58	[User Icon]
Show of Purchase Order	Global	Permission	●	16/02/2023 12:58	[User Icon]
Sales Stage	Global	Value List	●	16/02/2023 11:32	[User Icon]

Precedents may belong to the same object application or to other applications. Precedents show returns all precedent objects without applying security. It is possible that a user does not have permissions to see an object, but that does not prevent them from seeing the object as a precedent of another to which they have permission. The precedent objects on which the user does not have permission are displayed in the precedents grid without the possibility of executing any function on them (open, modify, export).

The precedents grid is very similar to the [object's grid](#), but it has the following special features:

- The possibility of saving favorite searches is not available, as it is not necessary.
- In the event that a precedent is not found in the environment, it is displayed in red, with a warning icon and with the label "Nonexistent Object". In this way, it is possible to determine which are the missing precedents of an object.
- It has 2 additional filters.

Additional Filters

The additional filters are "Level" and "Definition", they must always have a value and cannot be left blank. For this reason, the individual option to remove the filter is not available. However, you can use the option to remove all filters, which in the case of additional filters returns them to the initial value.

Level

It allows to filter the precedents of:

- 1st Level: this value is taken as the initial value.
- All Levels: it is a recursive precedence.

Definition

It allows to filter the precedents of:

- Development: this value is taken as the initial value.
- Execution

The concept of definition is different from the concept of [state](#). The concept of state of a **Deyel** object indicates the stage of development it is in and if it is operational. On the other hand, the concept of definition allows objects to be modified without affecting the execution version of the object that is operational.

Internally, **Deyel** objects have 2 definitions: development and execution, which is completely transparent to users. The development definition is the one used when modeling an object, while the execution definition is the one that is operational.

If an object is in the "Modified" state, it means that the development definition may be different from the execution definition. This means that a **Deyel** object can be modified without affecting the execution definition. As both definitions are different, precedents can also be different.

If an object is in the "Published" state, it means that the development definition and the execution definition match. This means that the object was modeled and is in use. So the precedents of both definitions are the same.

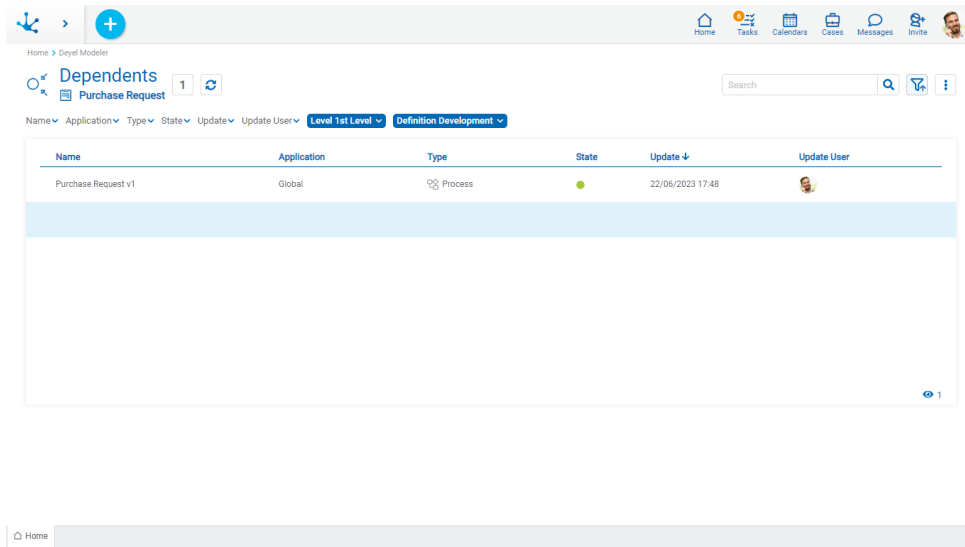
In this way, both definitions coexist, to allow new developments without affecting the published object that is operational. When an object is published and a change is made operational, the execution definition is updated with the changes coming from the development definition, making both definitions identical.

3.7.1.2.2. Dependents

The dependents grid allows to determine which are the objects from where a specific **Deyel** object is being used.

The analysis of dependents allows to determine in which objects the modification of a certain object impacts.

In the [object's grid](#), the dependent icon is not available in the applications, because the applications do not have them. No object has the application as precedent, because objects are contained in an application, but do not use it directly to execute.



The dependents grid works in a similar way to the [precedents grid](#).

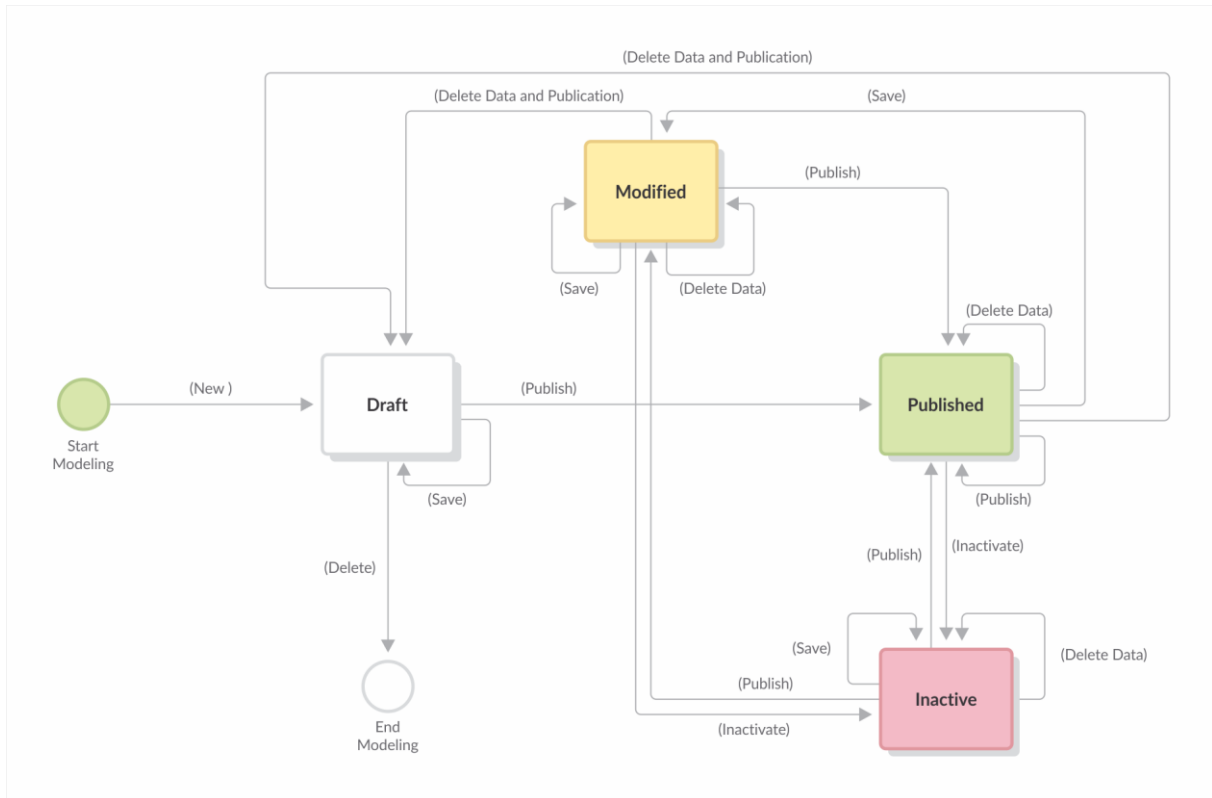
3.7.2. Object States

States indicate the stage of development in which **Deyel** objects are and if they are operational.

The following **Deyel** objects defined in applications have states:

- Form
- Agile Form
- Process
- Rule
- Dashboard
- Widget
- Value List
- Adapter
- Report

The possible states and the events that produce transitions among them are described below, ensuring the modelers of predictable behavior for each type of object.



Possible States

Draft

State corresponding to the beginning of the modeling or when it was saved but not published.

Published

State of the object once published, that is, it is available for use.

Modified

If an object is modified when it is in the "Published" state, it becomes "Modified".

Inactive

State corresponding to a published object for which only instances or cases can be shown. As of processes, forms and agile forms, instances or cases of objects that are in this state cannot be created, delete or modified. On the other hand, rules can move to inactive state, if they are not being used in another object, that is, since they are inactive, they cannot be used in the modeling of another object.

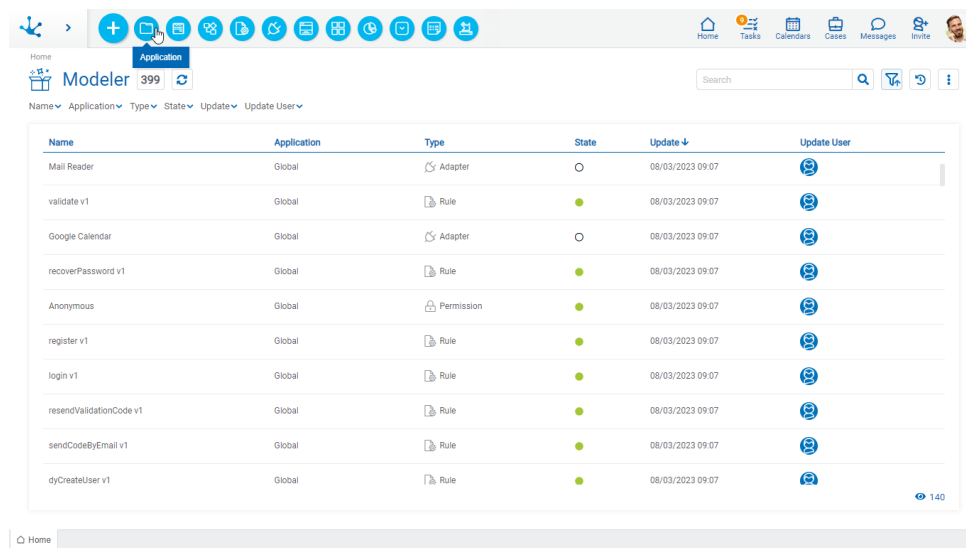
Available in future versions.

3.7.3. Applications Modeling

The applications modeler allows for easily and intuitively modeling independent applications. It allows to design their browsing by building of a diagram where navigation flows are defined. At the same time, it allows to build applications from predefined templates that make work easier. Templates help

build **Deyel** applications, as well as business web applications. In **Deyel** applications, the login page, the toolbar, the menu and the home page can be customized. In web applications, own customized pages can be used. Such pages are created and modified during modeling, where login pages and home pages can also be defined.


Users access applications from web browsers through a URL defined in the modeler. Each application created with this modeler is accompanied by a mobile version, that is, applications that can be installed and executed on mobile or portable devices are also created.



The general characteristics of the applications modeler and the main elements that compose it are described in the following topics:

- [Modeling Facilities](#)
- [General Properties](#)

A new application can be created from the icon  corresponding to the [context menu](#) in the modeler.

- From the icon .
- From the expanded menu using the "Application" option.

Operations can be performed on existing applications by using the icons available in each line of the [objects grid](#) of the **Deyel** modeler.

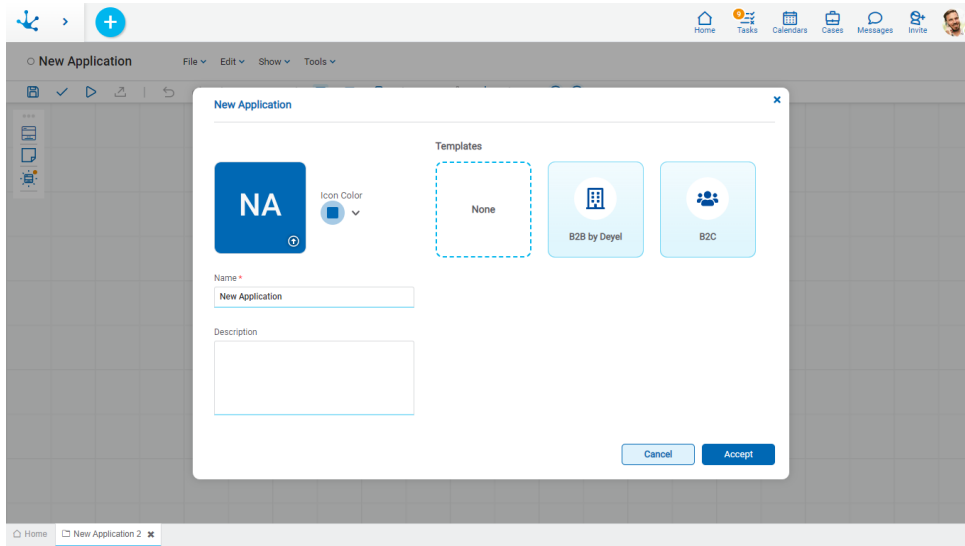
3.7.3.1. Modeling Facilities

The general characteristics of this modeler are specified below.

New Application

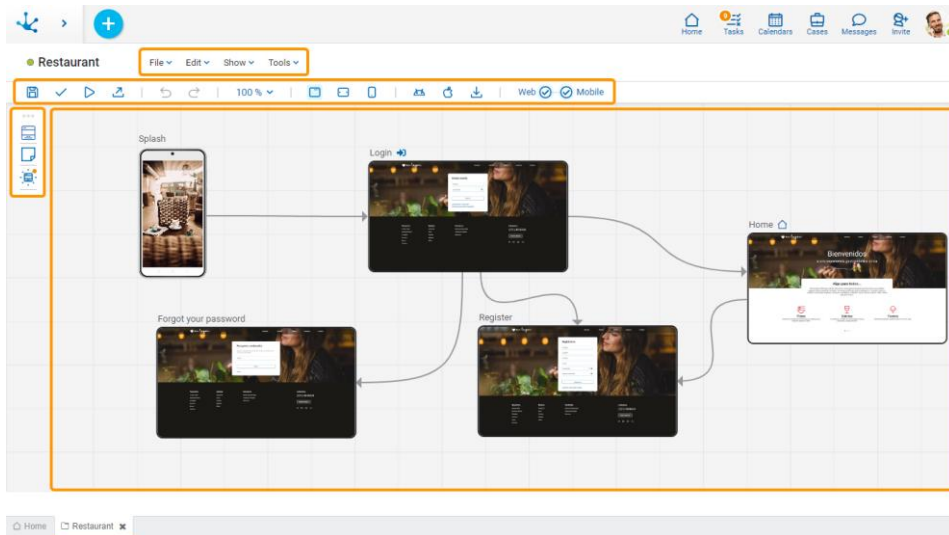
The modeler user defines a new application, which after being [published](#) can be accessed from the [access path](#) configured in the same modeler.

When building the application, it opens a panel that allows to define some of its [general properties](#) and select a built-in template that is displayed in the graphic modeling area when starting the applications modeler. The applications modeler can also be started without selecting a template.



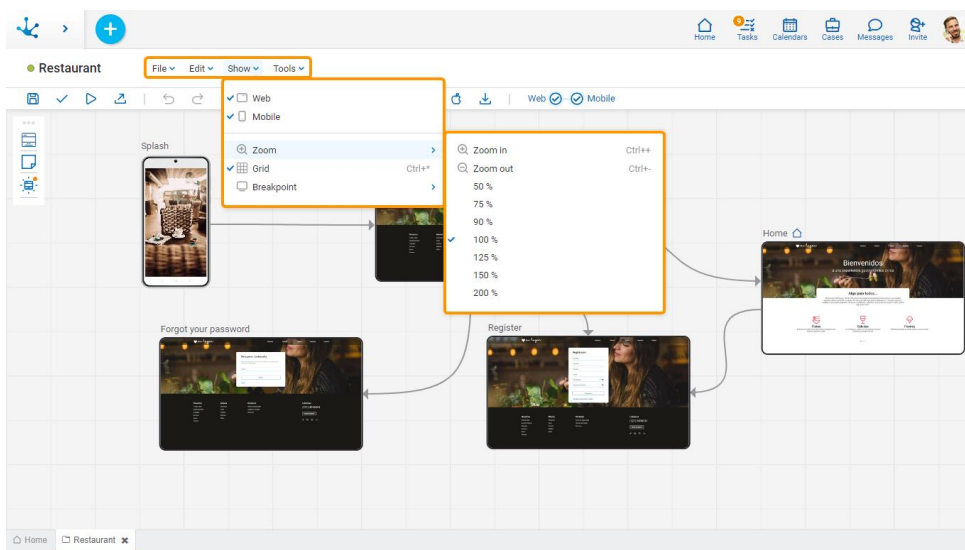
Workspace Sections

- [Expanded Menu](#)
- [Top Toolbar](#)
- [Side Toolbar](#)
- [Graphic Modeling Area](#)



3.7.3.1.1. Expanded Menu

It is a horizontal list of options containing vertical submenus with different operations on the application or on its modeling. In turn, each option in a submenu may expand a dependent submenu.

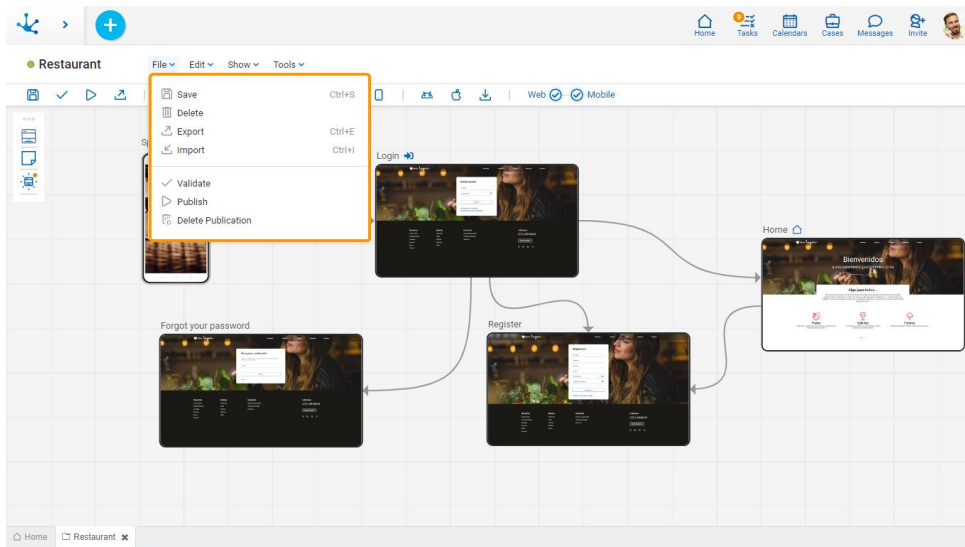


The expanded menu is made up of:

- [File Submenu](#)
- [Edit Submenu](#)
- [View Submenu](#)
- [Tools Submenu](#)

3.7.3.1.1.1. File Submenu

This submenu opens by clicking on the "File" option and allows to perform operations on the application.



Save

This icon allows to save the object in the repository of **Deyel**, leaving its state as "Draft" or "Modified". If certain conditions are met, the modeler user receives a message indicating that the operation was performed correctly, otherwise they receive an explanatory message.

Condition

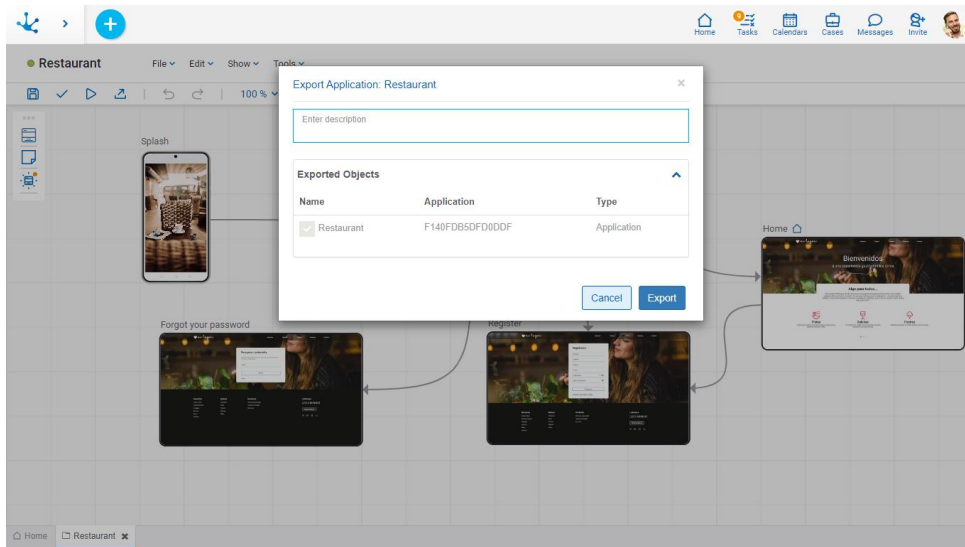
- Name should be unique.

Delete

It allows to delete the object only if it is in "Draft" [state](#) and does not have other associated objects of **Deyel** that were previously saved or published. When deleted, the tab it is on closes and the object is removed from the modeler's grid.

Export

This icon opens a window for the user to select and confirm the export of the object.



Properties

Description

In this property a text explaining the reason for the operation can be entered.

This text can be modified upon import and is displayed in the description column of the [export record](#).

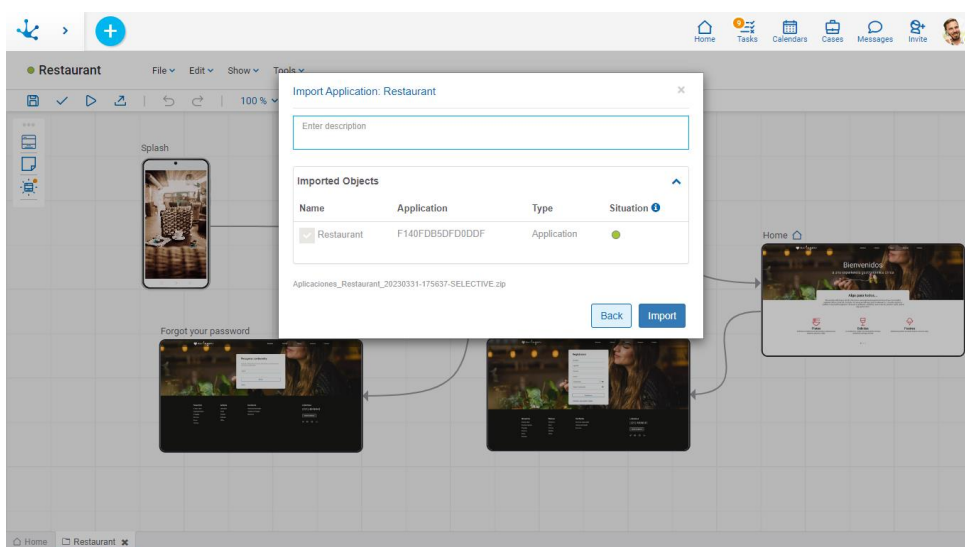
Exported Objects

By expanding the container, the object being exported is shown.

Press the "Cancel" button to undo export or press the "Export" button to finish.

Import

It allows to open a window for the user to select and confirm the import of the object.



Performing this operation is equivalent to using the functionality of [importing](#) from the modeler's context menu.

✓ Validate

This icon allows to validate if the object is ready to be published, that is, the same validations are carried out as when [publishing](#) and the result of them is reported.

▶ Publish

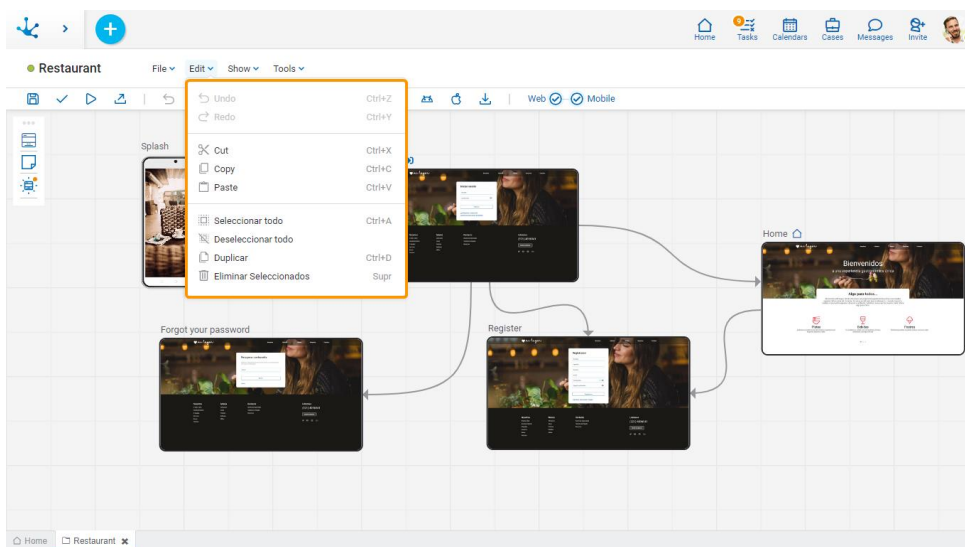
Through this icon the object changes to "Publish" [state](#) and the modeler user receives the corresponding message, indicating the result of the operation. The condition to publish is the same as for the operation "Save".

⏪ Delete Publication

Allows to leave the object unavailable for use by returning it to the "Draft" [state](#).

3.7.3.1.1.2. Edit Submenu

This submenu is opened by clicking on the "Edit" option and allows to perform operations within the modeler.



↶ Undo (Ctrl+Z)

Allows to easily reverse the changes made in the modeler.

Redo (Ctrl+Y)

Allows to easily reapply the changes made in the modeler.

Cut (Ctrl+X)

Allows to send the selected element to the clipboard while deleting it from the graphic modeling area.

Copy (Ctrl+C)

It allows to copy any application element and temporarily place it on the clipboard.

Paste (Ctrl+V)

It allows to take the item from the clipboard and place it elsewhere in the graphic modeling area.

Select All (Ctrl+A)

Allows to select all the elements of the application.

Deselect All

Allows to deselect all the elements of the application.

Duplicate (Ctrl+D)

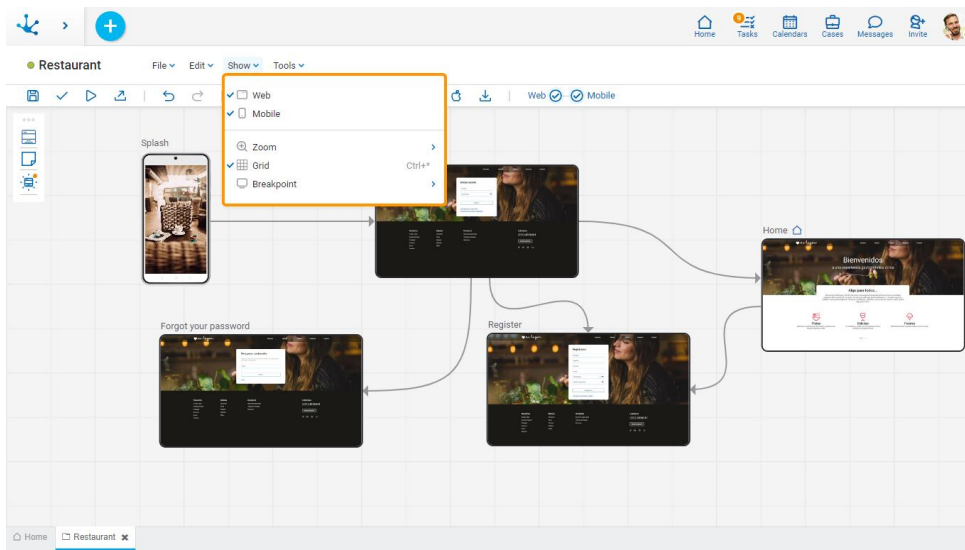
It allows to make a copy of any application element within the graphic modeling area.

Delete Selected Elements (Del)

Allows to delete all selected elements from the graphic modeling area.

3.7.3.1.1.3. View Submenu

This submenu opens by clicking on the "View" option and allows to select different ways of displaying the application.



Web

When selecting this option, only web-type pages are displayed.

Mobile

When selecting this option, only mobile-type pages are displayed.

Both options can be selected at the same time.

Zoom

By clicking on "Zoom" a secondary submenu expands, where it is possible to select the options :

- Zoom In (Ctrl++): Increases the display size of the diagram.
- Zoom Out (Ctrl+-): Decreases the display size of the diagram.
- 50%
- 75%
- 90%
- 100%
- 125%
- 150%
- 200%

Grid

This option provides grid lines that allow to perfectly align elements within the graphic modeling area.

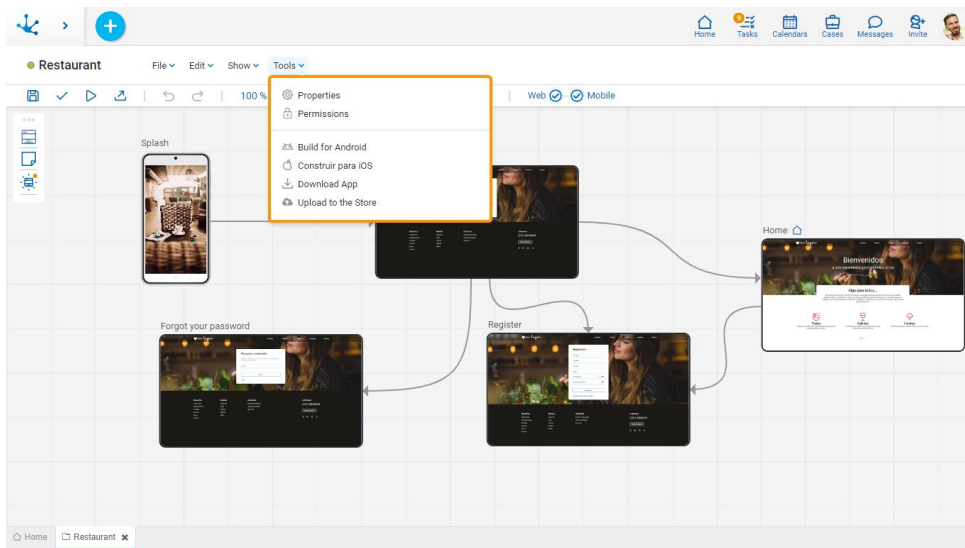
Breakpoint

By clicking on "Breakpoint" a secondary submenu expands, where it is possible to select the options :

- Desktop
- Tablet
- Mobile

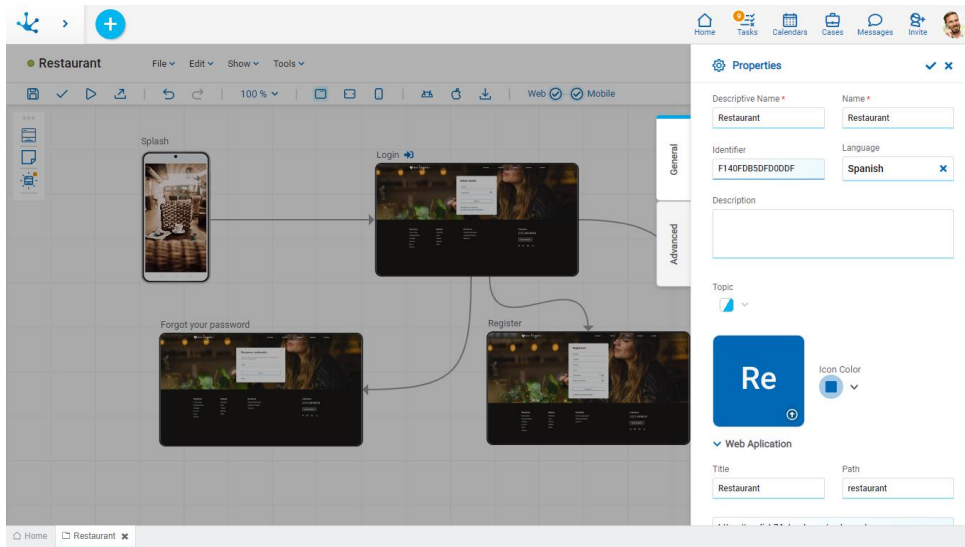
3.7.3.1.1.4. Tools Submenu

This submenu is opened by clicking on the "Tools" option and allows to model the application's properties and permissions, as well as perform operations to make it available to users at different breakpoints.



Properties

Opens the panel of [properties](#) of the application.



Permissions

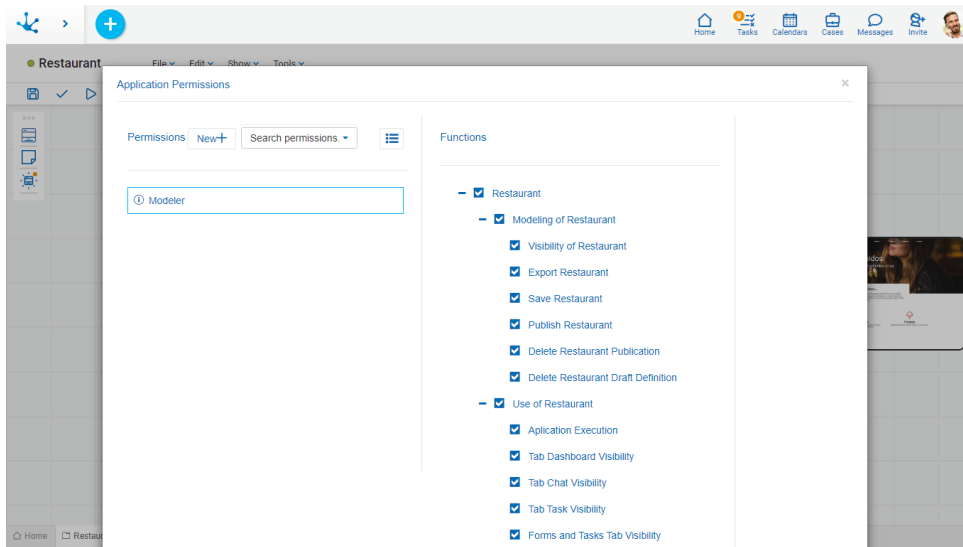
Allows to assign the [security functions](#) for use and modeling of the object to the existing permissions or to new permissions that the user creates, without having to go to the [permission](#) settings option from the menu.

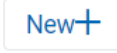
Sections

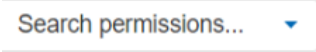
- Permissions: Permissions to which object functions are assigned.
- Security Functions: Represents the total set of security functions, modeling and use of the object. Those that are marked are the ones included in the selected permission.


By default, all security functions for a new object are assigned to the permission [Modeler](#).


Users who are assigned the permissions have access to the functions included in it.



 Opens a panel to create a new permission and once created, the security functions included in it must be selected .

 Allows to select a permission from a list and enables the input of characters to filter the values in the list.

 Opens the wizard to select a permission and once chosen, the necessary object security functions must be checked.

To unrelate a permission from the object, hover the cursor over the permission and press the icon . If there are functions selected for that permission, they must be unchecked in order to delete it.

Security Functions to Model the Application

- Visibility: Allows to display the object in the Deyel modeler grid.
- Export: Enables the operation to export the object from the tools submenu of the expanded menu.
- Save: Enables the operation of saving modifications made to the object.
- Publish: Enables the operation of publishing the object leaving its state as "Published".
- Delete publication: Enables the operation of deleting the object publication leaving its state as "Draft".
- Delete draft definition: Enables the operation of deleting the object.

Security Functions to Use the Application

- Execute Application.
- Dashboard Tab Visibility: Allows to display the dashboard tab on the mobile device.
- Chat Tab Visibility: Allows to display the chat tab on the mobile device.
- Task Tab Visibility: Allows to display the task tab on the mobile device.
- Forms and Tasks Tab Visibility: Allows to display the forms and tasks tab on the mobile device.

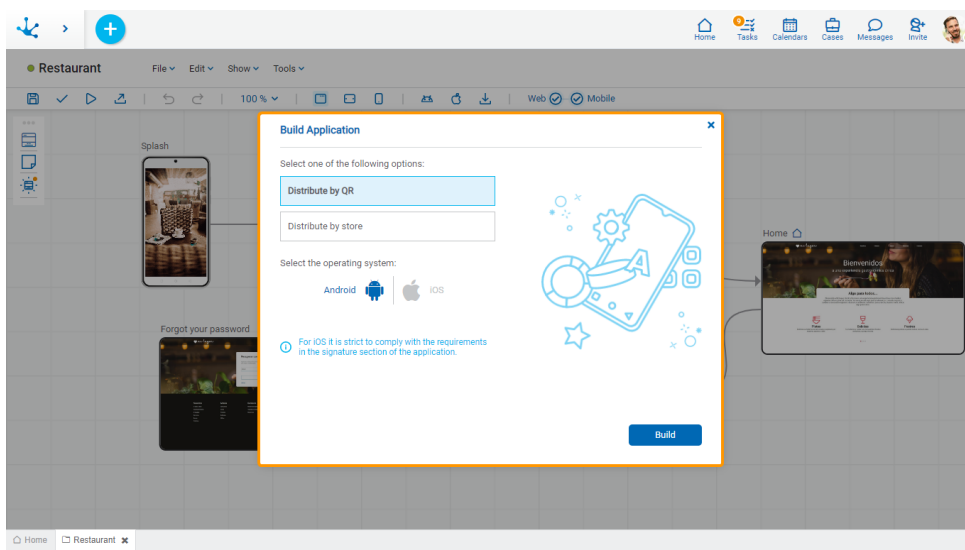
- Download mobile application: Enables to download the mobile application from the [user profile](#) of the portal.

Build for Android

Allows to generate the mobile application to be installed on an Android device.

When generating the application, a panel that allows the entry the distribution type and the operating system opens.

The mobile application must be published in order to be built.



Distribution Options

Different options can be selected to distribute the application

- Distribute by QR: generates a QR in order to install the application on the mobile device.
- Distribute by Store: builds the application so that it can be uploaded to the Play Store.

Once the mobile application is built by QR, Deyel's bot sends a message with the QR and the download link to the modeler user.

The screenshot shows the 'My Tasks' dashboard with a table of tasks and a chat window. The chat window displays a message from the Deyel Bot:

The application has been successfully generated with the name 'Restaurant-1.0.0'. Scan the QR with your device to install the app or you can download it from this link <https://octaris-builds-virginia-s3.amazonaws.com/enjish74-com-183-f140f6b5df9d04df-restaurant.apk>

The table below shows the tasks listed in the background:

Case	Process	Description	Activity	Start Date	Responsible User	Expiration Date	Priority
35	Refund with possible payment suspension	(MyApp) Refund with possible payment suspension v1 - Correct request	Correct request	Today 15:29	Alex Farias		↓
25	Refunds with Budget Control	(Global) Refunds with Budget Control v1 - Report rejection details	Report rejection details	Today 15:29	Alex Farias		↓
37	Refund with possible payment suspension	(MyApp) Refund with possible payment suspension v1 - Evaluate request	Evaluate request	Today 15:29	Alex Farias		↓
18	Refund of reported pending expenses	(MyApp) Refund of reported pending expenses v1 - Correct request	Correct request	Today 15:29	Alex Farias		↓
36	Refund with possible payment suspension	(MyApp) Refund with possible payment suspension v1 - Check documentation	Check documentation	Today 15:29	Alex Farias		↓
26	Refunds with Budget Control	(Global) Refunds with Budget Control v1 - Evaluate application	Evaluate application	18/04/2023 14:14	Alex Farias		↓

In the event that the mobile application is built via a store, Deyel's bot sends a message with the result of the operation to the modeler user.

The screenshot shows the 'Modeler' dashboard with a table of applications and a chat window. The chat window displays a message from the Deyel Bot:

The application has been successfully generated with the name 'Restaurant-1.0.0'. You can continue with the manual upload process to the store.

The table below shows the applications listed in the background:

Name	Application	Type	State	Update	Update User
Login	Restaurant	Page	●	18/04/2023 15:21	Alex Farias
Restaurant	Restaurant	Application	●	23/03/2023 11:26	Alex Farias
Modeler	Global	Permission	●		
Administrator	DEVEL (Value not found)	Permission	●		
createSessionTokenForNiubiz v1	Global	Rule	○		
Mali Reader	Global	Adapter	○		
validate v1	Global	Rule	●		
Google Calendar	Global	Adapter	○		
recoverPassword v1	Global	Rule	●		
Anonymous	Global	Permission	●		

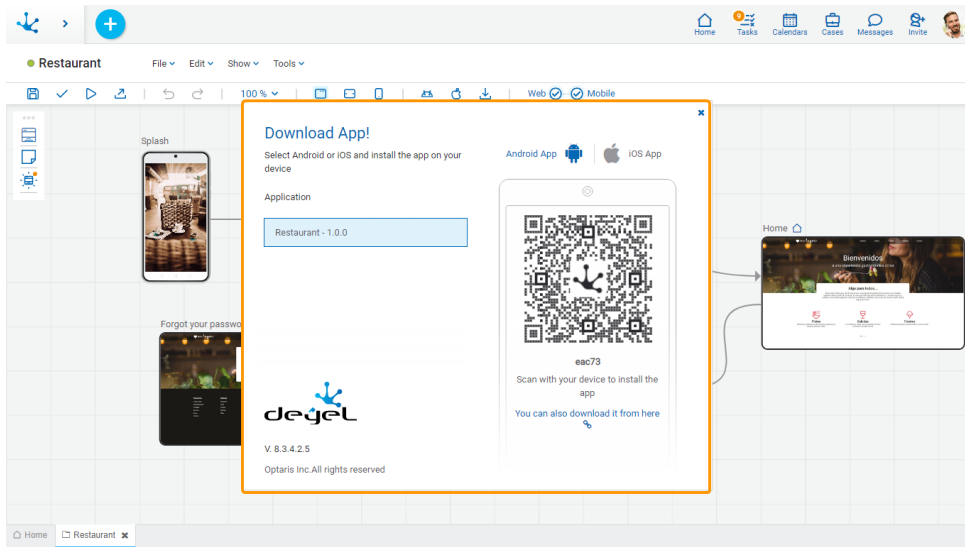
Build for iOS

Allows to generate the mobile application to be installed on an iOS device.

This option will be available in future versions.


Download App


Allows to download the mobile application to be installed by scanning the QR with a device.



Application

Allows to select the application to be downloaded.

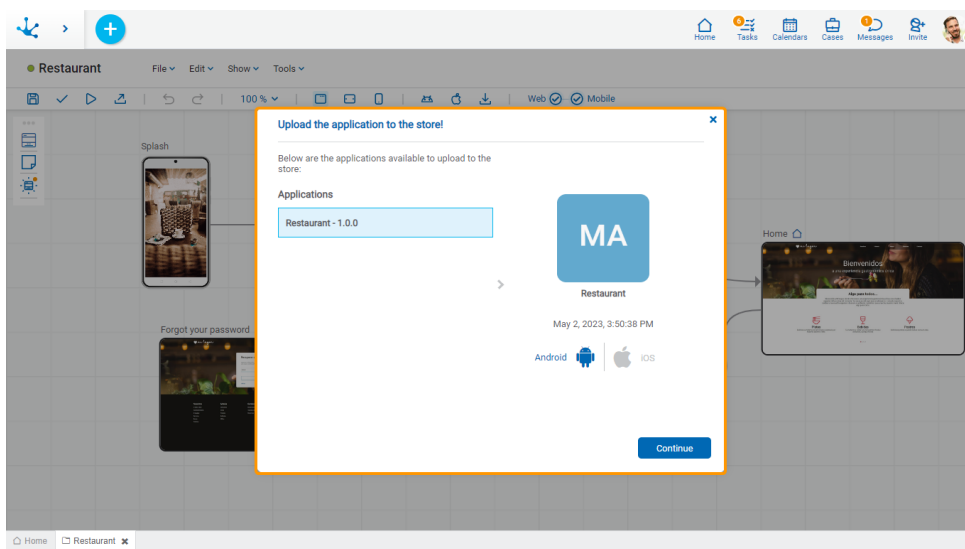
Android App  Allows to generate the QR code to install the application on an Android type device.

iOS App  Allows to generate the QR code to install the application on an iOS type device.

[You can also download it from](#) | The application can also be downloaded by clicking on this text.

Upload to the Store

Allows to publish the application in the official store of the selected operating system.

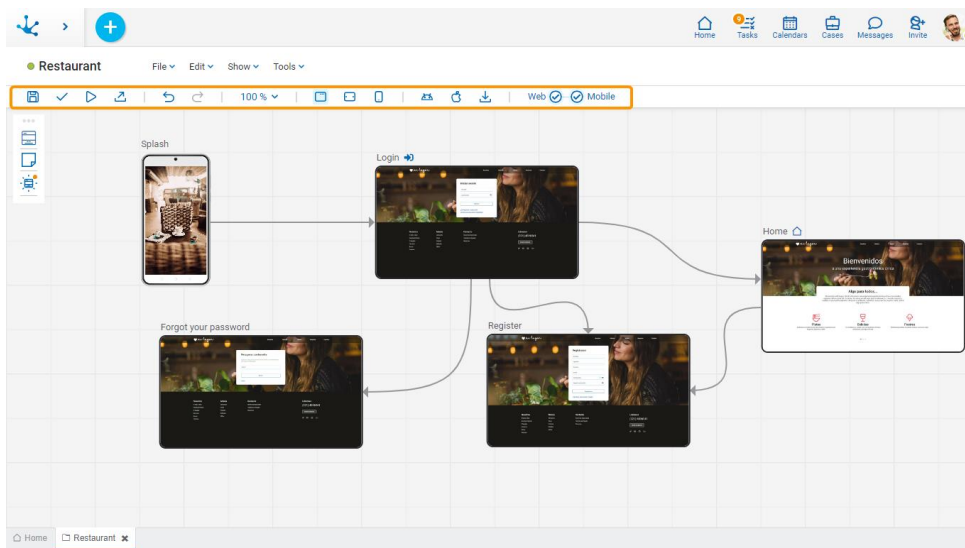


In order to select the application, it must have been previously built using the option [distribute via store](#).

To download the application whether from store or via QR, the environment variables corresponding to the [applications modeler must be defined](#).

3.7.3.1.2. Top Toolbar

Contains icons for quick access to the most used operations of the [expanded menu](#).



[File](#)

-  Save
-  Validate
-  Publish
-  Export

[Edit](#)



-  Undo
-  Redo

[Show](#)




100 % ▾ Zoom Percentage

[Breakpoints](#)

-  Desktop
-  Tablet
-  Mobile

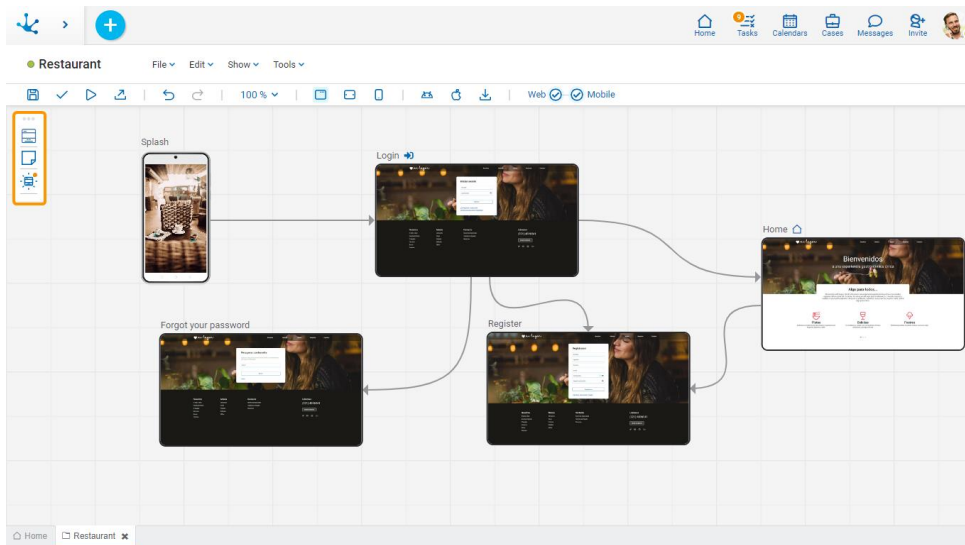
-  Web
-  Móvil Mobile

Tools

-  Build for Android
-  Build for iOS
-  Download App

3.7.3.1.3. Side Toolbar

This bar contains the different elements that can be modeled in the application. It allows to model all the application pages, using modeled or built-in **Deyel** pages.

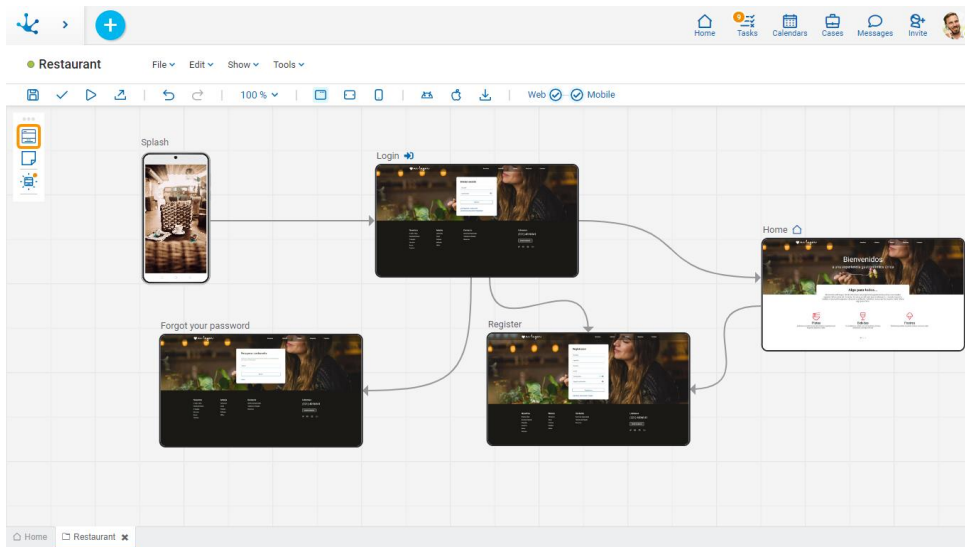


It allows to select different modeling elements:

- [Page](#)
- [Note](#)

3.7.3.1.3.1. Page

It allows to create a page in the graphic modeling area, by dragging the icon to the desired position. If the icon is clicked, the page is created in a certain position and should be dragged to the chosen location.



Operations

Add Pages

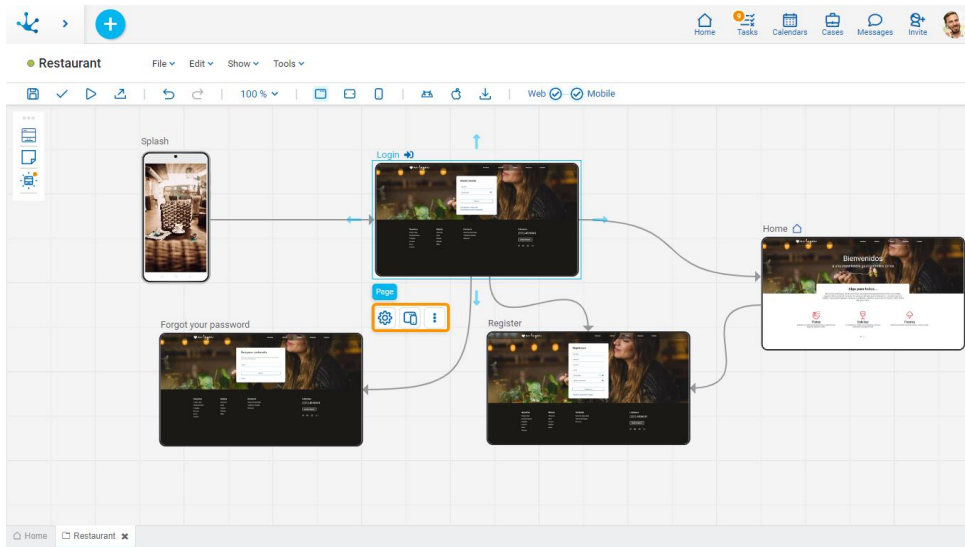
Pages can be added to the graphic modeling area in any location via the “drag and drop” facility. Double-clicking on the created element opens a new tab corresponding to the page modeler.

Modify Position of a Page


Once the page is added, its position can be changed by dragging it within the graphic modeling area. If the position of an element is changed, the change is applied to all breakpoints.

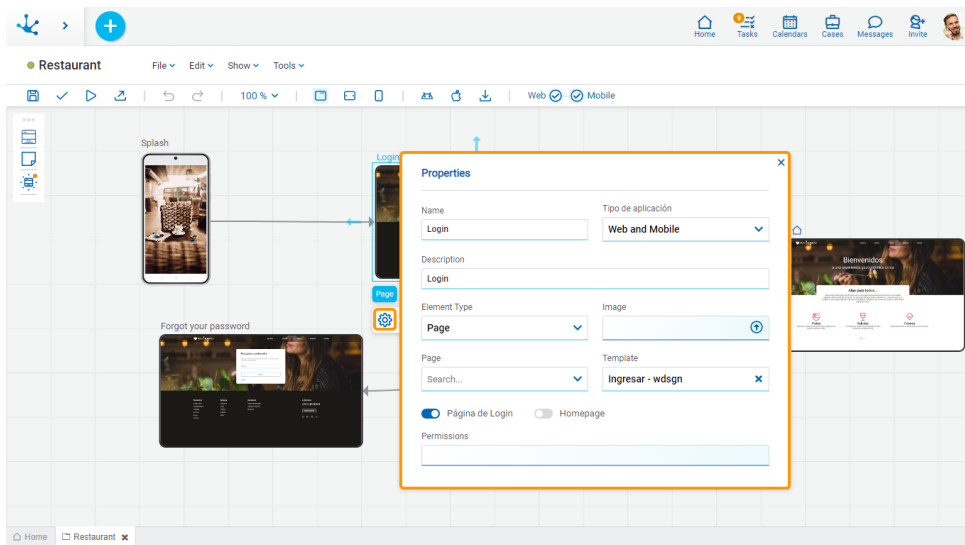
Context Menu

Selecting an element opens a palette of icons which represent the configuration of its properties, the type of web or mobile page, and a menu, whose options correspond to operations that can be performed on the selected page.



Configuration Properties

The configuration properties panel opens when selecting the icon .



Name

It is used at the modeling level to reference the page.

Type of Application

It allows to define if the application is web-type, mobile-type or both.

Description

Text that defines the page describing its functionality.

Type

It allows to select the content displayed on the page and depending on the option selected, different properties are enabled.

Image

It allows to define an image that represents the page in the applications modeler, it is valid if the properties for the selected item type are not completed.

Properties According to Selected Type

Different properties are enabled depending on the type of object selected.

Page

The screenshot shows a configuration interface for a page. It features two dropdown menus: 'Page' with the selected value 'Deyel Page' and 'Template' with the selected value 'Ingresar - wdsgrn'. Below these are two toggle switches: 'Página de Login' (which is turned on) and 'Homepage' (which is turned off). At the bottom, there is a 'Permissions' dropdown menu with 'Modeler' selected.

Page

The pages modeled in the environment are displayed.

Template

It allows to select a template to model the page if the previous property was not completed.

Login Page

Indicates that the unlinked page corresponds to a login page.

Home Page

Indicates that the unlinked page corresponds to a home page.

Permissions

Indicates all the permissions of the selected page. They are not modifiable.

Deyel Page

Page

Página de Login Homepage

Permissions

Page

The pages modeled in the environment are displayed.

Home Page

Indicates that the unlinked page corresponds to a home page.

Permissions

Indicates all the permissions of the selected page. They are not modifiable.

Form

Form	Operation
<input type="text" value="Search..."/>	<input type="text" value="Grid"/>
<input type="checkbox"/> Página de Login	<input type="checkbox"/> Homepage
Permissions	
<input type="text"/>	

Form

The forms modeled in the environment are displayed.

Operation

The operation that is performed when selecting the form is defined.

Possible Values

- New: Indicates that the panel of the form selected in the previous property is opened for the creation of an instance.
- Grid: Indicates that the grid of the form selected in the previous property is opened.

Home Page

Indicates that the unlinked page corresponds to a home page.

Permissions

Indicates all the permissions of the selected page. They are not modifiable.

Process

Process

Operation

Search... ▼

New Case ▼

Página de Login Homepage

Permissions

Process

The processes modeled in the environment are displayed.

Operation

The operation that is performed when selecting the process is defined.

Possible Value

- New Case


Home Page

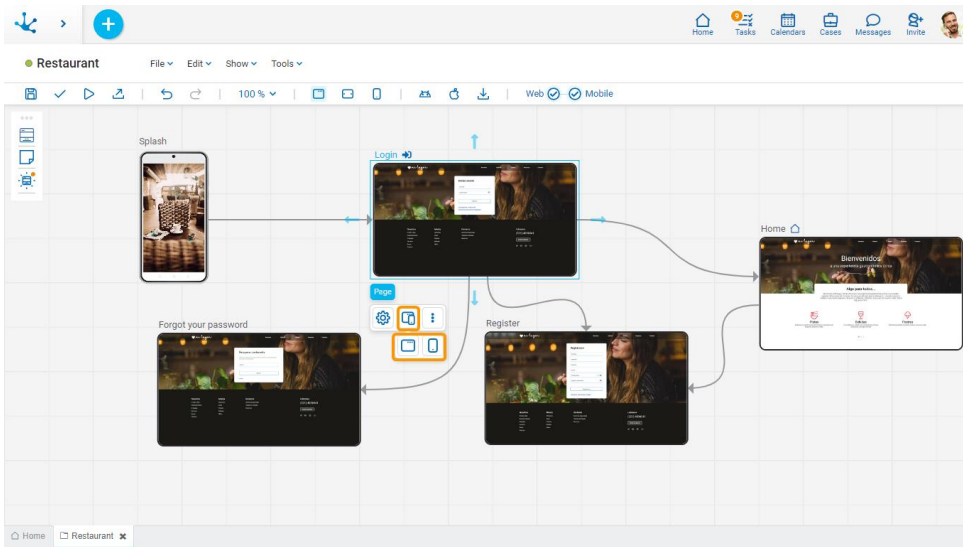
Indicates that the unlinked page corresponds to a home page.

Permissions




Indicates all the permissions of the selected page. They are not modifiable.

Type of Page


The type of page is selected by means of the icon .



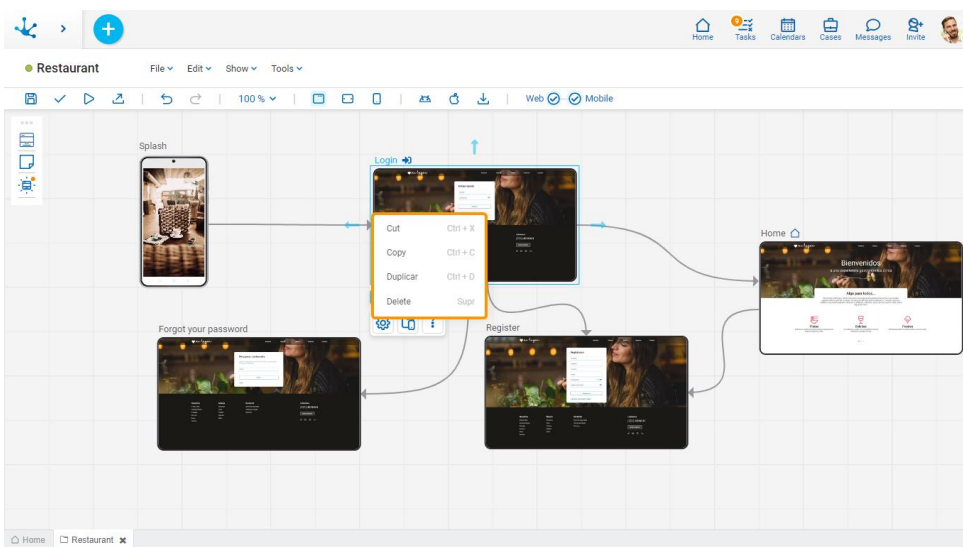
Possible Values

-  Web: This type of application can be accessed from the web.
-  Mobile: This type of application can be accessed from mobile devices.
-  Web and Mobile: This type of application can be accessed from mobile devices or the web.

More options

The menu to select additional options is expanded with the icon .

The options menu can also be opened by right-clicking mouse on the selected item.



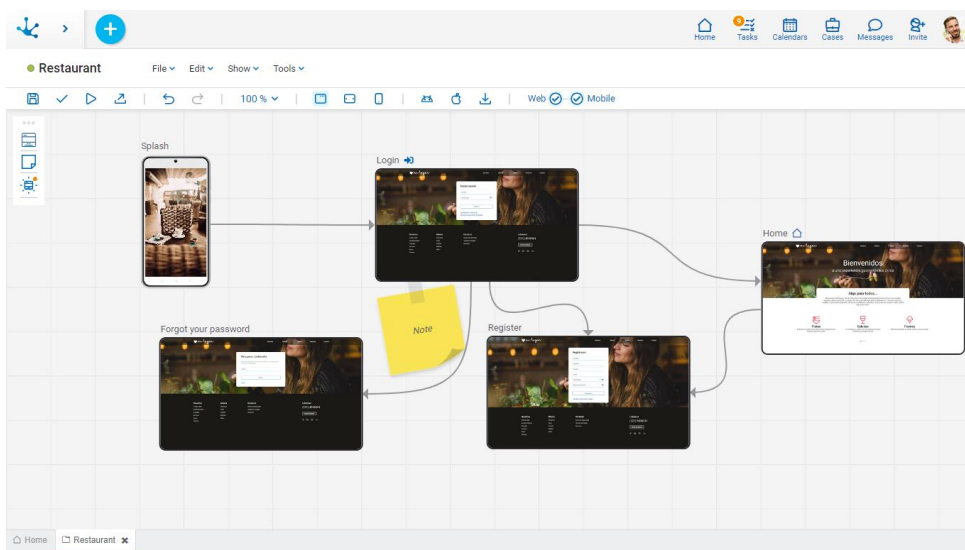
The options correspond to operations that can be performed on the selected element.

- Cut (Ctrl+X)
- Copy (Ctrl+C)
- Duplicate (Ctrl+D)
- Delete (Del)

3.7.3.1.3.2. Note

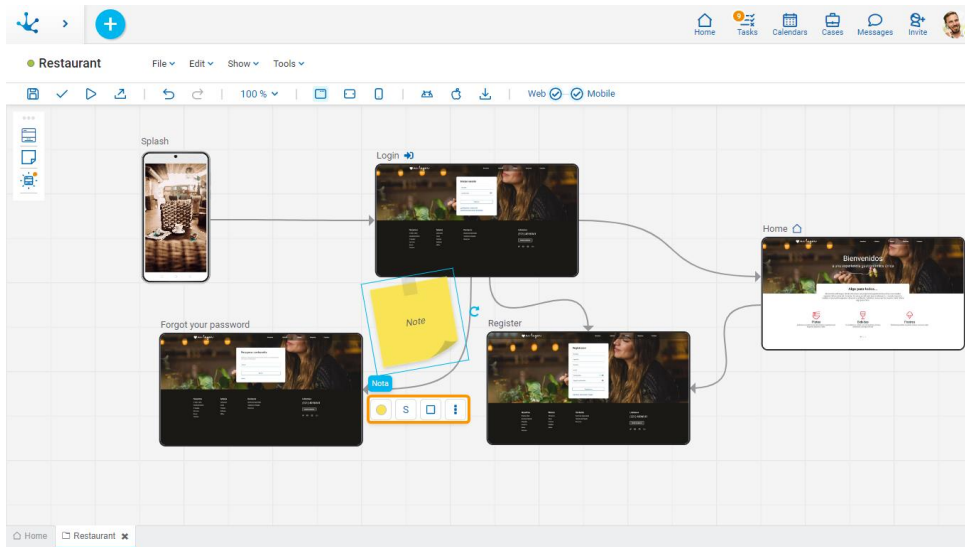
It allows to create an element in the graphic modeling area to include brief comments about the modeling. This can be done by dragging the icon to the desired position or by clicking on it.

Notes do not affect the execution of the application.



Context Menu

Selecting a note opens a palette of icons in order to choose its color, size, and type of note. In addition, a menu can be opened with options corresponding to operations on the selected element.



Color

It allows to model a background color for the note, selecting it from a palette.



Size

It allows to define the dimension of the graphic element.

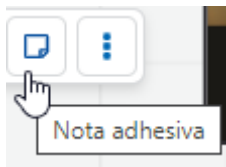


Possible Values

- S (small)
- M (medium)
- L (large)

Type of Note


It allows to define the appearance of the graphic element.



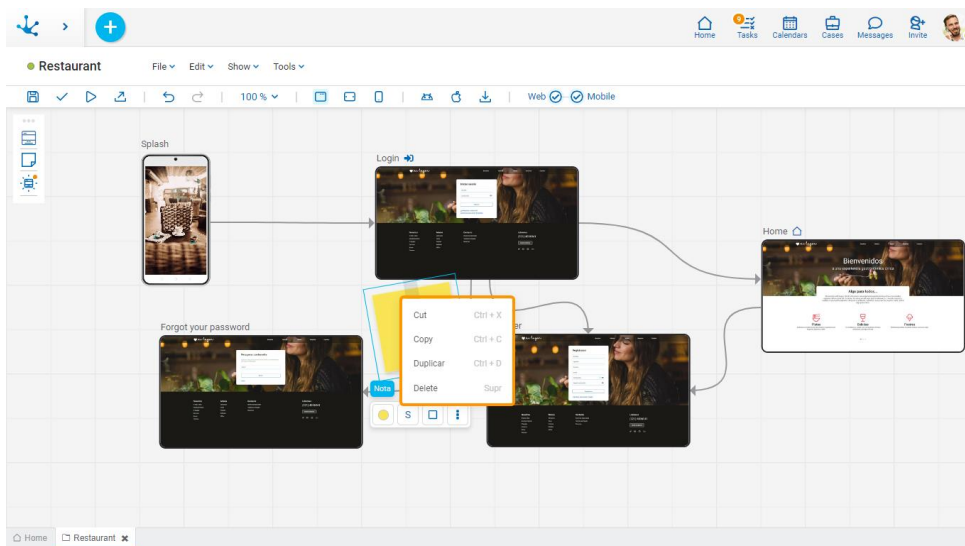
Possible Values

- Note
- Post-it Note

More options

The menu to select additional options is expanded with the icon .

The options menu can also be opened by right-clicking mouse on the selected item.

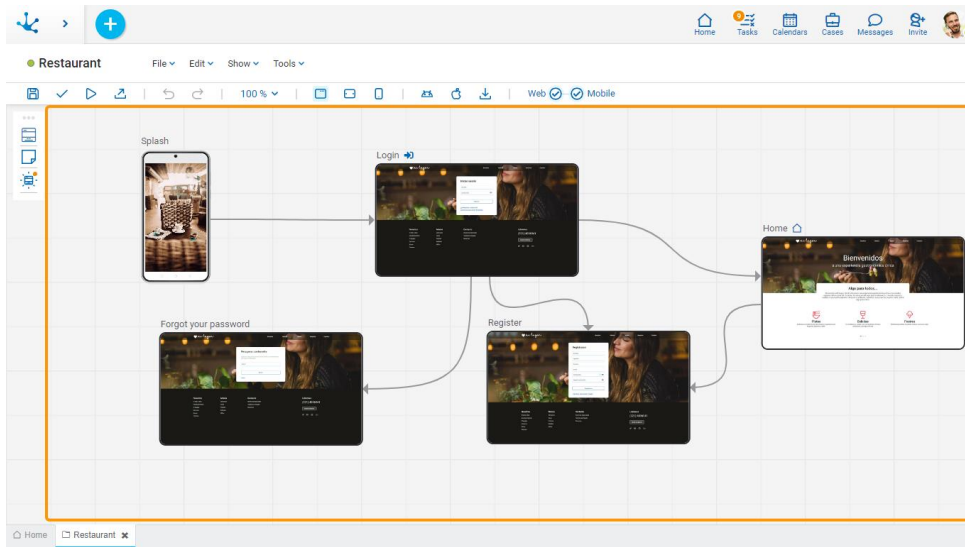


The options correspond to operations that can be performed on the selected element.

- Cut (Ctrl+X)
- Copy (Ctrl+C)
- Duplicate (Ctrl+D)
- Delete (Del)

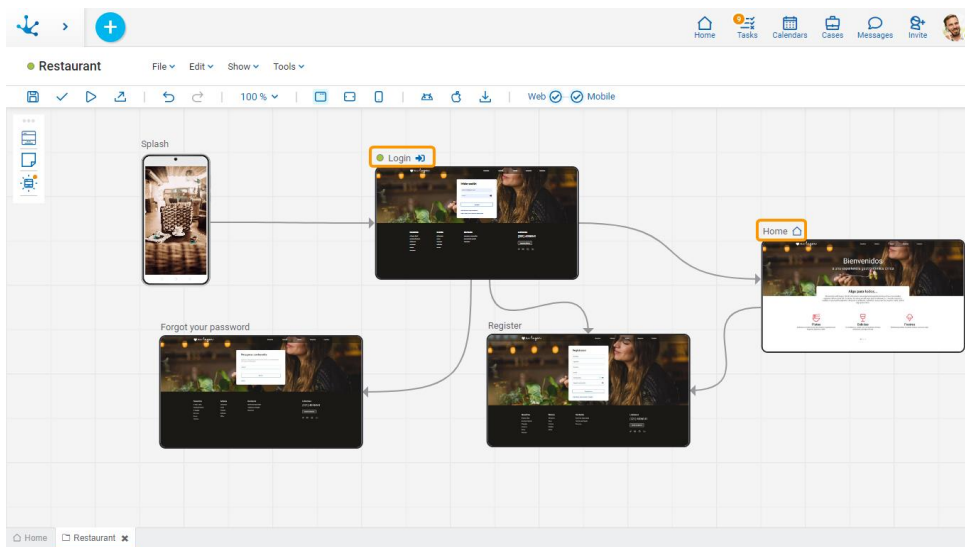
3.7.3.1.4. Graphic Modeling Area

The graphic modeling area is the location of the different elements of the [side toolbar](#), allowing navigation to be modeled through navigation flows between such elements. It may initially appear blank if none of the built-in templates were selected.

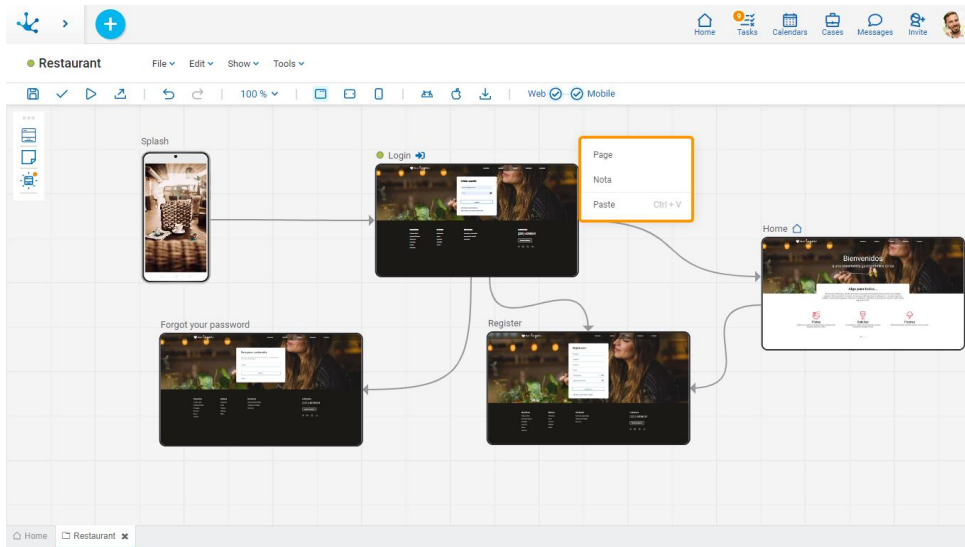


Its state, its name and the corresponding icon are displayed at the top of each page, if the Login Page or Home Page properties were modeled.

-  Home
-  Login

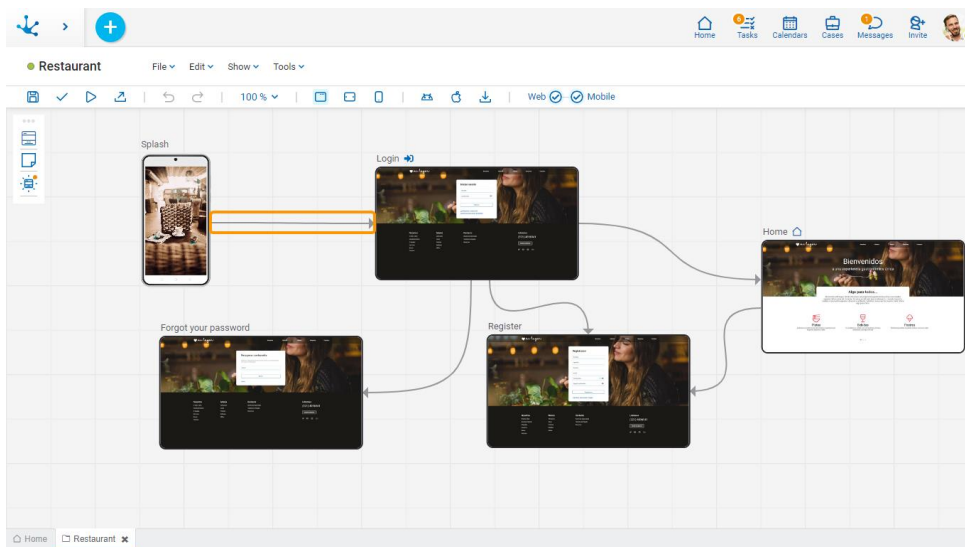


By right-clicking on the modeling area, a menu with the operations corresponding to the elements is displayed.



Navigation Flow

Represents navigation between pages.



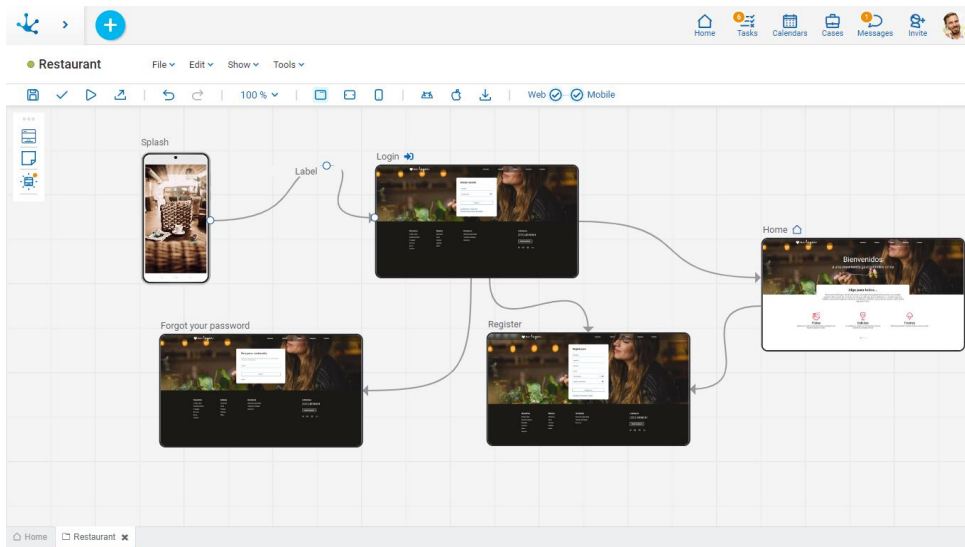
Modeling Flow

It is the default flow type, which is used in the modeling stage of the application. Indicates that it has been modeled but not yet implemented.

Implemented Flow

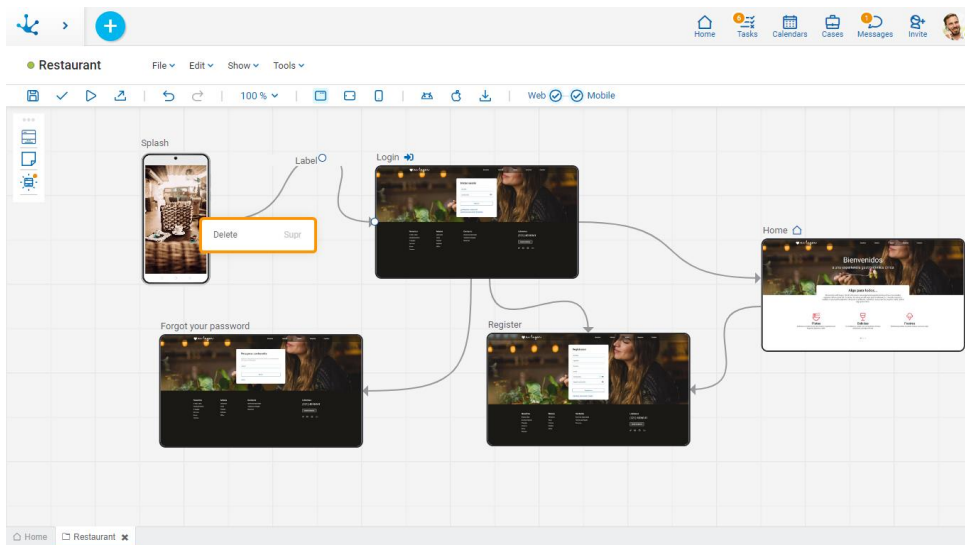
Indicates that there is an implemented navigation between two pages. That is, when a page that has a hyperlink to another one is published, if the flow is not modeled it is automatically generated in a light blue color. On the other hand, if it already exists, it changes its color from gray to light blue.

By double clicking on a flow, a text can be entered as a label. By clicking on a flow, a point of curvature is selected and created, which when dragged allows the flow to be given a new shape.



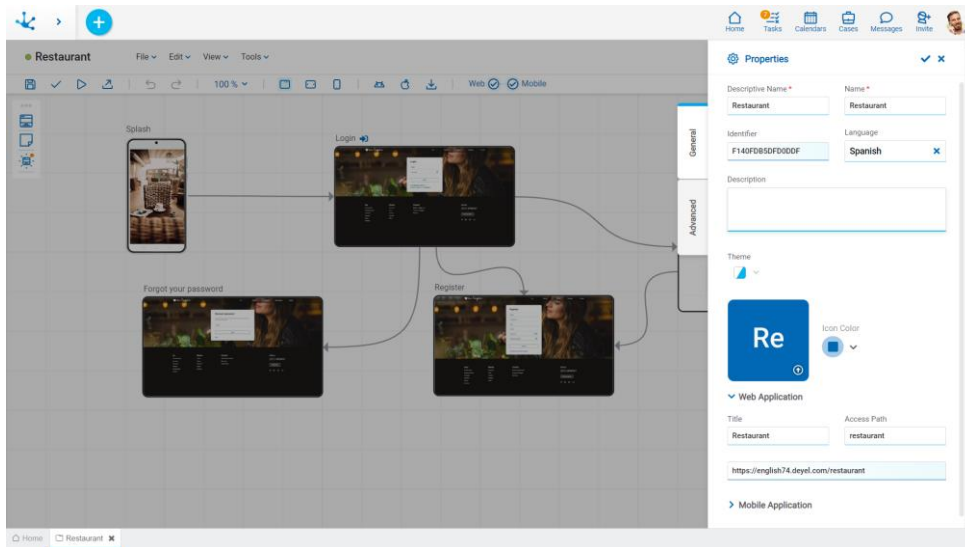
Delete Flow

By right-clicking on the flow, a menu with the operation "Delete" is displayed.



3.7.3.2. General Properties

The properties panel is displayed on the right side of the applications modeler, where the first tab corresponds to general information.



Descriptive Name

Name used by the user to reference the application.

Name

It is used at the modeling level to reference the application.

Identifier

Uniquely identifies the application.

Language

Users may see the application in the language they have selected as [preference](#), but if this preference is not configured, the language applied is the one indicated in this property.

Description

Text that defines the application describing its functionality.

Theme

It allows to select the color scheme in the application through the selected theme.

Image

An image is automatically associated to the application with the initials of its name and optionally a file can be uploaded. This image is displayed in the browser tab when executing the application.

Icon Color

It allows to select a color for the image within the color range of the theme. If a file was uploaded as an image, this property is invalid.

Web Application

▼ Web Application

Title

Restaurant

Access Path

restaurant

<https://english74.deyel.com/restaurant>

Title

Text displayed in the browser tab when executing the application. It allows to identify which application is being used.

Access Path

It allows to enter the name to access the application in order to execute it from a browser. The full login path is displayed below this property, including the name of the environment, concatenated by a "/". This property must be defined so that the application can be executed in web mode.

If the application has to run in the root path of the environment, the property must be completed only with a slash "/".

Only one application per environment can be executed in its root path.

For example, if this property is filled in with a "purchases" value, it can be accessed with the URL "myenvironment.deyel.com/purchases". Meanwhile, if it is filled in with "/", it can be accessed with the URL "myenvironment.deyel.com/" or "myenvironment.deyel.com".

Mobile Application

▼ Mobile Application

Application Identifier

com.i83.f140fdb5dfd0ddf.restaurant

Version ⓘ

1.0.0

Provisioning Profile (QR) ⓘ

Provisioning Profile (Store) ⓘ

Enable Push Notifications

Application Identifier

Identifier of the mobile application used to distribute it to different devices.

Version

Version number of the mobile application that keeps the semantic versioning format <main version>.<increased version>.<correction>.

Provisioning Profile (QR)

Configuration file that guarantees the security and authenticity of the mobile application and can distribute it via QR to devices with iOS operating system.

Provisioning Profile (Store)

Configuration file that guarantees the security and authenticity of the mobile application and can distribute it via application store to devices with iOS operating system.

Enable Push Notifications

If an application has been modeled to use the "Push" notifications functionality, this check must be enabled.

Selecting this option enables additional properties.

Google Services (Android)

File that allows interacting with Google services that are used in the mobile application with Android operating system. This file is generated by following the steps for the [Android application distribution](#).

Google Services (iOS)

File that allows interacting with Google services that are used in the mobile application with iOS operating system. This file is generated by following the steps for the [iOS application distribution](#).

3.7.3.3. Mobile Application Distribution

To distribute mobile applications, it is necessary to digitally sign them to validate their integrity and authenticity. These signatures are used by both app stores and devices to verify that the application is authentic.

The following topics detail the steps that must be taken to sign and distribute applications on devices with Android and iOS operating systems.

Android

In the [Android](#) operating system, the following tasks must be performed:

- Keystore file generation.
- Collection of Google Services file.
- Configuration of **Deyel** environment properties.
- Distribution of the mobile application via QR code or store.

iOS

In the [iOS](#) operating system, the following tasks must be performed:

- Data collection for signature.
- Collection of Google Services file.
- Creation of the certificate and provisioning profile.
- Configuration of **Deyel** environment properties.
- Distribution of the mobile application via QR code or store.

3.7.3.3.1. Android Applications

This topic details the tasks that must be performed to complete the distribution of mobile applications on devices with Android operating system.

For these tasks, it is important to be familiar with the following concepts:

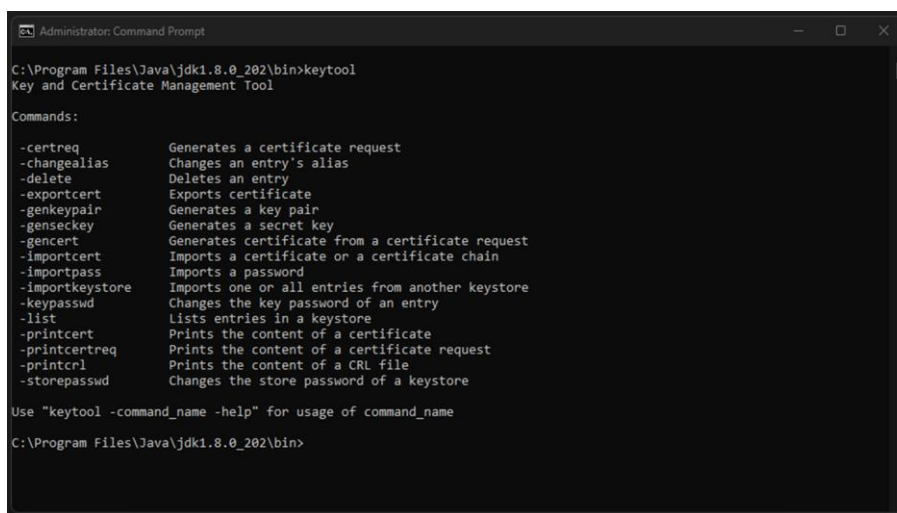
- Keystore
Binary file that contains cryptographic keys, such as private key password and digital certificates, that are used to sign and authenticate Android applications before they are distributed.
- Keystore-alias
Alias assigned within the Keystore file to a private key password and its corresponding certificate.

- Keystore-password
It is the password used to access and unlock the key passwords stored within the Keystore file.
- Store-password
It is the password used to protect the Keystore file.
- Google-services
File that allows interacting with Google services that are used in the mobile application.

Keystore File Generation

The Keystore file is used to sign APK applications. To generate it, the following steps must be followed:

1. Install Java JDK for Mac or Windows.
2. Open the command line interface and execute the `keytool` command located in the Java JDK bin folder, for example `C:\Program Files\Java\jdk1.8.0_202\bin`.



```

Administrator: Command Prompt
C:\Program Files\Java\jdk1.8.0_202\bin>keytool
Key and Certificate Management Tool

Commands:
-certreq          Generates a certificate request
-changealias     Changes an entry's alias
-delete          Deletes an entry
-exportcert      Exports certificate
-genkeypair      Generates a key pair
-genseckey       Generates a secret key
-gencert         Generates certificate from a certificate request
-importcert      Imports a certificate or a certificate chain
-importpass      Imports a password
-importkeystore  Imports one or all entries from another keystore
-keypasswd       Changes the key password of an entry
-list            Lists entries in a keystore
-printcert       Prints the content of a certificate
-printcertreq    Prints the content of a certificate request
-printcrl        Prints the content of a CRL file
-storepasswd     Changes the store password of a keystore

Use "keytool -command_name -help" for usage of command_name

C:\Program Files\Java\jdk1.8.0_202\bin>

```

3. Write the following instruction on the command line:

```
keytool -genkey -alias KEYSTORE-ALIAS -keyalg RSA -keystore file.keystore -keysize 2048 -validity 36500 -sigalg SHA256withRSA -storepass STORE-PASSWORD -keypass KEYSTORE-PASSWORD
```

Values for KEYSTORE-ALIAS, STORE-PASSWORD and KEYSTORE-PASSWORD must be defined and replaced in the previous statement.

If access is denied, open the command line interface in administrator mode.

4. Answer the following questions, pressing "Enter" after each one and type "yes" when asked to confirm the information.


```
Administrator: Command Prompt
C:\Program Files\Java\jdk1.8.0_202\bin>keytool -genkey -alias mykey -keyalg RSA -keystore file.keystore -keysize 2048
-validity 36500 -sigalg SHA256withRSA -storepass password -keypass keypassword
What is your first and last name?
[Unknown]: alejandro farias
What is the name of your organizational unit?
[Unknown]: deyel
What is the name of your organization?
[Unknown]: deyel
What is the name of your City or Locality?
[Unknown]: la plata
What is the name of your State or Province?
[Unknown]: buenos aires
What is the two-letter country code for this unit?
[Unknown]: AR
Is CN=alejandro farias, OU=deyel, O=deyel, L=la plata, ST=buenos aires, C=AR correct?
[no]: yes

Warning:
The JKS keystore uses a proprietary format. It is recommended to migrate to PKCS12 which is an industry standard form
at using "keytool -importkeystore -srckeystore file.keystore -destkeystore file.keystore -deststoretype pkcs12".

C:\Program Files\Java\jdk1.8.0_202\bin>
```

5. Upon finishing answering these questions, the Keystore file is generated and saved in the current working directory.

Collection of Google Services File

The mobile applications generated by Deyel use Google services internally, which are necessary to, among other things, receive pop-up notifications on the device.

To enable these Google services, it is necessary to follow the steps mentioned in the [guide for collection of Google Services file](#).

Configuration of the Properties of Deyel Environment

To distribute signed applications, it is necessary to complete the [properties of the Deyel environment](#) with the data values for the signature previously obtained in the generation of the Keystore file.

- KeyStore: The Keystore file generated must be converted to base64 format. Conversion can be done using online converters, for example <https://base64.guru/>.
- KeyStore Password: The Keystore-password value used for signing in the command-line interface.
- KeyStore Alias: The Keystore-alias value used for signing in the command-line interface.
- Store Password: The Store-password value used for signing in the command-line interface.

*Given that in the Android operating system it is not strictly necessary to sign an application to install it on mobile devices, it is optional to complete the properties of the **Deyel** environment in the distribution via QR code, but it is not optional if distribution is through Store.*

If an application has been modeled to allow using the notifications functionality "Push", it is necessary to ensure that the previously downloaded file in the property "[Enable Push Applications](#)" is configured

according to the [Android Application distribution guide](#), at the "Obtaining the Google Services File" section.

Distribution of the Mobile Application

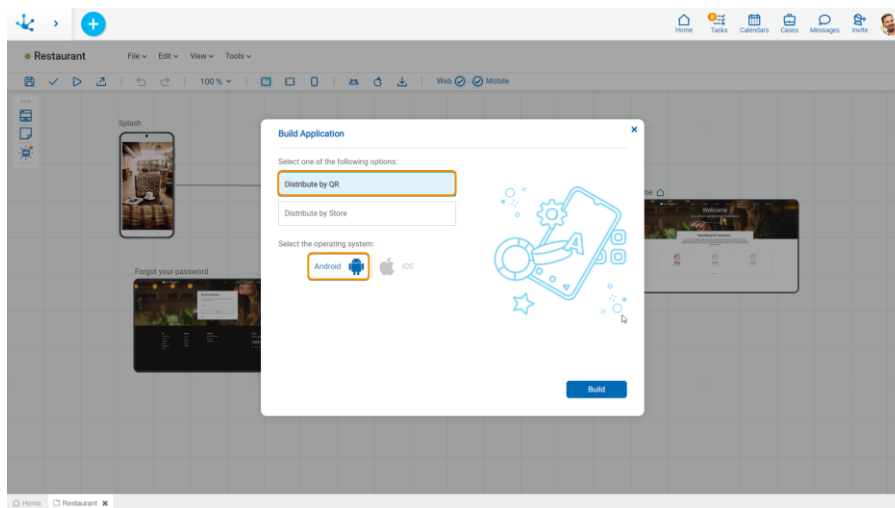
The distribution of the mobile application can be done via QR code and through the application store, each with different characteristics.

Distribution via QR Code

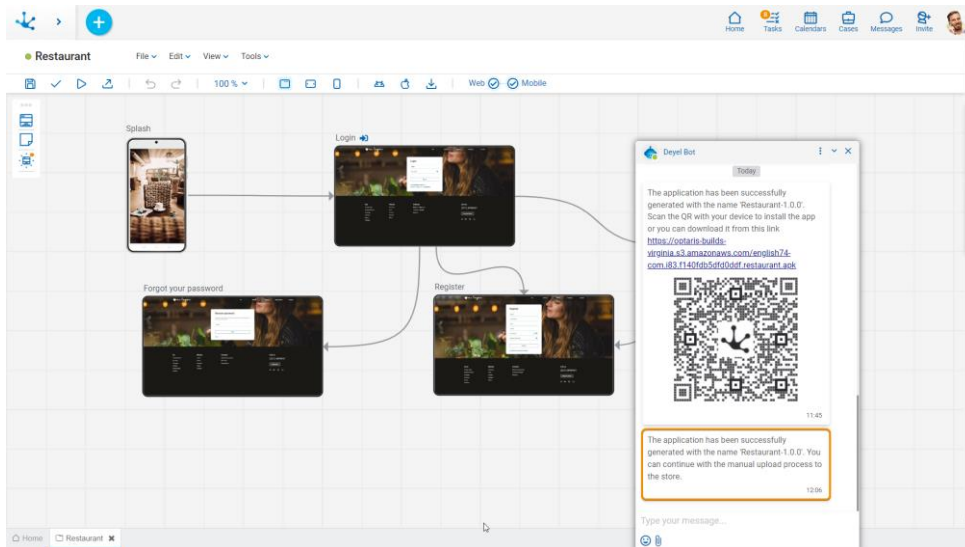
This distribution results in a file with an ".apk" extension (Android Application Package) that can be installed on any device with the Android operating system.

To get this file, it is necessary to perform the following steps:

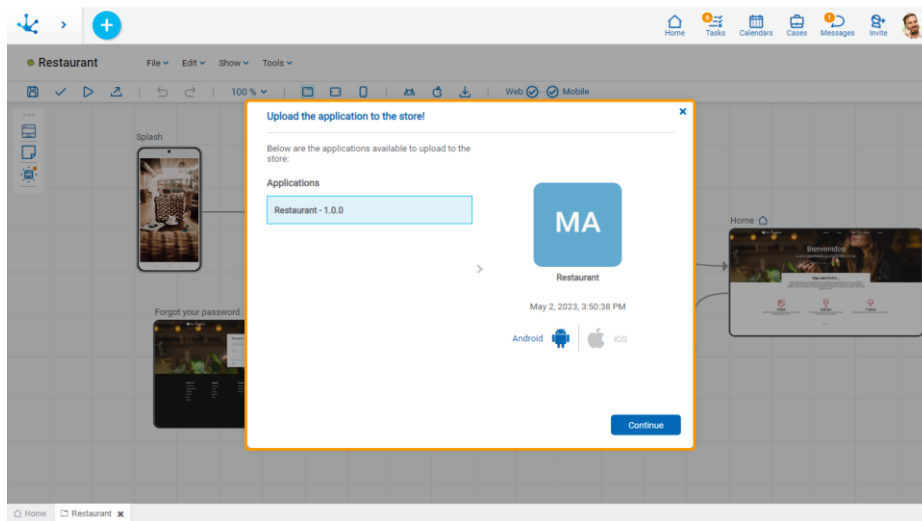
1. Open the option "[Build for Android](#)" from the expanded menu of the applications modeler and in the open panel select distribution via QR code in the Android operating system.



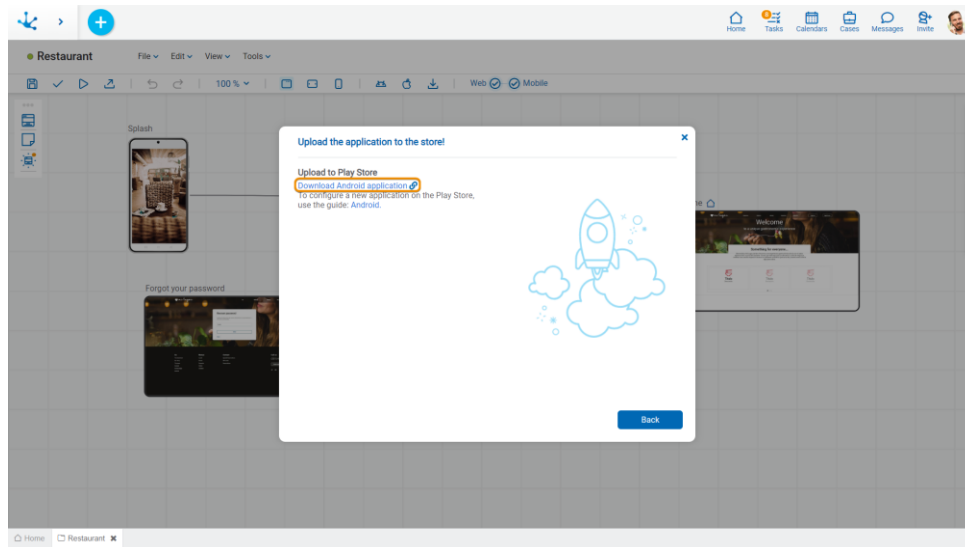
2. After a few minutes, a message from Deyel Bot is received with the result of the operation, a link to the file with an ".apk" extension and a QR code to enable installation directly from the device, using the camera or a QR code reader. Additionally, it is also possible to download from the option "[Download App](#)" from the expanded menu of the applications modeler.



3. Next, the option “[Upload to the Store](#)” should be opened from the expanded menu of the applications modeler, where the application is displayed as available for selection. Select the application and click on the “Continue” button.



4. In the next panel, the “Download application for Android” option must be selected to advance and the result is a file with an “.aab” extension that must be used to upload to the store.



5. The application is ready to be uploaded to Google Play. The procedure to configure a new application and upload the file with the ".aab" extension (Android App Bundle) just downloaded is described in the [Google guide](#) for uploading an application.

3.7.3.3.2. iOS Applications

This topic details the tasks that must be performed to complete the distribution of mobile applications on devices with the iOS operating system.

For these tasks it is important to know the following concepts:

- AppleID
Unique identifier for the Apple developer account. This account is obtained by making a subscription to Apple as detailed in the following steps.
- Apple team identifier
Identifier that refers to certificates and profiles defined in the Apple developer account.
- Password for Apple services
Password used to upload the application to the store.
- Google-services
File that allows interacting with Google services that are used in the mobile application.

Data Collection for Signature

Signatures are used to validate the integrity and authenticity of a mobile application. The app store and each mobile device use the signature to perform this validation.

Certificates identify who has signed an application or wants to use a service. They have a code signature to assure the user that an application comes from a reliable source and has not been modified since the certificate was requested.

Provisioning profiles authorize the application to use certain services and ensure that the developer is known, that is, develops, uploads, or distributes the application.

To obtain the certificate and provisioning profile, the [guide to get the signature for iOS applications](#) must be followed.

Configuration of the Properties of Deyel Environment

To distribute signed applications, it is necessary to complete the [properties of the Deyel environment](#) with the values previously obtained in the previous step.

- Apple ID: Email registered to the Apple membership, which is used as the Apple ID identifier to access the developer account control panel.
- Apple team identifier: Apple team identifier obtained in the membership detail section.
- Password for Apple services: Password received for Apple services.
- Apple Certificate: When downloading the certificate from the Apple developer panel, it has a ".cer" extension and it should be converted to ".p12" format before configuring this environment property.

- In the command line interface, convert it to a file with extension ".p12" as follows:

- Change the iOS certificate format to a file with extension ".pem".

```
openssl x509 -inform DER -outform PEM -in distribution.cer -out distribution.cer.pem
```

where "distribution.cer" is the name of the certificate and "distribution.cer.pem" is the name of the resulting file.

- Convert file extension ".pem" to ".p12".

```
openssl pkcs12 -export -inkey keyname.key -in distribution.cer.pem -out distribution.p12
```

where "distribution.cer.pem" is the file name ".pem" and "distribution.p12" is the name of the resulting file.

- The file with extension ".p12" generated must be converted to base64 format. The conversion can be done using online converters, for example <https://base64.guru/>.

Both commands must be executed in the same directory where the private key was generated according to the [iOS application distribution guide](#) in the "Certificate Creation" section, step 2.a.

The password associated with the file with extension ".p12" corresponds to the one entered when executing the conversion command ".pwm" to ".p12".

Another alternative to obtain the file with extension ".p12" is to perform the conversion in https://www.leaderssl.es/tools/ssl_converter.

- Apple certificate password: Corresponds to the password of the file with extension ".p12" previously generated.

Additionally, it is necessary to complete the [provisioning profile](#) property with the file with extension ".mobileprovision", downloaded from the Apple developer panel, according to the instructions given in the previous section "Obtaining Data for the Signature". This file must be different depending on whether it is to be distributed via QR code or via the application store.

If an application has been modeled to allow using the notifications functionality "Push", it is necessary to ensure that the previously downloaded file in the property "[Enable Push Applications](#)" is configured according to the [iOS application distribution guide](#), at the "Obtaining the Google Services File" section.

Distribution of the Mobile Application

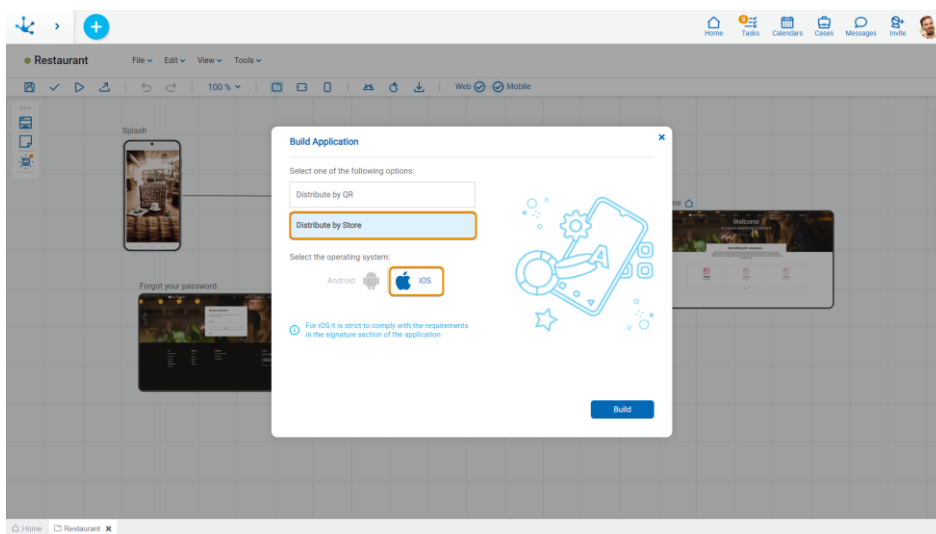
The distribution of the mobile application can be done via QR code and through the application store, each with different characteristics.

Distribution via QR Code

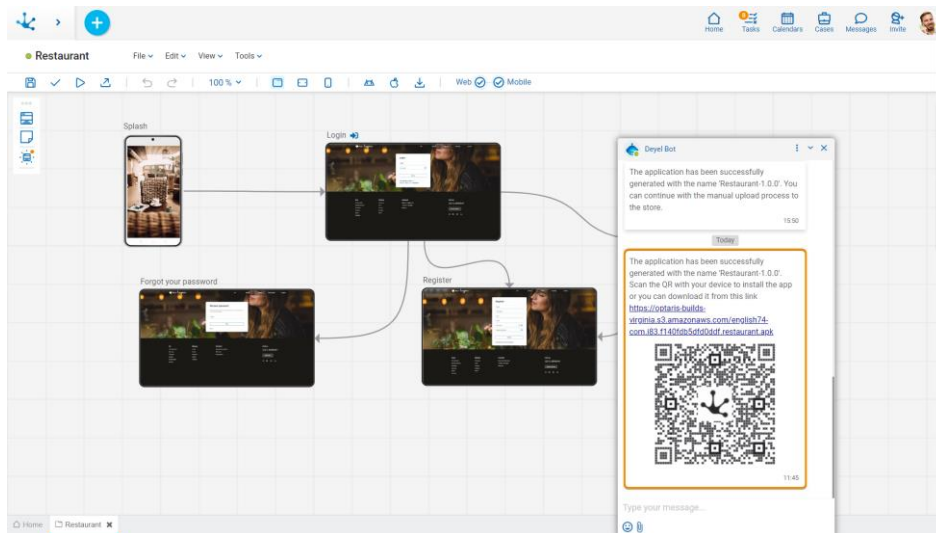
This distribution results in a file with an ".ipa" extension (iOS AppStore Package) that can only be installed on a device with the iOS operating system that has been registered in the Apple developer panel, according to the [iOS application distribution guide](#), in step 6 of section "Provisioning Profile Creation".

Once the data for the signature has been obtained and the properties of the **Deyel** environment have been configured, it is necessary to perform the following steps to create the file with extension ".ipa":

1. Select the option "[Build for iOS](#)" from the expanded menu of the applications modeler and in the open panel select distribution via QR code in the iOS operating system.



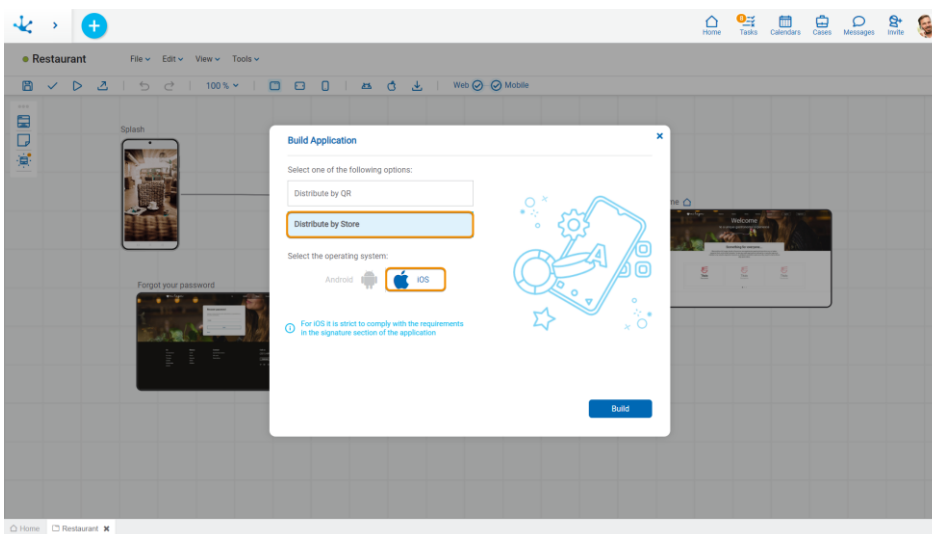
2. After a few minutes, a message from Deyel Bot is received with the result of the operation, a link to a Safari website to download the file with the ".ipa" extension and a QR code to enable installation directly from the device, using the camera or a QR code reader. Additionally, it is also possible to download from the option "[Download App](#)" from the expanded menu of the applications modeler.



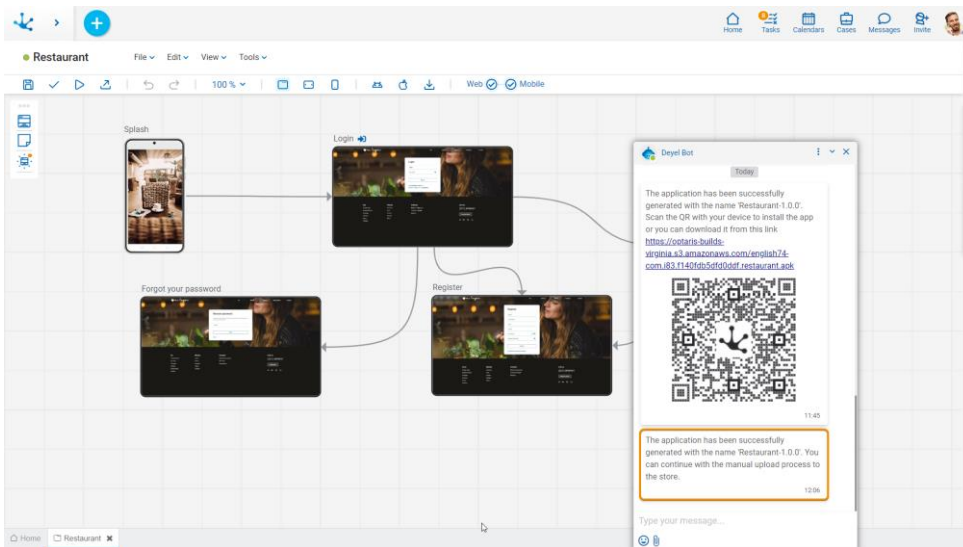
Distribute via Store

Once the data for the signature has been obtained and the properties of the **Deyel** environment have been configured, the following steps must be carried out to upload to "App Store Connect", which is the platform that administrates the applications that reach the Apple Store:

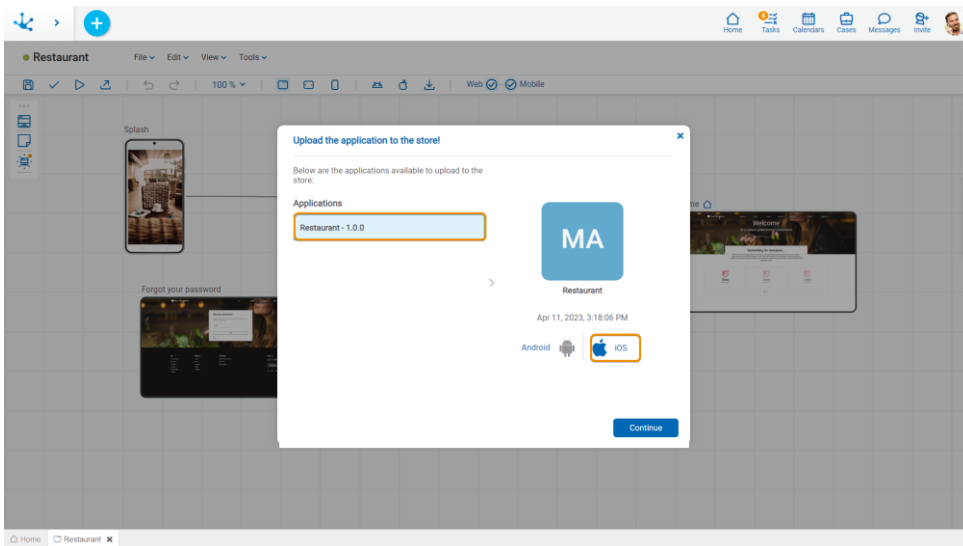
1. Select the option "[Build for IOS](#)" from the expanded menu of the applications modeler and in the open panel select distribution via store in the iOS operating system.



2. After a few minutes, a message from Deyel Bot with the result of the operation is received.



3. Next, the option "[Upload to the Store](#)" should be opened from the expanded menu of the applications modeler, where the application is displayed as available for selection. Select the application and click on the "Continue" button.



4. As a result, the application was uploaded to "App Store Connect". To finish uploading to the App Store, the manual steps described in the [iOS application distribution guide](#), in section "Distribution through Store" must be performed .

3.7.3.4. Best Practices

The best practices for the [applications modeling](#) in **Deyel** consist of a set of recommendations, to be met whenever possible.

They allow to build clearer and more understandable applications models.

Below are some best practices that should be considered in the construction of pages, oriented to the information contained in them, to the way of exposing it in relation to the users for whom it is intended, to the type of application or breakpoints that are selected, to the design patterns that define the user interface and the visual consistency of the pages.

Information contained in the applications

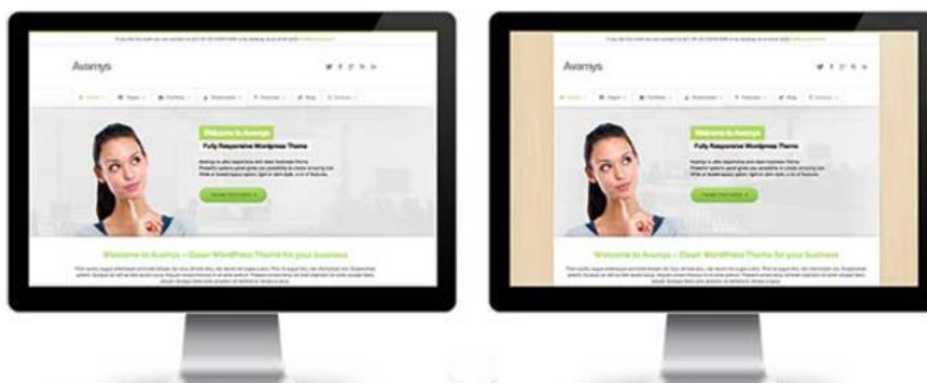
- Define the structure, hierarchies, elements that compose the user interface.
- Determine what message you want to convey.

Users for whom the applications are intended

- Define what type of users we are targeting.
- Consider this characteristic to establish the aesthetics to model.

Selection of application type and breakpoints

- Before starting to model applications, you must define what type of [application](#) you are going to created, if it is web or mobile.
- After defining the type of application, it must be determined which breakpoints are to be considered. If it is mobile, the tablet and mobile breakpoints must be considered, while if it is web, all three breakpoints must be considered.
- In the case of the desktop breakpoint, you must decide whether to work as full width or maximum width. This means that you must define whether you want the [page](#) to grow to the full width or limit the width to a certain measurement that is established.



3.7.4. Processes Modeling

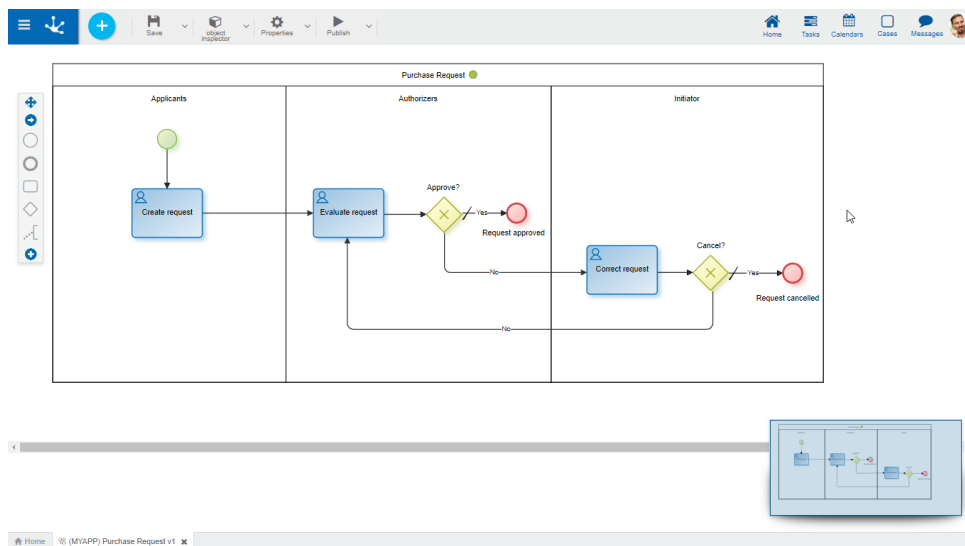


[Processes Modeling](#)

The process modeler from **Deyel** is a tool which allows modelers to design business processes in a collaborative work environment, using symbols from **BPMN 2.0** (Business Process Model and Notation)

By using this intuitive tool, the different business units can visualize the processes that are carried out within an organization and easily understand them.

When creating a [new process](#) or opening one already defined, it is allowed the access to a design space where the business process can be defined. Once it is finished, the process can be published and is available for use within the organization.



The general characteristics of the processes modeling environment and the main elements that compose it, are described in the topics:

- [Modeling Facilities](#)
- [Graphic Elements](#)

3.7.4.1. Modeling Facilities



[Process Modeling> Introduction to process modeler](#)



[Process Modeling> Modeling a process from a template](#)

General characteristics of this modeler are specified below.

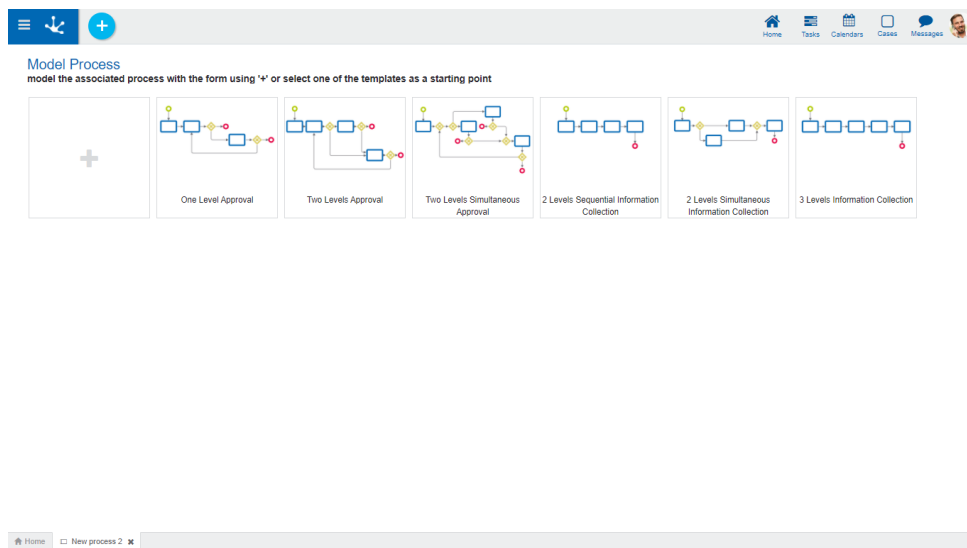
New Process

The modeler user can design new processes which, after being defined and published, can be used both by applications modeled in **Deyel** and by any other application.

In the same workspace and by using concepts from **BPMN 2.0** (Business Process Model and Notation), it can be simply modeled in an intuitive environment:


- The process diagram with its activities, interconnections, events, time, alerts and actors involved, in a way that allows interaction with the business user and that they easily understand the process scope.
- Business rules which define the behavior of each of the diagram elements, as well as the validations, automatic actions for sending messages and integration with other applications.

Steps for Creating a New Process



Step 1: Open the Assistant with Templates

A new process can be created from the icon  corresponding to the [context menu](#).

- From the icon 
- From the drop down menu with option "Process"

In both cases, an assistant is opened which allows to define the new process by selecting one of the [predefined templates](#) to base on, or starting from an empty design area.

Step 2: Enter the Templates Properties

The properties are grouped in containers.

Basic Information

Presents information common to all processes.

Name of the Process

The modeler should enter the name of the process they are creating.

Owner

User, organizational unit or role that is modeling the process, it is the responsible user of the process maintenance. The predetermined owner is the logged in user.



Opens the [profile show](#) panel.



Deletes the selected participant.



Selects an existing participant. This icon is enabled when deleting a participant.

Initiator

The participant who can initiate the process, it can be a user, an organizational unit, a role or an agent. For a participant to start a process, it must be published. The predetermined initiator is the agent All users.



Opens a "New Participant" window to define a new role.



Opens the [profile show](#) panel.



Deletes the selected participant.



Selects an existing participant. This icon is enabled when deleting a participant.

Participants

This container is only visualized if the new process is defined from a predefined template. The participants in the container depend on the type of template that has been selected. If an authorization template is selected, authorizing users will be displayed, while if a data collection template is selected, participating areas will be displayed. The predetermined value for the participants is the logged in user.

As many participants as there are actors in the selected template are defined. For each of the participants, a specific user can be selected, as well as an organizational unit, a role or an agent.



Opens a window to define a new role.



Opens the [profile show](#) panel.



Deletes the selected participant.

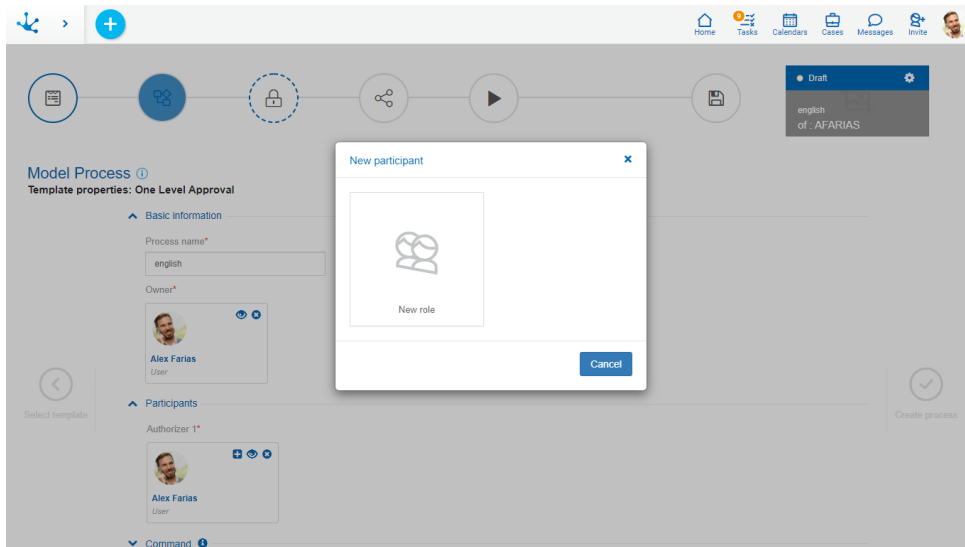


Selects an existing participant. This icon is enabled when deleting a participant.

New Participant

New Role

Allows to enter the name of the new role and the users that make it up.



Commands

A process can be used as a command, in such case the following properties must be completed.

Start from Chat

Indicates if a user can initiate the process from a conversation. If such property is checked the following must be completed:

Command Name

Allows to enter the command name with which the process can be initiated from a conversation.

Define New Assistant

Indicates if a new [chatbot](#) is defined or if an existing one is selected. By default the user can visualize the property [Select Assistant Bot](#).

Assistant Bot Name

If the property [Define New Assistant](#) is checked, the name of it must be indicated.

Select Assistant Bot

If the property [Define New Assistant](#) is not checked, there must be a selection for which chatbot has the command.

Step 3: Close Properties Panel



Select Template

The user can return to the templates assistant to select a new one.



Create Process

The user moves on to the process workspace and depending on the option selected in the assistant, the graphic modeling area is displayed with a different content:

- With the process diagram corresponding to the selected template.
- With the minimal graphic elements so that a process can be saved, if none of the predefined templates have been selected.

Workspace Sections

- [Top Toolbar](#)
- [Graphic Modeling Area](#)
- [Side Toolbar](#)

3.7.4.1.1. Predefined Templates

Deyel provides a collection of standard process templates applicable to any organization. The modeler user of **Deyel** can select the template that best suits their needs to start modeling a new process immediately.

Besides, modifications deemed necessary to the process generated from the selected template can be added, as well as the definition of participants of each activity and the conditions that determine the data flow and its visibility.

According to the characteristics of the process they model, templates can be classified into groups.

Approval Process Templates

They model conditional branching situations, such as requests that are approved or sent for correction by the requestor.

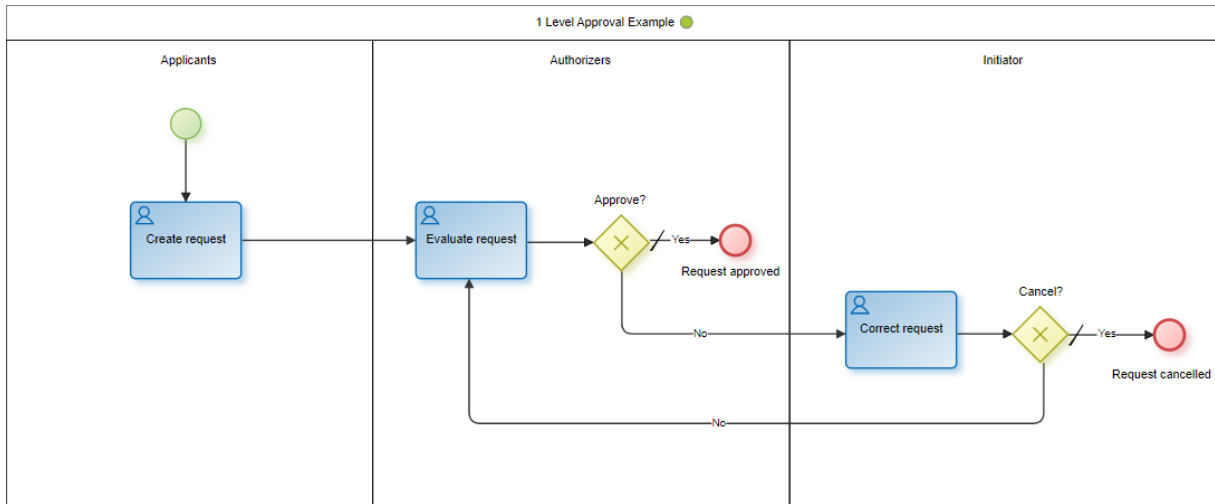
These templates are suitable for defining vacation request processes, expense reimbursement requests or absence from work notice, among others.

When executing the process, business users display the buttons corresponding to the available actions in each activity, such as "Approve", "Correct", "Deny" or "Cancel".

1 Level Approval

This template is used to implement processes that consider a single approval activity.

It allows users or organization areas, called "Applicants", to enter a request and send it for evaluation to other users or areas called "Authorizers". If the form is approved, the process ends, otherwise the form is sent back to the person who started the process to correct it and send it again for re-evaluation, or to cancel it outright.

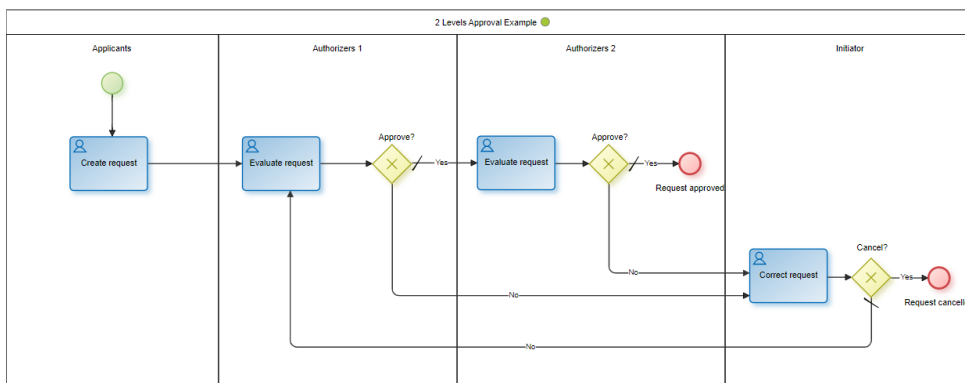


2 Levels Approval

This template is used to define processes with 2 sequential approval activities.

Adds an approval level to the template explained in "1 Level Approval", that is, after the application is approved by the "Authorizers 1" level, it goes to the "Authorizers 2" level for evaluation. If the form is not approved in any of the authorization levels, it is sent back to the person who started the process to correct it and send it again for re-evaluation, or to cancel it outright.

These templates can be used to define authorization processes in organizations with different responsible persons for each approval level.

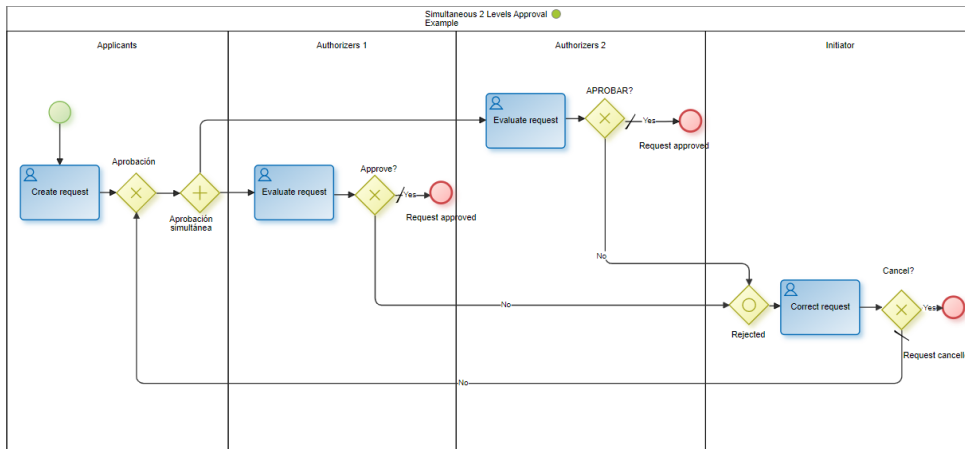


Simultaneous 2 Levels Approval

This template is used to define processes with 2 parallel approval activities.

It has two levels of approval as well as the template explained in "2 Levels Approval". Once the application is created it must be evaluated by the "Authorizers 1" level and the "Authorizers 2" level for approval, regardless of the order in which it is authorized. The case is finished only after having both approvals. If the form is not approved in any of the authorization levels, it is sent back to the person who started the process to correct it and send it again for re-evaluation, or to cancel it outright.

These templates can be used to define authorization processes in organizations with different responsible persons for each approval level and where the approval sequence is not relevant .



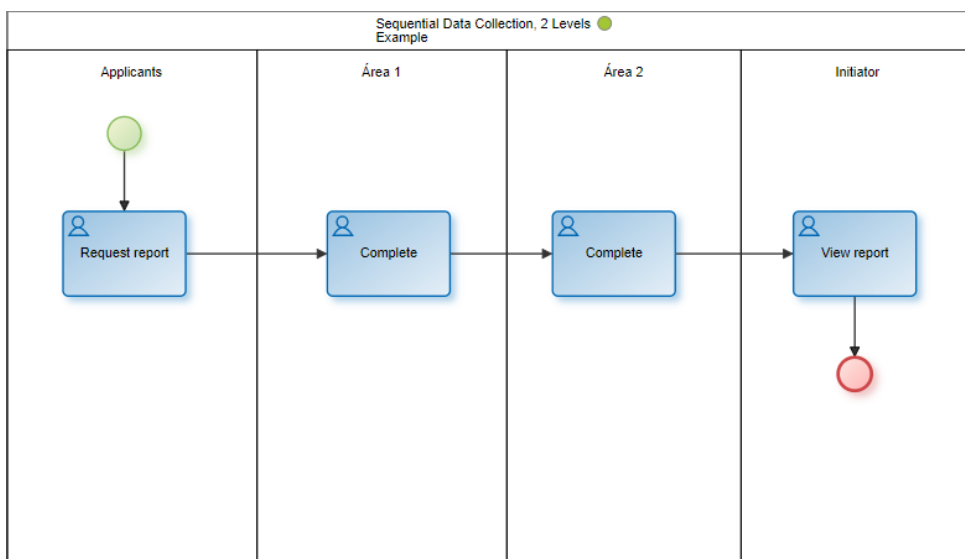
Data Collection Process Templates

They model processes where different business or office users, or the same but at different times, update the information of a case.

These templates can be used to define processes for hiring requirements, password generation, quote requirements, content publication, among others.

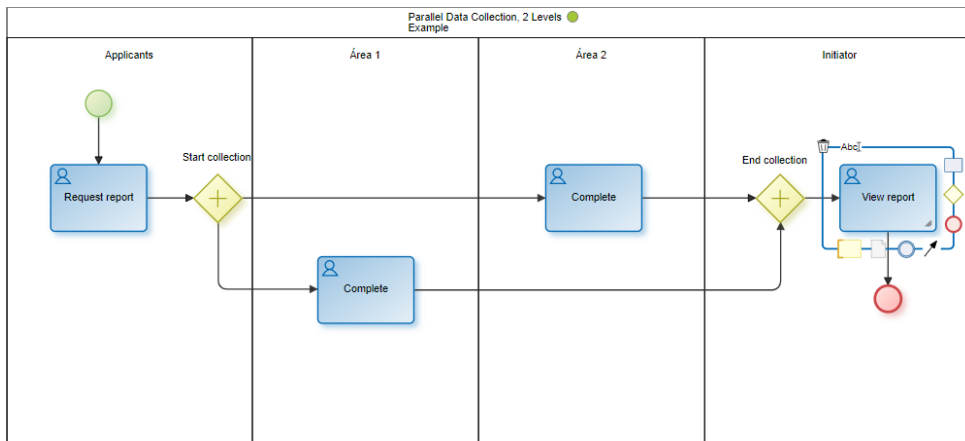
Sequential Data Collection, 2 Levels

This template is used to define processes that collect data in 2 different stages. It can involve more than one business or office user and the request is ultimately forwarded to whoever started the process.



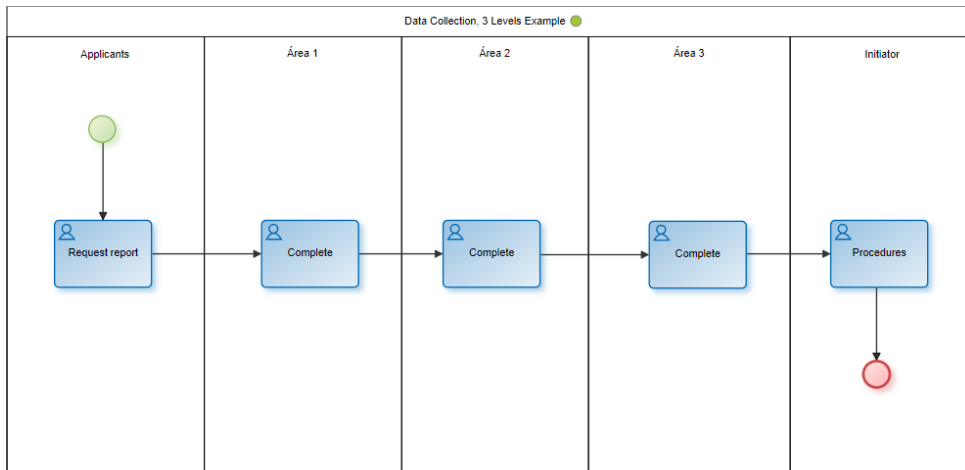
Parallel Data Collection, 2 Levels

This template is used to define processes that collect data in 2 different areas, regardless of the order in which they are performed. It can involve more than one business or office user and the request is ultimately forwarded to whoever started the process.



Data Collection, 3 Levels

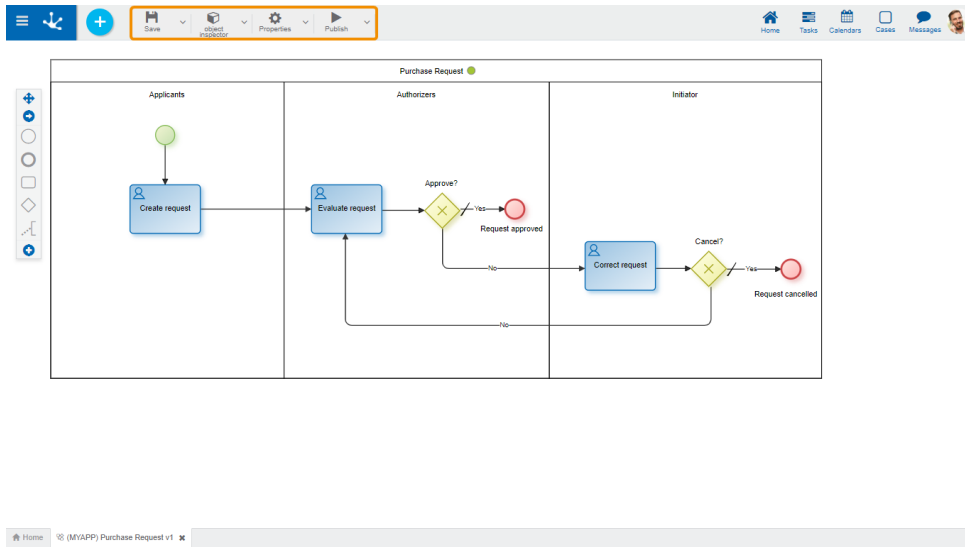
This template is used to define processes that collect data in 3 different stages. It can involve more than one business or office user and the request is ultimately forwarded to whoever started the process.



3.7.4.1.2. Top Toolbar

This toolbar contains icons and submenus from which you can perform operations on the object. Depending on its [state](#), some options may be disabled.

The bar is displayed on the toolbar of **Deyel**.



Save

This icon allows to save the object in the repository of **Deyel**, leaving its state as "Draft" or "Modified". If certain conditions are met, the modeler user receives a message indicating that the operation was performed correctly, otherwise they receive an explanatory message.

Main Conditions

- The object's application must exist.
- The name must be unique in the application.
- The object must not be locked by other user.

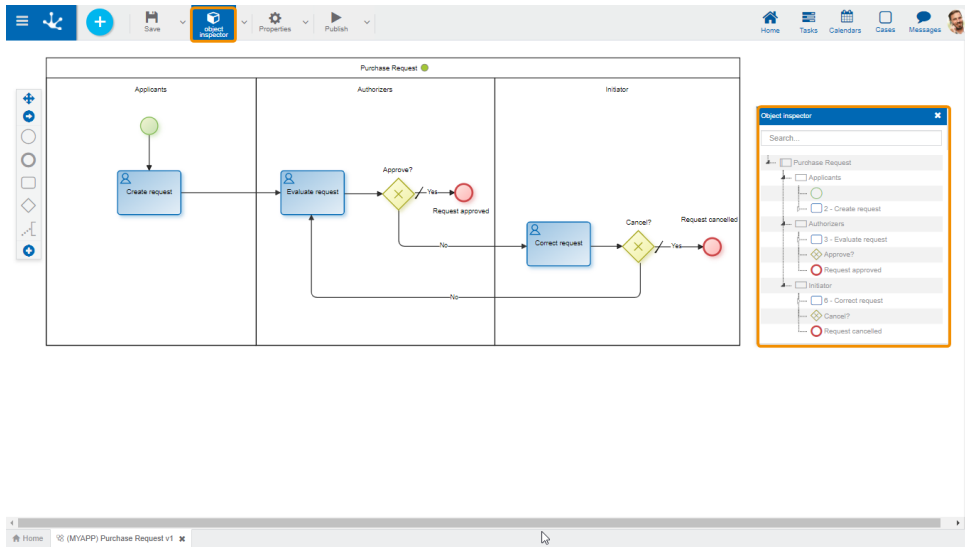
To the right of the icon it is displayed the option of opening the [submenu](#).



Object Inspector

When pressing this icon, a panel is displayed in which all the elements of the process with tree structure are shown.

This vision facilitates the analysis and development tasks, especially in complex diagrams.



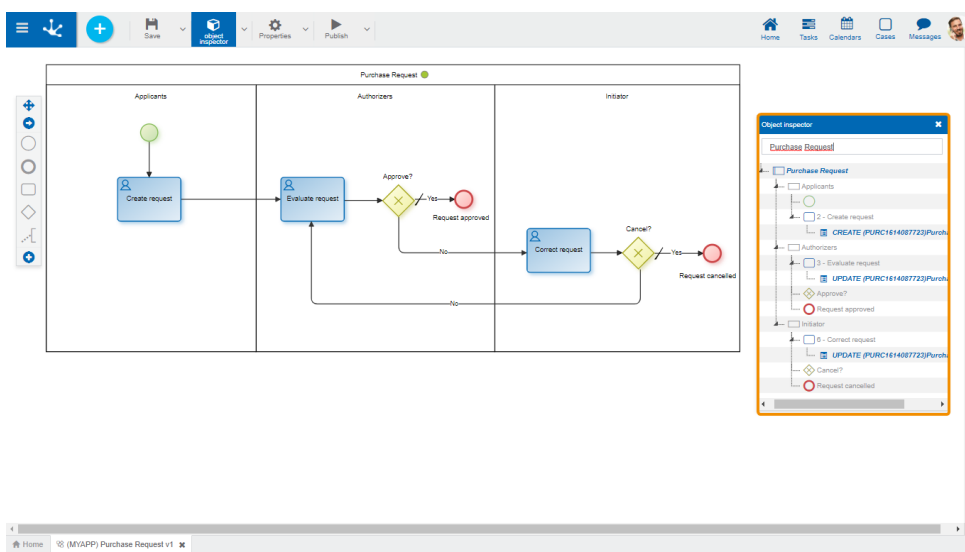
A search field is found on the top of the inspector which allows to search for elements by their names, identification codes, behaviour referred to the execution of an activity, or automatic actions already defined. Once the text has been introduced in the search field, the inspector shows the elements highlighted of the process that coincide with the inserted text.

From the object inspector, the properties panel of each element can be opened by double clicking on the name of said element.

To the right of the icon it is displayed the option of opening the [submenu](#).

Usage Example

Identify in a process all of the activities which have the form named Expenses attached to them. When introducing such text in the search area, the inspector shows the references to the form in all of the activities that use it.





Properties

Open panel of [process properties](#).

To the right of the icon it is displayed the option of opening the [submenu](#).



Publish

By means of this icon the object goes to "Published" state, after verifying a set of additional conditions to those of the "Save" operation. The modeling user receives the corresponding message, indicating the result of the operation.

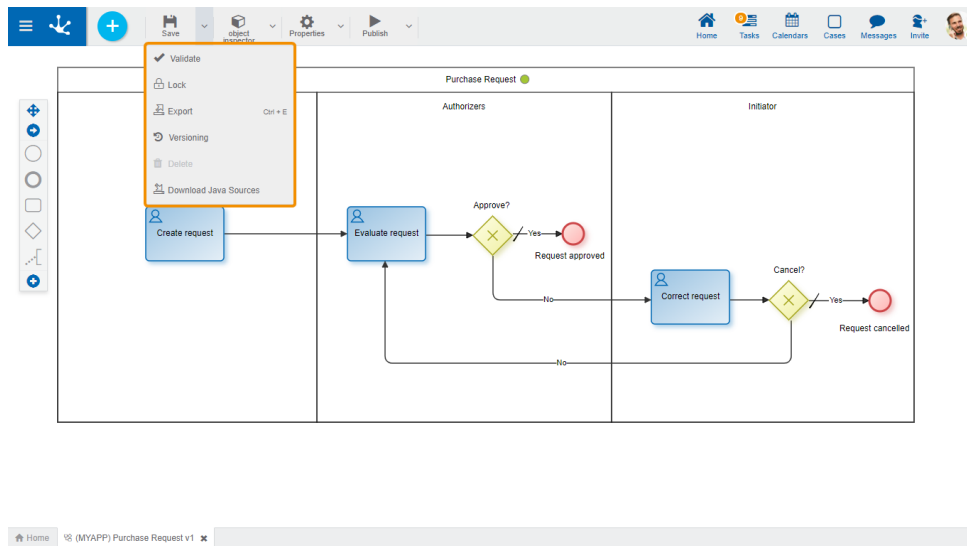
Main Conditions

- The process must contain at least one lane with an activity and a participant.
- Send task properties must contain valid values for its type.
- Maximum duration must be modeled to define alerts.
- If there are initiated cases, activities must not be deleted.
- Activities cannot have more than one output.
- Outputs of the inclusive and exclusive gateways must have condition or button.
- In tasks, subprocesses and processes the name is required.
- In tasks as "User" or "Not defined", "Execution" tab must be defined.
- For subprocesses, a subprocess should be selected.
- For processes, the modeling participant is required.
- If an executing agent from a given activity is chosen in the lane, an activity must be defined for the participant.
- If an agent is chosen based on the form field in the lane, a form field must be defined for the participant.

To the right of the icon it is displayed the option of opening the [submenu](#).

3.7.4.1.2.1. Save Submenu

This submenu is opened by pressing the icon immediately to the right of the icon corresponding to "Save".



✔ Validate

This icon allows to validate if the object is ready to be published, that is, the same validations are carried out as when [publishing](#) and the result of them is reported.

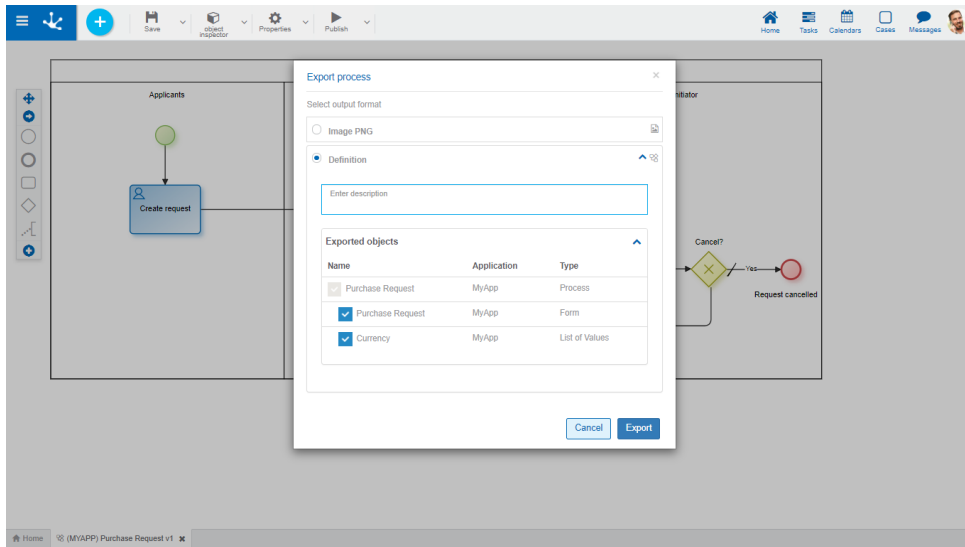
🔒 / 🔓 Lock/Unlock

A process diagram can only be modified by users, organizational units or roles defined as owner in the [process properties](#).

- 🔒 Allows blocking a process diagram to ensure that no one can modify it until the person who is using it unlocks it, that is, releases it.
- 🔓 Allows to unlock a process so that another user, organizational unit or role, defined as owner can modify it.

📄 Export

This icon opens a window for the user to select and confirm the export of the object and the related objects included in it.



Export Formats

PNG Image

A file with a png extension is generated, with the image of the process selected area.

Definition

It is the default export format for all objects.

Description

In this property a text explaining the reason for the operation can be entered.

This text can be modified upon import and is displayed in the description column of the [export record](#).

Exported Objects

Expanding the container, name, application and type of the objects related to the export process are displayed. Objects not meant to be exported are unchecked.

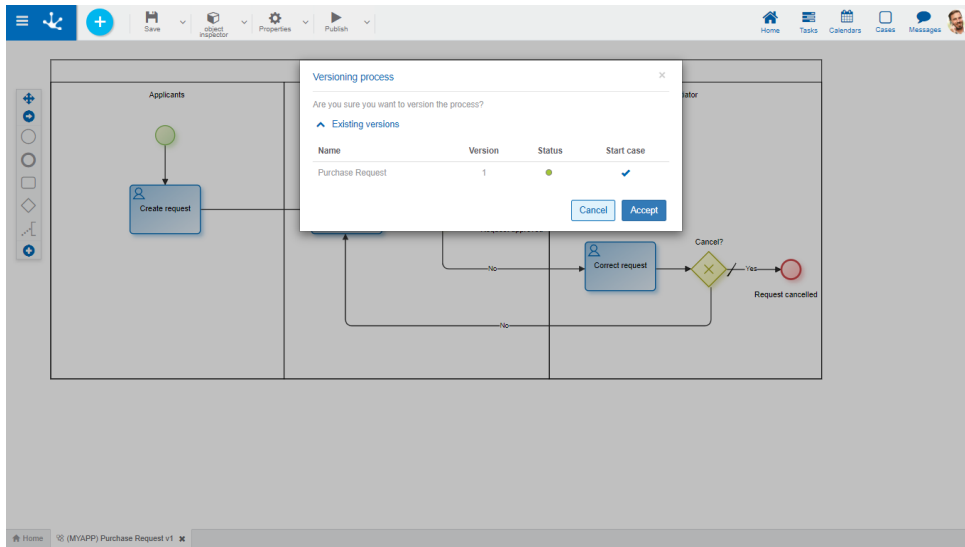
- Forms related to the process. If there are [value lists](#) associated with fields, their definitions are also included.
- Advanced rules used in [automatic actions](#), in fields, from the "[Relation](#)" tab of the field properties or included in [embedded rules](#).

Forms representing related entities are not included.

Press the "Cancel" button to undo export or the "Export" button to finish.

Version

Allows the user to version the process, display the previous versions and show them. By hovering over each previous version, an "Open" button is available to open that version.



Existing Versions

Name

Name of the process being modeled.

Version

Number of each existing version.

States

State of each existing version.

Starts Case

Indicates the version to start cases. Only cases of a single version of the same process can start; being this the latest version that is in the "Published" or "Modified" state.

Press the "Cancel" button to cancel this versioning or press the "Accept" button to generate a new version from the previous one, that is, to generate a process whose version number immediately follows the current version.



Delete

Allows to delete the object only if it is in "Draft" [state](#), closing the tab in which it is located and deleting it from the modeler's grid.



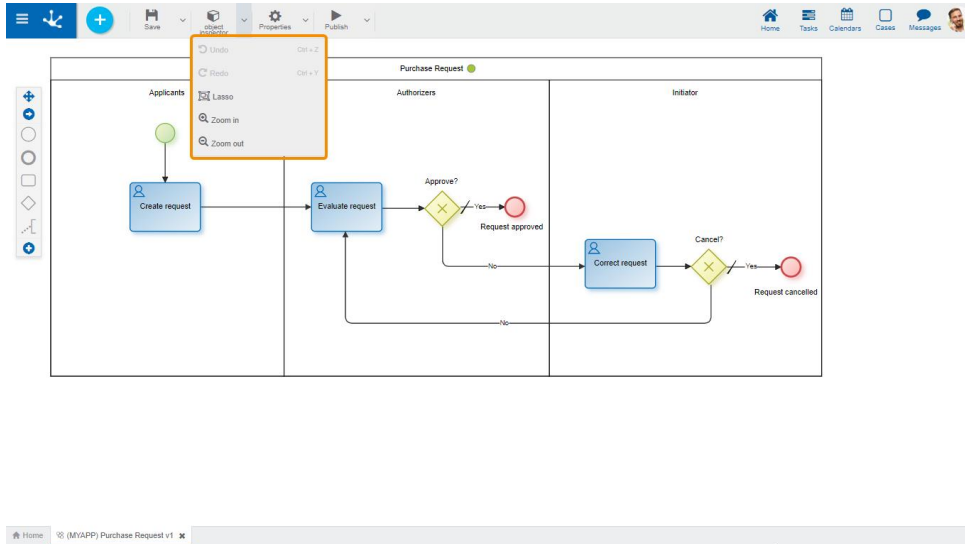
Download Java Fonts

This icon allows to download the Java files that represent the object's model and service, so that it can be used in advanced rules.

Pressing the icon displays a message to confirm file download.

3.7.4.1.2.2. Object Inspector Submenu

This submenu is opened by pressing the icon immediately to the right of the icon corresponding to "Object Inspector".



Undo

Returns the last modification made to the diagram. The same behavior is obtained with the keyboard combination ctrl + z.

Redo

Redoes the action on the diagram that was eliminated with the "Undo" option. The same behavior is obtained with the keyboard combination ctrl + z.

Link

Allows to select the graphic elements that are linked by pressing the right mouse button on a point in the diagram and dragging to another end without releasing. Linked figures are temporarily marked with a border and can be moved using the cursor or deleted altogether.

Increase Zoom

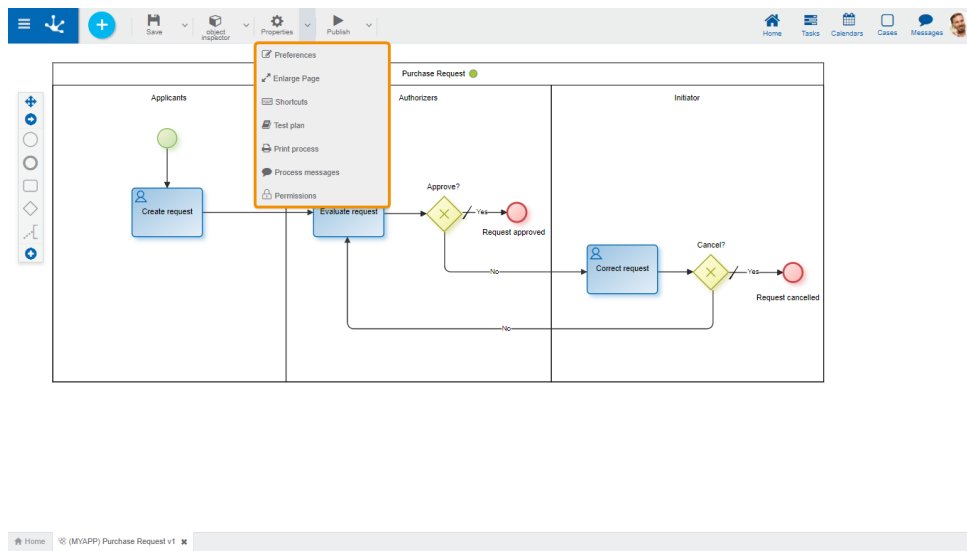
Increases the display size of the diagram.

Decrease Zoom

Decreases the display size of the diagram.

3.7.4.1.2.3. Properties Submenu

This submenu can be opened by pressing the icon immediately to the right of the icon corresponding to "Properties".



Preferences

Defines the [display preferences](#) for process modeling.

- [Show symbol identifiers](#)

Indicates whether the internal identifiers of symbols are shown in the diagram. The default value is "No".

- [Grid size](#)

Define the number of pixels used when moving symbols in the diagram, when dragging them with the mouse. The default value is "1", although "10" or "20" can be selected for larger movements of the symbols with the mouse.

- [Display Minimap](#)

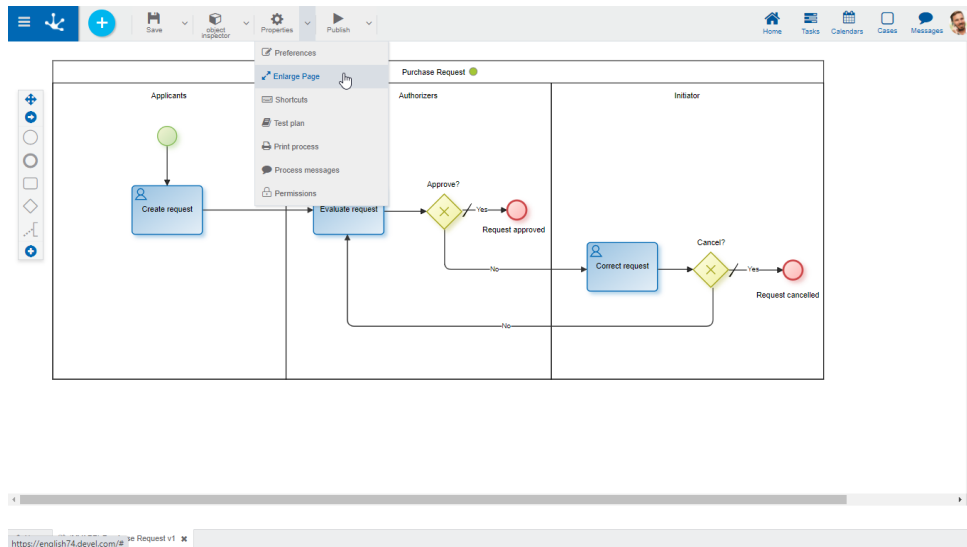
Indicates whether the thumbnail view is displayed in the lower right corner. This view consists of a small panel where the complete process is displayed.

- [Display validations on shapes](#)

Indicates whether the exclamation mark is displayed on shapes with [validation errors](#).

Enlarge Sheet

Increases the modeling area, which makes scroll bars to be displayed and the area of the diagram that is visible in the window is shaded in the thumbnail view. As scroll bars move, the shaded area scrolls in the thumbnail view.



Shortcuts

Opens a panel with all available keyboard shortcuts to use in process modeling.

Test Plan

In a new tab, it opens a panel with the grid corresponding to the test plans defined for the process. Operation buttons are available for each line of the grid. This option is enabled only when the process was saved.

Print Processes

Allows to print the process design. Opens a panel with the printing functionality for the process in a new tab. This option is enabled only when the process was saved.

Process Messages

Opens the case modelers chat window.

Permissions

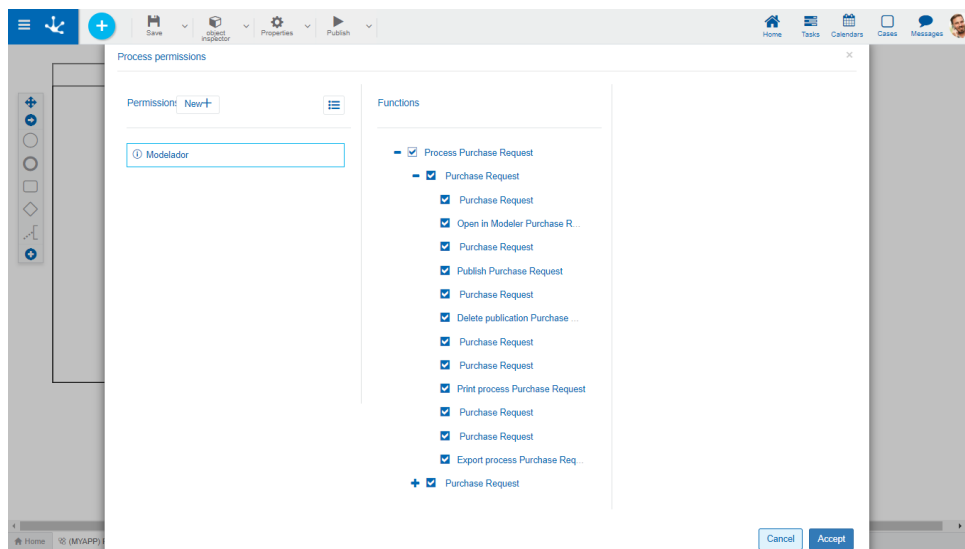
Allows to assign the [security functions](#) for use and modeling of the object to the existing permissions or to new permissions that the user creates, without having to go to the [permission](#) settings option from the menu.


Sections

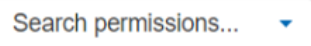
- Permissions: Permissions to which object functions are assigned.
- Security Functions: Represents the total set of security functions, modeling and use of the object. Those that are marked are the ones included in the selected permission.


By default, all security functions for a new object are assigned to the permission [Modeler](#).


Users who are assigned the permissions have access to the functions included in it.



 Opens a panel to create a new permission and once created, the security functions included in it must be selected .

 Allows to select a permission from a list and enables the input of characters to filter the values in the list.

 Opens the wizard to select a permission and once chosen, the necessary object security functions must be checked.

To unrelate a permission from the object, hover the cursor over the permission and press the icon . If there are functions selected for that permission, they must be unchecked in order to delete it.

Modeling Security Functions

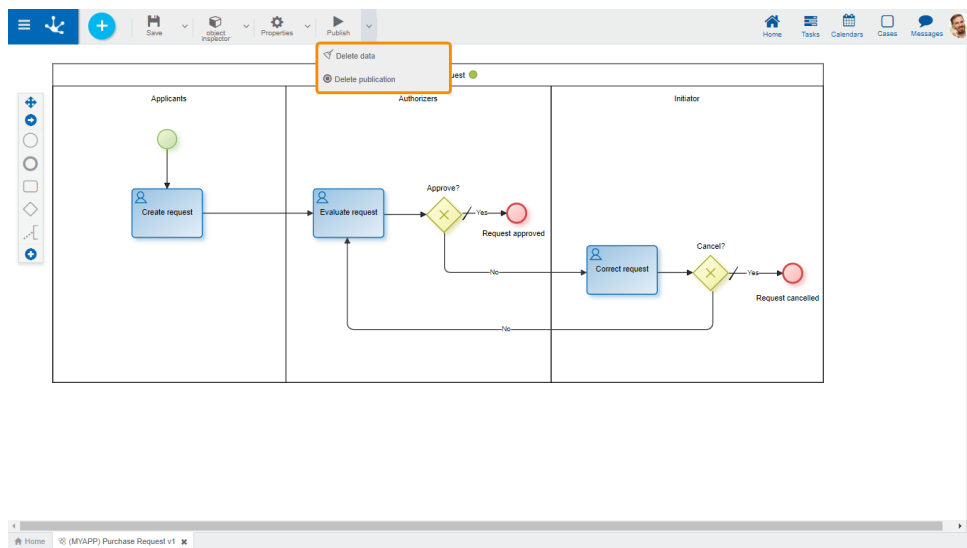
- Visibility: Allows to display the object in the Deyel modeler grid.
- Open: Allows to open the object from the Deyel modeler.
- Save: Enables the operation of saving modifications made to the object.
- Publish: Enables the operation of publishing the object leaving its state as "Published".
- Delete data: Enables the delete data operation.
- Delete publication: Enables the operation of deleting the object publication leaving its state as "Draft".
- Delete draft definition: Enables the operation of deleting the object.
- Lock/unlock: Enables the lock/unlock operation, only the user who locks it can modify it.
- Print: Enables the process print operation.
- Scenarios: Enables the operation of creating different testing scenarios.
- Test plan: Enables the operation of creating a test plan and adding scenarios to it.
- Export: Enables the operation to export the object from the tools submenu of the expanded menu.

Security Functions of Use

- Start by agent: Allows to start a process if "Initiator Restricted by Function" was defined in the first lane as a participant.

3.7.4.1.2.4. Publish Submenu

This submenu can be opened by pressing the icon immediately to the right of the icon corresponding to "Publish".




Delete Data

All cases of the process and their attached files, if any, are deleted. If each case had an associated form instance, it would also be deleted. In addition, the BAM information, cases and activities related to the process-version are deleted.

Delete Publication

Allows to delete the use process, which returns to the "Draft" [state](#) , in addition to deleting the process cases and the associated form instances, if any. The BAM information, cases and activities related to the process-version are also deleted.

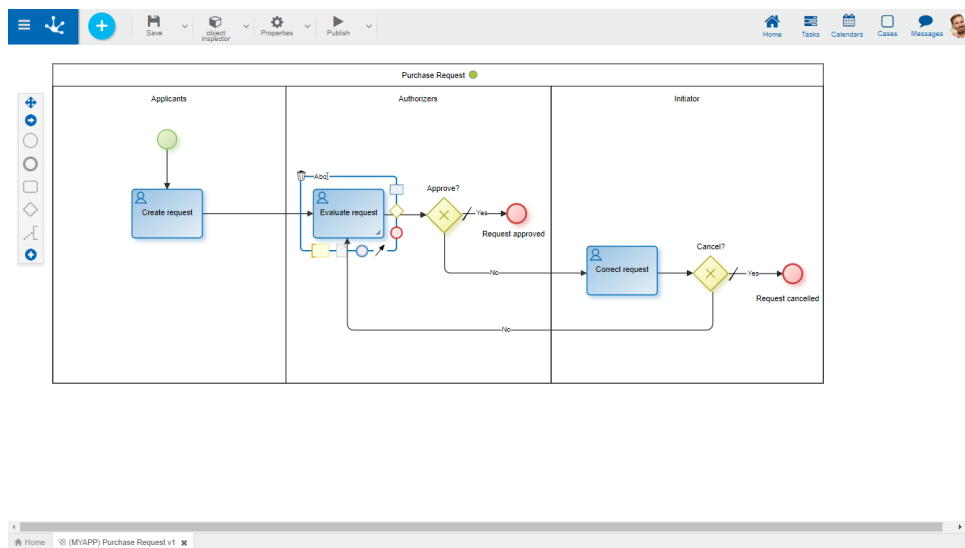
3.7.4.1.3. Graphic Modeling Area

 [Processes Modeling > Graphic Modeling Area](#)

Graphic modeling area is where processes are designed by using graphic elements from **BPMN 2.0** (Business Process Model and Notation)

Pie Menu


Circular menu which is displayed by making click on each modeled graphic element in the design area, showing the different symbols with which the selected object can connect to.



To incorporate a new connected symbol, pie menu of the graphic element selected must be opened, drag and drop the symbol to be connected on the modeling area.

Common Options






 Allows to delete the symbol

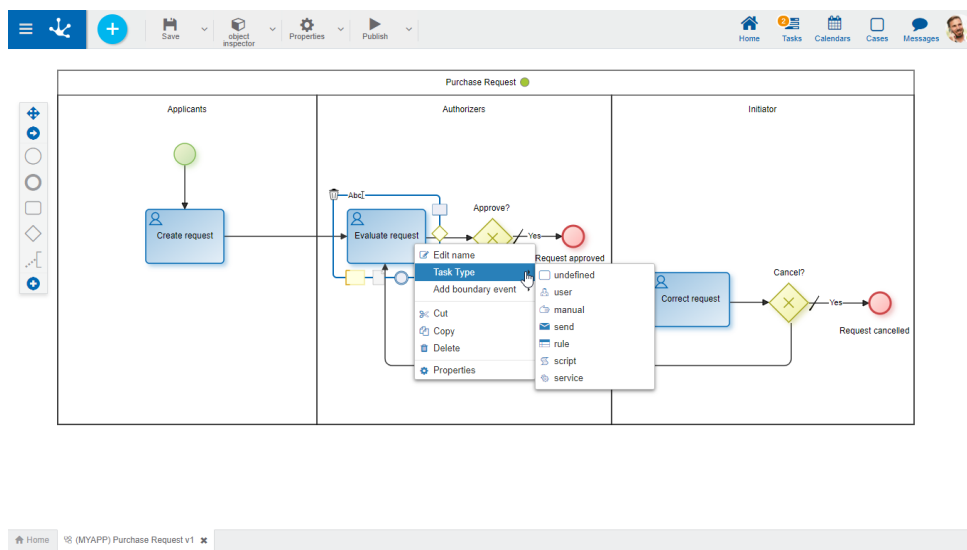
 Allows to edit the name of the symbol for its modification

Context Menu

On clicking on the selected graphic element with the right mouse button, it opens a vertical menu with its options grouped as own of the object and common to all objects, besides from an option to open the properties.

Options

- Own of the Object
 -  Edit name
 - Available types according to the object
 - Other own actions of each object
- Common to All Objects
 -  Cut
 -  Copy
 -  Delete
-  Properties
 - Opens the properties panel of the graphic element, it is the same panel that is displayed by double clicking on the symbol.



Thumbnail View


Complete image of the process which is visualized on the lower right corner of the graphic modeling area, the active work area is reflected in such image. It is visualized whenever you activate the option [Thumbnail View](#) of the option Preferences in the top toolbar.

Scrolling in the Modeling Area

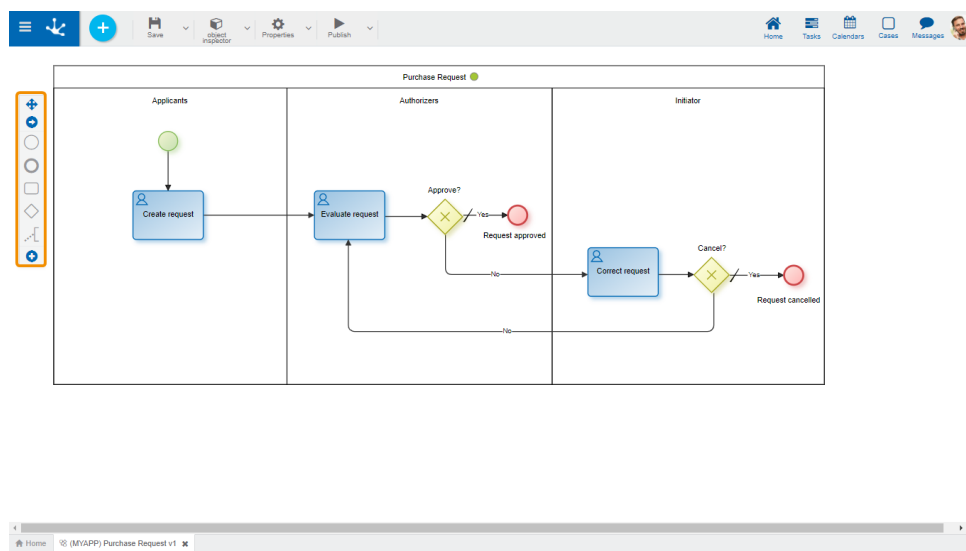
The vertical and horizontal scroll bars are used to slide the graphic modeling area, in order to allow the complete edition of the process. They are automatically activated when the diagram exceeds the size of the work window.

The modeling area can be enlarged by using the option [Enlarge Page](#) on the top toolbar.

3.7.4.1.4. Side Toolbar

 [Process Modeling > Graphic modeling area](#)

It is the toolbar that contains the graphic elements corresponding to the [different types of symbols](#) that can be defined in the process diagram, based on **BPMN2.0** (Business Process Model and Notation).



Bar Elements

Scroll Bar

Allows to move the icon bar to any position in the graphic modeling area.

Show/Hide Names

Either displays a panel to the right of the bar with the names of icons, or closes it.

Start Event

A [start event](#) indicates the beginning of a process, so they have no input flow but may have a trigger event.

Types

- Standard
- File
- Command
- Rule
- Email
- Signal
- Timer

End Event

An [end event](#) indicates the end of a process, so it has no output flows.

Types

- Standard
- Signal
- Terminal

Task

A [task](#) represents a work unit that is carried out as part of a process execution.

Gateway

An [gateway](#) represents a branch point. Gateways can be of different types.

- Exclusive without marker
- Exclusive with marker
- Inclusive
- Parallel

Annotation

An [annotation](#) allows the process modeler to add additional data, intended for the diagram reader.

Show/Hide more Shapes

Allows to display the sidebar in full or reduced form.

Subprocess

A [subprocess](#) is an activity that refers to another independently defined process.

Intermediate Event

An [intermediate event](#) indicates where events may occur between the beginning and the end of a process. They affect the process flow, but they will not start nor end a process directly.

Types

- Capture link
- Catch signal
- Throw link
- Throw signal
- Timer

Data Object

A [data object](#) represents information that flows through the process such as documents or emails.

Group

A [group](#) allows to group symbols visually.

3.7.4.2. Graphic Elements

The graphical elements of **Deyel** process modeler are based on **BPMN 2.0** (Business Process Model and Notation).

BPMN 2.0 is a standardized graphical notation that allows to model business processes in a workflow format. It provides an easy and understandable notation for all those involved in the business, whether they are business analysts (who define the processes), technical developers (responsible for implementing them) or business managers (who monitor and manage them).

BPMN 2.0 is intended to be the common language to reduce the communication gap that frequently occurs between the business process design and its implementation.

To model processes, elements must be dragged from the left palette to the selected position in the graphic modeling area and the properties of each element must be entered.

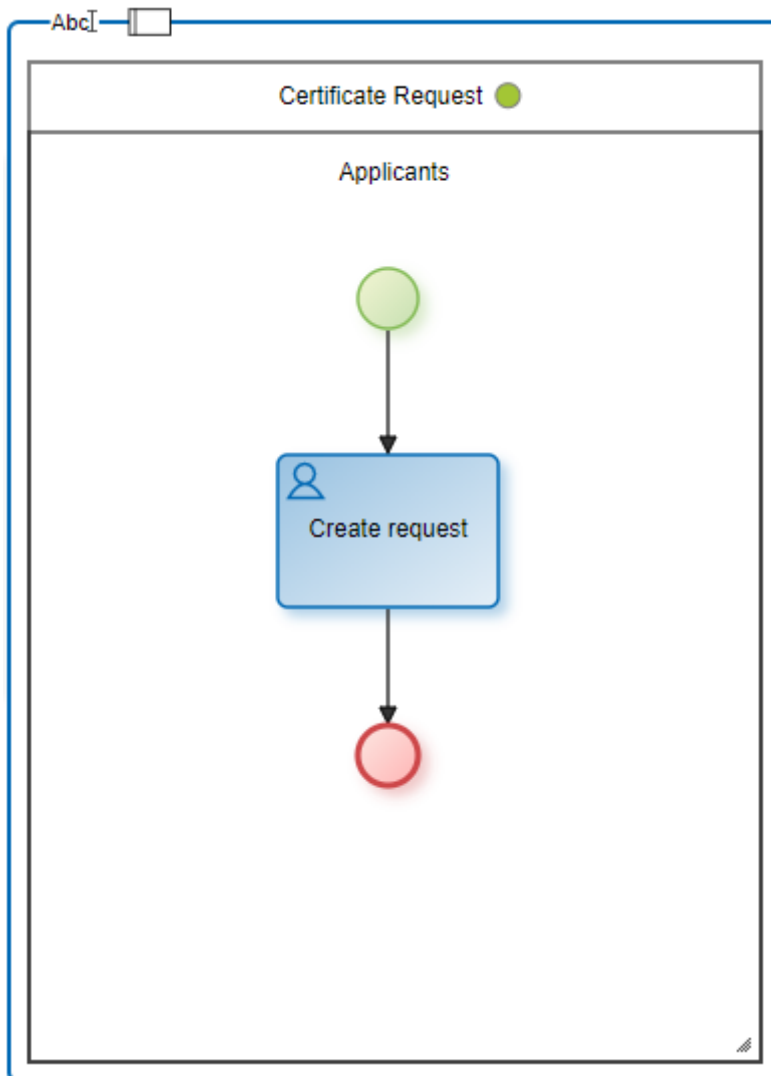
- [Pool](#)
- [Lane](#)
- [Activity](#)
- [Flow](#)
- [Event](#)
- [Gateway](#)
- [Artifact](#)

3.7.4.2.1. Pool

The pool is a graphical representation of a business process (Business Process).

"It is a set of one or more activities whose performance allows meeting a business objective, normally within an organizational structure context, which defines functional roles and relationships among them." [Workflow Management Coalition]

Pie Chart Menu



Abc

Opens an area for editing the name.

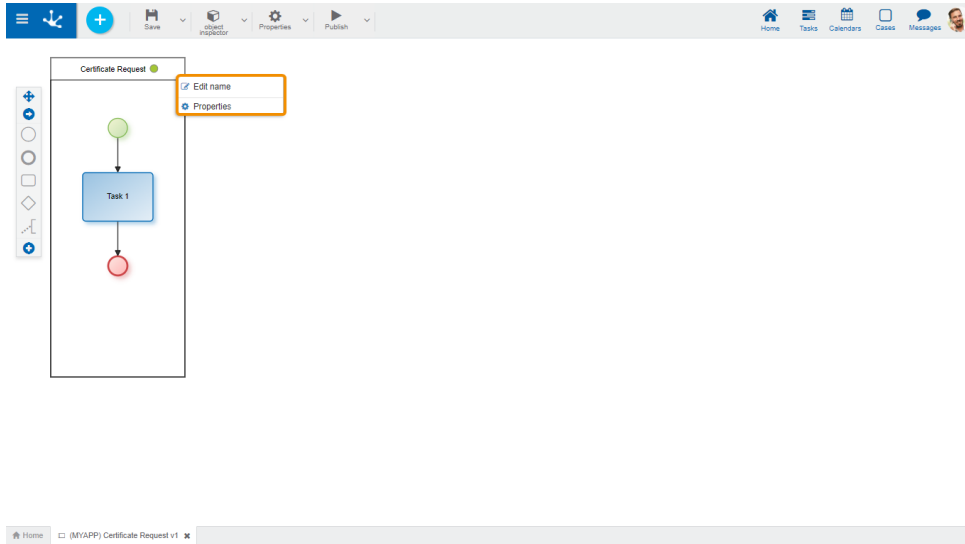



Adds a lane.

Clicking on this icon adds a lane to the right inside the pool.

Every pool must have at least one lane. When you create a process without a template, a lane is automatically generated.

Context Menu



- Edit name: Allows to edit the name. Same functionality as the icon 
- Properties: Opens the [properties](#) panel to show and/or modify.

3.7.4.2.2. Lane

Lanes allow organizing the activities of a process. Each lane represents one participant.

"The lane is a partition that is used to organize and categorize activities within a pool. It is generally used to represent internal roles (for example managers), systems (e.g. business application) or internal departments (e.g. finance)." [Workflow Management Coalition]

Types of Participants

User

The activities included in the lane are executed by a specific [user](#) or by their [delegated users](#), if any.

Organizational Unit

The activities included in the lane are executed by every user that belongs to the [organizational unit](#) informed.

Role

The activities included in the lane are executed by the actors defined within the [role](#).

Agent

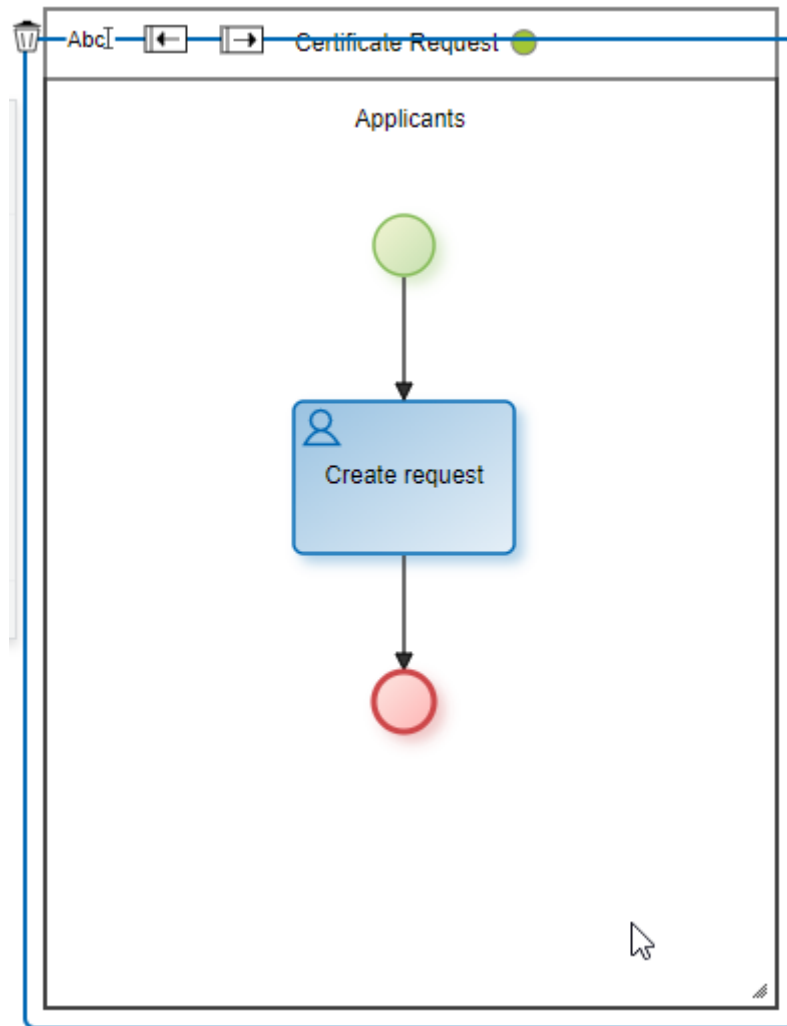
The activities included in the lane are executed by a participant who is dynamically identified when the activity is executed.

A predefined [agent](#) can be assigned as lane manager or else, define a new agent.


Lanes without Participants


If at the time of modeling a process, the persons responsible for each activity are not known, the lane may be left without an assigned participant as long as the process state is "Draft" or "Modified".

Pie Chart Menu



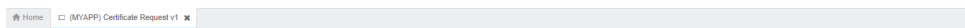
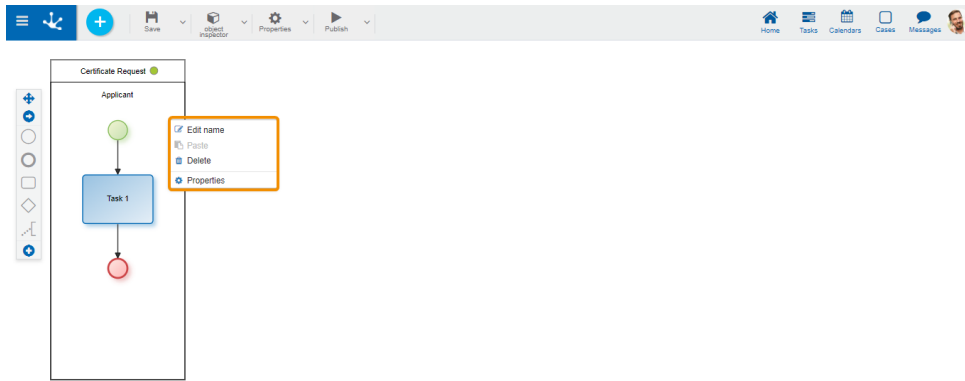
Abc Opens an area for editing the name.



 Deletes the lane.

 Add a lane to the left.


 Add a lane to the right.

Context Menu



- Edit name: Allows to edit the name. Same functionality as the icon .
- Paste: Allows to paste a previously copied graphic element into the lane.
- Delete: Allows to delete the lane. Same functionality as the icon .
- Properties: Opens the [properties](#) panel to show and/or modify.

Lane extension

When more space is required to incorporate elements into the lane, either horizontally or vertically, click on the icon  and drag the cursor until the required lane size is achieved.

3.7.4.2.3. Activity

An activity can be understood as the representation of a work unit that is carried out as part of a process execution.

"An activity is the description of a task that is a logical step within a process." [Workflow Management Coalition]



The graphic representation of this element is a rectangular image with rounded corners that contains a label with the name of the task inside it, identifying the types of activities with different icons inside.

Types

- [Tasks](#)
- [Subprocess](#)

3.7.4.2.3.1. Task

A standard activity or task is an indivisible work unit performed as part of the execution of a process.

Types

The **BPMN 2.0** notation (Business Process Model and Notation) allows to typify standard activities or tasks in such a way that the graphic element used indicates the task type it represents.

The task type definition is made in different ways:

- From the [task context menu](#), selecting the option "Task type".
- From the task property panel.



Undefined Task

Task without type.



User Task

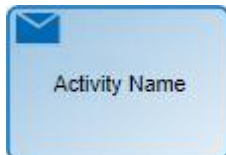
Task that needs human intervention to be performed. When an activity modeled as a user task must be executed, it is informed to the participants of the process in [My Tasks](#), in the top toolbar. It is recommended to use this notation to model all the activities in which the user has to create, modify or show a form.



Manual Task

Represents a task to be performed by the user without any application support. Only moves on to the next activity.

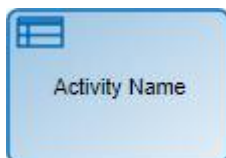
It is recommended to use this notation to model activities such as making a telephone call to the customer, paying a visit or installing audio equipment, among others.



Send Task

It is used to send a message to an external participant regarding the process. When the message has been sent, the task ends.

This task type is used to model automatic mailing tasks. They do not define user participation.



Business Rule Task

Represents a call to an [advanced rule](#), being able to exchange parameters between the task and the rule. They do not define user participation.



Script Task

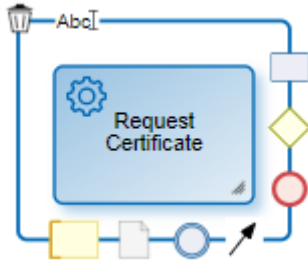
This task type only performs [automatic actions](#). They do not define user participation.



Service Task

Represents the execution of a service, automatically and without user intervention, which is carried out through the [adapters](#). This notation is recommended to model the use of a web service, an automated software component or an integration rule. They do not define user participation.

Pie Chart Menu



Abc Opens an area to edit the name.



Deletes the task.



Adds an activity.



Adds a gateway.



Adds an end event.



Adds a flow.



Adds an intermediate event.

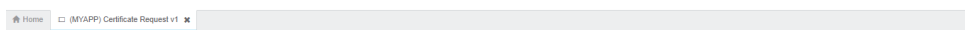
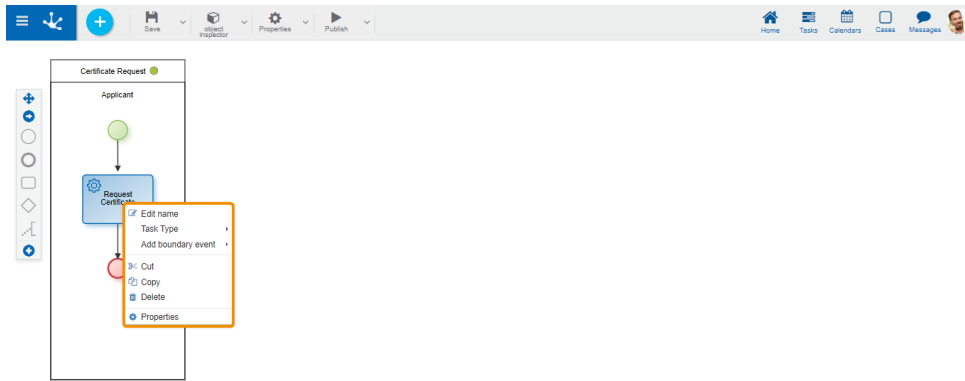



Adds a data object.



Adds a comment.

Context Menu



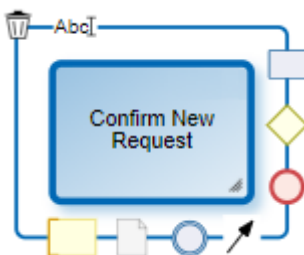
- Edit name: Edits the name inside the rectangle that represents the activity. Same functionality as the icon .
- Task type: Defines the type of task.
- Add border event: Incorporates an [border event](#) to the task.
- Cut: Deletes the selected task. It can be pasted in another process location.
- Copy: Copies the selected task. It can be pasted in another process location.
- Delete: Deletes the selected task.
- Properties: Opens the [property](#) panel to show and/or modify.


3.7.4.2.3.2. Subprocess


It is an abstract activity that represents an independently defined process. It is used to hide levels of detail in processes and allows to reuse modeled processes. For example, if different processes have a common part, it can be defined only once and be reused in each process.








Once the execution of the subprocess is complete, control returns to the process that uses it and continues with the next modeled activity.

Pie Chart Menu

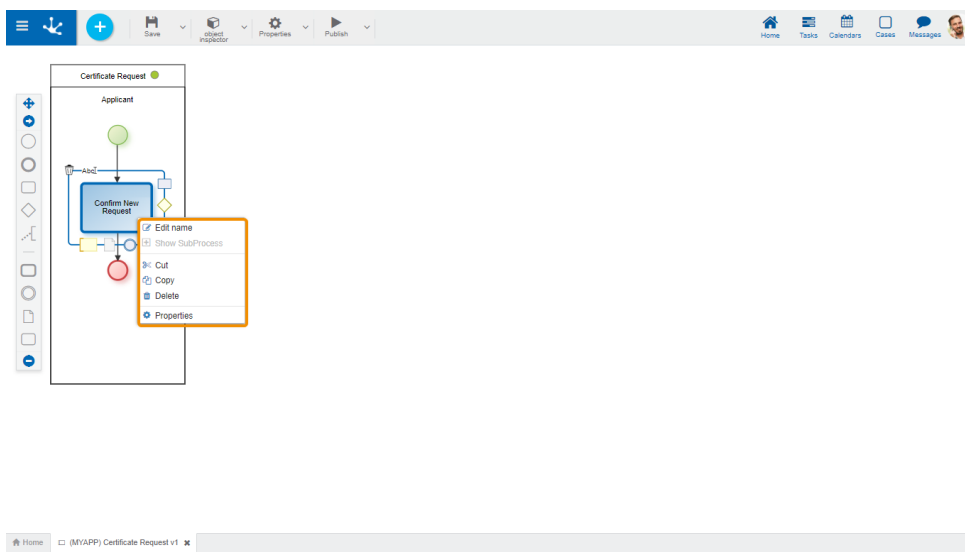



 Opens an area for editing the name.

 Deletes the subprocess.

-  Adds an activity.
-  Adds a gateway.
-  Adds an end event.
-  Adds a flow.
-  Adds an intermediate event.
-  Adds a data object.
-  Adds a comment.

Context Menu



- Edit Name: Edits the name inside the rectangle that represents the activity. Same functionality as the icon .
- Show Subprocess: Opens the subprocess in a new modeler tab.
- Cut: Deletes the selected subprocess. It can be pasted in another location.
- Copy: Copies the selected subprocess. It can be pasted in another location.
- Delete: Deletes the selected subprocess.
- Properties: Opens the [properties](#) panel to show and/or to update.

3.7.4.2.4. Flow

A flow represents the connection between an activity and its subsequent activities. Flows are used to establish the sequence in which defined activities are executed.

“Sequence flows are used to show the order in which activities are carried out within a process.”
[Workflow Management Coalition]

 Normal flow

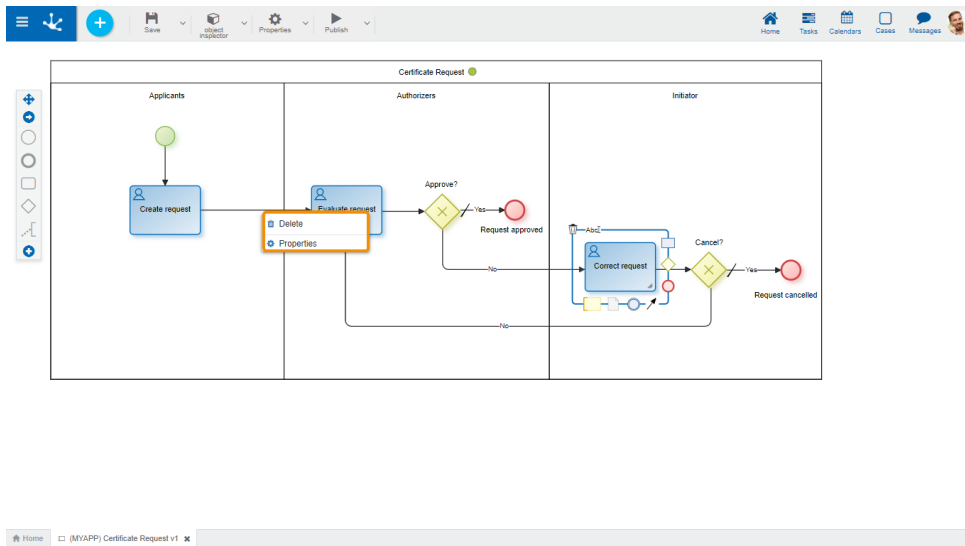
A flow can determine a required path, that is, the process has no option not to execute it nor an optional path, in which case, the subsequent activity may or may not be executed.



Default Flow

The [exclusive](#) and [inclusive gateways](#) must have a defined predetermined flow so that the process can execute its path in case none of the conditions for the output flows of the aforementioned gateways are met.

Context Menu



- Delete: Allows to eliminate the flow.
- Properties: Opens the [properties](#) panel to show and/or modify.

3.7.4.2.5. Event

An event is an fact or incident that occurs during the execution of a business process. In general, they require an action and allow a reaction.

Represents situations such as start of activities, end of activities, document change of state, message arrivals, among others.

"An event is something that happens during the course of a process. They generally have a cause and an impact." [Workflow Management Coalition]

Start events

They indicate the way in which a process is started. They have no input flow.



[Standard](#)

It does not have a trigger event, therefore it indicates that the process does not start automatically.



[Command](#)

Indicates that the process starts by executing a command from a chat window of the instant messaging of **Deyel**.

These events are used to model processes that are executed from a chat window, by means

of actionable messages if data entry or decision making is required.



[Email](#)

Indicates that the process starts when an email arrives to a certain email account, which may come from another participant, another process or other application. They are detected by scheduled tasks called EMAIL-type Event Generators.



[Timer](#)

Indicates that the process starts after a certain time cycle or on a specific date.



[File](#)

Indicates that the process starts when a new file is detected in a certain folder.



[Rule](#)

Indicates that the process starts from the execution of a certain business rule.



[Signal](#)

Indicates that the process starts each time it catches the indicated signal. The current process may not be the only receiver of the transmitted signal.

End events

Indicate the completion of the process. They have no outflow.



[Standard](#)

Indicates the completion of the process without adding any behavior.



[Signal](#)

Indicates the end of a process and sends a signal to other processes that are waiting to catch it.



[Terminal](#)

Indicates that all process activities are immediately finished when the process comes to an end. When any of the paths reaches this event, the entire process is finished.

Intermediate events

Indicate possible event occurrences that take place between the beginning and the end of a process.



[Throw Link and Catch Link](#)



These events facilitate the use of diagrams. They represent the connection of two sections of the same process distantly located in the process diagram.



[Throw Signal](#)

Used to send a signal that is received by signal catching events, whether they are initial, intermediate or final indistinctly, of the current process or of another process.



[Catch Signal](#)

Indicates that the process is waiting for the reception of a signal sent by the same process or another, in order to advance.



[Timer](#)

Acts as a mechanism that waits until a certain date or during a specified cycle.

Border event

They are intermediate events that are directly associated with an activity.

These events can be triggered only when the activity to which they are associated is being executed. The output flows of border events are called exception flows, as they are executed only if the border event is activated.

They are used in particular for managing exceptions and waiting periods with certain deadlines.

- Interrupting events

When the border event is activated, the execution of the current activity is interrupted and the process continues through the output flow of the activated border event.

They are represented by a solid line.

- Non-interrupting events

When the border event is activated, the process starts a path to treat the exception, in parallel with the normal process.

They are represented by a dashed line.



[Signal](#)

This event is waiting for the reception of a signal that can be emitted by this or another process.

[Timer](#)

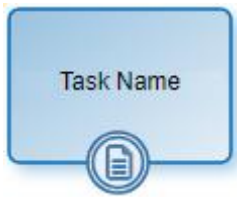
This event is activated at a specified moment or at certain time intervals.

[Rule](#)

These type of events represent the execution of a business rule. They are detected by scheduled tasks called "Component-type Event Generators".

[Email](#)

These type of events represent the arrival of an email to a certain email account. They are detected by scheduled tasks called EMAIL-type Event Generators.



File

These type of events represent the appearance of a new file in a certain folder. They are detected by scheduled tasks called "FILE-type Event Generators".

Pie Chart Menu

The options presented in the pie chart menu vary depending on whether it is a start, intermediate or end event.



Abc[] Opens an area to edit the name.



Deletes the event.



Adds an activity.



Adds a gateway.



Adds an end event.



Adds a flow.

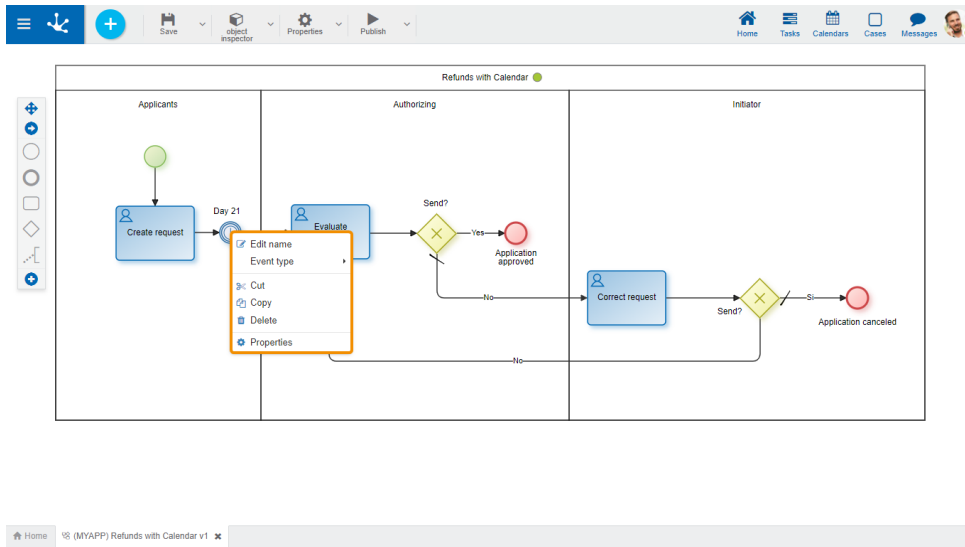


Adds an intermediate event.



Adds a comment.

Context Menu



- Edit name: Allows to edit the event name. Same functionality as the icon **AbcI**.
- Event type: Allows to define the type of event. Its options vary depending on whether it is a start, intermediate or end event.
- Cut: Deletes the selected event. It can be pasted in another process location.
- Copy: Copies the selected event. It can be pasted in another process location.
- Delete: Deletes the selected event.
- Properties: Opens the [properties](#) panel to show and/or modify.

3.7.4.2.6. Gateway

A gateway is incorporated into the model to determine whether the data flow routes within a process branch or merge depending on the definition of conditions.

"Gateways are used to control how sequence flows interact as they converge and diverge within a process." [Workflow Management Coalition]

Types



Exclusive Gateway

An exclusive gateway is where only one of the exit paths continues with the task sequence. Gateways have two representations, although both have the same behavior. By convention, the same representation must be used for the entire definition of a process.

- Exclusive gateway without marker.
- Exclusive gateway with marker.

The possible exit paths of the gateway are set by selecting one of the following options:

- **Definition of conditions**

It is necessary to define [conditions](#) for gateway output flows, which are evaluated sequentially. When a condition is met, the process continues along this path, without evaluating the remaining conditions.

- **Button definition**

It is necessary to define [buttons](#) for gateway output flows. When users press a button, the process continues along that path.

The exclusive gateway must have an output flow defined as default so that the process can continue when no conditions are met.



Parallel Gateway

It is used to create parallel paths and synchronize activities. All exit paths are activated without evaluating the conditions.

Parallel gateways can be defined in pairs, one as a divergence element to activate several parallel paths simultaneously and the other as a convergence element to synchronize previously activated paths. In the latter case, when the gateway is used for synchronization, the output is activated when the input paths are completed, that is, all activities preceding such point have ended.

The output flows of a parallel gateway do not require definition of conditions, since all exit paths must be completed.



Inclusive Gateway

It is used to activate one or more paths and synchronize activities. All output flow conditions are evaluated.

Inclusive gateways can be defined in pairs, one as a divergence element to generate parallel activities and the other as a convergence element to synchronize previously activated paths. For divergence, at least one exit path must be activated, while for convergence, all activated paths must be completed.

- **Definition of conditions**

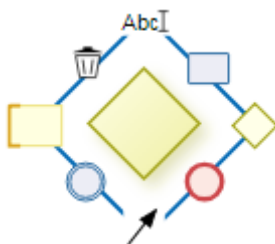
It is necessary to define [conditions](#) for inclusive gateway output flows. All conditions are evaluated and the process takes all the paths where conditions are met.

- **Button definition**

It is necessary to define [buttons](#) for gateway output flows. When users press a button, the process continues along that path. The same button can be defined for more than one flow.

An inclusive gateway should have an output flow defined as default, in order to prevent execution errors, when no flow condition is met.

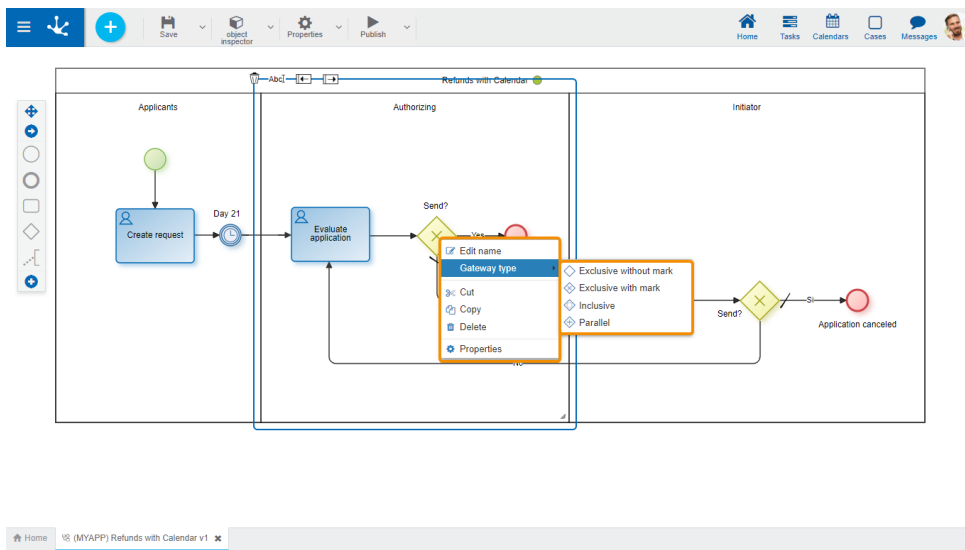
Pie Chart Menu




Abc| Opens an area for editing the name.

-  Deletes the gateway.
-  Adds an activity.
-  Adds a gateway.
-  Adds an end event.
-  Adds a flow.
-  Adds an intermediate event.
-  Adds a comment.

Context Menu



- Edit name: Opens an area for editing the name. Same functionality as the icon .
- Gateway Type: Defines the type of gateway.
- Cut: Deletes the selected gateway. It can be pasted in another process location.
- Copy: Copies the selected gateway. It can be pasted in another process location.
- Delete: Deletes the selected gateway.
- Properties: Opens the [property](#) panel to show and/or modify.

3.7.4.2.7. Artifact

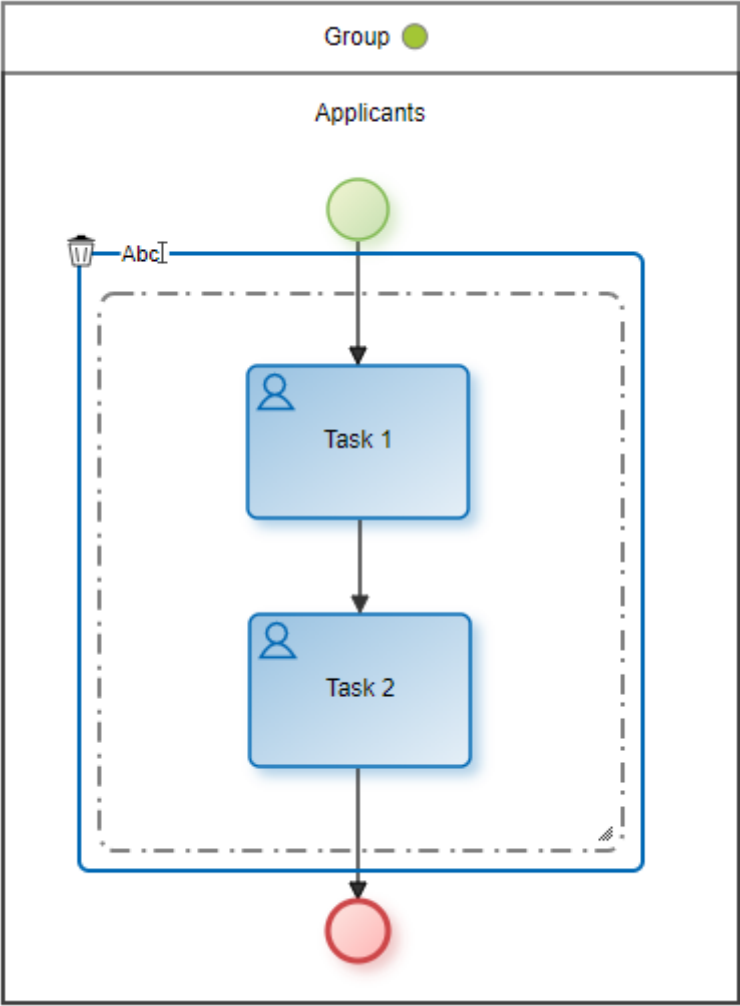
They are shapes that improve the expressiveness of diagrams, representing data related to the process but with no influence on performance.

"Artifacts are used to provide additional information about the process." [Workflow Management Coalition]

Group

Visually groups shapes in the diagram.

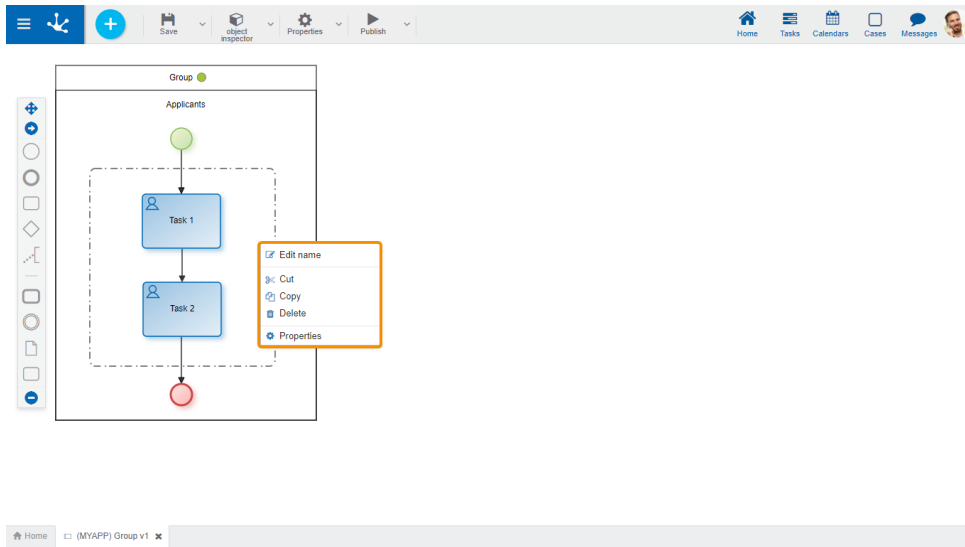
Pie Chart Menu




Abc Opens an area for editing the name.

Deletes the group.

Context Menu

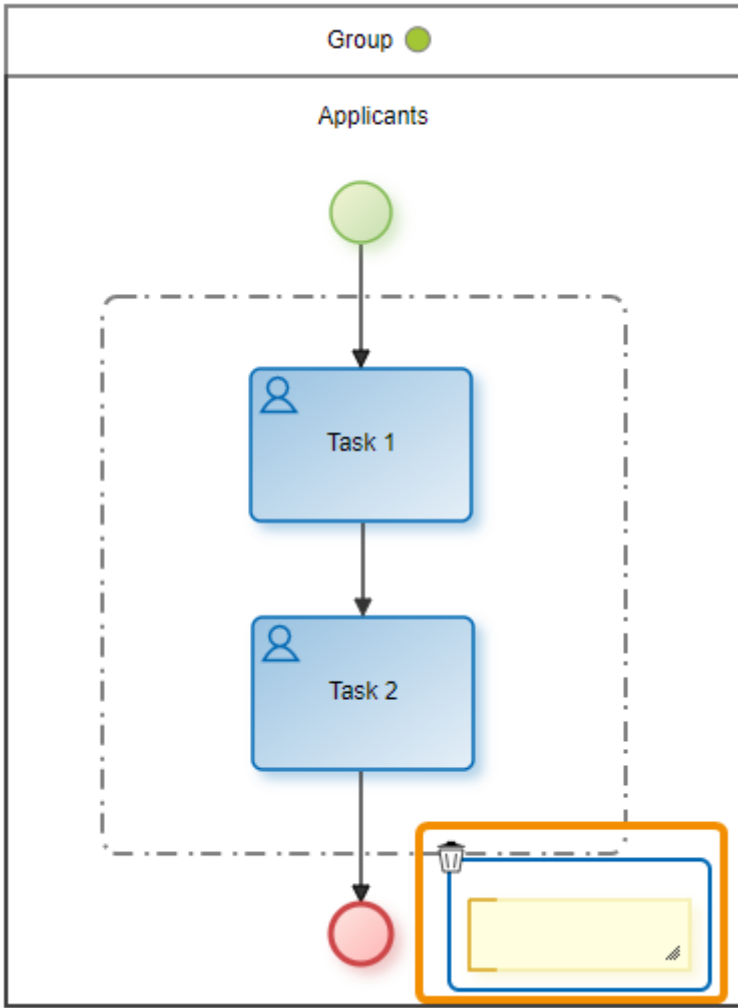



- Edit name: Edits the group name. Same functionality as the icon **AbcI**.
- Cut: Deletes the selected group keeping the shapes it groups. It can be pasted in another process location.
- Copy: Copies the selected group. It can be pasted in another process location. It does not copy the elements it groups.
- Delete: Deletes the selected group keeping the shapes it groups. Same functionality as the icon .
- Properties: Opens the properties panel to show and/or modify.

Annotation

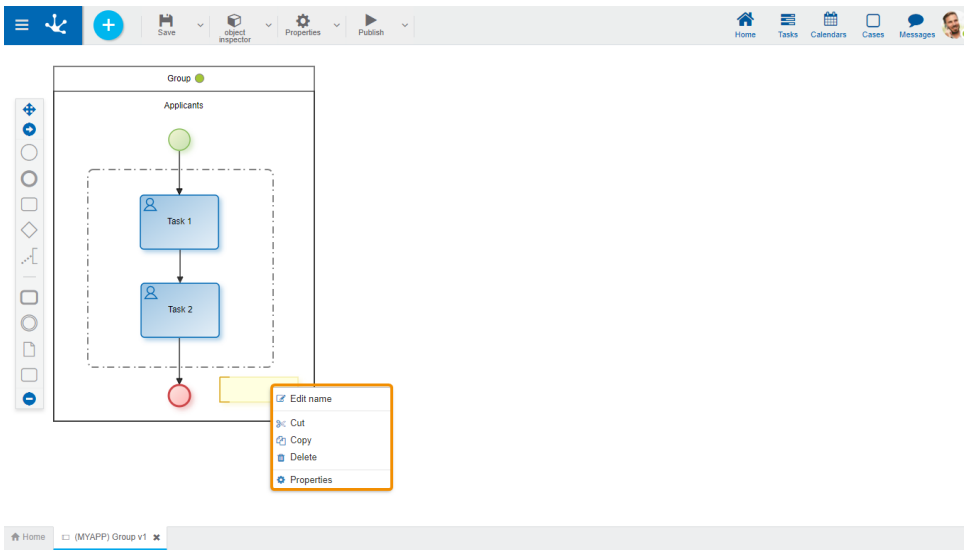
Area where the modeler can write explanatory texts.


Pie Chart Menu



 Deletes the selected annotation.

Context Menu

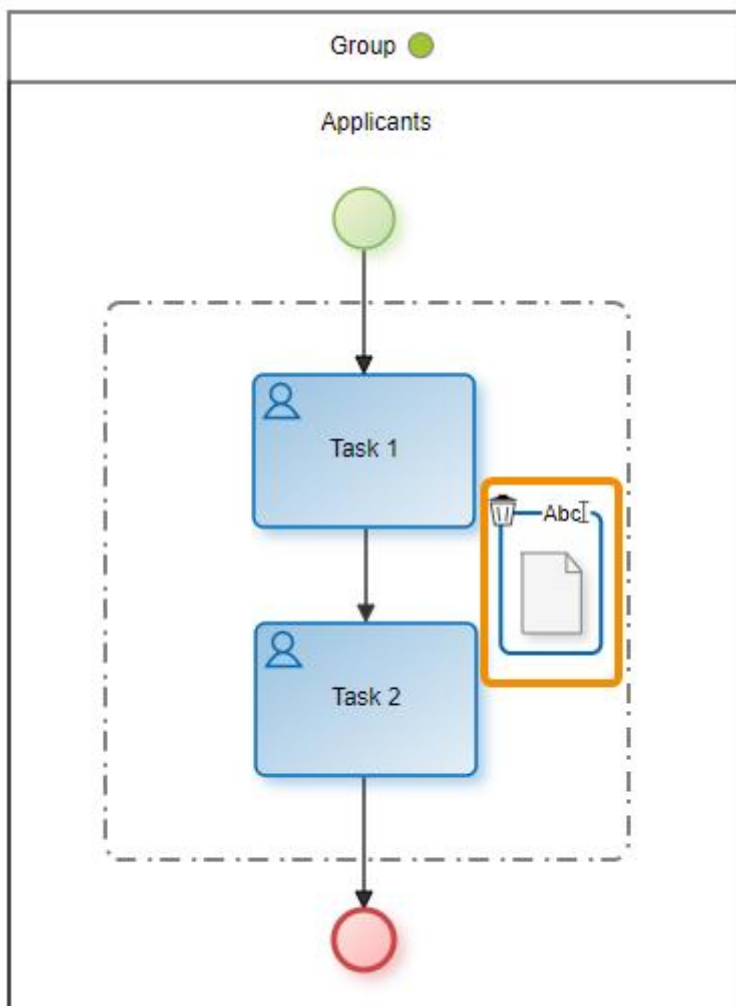



- Edit name: Allows to edit the annotation text.
- Cut: Deletes the selected annotation. It can be pasted in another process location.
- Copy: Copies the selected annotation. It can be pasted in another process location.
- Delete: Deletes the selected annotation. Same functionality as the icon .
- Properties: Opens the properties panel to show and/or modify.


Data Object

Represents the information that accompanies the process circuit or is generated during it, such as documents or notifications.

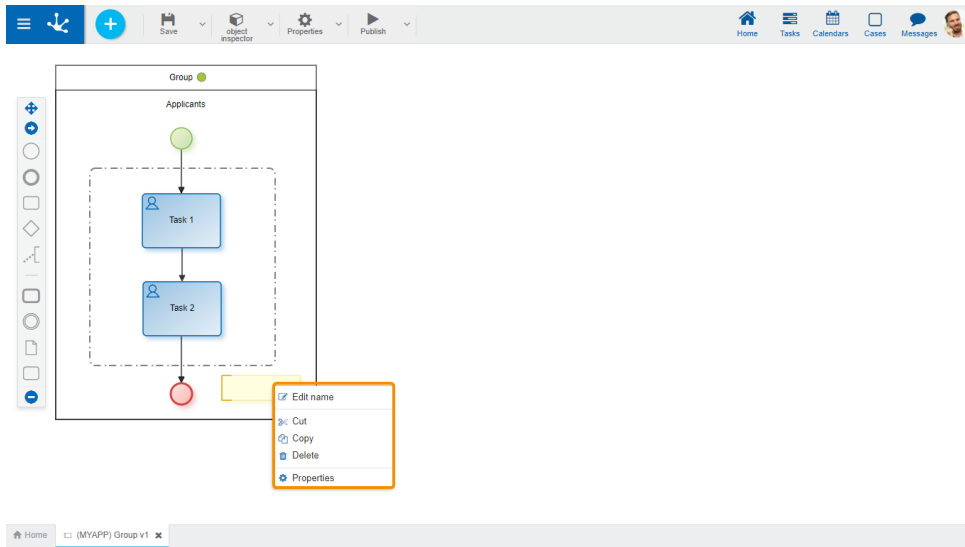
Pie Chart Menu





 Opens an area for editing the name.

 Deletes the selected data object.


Context Menu

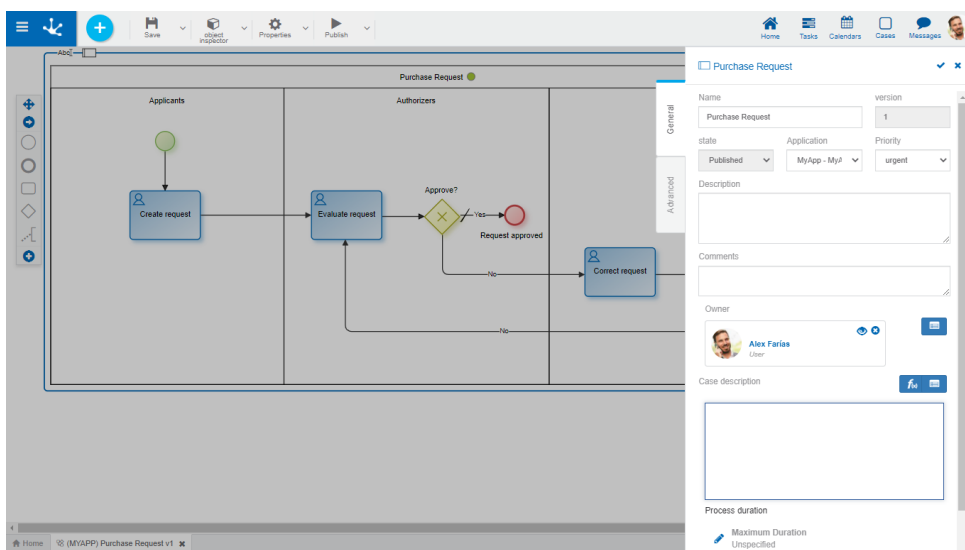


- Edit name: Edits the name of the data object. Same functionality as the icon .
- Cut: Deletes the selected data object. It can be pasted in another process location.
- Copy: Copies the selected data object. It can be pasted in another process location.
- Delete: Deletes the selected data object. Same functionality as the icon .
- Properties: Opens the properties panel to show and/or modify.

3.7.4.3. Process Properties

There are different ways to enter a process properties panel:

- Press the icon  from the [top toolbar](#).
- Double click on the graphic element corresponding to [pool](#).
- Access the [context menu](#) of the pool graphic element.

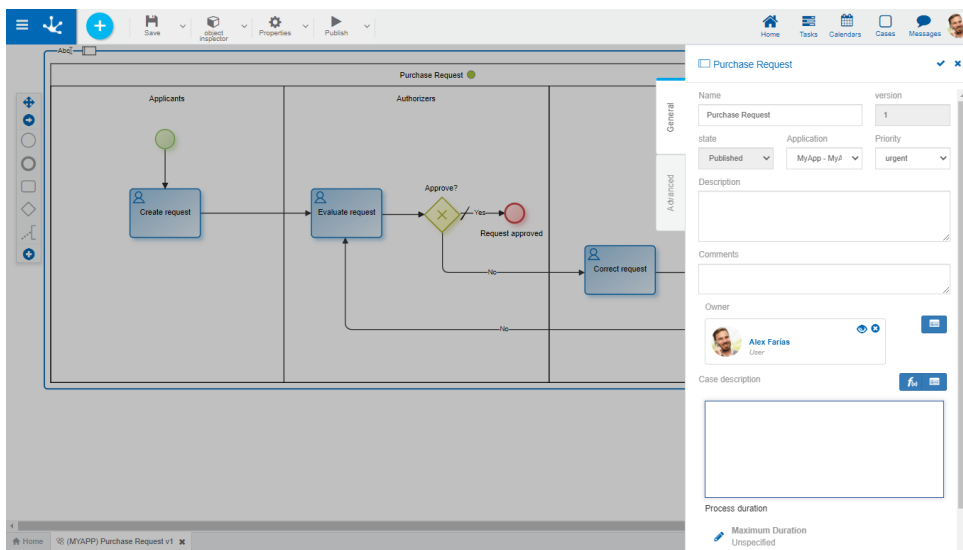


Tabs

- [General](#)
- [Advanced](#)

3.7.4.3.1. General

The properties panel is displayed on the right side of the process modeler, where the first tab corresponds to general information.



Properties

Name

It is the name used at the modeling level to refer to the process, for example, in the [modeler's grid](#) and in the [object inspector](#).

Version

Process version number. Along with the [Identifier](#) property, they form the unique identification of the process.

This attribute allows to incorporate modifications in the process design without impacting executions that are still active (unfinished cases).

It is a non-modifiable attribute. The modeler user can [version](#) the process from the top toolbar.

State

Indicates the current [state](#) of the process. It is automatically updated when start, modify, save, publish and inactivate operations are executed.

The state of the process determines the level of validations that are carried out on it and the possibility of being used.

Application

Allows to define the application to which the object belongs. If no application is reported, the object is assigned to the application "Global".

Priority

Indicates the priority assigned to the process activities, when they do not have an expressly defined priority. Possible values are URGENT, HIGH, MEDIUM, LOW.

Description

Text that defines the process describing its functionality.

Comments

Observations on the process.

Owner

Indicates the person who has control and vision of the process from start to finish. The owner can be a user, an organizational unit, a role, or an agent.

It is, by default, the logged in user.



Opens the [profile show](#) property.



Deletes the informed owner



Allows to select an existing owner

You can also use the autocomplete function. As characters are entered into this field, the first five matches dynamically appear to select one of them.

Case Description

It is a description that represents each one of the process executions.



Allows to select functions from a list to incorporate dynamic information into the case description.



Allows incorporating attributes of the entities that are used in the execution of the process to the case description. For example, in the "Refund Request" process, the request date can be incorporated, which is a form variable used in such process.

The description entered is displayed in:

- The [last tasks](#), by pressing the Tasks icon on the top toolbar.
- The [task execution](#) panel, below the activity name.
- The Description column in the [tasks grid](#).
- The last tasks, on the element that represents the form in the grid of "[Forms and Tasks](#)".

Process Duration

Allows to set the [Maximum duration](#) and [Average duration](#) to carry out the process.



Allows to edit the maximum and average duration.

- By duration

A deadline in days, hours, minutes and seconds is reported.

- By due date

A date-type variable is selected, from a form associated with the process, using the icon



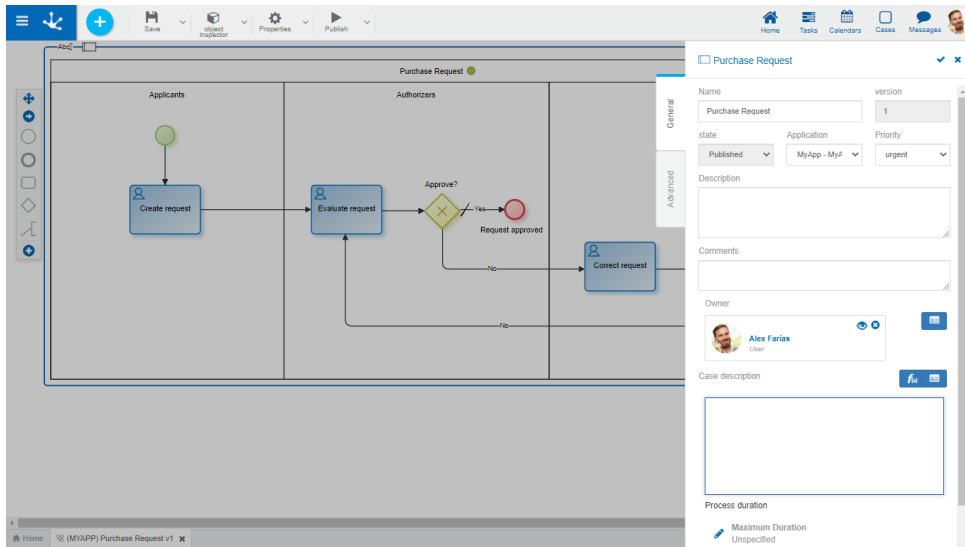
In the process execution, the value of such variable is used as due date. If the value of the variable used to define the due date is modified, process duration is automatically updated.



Saves changes made to duration.



Cancels changes made to duration.



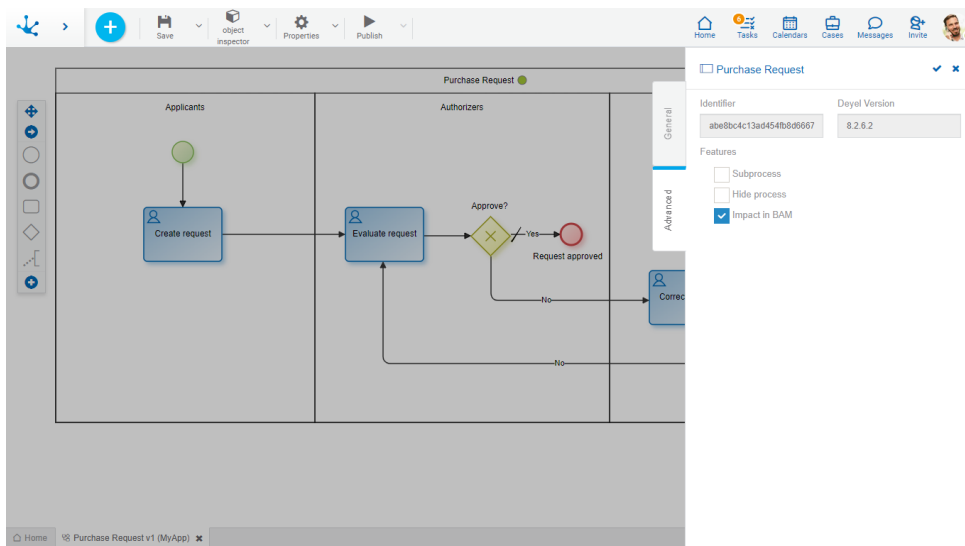
Actions

The icon ✓ is used to confirm the modifications made in the properties panel.

The icon ✕ is used to close the properties panel, if it was not previously saved, changes are discarded.

3.7.4.3.2. Advanced

The second tab of the side panel corresponds to advanced properties of the process.



Properties

Identifier

Alphanumeric code that is automatically assigned to the process. Users cannot modify it. Along with the [Version](#) property, they form the unique identification of the process.

Deyel Version

Indicates a version by **Deyel** with which the process was last saved or published.

Features

One of the following options can be indicated:

Subprocess

Indicates that a process is defined to be used exclusively as a subprocess of others. It can only be started when it is invoked from another process in an [activity of type subprocess](#). It cannot be started by a user manually from the functionality "Start Cases".

Hide Process

Indicates if a process remains visible in the [Context Menu](#) and from [Forms and Tasks](#) so that users can start it.

Impact on BAM

Indicates if process data is taken into account in the BAM reports. By default, the property is not checked and the process is not included in BAM. The property can be checked so that from a certain moment, the **Deyel** information goes to BAM.

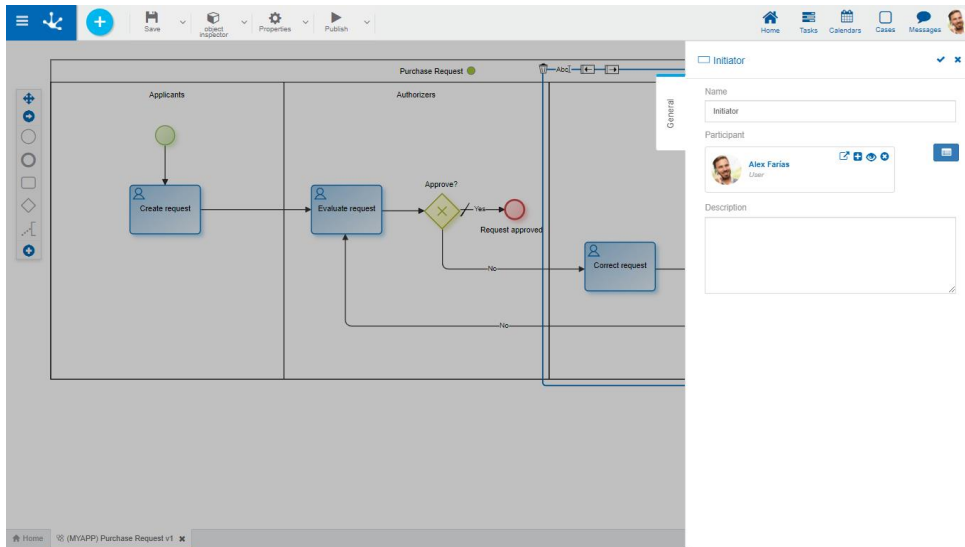
The following situations should be taken into account:

- If the process is published, modified, or has data, the property can be checked, but not unchecked.
- If the property needs to be unmarked, all instances of the process must first be deleted with the "Delete Data" function so that the property is enabled for modification.

3.7.4.4. Lane Properties

There are different ways to enter the properties panel of a lane:

- Double click on the graphic element corresponding to the [lane](#).
- Access the [context menu](#) of the lane graphic element.



General Tab

Properties

Name

Lane name. It must clearly represent those who perform the tasks within the lane.

Participant

It is the participant in charge of executing the activities included in the lane.



Allows to select an existing participant, which can be a user, an organizational unit, a role, or an agent. The autocomplete formula can also be used. As characters are entered into this field, the first five matches dynamically appear to select one of them.



Allows to display a window with complete information on the participant, if he is defined as a user, organizational unit or role.



Opens a window to define a new role.



Opens the [profile show](#) panel only if it is a user.




Deletes the informed participant.

Description

Conceptual description of who executes the tasks within the lane.

Actions

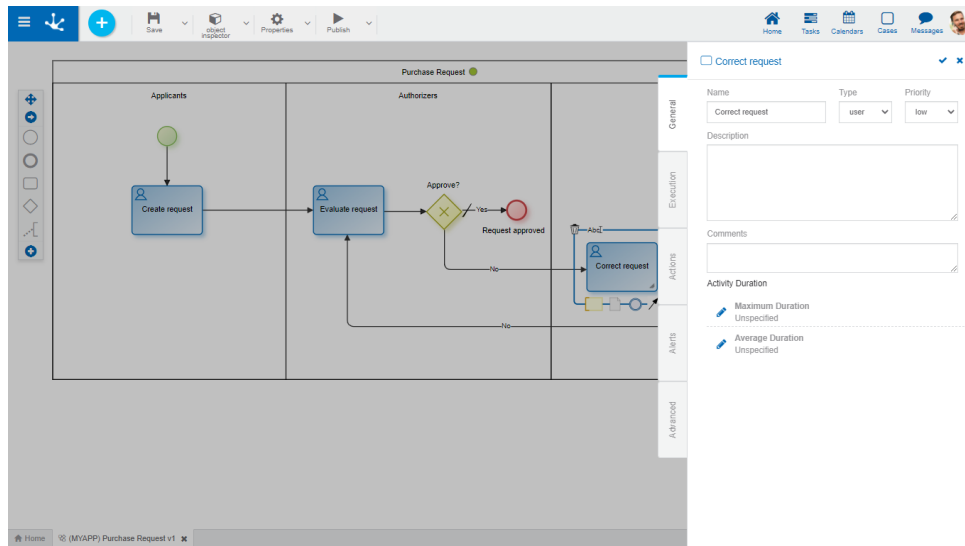
The icon  is used to confirm the modifications made in the properties panel.

The icon  is used to close the properties panel, if it was not previously saved, changes are discarded.

3.7.4.5. Activity Properties

There are different ways to enter the properties panel of an activity:

- Double click on the graphic element corresponding to the [standard activity or task](#).
- Access the [context menu](#) of the activity.



Tabs

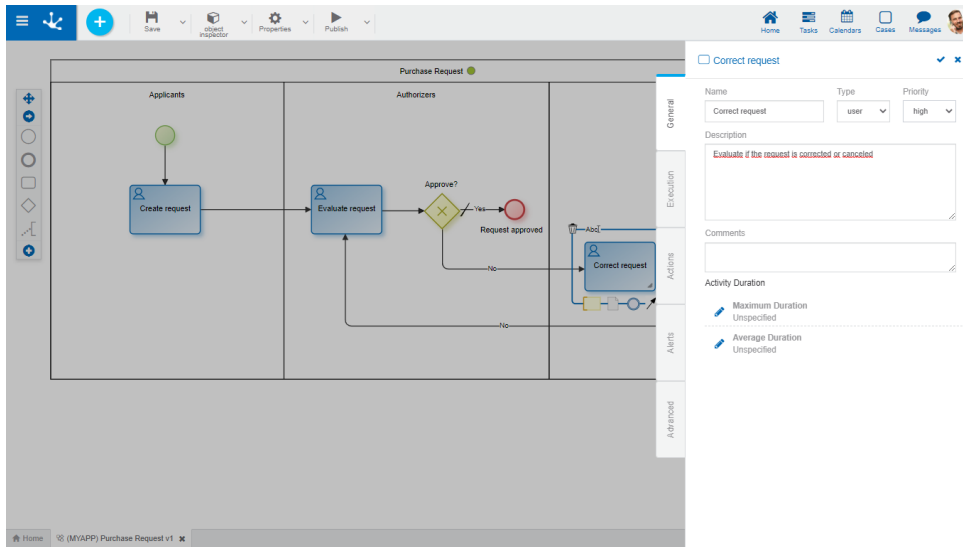
- [General](#)
- [Execution](#)
- [Actions](#)
- [Alerts](#)
- [Advanced](#)

The business modeler user can have access to all tabs except for "Advanced". The IT modeling user can access all of them.

For each of the "General", "Execution", "Actions" and "Alerts" tabs, access permissions are defined from the [security module](#). Users can see only the tabs they are allowed to access.

3.7.4.5.1. General

The properties panel is displayed on the right side of the activities modeler, where the first tab corresponds to general information.



Properties

Name

Activity name. It refers to the action performed by the activity.

Type

Defines the [type of activity](#).


Priority

Indicates the activity priority. Possible values are URGENT, HIGH, MEDIUM, LOW.

The user can display this property in the to-do list and use it as a sort criteria, according to their preference.

Description

Description of the activity that can be used as an online manual.

The user who executes the activity can see it by clicking on the icon .

Comment


In this field, the designer can document in detail what the task consists of.

Activity Duration

Allows to set the [Maximum Duration](#) and the [Average Duration](#) of the activity.

When the execution of the activities begins, these durations are transformed into a maximum due date and an expected expiration date, respectively. The [activity due date calculation](#) is made in different ways, depending on whether the definition of maximum duration is made according to duration or due date.

In the [case show](#) or in the [tasks show](#), the due date and time of the task are displayed and in addition, on these durations, [alerts](#) can be set.

 Edits the maximum and average duration.

- [By duration](#)

A deadline in days, hours, minutes and seconds is reported.


- **By due date**


A date type variable is selected from a form associated with the process, using the wizard icon



In the activity execution, such variable value is used as due date. If this variable value is modified, the due date of the activity is automatically modified.

Actions

The icon  is used to confirm the modifications made in the properties panel.

The icon  is used to close the properties panel, if it was not previously saved, changes are discarded.

3.7.4.5.1.1. Activity Due Date Calculation

The activity due date is calculated in different ways, depending on whether the [maximum duration](#) was modeled from a duration or by selecting a form field related to the process.

The calculation detail is made for the due date but it is also valid for the average date, depending on the modeling of the [average duration](#) of the activity.

Due Date Based on a Duration

Elements involved in the calculation:

- Activity start date and time.
- Activity maximum duration.
- Calendar of the participant who executes the activity.
- Configuration of holidays and special dates.

Calendar of the Participant Who Executes the Activity

When the participant is a user:

- The calendar established in the user's profile is considered.
- If not indicated, the calendar established in the user's organizational unit is considered.
- If the unit does not indicate a calendar, it moves up in the hierarchy, searching for a higher unit to establish a calendar.
- If no higher unit indicates a calendar, the standard calendar is considered.

When the activity is executed in an organizational unit:

- The calendar established in the organizational unit is considered.
- If the unit does not indicate a calendar, it moves up in the organizational structure, searching for a higher unit to establish a calendar.
- If no higher unit indicates a calendar, the standard calendar is considered.

When the activity is assigned to a generic role:

- The standard calendar is considered.
- When role players assign themselves an activity, the due date is recalculated considering the calendar of the executing participants.

Steps for Activity Due Date Calculation

Step 1: The maximum duration of the activity is calculated, expressed in seconds.

The number of days, hours, minutes and seconds, indicated in the activity definition, is considered.

The number of hours and minutes of a working day is retrieved from the executing participant's calendar.

The maximum duration of the activity is calculated as:

$$\begin{aligned} \text{Maximum Duration in Seconds} = & \\ & \text{Activity.Days} \quad * (\text{Calendar.Hours} * 3600 + \text{Calendar.Minutes} * 60) + \\ & \text{Activity.Hours} \quad * 3600 + \\ & \text{Activity.Minutes} \quad * 60 + \text{Activity.Seconds} \end{aligned}$$

Step 2: The user's working times are defined, through the executing participant's calendar, together with the definition of general holidays and specific dates.

Each of the work bands is perfectly defined by the calendar, and has a start date and time and an end date and time, therefore, this specification can be converted to a number of work seconds.

The definition of "Holidays" means that certain periods are considered non-working days.

The definition of "Specific Date" allows to establish specific working times for a specific date.

The definition of specific dates that is performed at the calendar level takes precedence over the general specific dates.

Step 3: Express the Start Date and Time of the activity, in the time zone of the executing participant's calendar.

Based on that date, working times are assigned until all the seconds that correspond to the activity duration are assigned.

In this way, the activity due date is calculated, according to the user's working times.

Due Date Based on a Form Field

The due date takes the value of a form field.

If the field data type is Date or Local Date, if the value entered is MM/DD/YYYY, the due date is MM/DD/YYYY at 23:59:999

If the field data type is Date and Time, the DD/MM/YYYY HH:MM:SS value is considered as the due date.

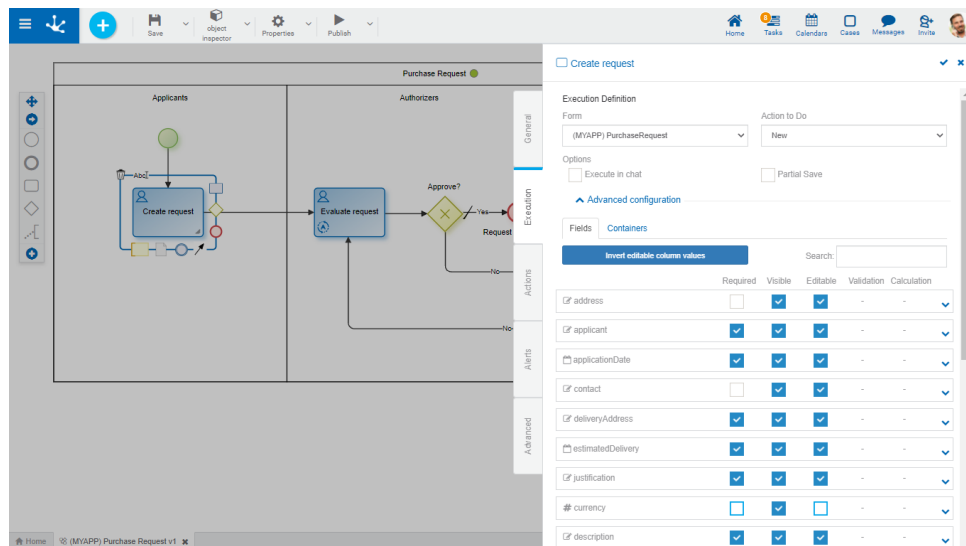
If the field type is Local Date and Time, the DD/MM/YYYY HH:MM:SS value is transformed to the standard calendar time zone and is considered as the due date.

3.7.4.5.2. Execution

 [Process modeling > Modeling the execution of a process](#)

The second side panel tab of an activity corresponds to execution information and it is displayed only for manual, user or undefined activities.

Allows modeling users to define behaviors of the activity and form fields, according to the action performed. There must be at least one form previously associated with the process.



Execution Definition

In this section, the general properties of the activity execution are defined.

Form

Displays the name of the form related to the process used in the activity.

Action to Do

Action performed on the form in this activity.

- **Open**
Displays the form instance in show mode. Fields cannot be edited.
- **New**
Creates a new form instance that is related to the case. When there is an instance already created, it works like a "Modify" action.

- **Modify**

Displays the existing form instance and allows to modify the fields defined as editable.

Options

Require Confirmation

This option displays a confirmation message to execute a task.

A "Confirmation Message" container displays by checking this mark . When displayed, an editing area opens to enter the text of the message or an embedded rule that returns the confirmation message if applicable. If the rule does not return a text, the activity is executed without requiring confirmation.

Execute on Chat



This option allows the task to be executed not only from the task icon on the top toolbar, but also from the **Deyel** chat.

Selecting this check expands the properties panel to set the [actionable message](#).

- **Who will send the message?**

Indicates a **Deyel** user that sends the message. Allows to use the [autocomplete](#) function to select it.

- **Message content**

The text that makes up the body of the message is reported, this text can contain variables and functions. To select them you can use their wizards, of variables  and of [functions](#) .

- **What fields can the user complete?**

Using the "Drag and Drop" function, fields are moved from the form fields area to the fields to complete area.

The fields to be completed must be entered by the user in the chat.

Save Partially

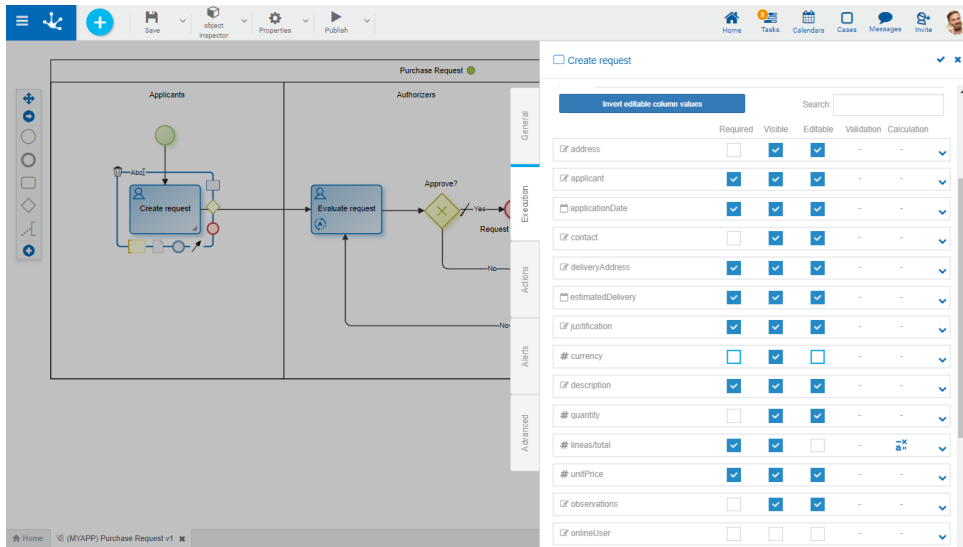
This option indicates that when executing the activity, the "Save" button is added, which allows to keep the values entered by the user, with no need to execute the activity.

Advanced Settings

To show this section, an action to do must have been previously defined.

Fields

In this tab, a grid with the form fields is displayed. The properties of these fields can be redefined for the execution of each activity.



Invert editable column values

Inverts the values of the [Editable](#) property, for all the fields displayed in the grid. If it is narrowed by search filter, the modification affects only the filtered fields.

Search:

As characters are entered to the search field, it dynamically filters the fields whose [Label](#) or [Name](#) properties, indistinctly, match the text being entered.

Fields Grid

It is made up of form fields according to the filter applied. Each field is identified by its property [Name](#).

The grid columns correspond to the modeled behavior properties, whether they have been defined from the form modeler, or from the activity itself.


Properties are modeled simply by checking or unchecking them and if they have embedded rules defined, they are displayed by icons. Checks and icons are displayed in blue if properties or rules were modeled in the form, while they are in light blue if they were modeled in the activity.

If there are properties or rules modeled from the form and any of them are modified from the activity, these modifications overwrite the definitions of the form only for the task execution.


If any property or rule of the form is overwritten from an activity, subsequent modifications made from the form have no impact on the behavior already defined in the activity.

If a field is added to the form, it is added to the activities that use the form, as non-required and non-editable, regardless of how it has been modeled on the form.


Required

Indicates if the field is required during the activity execution and if any required rule is defined, it displays the icon .

Visible

Indicates if the field remains visible in the activity and if any visibility rule is defined, it displays the icon .


Editable


Indicates if the field is editable for the activity and if any editability rule is defined, it displays the icon .

Validation

Indicates if there is a validation rule for the field with the icon .

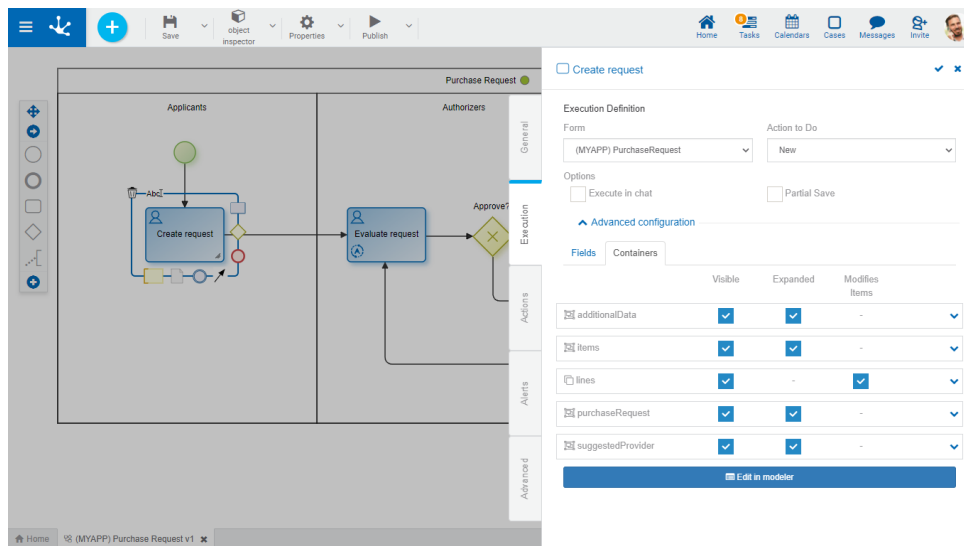
Calculation

Indicates if there is a calculation rule for the field with the icon .

Pressing the icon  expands the area of [values and rules modeling](#) of each field.

Containers


In this tab, a grid with the form containers is displayed. The properties of these containers can be redefined for the execution of each activity.



Fields	Visible	Expanded	Modifies Items
additionalData	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	-
Items	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	-
lines	<input checked="" type="checkbox"/>	-	<input checked="" type="checkbox"/>
purchaseRequest	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	-
suggestedProvider	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	-

The grid columns correspond to the properties of containers.

Visible


This check indicates that the container remains visible when executing the activity. If it has associated visibility rules, it is represented by the icon .

Expanded


This check indicates that the container is displayed when executing the activity.


Modifies Item

Only for iterative containers. This check indicates if iterative occurrences can be added or deleted. This property is displayed by default as checked, however if an iterative container is added to the form in this tab, this property is unchecked.

Pressing the icon  the embedded rules modeling area is expanded for each container.

Edit in Modeler

Pressing this button  the form associated with the activity is opened in another tab of the modeler, where the properties panel of each form element can be opened.

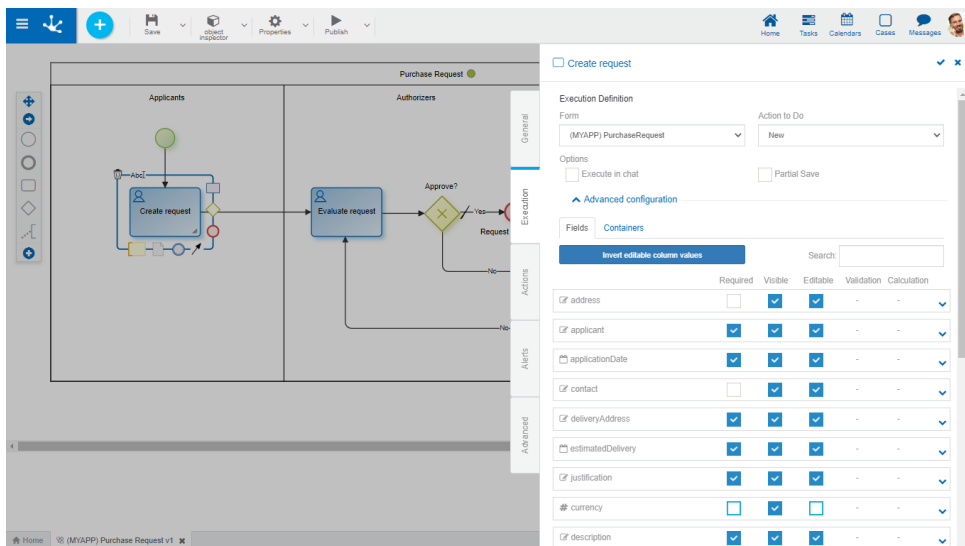
Pressing the icon  of the top toolbar, returns to the activity execution tab.

3.7.4.5.2.1. Values and Rules Modeling Area

From this area, behavior, validation and calculation rules are defined and default values of the fields are established.

Properties and rules that are defined in the activity overwrite those that were defined in the form fields.

Field Properties panel



Field	Required	Visible	Editable	Validation	Calculation
address	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	-	-
applicant	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	-	-
applicationDate	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	-	-
contact	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	-	-
deliveryAddress	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	-	-
estimatedDelivery	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	-	-
justification	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	-	-
currency	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	-	-
description	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	-	-

Properties

Rules

It is possible to define [rules](#) of behavior, validation and calculation, associated with a field for the activity. The field behavior rules defined in the activity override those modeled in the form field, while validation rules are added.



Required

Indicates whether the field is required during the execution of the activity.

Required Not required (default)

Rule + Opens an editing area where a rule to determine the required condition can be defined by using the [wizard](#) (ctrl + space). If a rule is defined, the icon is displayed with light blue borders.



Visible

Indicates whether the field is visible. If this property is not selected, the field is not displayed during the execution of the activity.

Visible (default) Not visible

Rule + Opens an editing area where a rule to determine the visibility condition can be defined by using the [wizard](#) (ctrl + space). If a rule is defined, the icon is displayed with light blue borders.



Editable

Indicates if the field is editable. If this property is not selected, the user cannot enter or modify values in the field during the execution of the activity.

Editable (default) Not editable

Rule + Opens an editing area where a rule to determine the editability condition can be defined by using the [wizard](#) (ctrl + space). If a rule is defined, the icon is displayed with light blue borders.



Validation

Rule + Opens an editing area where the condition that determines if the field value is correct can be defined. It is possible to define more than one rule. If rules are defined, the icon is displayed with light blue borders.



Calculation

Rule + Opens an editing area where the expression to be executed to calculate the field value can be defined. If a rule is defined, the icon is displayed with light blue borders.



Persists

Indicates whether the information entered in the field is kept in an activity. This property is only available to IT modeler users.

Persists (default) Does not persist

The value of this property is presented as Does not persist when the field meets all the conditions mentioned below:

- It is not editable and has no associated editability rule
- It has no default value property defined
- It has no associated calculation rules
- It has no [relation](#) defined

If the IT modeler user needs to use scripting to update the field content in the activity, they must indicate this property value as Persists. In this way, the field value updated by scripting is not lost when the case moves on to the next activity.

*If form rules or properties are overwritten from an activity, subsequent modifications from the form for the **overwritten properties**, have no impact on the behavior already defined in the activity.*



Undo changes

Allows to delete rules or behavior properties modeled from the activity. In this way, behavior properties and rules applicable in the execution of the activity are again those originally defined in the form.



Shows syntax examples to write rules.

Default Value

It is an area to define the field default value.

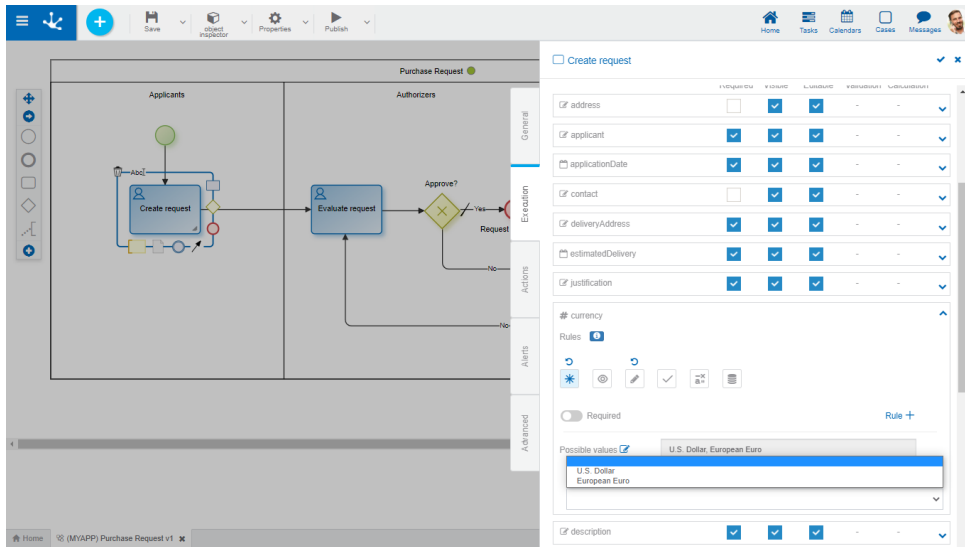


Allows to select functions from a list to incorporate dynamic information into the field.



Allows to incorporate information of entities that participate in the process execution to the field content. For example, in the Refund Request process, the request date can be incorporated, this data is available in the date field of the Refund Request form.

Field Properties Panel with Relation



If the form field has a [relation](#) the possible values and the default value of the field in the activity are displayed.

Possible Values

Clicking on the icon enables a panel to filter data from the list in the activity.

Invert Selection

Inverts the selected values.

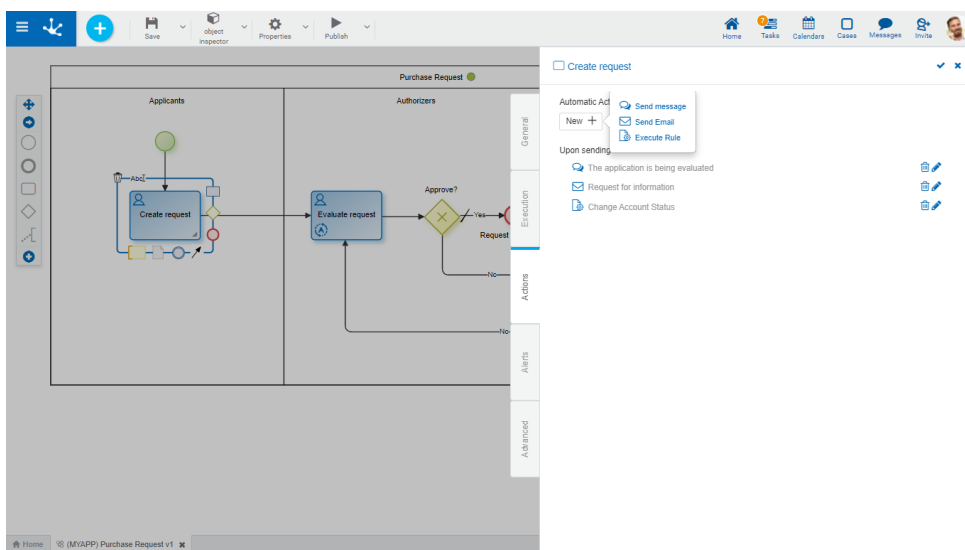
Select all


Selects all values.

Exclude Values: Allows to exclude the selected values from the selection.

3.7.4.5.3. Automatic Actions

In the "Actions" tab, automatic actions executed in the activity are defined.



The icon  on the symbol of an activity indicates that it has an automatic action. Hovering the cursor over the icon enables a panel that shows in detail all the automatic actions modeled for the activity.





Pressing this button you can create new automatic actions of different types.

Types

 Send message

 Send Email

 Execute rule

For existing actions, the icon  allows editing a previously defined automatic action and the icon  deletes it.

Properties

The different types of automatic actions share properties and have other specific ones.

Name

Name that identifies the automatic action in the activity and is used in the description of the activity execution in the [graphic show of a case](#).

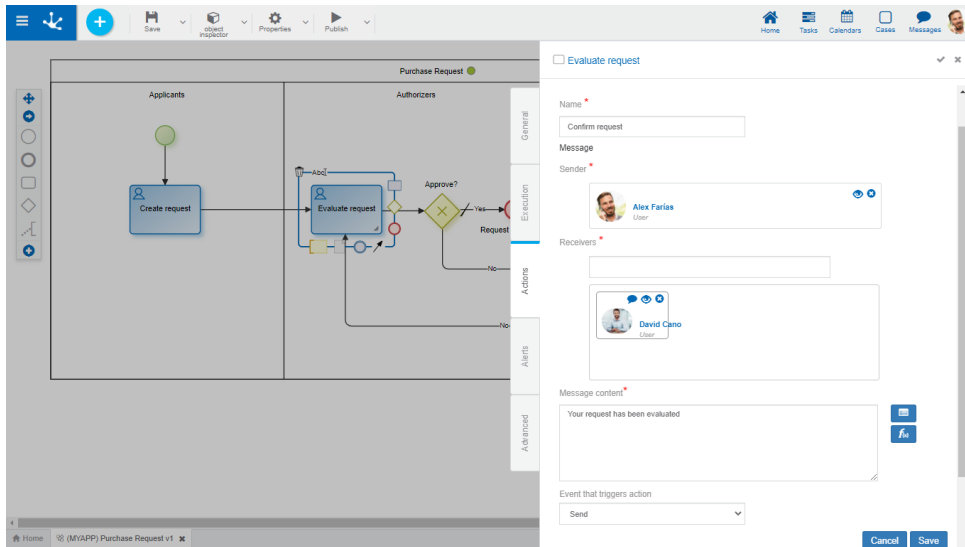
Event that triggers the action

Moment when the automatic action is executed, defined by one of the following events:

- Send: Indicates that the action is executed when the task execution finishes.
- Receive: Indicates that the action is executed when the task execution starts.
- Disabled: Execution of the action is disabled.

3.7.4.5.3.1. Send Message

Allows to define the sending of a message via the [chat](#) of **Deyel**. The message may include process-related form variables and [functions](#) that allow to incorporate links to case shows, to do lists, forms, application access links, among others.



An asterisk "*" on the label indicates that the property is required.

Properties

In addition to the [properties shared](#) with email sending and execution of rules, message sending actions have specific properties.



Sender



Indicates a **Deyel** user that sends the message. Allows to use the [autocomplete](#) function to select it.

Receivers

Indicates **Deyel** users that will receive the message. It is possible to select users or agents that return users at the time of execution. In both cases the [autocomplete](#) facility can be used to select them.

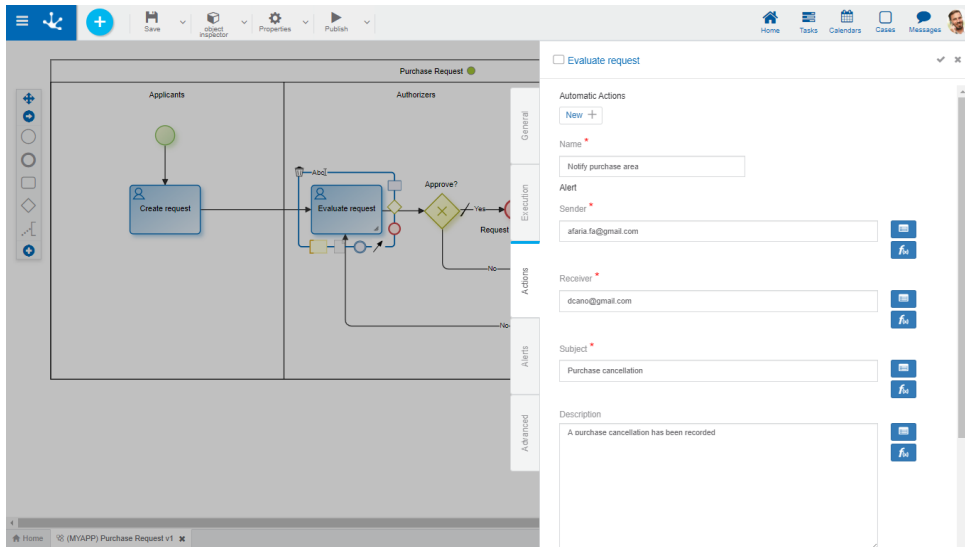
Message content

The text that makes up the body of the message is reported, this text can contain variables and functions. To select them, use their wizards  of variables and  functions.

For both senders and receivers, once the user has been selected, the chat facility  can be used if the user is different from the one that is connected and the facility to display the user's profile .

3.7.4.5.3.2. Send Email



Allows to define email sending. They can include process variables and [functions](#) that allow to incorporate links to case shows, to do lists, forms, application access links, among others.



An asterisk "" on the label indicates that the property is required.*

Properties

In addition to the [properties shared](#) with email sending and execution of rules, message sending actions have specific properties.

In all properties, text can be combined with values obtained through the variables wizard  or the function wizard  of **Deyel**.

Sender

Indicates the email address from which the message is sent. If the email server is Google or Microsoft, it is not necessary to complete this property and the account entered in the environment property [User or account to establish connection](#) will become the sender.

Receiver

Indicates the email address to whom the message is sent. More than one address can be informed separated by ";".

Subject

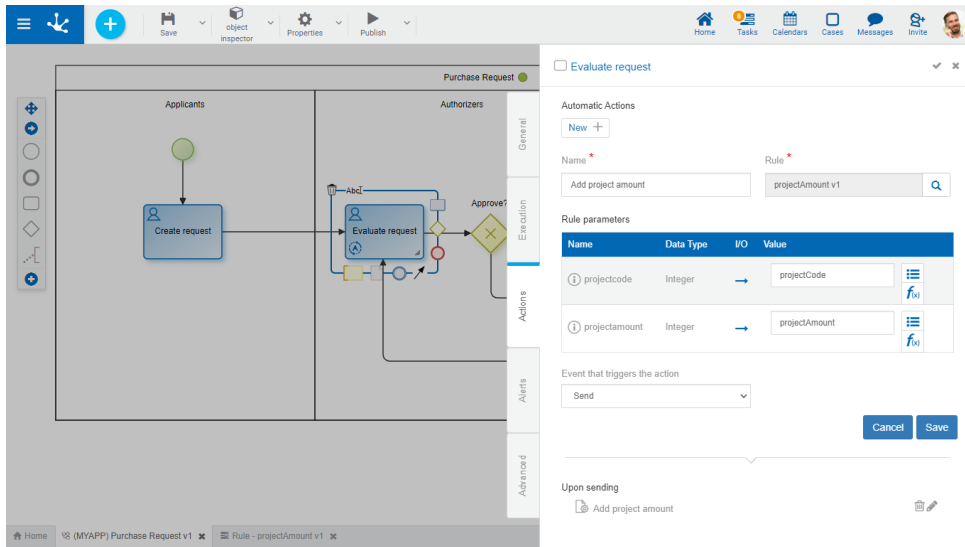
Contains the subject of the email that is being sent.

Description

The text that makes up the body of the email is reported. Html tags can be included to format the message.

3.7.4.5.3.3. Execute Rule

Allows to define the execution of an advanced rule of **Deyel**.



An asterisk "" on the label indicates that the property is required.*

Properties

In addition to the [properties shared](#) with message sending and email sending, rule execution actions have specific properties.

Rule

Name of the [advanced rule](#) assigned to the automatic action. When creating the action, the rule is selected from a grid that contains the previously published rules.

Rule parameters

Depending on the selected advanced rule, a grid with its modeled parameters is enabled. For each parameter, report the properties:

Name

Parameter name as defined when modeling the advanced rule.



Data Type



Indicates the data type with which the parameter was defined. It can be any type of Java object allowed in **Deyel**. The Java object type can be displayed in full form, as a help, by placing the mouse over the data type in each grid element.

I/O

Specifies whether the parameter is input → or output ←.

Value

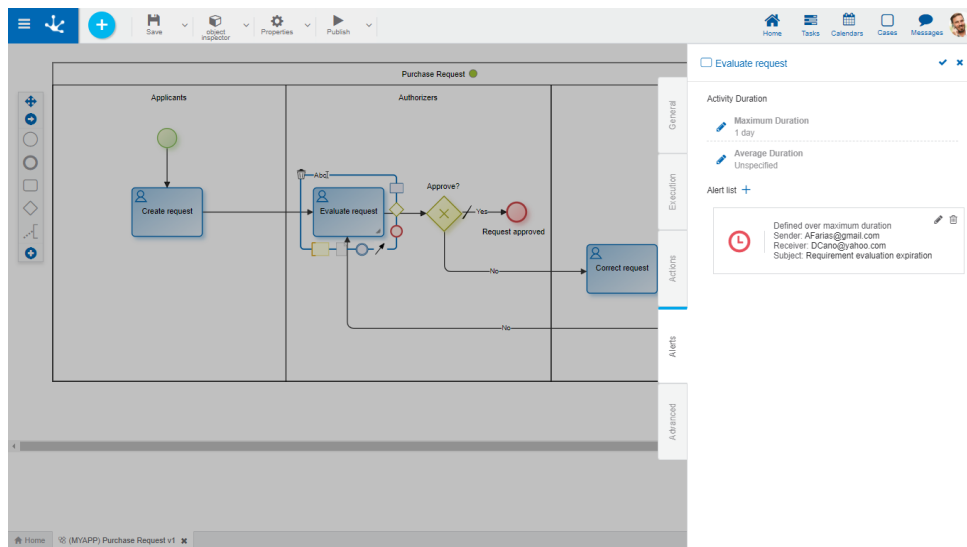
If the parameter is input, it corresponds to the initial value taken by the parameter, by entering a fixed value or selecting it from the wizard of variables  or [functions](#) . This value must match the one defined for the parameter.

If the parameter is output, it corresponds to the form field that will contain the value returned by the rule and can be selected by using the wizard of variables  or [functions](#) .

The parameter show is available from the "i" icon.

3.7.4.5.4. Alerts


For each standard activity or task, the IT modeler can define the issuance of electronic notifications by sending emails based on the activity execution times. They are defined in the "Alerts" tab of the activity properties panel.



Properties

Activity Duration

This section displays the **Maximum Duration** and the **Average Duration** that have been informed in the "General" tab. Alerts definition is performed considering any of these durations, as indicated in the property **Define alert on**.

Click on the icon  to edit the duration and modify it.

Alerts List

Displays the list of alerts set for the activity.






Indicates that the alert is set based on average duration.

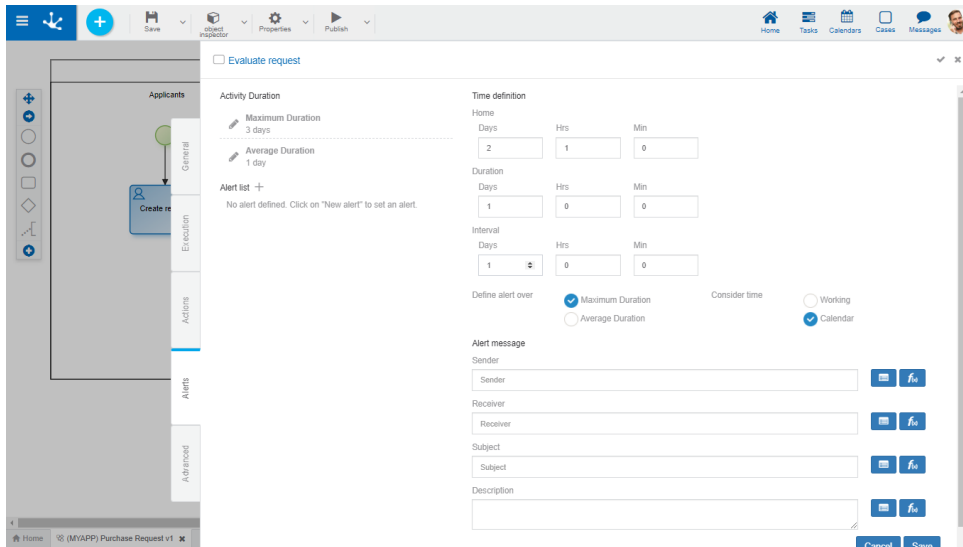


Indicates that the alert is set based on maximum duration.

In order to define alerts, it is necessary to have entered the maximum or average duration of the activity.

To incorporate an alert, press the icon . To modify it, press the icon  and to delete it, press the icon .

Definition of Times



Alert start

Period of time that determines the start of the alert issuance, depending on the [Maximum Duration](#) or [Average Duration](#) established for the activity.

The time period can be measured either on a calendar time or working time basis, as specified in the property [Consider time](#).

Days, Hours and Minutes values may:

- Not be informed: The alert is sent when the activity duration is fulfilled.
- Be informed with positive values: The alert is sent after the activity duration fulfillment.
- Be informed with negative values: The alert is sent before the activity duration fulfillment.

Alert duration

Period of time during which the alert is sent. The number of days, hours and minutes informed here allows to calculate the moment in which the alert sending must be finished as from the [Alert start](#). The alert duration must be informed.

The time period can be measured either on a calendar time or working time basis, as specified in the property [Consider time](#).

Alert interval

Time interval or frequency with which the alert is sent. Values are informed in Days, Hours and Minutes. If not informed, the alert will be sent every time the scheduled task is executed Execution of Activity Alerts.

The time period can be measured either on a calendar time or working time basis, as specified in the property [Consider time](#).

Define alert on

The alert may be defined in relation to the [Maximum Duration](#) or [Average Duration](#) set in the "General" tab or from the same "Alerts" tab.

Consider time

Indicates that the periods set in the [Start](#), [Duration](#) and [Interval](#) properties should be measured as calendar time or working time, taking into account the definition of environment calendars.

If working time is informed, the calendar defined for the participant responsible for executing the activity, if there is one, is considered first, or as a second option, the calendar defined for their organizational unit. When there are no special calendars, the standard environment calendar is considered.

Alert message Sender

Email address from which the email is sent.

A value can be entered as long as the [email server](#) is not Google nor Microsoft.


Another possibility is to select the emailWorkflow() function, it is suggested when the email server is Google or Microsoft, and in this case it is not necessary to assign it a value in the property [Value of the emailWorkflow\(\) function](#) because it will always take the address entered in the property [User or account to establish connection](#).

Receiver


Receiver's email address.

Subject

Contains the email subject.

The field can be completed manually by combining it with variables available in **Deyel** using the icon .

Description

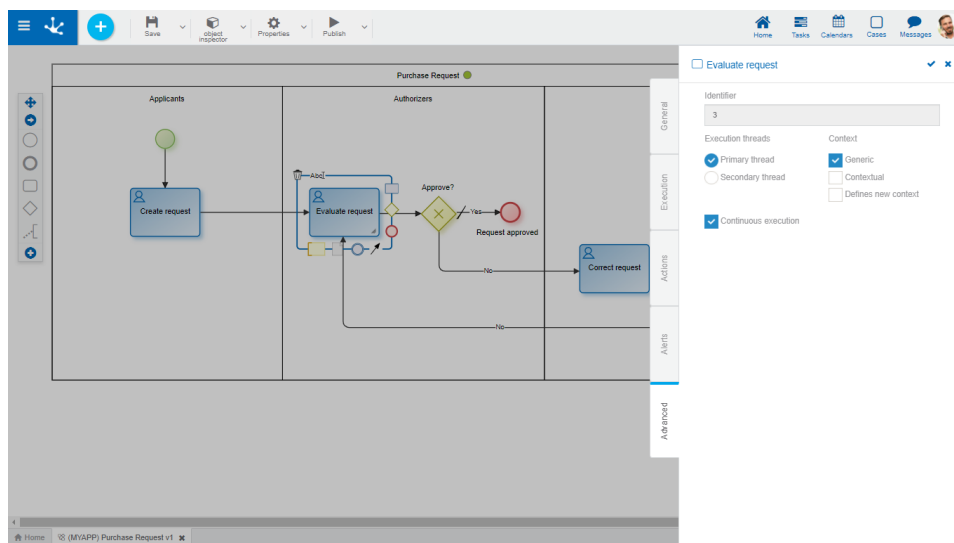
It is the body of the email. The field can be completed manually and also combine it with variables available in **Deyel**, clicking on the icon . Html tags can be used to format the message.

Click on the "Save" button to store the new alert that is incorporated into [Alerts List](#), from where it can be modified or deleted.

Click on the "Cancel" button to close the new alert panel, discarding the changes.

3.7.4.5.5. Advanced

IT modeler users can set advanced level modeling properties in this tab.



Properties

Identifier

Activity code that identifies the activity univocally in the process. This attribute is automatically generated by the modeler and cannot be modified.

Execution Threads

Indicates if the activity is executed on the [Main Thread](#) of the case or on the [Secondary Thread](#).

Context

A process execution context determines the universe of users the case can receive to execute its current task.

When those responsible for the activities are expressly indicated users, it is not necessary to select any of the context attributes.

Generic

This attribute can be selected when the lane responsible defined for the activity is a role or an agent.



When the case reaches the activity defined with [Generic](#) context, all the role/agent users receive the case in a generic way, without the possibility of execution, so that one of them can assign the case or the coordinator of the role can assign it to a particular user.

The moment the case is assigned to a user, it automatically disappears from the other users' task list. To assign the case, press the "Assign" button.



When the next activity has no [Generic](#) attribute defined, the list of role/agent users is submitted from the current activity, to select who the case is given to.

Note: If the current executor is included in the role/agent of the next activity and also the [continuous execution](#) property is selected in the current activity, the next activity execution interface is automatically presented to the current user.

Contextual

When the first case activity is executed, the organizational unit of the user that executes it is established as the "contextual unit" of the case.



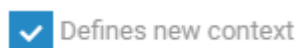
It can be selected in cases where the lane responsible in which the activity is located is defined with role per unit.

When the case reaches the activity with the [Contextual](#) attribute selected, it can only be executed by those users with role per unit and who also belong to the [context unit](#) or to some unit that depends on it. The [Generic](#) attribute should not be selected.



When the activity has no [Contextual](#) attribute selected, it can be executed by the expressly defined responsible users or by the role/agent, without applying any other restriction.

Defines New Context



When the activity execution begins, a new case execution context is established. This means that the [context unit](#) becomes the organizational unit to which the user who is executing the activity belongs. This option is used in very specific situations with a high degree of modeling experience.

Defines new context

The case execution context is not modified. It is the most used option.

Continuous Execution

This indicator is used to specify that after executing the activity it should automatically continue with the next one, whenever possible. In this way, the user can execute the case activities continuously, without accessing the to-do list.

Continuous execution is possible when:

- The responsible for the next activity is a user and it is the same user that executes the current activity.
- The responsible for the next activity is an organizational unit and it is the same organizational unit of the user that executes the current activity.
- The person responsible for the next activity is a role / agent and the user executing the current activity belongs to the role/agent.

If in the next activity the [Contextual](#) attribute is checked, the organizational unit verifies that the current user is the context unit or a unit that depends on it.

Continuous execution

According to the definition of subsequent activity, if the current user can execute it, then its execution starts automatically.

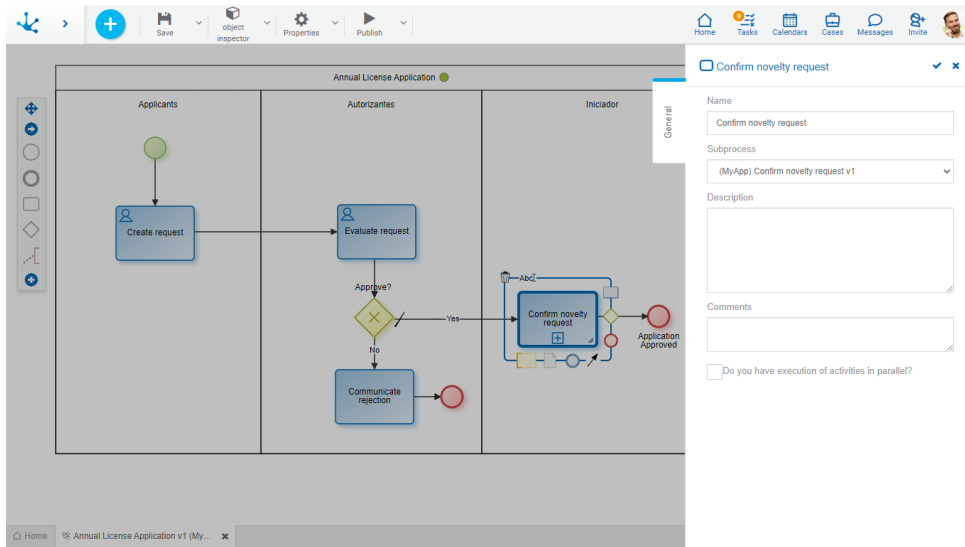
Continuous execution

In this case, even though the current user can execute the next task, they must take the case from "My Tasks".

3.7.4.6. Subprocess Properties

There are different ways to enter a subprocess properties panel:

- Double click on the graphic element corresponding to the [subprocess or abstract activity](#).
- Access the [context menu](#) of the subprocess graphic element.



General Tab

Properties

Name

Activity name. Describes in a generic way the objective of the process that is being represented.

Subprocess

Process represented by this abstract activity. Presents a list of all processes defined to select one of them.

Description

Conceptual description of the activities performed.

Comments


In this field the designer can document in detail what the subprocess execution consists of.

Do you have execution of activities in parallel?

This property should be checked if the selected subprocess has parallel or inclusive gateways modeled.

Actions

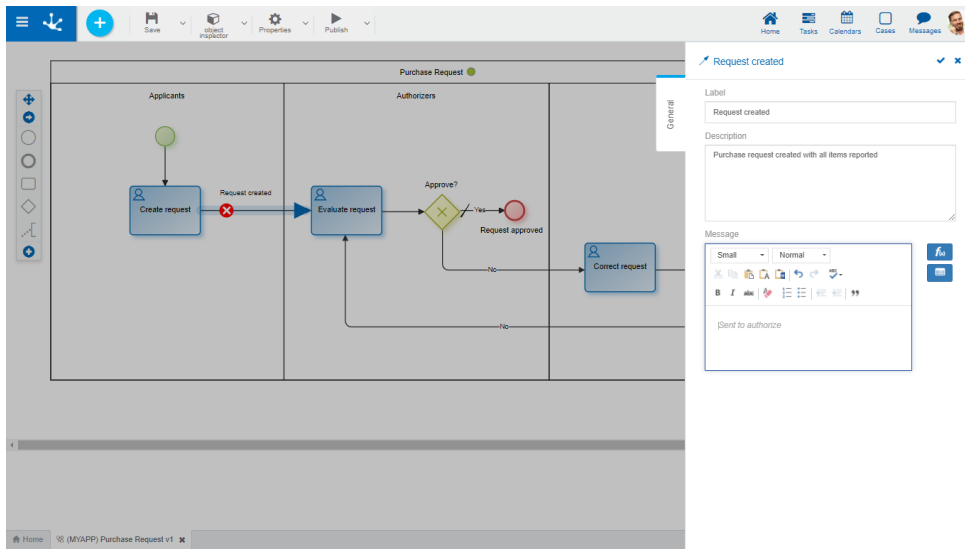
The icon  is used to confirm the modifications made in the properties panel.

The icon  is used to close the properties panel, if it was not previously saved, changes are discarded.

3.7.4.7. Flow Properties

There are different ways to enter a flow properties panel:

- Double click on the graphic element corresponding to the [flow](#).
- Access the [context menu](#) of the flow graphic element.



General Tab

Properties

Label


Flow label.


Description

Text field used to document the meaning of the flow.

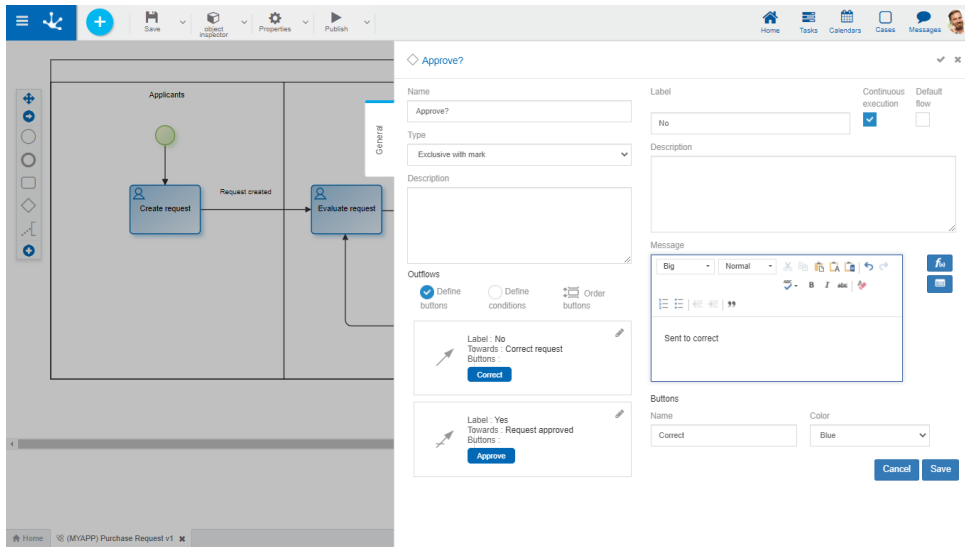
Message

Text displayed when moving to the destination activity of the flow.

 Allows to select functions of **Deyel** from a list to incorporate dynamic information into the message.

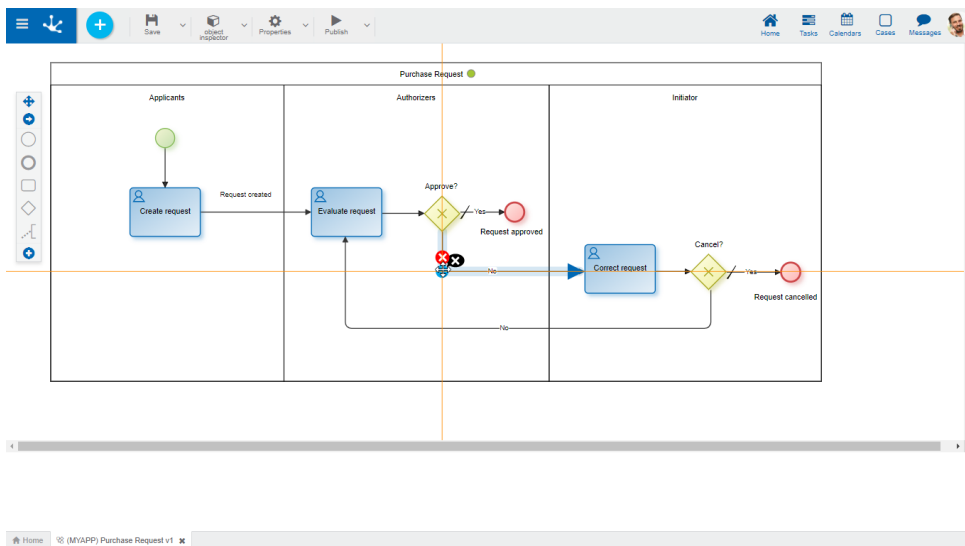
 Allows to incorporate information on entities used in the process execution to the message.


When flow cases are gate outputs, in addition to flow properties, the panel displays the [gate properties](#).





Visual Flow Options

These options are displayed when hovering over the graphic element.



 Deletes the flow.

 Indicates there is a vertex. Positioning the cursor over it enables a black cross that, when selected, will delete such vertex.

 Deletes the vertex. Position the cursor over the blue circle to display the icon and then click on it.

To add a new vertex to the flow, keep the mouse button pressed until a blue point (vertex) is displayed. Once generated a new vertex, it can be moved with the Drag&Drop function.

Actions

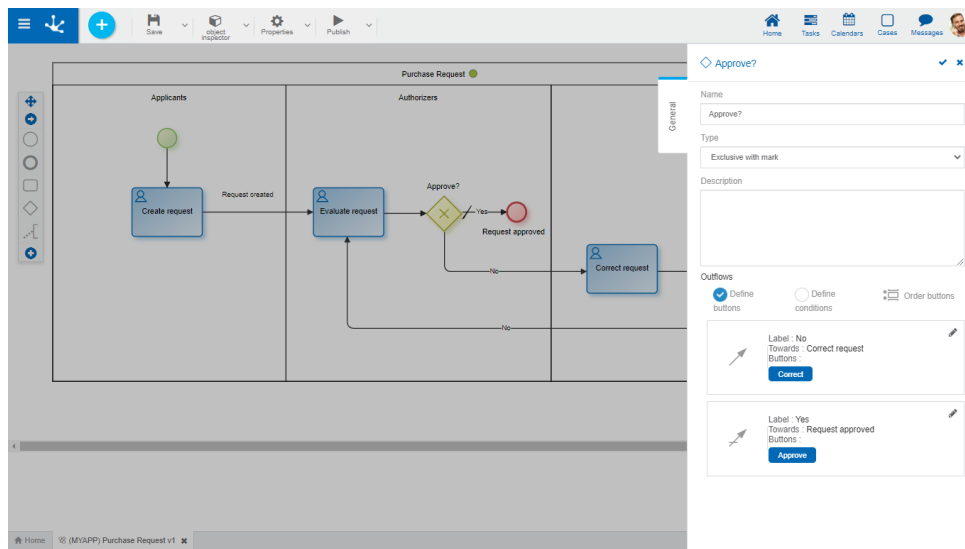
The icon ✓ is used to confirm the modifications made in the properties panel.

The icon ✕ is used to close the properties panel, if it was not previously saved, changes are discarded.

3.7.4.8. Gateway Properties

There are different ways to enter the gateway properties panel:

- Double click on the graphic element corresponding to the [gateway](#).
- Access the [context menu](#) of the gateway graphic element.



General Tab

Properties

Name

Gateway name that should reflect what is being evaluated.

Type

Indicates the [gateway type](#).

Description

Text that describes the gateway purpose.

Output flows

Default Flow

Allows to define a default flow indicating which flow to follow when other flow conditions are not met. This property is required.

Continuous Execution

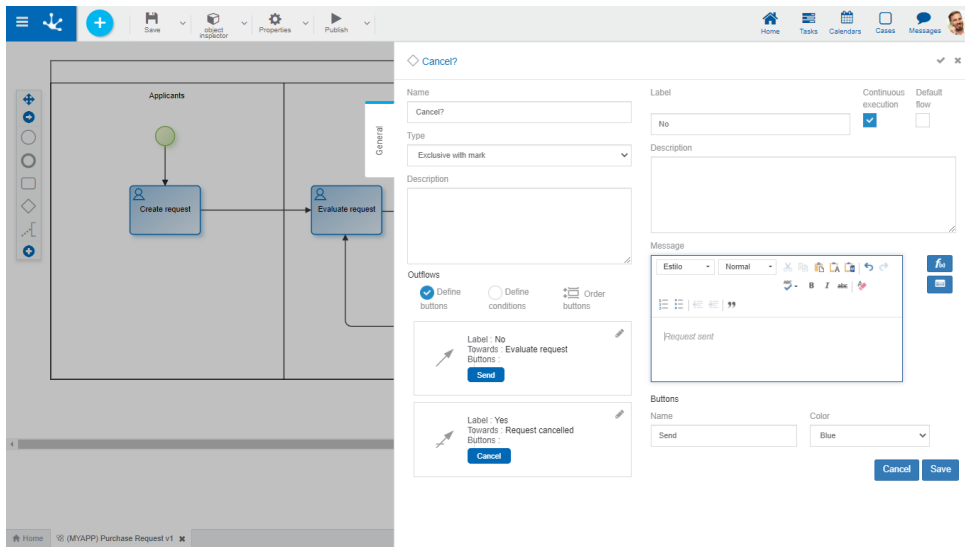
Allows to define the continuous execution of each output flow of the exclusive gateways.


✓ Define buttons

Allows to assign a button for the user to push at each gateway output flow. If the gateway is inclusive, more than one button can be assigned to each flow, and each button may have more than one flow assigned.

Buttons become visible in the execution activity previous to the gateway.

A name and a color are defined for each button .



 Displays a properties panel that allows to establish the button name and color assigned to the flow, and also modifies other [flow properties](#).

Within this panel, if it is an inclusive gateway, the following possibilities are enabled.

+ New button

Allows to add a new button to the flow.

Select assistant bot

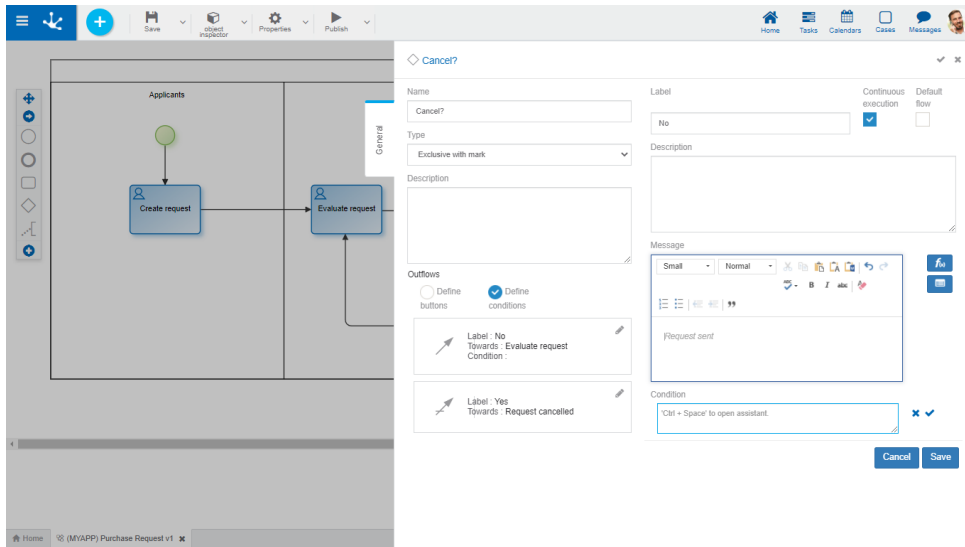
Allows to assign an existing button to the flow.

Order buttons

This functionality is enabled when you select [Define buttons](#). Clicking on it, displays a panel to order buttons with the Drag&Drop function.

✓ Define conditions

Allows to assign conditions to be met so that the process continues its execution following the flow.



✎ Displays a properties panel where the flow conditions are modeled by means of the [embedded rules wizard](#) that allows to select fields of entities that participate in the process and operations to be applied. Additionally, it is also possible to modify other [flow properties](#).

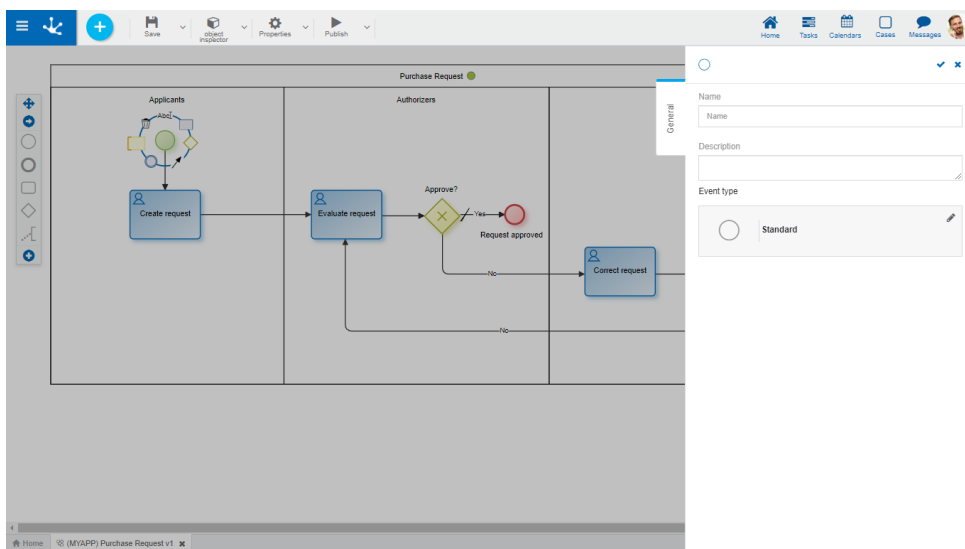
If the process is related to several forms, the wizard allows to select the form fields indicated as [main entity in form properties](#).

If an entity is not defined as the main entity, the first form fields displayed when expanding the list in the [Execution Definition](#) property can be selected in the process activities.

3.7.4.9. Event Properties

There are different ways to enter the properties panel an event:

- Double click on the graphic element corresponding to the [event](#).
- Access the [context menu](#) of the event graphic element.



Actions

The icon ✓ is used to confirm the modifications made in the properties panel.

The icon ✕ is used to close the properties panel, if it was not previously saved, changes are discarded.

3.7.4.9.1. Starts Events

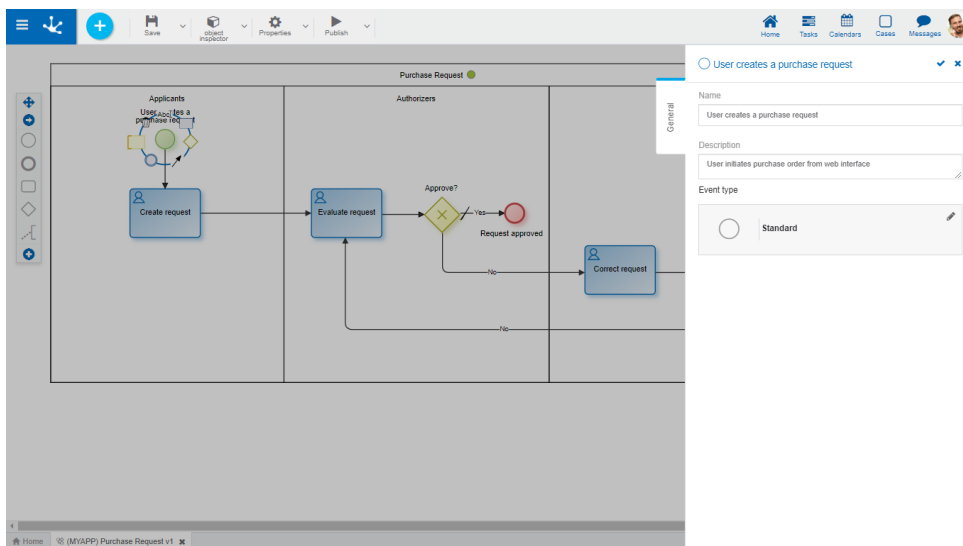
General Tab

In the "General" tab, common properties for all start events and the special ones for each case are defined, which are enabled when assigning the type of start event.

- [Standard](#)
- [Command](#)
- [Email](#)
- [Signal](#)
- [Timer](#)
- [File](#)
- [Rule](#)

3.7.4.9.1.1. Standard

The properties panel of the [standard start event](#) is displayed on the right side of the process modeler.



Properties

Name

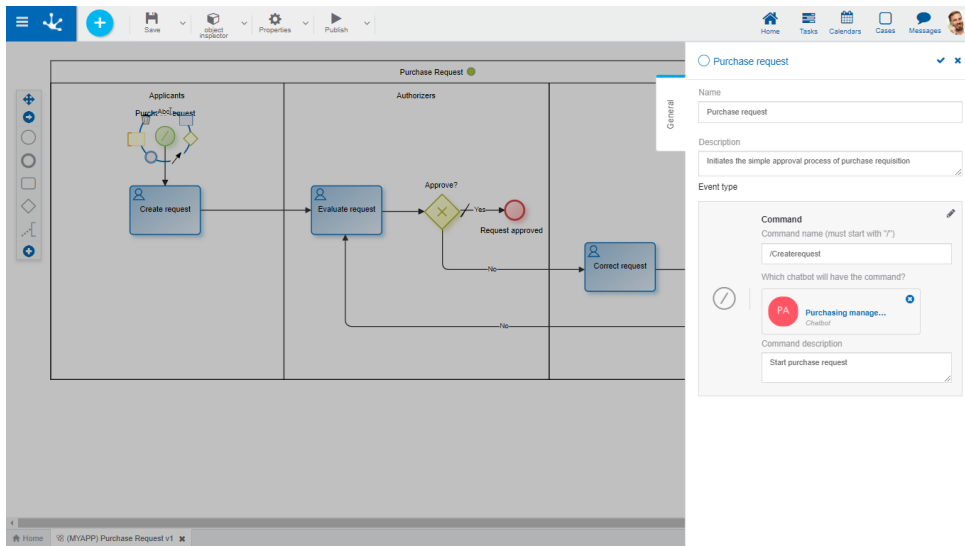
Text that is displayed in the diagram next to the graphic element of the event.

Description

Field that allows to document the event.

3.7.4.9.1.2. Command

The properties panel of the [start event by command](#) is displayed on the right side of the process modeler.



Properties

Name

Text that is displayed in the diagram next to the graphic element of the event. It is recommended to provide a text that identifies the command.

Description

Field that allows to document the event.

Command

Text assigned by the user to identify the command that starts the process. It must start with a slash "/" and followed by the name the user informed, with no blank spaces.

By default it presents the command established in the process creation. It can be modified.

Chatbot

Indicates the [chatbot](#) used to execute the command.

By default, the chatbot informed in the process creation is displayed, and besides, if the [Define new assistant](#) process property is checked, a new chatbot is automatically created, configuring itself as [wizard](#) of the user that is modeling the process.

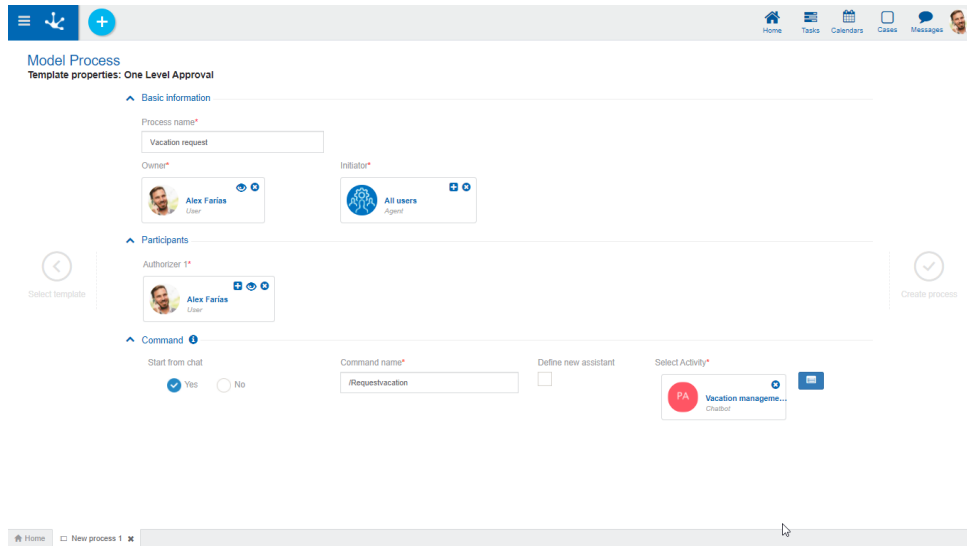
To modify the assigned chatbot, click on the delete icon. This property has autocomplete function, therefore as characters are entered, the first five matches are dynamically displayed to select one of them.

Command Description

Explanatory text that is displayed when selecting the command from the chat window.

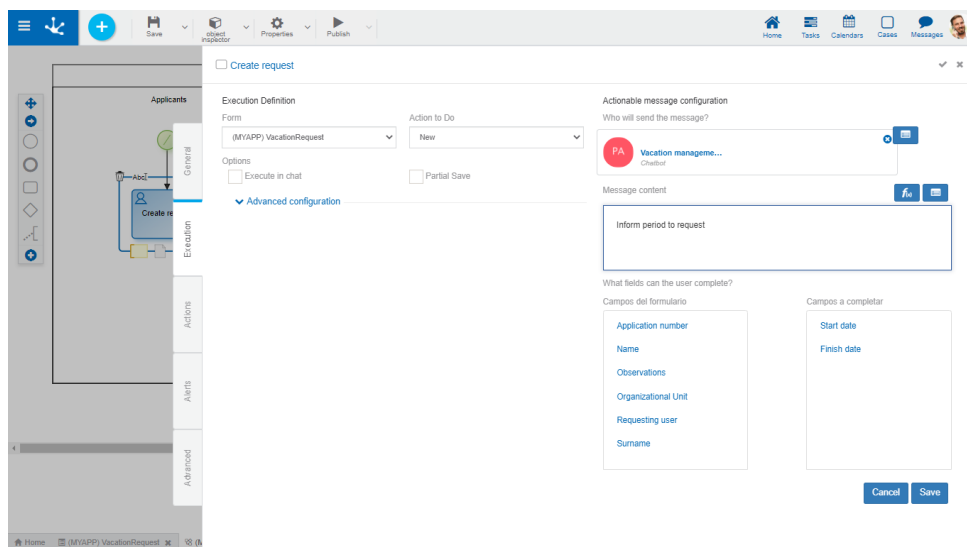
Example

The command start event is automatically defined when the process property is checked [Start from Chat](#), when modeling a new process, whether from a template or not.



To modify the type in an already defined start event, access the [context menu](#) of the graphic element and select the type of start event from the options that are presented.

The first activity of a process that starts with a command event, must have the [Execute on Chat](#) property checked.



Properties

Who will send the message?

The user or [chatbot](#) that sends the message from the chat is informed. It generally matches the chatbot assigned in the command start event.

Note that if a user is informed, that user does not see their own message.

Message content

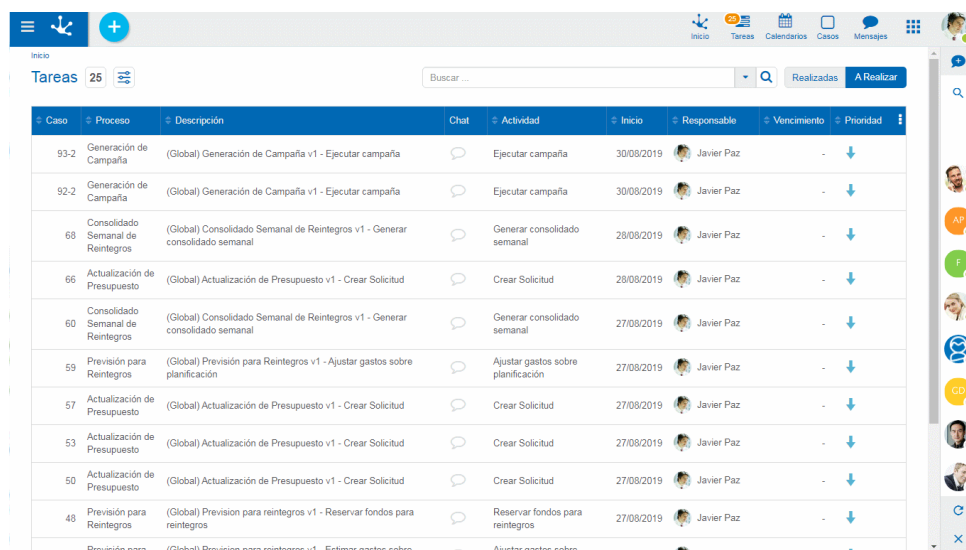
Inform the text displayed in the chat at the beginning of the process.

What fields can the user complete?

Move the fields that the user must complete from the chat to the fields box to complete, in the first process activity.

Use of the Process

- To start the process by chat, the user must have permission to start the process.
- If the command is assigned to a chatbot configured as "visible", users can initiate the command directly from the chatbot in a chat.
- If the chatbot with the command is configured as "not visible", then necessarily some user must be using it as [wizard](#). A chat with that user must be opened to access the command.

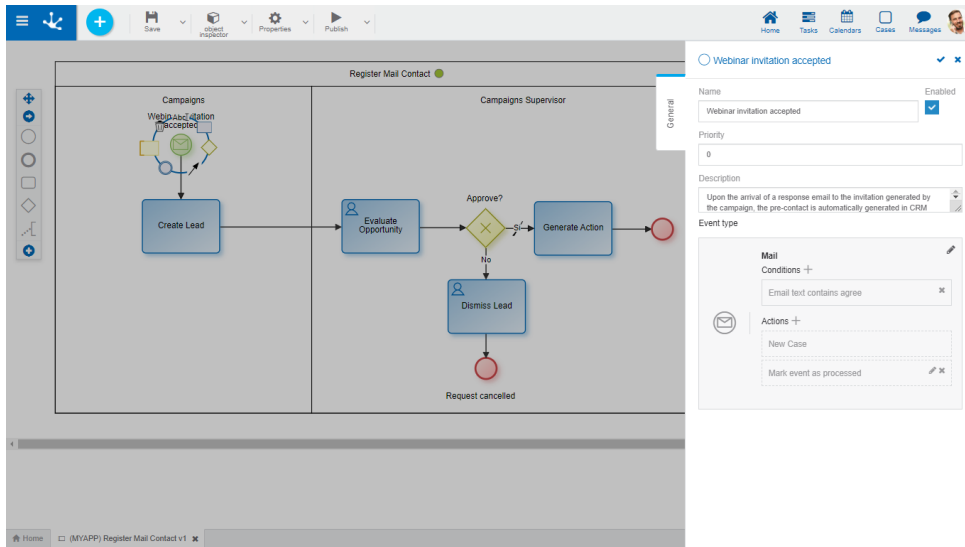


Caso	Proceso	Descripción	Chat	Actividad	Inicio	Responsable	Vencimiento	Prioridad
93-2	Generación de Campaña	(Global) Generación de Campaña v1 - Ejecutar campaña		Ejecutar campaña	30/08/2019	Javier Paz	-	↓
92-2	Generación de Campaña	(Global) Generación de Campaña v1 - Ejecutar campaña		Ejecutar campaña	30/08/2019	Javier Paz	-	↓
60	Consolidado Semanal de Reintegros	(Global) Consolidado Semanal de Reintegros v1 - Generar consolidado semanal		Generar consolidado semanal	28/08/2019	Javier Paz	-	↓
66	Actualización de Presupuesto	(Global) Actualización de Presupuesto v1 - Crear Solicitud		Crear Solicitud	28/08/2019	Javier Paz	-	↓
60	Consolidado Semanal de Reintegros	(Global) Consolidado Semanal de Reintegros v1 - Generar consolidado semanal		Generar consolidado semanal	27/08/2019	Javier Paz	-	↓
59	Previsión para Reintegros	(Global) Previsión para Reintegros v1 - Ajustar gastos sobre planificación		Ajustar gastos sobre planificación	27/08/2019	Javier Paz	-	↓
57	Actualización de Presupuesto	(Global) Actualización de Presupuesto v1 - Crear Solicitud		Crear Solicitud	27/08/2019	Javier Paz	-	↓
53	Actualización de Presupuesto	(Global) Actualización de Presupuesto v1 - Crear Solicitud		Crear Solicitud	27/08/2019	Javier Paz	-	↓
50	Actualización de Presupuesto	(Global) Actualización de Presupuesto v1 - Crear Solicitud		Crear Solicitud	27/08/2019	Javier Paz	-	↓
48	Previsión para Reintegros	(Global) Previsión para reintegros v1 - Reservar fondos para reintegros		Reservar fondos para reintegros	27/08/2019	Javier Paz	-	↓
...	Previsión para Reintegros	(Global) Previsión para reintegros v1 - Estimar gastos sobre		Ajustar gastos sobre

In the chat window, the data required in the form must be informed and one of the proposed buttons of the [actionable message](#) must be pressed.

3.7.4.9.1.3. Email

The properties panel of the [start event by email](#) is displayed on the right side of the process modeler.



Properties

Name

Text that is displayed in the diagram next to the graphic element of the event. It is recommended to inform a text in reference to the email expected to be received.

Enabled

Indicates that the event is enabled to receive emails and execute if applicable.

Priority

Execution priority assigned to the event. It is reported as an integer, with 0 being the highest priority. If the event performs the action [mark event as processed](#), events with lower priority are not executed.

Description

Text that allows documenting detailed information about the event.

Conditions

They are the conditions that must be met for the event to be executed. If there are defined conditions, a list of them is displayed.

To add a condition, press the icon **+** and from the panel that opens, select **Property** and **Operator** in the corresponding drop-down lists. Report **Value** and where applicable, indicate in **Parameter** the field to be evaluated of the form associated with the process.

Property	Example
<ul style="list-style-type: none"> Email subject Email text 	Email subject contains "Information request"
<ul style="list-style-type: none"> Email sender Email recipient 	Email sender Equals AtencionConsultas@Deyel.com

More than one address can be repor-

Property	Example
	<i>ted separated by ; (semicolon) without leaving spaces</i>
<ul style="list-style-type: none"> Name without the attachment extension in n position (starts at 1) Attachment extension in n position (starts at 1) 	Name without the attachment extension in n position starts with "Sheet", indicated in parameter 1 (first position)
<ul style="list-style-type: none"> Number of email days elapsed 	Number of days elapsed Equals 3

Actions

They are the actions that are carried out automatically when the event occurs.

- Create Case

For all start events, a case is compulsorily created for the process and a version in which the event is executed.

- Attach file

Allows to attach one or more files to the case.

Parameter	Description
Email attachment	Position number of the email attachment that is attached to the case. (*)
Depends on the previous execution	Indicates if the action is executed only when the previously defined actions were executed successfully.(*)

Note: The parameters selected with () are mandatory.*

- Attach form

Allows to relate a form to the case.

Parameter	Description
User Code	If it is not reported, the current user is assigned.
Values map	Report <field1><value1><field2><value2>..., where fieldN corresponds to form field names and valueN to the values that are assigned to each field. It has higher priority than

Parameter	Description
	DS_XML_CONTENT_PATH
XML	File path that contains the XML. It is mandatory if DS_VALUE_MAP is not reported
Annex Type	Annex type attached (*).
Create version if it exists and if it is unique	If when attaching the form, it already exists and is unique, a historical version of it is previously created.
Reset previous form and it is unique	Indicates that if there is a form associated with the case and it is unique, data is deleted from it.
Depends on the previous execution	The action is executed only if the previously defined actions were executed successfully.(*).

Note: The parameters marked with () are mandatory.*

- Check event as processed

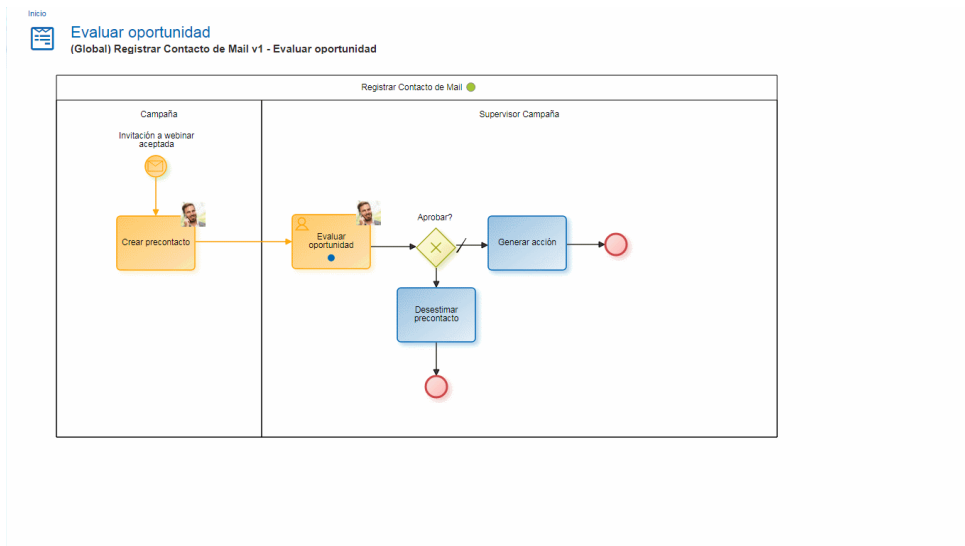
An automatic response is sent to the email received indicating that it has been processed.

Parameter	Description
Depends on the previous execution	Indicates if the action is executed only when the previously defined actions were executed successfully (*).

Note: The parameters marked with () are mandatory.*

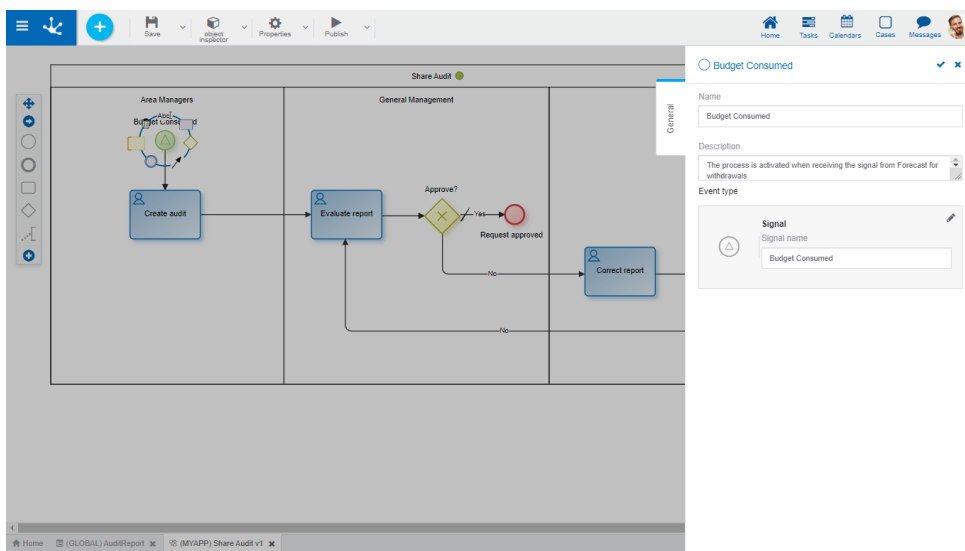
Example of Use

The "Register Email Contact" process starts its execution automatically when an email arrives to the [email account](#) established in the environment configuration, under the title "Invitation to **Deyel** Webinar" and the word "Agree" is in the content.



3.7.4.9.1.4. Signal

The properties panel of the [start event by signal](#) is displayed on the right side of the process modeler.



Properties

Name

Text that is displayed in the diagram next to the graphic element of the event. It is recommended to inform a text in reference to the signal expected to be received.

Description

Text that allows documenting detailed information about the event.

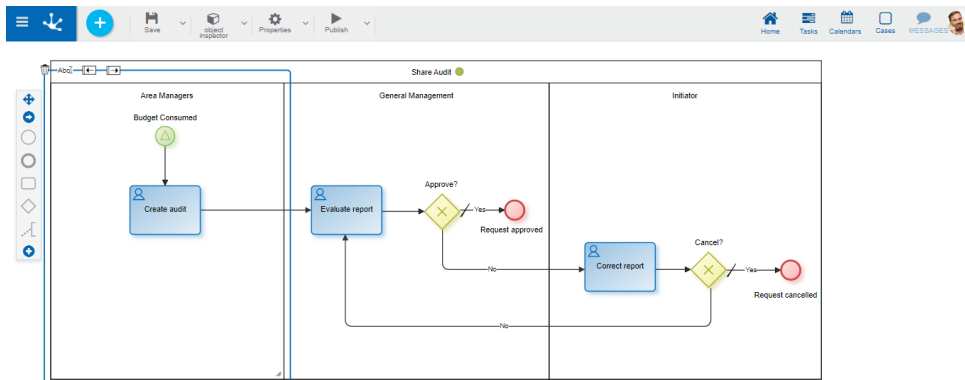
Signal Name

Signal that the event expects to receive to start execution automatically. The signal is sent by a [signal end event](#) or a [throw signal intermediate event](#).

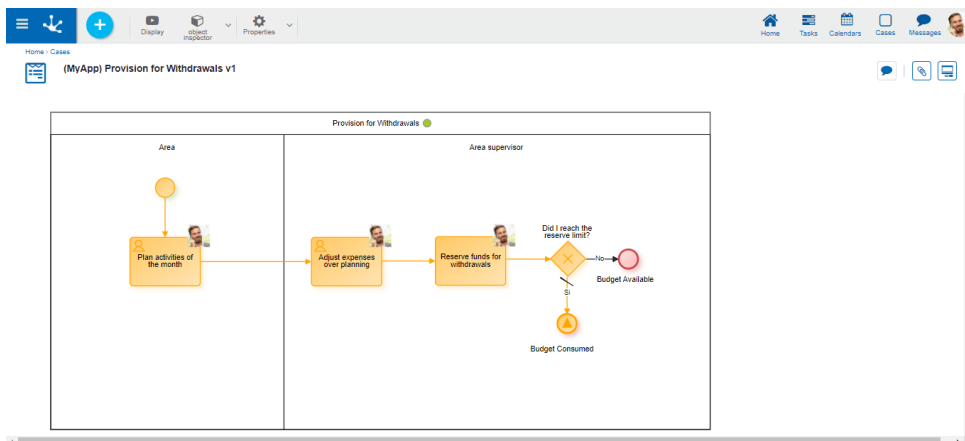
There may be more than one process waiting for the same signal.

Example of Use

The audit process starts automatically upon receiving the "Budget Consumed" signal sent by the "Provision for Refunds", process in one of its possible endings.

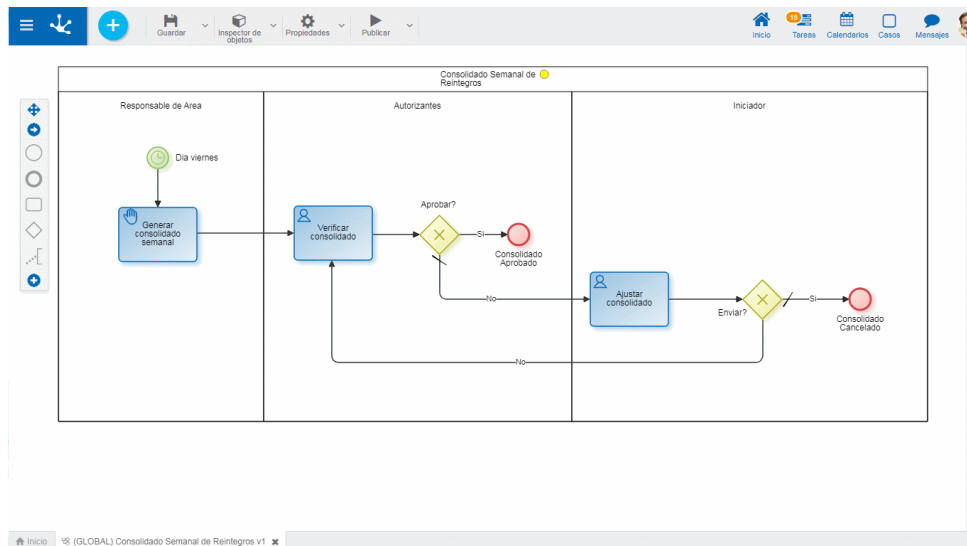


"Provision for Refunds" process in which the "Consumed Budget" signal is generated.



3.7.4.9.1.5. Timer

The properties panel of the [timer start event](#) is displayed on the right side of the process modeler.



Properties

Name

Text that is displayed in the diagram next to the graphic element of the event. It is recommended to inform a text in reference to the event scheduling.

Enabled

This property is checked to indicate that an event is active and can be automatically executed according to its scheduling.

Description

Text that allows documenting detailed information about the event.

Conditions

They are the conditions that must be met for the event to be executed. If there are defined conditions, a list of them is displayed.

To add a condition, press the icon **+** and from the panel that opens, select **Property** and **Operator** in the corresponding drop-down lists. Report **Value** and where applicable, indicate in **Parameter** the field to be evaluated of the form associated with the process.

For this type of event, apply the following [conditions](#):

- Current time
- Current day
- Current month
- Current year
- Current hour
- Current minute
- Current seconds
- Current milliseconds
- Weekday

How often should it execute?

Type

Allows to define the execution schedule for the event

- Regular intervals
- Daily at a specific time

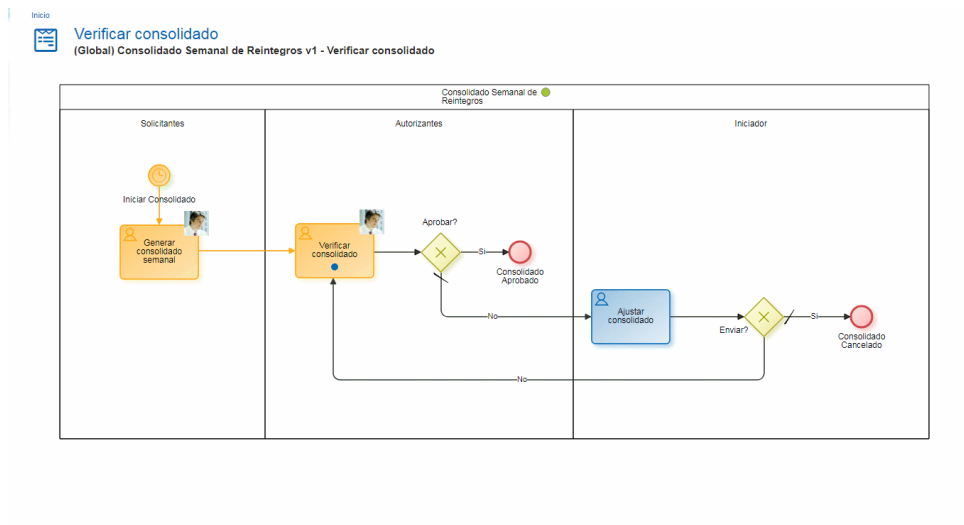
Value

Allows to define the interval value in seconds or at a specific time, according to the previously defined type.

The "Save schedule" button must be pressed to keep the established schedule. It can be seen on the Scheduled Tasks Monitor.

Example of Use

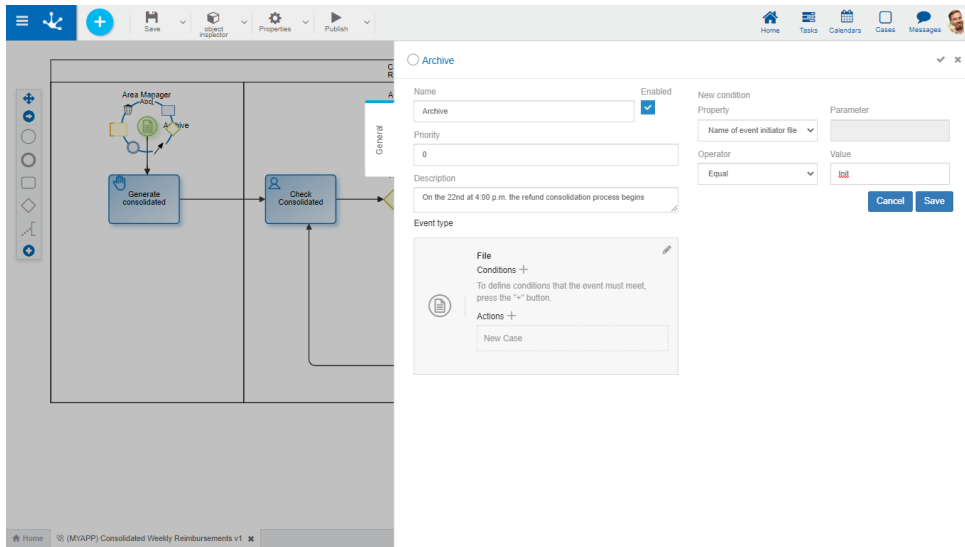
The "Consolidated Weekly Refund" process begins its execution automatically on Fridays at 10:00.



3.7.4.9.1.6. File

This type of event is available only for on-premises installations, as they require access to resources on the client's computer.

The properties panel of the [start event per file](#) is displayed on the right side of the process modeler.



Properties

Name

Text that is displayed in the diagram next to the graphic element of the event. It is recommended to inform a text in reference to the email expected to be received.

Enabled

This property is checked when the event activates, waiting for the file.

Priority

Execution priority assigned to the event. It is reported as an integer, with 0 being the highest priority. If the event performs the action [mark event as processed](#), events with lower priority are not executed.

Description

Text that allows documenting detailed information about the event.

Conditions

They are the conditions that must be met for the event to be executed. If there are defined conditions, a list of them is displayed.

To add a condition, press the icon **+** and from the panel that opens, select **Property** and **Operator** in the corresponding drop-down lists. Report **Value** and where applicable, indicate in **Parameter** the field to be evaluated of the form associated with the process.

Property	Example
Name of the event initiator file, without the extension	Name of the event initiator file Contains "Ticket"
Name of the folder that contains the event initiator file	Name of the folder that contains the event initiator file Equals "Receipt of Tickets"
File extension (without dot)	File extension Equals XML

Property	Example
Event initiator file path	Event initiator file path Equals "C:\Claims\Tickets Attention"
Folder path that contains the event initiator file	Folder path that contains the event initiator file Equals "D:\Claims Attention"
Number of file days elapsed	Number of file days elapsed Greater than or Equal to 9
File type (File or Folder)	

Actions

They are the actions that are carried out automatically when the event occurs.

- Create Case

For all start events, a case is compulsorily created for the process and a version in which the event is executed.

- Attach file

Allows to attach a file to the case.

Parameter	Description
Depends on the previous execution	Indicates if the action is executed only when the previously defined actions were executed successfully.(*)

Note: The parameters selected with () are mandatory.*

- Attach form

Allows to relate a form to the case.

Parameter	Description
User Code	If it is not reported, the current user is assigned.
Values map	Report <field1><value1><field2><value2>..., where fieldN corresponds to form field names and valueN to the values that are assigned to each field. It has higher priority than DS_XML_CONTENT_PATH

Parameter	Description
XML	File path that contains the XML. It is mandatory if DS_VALUE_MAP is not reported
Annex Type	Annex type attached (*).
Create version if it exists and if it is unique	If when attaching the form, it already exists and is unique, a historical version of it is previously created.
Reset previous form and it is unique	Indicates that if there is a form associated with the case and it is unique, data is deleted from it.
Depends on the previous execution	The action is executed only if the previously defined actions were executed successfully.(*).

Note: The parameters marked with () are mandatory.*

- Check event as processed

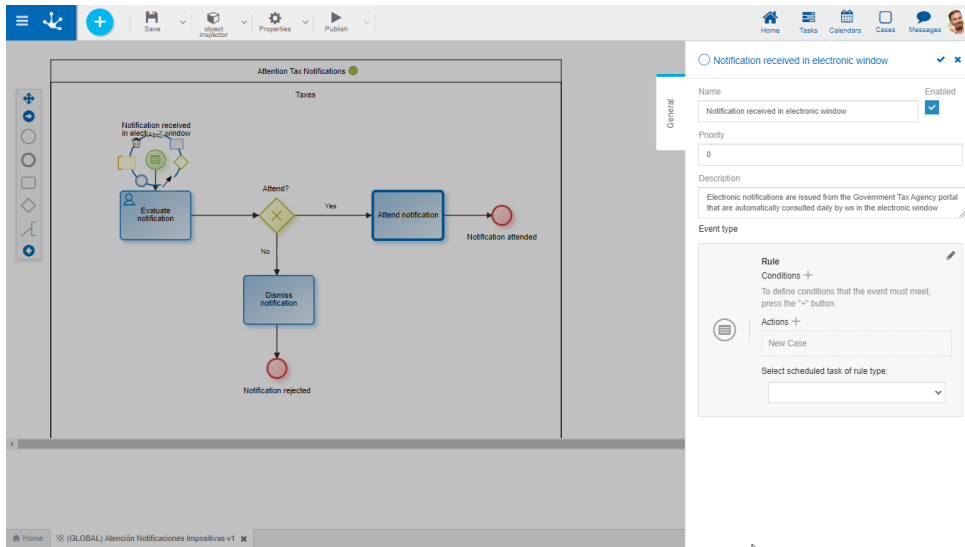
An automatic response is sent to the email received indicating that it has been processed.

Parameter	Description
Depends on the previous execution	Indicates if the action is executed only when the previously defined actions were executed successfully (*).

Note: The parameters marked with () are mandatory.*

3.7.4.9.1.7. Rule

The properties panel of the [start event by rule](#) is displayed on the right side of the process modeler.



Properties

Name

Text that is displayed in the diagram next to the graphic element of the event. It is recommended to inform a text in reference to the rule whose execution is expected.

Enabled

This property is checked to indicate that the event activates, waiting for the rule.

Priority


Execution priority assigned to the event. It is reported as an integer, being 0 the top priority.

Description

Text that allows documenting detailed information about the event.

Conditions

They are the conditions that must be met for the event to be executed. If there are defined conditions, a list of them is displayed.

To add a condition, press the icon  and from the panel that opens, select **Property** and **Operator** in the corresponding drop-down lists. Report **Value** and where applicable, indicate in **Parameter** the field to be evaluated of the form associated with the process.

Actions

They are the actions that are carried out automatically when the event occurs.

- Create Case

For all start events, a case is compulsorily created for the process and a version in which the event is executed.

- Attach file

Allows to attach a file to the case.

Parameter

Description

Parameter	Description
File to attach	File attached to the case.
Depends on the previous execution	Indicates if the action is executed only when the previously defined actions were executed successfully.(*)

Note: The parameters selected with () are mandatory.*

- Attach form

Allows to relate a form to the case.

Parameter	Description
User Code	If it is not reported, the current user is assigned.
Values map	Report <field1><value1><field2><value2>..., where fieldN corresponds to form field names and valueN to the values that are assigned to each field. It has higher priority than DS_XML_CONTENT_PATH
XML	File path that contains the XML. It is mandatory if DS_VALUE_MAP is not reported
Annex Type	Annex type attached (*).
Create version if it exists and if it is unique	If when attaching the form, it already exists and is unique, a historical version of it is previously created.
Reset previous form and it is unique	Indicates that if there is a form associated with the case and it is unique, data is deleted from it.
Depends on the previous execution	The action is executed only if the previously defined actions were executed successfully.(*).

Note: The parameters marked with () are mandatory.*

Select scheduled rule task

The executed business rule is selected. It must be a previously published advanced rule.

Example of Use

The "Attention to Tax Notifications" process starts automatically when the business rule associated with the rule start event detects a notification in the government portal, following the WS specifications published in it.

3.7.4.9.2. Intermediate Events

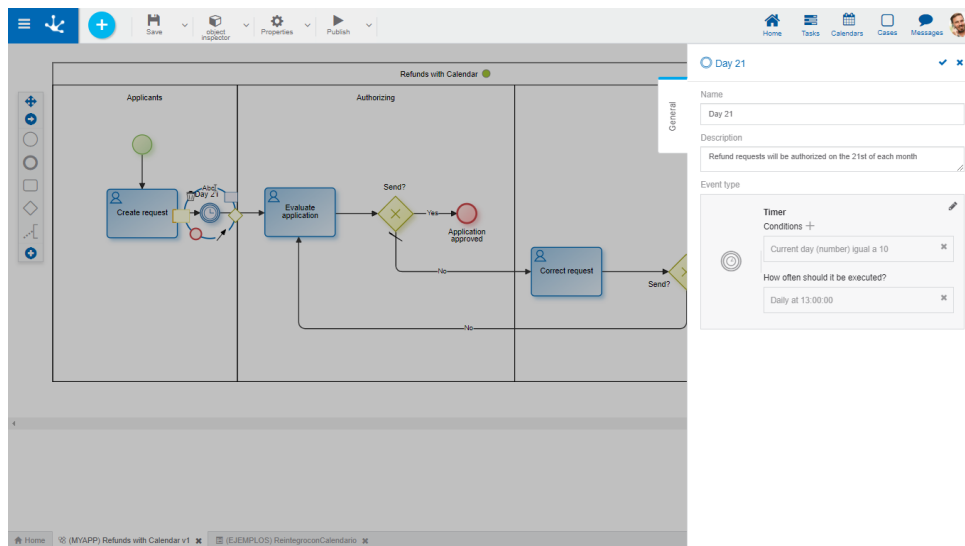
General Tab

In the "General" tab, common properties for all intermediate events and the specific ones for each case are defined, which are enabled when assigning the type of intermediate event.

- [Timer](#)
- [Throw and Catch a Signal](#)
- [Throw and Catch Link](#)

3.7.4.9.2.1. Timer

The properties panel of the [timer intermediate event](#) is displayed on the right side of the process modeler.



Properties

Name


Text that is displayed in the diagram next to the graphic element of the event. It is recommended to inform a text in reference to the event scheduling.

Description

Text that allows documenting detailed information about the event.

Conditions

They are the conditions that must be met for the event to be executed. If there are defined conditions, a list of them is displayed.

To add a condition, press the icon  and from the panel that opens, select **Property** and **Operator** in the corresponding drop-down lists. Report **Value** and where applicable, indicate in **Parameter** the field to be evaluated of the form associated with the process.

Property	Example
<ul style="list-style-type: none">• Current time• Current day (numeric)• Current month (numeric)• Current year (numeric)	Current time Equals 13:30 Current month Less than or equals 6 <i>Time format is HH:MM. Supports one-digit values for the time. When showing the current month, a number between 1 and 12 must be informed in value.</i>
<ul style="list-style-type: none">• Current hour (numeric)• Current minute (numeric)• Current seconds (numeric)• Current milliseconds	Current time (numeric) Equals 1.50 Current milliseconds Greater 48600000
<ul style="list-style-type: none">• Day of the week (Sunday=1)	Day of the week equals 6 (6 = Friday) <i>An integer between 1 and 7 must be informed in value, where 1 corresponds to Sunday.</i>
<ul style="list-style-type: none">• DateTime parameter (*)• Date parameter (*)• Time parameter (*)	Inform in Parameter a form field that is converted to date/time/date time for its evaluation <i>The date format is DD/MM/YYYY. The datetime format is DD/MM/YYY HH:MM, with a blank space. Time format is HH:MM. Both formats support one-digit values for day and month.</i>
<ul style="list-style-type: none">• Working days elapsed since the date (*)• Years elapsed since the date (*)• Months elapsed since the date (*)• Days elapsed since the date (*)	Inform in Parameter a specific date in DD/MM/YYYY format or a form field that contains a date <i>For these properties an integer value must be informed.</i>

Property	Example
<ul style="list-style-type: none"> Hours elapsed since the "time" hour (*) Minutes elapsed since the "time" hour (*) Seconds elapsed since the "time" hour (*) 	<p>Inform in Parameter a specific time in DD/MM/YYYY format or a form field that contains a time</p> <p><i>For these properties an integer value must be informed.</i></p>

(*) Properties available only for intermediate and border events

How often should it execute?

Type

Allows to define the execution schedule for the event

- Regular intervals
- Daily at a specific time

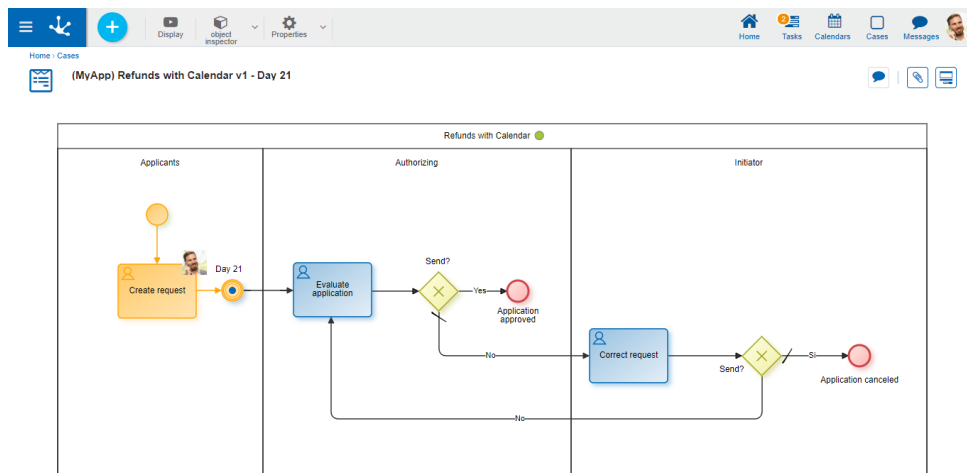
Value

Allows to define the interval value in seconds or at a specific time, according to the previously defined type.

The "Save schedule" button must be pressed to keep the established schedule. It can be seen on the Scheduled Tasks Monitor.

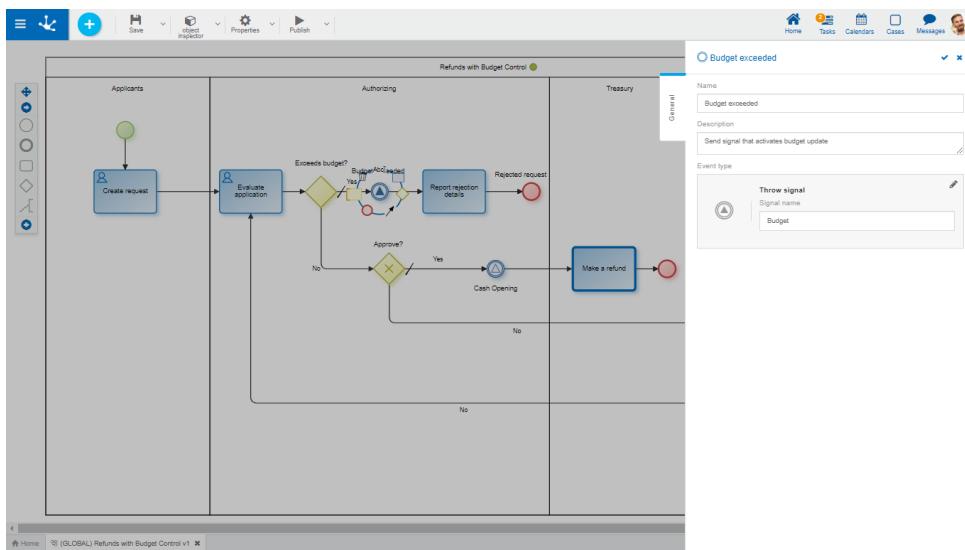
Example of Use

The "Refund Request with Calendar" process begins at the request of users. The authorizer receives requests not until day 21.



3.7.4.9.2.2. Throw and Catch a Signal

The properties panel of the [throw](#) and [catch signal intermediate events](#), is displayed on the right side of the process modeler.



Properties

Name

Text that is displayed in the diagram next to the graphic element of the event. It is recommended to inform a text in reference to the signal expected to be received or sent.

Description

Text that allows documenting detailed information about the event.

Signal Name

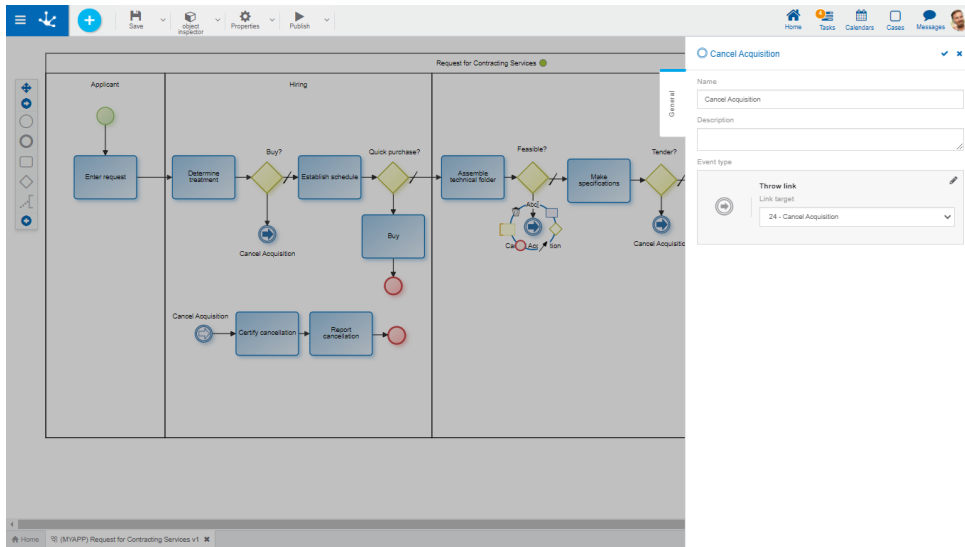
Signal identifier that the event expects to receive or sends in order to continue executing the case automatically, depending on whether it is a [catch](#) or a [launch](#) event. A character string is specified. There may be more than one process waiting for the same signal.

Example of Use

The "Refund with Budget Control" process sends a signal to automatically start the "Review Budgeting" process, when the established budget has been exceeded. Approved refund requests await a treasury signal that enables the cash flow.

3.7.4.9.2.3. Throw and Catch Link

The properties panel of the [throw link](#) and [capture link intermediate events](#), is displayed on the right side of the process modeler.



Properties

Name

Text that is displayed in the diagram next to the graphic element of the event. If it is a catch link event, it is also the identifier used to reach it, from the throw link event.

Description

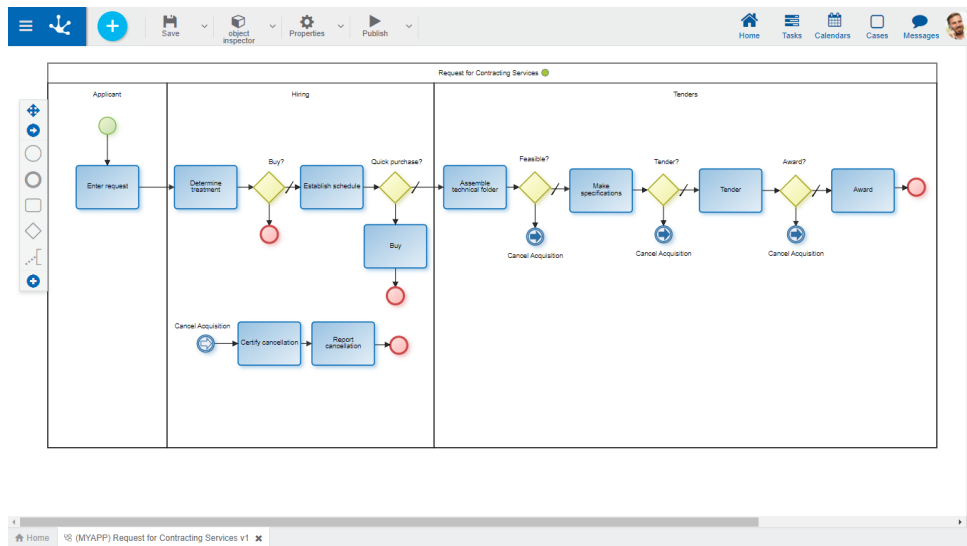
Text that allows documenting detailed information about the event.

Link Destination

This attribute corresponds to the throw link event. Allows to select the event type catch link to go to.

Example of Use

The "Request for Contracting Services" process, to facilitate its interpretation, presents several links to the "Cancel Acquisition" event. These events are particularly useful in complex diagrams.



3.7.4.9.3. Border Event

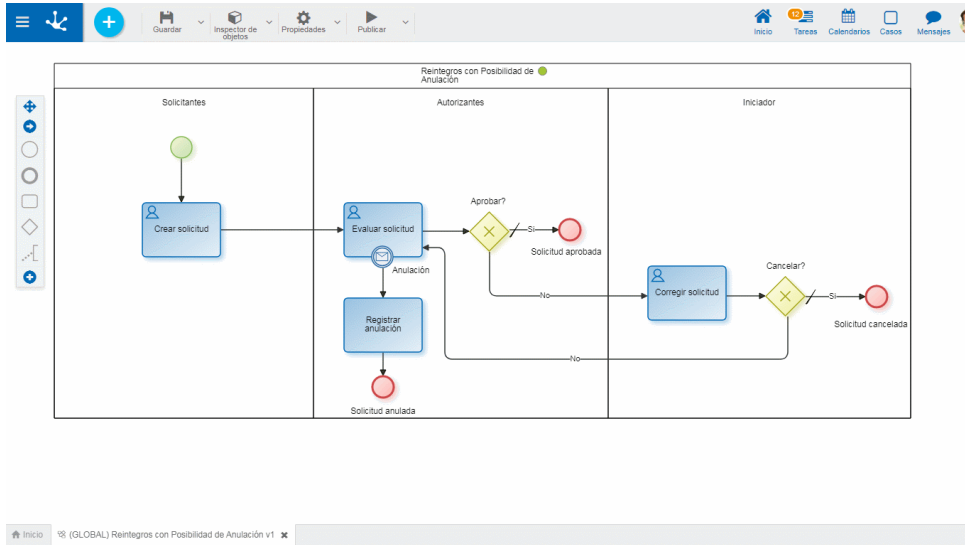
General Tab

In the "General" tab, common properties for all border events and the specific ones for each case are defined, which are enabled when assigning the type of border event.

- [Email](#)
- [Throw and Catch a Signal](#)
- [Timer](#)
- [File](#)
- [Rule](#)

3.7.4.9.3.1. Email

The properties panel of the [email border event](#) is displayed on the right side of the process modeler.



Properties

Name

Event name. It is displayed in the process next to the graphic element that represents the event.

Description

Field that allows documenting the event.

Priority

Execution priority assigned to the event. It is reported as an integer, with 0 being the highest priority. If the event performs the action [mark event as processed](#), events with lower priority are not executed.

Interrupting

The email border event is always interrupting. This means that if the established conditions are met, the event actions are executed and the case follows the event output flow.

Enabled

Indicates that the event is enabled to receive emails and execute if applicable.

Conditions

Allows to define [conditions](#) to be met for the email event to be executed.

Actions

They are the actions that are carried out automatically when the event occurs.

- Move Case

The case affected by the event moves on to the next activity.

- Attach file

Allows to attach a file to the case.

Parameter	Description
-----------	-------------

Parameter	Description
Email attachment	Position number of the email attachment that is attached to the case. (*)
Depends on the previous execution	Indicates if the action is executed only when the previously defined actions were executed successfully. (*)

Note: The parameters selected with () are mandatory.*

- Attach form

Allows to relate a form to the case.

Parameter	Description
User Code	If it is not reported, the current user is assigned.
Values map	Report <field1><value1><field2><value2>..., where fieldN corresponds to form field names and valueN to the values that are assigned to each field. It has higher priority than DS_XML_CONTENT_PATH
XML	File path that contains the XML. It is mandatory if DS_VALUE_MAP is not reported
Annex Type	Annex type attached (*).
Create version if it exists and if it is unique	If when attaching the form, it already exists and is unique, a historical version of it is previously created.
Reset previous form and it is unique	Indicates that if there is a form associated with the case and it is unique, data is deleted from it.
Depends on the previous execution	The action is executed only if the previously defined actions were executed successfully. (*)

Note: The parameters marked with () are mandatory.*

- Check event as processed

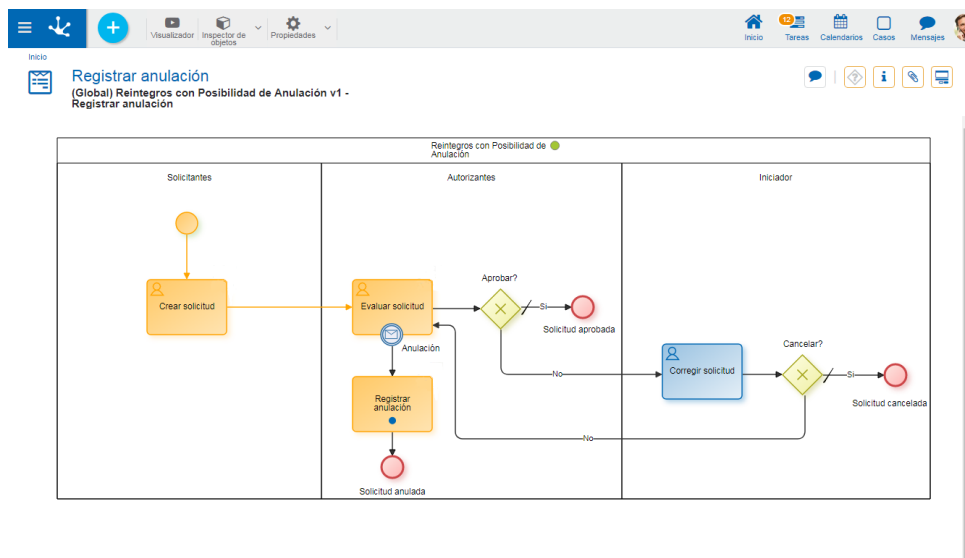
An automatic response is sent to the email received indicating that it has been processed.

Parameter	Description
Depends on the previous execution	Indicates if the action is executed only when the previously defined actions were executed successfully (*).

Note: The parameters marked with () are mandatory.*

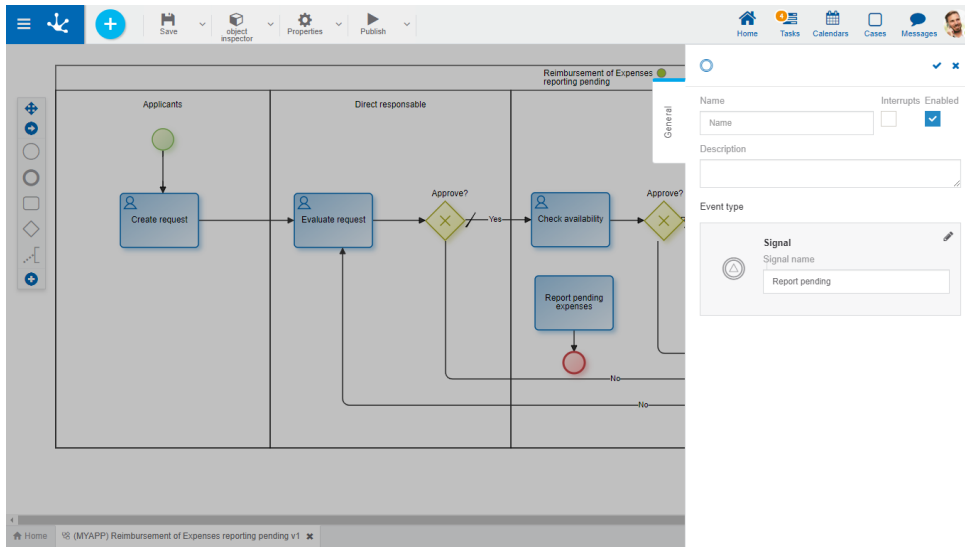
Examples of Use

In the "Refunds with Possibility of Cancellation" process, if the applicant notices a mistake in the request sent, they can send an email to cancel it, as long as it has not been approved yet.



3.7.4.9.3.2. Signal

The properties panel of the [signal border event](#) is displayed on the right side of the process modeler.



Properties

Name

Event name. It is displayed in the process next to the graphic element that represents the event.

Description

Field that allows documenting the event.

Interrupting

Defines if the event is interrupting or non-interrupting. In both cases the signal must be received when the current activity of the case is the one that has the border event.

- Interrupting: When the signal is received, the execution of the current activity is interrupted and the case follows the event output flow.
- Non-interrupting: When the signal is received, the execution of other tasks begins, defined as event output flow. The current activity is not interrupted and the case continues after it finishes.

Enabled

Indicates if the event is activated to wait for the signal and execute.

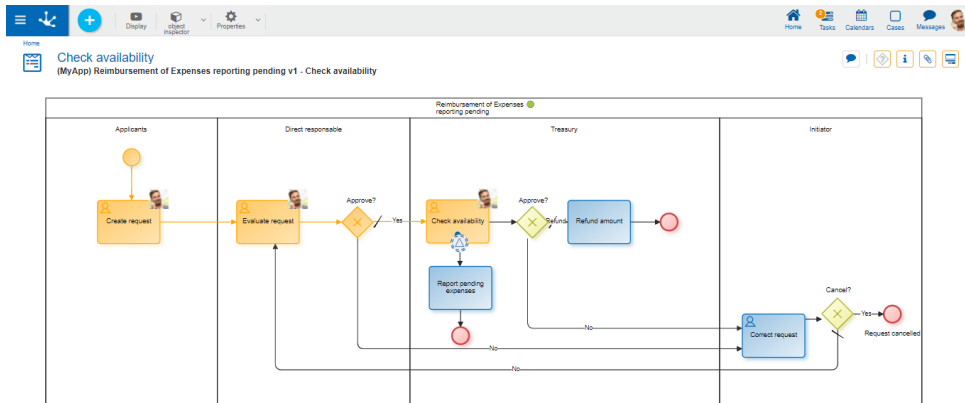
Signal Code

It is the signal identifier. A character string is specified.

Examples of Use

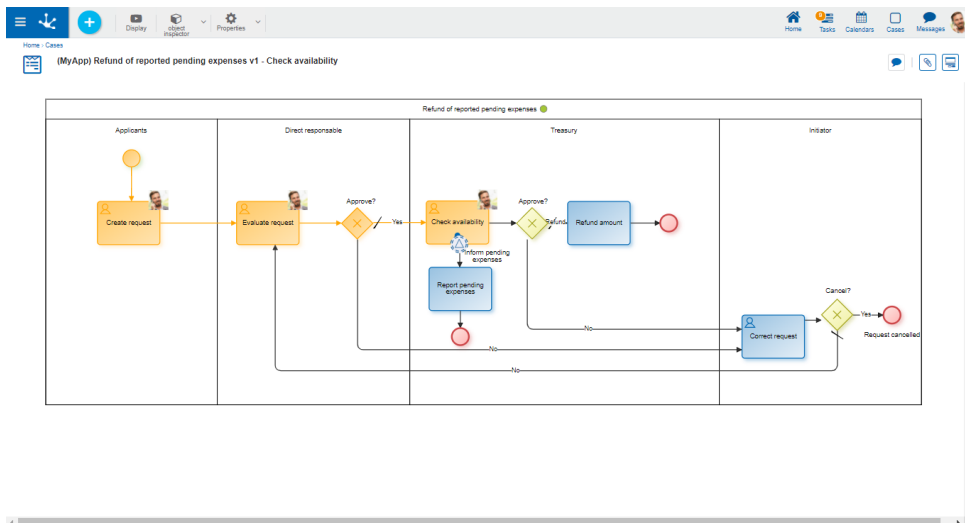
Interrupting Signal Border Event

In the "Refund with possible payment suspension" process, if the "Suspension of refunds" signal is received, the cases in the "Check documentation" activity are suspended and the process ends.



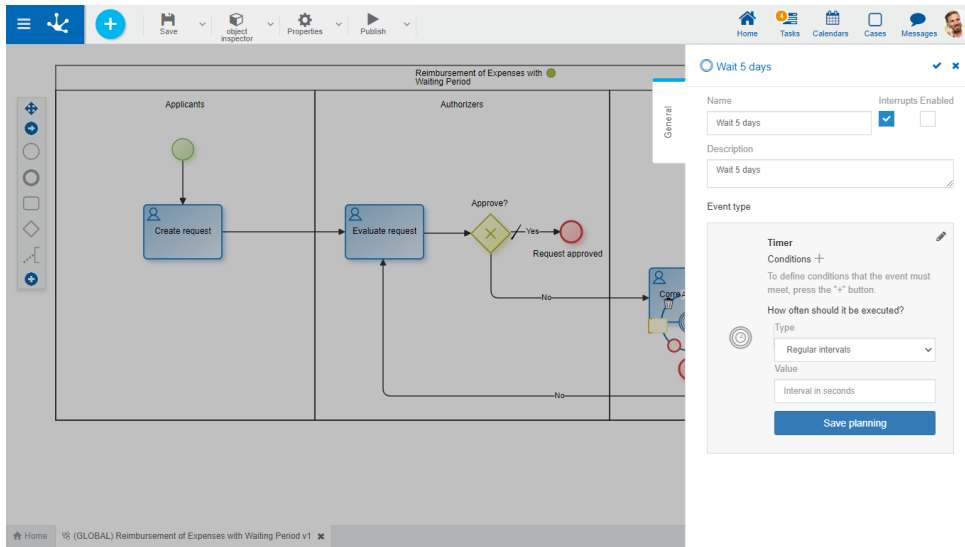
Interrupting Signal Border Event

When the "Inform pending expenses" signal is received, in the "Refund of reported pending expenses" process, a report of the cases in the "Check availability" activity is generated. The cases continue through the circuit defined in the process.



3.7.4.9.3.3. Timer

The properties panel of the [timer border event](#) is displayed on the right side of the process modeler.



Properties

Name

Event name. It is displayed in the process next to the graphic element that represents the event.

Description

Field that allows documenting the event.

Interrupting

Defines if the event is interrupting or non-interrupting.


- Interrupting: When the conditions of the event are met, the execution of the current activity is interrupted and the case follows the event output flow.
 - Non-interrupting: When the event conditions are met, the execution of other tasks begins, defined as event output flow. The current activity is not interrupted and the case advances after it finishes.
- The event conditions are evaluated when the current activity of the case is the one that has the border event.

Enabled

Indicates if the case is enabled to be executed as scheduled, when the established conditions are met.

Conditions

They are the conditions that must be met for the event to be executed. If there are defined conditions, a list of them is displayed.

To add a condition, press the icon  and from the panel that opens, select **Property** and **Operator** in the corresponding drop-down lists. Report **Value** and where applicable, indicate in **Parameter** the field to be evaluated of the form associated with the process.

For this type of event, apply all the [conditions](#).

How often should it execute?

Type

Allows to define the execution schedule for the event

- Regular intervals
- Daily at a specific time

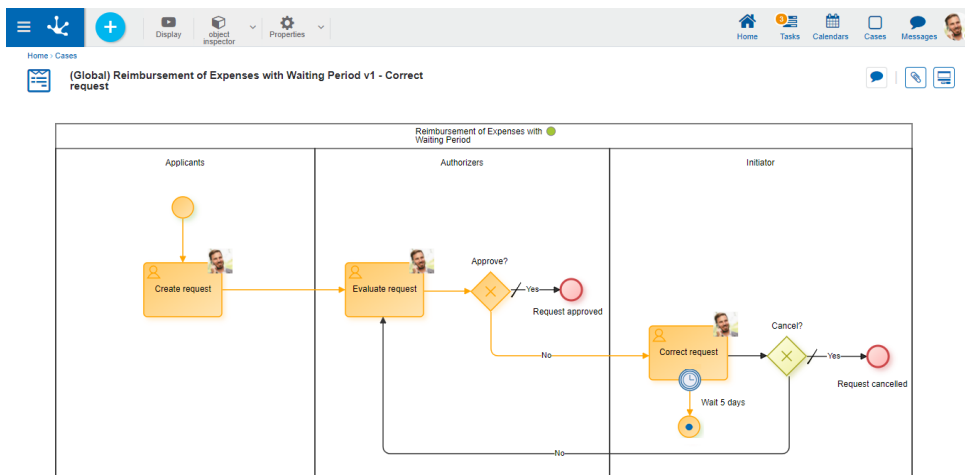
Value

Allows to define the interval value in seconds or at a specific time, according to the previously defined type.

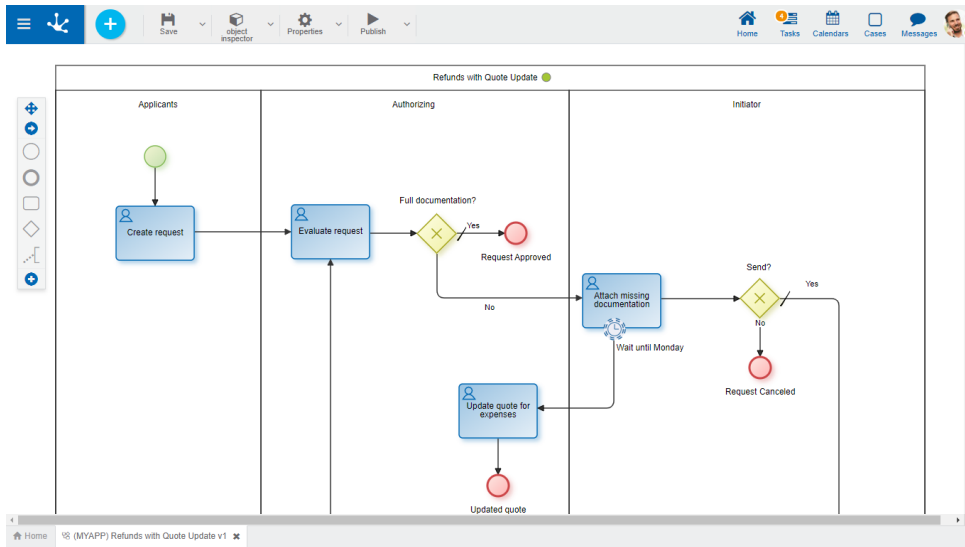
The "Save schedule" button must be pressed to keep the established schedule. It can be seen on the Scheduled Tasks Monitor.

Examples of Use

In the "Expenses Refund with Waiting Period" process, if the applicant receives the request for its modification, they have 5 days to correct it. If the deadline expires and the request was not resubmitted, the process ends automatically and the request expires.

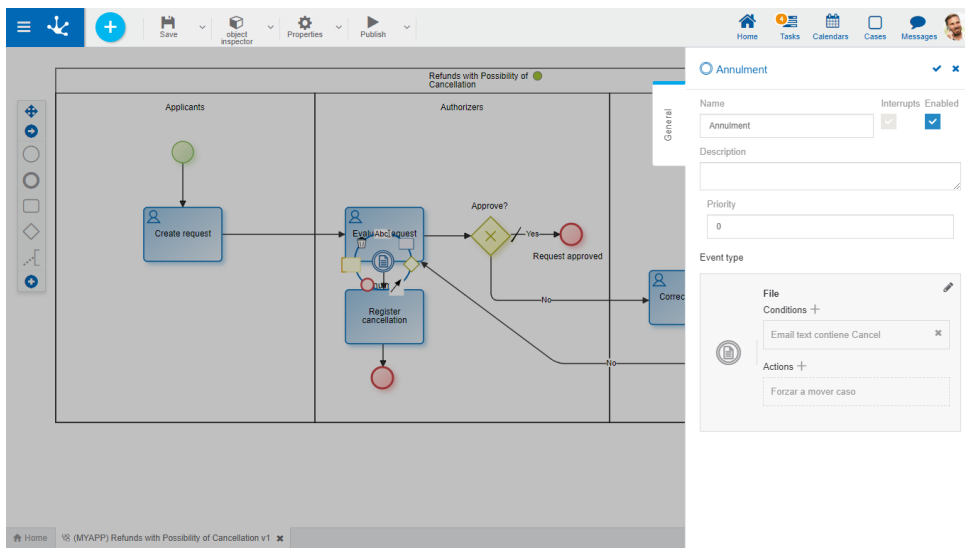


If in the "Refunds with Quote Update" process, while the case is in the "Attach missing documentation" activity, the conditions established in the timer border event are met, the quote is updated. When the applicant attaches the missing documentation, the case returns to the "Evaluate request" activity.



3.7.4.9.3.4. File

The properties panel of the [file border event](#) is displayed on the right side of the process modeler.



Properties

Name

Event name. It is displayed in the process next to the graphic element that represents the event.

Description

Field that allows documenting the event.

Priority

Execution priority assigned to the event. It is reported as an integer, with 0 being the highest priority. If the event performs the action [mark event as processed](#), events with lower priority are not executed.

Interrupting

The file border event is always interrupting. This means that if the established conditions are met, the event actions are executed and the case follows the event output flow.

Conditions

Allows to define [conditions](#) to be met for the event to be executed.

Actions

They are the actions that are carried out automatically when the event occurs.

- Move Case

The case affected by the event moves on to the next activity.

- Attach file

Allows to attach one or more files to the case.

Parameter	Description
Depends on the previous execution	Indicates if the action is executed only when the previously defined actions were executed successfully (*).

Note: The parameters marked with () are mandatory.*

- Attach form

Allows to relate a form to the case.

Parameter	Description
User Code	If it is not reported, the current user is assigned.
Values map	Report <field1><value1><field2><value2>..., where fieldN corresponds to form field names and valueN to the values that are assigned to each field. It has higher priority than DS_XML_CONTENT_PATH
XML	File path that contains the XML. It is mandatory if DS_VALUE_MAP is not reported
Annex Type	Annex type attached (*).

Parameter	Description
Create version if it exists and if it is unique	If when attaching the form, it already exists and is unique, a historical version of it is previously created.
Reset previous form and it is unique	Indicates that if there is a form associated with the case and it is unique, data is deleted from it.
Depends on the previous execution	The action is executed only if the previously defined actions were executed successfully.*.

Note: The parameters marked with () are mandatory.*

- Check event as processed

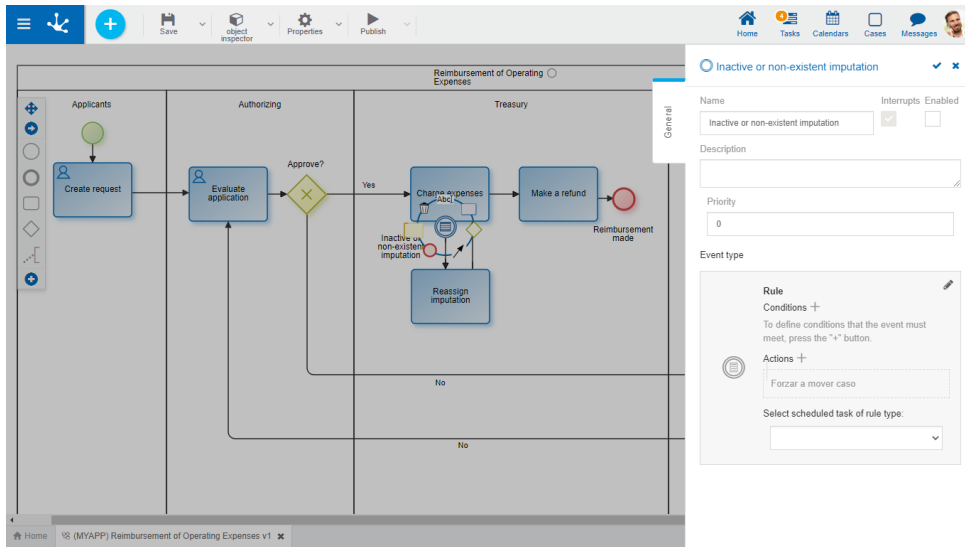
An automatic response is sent to the email received indicating that it has been processed.

Parameter	Description
Depends on the previous execution	Indicates if the action is executed only when the previously defined actions were executed successfully (*).

Note: The parameters marked with () are mandatory.*

3.7.4.9.3.5. Rule

The properties panel of the [rule border event](#) is displayed on the right side of the process modeler.



Properties

Name

Event name. It is displayed in the process next to the graphic element that represents the event.

Description

Field that allows documenting the event.

Priority

Determines the priority of the event.

Interrupting

The rule border event is always interrupting. This means that if the established conditions are met, the event actions are executed and the case follows the event output flow.

Enabled

Indicates that the event is enabled to be executed according to the rule.

Conditions

They are the conditions that must be met for the event to be executed. If there are defined conditions, a list of them is displayed.

To add a condition, press the icon **+** and from the panel that opens, select **Property** and **Operator** in the corresponding drop-down lists. Report **Value** and where applicable, indicate in **Parameter** the field to be evaluated of the form associated with the process.

Actions

They are the actions that are carried out automatically when the event occurs.

- Move Case

The case affected by the event moves on to the next activity.

- Attach file

Allows to attach one or more files to the case.

Parameter	Description
File to attach	File attached to the case. (*)
Depends on the previous execution	Indicates if the action is executed only when the previously defined actions were executed successfully.(*)

Note: The parameters selected with () are mandatory.*

- Attach form

Allows to relate a form to the case.

Parameter	Description
User Code	If it is not reported, the current user is assigned.
Values map	Report <field1><value1><field2><value2>..., where fieldN corresponds to form field names and valueN to the values that are assigned to each field. It has higher priority than DS_XML_CONTENT_PATH
XML	File path that contains the XML. It is mandatory if DS_VALUE_MAP is not reported
Annex Type	Annex type attached (*).
Create version if it exists and if it is unique	If when attaching the form, it already exists and is unique, a historical version of it is previously created.
Reset previous form and it is unique	Indicates that if there is a form associated with the case and it is unique, data is deleted from it.
Depends on the previous execution	The action is executed only if the previously defined actions were executed successfully.(*)

Note: The parameters marked with () are mandatory.*

Select scheduled rule task

Allows to select the rule to use, which must be an advanced rule and must be published.

Example of Use

In the "Refund of Operating Expenses" process, if the "Charge expenses" activity is executed and a rule that detects inactive or non-existent expense charges is executed, charges are reassigned so that the case can move to the "Make a refund" activity.

3.7.4.9.4. End Events

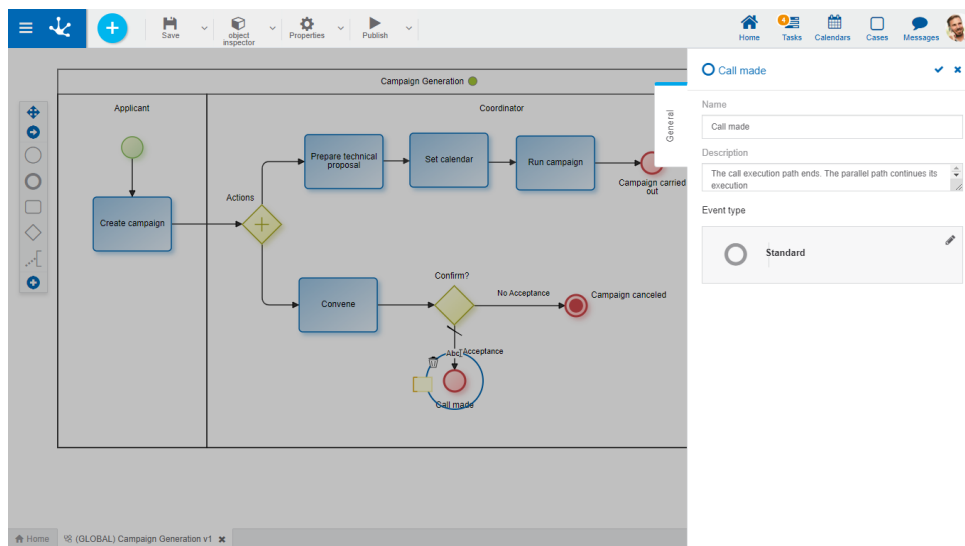
General Tab

In the "General" tab, common properties for all end events and the specific ones for each case are defined, which are enabled when assigning the type of end event.

- [Standard](#)
- [Signal](#)
- [Terminal](#)

3.7.4.9.4.1. Standard

The properties panel of the [standard end event](#) is displayed on the right side of the process modeler.



Properties

Name

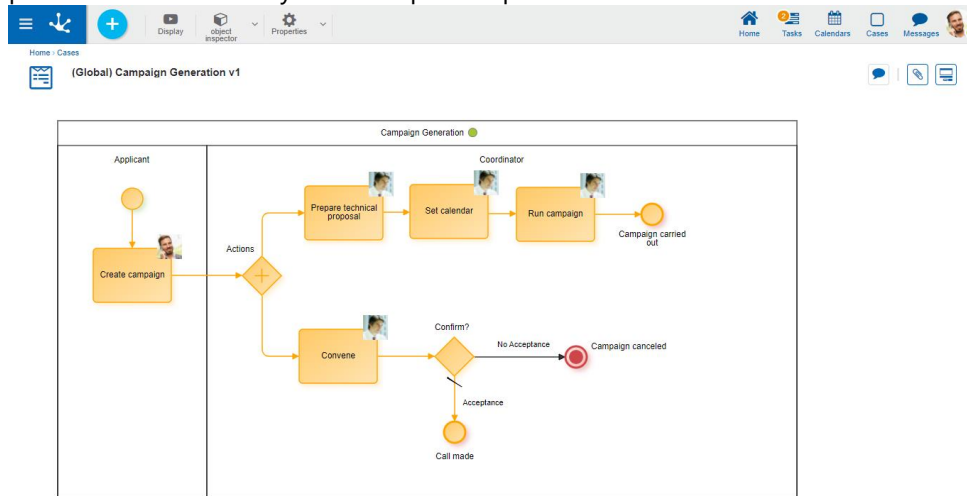
Text that is displayed in the diagram next to the graphic element of the event.

Description

Field that allows documenting the event.

Example of Use

The "Generate Campaign" process has two paths. The standard end event finishes the execution of the path that reaches it only. The fork parallel path is still active.

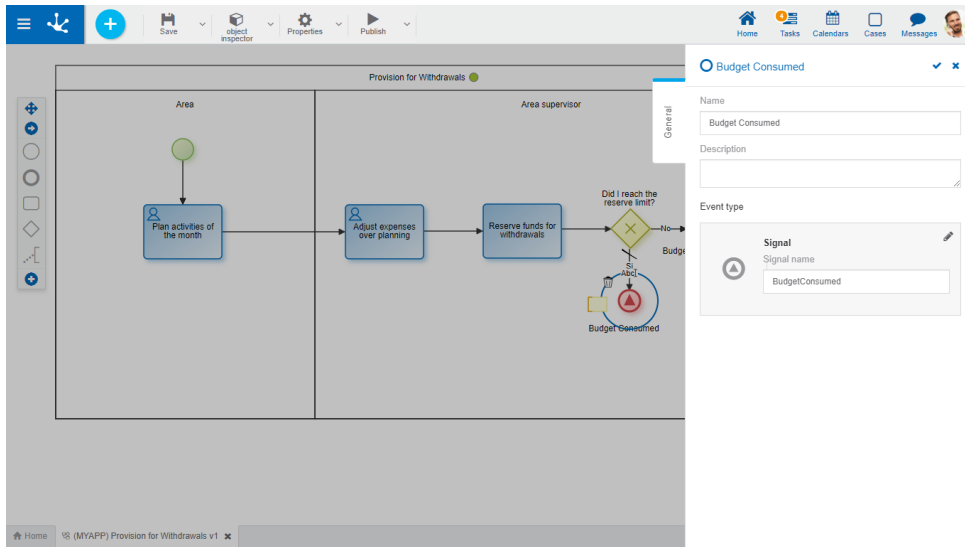


In the case show, the path end in which the standard end event is located can be seen. The parallel path is still active.

Caso	Inicio	Proceso	Estado	Descripción	Chat	Actividad	Inicio Actividad	Responsable	Finalización	Vencimiento	Prioridad
133-2	13.04	Generación de Campaña	●	(Global) Generación de Campaña v1 - Campaña realizada		Campaña realizada			13.05		
133-1	13.04	Generación de Campaña	●	(Global) Generación de Campaña v1 - Convocar		Convocar	13.04	Javier Paz			
133	13.04	Generación de Campaña	●	(Global) Generación de Campaña v1		Acciones					

3.7.4.9.4.2. Signal

The properties panel of the [signal end event](#) is displayed on the right side of the process modeler.



Properties

Name

Text that is displayed in the diagram next to the graphic element of the event. It is recommended to refer to the waiting signal.

Description

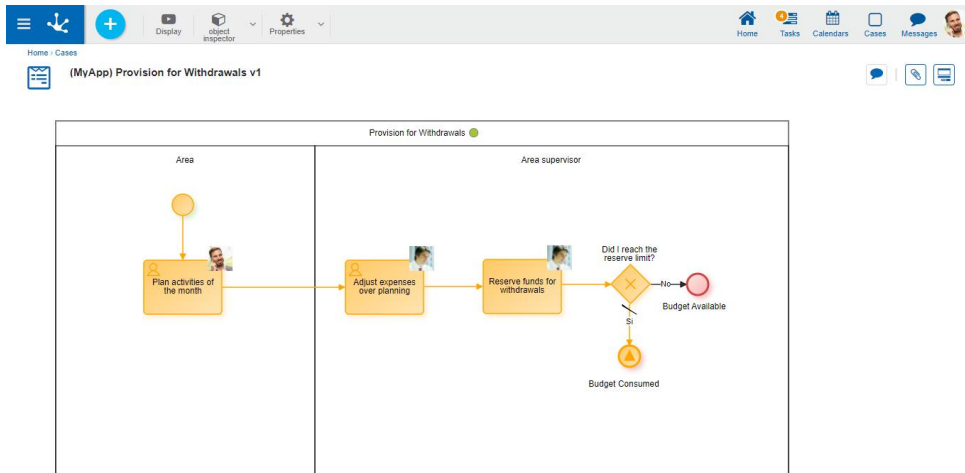
Text that allows documenting detailed information about the event. The processes that send the signal can be informed.

Signal Name

Enter a string of characters representing the signal code to send. The name entered must match the one configured when the signal is received.

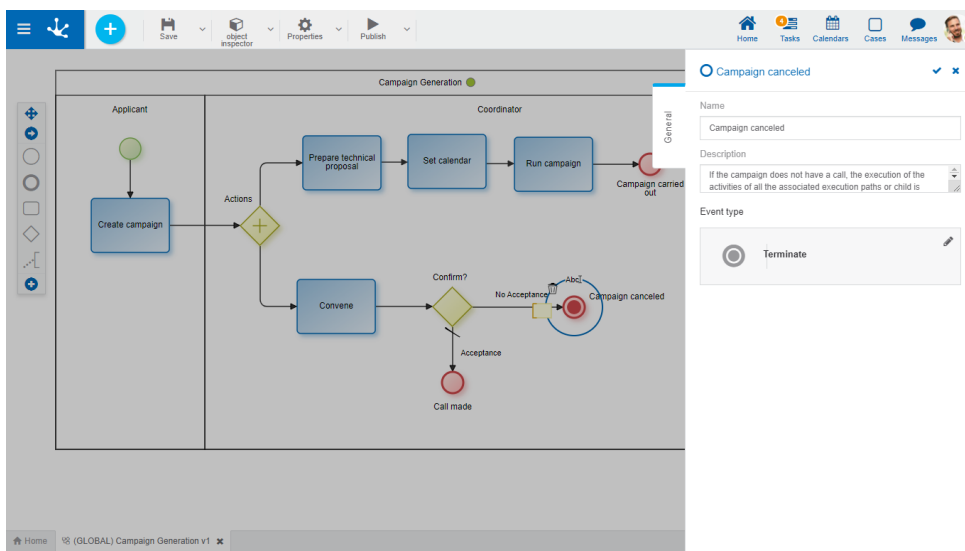
Example of Use

If the "Provision for Refunds" process reaches the availability limit, it sends the "Consumed Budget" signal. The "Actions Auditing" and "Budget Update" processes start when the [signal start](#) events receive the aforementioned signal.



3.7.4.9.4.3. Terminal

The properties panel of the [terminate end event](#) is displayed on the right side of the process modeler.



Properties

Name

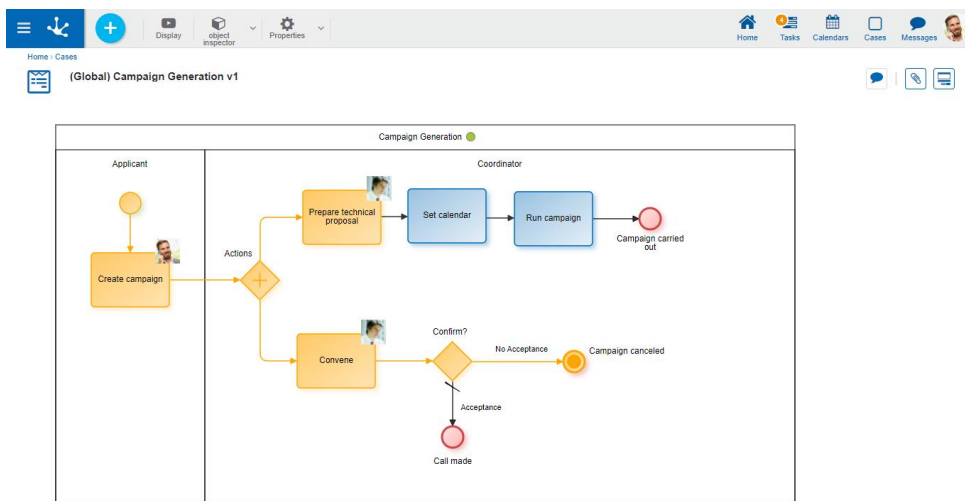
Text that is displayed in the diagram next to the graphic element of the event.

Description

Text that allows documenting detailed information about the event.

Example of Use

The "Campaign Generation" process, all paths are canceled when the evaluation of the call is not satisfactory.



In the case show, the termination of all fork paths can be verified.

Caso	Estado	Descripción	Chat	Actividad	Inicio	Responsable	Fin	Vencimiento	Prioridad
83-2	●	(Global) Generación de Campaña v1 - Preparar propuesta técnica		Preparar propuesta técnica	29/08/2019		29/08/2019		
83-1	●	(Global) Generación de Campaña v1 - Campaña cancelada		Campaña cancelada	29/09/2019		29/09/2019		

3.7.4.10. Good Practices

Good practices for processes modeling in **Deyel** consist of a set of recommendations, to be met whenever possible.

They allow to build clearer and more understandable processes models, standardizing the use of the graphic elements that compose them.

- [Processes Modeling](#)
- [Lanes Modeling](#)
- [Activities Modeling](#)
- [Events Modeling](#)

- [Flows Modeling](#)
- [Gateways Modeling](#)

3.7.4.10.1. Processes Modeling

Good Practices

Name

- The name of the processes and sub processes must clearly describe their main purpose.
- Short names or abbreviations must not be used.

Diagrams Size

- Long diagrams do not allow to give a global perspective to the readers, they make reading difficult and don't communicate clearly the purpose of the processes.

Number of Activities

- Although various factors affect the complexity of a process, the number of activities is one of the most relevant factors.
- As a general criterion, diagrams with a maximum of 15 to 20 activities are recommended.

Unification of Activities

- If a set of consecutive tasks can be executed sequentially by the same person, at the same time, then these activities must be integrated into one.

Subprocesses

- The use of subprocesses is recommended to group activities with the same purpose.

Activities Alignment

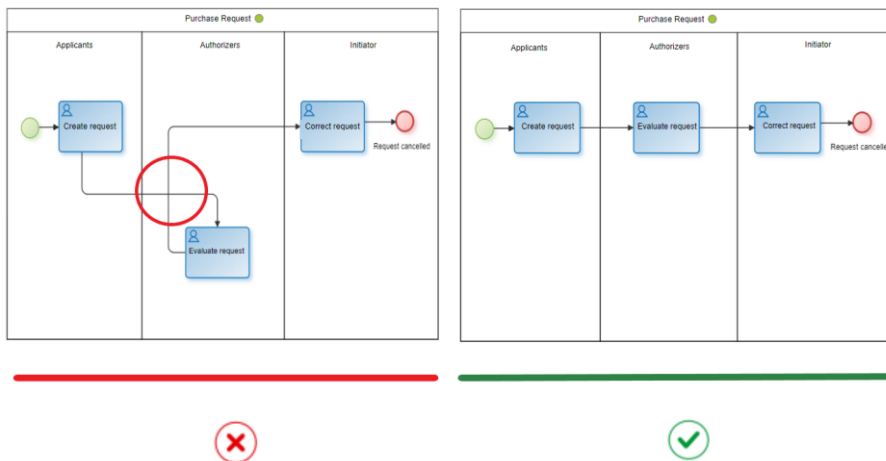
- It is recommended to keep the activities aligned with each other, horizontally and vertically. This practice allows ordering the diagrams, keeping them neat visually.

Standard Size of Elements.

- It is recommended not to change the size of diagram elements.
- Keeping the standard sizes avoids discrepancies and keeps the visual elements homogeneous.

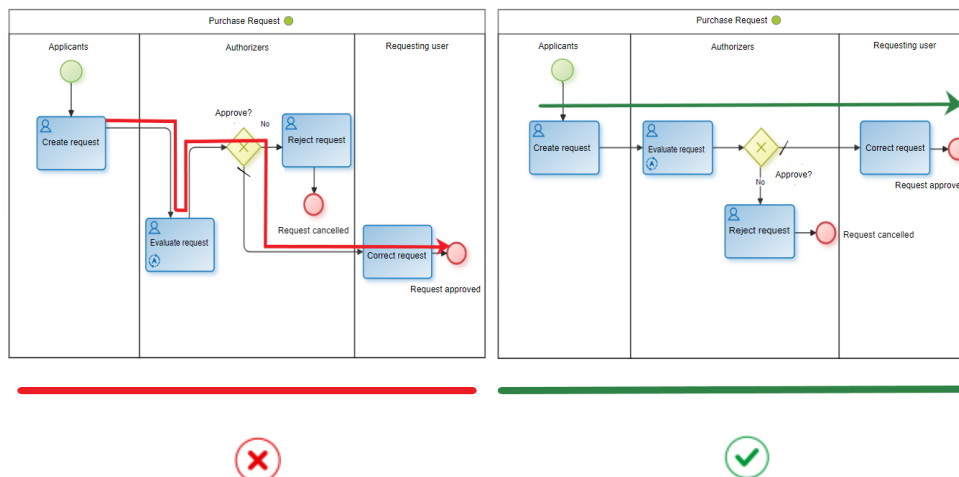
Flow Orientation

- For people who read from left to right, it is intuitive to follow a logical flow from left to right or from top to bottom. It is recommended to diagram the process flows in this direction.
- The crossing of connectors must be avoided, maintaining a chronological sequence and a consistent flow direction.



Primary Scenario Clarity

- The main road should be easily identified when reading the diagram, so it is recommended to diagram the main road first and then add the alternative roads.



Links

- It is recommended to use this type of event to avoid complexity in the flows.



Throw Link



Catch Link

Artifacts

- It is recommended not to overuse the objects that serve to document the process. Notations, associations, groups and data objects are elements that can clarify the diagram, but the excessive use of these types of elements can increase the visual complexity of the model.
- In order not to use a large number of artifacts, it is recommended to document the details within each activity or each element of the model.

3.7.4.10.2. Lanes Modeling

Good Practices

Name

- The lane name must be chosen carefully, so that it accurately represents the participant of the process.
- It is recommended to use the description field to document the responsibility.

Participant Type

- Avoid using responsibilities of type user as much as possible.
- It is recommended to use roles or agents, that give greater possibilities to changes.

Need

- A lane must be created only if at least one intermediate task or event is executed on it.
- It is recommended not to create lanes to represent participants who only run automatic activities.

3.7.4.10.3. Activities Modeling

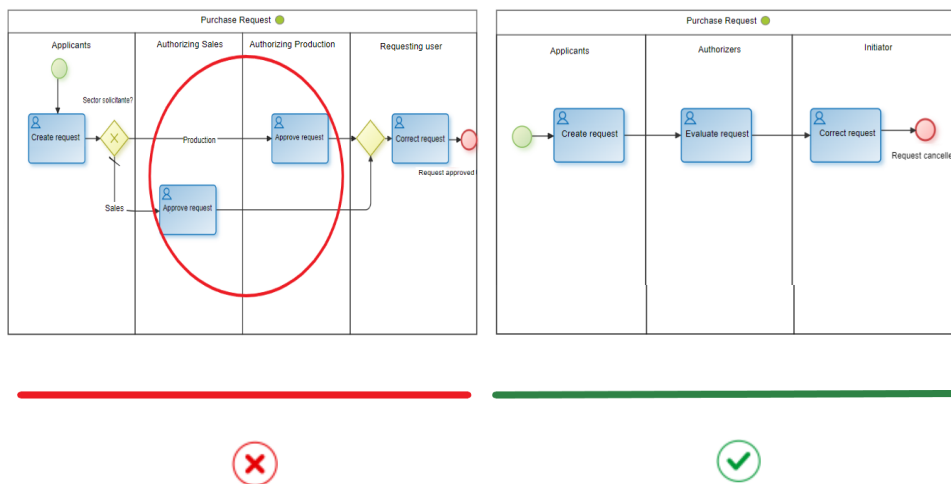
Good Practices

Name

- The activities name is made up of an infinitive verb and an object.
- The name must clearly identify the objective of the activity. For example, "Create request", "Authorize request", "Notify rejection", and so on.
- The first letter must be used in uppercase and the others in lowercase. Short names or abbreviations must not be used.
- It is recommended to avoid long names, they usually denote that certain details of the activity affect their name. The name must represent the objective while details are documented within the activity.
- The use of "and" and "or" in the names of activities must be avoided. These types of compound names can mean that they are actually two different activities. For example, if the activity is called "Review and approve request", you must consider which is the correct option. If the same participant performs both actions at the same time, then the most relevant action must be chosen and used to name the activity, then it can be assumed that the primary objective is approval and the review is a subtask. The correct name is "Approve request". On the other hand, if it is considered that both actions have the same relevance and are made at different times, then it is convenient to separate them as "Review request" and "Approve request".

Repetition

- Multiple instances of the same task should not be diagrammed to represent multiple participants.
- It is recommended to use roles or agents so that the participant assignment is made accordingly, when executing the process.



Typing

- It must be indicated [each activity type](#).
- It is recommended to be careful selecting the appropriate type, which allows a correct interpretation of the diagram.

Automatic Tasks vs Automatic Actions

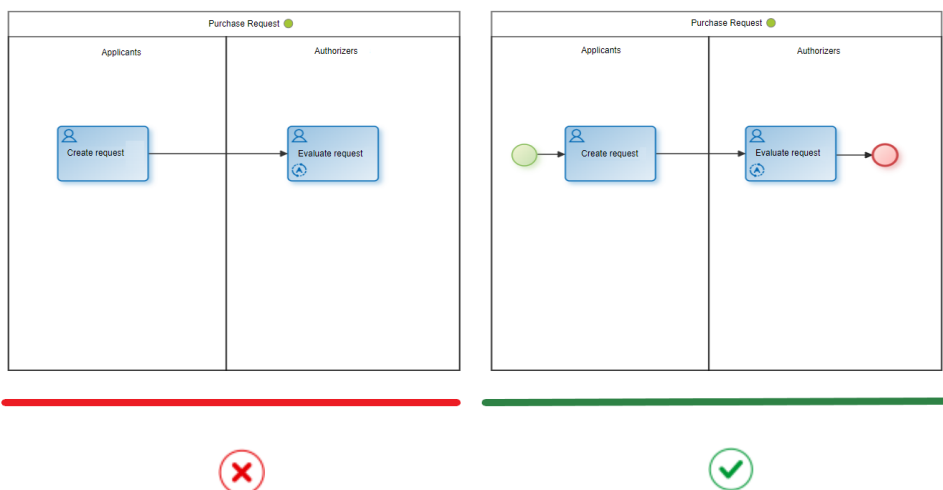
- There are certain actions, such as sending an email, executing a rule, etc. that can be modeled in different ways in **Deyel**:
 - a) Representing them explicitly in the model, through shipping type activities, business rule, services, etc.
 - b) Specifying automatic actions that are executed when starting or ending a user activity or manual activity.
- The recommendation is that the tasks to be viewed individually have to be modeled as different activities and the type of each one is selected.
- Those others that do not need to be visually explicit, should be modeled as automatic actions of user activity. For example, a rule that retrieves the initial value of a field before executing the user activity,
- It is important to maintain a uniform criterion in this regard and also consider that long diagrams are not convenient.

3.7.4.10.4. Events Modeling

Good Practices

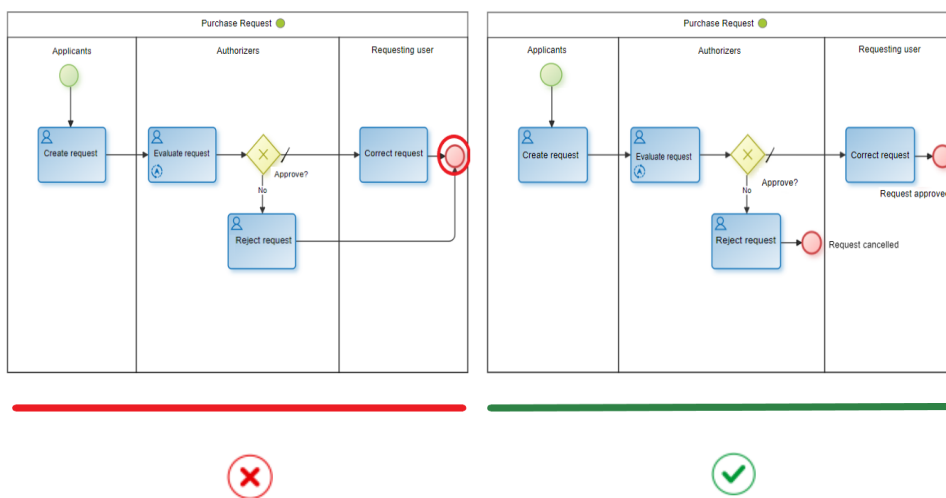
Start and End Events

- It is recommended to always use the start and end events in each process and subprocess to represent its beginning and end.

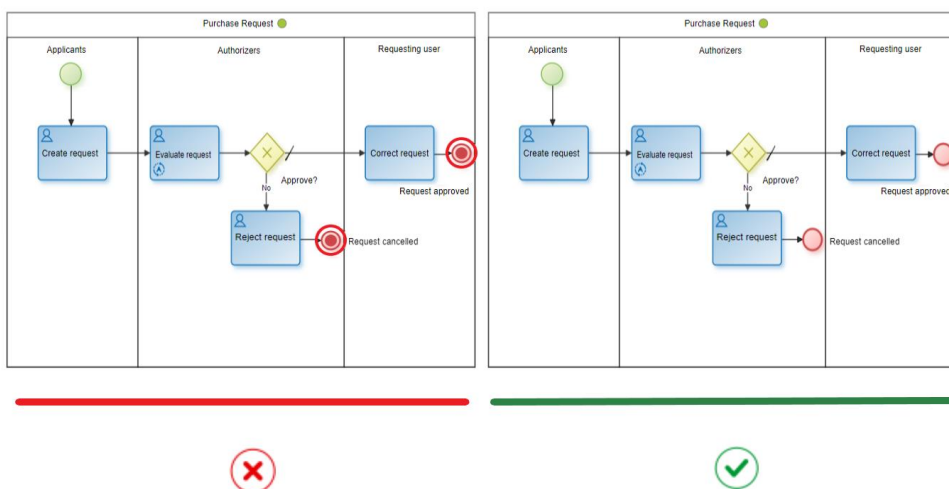


Name

- The start and end events must not be tagged when they are unique. It is very common to name them as "Start of the process" and "End of the process" but this is redundant and unnecessary.
- Events must be identified when multiple start or end events are used.
- The start events must have labels indicating the condition or fact that triggers the start of the process.
- The end events must be named indicating the final state of the process. In general the name must use a noun, which is the business object, along with a verb in the past tense. For example: "Request approved", "Request canceled", etc.
- It is recommended to identify the final successful and unsuccessful states.



- Terminal end events must only be used when strictly necessary. They are used to model situations where multiple alternative paths are enabled and only the completion of one of them is required to complete the entire process.



3.7.4.10.5. Flows Modeling

Good Practices

Use of Legends

- It is recommended to use the legends to represent the condition through which a flow is passing.
- Legends have to be visually associated with the flow and are not confused with other legends.

Avoid Crossings

- As far as possible the crossings of flows should be avoided.
- If necessary, let it be in places where the legends of the flows are not confused.

Avoid Diagonal Flows

- It is always preferable to use "L" shaped flows.
- There can be multiple vertices in the flow and it is recommended to minimize their number.

Anchor Points or Ports

- Central anchor points have to be used in activities.
 - Flows enter from the top side and the left side.
 - Flows come out from the bottom side and the right side.
- In the gateways it is recommended to use the anchor points of the vertices.
 - Flows enter through the top or left vertices, using the same entry point.
 - It is recommended to distribute the outgoing flows neatly.
 - The gateway name must not be below the flows.

3.7.4.10.6. Gateways Modeling

Good Practices

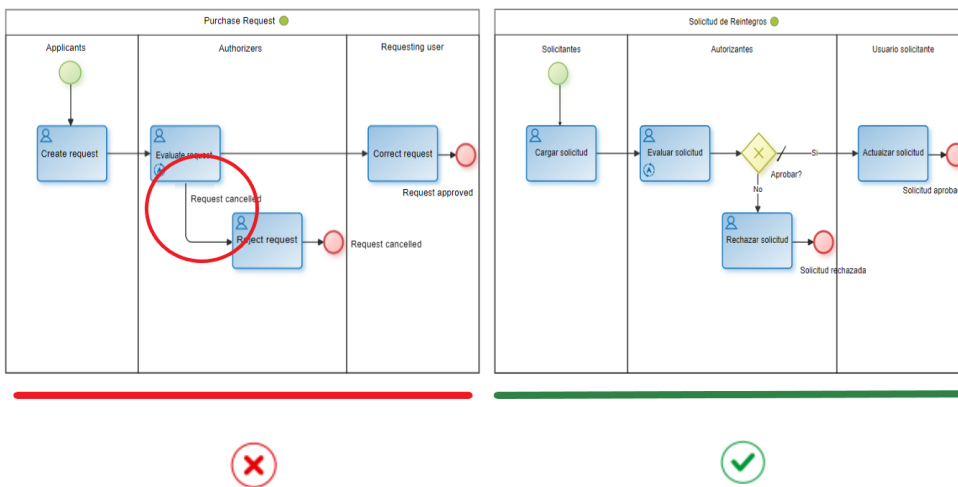
Name

- All divergence gateways must be named.
- A question is generally used that represents the decision or logical condition evaluated. For example: "Authorized Request?".

- All outgoing flows must be named.
- Their name must represent the responses or possible values of the condition evaluated.
For example, if a gateway is called "Request Authorized?", Its outgoing flows should be called "Yes", "No".

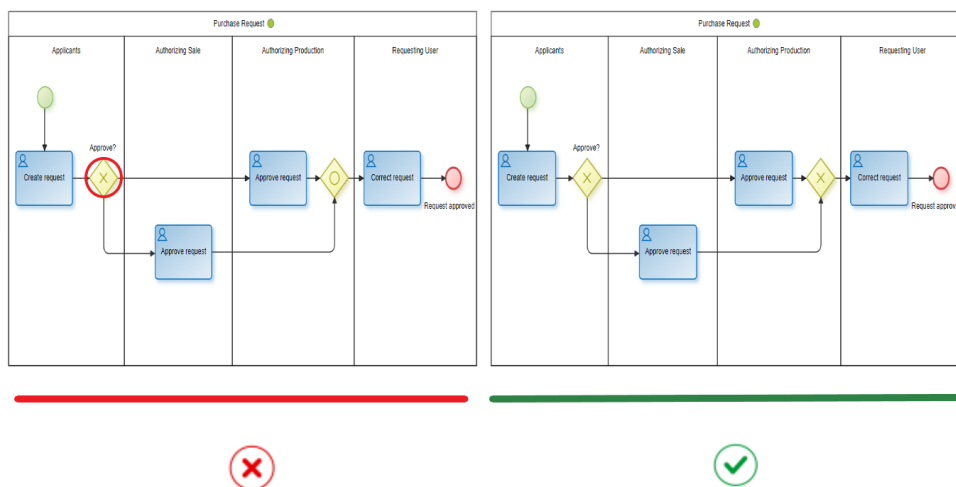
Gateways for Forks

- Flows must not be branched using tasks.
- Gateways should always be used for this purpose.



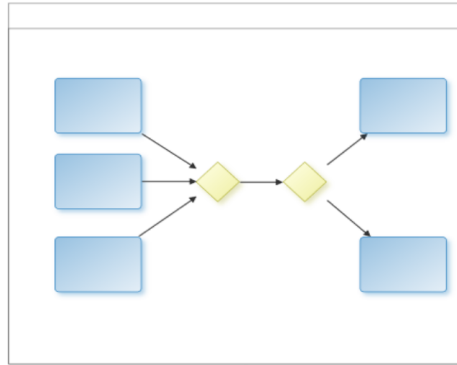
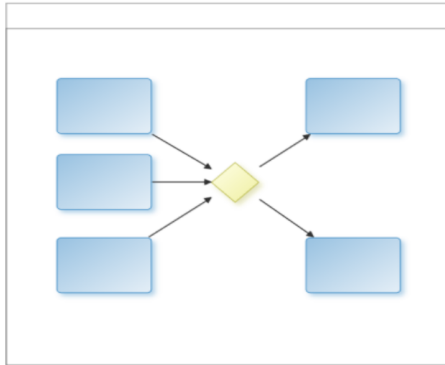
Gateways for Synchronization

- To synchronize flows, it is recommended to always use the same type of gateway that is used to fork them.



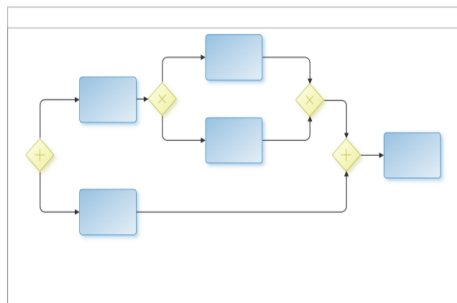
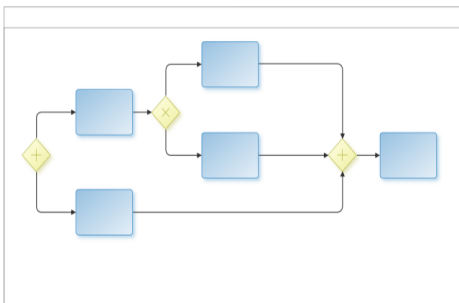
Separate the forks and Synchronizations

- It is recommended not to use gateways to join and separate flows at the same time.



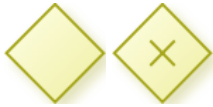
Balancing

- Flow branches must be equivalently synchronized.
- The number of flows leaving a fork must be equal to the number of flows that are received in a synchronization.



Exclusive Gateway

Has two representations. The same representation must be used for the entire definition of a process.



- It can be used as a fork or synchronization element.
- It is used to represent a fork in the flow, where there are several possible alternatives but only one should be considered.
They are mutually exclusive alternatives.
- These gateways require the definition of a default flow.
This flow represents the path taken when none of the other conditions are met.
We recommend that the most common path, the most probable, is the one that is modeled as the default flow.
- The exclusive gateway can be defined in pairs, one as a divergent element to activate several mutually exclusive paths and if these paths converge, a gateway of this type must be used as a convergent element, to graphically represent the concurrence of the flows.

Parallel Gateway

Its graphic representation is as follows:



- It can be used as a fork or synchronization element.
- When used as a fork, the output flows do not require conditions as all paths must be followed.
Likewise, it is recommended to put a legend in each flow that represents the condition that was met in order to be able to transit such flow.
- When the gateway is used as a convergent element (synchronization), all the predecessor activities are expected to finish their execution.
- The parallel gateway must be defined in pairs, one as a divergent element to activate several parallel paths, and the other as a convergent element, to synchronize the previously activated paths.

Inclusive Gateway

Its graphic representation is as follows:



- It can be used as a fork or synchronization element.

- The inclusive gateway as a fork element is used at a point in the process where one or more alternatives may be viable based on a condition.

For example, after creating a document, it must be approved by the corresponding offices according to the type of document created.

To implement the multi-decision pattern it is necessary to use the inclusive gateway.

This gateway allows one or more paths to be enabled according to the evaluation of the conditions of each flow.

- If none of the conditions are met, a default flow can optionally be defined, that takes into account this situation.
If this default flow is not defined, then an error is obtained stating that there are no viable alternatives.
- The inclusive gateway as a convergence element is activated if at least one case reaches the inclusive gateway and if some other case of the processes execution that could reach the gateway (the canceled threads are not considered) arrived previously.
- The inclusive gateways can be defined in pairs. That is, one as a divergent element that generates parallel activities, and then that converge in an inclusive gateway of convergence, which synchronizes the previous paths.

3.7.4.10.6.1. Patterns

Patterns for processes design are examples that show how to connect activities to solve a common problem.

Parallel Paths

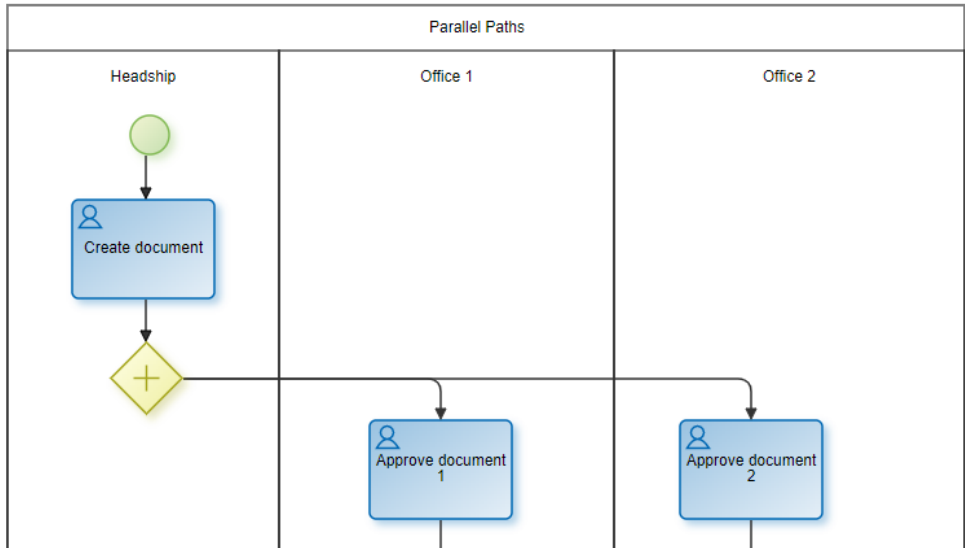
A parallel path is a point in the process execution where the execution flow is divided into two or more flows that are executed in parallel.

Example

A document is created in one office, which requires the approval of two other offices.

Implementation

To implement parallel paths, it is necessary to use a parallel gateway. This gateway creates all alternative paths without evaluating conditions.



Synchronization

Synchronization is a point in the process where two or more different flows of the process are joined into a single flow. It is called synchronization because it waits for all the flows to be joined to complete before proceeding to the next activity.

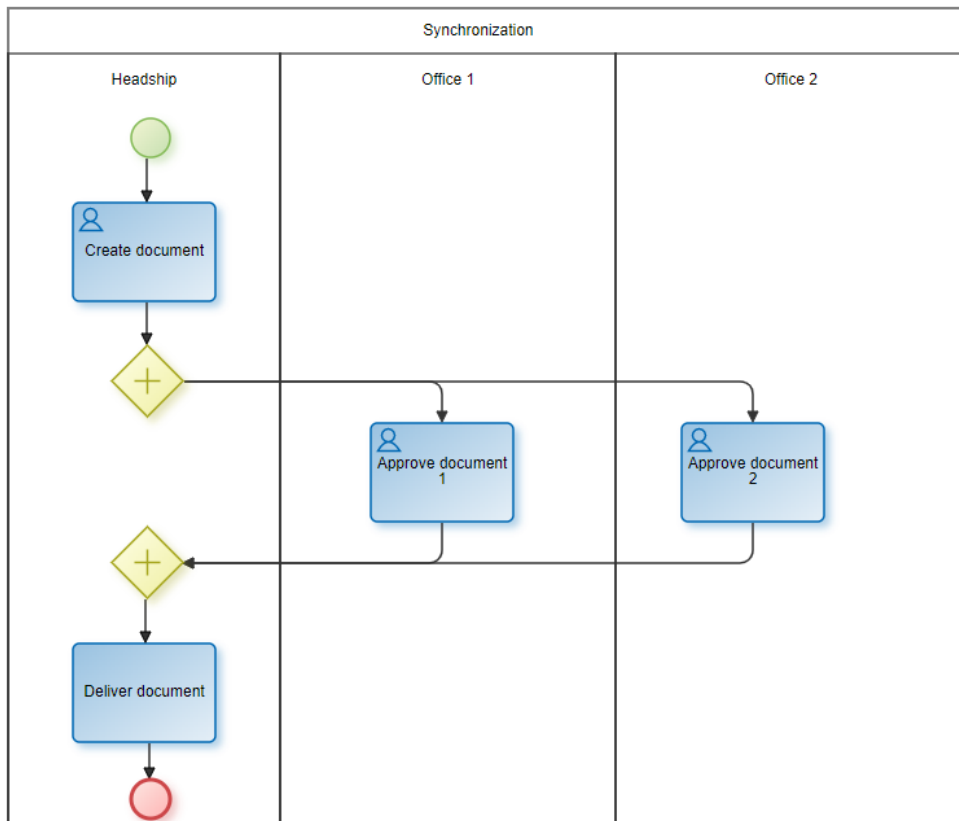
Example

The document created by one office must be delivered after it has been approved by two other offices.

Implementation

In the example we use the parallel gateway as convergence which means that it synchronizes the previously activated paths.

The synchronization pattern can also be modeled with the exclusive and inclusive gateway, according to the needs of the business.



Exclusive Decision

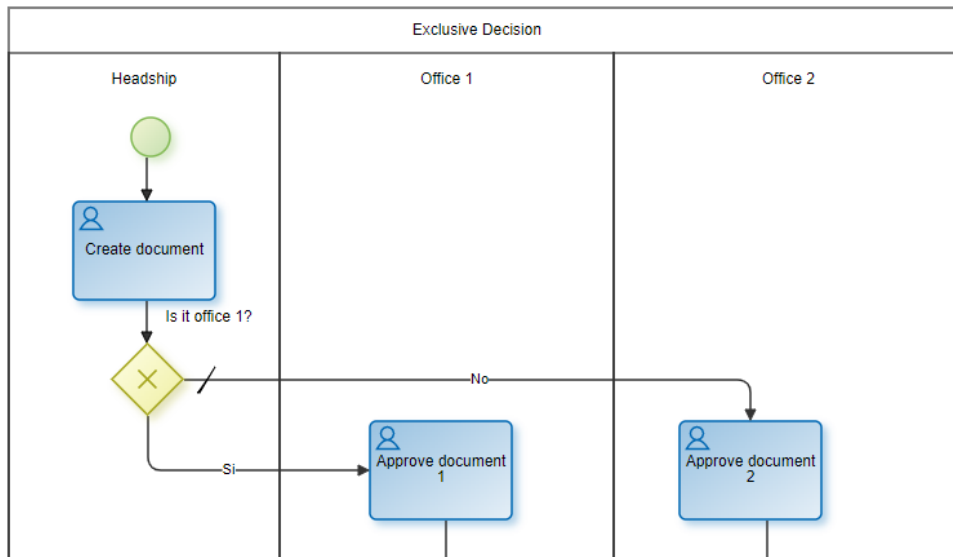
Exclusive decision is a point in the process where a path is chosen from several paths based on a condition or information from the process.

Example

When creating a document, it must be approved by an office that corresponds to the type of document created.

Implementation

The exclusive decision pattern can be modeled with the exclusive gateway. The exclusive decision has multiple output flows, but only one of them can be made based on the conditions of each stream.



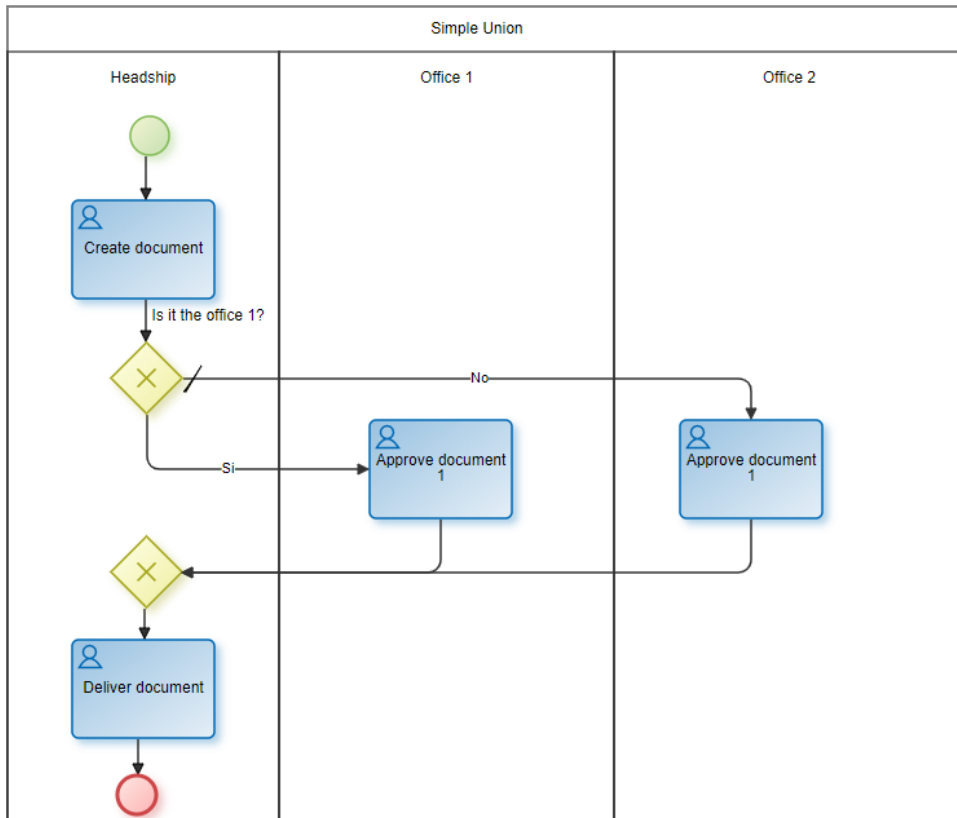
Simple Union

Simple union is a point in the process where two or more alternate paths meet without synchronization. This pattern assumes that of the different paths only one is executed.

Example

After creating a document, it must be approved by the corresponding offices according to the type of document created. Once approved by the corresponding office, it must be delivered by the office that created it.

Implementation



Multi-Decision

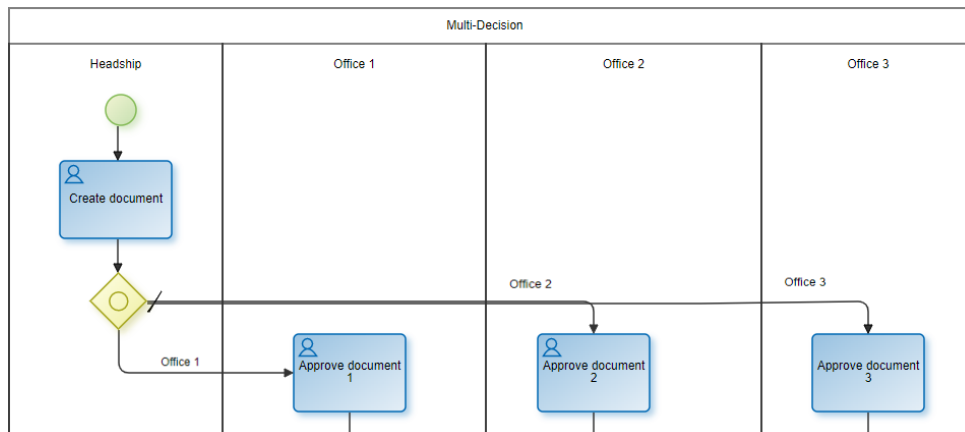
The multi-decision pattern is used to model a point in the process where a set of paths are chosen based on a condition.

Example

After creating a document, it must be approved by the corresponding office or offices according to the type of document created.

Implementation

To implement the multi-decision pattern it is necessary to use the inclusive gateway. This gateway allows one or more paths to be enabled according to the evaluation of the conditions of each flow.



Synchronized Structured Union

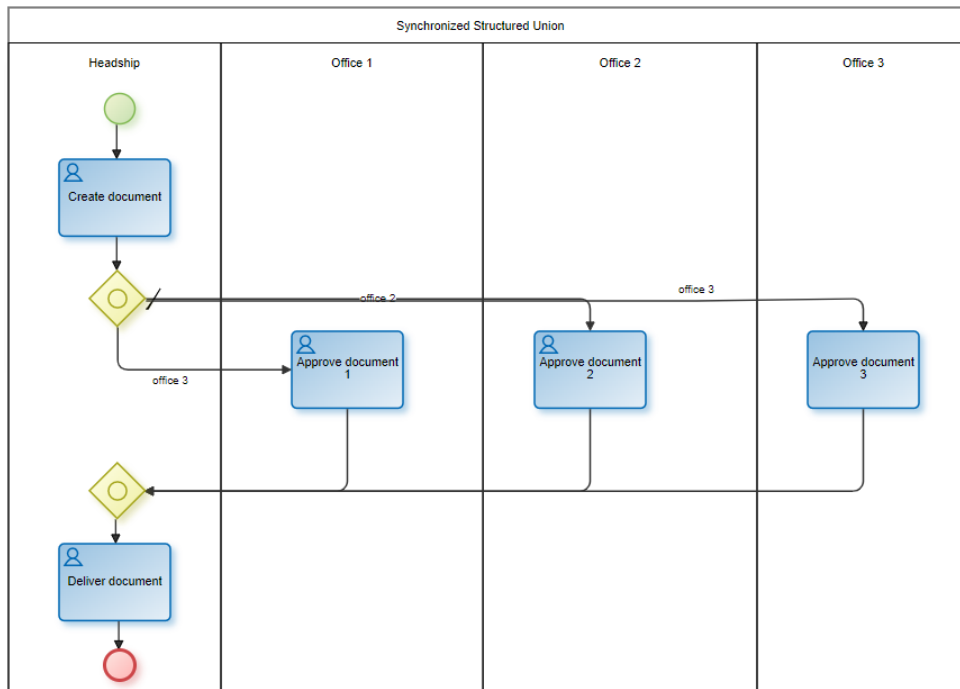
It is a point in the process where multiple paths that were previously activated in the process converge in a single thread of execution.

Example

Once the document has been approved by the appropriate office or offices, it must be delivered by the office that created the document.

Implementation

To implement this pattern it is necessary to use two inclusive gateways, one for divergence (activate some paths) and the other for synchronization (synchronize the activated paths).



Multi-Merge

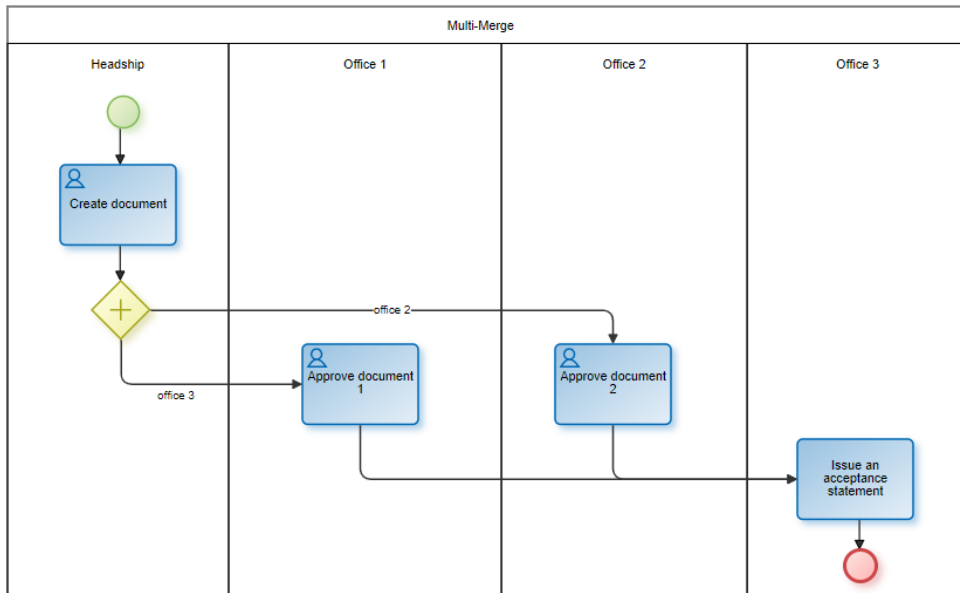
The multi-merge pattern is used to model the convergence of two or more paths in a single path. Each time an input path is activated it activates the next activity in the execution flow.

Example

After creating a document, it must be approved by two offices. Each time an office approves it, a third office must send an approval release.

Implementation

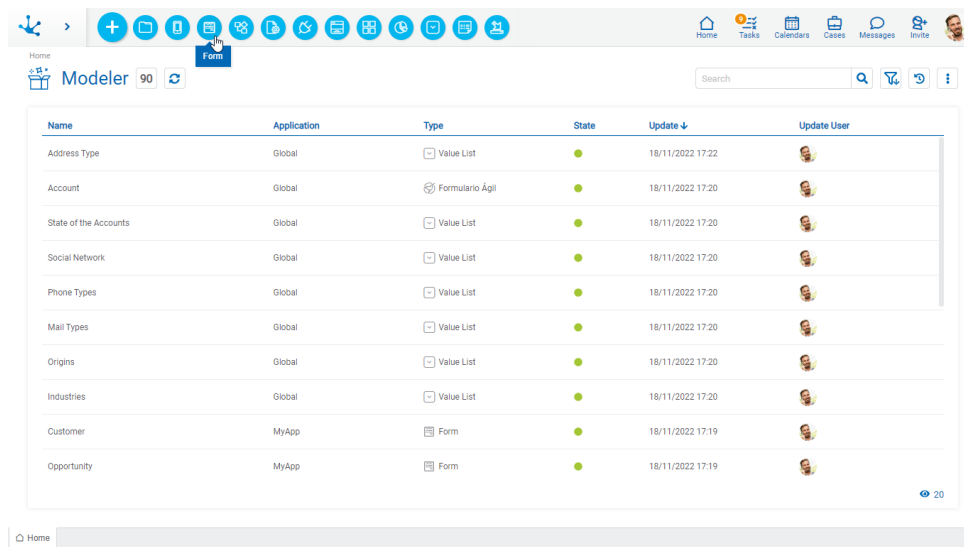
The pattern uses a parallel gateway to enable two paths. Each time the activities on one path are executed, the next activity will be as well. In this case, the "Send approval statement" activity is executed twice.



3.7.5. Forms Modeling

 [Phase 2: Forms Modeling](#)

The form modeler is a tool that allows to graphically design forms, as well as define the characteristics of their fields and behavior in the associated processes.




Its main characteristic lies in the simplicity to manage the functionality associated with the forms, facilitating their progress through the different [states](#) that indicate its modeling situation and productive use.

The general characteristics of the forms modeling environment and the main elements that compose it are described in the topics:

- [Modeling Facilities](#)
- [Form Properties](#)
- [Element Properties](#)

A new form can be created from the icon  corresponding to the [context menu](#).

- From the icon 
- From the menu displayed with the option "Form"

An existing form is modified by selecting it from the grid with the "Open" button.

3.7.5.1. Modeling Facilities

 [Phase 2: Forms Modeling > Forms modeling](#)

General characteristics of this modeler are specified below.

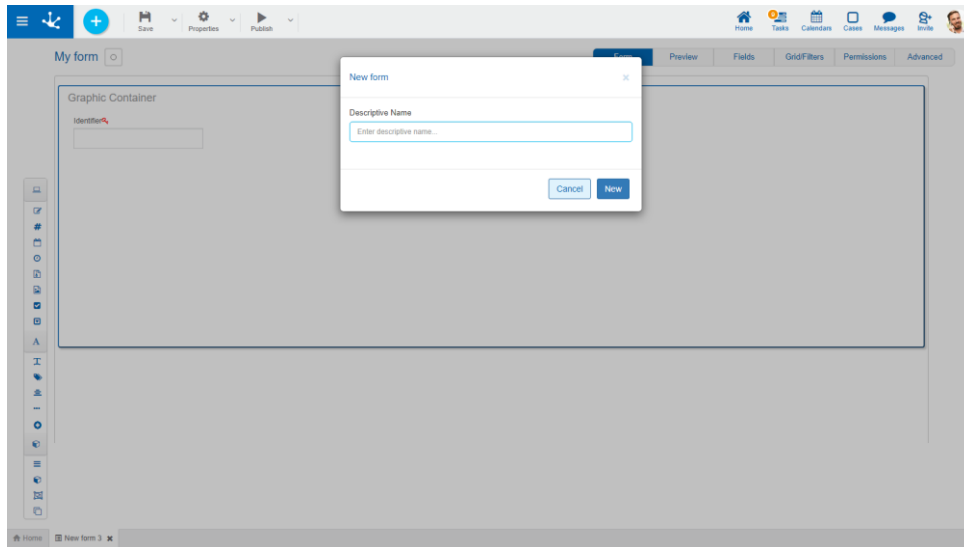
New Form

The modeler user defines a new form, which after being published is available to be used in the portal.




It can be modeled simultaneously:

- Data model layer
Involves modeling all the fields with associated data types, field identifier, fields used as filters in searches, field data lengths, behavior and other validations related to business rules.
- Form display layer
As its name implies, it is entirely related to the visual aspect of the form. This implies that you have control and decision about the arrangement, order, and width of the different fields and containers, interactive buttons, titles, labels, and informational messages, among other topics. There is also the option of displaying or not, the different sections or fields of a form and of using accordions.

When the form is created, a panel opens, allowing the entry of its name.

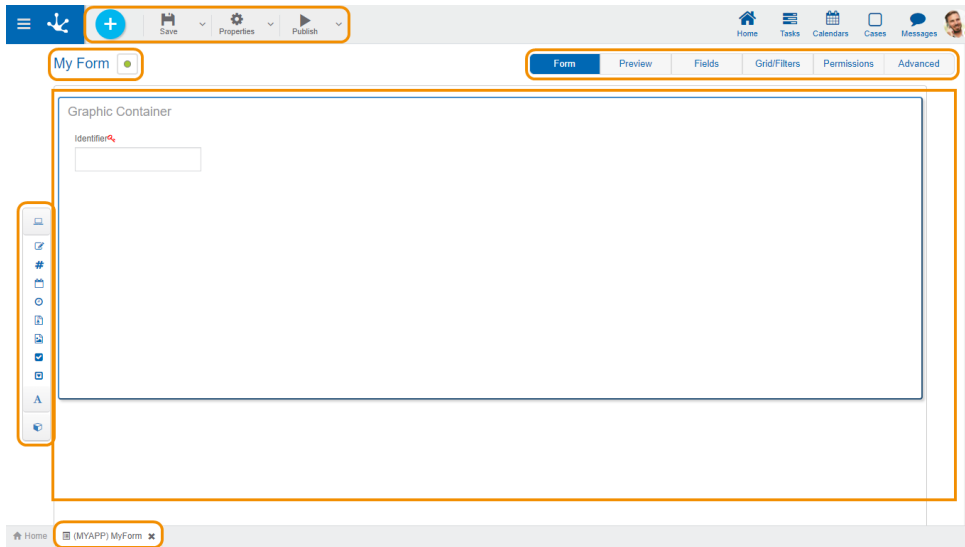


Workspace Sections

- [Top Toolbar](#)
- Form Information
 - Name
 -  [State](#)
 -  [Locking](#)
- [Graphic Modeling Area](#)
 - Graphic Container
 -  Identifier

Every new form contains an [identifier](#) field defined by default within the area of graphic modeling. It has the following characteristics:

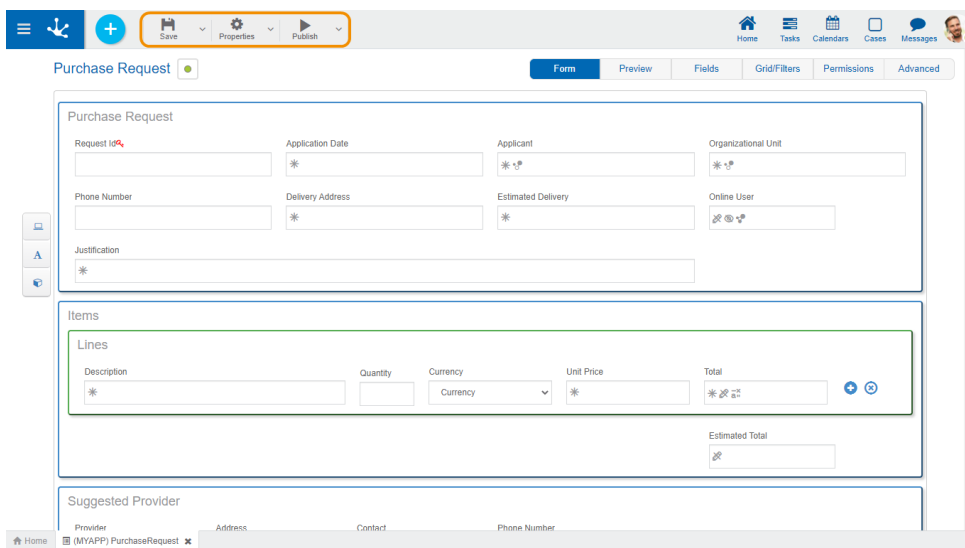
- Its data type is integer with a length of 10.
 - It is autonumeric, increasing value, starting from 1.
 - It cannot be deleted.
 - Only behavior properties can be modeled [Visible](#) and [Validation](#).
 - It cannot be included within a repeater element.
 - Properties cannot be modeled [Default Value](#), [Type of content](#) and [Security](#).
 - Relations cannot be modeled.
- [Design Options](#)
 - [Side Toolbar](#)



3.7.5.1.1. Top Toolbar

This toolbar contains icons and submenus from which you can perform operations on the object. Depending on its [state](#), some options may be disabled.

The bar is displayed on the toolbar of **Deyel**.



Save

This icon allows to save the object in the repository of **Deyel**, leaving its state as "Draft" or "Modified". If certain conditions are met, the modeler user receives a message indicating that the operation was performed correctly, otherwise they receive an explanatory message.

Main Conditions

- The application of the object must exist.

- The name must be unique in the application.
- The object must not be locked by another user.
- The object's permissions must exist.
- Modeled fields in process activities should not be eliminated as mandatory, whether they are used as parameters in automatic activities, in flow conditions or messages, in embedded rules of other fields in the form or in process activities, or as related attributes on entities.

To the right of the icon the option to open the [submenu](#).



Properties

Open the [form properties panel](#).

To the right of the icon the option to open the [submenu](#).



Publish

By means of this icon the object goes to "Published" state, after verifying a set of additional conditions to those of the "Save" operation. The modeling user receives the corresponding message, indicating the result of the operation.

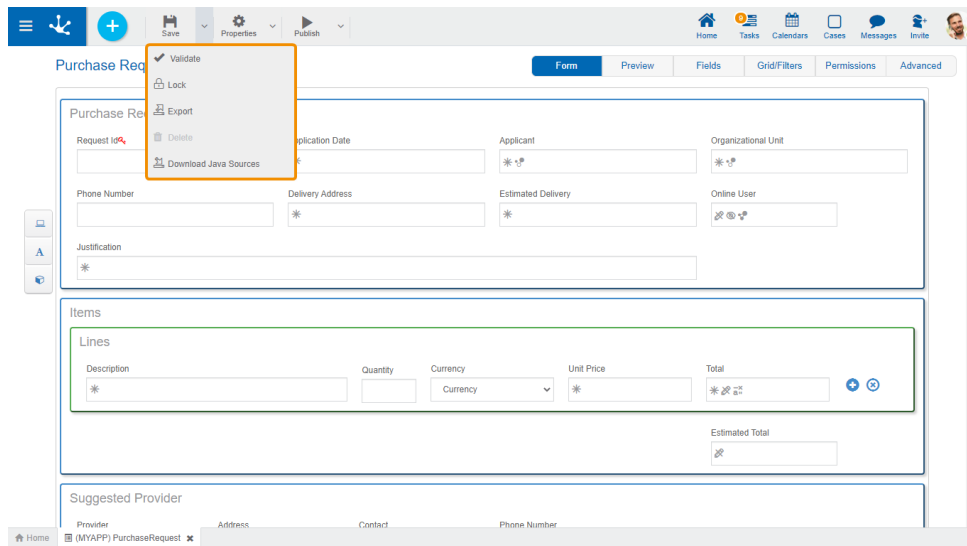
Main Conditions

- The entities and [related rules](#) must be published.
- Relations to published processes should not be removed.
- If new instances are created during the modeling of an already published form but without data, the form cannot be published again.
- If instances of a form are created while it is being modeled, it cannot be saved or published without opening it again in the modeler. Another option to save or publish the modeling in progress can be [to delete instances](#).

To the right of the icon the option to open the [submenu](#).

3.7.5.1.1.1. Save Submenu



This submenu is opened by pressing the icon immediately to the right of the icon corresponding to "Save".



Validate

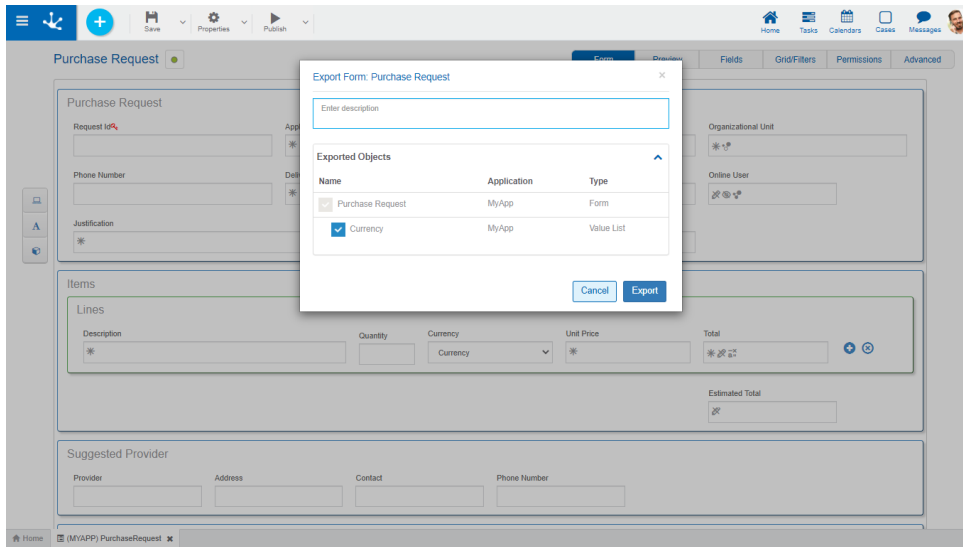
This icon allows to validate if the object is ready to be published, that is, the same validations are carried out as when [publishing](#) and the result of them is reported.

/ Lock unlock

-  It allows blocking a form to ensure that no one can modify it until the person who is using it unlocks it, that is, releases it.
-  Allows you to unlock a form so that another user can modify it.

Export

This icon opens a window for the user to select and confirm the export of the object and the related objects included in it.



Description

In this property a text explaining the reason for the operation can be entered. This text can be modified upon import and is displayed in the description column of the [export record](#).

Exported Objects

By expanding the container, the objects related to the form being exported are shown. Objects not meant to be exported are unchecked.

The related objects that can be exported along with the form are:

- [Value lists](#) associated with fields.
- Advanced rules used in fields, from the "[Relation](#)" tab of the field properties or included in [embedded rules](#).

You must press the "Cancel" button to leave the export without effect or the "Export" button to finish the operation.

Forms corresponding to related entities are not included in the export.

Delete

Allows to delete the object only if it is in "Draft" [state](#), closing the tab in which it is located and deleting it from the modeler's grid.

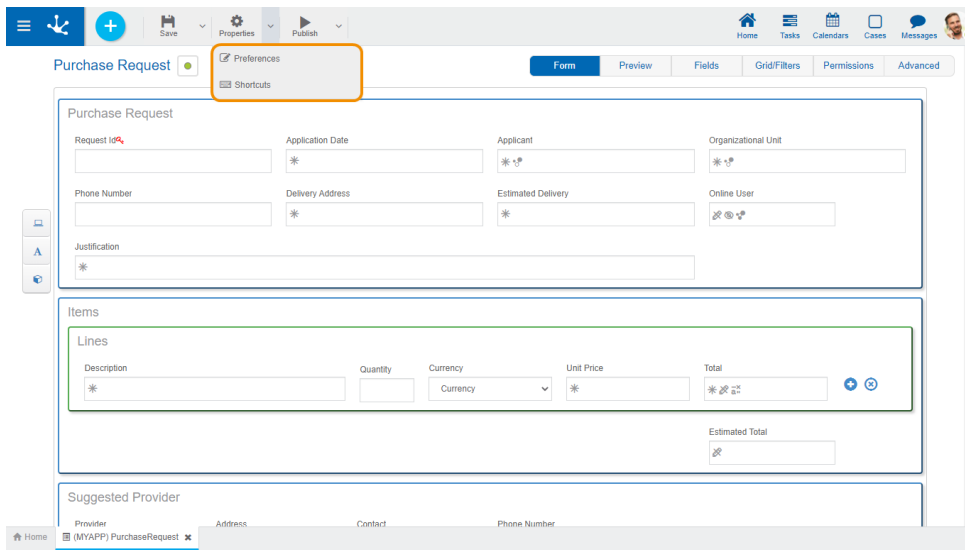
Download Java Sources

This icon allows to download the Java files that represent the object's model and service, so that it can be used in advanced rules.

Pressing the icon displays a message to confirm file download.

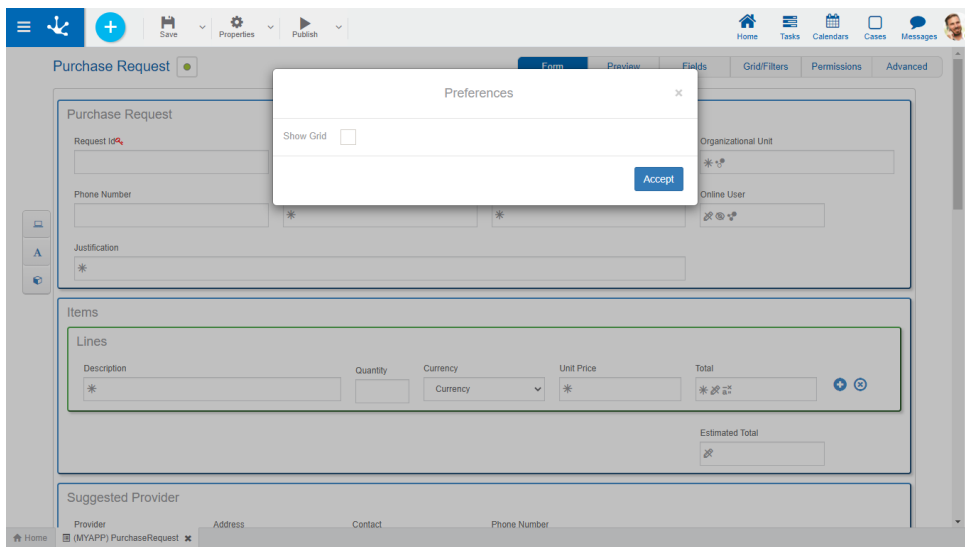
3.7.5.1.1.2. Properties Submenu

This submenu can be opened by pressing the icon immediately to the right of the icon corresponding to "Properties".



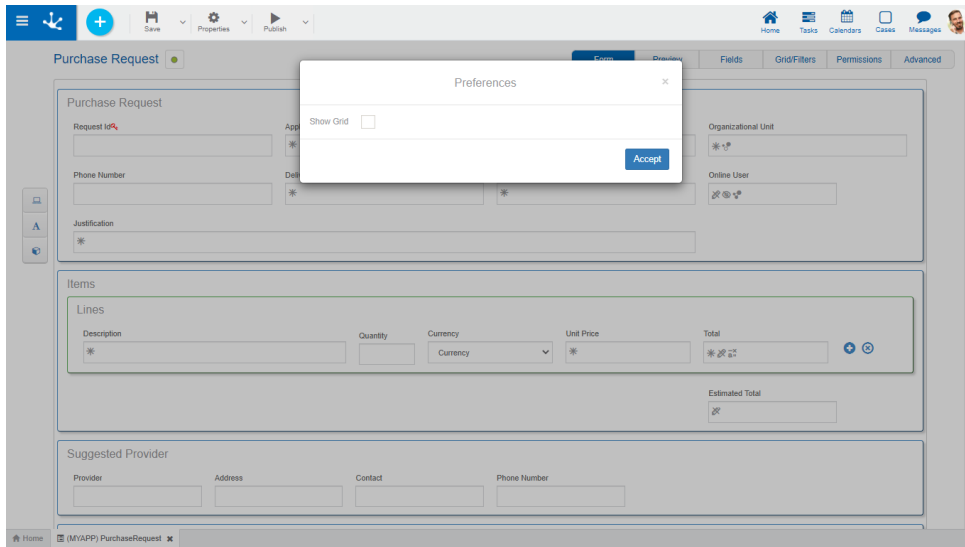
Preferences

Defines display preferences for forms modeling.



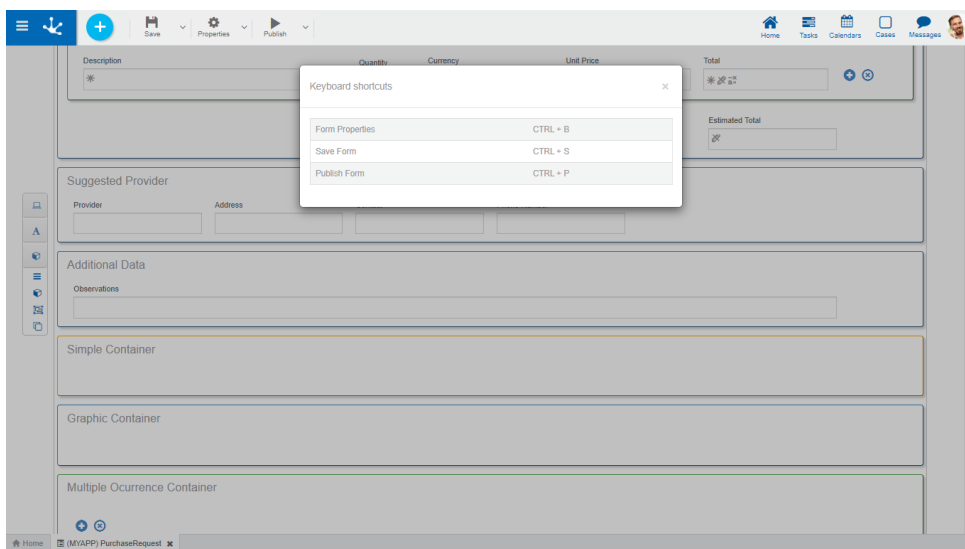
- [See grid](#)

Indicates the division into rows of the graphical modeling area. The default value is "No".



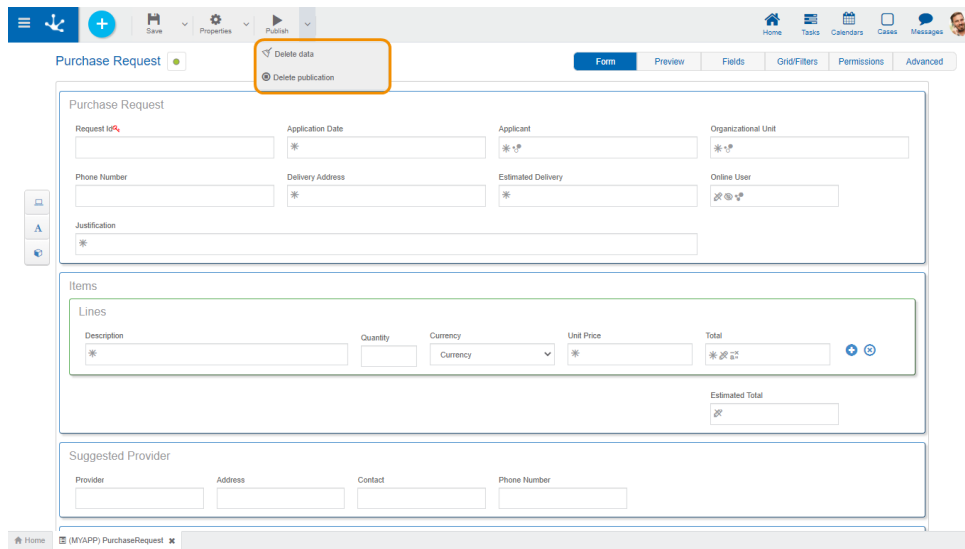
Shortcuts

Opens a panel with all available keyboard shortcuts to use in forms modeling.



3.7.5.1.1.3. Publish Submenu

This submenu can be opened by pressing the icon immediately to the right of the icon corresponding to "Publish".



Delete Data

Instances that would have been generated when using the form and its attached files, if any, are deleted.

If the instances of a form are linked to cases of processes related to the form, first these cases must be deleted from the option [Delete Data](#) from the top bar of the process modeler.

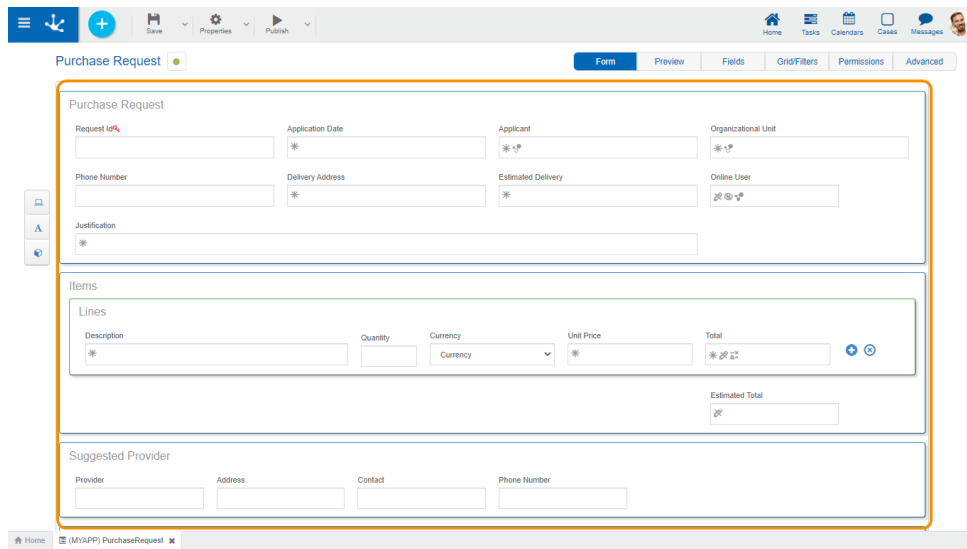
Delete Publication

This icon allows to leave the form unavailable for use by returning it to the "Draft" [state](#), in addition to deleting the data.

3.7.5.1.2. Graphic Modeling Area

The graphic modeling area is the space where the different elements are dragged from the [side toolbar](#), allowing to model the graphical arrangement of the elements in the form.

The modeling area is divided into rows, and each element on the form occupies at least one cell within the row.



Operations on the Elements

When you drag an element from the left toolbar to the graphic modeling area, it is inserted in the chosen place. Hovering the mouse over the element displays a set of icons that allow to perform different operations. The operations available depend on the type of item you are working with.



Allows to delete an item. Clicking on this icon displays a confirmation message that, when pressed, deletes the modeled element. In case the form is published and it already has data loaded, this icon is disabled.



Allows to modify the graphic width of the element. The right icon enlarges the width in a unit and the left icon decreases it by the same amount.



Allows to enter the section of [element properties](#).



Allows to move the field to any other sector in the modeler area. You can drag the field by keeping the click on this symbol and dropping it on a row, or on the cell separators, so the field moves to the indicated area.










Every form is created containing an identifier field by default, and is represented by a key to the right of the label.



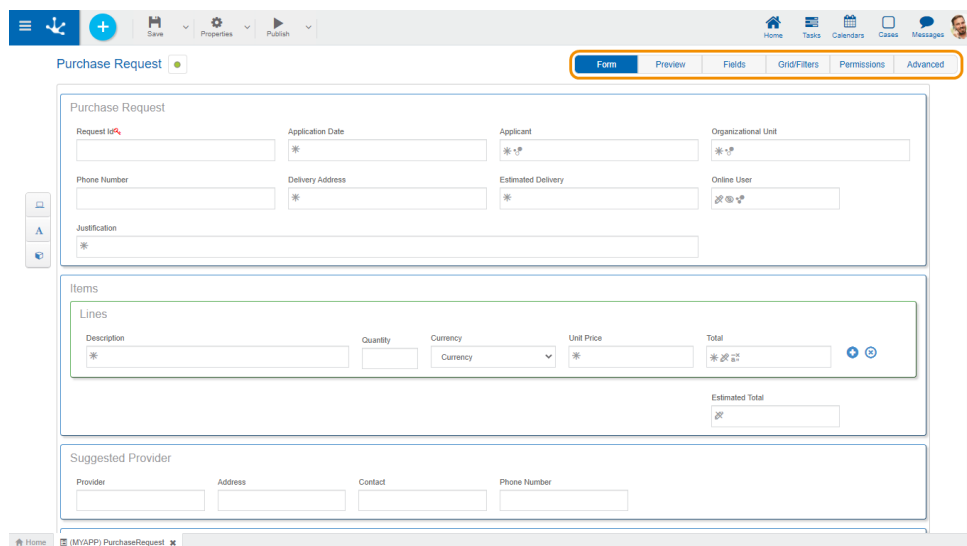
Behavior Icons

In each form field, you can visualize the icons corresponding to the [modeled behavior rules](#), the [relations to entities](#) and the [related attributes](#).

-  Required / Required with Rule
-  Not visible / Visible with Rule
-  Not editable / Editable with Rule
-  Validates with Rule
-  Calculates with Rule
-  Relation to an Entity
-  Related Attribute

3.7.5.1.3. Design Options

When modeling a form, it is necessary to define the set of fields it comprises, the type of information stored in each one, their arrangement within the form, and the features with which they are presented in the interface. Thus, enabling to work on the data model and its display simultaneously.



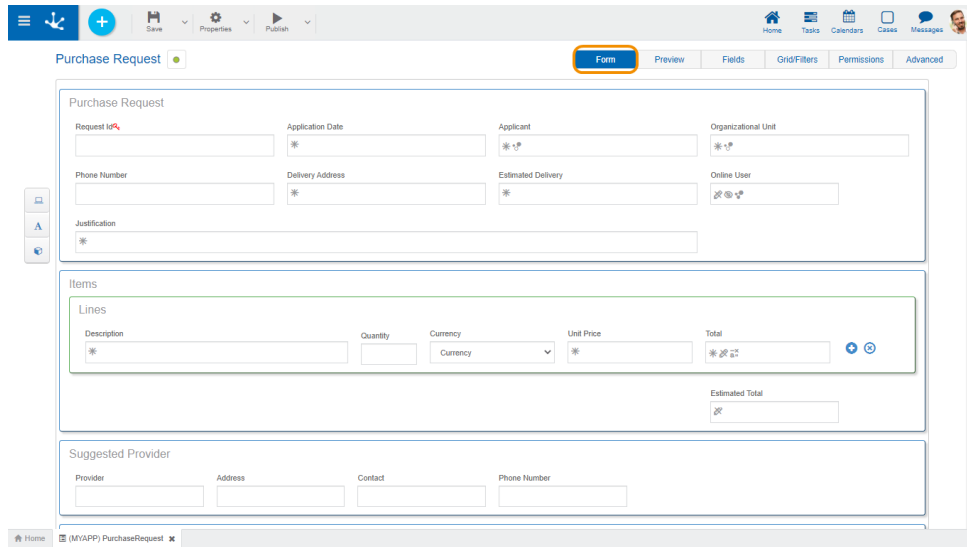
- [Form](#)
- [Preview](#)
- [Fields](#)
- [Grid and Filters](#)

- [Permissions](#)
- [Advanced Editing](#)

3.7.5.1.3.1. Form

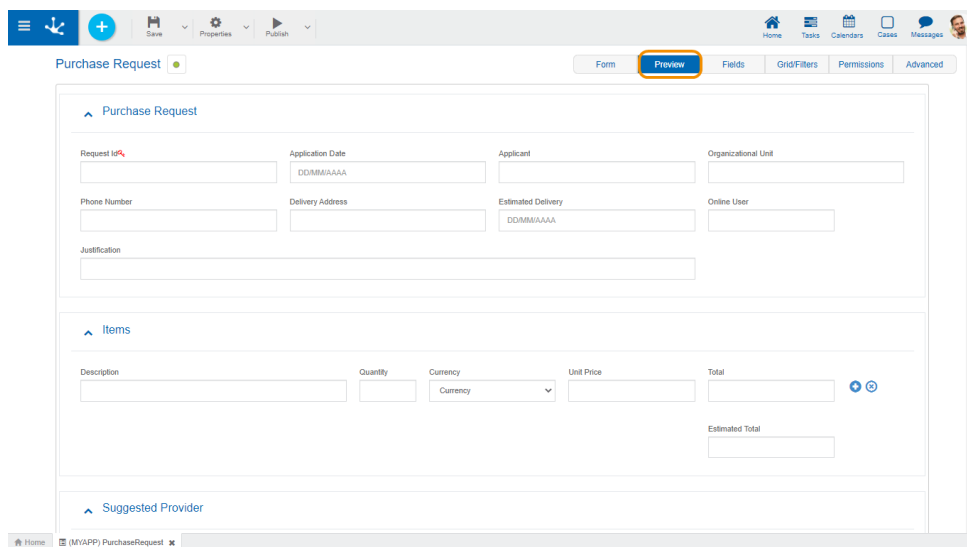
The graphical modeling area is presented when the modeler starts, where fields, graphical elements and containers can be defined.

These items are available in the [left side toolbar](#), where its structure and operation are explained in detail.



3.7.5.1.3.2. Preview

It allows to have a vision of the modeled form, showing how it would look in the user portal. For example, buttons for editing the "Form" tab are hidden and the containers (accordions and tabs) are displayed, the containers that have the hide property active are hidden, etc.



3.7.5.1.3.3. Fields

Allows you to see the list of all form fields in a paginated table, with quick search capabilities, filters, order, viewing the properties of each one and allowing operations to be carried out.

Label	Name	Identifier	Included in Grid	Multiple	Type	Rules	Operations
Address	address	address	<input type="checkbox"/>	NO	Alphanumeric		
Applicant	applicant	applicant	<input checked="" type="checkbox"/>	NO	Alphanumeric		
Application Date	applicationDate	applicationDate	<input checked="" type="checkbox"/>	NO	Date		
Contact	contact	contact	<input type="checkbox"/>	NO	Alphanumeric		
Currency	currency	currency	<input type="checkbox"/>	SI	Integer		
Delivery Address	deliveryAddress	deliveryAddress	<input type="checkbox"/>	NO	Alphanumeric		
Description	description	description	<input type="checkbox"/>	SI	Alphanumeric		
Estimated Delivery	estimatedDelivery	estimatedDelivery	<input checked="" type="checkbox"/>	NO	Date		
Estimated Total	estimatedTotal	totalEstimated	<input type="checkbox"/>	NO	Decimal 2 posiciones		
Justification	justification	justification	<input type="checkbox"/>	NO	Alphanumeric		

Columns

Label

Allows to enter the text that is displayed on the field. It works together with the prefix to reference the field in validation messages and supports blank spaces.

Name

Name assigned to reference a field in the modeling, allowing the field to be uniquely identified within the form. Used in rule wizards to refer to field within conditions. It generates automatically from the [Label](#) property, it can be modified by the user and does not allow spaces or special characters. It allows its editing and it must be unique in the form.

Identifier

It is the name that is assigned to refer to a field in the programming code, it is used to refer to the field within the Java code in the "Execution Code" tab of the advanced rules and in the JavaScript code in the "Advanced Editing" tab of the form modeler. Allows to uniquely identify the field within the modeled form. It can be modified by the user, as long as no data has been loaded into the form and it does not allow spaces or special characters.

It allows its editing so that the user can modify it only when the form does not contain data.

Included in Grid

Indicates if the field is displayed in the [results grid](#) where the form instances are shown.

Multiple

Indicates if the field has multiple occurrences.

Type

Determines the data format that can be entered in the field. The supported data set varies, depending on the type of field that has been created from the elements of the [left side toolbar](#).

Rules

In case the field has any associated rule of [Required](#), [Visibility](#), [Editability](#) or [Validation](#), an icon is displayed indicating the type of rule.

Operations



Allows to delete the field only in forms without data and requires confirmation by the user.

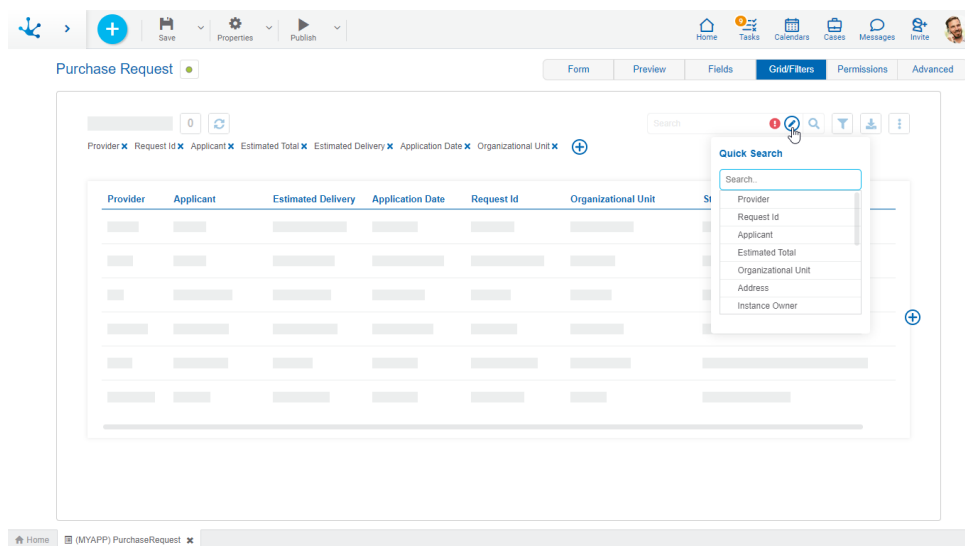



Attributes editing opens a new panel that allows to edit the [field properties](#).

3.7.5.1.3.4. Grid and Filters


Grid

Allows to model the columns displayed in the [results and search grids](#). The default columns of the grid correspond to those fields that have been configured with the [Included in Grid](#) property checked.




New fields can be added by pressing the icon  to the right of the last column of the grid and its order can be modeled by dragging the shaded rectangles of the columns to swap their positions.

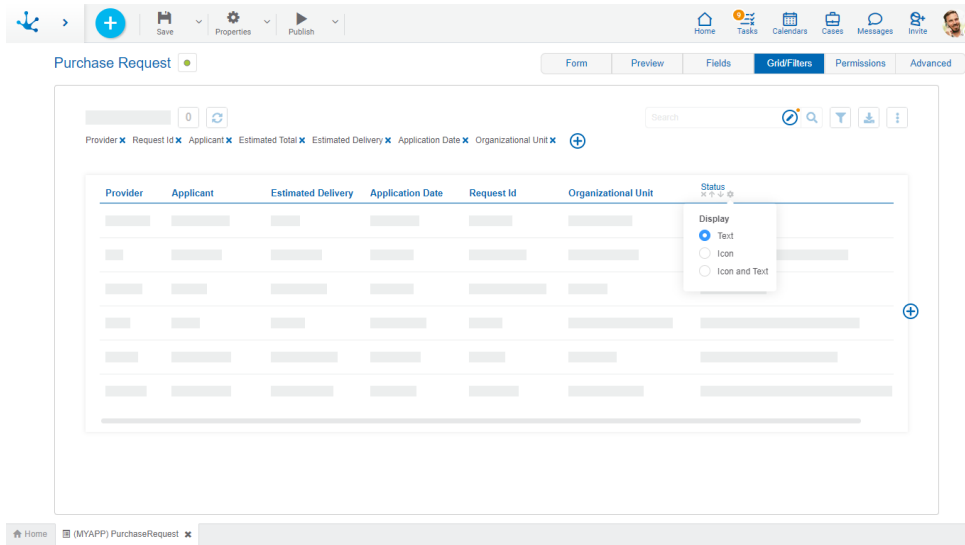
When hovering over the title of each column, the following icons are displayed:

 Allows to model the width of each column by moving the limit bar to the right to enlarge the column, or to the left to shrink it.

 Remove the column from the grid.

 To establish the column by which the default sorting will be performed, it is ascending or descending depending on the selected icon.

⚙ It is displayed when a field has a relation modeled to a value list. Pressing the icon allows to select the content type to display in the column. The default value is "Text", which can be changed to "Icon" or "Icon and Text".



In forms with associated processes, columns related to the case execution can be added when modeling the result grid.

Case Activity

It is the activity of the process in which the case is.

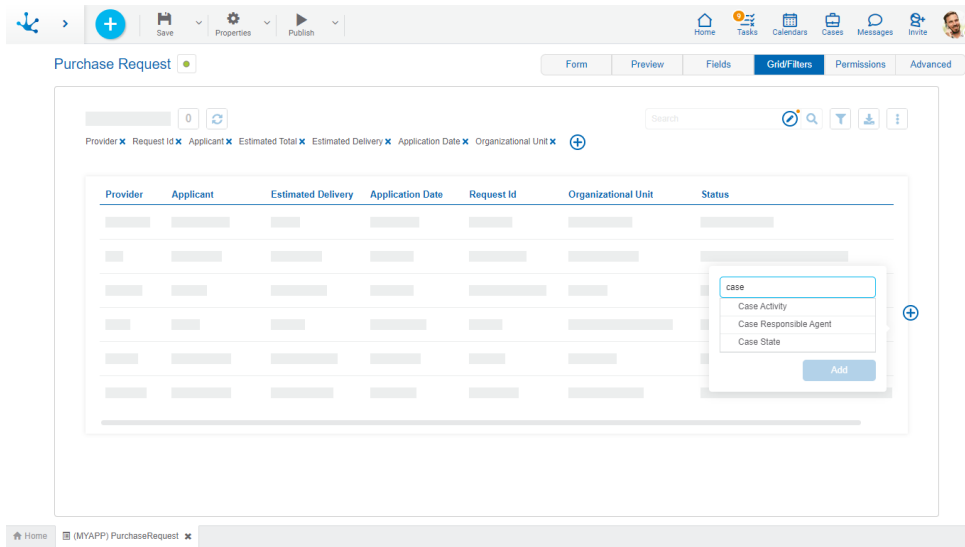
Case Responsible Agent

Refers to the user, role or office that the case has pending on its task list.

Case State

It is represented by a circle of different colors.

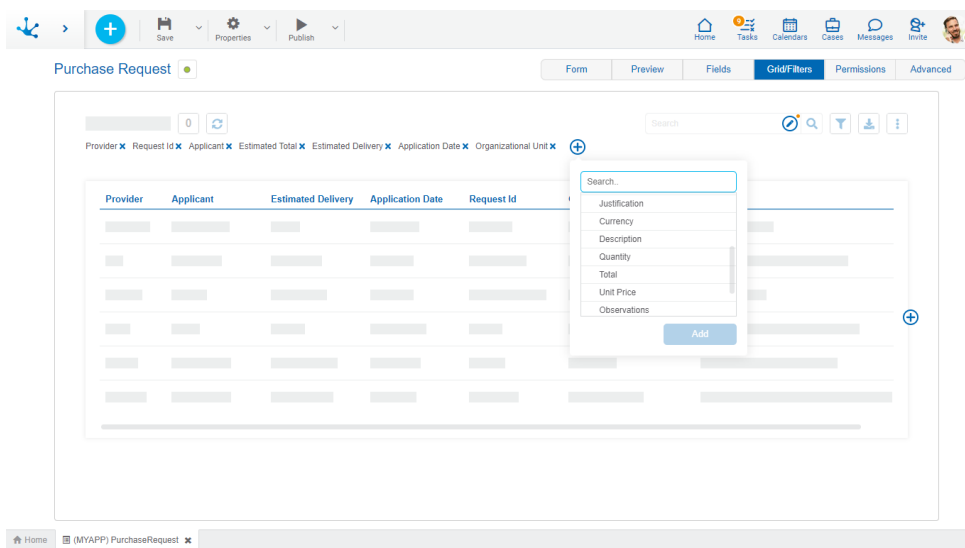
- Active: Green
- Finalized: Blue
- Cancelled: Red
- Discontinued: Gray



Filters

The definition of filters allows modeling search criteria on form instances. Each filter corresponds to a form field or to a field related to its execution.



Pressing the icon  located in the filter line, a panel to select the fields opens.

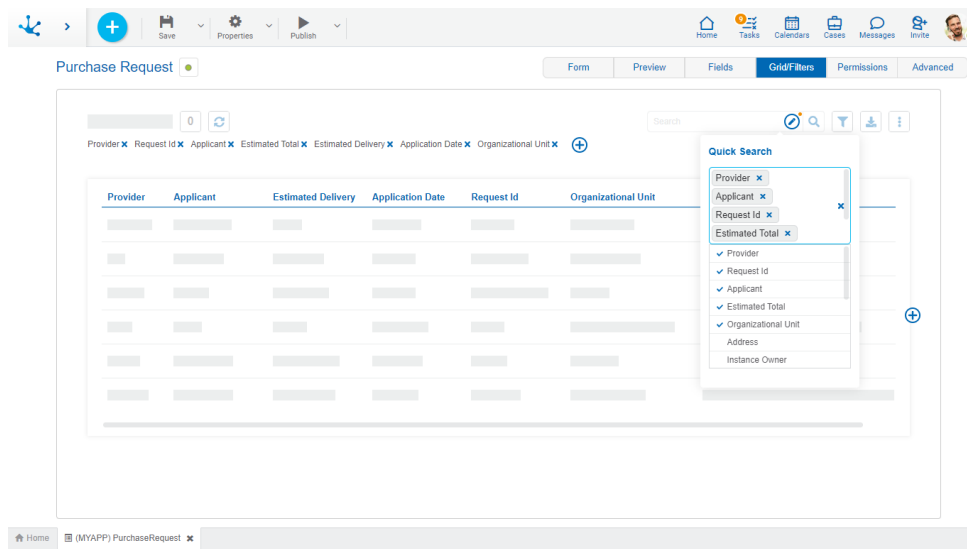




Quick Search

It allows to model the form fields that are included in the quick search. The available fields are of the type:

- Alphanumeric.
- Numeric.
- Object-related such as value lists and forms.
- Instance owner.
- Audit fields (Creation User and Last Update User).

Fields can be added by pressing the icon . If this search is not modeled, it is not displayed in the form grid. Hovering over the icon  indicates that at least one field should be selected for the search to be visible.



When selecting at least one field the icon  disappears and the icon  is displayed, notifying the modeler that the quick search has been modeled.

3.7.5.1.3.5. Permissions

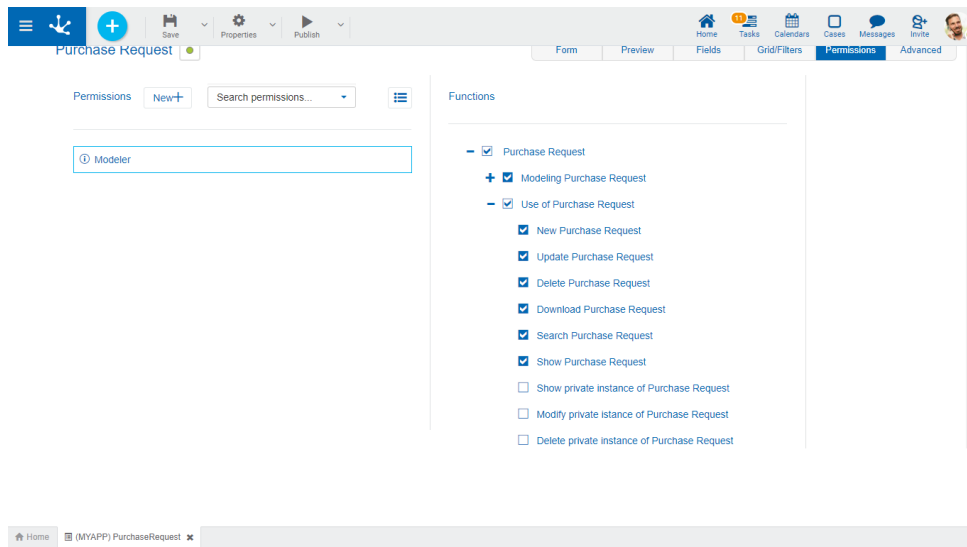
Allows to assign the [security functions](#) for use and modeling of the object to the existing permissions or to new permissions that the user creates, without having to go to the [permission](#) settings option from the menu.


Sections

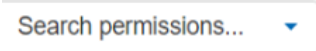
- Permissions: Permissions to which object functions are assigned.
- Security Functions: Represents the total set of security functions, modeling and use of the object. Those that are marked are the ones included in the selected permission.


By default, all security functions for a new object are assigned to the permission [Modeler](#).


Users who are assigned the permissions have access to the functions included in it.



 Opens a panel to create a new permission and once created, the security functions included in it must be selected .

 Allows to select a permission from a list and enables the input of characters to filter the values in the list.

 Opens the wizard to select a permission and once chosen, the necessary object security functions must be checked.

To unrelate a permission from the object, hover the cursor over the permission and press the icon . If there are functions selected for that permission, they must be unchecked in order to delete it.

Security Functions to Model the Form

- Visibility: Allows to display the object in the Deyel modeler grid.
- Open: Allows to open the object from the Deyel modeler.
- Copy: Enables the copy operation of the object.
- Save: Enables the operation of saving modifications made to the object.
- Publish: Enables the operation of publishing the object leaving its state as "Published".
- Delete all data: Enables the delete data operation.
- Delete publication: Enables the operation of deleting the object publication leaving its state as "Draft".
- Delete draft definition: Enables the operation of deleting the object.
- Lock/unlock: Enables the lock/unlock operation, only the user who locks it can modify it.
- Export: Enables the operation to export the object from the tools submenu of the expanded menu.

Security Functions to Use the Form

- Create: Enables the operation of creating an instance of the object.
- Modify: Enables the operation of modifying an instance of the object.
- Delete: Enables the operation of deleting an instance of the object.
- Download: Enables the operation of downloading the instances of the object in Excel.
- Search: Allows to use the show grid of the form instances.
- Show: Enables the operation of showing an instance of the object.
- Show/Modify/Delete Private Instance: They enable user operations on a private instance, regardless of the [organizational unit](#) they belong to and the rest of the criteria that define the [privacy](#).

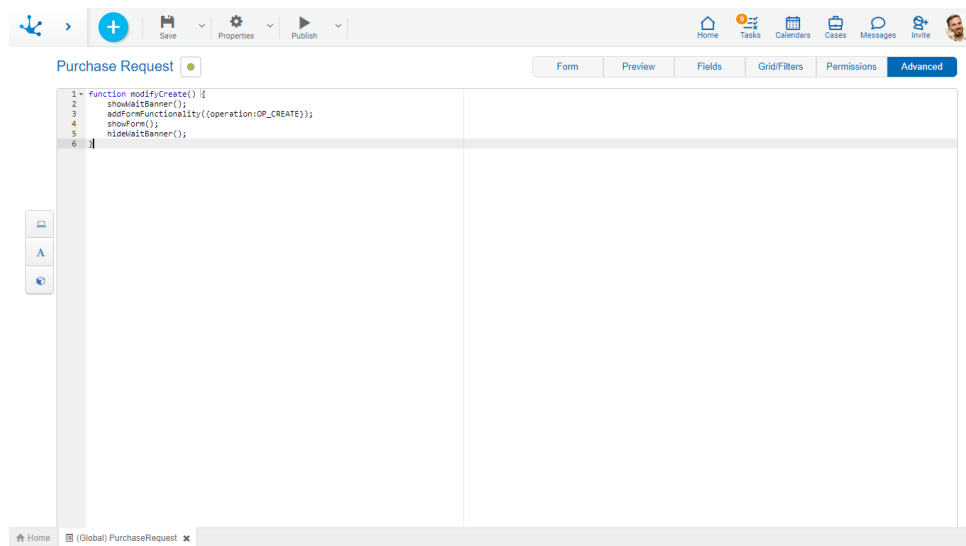
Private instance security functions are displayed if the properties are checked in the form [Hierarchical Privacy](#) and [Privacy by Permissions](#).

3.7.5.1.3.6. Advanced Editing

Being **Deyel** a development platform, it allows to make changes to the default functionality of a form. This functionality is aimed at IT users with knowledge of web development.

The "Advanced" tab presents a JavaScript code editing window that allows to apply programming logic in the web interface when using the form.

There is a set of JavaScript functions implemented in the platform that contain the default logic and behavior of the forms. Since business needs may require modifying this logic, these functions can be rewritten by programmers and apply different behavior to particular forms.



Predefined JavaScript functions

Functions according to Operation

- **modifyCreate()**: It is executed when entering the creation of a new form instance.

- **modifyUpdate():** It is executed when entering the update of a form instance.
- **modifyShow():** It is executed when entering to show a form instance.
- **modifyDelete():** It is executed when entering the deletion of a form instance.
- **modifyAfterValidate():** It is executed after controlling the asynchronous validations, when confirming a registration or update operation. Allows to perform operations after executing validations.
- **modifyPrint(pNode):** It is executed by pressing the "Print" button of forms. Allows to modify the default print display. The pNode parameter is the JQuery node of the entire html template of the form, any Javascript logic can be applied to modify such node, which is reflected only in printing.

JavaScript Functions Structure

The structure of functions can be copied in the advanced editing area and the code can be updated according to requests.

The predefined functions have the following structure:

```
function modifyCreate() {
    showWaitBanner ();
    addFormFunctionality({operation:OP_CREATE});
    showForm ();
    hideWaitBanner ();
}

function modifyUpdate() {
    showWaitBanner ();
    addFormFunctionality({operation:OP_UPDATE});
    showForm ();
    hideWaitBanner ();
}

function modifyDelete() {
    showWaitBanner ();
    addFormFunctionality({operation:OP_DELETE});
    showForm ();
    hideWaitBanner ();
}
```

```

function modifyShow() {
    showWaitBanner ();
    addFormFunctionality({operation:OP_SHOW});
    hideIterativeButtons ();
    showForm ();
    hideWaitBanner ();
}

function modifyAfterValidate() {
    document.getElementById("form1").submit ();
}

function modifyPrint(pNode) {
    return pNode ;
}

```

The OPERATION variable takes the following values according to the operation being performed with the form, allowing different actions to be executed on the form instance.

- "CREATE";
- "UPDATE";
- "SHOW";
- "BROWSE";
- "DELETE";
- "SEARCH";

Built-in JavaScript Functions

- **showWaitBanner()** : Shows the wait message.
- **addFormFunctionality()**: Adds functionality to display elements such as containers, field controls, repeatable field buttons.
- **hideWaitBanner()**: Hides the wait message if it is visible.
- **showForm()**: Shows the form once the necessary logic has finished executing.

Other Useful Functions

GetCdActivity function

In some cases where the form is associated with a process, different actions are carried out depending on the activity in progress.

In order to add programmed logic, there is the `getCdActivity()` function, which returns the number of the activity in progress.

```
if(getCdActivity() == 5){  
  
    // show container  
    }{  
    // hide container  
    }
```

Container Functions

hideContainerById ({idContainer:'id'}): This function hides in the interface the container indicated in the 'id' parameter.

showContainerById ({idContainer:'id'}): This function shows in the interface the container indicated in the 'id' parameter (if hidden).

Graphic Container Functions

closeContainer ({type: 0, idContainer:'id'}): Defines that a graphical container is closed.

type: Indicates what type of container it is.

- 0 for Bootstrap-style containers.
- 1 for jQuery-style containers.

idContainer: Identifies the container to apply the functionality.

openContainer ({type:0,idContainer:'id'}): Defines that a graphical container is displayed.

type: Indicates what type of container it is.

- 0 for Bootstrap-style containers.
- 1 for jQuery-style containers.

idContainer: Identifies the container to apply the functionality.

Multiple Occurrences Container Functions

showIterativesHeaders(): Allows multi-occurrence containers to repeat their field labels in each row.

```
showIterativesHeaders () {  
  
    return ["idContainer"]  
  
}
```

Field 1

Field 2



Field 1

Field 2



Supported Web Technology

In addition to native JavaScript, **Deyel** allows developers to use other web technologies on this tab.

- jQuery Version 2.1.4 official site <https://jquery.com/>
- Bootstrap 3.3 official site <https://getbootstrap.com/docs/3.3/>
- Font awesome official site <https://fontawesome.com/v4.7.0/>

These technologies are already included in the platform, any functionality of the same technologies that the programmer user wants to use does not require anything additional.

3.7.5.1.4. Side Toolbar

It is the toolbar that contains the icons corresponding to the different types of elements that can be defined in a form.

To use it, it is necessary to click on the corresponding section of the bar and select the type of element to add, dragging it to the desired place on the form.

Separators

They are light blue rectangular boxes that are displayed to the right and left, or above and below the elements defined in the modeling area, when dragging a field, graphic element or container with the mouse from the bar on the left. Indicate the positions within the modeling area where a field, graphic element or container chosen to be included in the form can be dropped.

Bar Elements



Fields Modeling

Pressing this icon displays a subset of elements that allow modeling fields represented by controls within the form. Each field can have a data type associated with it, depending on the control that represents it.



Text

Text

- Alphanumeric (Default Type)
The values are saved keeping the entered uppercase and lowercase letters.
- Uppercase Alphanumeric
Values are saved in uppercase.
- Long alphanumeric
It works as a default alphanumeric, with the exception that it allows storing long texts (usually up to 4GB).
- Rich Text
It has the characteristics of the alphanumeric type. It presents an extended editor that allows you to format the text by applying different styles, colors, sizes, etc. See detail of [use of control](#).



Integer

Number

- **Number**
It can contain integer values between -2147483648 and 2147483647 (they are stored in 32 bits).
- **Large Integer**
It can contain integer values between -9223372036854775808 and 9223372036854775807 (they are stored in 64 bits).
- **Decimal**
If the data type is decimal, the selection of the number of decimal places (2 to 5) is enabled.

Amount of Decimals

The image shows a UI control for selecting the number of decimal places. It consists of a grey dropdown button with a minus sign and a blue downward arrow. Below the button is a white menu with a light blue border. The menu items are: a minus sign, '2 positions', '3 positions', '4 positions', and '5 positions', all in blue text.



Date

Date

A simple rectangular text input field with a thin grey border, currently empty.

- **Date**
Allows you to view a date or enter it from a selector. See detail of [use of control](#).
- **Date and Time**
Allows you to view a date and time or enter them from selectors. See detail of [use of control](#).
- **Local Date**
Allows you to view a date or enter it from a selector, according to the time zone corresponding to the calendar of the user who uses it.
- **Date and Local Time**
Allows you to view a date and time or enter them from selectors, according to the time zone corresponding to the calendar of the user who uses them.



Time

Time

A simple rectangular text input field with a thin grey border, currently empty.

- **Time**
Allows you to view a time or enter it from a selector. See detail of [use of control](#).
- **Local time**
Allows you to view a time or enter it from a selector, according to the time zone corresponding to the calendar of the user who uses it.



File

File

- File in Database
Allows user files to be used as attachments to the form. See detail of [use of control](#).
- File in Folder
The files are stored in the file structure of **Deyel**. This option is available only in the On-Premise version.



Image

Image

- Image in Database
Allows using image type user files as an attachment to the form. Allowed extensions are jpg, png, tif, bmp, and gif.
See detail of [control use](#).
- Image in Folder
Images are stored in the file structure of **Deyel**. This option is available only in the On-Premise version.



Check

Check

Toggle



Allows to model fields represented by a check control. The values are of the logical type "YES/NO".

It can be displayed in toggle format if the field [Display](#) property was modeled.
See detail of [use of control](#).



Value List

Value List

It allows modeling fields represented by a value list type control, whose possible values are predetermined based on a pre-existing list or are defined at the time the field is modeled, in the ["Relation" tab](#) of its properties. See detail of [control use](#).

Modeling of Graphic Elements.





Pressing this icon displays a subset of graphic elements.



Title

It is used to include a text with a highlighted format.

My Title



Label

Used to include a free text and to be able to locate it in any section.

Label



Separator

Allows to divide sections of the form.



Space

Used to include blank lines.



Multiple Occurrence Button

Allows you to add and remove iterative. It can be used within iterative containers.



Containers Modeling

Containers are graphic elements that allow grouping other elements under certain criteria.

For more details on its configuration and attributes, see [Container Properties](#).

Clicking on this icon displays a subset of container elements.




Row

It is the grouping used in the graphic modeling area. An unlimited amount of elements can be put within a row, although the window width is recommended not to be exceeded since the row expands by increasing the width with respect to the others.

Rows can be scrolled up or down by moving all their content.

To move a row, you must hold down the left mouse button with the cursor, focusing on the row you want to move and dragging it up or down another one.

Rows can only be ordered within the container they are in, either the general area or a created container.

To delete a row you must position the mouse over it, where the delete option is displayed on the right  .

As an error prevention mechanism, a confirmation notice is displayed and if it is accepted, the row and all its content, including fields, are deleted.

If the form already contains data, deleting rows that contain fields is not allowed.



Simple Container

A rectangle containing any element of the form (fields, graphic elements and even other containers) is displayed.

It can be used to group sections of the form, to which operations are added (hide, relate rules, etc.).

The outline is not visible at the time of execution.

To differentiate it from other containers, its outline is orange.



Simple Container



Graphic Container

The difference with a simple container is that everything inside the graphic container is displayed in run mode as inside an accordion.

It can be used to group sections of the form, to which operations are added (hide, relate rules, etc.).

This container transformed into an accordion can be seen in the preview.

To differentiate it from other containers, its outline is blue.



Graphic Container



Multiple Occurrence Container

It can contain any element of the form (fields, graphic elements and even other containers).

Its main functionality is that all content is defined as multiple, that is, when executing the form, copies can be generated and deleted from the icons to the right of the element. This container is created by holding down a couple of buttons, but they can be deleted if not required.

Unlike the other containers, all the fields contained within are defined as a set of multi-occurrence fields. It cannot include other iterative containers either, nor simple containers if the [Field Group property](#) is checked.


It can be used to group sections of the form, to which operations are added (hide, relate rules, etc.). The outline is not visible at the time of execution.

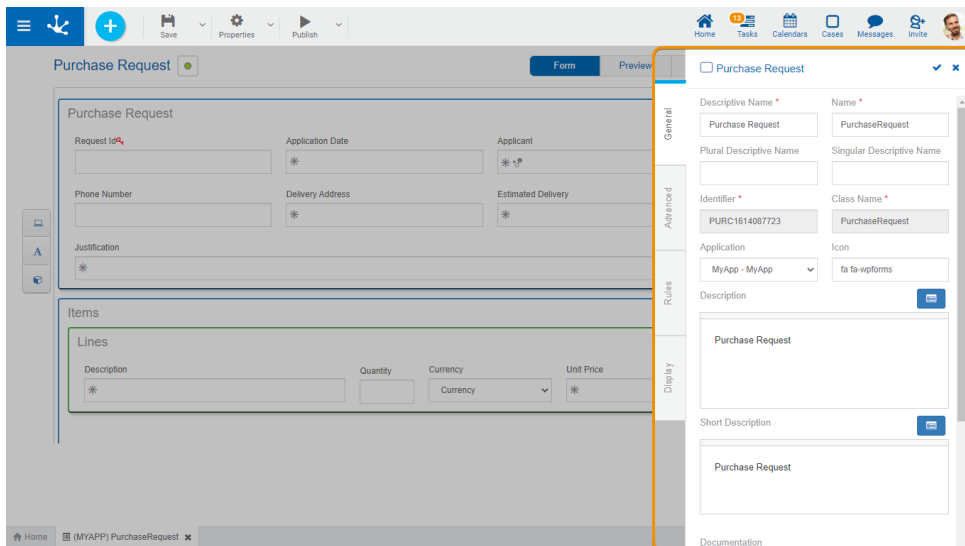
To differentiate it from other containers, its outline is green.



3.7.5.2. Form Properties

The properties of the forms can be entered both at the time of their creation and when modifying an existing one.

Entering the form properties panel is done using the icon  which is in the [top toolbar](#).



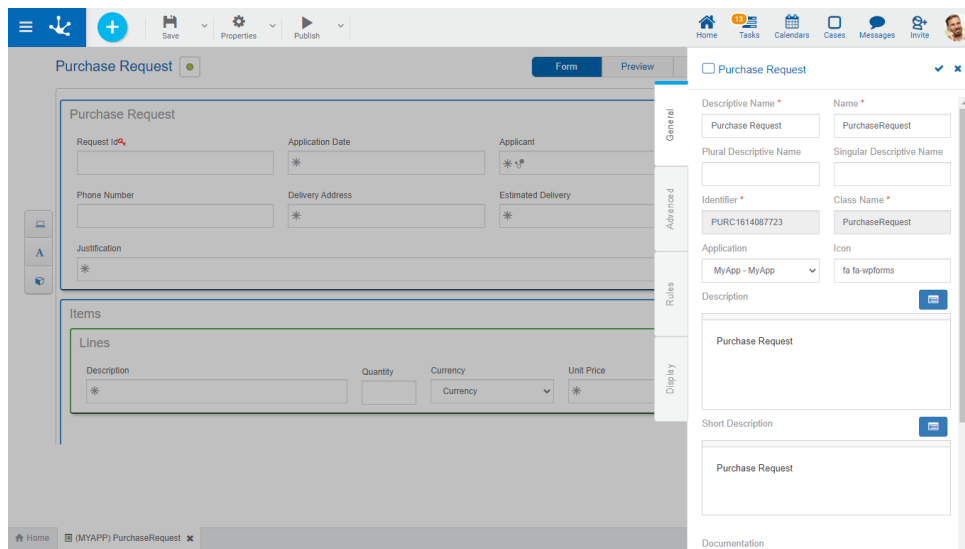
Tabs

- [General](#)
- [Advanced](#)

- [Rules](#)
- [Display](#)

3.7.5.2.1. General

The properties panel is displayed on the right side of the form modeler, where the first tab corresponds to general information.



An asterisk "" on the label indicates that the property is required.*

Properties

Descriptive Name

It is the name used by users to reference the form, for example in the [modeler's grid](#).

Name

It is used at the modeling level to reference the form, for example in rules or as a parameter.

Plural Descriptive Name

The text entered in this property is used as the title in the [results grid](#) of the form, while if it is not completed, the [Descriptive Name](#) property is used.

Singular Descriptive Name

The text entered in this property is used in the [list of related entities](#), while if it is not completed, the [Descriptive Name](#) property is used.

Identifier

Uniquely identifies the form.

Class Name

Name that represents the object in the SDK service and model classes. It can only be modified if the object is in draft state.

Application

Allows to define the application to which the object belongs. If no application is reported, the object is assigned to the application "Global".

Icon

Allows to assign a representative image of the form to the form.

The code to be entered corresponds to the Font Awesome standard. The identifier of the icon selected from the <https://fontawesome.com/v4/icons/> standard must be preceded by the characters "fa".

Description

Defines the form describing its functionality and optionally its content.

It can include text and values of variables from each form instance, which are modeled using the variables wizard. The use of variables included in iterative containers and the use of file, image and check type variables are excluded.

In the execution of the form, the description entered is displayed in:

- The last updates, on the element that represents the form in the grid of "[Forms and Tasks](#)".
- The panel of a [form instance](#), below the descriptive name.

Short Description


Text oriented to be a shortened description of a form instance. It can be used to identify the form in the [related entities](#), in a friendlier way than using its identifier.

It can include text and values of variables from each form instance, which are modeled using the variables wizard. The use of variables included in iterative containers and the use of file, image and check type variables are excluded.

In the execution of the form, the identification entered in this property is displayed when using [the referring entity field](#) in:




- The form instance.
- The form grid.
- The filter panel of the form grid.

Documentation

Informative text displayed when pressing the icon  using the form from the portal.


Image

An image that is displayed in the grids of forms and tasks, templates and in the upper bar when creating forms. It is recommended to be related to the functionality or information that the form represents.

-  Reports on the usefulness of the image.
-  Allows to choose an image from a file selection window.
-  Allows to delete the current image associated with the form.

Actions

The icon  is used to confirm the modifications made in the properties panel.

The icon  is used to close the properties panel, if it was not previously saved, changes are discarded.

3.7.5.2.2. Advanced

The second tab of the side panel corresponds to advanced information of the form.

Application	Process	Version	Main
MyApp	Purchase Request	1	<input checked="" type="checkbox"/>

Properties

Related Processes

Every form can be associated with one or more processes. The user can select them from the set of available processes and define form relation properties. Once selected, the processes are displayed in a grid with their corresponding properties.

- [Application](#)
- [Process](#)
- [Version](#)
- [Main](#)

In complex processes with a large number of variables, these variables can be defined in different entities, all related to the process. If this property is checked, it means that the modeled form is the most representative for the related process. This means that in the gallery of forms and tasks, the main form is the one where the tasks are displayed, even if other forms are used in the different activities.

A process can be related to several forms, of which only one can be indicated as the main entity. If in the [Related Processes](#) grid, the process with this property selected is already defined as main in another form, then the user receives an error message when the form is published.

Add Process

Allows to select a process from the drop-down list of available processes, each of the chosen processes is added to the grid of [Related Processes](#).

Local Variables to the Process

Checking this property indicates that the form fields have a [local scope](#) to the related process, that is, these variables can only be accessed and modified during the execution of the corresponding case. The variables of completed cases can only be accessed by them.

Leaving this property unchecked indicates that the variables have a [global scope](#), that is, they can be accessed and modified by the corresponding form operations, by each case of the processes using the form or by business rules.

Show Related Cases

If this property is checked, each time a form instance is created or shown in the user portal, an additional section of data is displayed, to associate the form with a case.

Printable

Allows to print the form when it has already been instantiated. Checking this property, when showing form instances, the "Print" button is enabled.

Send Emails

This property allows emails to be sent and the registration of their sending to be associated with form instances.

Enables:

- A [check column](#) in the results grid of a form to select instances, along with an icon to [send emails in bulk](#), which is displayed once the instances have been selected.
- An option for [sending emails](#) in the context menu, when showing a form instance.
- An option to display the [emails sent](#) in the [relations area](#), when showing or updating a form instance.

Audit

To indicate that [audit fields](#) will be modeled in a form, the audit properties represented by the checks listed below must be used, one for each field.

- Creation User
- Update User
- Creation Date
- Update Date

Privacy



[Phase 2: Forms Modeling > Advanced Tips > Entity privacy](#)

Hierarchical Privacy

Check that indicates if the entity is [private or not](#). If this check is indicated, the [Privacy by Permissions](#) property is displayed.

Privacy by Permissions

Mark indicating the creation of security functions: "Show Private Instance", "Modify Private Instance" and "Delete Private Instance" to be assigned in the design option "[Permissions](#)" of the form. These security functions are available if the form is in "Published" state, since they are use functionalities.

Instance Owner Modeling

Check indicating that the [Instance Owner field](#) can be modeled in the form modeling area. In case this check is not indicated, the data cannot be loaded by user interface, but by programming logic, for example through a business rule.

The instance owner can be modeled regardless of whether the form is private or not.

Identifier

Modeling

Indicates whether the [identifier](#) field is visible in the modeling area of the form. This property is displayed only for forms modeled with the default identifier. If the forms were modeled in previous versions using a key field, this property cannot be configured.

3.7.5.2.2.1. Audit Fields

The audit fields defined in a form are useful to keep track of its use. The information contained in such fields allows to know which user created or modified form data and the date and time of the operation.

Checking the [audit properties](#) causes the audit fields corresponding to the selected checks to be displayed in the design area.

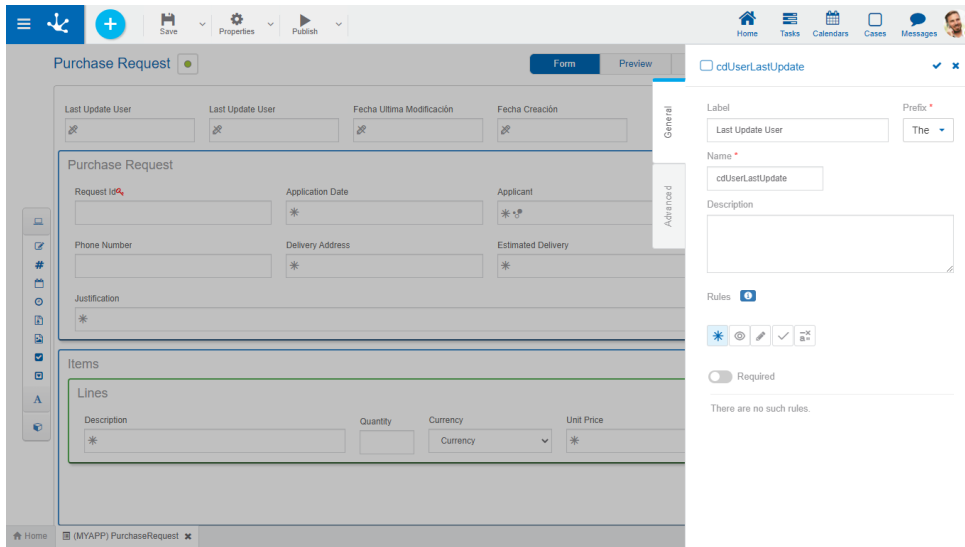
Characteristics

- The "General" and "Advanced" tabs are displayed, but not the "Relation" tab of the [field properties panel](#).
- They can only be eliminated by unchecking the audit properties in the form properties panel, that is, they cannot be eliminated like the fields defined by the user, nor the rows or the containers where they are defined.
- They cannot be defined neither a multi-occurrence container.
- They cannot be used neither within validation rules defined within [form properties](#) nor within [field properties](#).
- They can be used in the definition of columns in the display grid and as search filters in the "[Grid and Filters](#)" tab in the modeling area of the form.

General Tab

Audit fields can have the same set of properties defined as a user field, defined in the "[General](#)" tab , although with some limitations, since the properties listed below are not used.

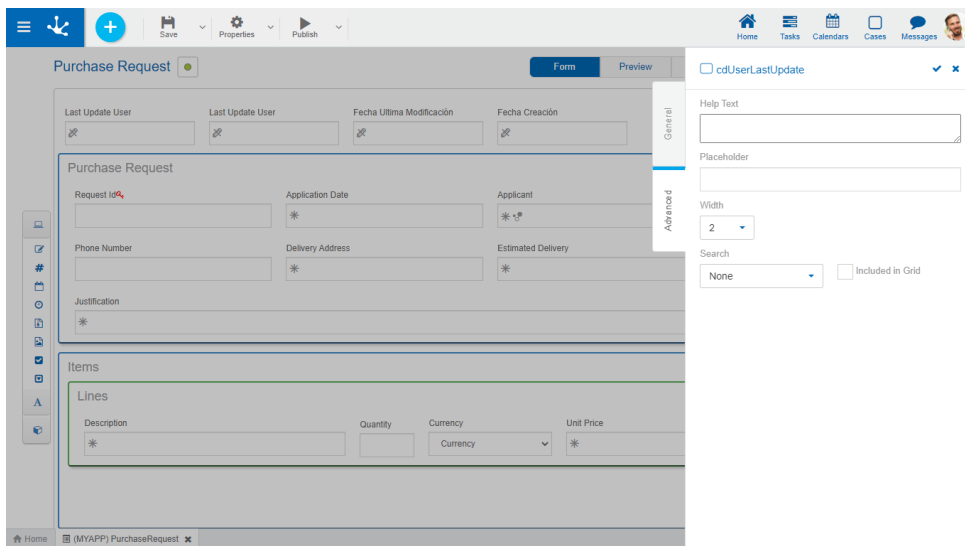
- [Field identification](#)
- [Editability](#)
- [Required](#)
- [Validation](#)



Advanced Tab

Audit fields can have the same set of properties defined as a user field, defined in the "[Advanced](#)" tab , although with some limitations, since the properties listed below are not used.

- Multiline
- Default Value
- Data Type
- Length
- Key



3.7.5.2.2.2. Instance Owner Field

If the property [Instance Owner Modeling](#) is checked in the tab "[Advanced](#)" of form properties, a new field labeled "Instance Owner" is included in the modeling area. It can be modeled like any form field, with a few differences.

General Tab

The instance owner field can have the same set of properties as a user field, in the tab "[General](#)". The only difference is that the [Identifier](#) property is not displayed.

The screenshot shows the 'Purchase Request' form editor. The main form is visible in the background, and the 'instanceOwner' field configuration is shown in the foreground. The 'General' tab is selected, showing the following properties:

- Label: Instance Owner
- Prefix: The
- Name: instanceOwner
- Description: (empty text area)
- Rules: 0
- Required: (checkbox)

Advanced Tab

The instance owner field can have the same set of properties as a user field, defined in the tab "[Advanced](#)", although with some limitations, since the properties listed below are not used.

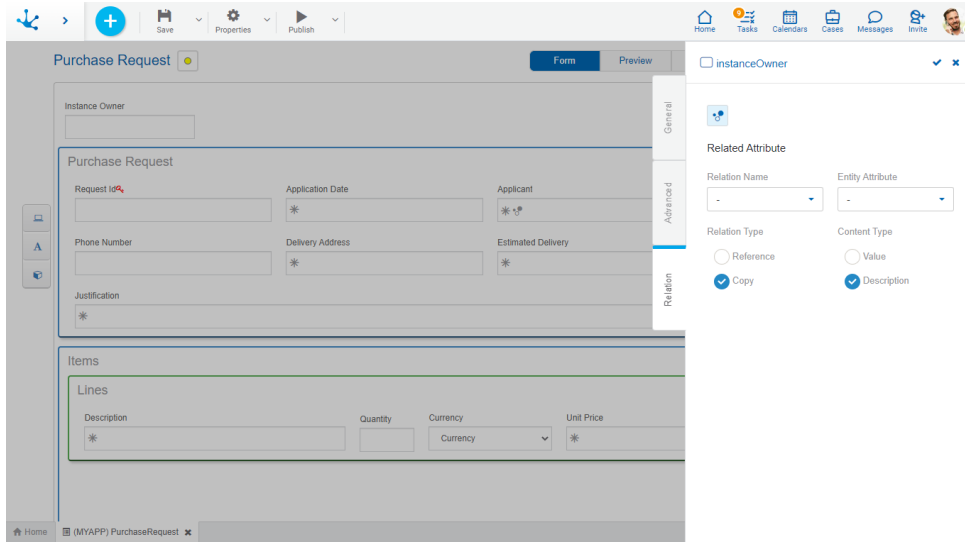
- Multiline
- Data Type
- Length
- Security

The screenshot shows the 'Purchase Request' form editor. The main form is visible in the background, and the 'instanceOwner' field configuration is shown in the foreground. The 'Advanced' tab is selected, showing the following properties:

- Help Text: (empty text area)
- Placeholder: (empty text area)
- Width: 2
- Label Position: Above
- Default Value: (empty text area)
- Search: None
- Included in Grid: (checkbox)
- Content Type: None

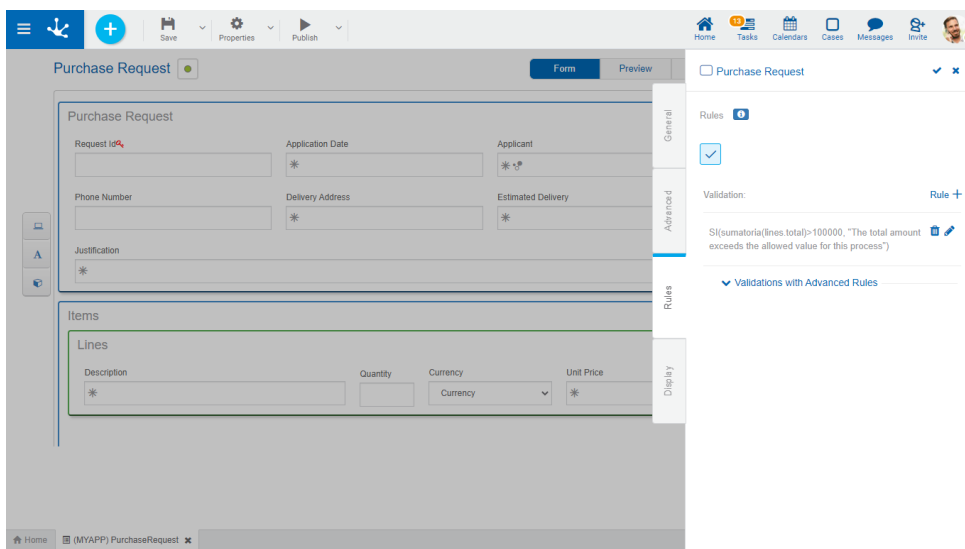
Relation Tab

The instance owner field always has an implicit relation to the entity "User". Therefore, on this tab only the properties of the [related attribute](#) can be modeled, as they are defined in the "Relation" tab of the field properties.



3.7.5.2.3. Rules

The third tab in the side panel corresponds to the [validation rules](#) associated with the form.



Rules





It is possible to define [validation rules](#) associated with the form.

- Validation Rule +** Opens an edit area where you can define the condition that determines if the form is correct or not. It is possible to define more than one rule. If rules are defined, the icon is displa-

yed with light blue borders.

 Shows syntax examples for writing the rules.

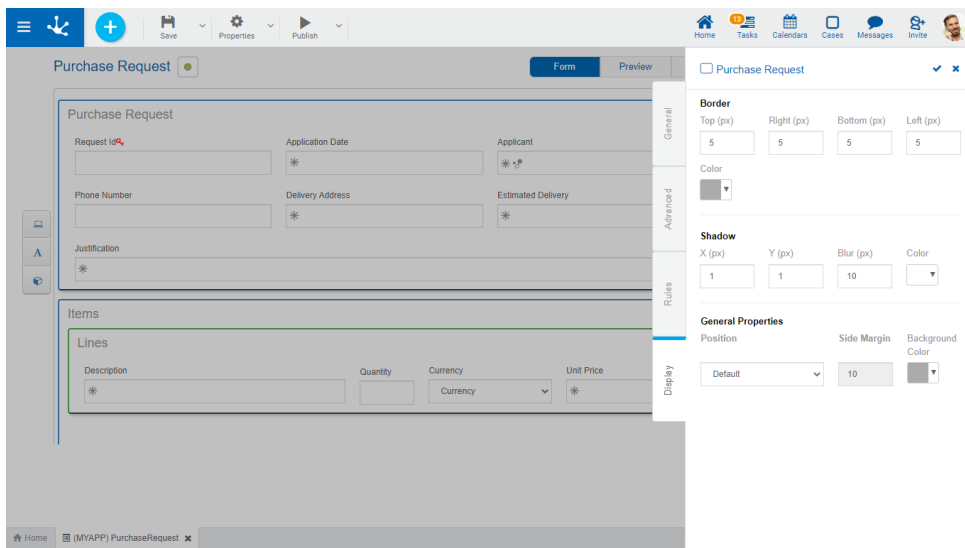
Operations

-  Saves the new or modified rule
-  Cancels the operation
-  Edits the existing rule
-  Deletes the rule

3.7.5.2.4. Display

The last tab corresponds to information regarding the display of the [form instances](#).

The result of indicating these properties can be seen in the design option "[Preview](#)".



An asterisk "" on the label indicates that the property is required.*

Properties

Border

Defines the width and color of the form borders. Width is measured in pixels, with 0 being the minimum value and 10 being the maximum value. The default value for each property is 0, with no border.

Top

Indicates the width of the top border.

Right

Indicates the width of the right border.

Bottom

Indicates the width of the bottom border.

Left

Indicates the width of the left border.

Color

Allows to select the border color from a palette or to enter the hexadecimal code equivalent to the desired color.

Shadow

Allows to define a shaded area framing the form. The properties **X**, **Y** and **Blur** are measured in pixels, with 0 being the minimum value and 10 being the maximum value.

X

Indicates the displacement of the shadow on the vertical axis with respect to the frame of the form.

Y

Indicates the displacement of the shadow on the horizontal axis with respect to the frame of the form.

Blur

Defines how sharp the shadow is displayed.

Color

Allows to select the shadow color from a palette or to enter the hexadecimal code equivalent to the desired color.

General Properties

Defines the content position and the background color of the form.

Position

Allows to display the form with margins on the left and right if the "Centered" option is selected.


Side Margin

Defines the screen percentage that is left as margin to the left and right of the form.

Background Color

Allows to select the background color of the form from a palette or to enter the hexadecimal code equivalent to the desired color.

3.7.5.3. Element Properties

The icon  becomes visible when hovering the mouse over each element of the [Graphic Modeling Area](#) of the form, that allows to enter the side panel of properties that defines each of the different types of elements.

Types

- [Fields](#)
- [Graphic Elements](#)
- [Containers](#)

Side Panel

In the side panel, the properties corresponding to each type of element can be displayed and modified. In the upper right part of it you can select icons to perform the following actions:


Actions

The icon ✓ is used to confirm the modifications made in the properties panel.

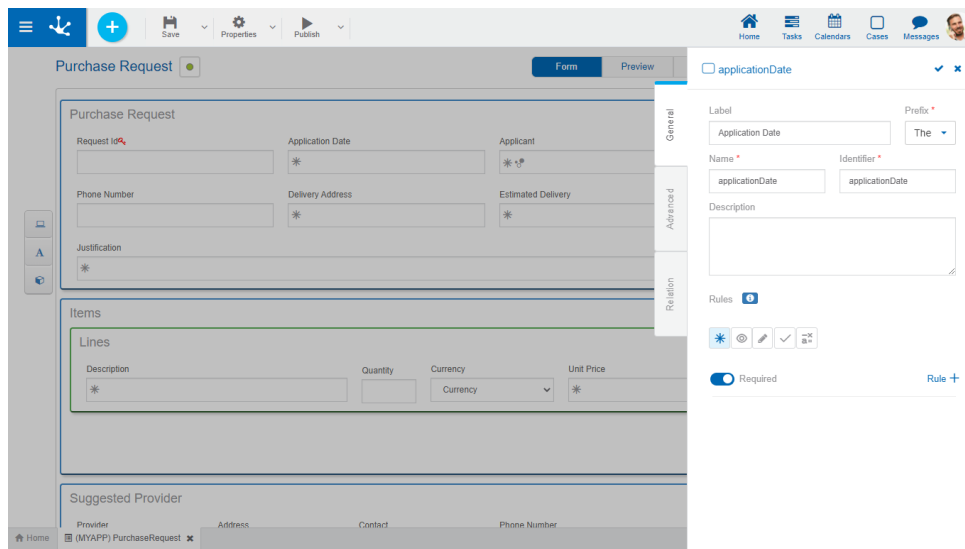
The icon ✕ is used to close the properties panel, if it was not previously saved, changes are discarded.

3.7.5.3.1. Field Properties

[▶ Phase 2: Form Modeling > Form elements modeling](#)

Pressing the icon  on the field opens the vertical panel on the right, which contains the following tabs:

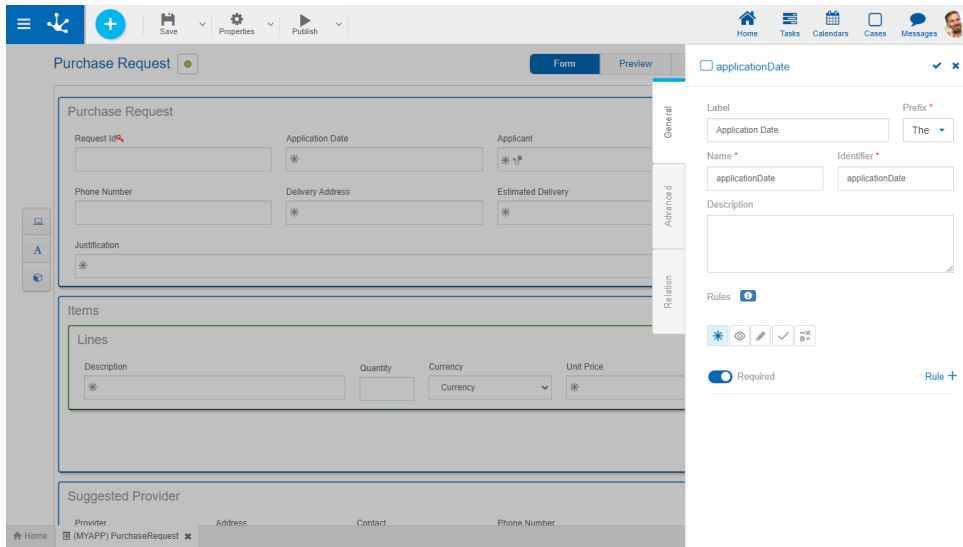
- [General](#)
- [Advanced](#)
- [Relation](#)



3.7.5.3.1.1. General

[▶ Phase 2: Forms Modeling > Behavior modeling](#)

The properties panel is displayed on the right side of the form modeler, where the first tab corresponds to general information.



An asterisk "" on the label indicates that the property is required.*

Properties

Label

Allows to enter the text that is displayed on the field. It works together with the prefix to reference the field in validation messages and supports blank spaces.

Prefix

This prefix is used to conform error messages during data entry. It is required. Allows to select the value: "The".

Name

Name assigned to reference a field in the modeling, allowing the field to be uniquely identified within the form. Used in rule wizards to refer to field within conditions. It generates automatically from the [Label](#) property, it can be modified by the user and does not allow spaces or special characters.

Identifier

It is the name that is assigned to refer to a field in the programming code, it is used to refer to the field within the Java code in the "Execution Code" tab of the advanced rules and in the JavaScript code in the "Advanced Editing" tab of the form modeler. Allows to uniquely identify the field within the modeled form. It can be modified by the user, as long as no data has been loaded into the form and it does not allow spaces or special characters.

Description

Text that defines the field and optionally its content.

Rules

[Embedded rules](#) on behavior, validation and calculation can be defined, associated with a field, by using the [wizard](#) (ctrl + space).



Shows syntax examples for writing the rules.



Required

Indicates whether the field is required when creating a new form instance or when modifying an existing one.

Required Not required (default)

Rule + Opens an edit area where a rule to determine the required condition can be defined. If a rule is defined, the icon is displayed with light blue borders.



Visible

Indicates whether the field is visible. If this property is not checked, the field is not displayed in the form instances.

Visible (default) Not visible

Rule + Opens an edit area where a rule to determine the visibility condition can be defined. If a rule is defined, the icon is displayed with light blue borders.



Editable

Indicates if the field is editable. If this property is not checked, the user cannot enter or modify values in the field.

Editable (default) Not editable

Rule + Opens an edit area where a rule to determine the editability condition can be defined. If a rule is defined, the icon is displayed with light blue borders.



Validation

Rule + Opens an edit area where you can define the condition that determines if the field value is correct or not. It is possible to define more than one rule. If rules are defined, the icon is displayed with light blue borders.



Calculation

Rule + Opens an edit area where you can define the expression to be executed to calculate the field value. If a rule is defined, the icon is displayed with light blue borders.

Operations when defining the rule:

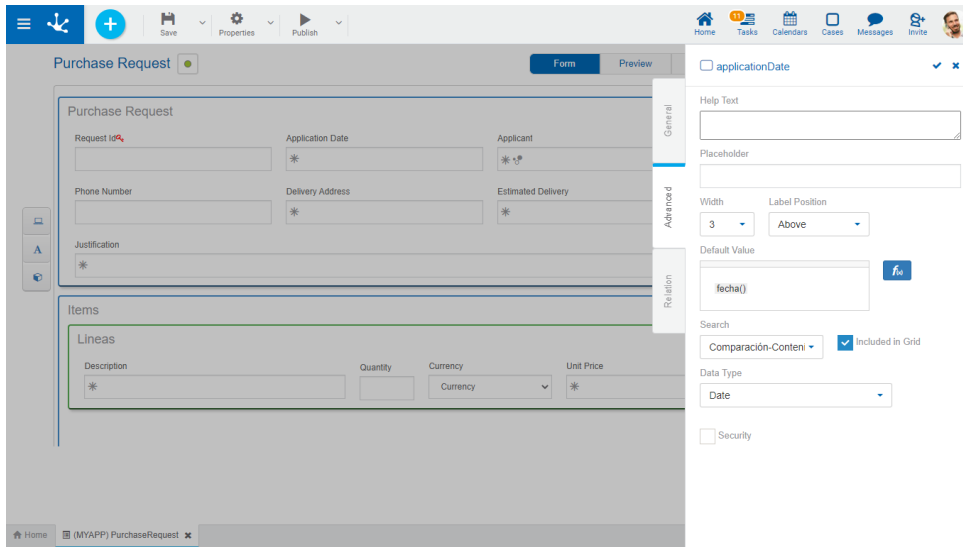
- Saves the new or modified rule
- Cancels the operation

Operations once the rule is defined:

- Edits the existing rule
- Deletes the rule

3.7.5.3.1.2. Advanced

The second tab in the side panel corresponds to the additional properties to define the behavior and functionality of a field.



An asterisk "" on the label indicates that the property is required.*

Properties

Help Text

Its function is to guide the user on the content to load in the field. The text entered as help is displayed when the user hovers the cursor over the field.

Placeholder

Its function is to guide the user on the content to load in the field. Unlike the [Help Text](#) property, the text entered as a placeholder is displayed within the field.

Width

It is used to modify the field width in the row. Values between 1 and 12 can be selected, where 12 is the total row width.

Label Position

Defines where the label is placed in the [form instances](#), in relation to the control that it identifies. By default it is at the top and can be changed to the right or left of the control.

The result of indicating this property is displayed in the design option "[Preview](#)".

Multiline

This property determines if the field is displayed in text box mode when using the form, allowing the edition of the text in a larger area. This property is only visible if the field is text type.

Default Value

Allows to assign the value the field has by default at the time of the first data entry, to speed up the loading of values. The default values can be constant values or can be defined from the [functions](#) available for the field type. Each function returns a value when using the form and results of more than one function can be combined with text.

Search

Allows to use the field as filter when searching for instances of the form.

Included in Grid

Indicates if the field is displayed in the [results grid](#) where the form instances are shown.

Data Type

Determines the data format that can be entered in the field. The supported data set varies, depending on the type of field that has been created from the elements of the [left side toolbar](#).

Length

Determines the maximum length of the value depending on the data type. This attribute is only visible if the field is of text or numeric type.

Key

This property is valid only for the [identifier field](#). It allows to uniquely identify a form instance, that is, such value cannot be repeated between instances of the same form.

Autonumeric

This property is valid only for the [identifier field](#) and determines that the field value is automatically generated when creating the form instance.

Content Type

This property is valid only for text type fields. If the email value is selected in this property, the field content becomes the recipient at the time of:

- [Sending an email](#) when a form instance is shown.
- [Sending emails in bulk](#) from the results grid of the form.

The recipient or recipients entered in this type of field can be modified when they are sent from a specific query, but they cannot be modified when emails are sent in bulk.

Security

This property is used to define display and editing restrictions on the field that is being modeled. If this property is checked, the security functions of field view and editing are created and they are displayed in the use functions panel of the design option "[Permissions](#)" of the form, if they are checked, they are incorporated into the form's security functions assigned to the created or modified permission.

Display

This property is only visible if the field is of "Check" type. Allows to select whether the field is displayed in "Check" or "Toggle" format."

3.7.5.3.1.3. Relation

The third tab in the side panel corresponds to relation properties and the related attribute.



Relation Properties

A relation allows to obtain values for the field being modeled from different sources, by selecting the [Values obtained from](#) property. If the field does not have a relation, the default option "No Relation" should be modeled.

- [Rules](#)
- [Entities](#)
- [Value List](#)



Related Attribute

This attribute indicates that the field value is retrieved from the attribute value of another entity, related when creating or updating a form instance. One of the relations defined in the form must be selected and then indicate which attribute of the related entity it is linked to.

A related attribute can be modeled regardless of the option selected in the [Values obtained from](#) property. This allows a field to have all the functionality of being related, and also to load its value automatically.

An asterisk "" on the label indicates that the property is required.*

Properties

Relation Name

The list of relations defined in the form is displayed, allowing the selection of one of them.

Entity Attribute

The list of attributes of the selected entity that have a format option compatible with the field type is displayed. Attributes can have a relation to an entity, a value list, or a rule modeled in the selected entity.

Relation Type

Reference

When this property is checked, the field value is always subject to the current value of the related attribute, that is, the updated value is automatically displayed.

Copy

When this property is checked, once the retrieved value is loaded, it is not automatically modified again even if the value of the related attribute is modified.

Content Type

The content of the field varies depending on the [Value](#) or [Description](#) property checked when:

- The entity attribute has a relation modeled.
- The "Entity" option of the field is selected in the [Values obtained from](#) (property).

Value

When this property is checked, if the relation is modeled with a:

- Related entity, the identifier of the entity is displayed.
- Value list, the value list code is displayed.
- Rule, the code returned by the rule's execution is displayed.

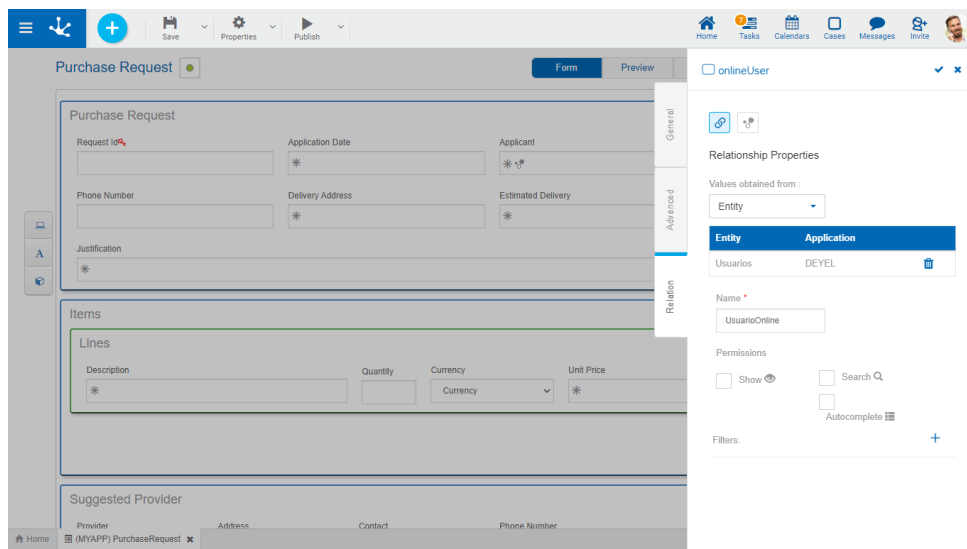
Description

When this property is checked, if the relation is modeled with a:

- Related entity, the short description of the entity is displayed.
- Value list, the value list description is displayed.
- Rule, the description returned by the rule's execution is displayed.

Entities

Through the form modeler, the business entities are modeled. It is also possible to model relations among entities to represent their interaction. The relations defined in this panel can be modeled in the [referenced entity](#) so that they are reflected when using the corresponding form.



An asterisk "" on the label indicates that the property is required.*

To define a relation with an entity, the entity to establish a relation with must be selected first, and then complete a set of properties.

Properties

Name

Name of the relation between both entities, it is a modeling-oriented property. It does not allow spaces and must be unique per modeled form.

Permissions

The permissions of the relation define which functionalities are enabled in the [relation control](#).

Show

By checking this property, the user is allowed to display the entity instance with which a relation is established in the form use.

Search

By checking this property, the user is allowed to access the [results grid](#) to find the entity instance to establish a relation with in the form use.

Autocomplete

If this property is checked, predictive text functionality is presented to users. Based on the characters that the user types, a subset of values is proposed, which coincide with all or part of the text entered. This facility is called [autocomplete](#).

In order to use this property, the referenced entity must have the [Short Description](#) modeled. Such description must not contain date or time variables, nor can it have a variable related with another entity.

Filter

Allows to narrow the search results on the related entity.

The filter is applied both in the autocomplete of the field, as well as in the show through the magnifier that is displayed when you hover the mouse over the field.

To create a filter, click on the icon **+** and a panel opens to complete the following properties:

Filtered Attribute

Allows to select an attribute of the related entity.

Condition

Allows you to select a condition as part of the filter.

Type

The possible values to select are "Value" and "Field".

Value

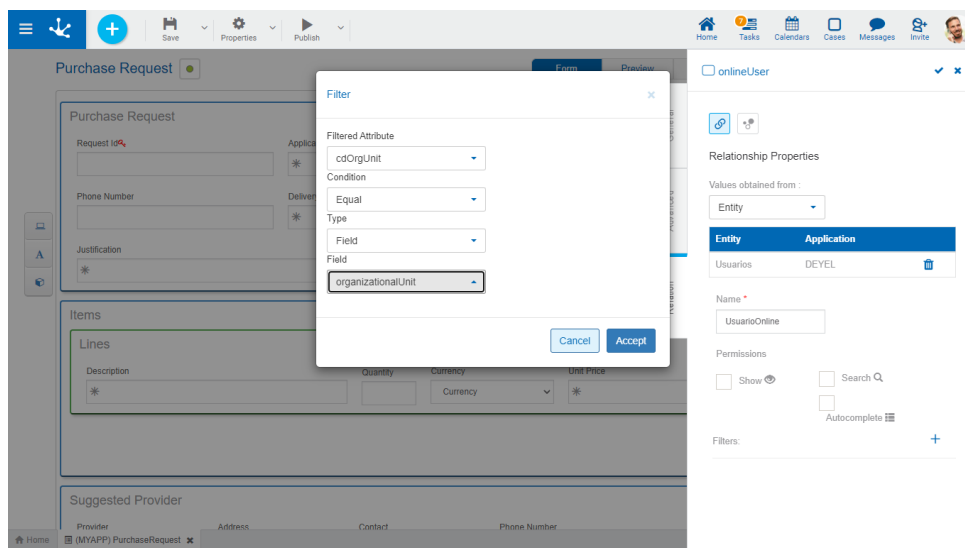
Allows to enter fixed values.

Field

Allows to select of a form field. It must be considered that its content depends on the [Type of Content](#) property of the related attribute

Example of Filtered Entities

A relation with the user entity is modeled.



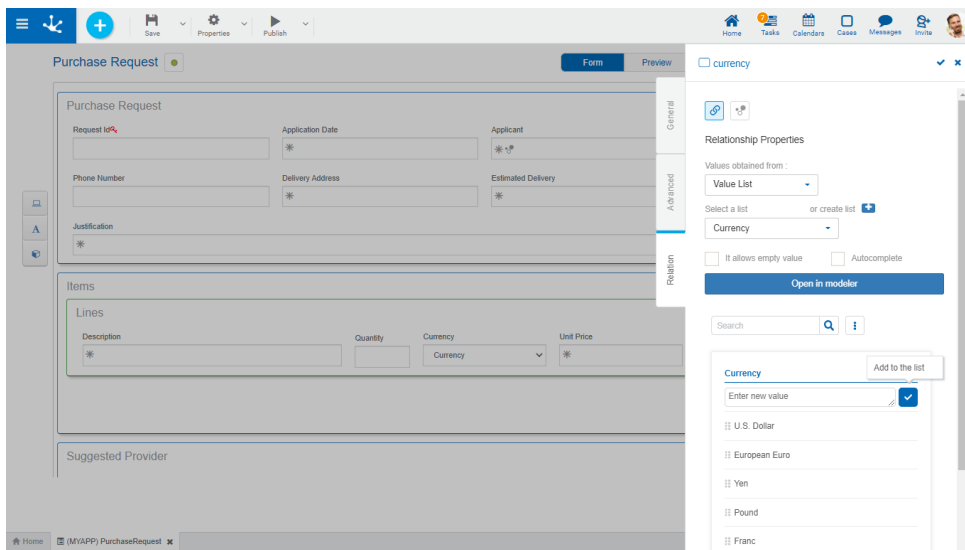
*In this example the organizational unit field must have the **Type of Content** property defined as "Value". If during execution the description of this field needs to be displayed, the relation with the organizational unit entity must also be modeled.*

[During execution](#), by clicking on the "User" field search, all users whose organizational unit is the one reported in the "Organizational Unit" field of the form are displayed.


Value List

Allows to define a set of values grouped under some criteria so that the application user knows the possible values a field can take.

New lists can be created from the modeler, then edit and relate them to form fields.



An asterisk "" on the label indicates that the property is required.*

To create a new list of values, click on the icon .

A panel opens to enter the name of the list, the application to which it belongs is selected, if [alphabetical sorting](#) is indicated, [descending](#) order can be selected. Pressing the "Accept" button creates the list of values, subsequently allowing the entry of new values.

The list of values can be used in any other field of the same or another form.

Properties

Select a list

Allows to select a particular list from the set of already existing lists, being able to filter such set by entering text into the search field that is above the list.

Allows empty

If this property is checked, the empty value is included as the first option in the list. Otherwise the first value in the list is displayed in the field.

Autocomplete

If this property is checked, predictive text functionality is presented to users. Based on the characters that the user types, a subset of values is proposed, which coincide with all or part of the text entered. This facility is called [autocomplete](#).

Other Elements

Open in modeler

Allows using [the list of values modeler](#) for the definition, instead of the field properties panel.





Allows to filter values from the list based on the characters entered. If a list is very long it helps users to easily visualize the desired values.





Enables an option that allows to add the internal code to the list values.



Operations on Values

-  Allows adding each entered value to the list of values.
-  It is displayed if the list has the [Icons property](#) modeled. It allows to associate icons to the list values.
- Double click: Allows to modify a value in the list.
- Move: Allows to change the position of a value within the list by dragging the value with the mouse.

Hovering the cursor over each of the values entered, a set of icons is displayed and this allows to perform different operations.

-  Allows to delete a value from the list of values. Once deleted, it is displayed in gray and crossed out.
-  Allows to restore a previously deleted value.

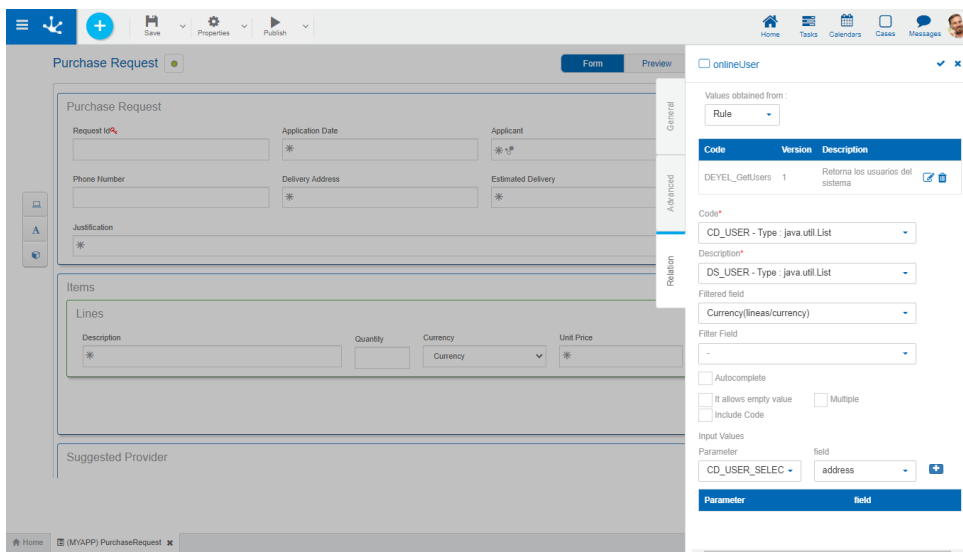
Display the Selected Line

-  Hides the icons that are displayed.
-  Shows hidden icons.

Rules

Through this relation, it is possible to limit the set of values to be loaded in a field to those from the indicated source.

When relating fields to rules, the possible values are retrieved from a predetermined [business rule](#). When establishing a relation with a rule, a list of rules is displayed to select which of them to establish the relation with the field.



An asterisk "" on the label indicates that the property is required.*

Properties

Code

Represents a business rule parameter, which allows the description to be uniquely identified. Each parameter value is related with its corresponding description.

Description

Represents a business rule output parameter. Each parameter value is related with its corresponding code.

Filtered Field

Modeling filtered fields allows to make the value lists of fields associated with rules variable when using form instances. In many cases, depending on a value loaded in a form field, the possible values of another field must be restricted.

This property is completed with the form field on which the filter is applied. See detail of [property use](#).

Filter Field

Name of the business rule parameter whose content is used to filter the field values indicated in the [Filtered Field](#) property.

Autocomplete

If this property is checked, predictive text functionality is presented to users. Based on the characters that the user types, a subset of values is proposed, which coincide with all or part of the text entered. This facility is called [autocomplete](#).

Search by Content

It is only enabled if the property is checked [Autocomplete](#). Allows selection of the number of characters on which the autocomplete search begins. In this way, if the "1 character" value is selected, the autocomplete search will start after the first character is typed.

Allow empty

If this property is checked, in addition to the values that come from the rule, a value may not be selected for this field. An entry with no value is added to the rule results list. See detail of [property use](#).

Multiple


If this property is checked, the user can select more than one value from the list, otherwise, a single element can be selected. See detail of [property use](#).


Include Code

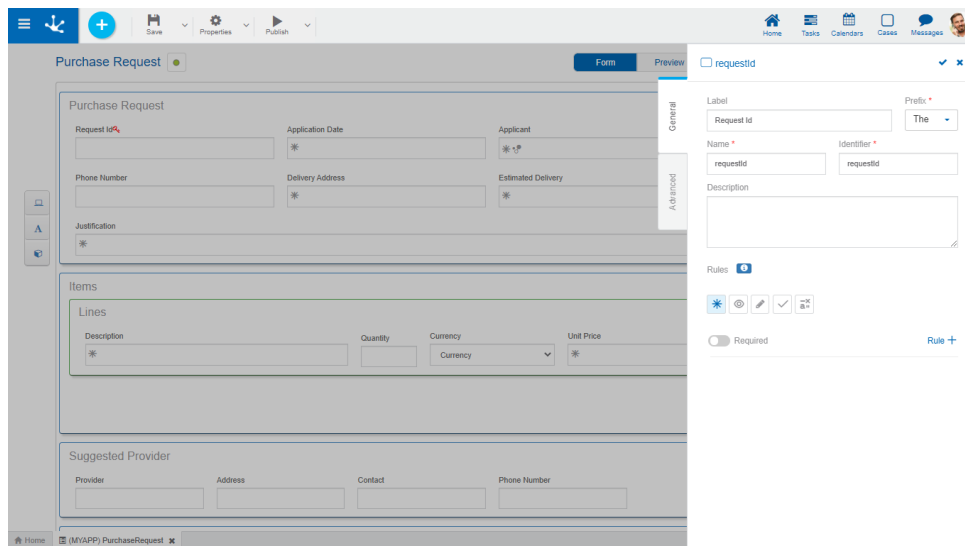
This property indicates how the list of possible values is displayed. The default view of the list shows only the value description. If this indicator is checked, the code for each element is also displayed.

3.7.5.3.2. Graphic Element Properties

This section explains the properties of the different [types of graphic elements](#) present in the form modeler.

Of all the elements of this type, it is only possible to edit "Title" and "Label" elements, since the rest do not have the icon available .

Pressing the icon  on a graphic element opens the properties panel.



The screenshot displays the form modeler interface for a 'Purchase Request' form. The main form area shows fields for 'Request Id*', 'Application Date', 'Applicant', 'Phone Number', 'Delivery Address', 'Estimated Delivery', and 'Justification'. Below these are 'Items' and 'Suggested Provider' sections. The 'Properties' panel on the right is open for the 'requestid' element, showing fields for 'Label' (Request Id), 'Prefix' (The), 'Name' (requestid), and 'Identifier' (requestid). The 'Rules' section is also visible, with a 'Required' checkbox and a 'Rule +' button.

An asterisk "" on the label indicates that the property is required.*

Properties

Text

Title or label text.

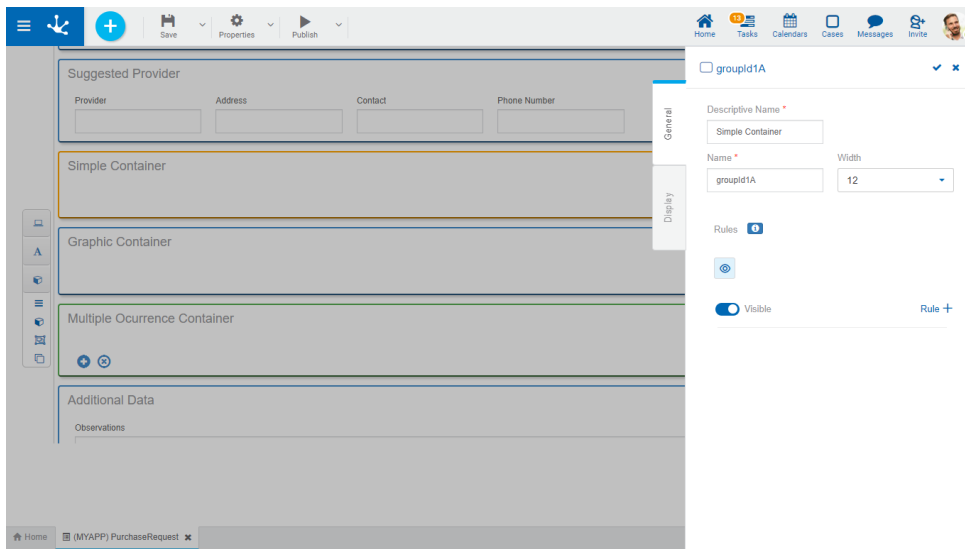
Width


Used to modify the width that the field uses in the row, being able to select values between 1 and 12, being 12 the total width of the row.

3.7.5.3.3. Container Properties

Properties are defined for different types of containers.

- [Single Container](#)
- [Graphic Container](#)
- [Multiple Occurrence Container](#)

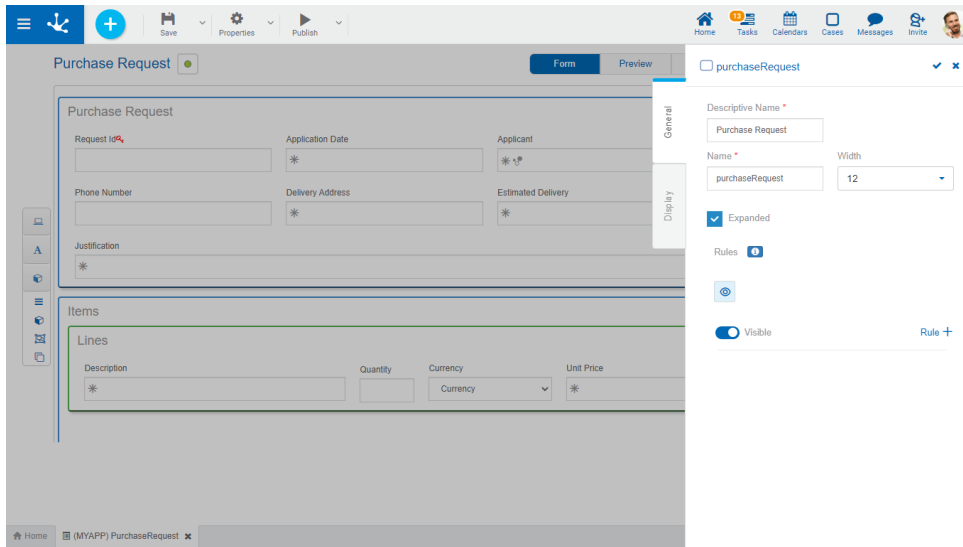


Pressing the icon  on the field opens the vertical panel on the right, which contains the following tabs:

- [General](#)
- [Display](#)

3.7.5.3.3.1. General

The properties panel is displayed on the right side of the form modeler, where the first tab corresponds to general information.



An asterisk "" on the label indicates that the property is required.*

Properties

Descriptive Name

Allows to identify the container with a name oriented to the end user. Spaces and special characters are allowed.

Name

Allows to identify the container with a name oriented to the modeler user. Spaces and special characters are not allowed.

Field Group property

Indicates whether the fields that are in this container are part of a group. If a group has this property checked, it cannot include an iterative container.

It is only used for single type containers.

Width

Used to modify the container width, being able to select values between 1 and 12, being 12 the total width.

Expanded

Indicates whether the container is displayed expanded, showing its content, or closed when showing the form instance. It is used only for graphic containers.

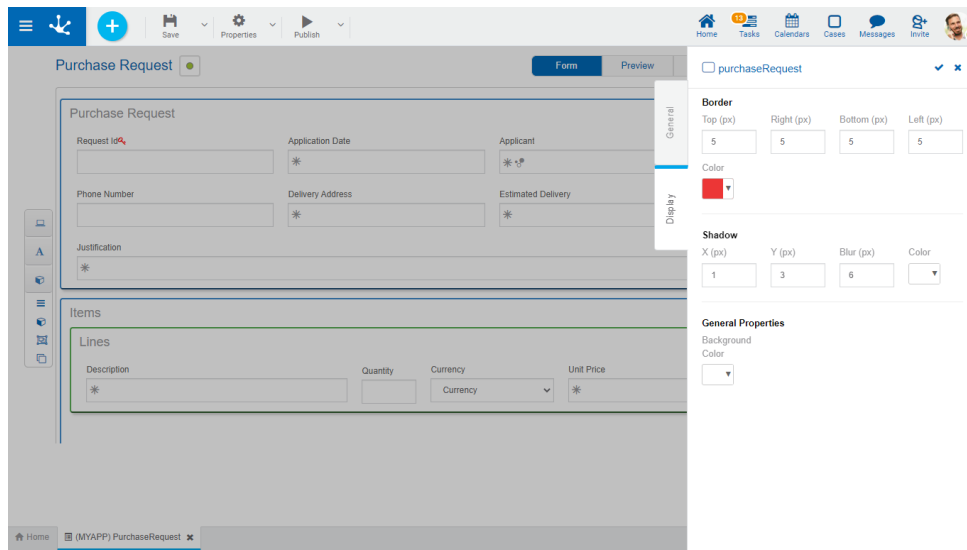
Visible

This property indicates whether the container and its content are visible when showing the form instance. Allows the definition of [embedded visibility rules](#) associated with the container as well as those defined for the fields.

3.7.5.3.3.2. Display

The second tab corresponds to information regarding the container display in the [form instances](#).

The result of indicating these properties can be seen in the design option "[Preview](#)".



An asterisk "" on the label indicates that the property is required.*

Properties

Border

Defines the width and color of the container borders. Width is measured in pixels, with 0 being the minimum value and 10 being the maximum value. The default value for each property is 0, with no border.

Top

Indicates the width of the top border.

Right

Indicates the width of the right border.

Bottom

Indicates the width of the bottom border.

Left

Indicates the width of the left border.

Color

Allows to select the border color from a palette or to enter the hexadecimal code equivalent to the desired color.

Shadow

Allows to define a shaded area framing the container. The properties **X**, **Y** and **Blur** are measured in pixels, with 0 being the minimum value and 10 being the maximum value.

X

Indicates the displacement of the shadow on the vertical axis with respect to the frame of the container.

Y

Indicates the displacement of the shadow on the horizontal axis with respect to the frame of the container.

Blur

Defines how sharp the shadow is displayed.

Color

Allows to select the shadow color from a palette or to enter the hexadecimal code equivalent to the desired color.

General Properties

Defines the background color of the container.

Background Color

Allows to select the background color of the container from a palette or to enter the hexadecimal code equivalent to the desired color.

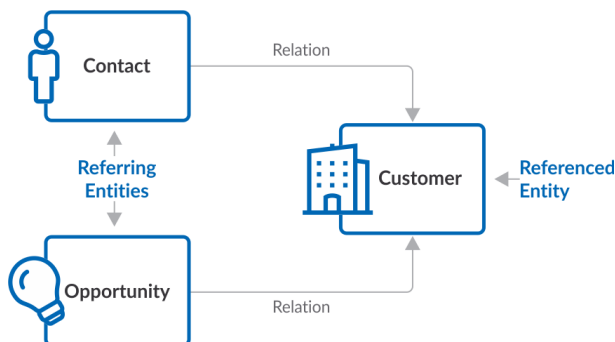
3.7.5.4. Modeling of Related Entities

[▶ Phase 2: Forms Modeling > Advanced Tips > Modeling related entities](#)

Related entity modeling allows to define visibility and navigability among entities.

When defining relations among entities, the following concepts are used.

- **Referring entity** is the one that defines the relation with another modeled entity.
- **Referenced entity** is the one that has a relation defined from another modeled entity.
- **Relation** is the one that was defined in the referring entity.
- **Referring relation** is the one that was defined in the referenced entity to a referring entity.



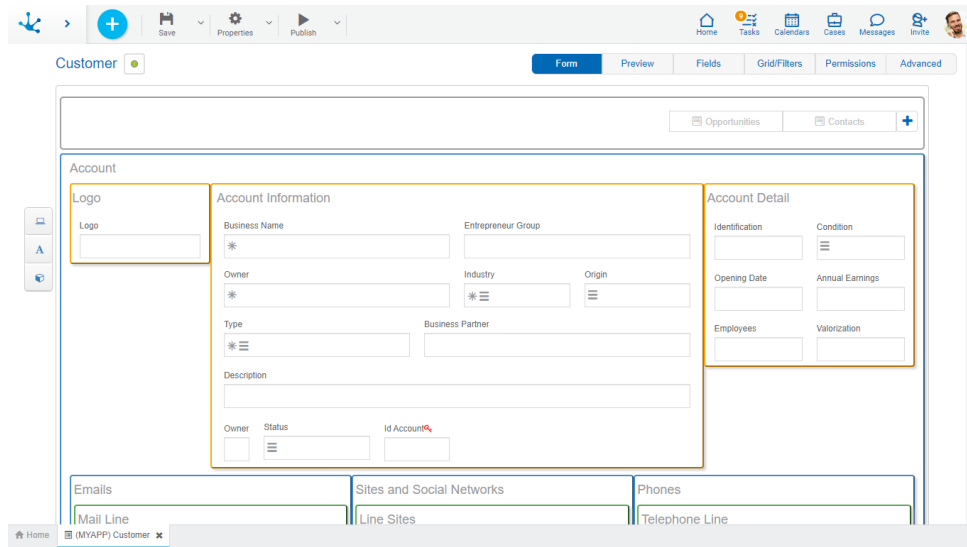
For the purpose of detailing the modeling of related entities, an example is used where the Contact and Opportunity entities are related to the Client entity. Such entities can be modeled from agile forms created from the [templates](#) provided: Contacts, Sales Opportunities and Accounts, after separating the forms from their respective processes.

Relations in the Referenced Entity

Container


In the form modeler, referring relations are modeled in the first container of the referenced entity and are only displayed if there are [relations](#) defined in other forms. Within this container controls identified with the names of the relations defined in the referring entities can be included.

The icon **+** allows to add a list of controls to the form that represent the referring relations. By pressing this icon, a list of referring relations is displayed where you can select those you want to display at the top of the form.



The example shows the relation defined between Contact and Client and the relation between Opportunity and Client, as well as the operations and properties of both relations.

Operations

 Hides the display of the relation, does not delete it.

 Modifies the presentation order of relations.

 Opens the properties panel of the relation.

Properties

Entity

Name of the entity where the relation was defined. Non-editable.

Application

Name of the application where the entity that contains the relation was defined. Non-editable.

Relation Name

Descriptive name of the relation as defined in the referring entity when modeling the field that contains the [relation](#). Non-editable.

Key Field

Identifier of the referring entity attribute used to define the relation. Non-editable.

Singular Relation Name


Represents the name in singular that is assigned to the relation. It is displayed if, when [using the form](#), it has a single instance for the modeled relation.

Plural Relation Name

Represents the plural name that is assigned to the relation. It is displayed if, when [using the form](#), it has more than one instance for the modeled relation.

Relation Behavior

Allows to define behavior when [using the form](#), to assign values from a form instance to related form instances, by means of relations defined among entities.

The icon  allows to open the value match wizard in an additional section to the right of the relation properties panel.

Correspondence

Destination

The form field where the value is received is selected. Once selected, the [Value Type](#) is displayed.

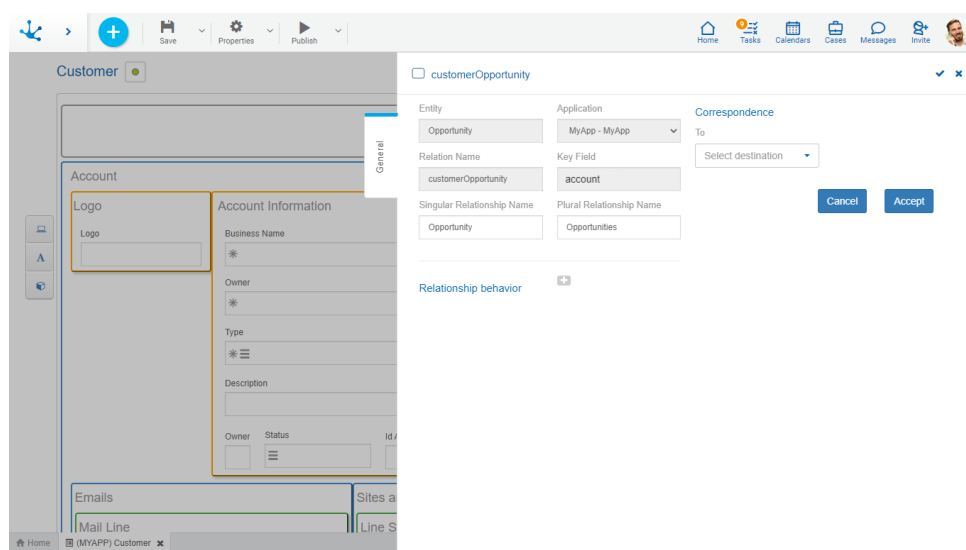
Value Type

- Constant: Indicates that the content of the field defined in the [Destination](#) property is a value entered by the IT modeler user.
- Field: Indicates that the content of the field defined in the [Destination](#) property is obtained from a form field that is being modeled.

Once the [Value Type](#) is selected, the [Value](#) is displayed.

Value

- If the value type is constant, it must be entered for matching.
- If the value type is a field, a list is displayed with all the form fields corresponding to the referring entity, for selection.



The example shows the Contact relation properties and the definition of the value match between the Industry field of the Contact entity and the Industry field of the Client entity. When the Contact entity is instantiated from the Client entity, the Industry field is automatically populated with the Industry field value of the Client entity.

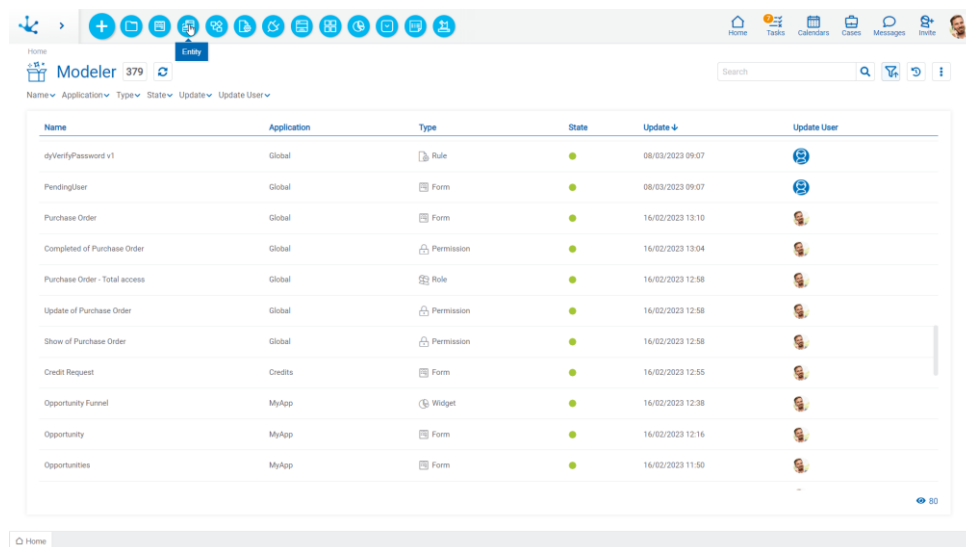
3.7.6. Entities Modeling

The entity modeler is a tool that allows defining an object representing business data and designing its user interface graphically. It also enables defining the characteristics of its fields and behavior in associated processes.

An entity is a single business object that groups together a set of attributes that describe it. Each of these attributes is represented by a field within the entity. Behavior, validation and calculation rules can be defined for each of them. Modeling a field ensures that an entity is being modeled because it allows information to persist in a database. When modeling a field, its properties are defined, including its type, which can be text, numeric, date, date and time, among others.

The entity modeler inherits the graphical functionality of the [page modeler](#). While an entity has its own data in its graphical interface, the page can contain different entities in the same graphical interface. Unlike fields on entities, fields on pages do not persist.

The entity modeler allows using a set of pre-assembled elements to facilitate their modeling, which are known as advanced elements. Among these we can mention the entity header, creation, modification and deletion buttons, as well as activity buttons and relation navigation buttons. All these topics are detailed under this module.



The screenshot shows the Entity Modeler interface with a table of entities. The table has columns for Name, Application, Type, State, Update, and Update User. The entities listed include various forms, rules, and permissions.

Name	Application	Type	State	Update	Update User
dyVerifyPassword v1	Global	Rule	●	08/03/2023 09:07	
PendingOver	Global	Form	●	08/03/2023 09:07	
Purchase Order	Global	Form	●	16/02/2023 13:10	
Completed of Purchase Order	Global	Permission	●	16/02/2023 13:04	
Purchase Order - Total access	Global	Role	●	16/02/2023 12:58	
Update of Purchase Order	Global	Permission	●	16/02/2023 12:58	
Show of Purchase Order	Global	Permission	●	16/02/2023 12:58	
Credit Request	Credits	Form	●	16/02/2023 12:55	
Opportunity Funnel	MyApp	Widget	●	16/02/2023 12:38	
Opportunity	MyApp	Form	●	16/02/2023 12:16	
Opportunities	MyApp	Form	●	16/02/2023 11:50	


Its main characteristic lies in its simplicity to design using the same facilities of the [page modeler](#).

The general characteristics of the entity modeler and the elements that compose it are described in the following topics:

- [Modeling Facilities](#)

- General Properties
- [Field Properties](#)

A new entity can be created from the icon  corresponding to the [context menu](#) in the modeler.

- From the icon 
- From the expanded menu with the "Entity" option

Operations can be performed on existing entities by using the icons available on each row of the [objects grid](#) of the **Deyel** modeler.

3.7.6.1. Modeling Facilities

General characteristics of this modeler are specified below.

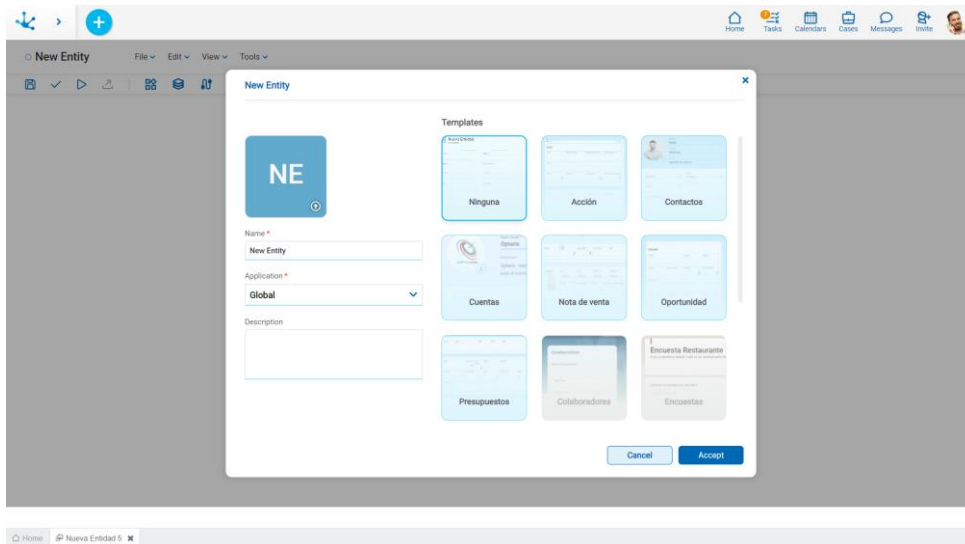
New Entity

The modeler user defines a new entity, which after being published is available to be used.



It can be modeled simultaneously:

- Data model layer
Involves modeling all the fields with associated data types, field identifier, fields used as filters in searches, field data lengths, behavior and other validations related to business rules.
- Entity display layer
As its name implies, it is entirely related to the visual aspect of the entity. This implies having control and decision-making regarding the arrangement, order, and width of different fields and containers, interactive buttons, titles, labels, and informative messages, among other topics. There is also the option to display or not display, for fields and containers and the latter can be displayed or not.

When creating the entity, a panel opens up that allows defining some of the general properties and selecting a predefined template that is displayed in the graphic modeling area upon starting the entity modeler. It is also possible to start the entity modeler without selecting a template.

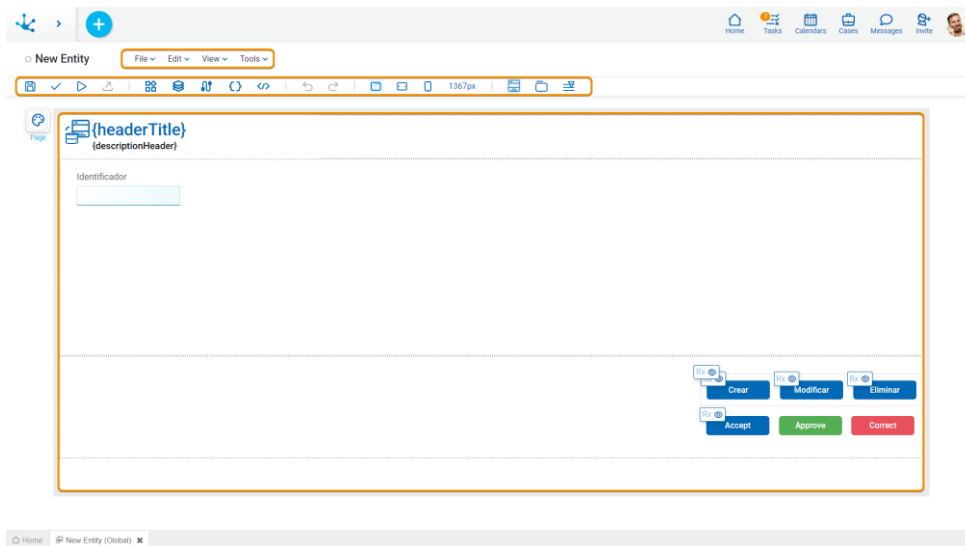


Workspace Sections

- Entity Information
 - Name
 -  [State](#)
- [Expanded Menu](#)
- [Top Toolbar](#)
- [Design Options](#)
- [Modeling Area](#)
 - Section
 -  Identifier

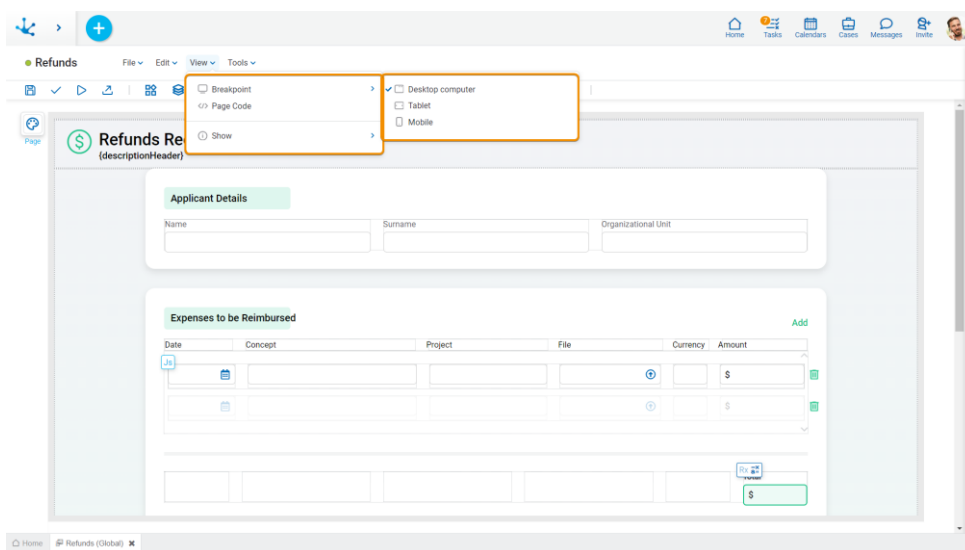
Every new entity contains an [identifier](#) field defined by default within the area of graphic modeling. It has the following features:

- Its data type is an integer with a length of 10.
- It is autonumeric, increasing value, starting from 1.
- It cannot be deleted.
- Only [Visible](#) behavior properties can be modeled.
- It cannot be included within a "Multiple occurrence" type group.
- The properties [Default Value](#), [Content Type](#) and [Security](#) cannot be modeled.
- Relations cannot be modeled.



3.7.6.1.1. Expanded Menu

It is a horizontal list of options containing vertical submenus with different operations on the entity or on its modeling. In turn, each option in a submenu may expand a dependent submenu.

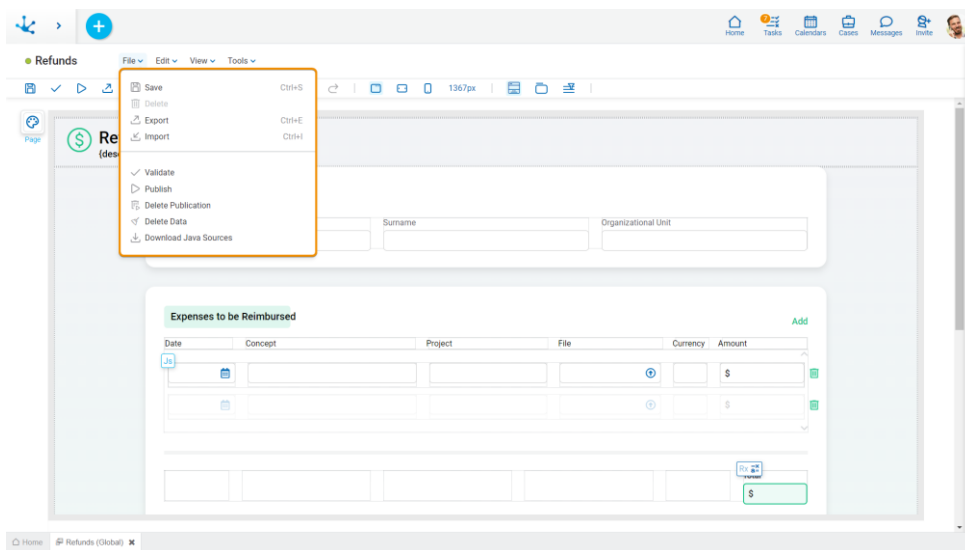


The expanded menu is made up of:

- [File Submenu](#)
- [Edit Submenu](#)
- [View Submenu](#)
- [Tools Submenu](#)

3.7.6.1.1.1. File Submenu

This submenu is opened by clicking on the "File" option and allows to perform operations on the entity.



Save

This icon allows to save the object in the repository of **Deyel**, leaving its state as "Draft" or "Modified". If certain conditions are met, the modeler user receives a message indicating that the operation was performed correctly, otherwise they receive an explanatory message.

Condition

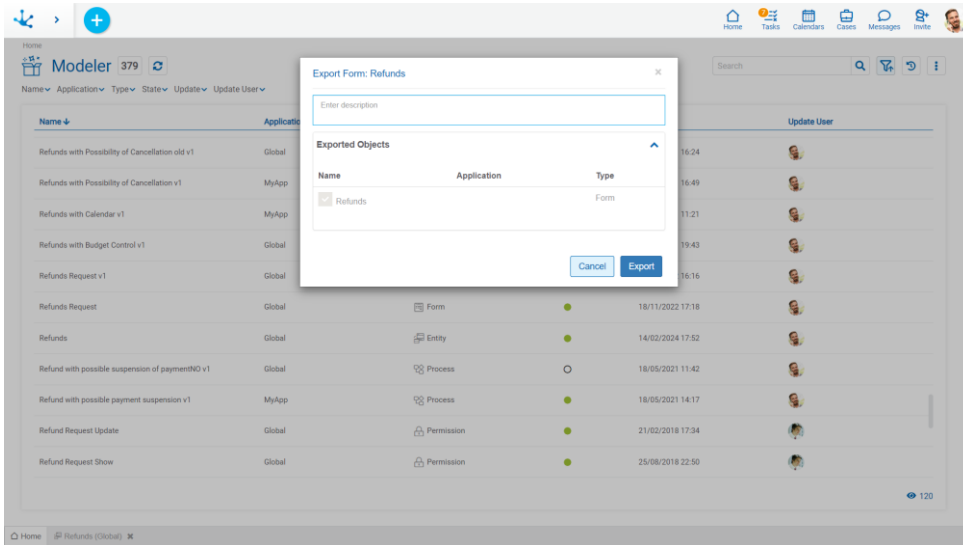
- Name should be unique.

Delete

It allows to delete the object only if it is in [state](#) "Draft" and does not have other associated objects of **Deyel** that were previously saved or published. When deleted, the tab it is on closes and the object is removed from the modeler's grid.

Export

This icon opens a window for the user to select and confirm the export of the object.



Properties

Description

In this property a text explaining the reason for the operation can be entered.

This text can be modified upon import and is displayed in the description column of the [export record](#).

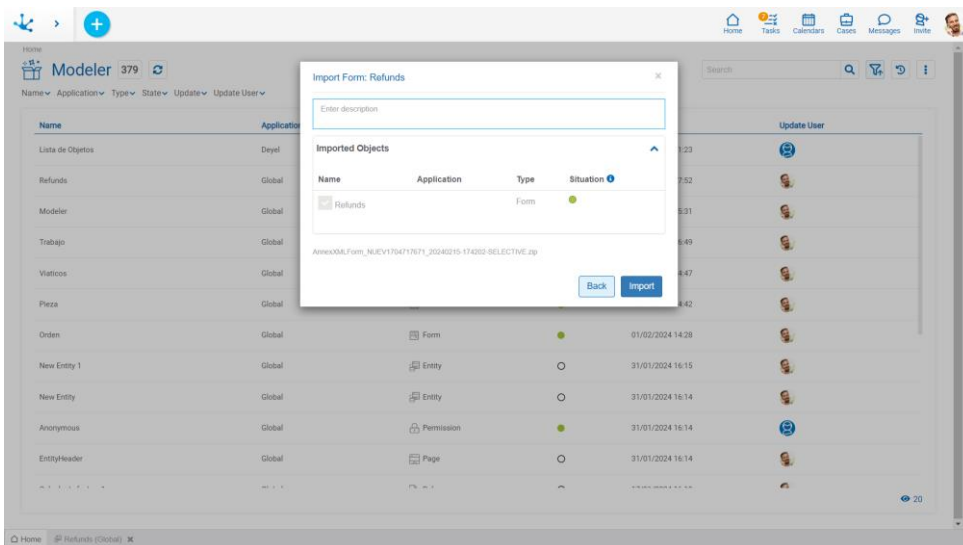
Exported Objects

By expanding the container, the object being exported is shown.

Press the "Cancel" button to undo export or press the "Export" button to finish.

Import

It allows to open a window for the user to select and confirm the import of the object.



Performing this operation is equivalent to using the functionality of [importing](#) from the modeler's context menu.

✓ Validate

This icon allows to validate if the object is ready to be published, that is, the same validations are carried out as when [publishing](#) and the result of them is reported.

▶ Publish

Through this icon the object changes to "Published" [state](#) and the modeler user receives the corresponding message, indicating the result of the operation. The condition for publishing is the same as for the "Save" operation.

🗑️ Delete Publication

Allows to leave the object unavailable for use by returning it to the "Draft" [state](#).

🗑️ Delete Data

Instances that would have been generated when using the entity and its attached files, if any, are deleted.

If the instances of an entity are linked to cases of processes related to the entity, first these cases must be deleted from the option [Delete Data](#) from the top bar of the process modeler.

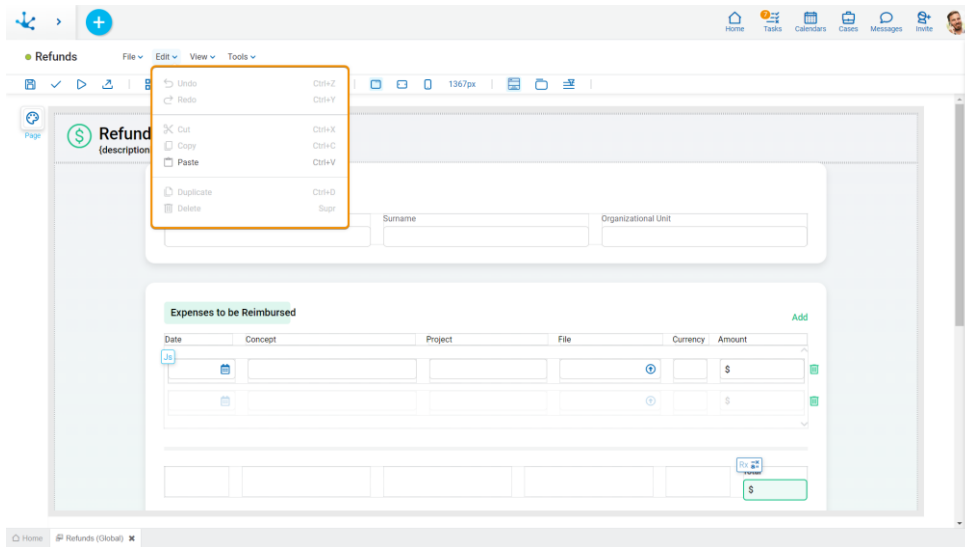
📄 Download Java Sources

This icon allows to download the Java files that represent the object's model and service, so that it can be used in advanced rules.

Pressing the icon displays a message to confirm file download.

3.7.6.1.1.2. Edit Submenu

This submenu is opened by clicking on the "Edit" option and allows to perform operations within the modeler.



↶ Undo (Ctrl+Z)

Allows to easily reverse the changes made in the modeler.

↷ Redo (Ctrl+Y)

Allows to easily reapply the changes made in the modeler.

✂ Cut (Ctrl+X)

Allows to send the selected element to the clipboard while deleting it from the graphic modeling area.

📄 Copy (Ctrl+C)

It allows to copy any application element and temporarily place it on the clipboard.

📄 Paste (Ctrl+V)

It allows to take the item from the clipboard and place it elsewhere in the graphic modeling area.

📄 Duplicate (Ctrl+D)

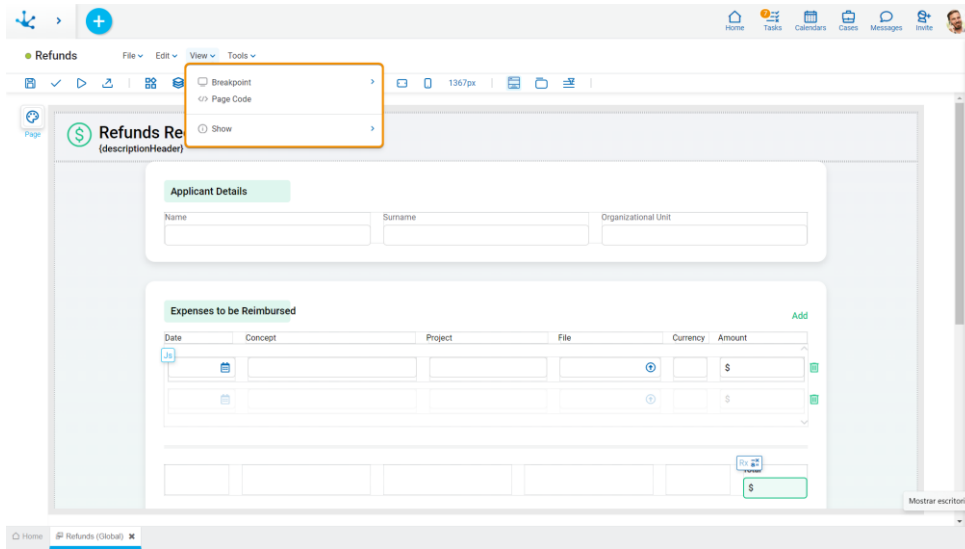
It allows to make a copy of any application element within the graphic modeling area.

Delete (Del)

It allows to delete the selected element from the graphic modeling area.

3.7.6.1.1.3. View Submenu

This submenu is opened by clicking on the "View" option and allows to select different ways of displaying the entity.



Breakpoint

By clicking on "Breakpoint", a secondary submenu is displayed, where the following options can be selected:

- Desktop Computer
- Tablet
- Mobile

Page Code

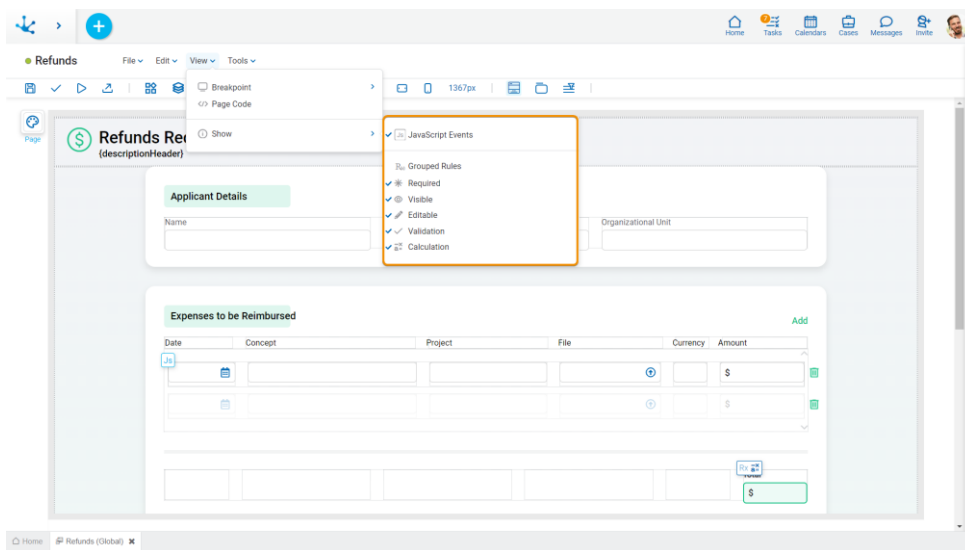
By selecting this option, an area for code editing at the bottom margin of the modeling area is either opened or closed.

Show

This functionality allows showing or hiding the set of visual icons that indicate the behavior that affects the elements.

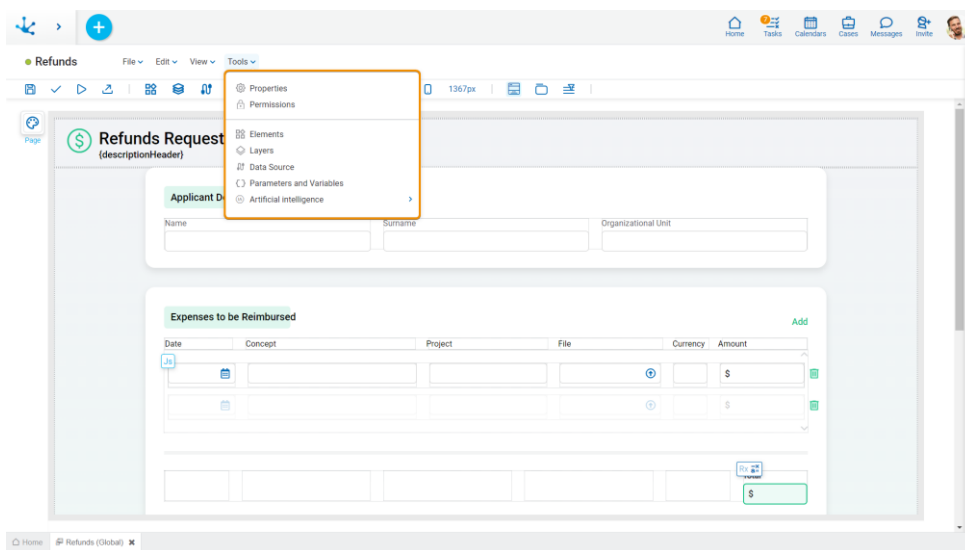
By clicking on the "Show" option, a secondary submenu expands, where the icons corresponding to the modeled rules that should be displayed for each element can be selected.

- JavaScript Events
- Grouped Rules
- Required
- Visible
- Editable
- Validation
- Calculation



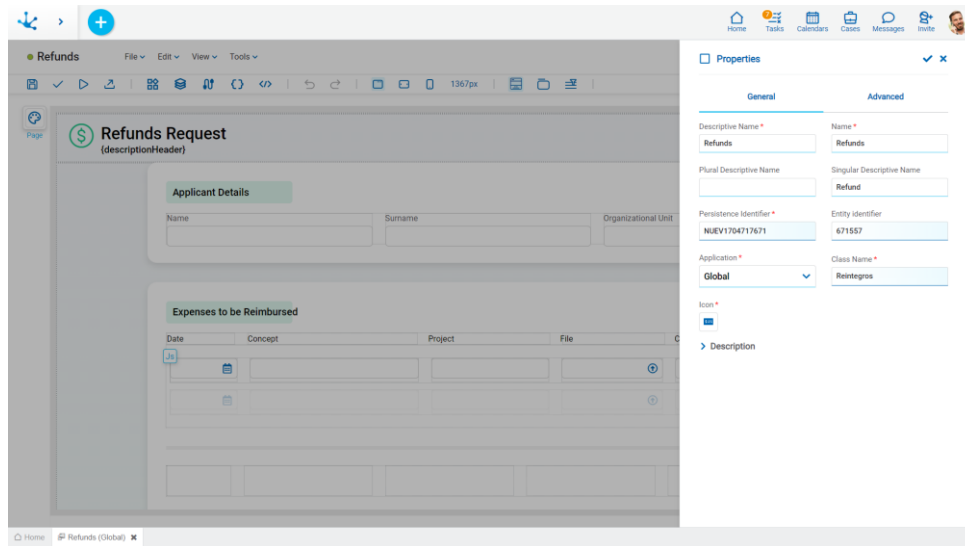
3.7.6.1.1.4. Tools Submenu

This submenu is opened by clicking on the "Tools" option and it allows modeling entity properties and permissions, as well as different modeling functionalities.



Properties

This option allows opening the [general properties](#) panel of the entity in order to model its features.



Permissions

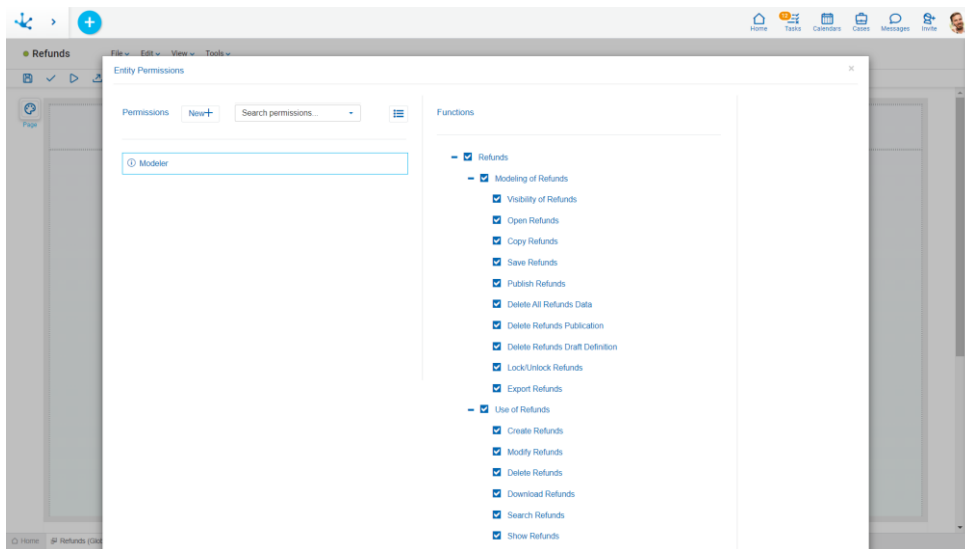
Allows to assign the [security functions](#) for use and modeling of the object to the existing permissions or to new permissions that the user creates, without having to go to the [permission](#) settings option from the menu.


Sections

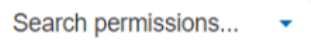
- Permissions: Permissions to which object functions are assigned.
- Security Functions: Represents the total set of security functions, modeling and use of the object. Those that are marked are the ones included in the selected permission.


By default, all security functions for a new object are assigned to the permission [Modeler](#).


Users who are assigned the permissions have access to the functions included in it.



 Opens a panel to create a new permission and once created, the security functions included in it must be selected .

 Allows to select a permission from a list and enables the input of characters to filter the values in the list.

 Opens the wizard to select a permission and once chosen, the necessary object security functions must be checked.

To unrelate a permission from the object, hover the cursor over the permission and press the icon . If there are functions selected for that permission, they must be unchecked in order to delete it.

Modeling Security Functions

- Visibility: Allows to display the object in the Deyel modeler grid.
- Open: Allows to open the object from the Deyel modeler.
- Export: Enables the operation to export the object from the tools submenu of the expanded menu.
- Save: Enables the operation of saving modifications made to the object.
- Publish: Enables the operation of publishing the object leaving its state as "Published".
- Delete publication: Enables the operation of deleting the object publication leaving its state as "Draft".
- Delete draft definition: Enables the operation of deleting the object.

Use Security Function

- Create: Enables the operation of creating an instance of the object.
- Modify: Enables the operation of modifying an instance of the object.
- Delete: Enables the operation of deleting an instance of the object.
- Download: Enables the operation of downloading the instances of the object in Excel.
- Search: Allows to use the show grid of the entity instances.

- Show: Enables the operation of showing an instance of the object.
- Show/Modify/Delete Private Instance: They enable user operations on a private instance, regardless of the [organizational unit](#) they belong to and the rest of the criteria that define the privacy.

Private instance security functions are displayed if the properties are checked in the entity [Hierarchical Privacy](#) and [Privacy by Permissions](#).

When an entity is configured as [anonymous](#), the use function is automatically assigned to the ["Anonymous" permission](#)

Elements

This option allows opening the [elements](#) panel from where it is possible to select those that will be incorporated into the entity.

Layers

This option allows opening the [layers](#) panel of the entity, where its elements organized hierarchically can be displayed.

Data Source

This option allows opening the [data source](#) panel from where ,those that will be used on the entity can be defined.

Parameters and Variables

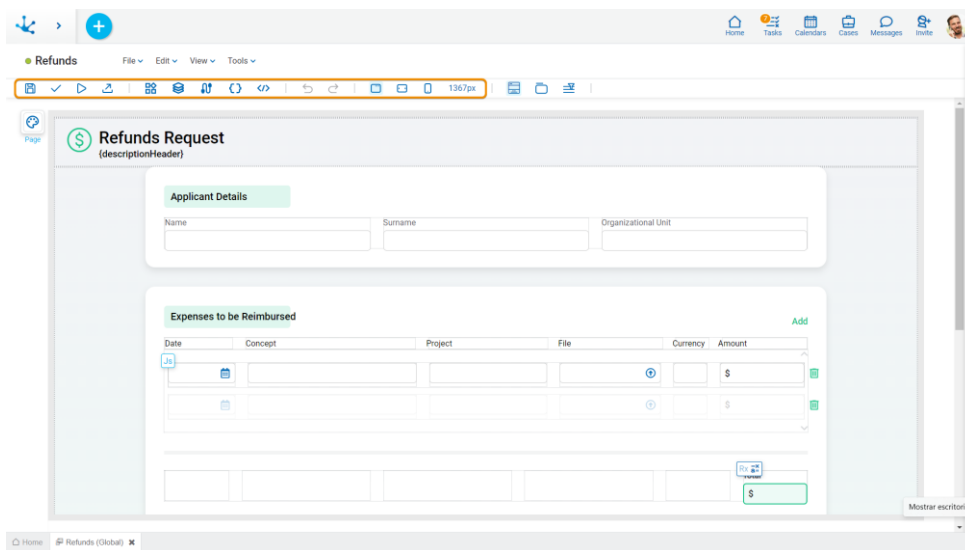
This option allows opening the [parameters and variables](#) panel, from where those that will be used on the entity can be defined.

Artificial Intelligence: Generation of Instances with AI





This option allows the modeler user to automatically create instances of the modeled entity by using artificial intelligence. The user can indicate the number of instances to be created within a range of 1 to 20 and can provide instructions on the type of features the data should have. The user can define, in natural language, the characteristics of the data to be generated. The artificial intelligence engine integrated into **Deyel** is capable of generating this data, which can be used in design and testing stages during the application development cycle.

3.7.6.1.2. Top Toolbar






Contains icons for quick access to the most used operations of the [expanded menu](#).





File

-  Save
-  Validate
-  Publish
-  Export



Tools

-  [Elements](#)
-  [Layers](#)
-  [Data Source](#)
-  [Parameters and Variables](#)
-  [Page Code](#)


Edit

-  [Undo](#)
-  [Redo](#)

View

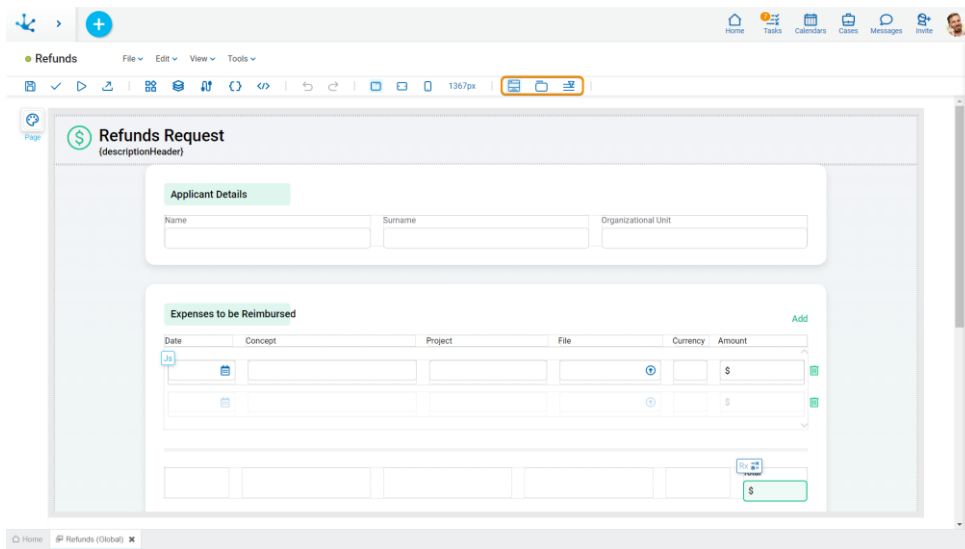
- [Breakpoints](#)
-  Desktop Computer
-  Tablet

 Mobile

 Pixels

3.7.6.1.3. Design Options

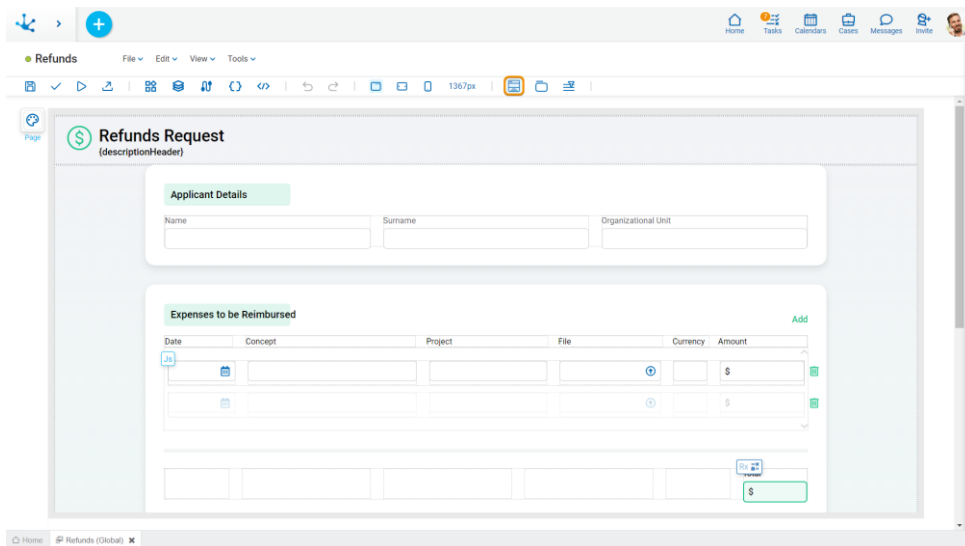
When modeling an entity, it is necessary to define the set of fields it comprises, the type of information stored in each one, their arrangement within the entity, and the features with which they are presented in the interface. This allows working on both the data model and its display simultaneously.



- [Entity View](#)
- [Fields](#)
- [Grid and Filters](#)

3.7.6.1.3.1. Entity View

Corresponds to the edition of the entity in the modeling area. In this view the graphical interface of the entity is modeled and the properties of the fields that make up the entity can be accessed.



3.7.6.1.3.2. Fields

It allows viewing the list of all fields of the entity in a paginated table, with quick search capabilities, filters, order, displaying the properties of each one and allowing operations to be carried out.

Label	Name	Identifier	Format	Content	Repetitive Group	Datatype	Length	Rules	Relation	Description
Nro Solicitud	nroSolicitud	id	Number	Entero	-	Integer	10	[N]	-	-
Fecha Creación	dtStore	dtStore	Date and Time	Local Date and Time	-	Local Date and Time	-	[D]	-	-
Fecha Última Modificación	dtLastUpdate	dtLastUpdate	Date and Time	Local Date and Time	-	Local Date and Time	-	[D]	-	-
Usuario Creación	cdUserStore	cdUserStore	Text	Normal	-	Alphanumeric	100	[P]	-	-
Usuario Última Modificación	cdUserLastUpdate	cdUserLastUpdate	Text	Normal	-	Alphanumeric	100	[P]	-	-
Propietario de Instancia	cdInstanceOwner	cdInstanceOwner	Text	Normal	-	Alphanumeric	100	[P]	-	-
	dateExpense	dateExpense	Date and Time	Fecha	expenses	Date	-	-	-	-
	concept	concept	Text	Normal	expenses	Alphanumeric	100	-	-	-
	project	project	Text	Normal	expenses	Alphanumeric	100	-	-	-
	attachedFile	attachedFile	Archive	Normal	expenses	In Data Base File	-	-	-	-
	currency	currency	Text	Normal	expenses	Alphanumeric	100	-	-	-
	itemAmount	itemAmount	Number	Decimal	expenses	Decimal (2)	-	-	-	-

Columns

Label

Allows to enter the text that is displayed on the field. It works together with the prefix to reference the field in validation messages and supports blank spaces.

Name

Name assigned to reference a field in the modeling, allowing the field to be uniquely identified within the entity. Used in rule wizards to refer to field within conditions. It generates automatically from the [Label](#) property, it can be modified by the user and does not allow spaces or special characters.

Identifier

It is the name assigned to reference a field in the programming code, used to refer to the field within Java code in the "Execution Code" tab of advanced rules and in the JavaScript code of the "[Page Code](#)" area", of the entity modeler. It allows to uniquely identify the field within the modeled entity. It can be modified by the user, as long as no data has been loaded into the entity and it does not allow spaces or special characters.

Included in Grid

Determines if the field is displayed in the results grid where the entity instances are displayed.

Multiple

Indicates if the field has multiple occurrences.

Type

Determines the data format that can be entered in the field. The supported data set varies, depending on the type of field that has been created.

Rules

If the field has any [Required](#), [Visibility](#), [Editability](#) or [Validation](#) associated rule, an icon is shown indicating the type of rule.

Operations



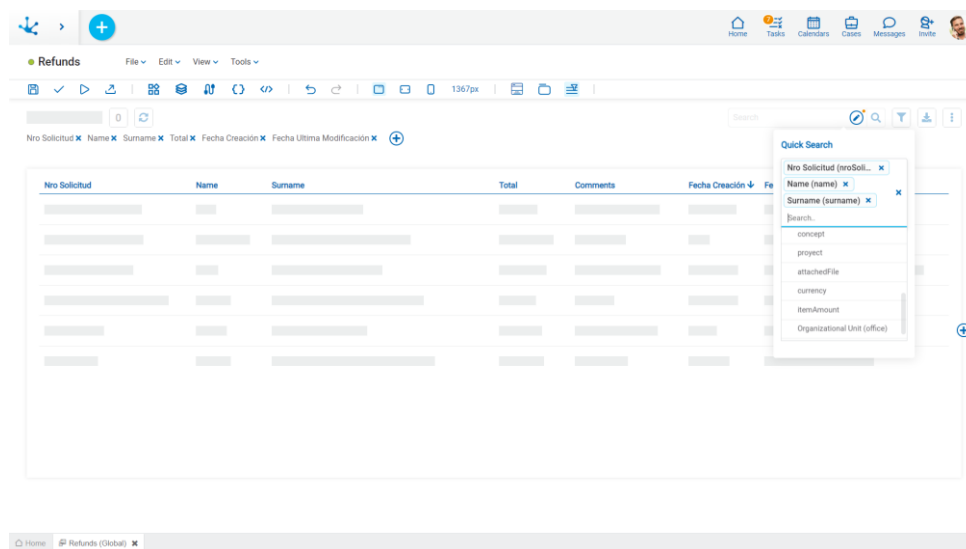
It allows to delete the field only in entities without data and requires confirmation by the user.


Editing of attributes opens a new panel that allows to edit the field properties

3.7.6.1.3.3. Grid and Filters


Grid


Allows modeling the columns that are displayed in the results and search grids. The default columns of the grid correspond to those fields that have been configured with the [Included in Grid](#) property already checked.





New fields can be added by pressing the icon  to the right of the last column of the grid and its order can be modeled by dragging the shaded rectangles of the columns to swap their positions.

When hovering over the title of each column, the following icons are displayed:

 Allows modeling the width of each column by moving the limit bar to the right to enlarge the column, or to the left to shrink it.

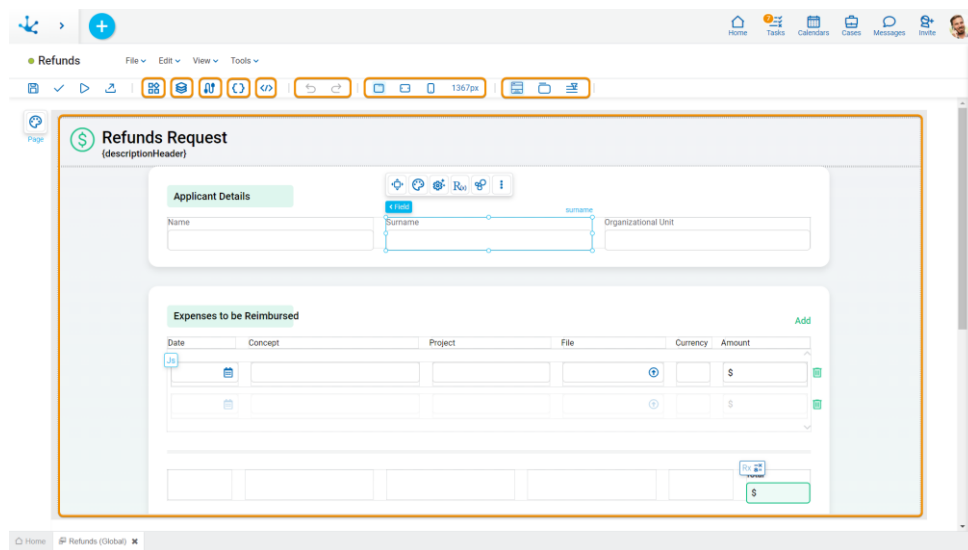
 Deletes the column from the grid.

 Establish the column by which the default sorting will be performed, it is ascending or descending depending on the selected icon.

 It is displayed when a field has a relation modeled to a value list. Pressing the icon allows to select the content type to show in the column. The default value is "Text", which can be changed to "Icon" or "Icon and Text".


3.7.6.1.4. Modeling Area

It is the space where entities can be modeled using "drag and drop" of different elements.



The modeling area of an entity is divided into [sections](#) into which elements can be added.

Properties

The [properties of the entity](#) can be opened in the right side panel of the modeling area, using the icon  found in the [tools submenu](#).

3.7.6.1.4.1. Elements

An entity contains [elements of different types](#), specific properties can be modeled for each of these types.

Some elements may contain other elements, in these cases they are called superior elements while the elements they contain are called inferior elements.

Superior Elements

- [Containers](#)
- [Sections](#)
- [Design](#)
- [Repeater](#)

Operations

Add Elements to the Entity

The elements can be added to an entity via the “drag-and-drop” function, at any location within a superior element.

When adding an element, it automatically docks to the top or bottom border of a higher-hierarchy element, always to the nearest one.

When elements are added, their width is defined by default as a percentage, with the exception of the button element, which has an automatic width.

Modify Position of an Element

Once the element is added, its position can be changed by dragging it within the entity or by changing its structure and position properties with respect to the superior element.

If an element changes its position, this applies to all breakpoints.

Modify Element Size

The dimensions of an element can be modified by dragging the handles on its outline or by modifying its structure properties.

Guides

There are different types of guides that are displayed when selecting an element and pressing the “Alt” key.

- Docking guides: they are displayed when moving an element and the position where it is moved depends on how close it is to its highest hierarchy element. In addition, the distance to the margins of the superior elements is indicated.
- Alignment Guides: they are displayed to help elements stay aligned.

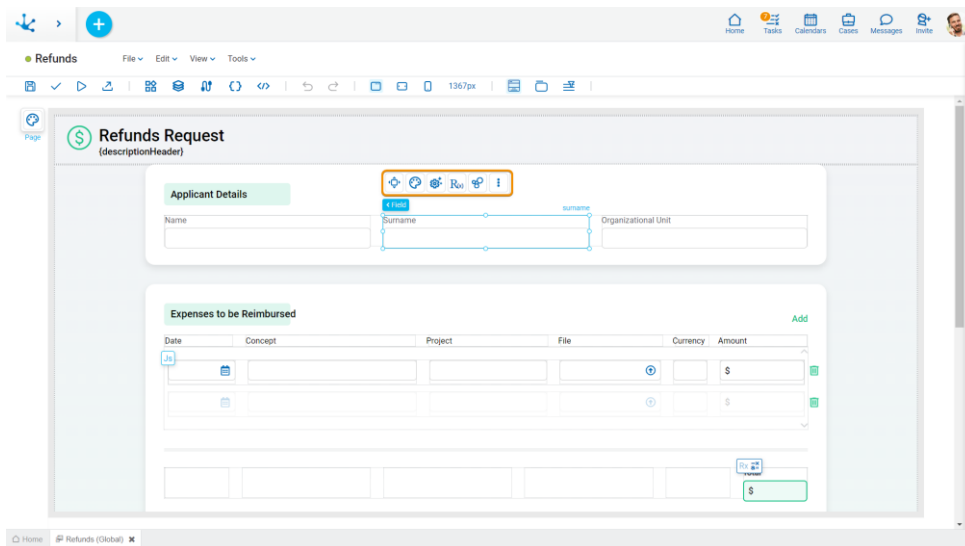
- Guides to know the space between elements.


Properties

Each element has specific properties that are displayed using a [context menu](#), which is enabled when selecting the element. Properties are grouped according to their functionality and are detailed for each [element type](#).

Context Menu

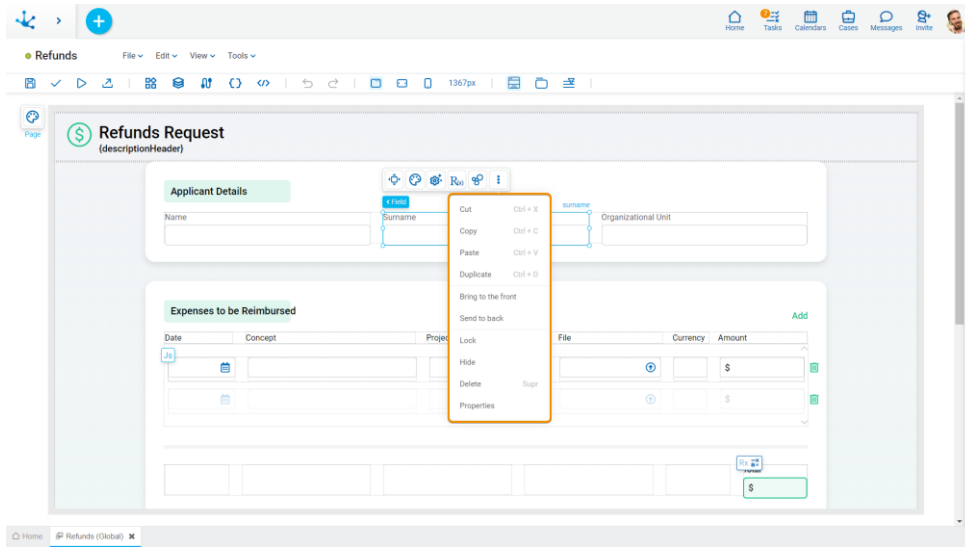
When selecting an element, a palette of icons is opened, where each one represents a group of specific properties of the selected element. The name is also displayed and when the mouse is slid over it, the path from the entity to the element can be seen, indicating the superior elements where the element is found.



Clicking the right button of the mouse on an element expands a second context menu whose options correspond to operations that can be performed on the selected element. The same menu is displayed by pressing the icon  of the palette.

- Cut (Ctrl+X)
- Copy (Ctrl+C)
- Paste (Ctrl+V)
- Duplicate (Ctrl+D)
- Bring to front
- Send to back
- Lock/Unlock When an item is locked, it cannot be moved until it is unlocked.
- Hide: Hides the element in the active breakpoint and in smaller breakpoints. Once hidden, it can be shown again from Layers.
- Delete (Del)

- Properties



Section

Entities are divided into sections where elements can be included. By default, the entity has three defined sections.

Operations

Add

It allows to add a new section by clicking on the icon  of an existing section.


Modify Size

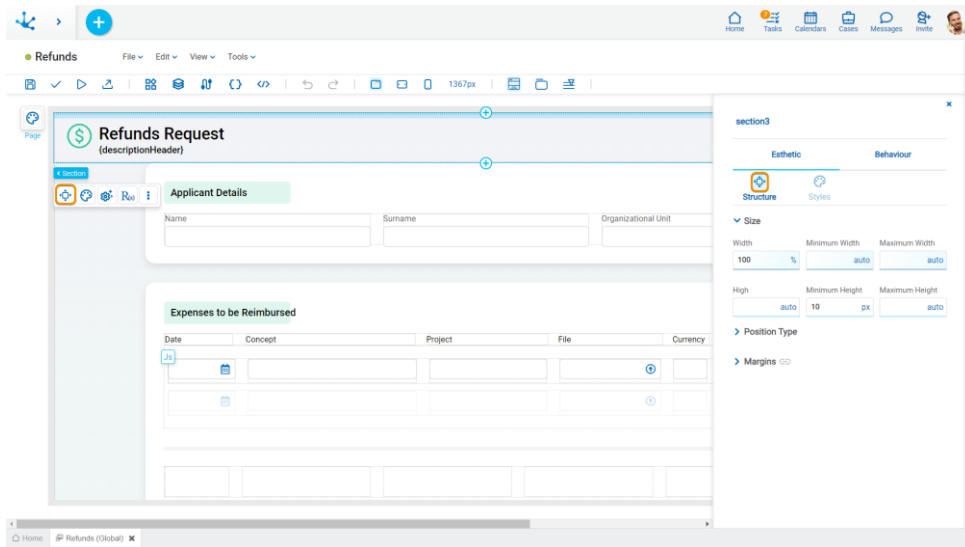
The section height can be adjusted from its bottom border, by clicking on it and dragging it. Another way to modify its size is from the section structure panel.

Move

A section can be moved using the layer functionality.

Structure Properties

The structure properties panel of a section opens when selecting the icon of the  context menu.



Size

Size

Width	Minimum Width	Maximum Width
<input type="text" value="100"/> %	<input type="text" value="auto"/>	<input type="text" value="auto"/>
High	Minimum Height	Maximum Height
<input type="text" value="auto"/>	<input type="text" value="auto"/>	<input type="text" value="auto"/>

All size properties can be expressed in pixels (px), percentage (%), viewport width (vw), and viewport height (vh). Additionally, for **Width** and **Height** properties, the "auto" option is added.

Sections do not allow modifying the Width property.

Position Type

Position Type

Position Type

Default ▲

Default

Sticky

Possible Values

- **Default:** The element has a relative position with respect to the superior element where it was placed (container or section).

- **Sticky:** Available only in sections, it allows the section to remain visible while users continue to scroll through it. At first, the section is seen where it has been positioned in the entity, but it "sticks" to the screen as it is scrolled down.

Margins

▼ Margins

Top	Bottom	Left	Right
<input type="text" value="-"/>	<input type="text" value="-"/>	<input type="text" value="-"/>	<input type="text" value="-"/>

It allows to define the distance of elements from the borders of their top element. The behavior of margins depends on the docking of the element. It can be expressed in pixels (px), percentage (%), viewport width (vw), and viewport height (vh).

Top

Distance to the top border of the highest ranking element.

Bottom

Distance to the bottom border of the highest ranking element.

Left

Distance to the left border of the highest ranking element.

Right

Distance to the right border of the highest ranking element.

Advanced

▼ Advanced

Name	Identifier
<input type="text" value="section1"/>	<input type="text" value="section1"/>


Name

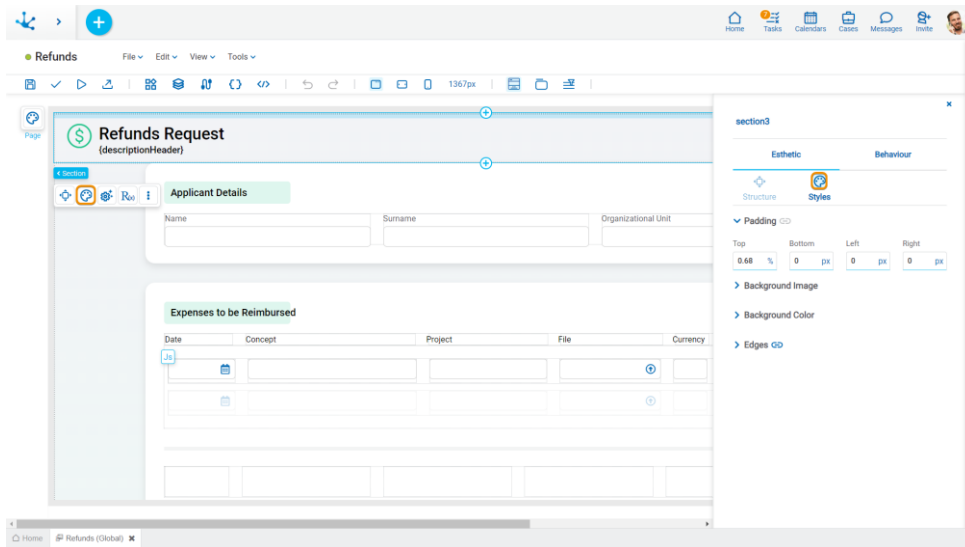
Name used to reference the section during modeling.

Identifier

Uniquely identifies the section. It is used in the Javascript SDK.

Style Properties

The style properties panel of a section opens when selecting the icon of the  context menu.



Padding

▼ Padding

Top	Bottom	Left	Right
<input type="text" value="0"/> px	<input type="text" value="0"/> px	<input type="text" value="0"/> px	<input type="text" value="0"/> px

All padding space properties allow to create a space around the element borders (top, bottom, sides) and its content. The padding space configured is inward, while the margin is configured relative to a top element. It can be expressed in pixels (px), percentage (%), viewport width (vw), and viewport height (vh).

Background Image

▼ Background Image

Selected



Size

Cover ▼

Repeat

Do Not Repeat ▼

Position

Horizontal Position

Center ▼

Vertical Position

Center ▼

It allows to add a background image to the section.

Selected

An image can be uploaded from the computer where it is being modeled.

Size

Possible Values

- Cover
- Content
- Auto

Repeat

Possible Values

- Repeat
- Repeat Hor.
- Repeat Vert.
- Spacing
- Rounded
- Do Not Repeat

Horizontal and Vertical Position

Possible Values

- Center

- Left
- Right

Background Color

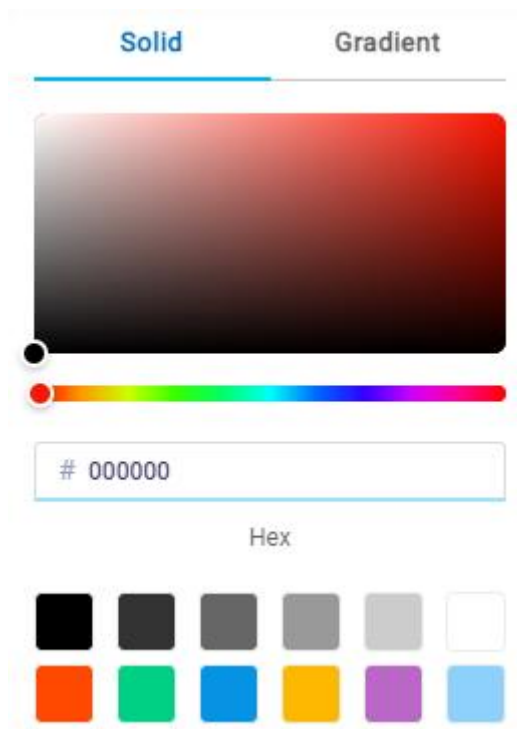
It allows to model a background color for the element, it can be solid or gradient and different properties are defined for each one.

Solid

Background Color



This option enables not only to select the color from a palette but also to define the degree of transparency.

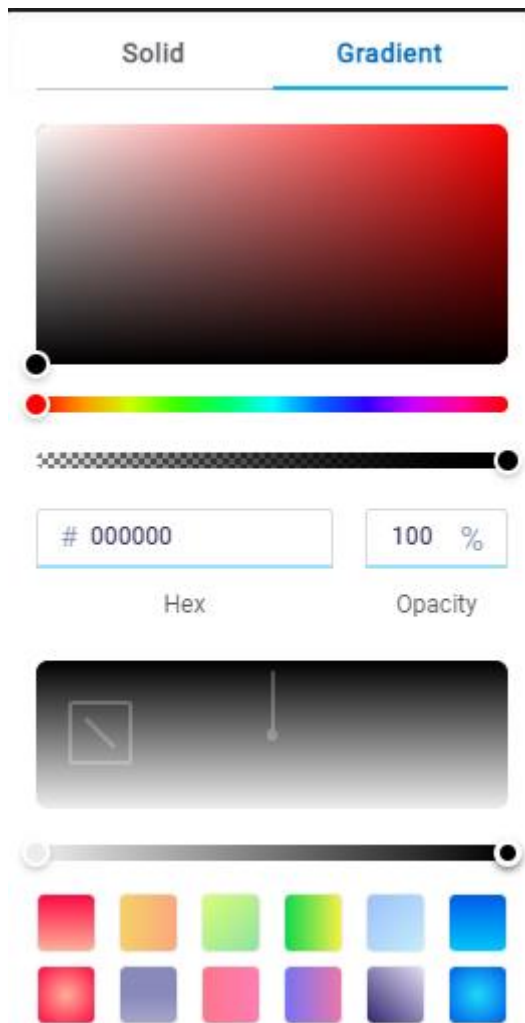


Gradient

Background Color











This option enables to select not only the color from a palette but also to define its opacity and intensity according to the selected angle.




Edges

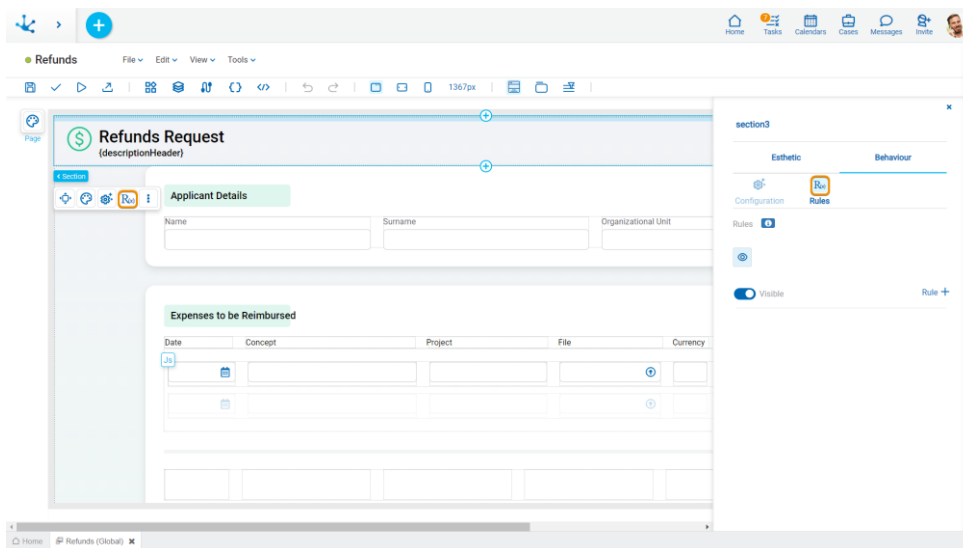
Edges

	Type	Width	Color	Opacity
	<input type="text" value="—"/> 	<input type="text" value="0"/> px	<input type="color" value=""/>	<input type="text" value="100"/> %
	<input type="text" value="—"/> 	<input type="text" value="0"/> px	<input type="color" value=""/>	<input type="text" value="100"/> %
	<input type="text" value="—"/> 	<input type="text" value="0"/> px	<input type="color" value=""/>	<input type="text" value="100"/> %
	<input type="text" value="—"/> 	<input type="text" value="0"/> px	<input type="color" value=""/>	<input type="text" value="100"/> %

It allows to define the style of borders. Each one has its type, width, color and opacity defined, the latter as a percentage.

Embedded Rules


The embedded rules properties panel of a section opens when selecting the icon of the  context menu.



Properties

Rules

It is possible to define [embedded rules](#) for behavior, validation and calculation associated with a section using the [wizard](#) (ctrl + space).

 Shows syntax examples to write rules.





Visible

Indicates whether the section is visible. If this property is not checked, the section is not displayed on the page.



Visible (default) Not visible

Rule + Opens an editing area where a rule to determine the visibility condition can be defined. If a rule is defined, the icon with light blue borders is displayed.

Operations when defining the rule:

-  Saves the new or modified rule
-  Cancels the operation

Operations once the rule is defined:

-  Edits the existing rule
-  Deletes the rule

Events

Sections allow the use of different events.

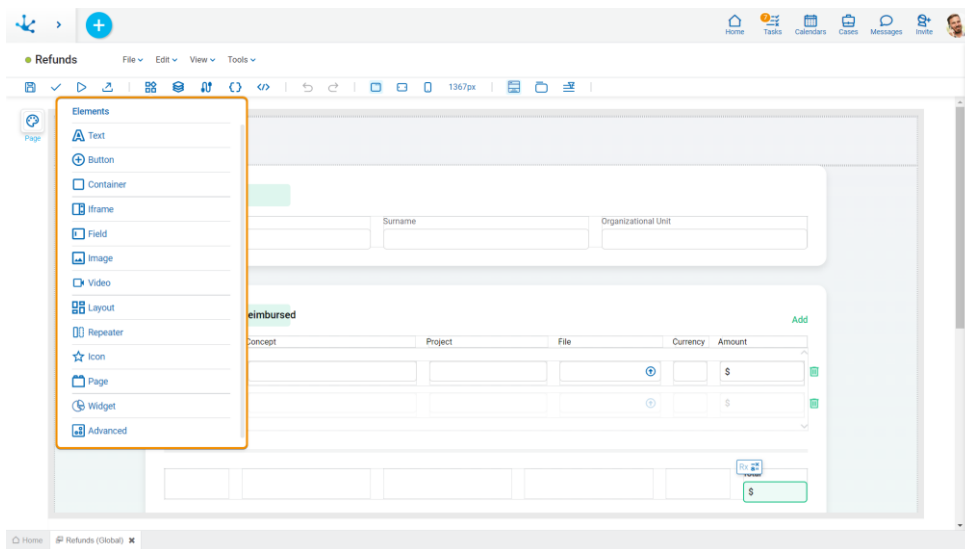
Event	Description
onMouseIn()	It is executed when the cursor is positioned on the element.
onMouseOut()	It is executed when the cursor moves out of the element.
onClick()	It is executed when clicking on the element.
onDoubleClick()	It is executed when clicking twice on the element.
onInit()	It is executed before the element is loaded.
afterViewInit()	It is executed after viewing the element.
onViewportEnter()	It is executed when the element is visible.
onViewportLeave()	It is executed when the element is no longer visible.

Element Types

The elements define the content of the entity and can be of different types.

- [Text](#)
- [Button](#)
- [Container](#)
- [Iframe](#)
- [Field](#)
- [Image](#)
- [Layout](#)
- [Repeater](#)
- [Icon](#)

For each of these types, their properties can be configured, grouped in panels such as structure, style, configuration, hyperlink, and embedded rules.



Fields

This element is used for data entry.

The properties of the element are represented by icons on its [context menu](#), where its operations are also available.

Subtypes

- Text
- Number
- Multiline
- Date and Time
- Options Group
- Toggle
- File

Text

Text

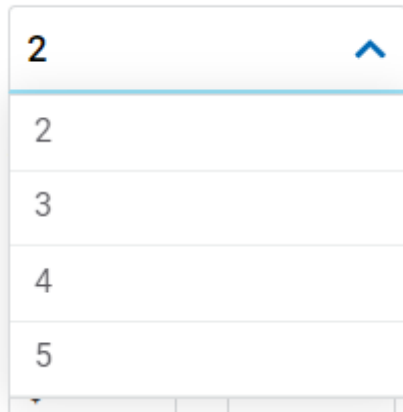
- **Alphanumeric (Default Type)**
Values are saved keeping the entered uppercase and lowercase letters.
- **Uppercase Alphanumeric**
Values are saved in uppercase.
- **Large Alphanumeric**
It works as a default alphanumeric, with the exception that it allows storing long texts (usually up to 4GB).
- **Rich Text**
It has the features of the alphanumeric type. It presents an extended editor that allows formatting texts by applying different styles, colors, sizes, etc.

Number

Number

- **Integer**
It may contain integer values between -2147483648 and 2147483647 (they are stored in 32 bits).
- **Large Integer**
It may contain integer values between -9223372036854775808 and 9223372036854775807 (they are stored in 64 bits).
- **Decimal**
If the data type is decimal, the selection of the number of decimal places (2 to 5) is enabled.

Amount of Decimals



A dropdown menu showing the number of decimal places. The current selection is 2, indicated by a blue arrow pointing up. The menu lists options 2, 3, 4, and 5.

2	^
2	
3	
4	
5	

File

File

- **File in Database**
It allows using user files as attachments to the entity.

- File in Folder

The files are stored in the file structure of **Deyel**. This option is available only in the On-Premise version.

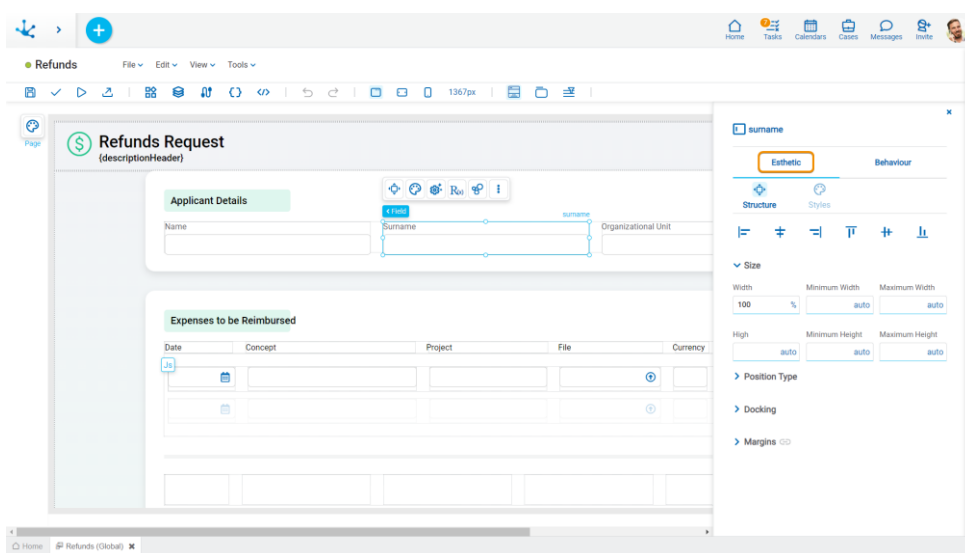
Property Classification

The properties are divided into two groups: esthetic properties and behavior properties.

Esthetic Properties

In the esthetic properties panel the following are grouped:

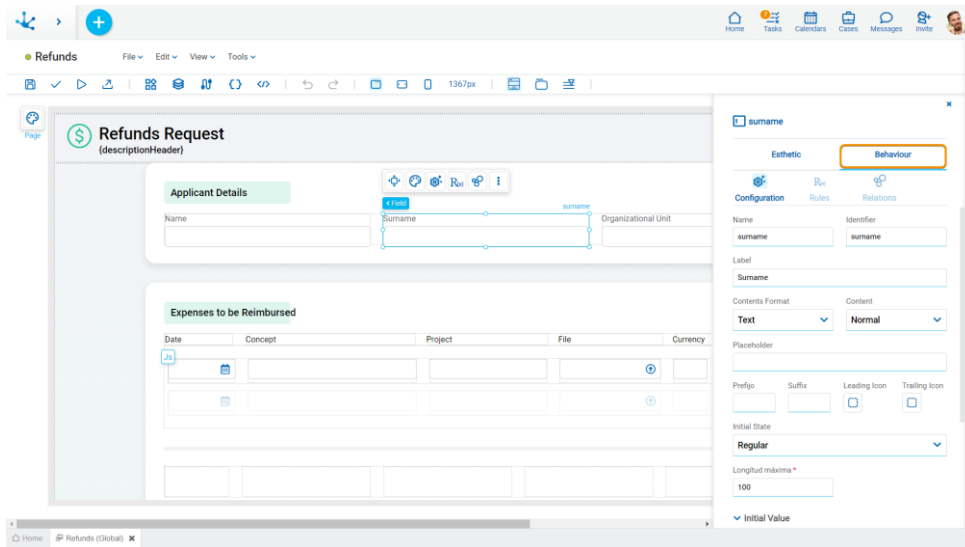
- Structure Properties
- Style Properties




Behavior Properties

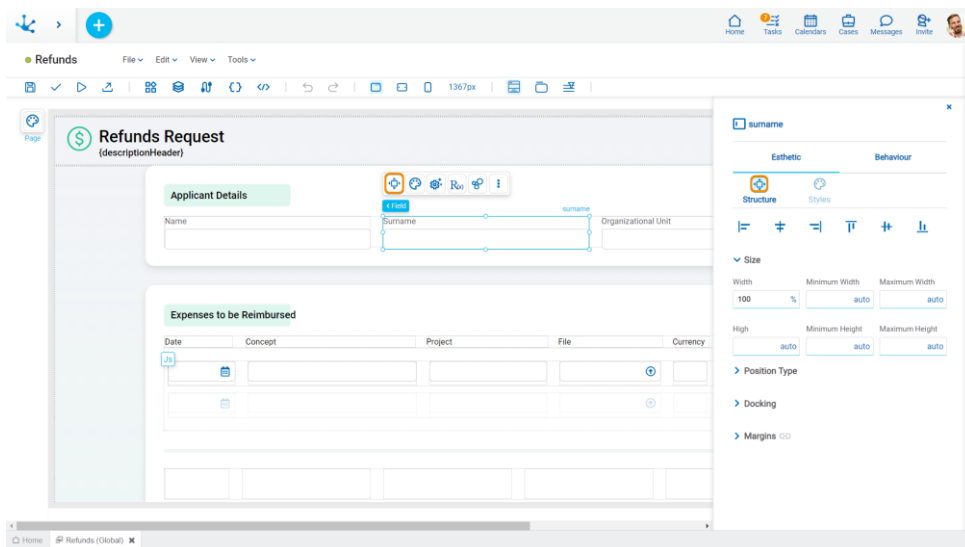
In the behavior properties panel the following are grouped:

- Configuration Properties
- Rule Properties






Structure Properties




The structure properties panel of an element is opened when selecting the icon  of the context menu.



Alignment

Allows to align the element by selecting one of the available icons.

-  Align to the left.
-  Align to horizontal center.
-  Align to the right.

-  Align up.
-  Align vertical center.
-  Align bottom.

Size

Size

Width	Minimum Width	Maximum Width
<input type="text" value="100"/> %	<input type="text" value="auto"/>	<input type="text" value="auto"/>
High	Minimum Height	Maximum Height
<input type="text" value="auto"/>	<input type="text" value="auto"/>	<input type="text" value="auto"/>

All size properties can be expressed in pixels (px), percentage (%), viewport width (vw), and viewport height (vh). Additionally, for [Width](#) and [Height](#) properties, the "auto" option is added.


If selecting percentage (%) for the width and height properties, the size is calculated relative to the top element.

Position Type

It determines if at the time of execution the element remains fixed on the page or if it moves as the scroll bar moves forward or backward.

Position Type

Position Type

Default 

Default

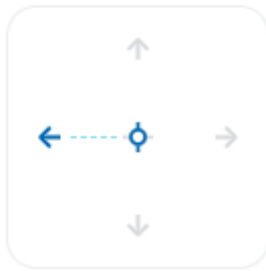
Fixed

Possible Values

- Default: The element has a relative position with respect to the superior element where it was placed (container or section).
- Fixed: Fixes the element to the page so that it is always visible in the same position. It allows to increase the visibility of important content.

Docking

▼ Docking



Determines the vertical and horizontal position of elements within the page section or container, when the screen is resized.

When an element is added or moved within the section or container, the modeler automatically docks it to the nearest corners or edges. It can also be configured by clicking on the arrows of the side to be docked to or on the center.

Once the element is docked, its exact position is indicated in the [Margins](#) property. The direction of the docking arrows determine the values that are automatically displayed for margins.

The docking position is indicated in the modeling area by dotted lines on the element.

Margins

▼ Margins ⇄

Top	Bottom	Left	Right
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

It allows to define the distance of elements from the borders of their top element. The behavior of margins depends on the docking of the element. It can be expressed in pixels (px), percentage (%), viewport width (vw), and viewport height (vh).

Top

Distance to the top border of the highest ranking element.

Bottom

Distance to the bottom border of the highest ranking element.

Left

Distance to the left border of the highest ranking element.


Right

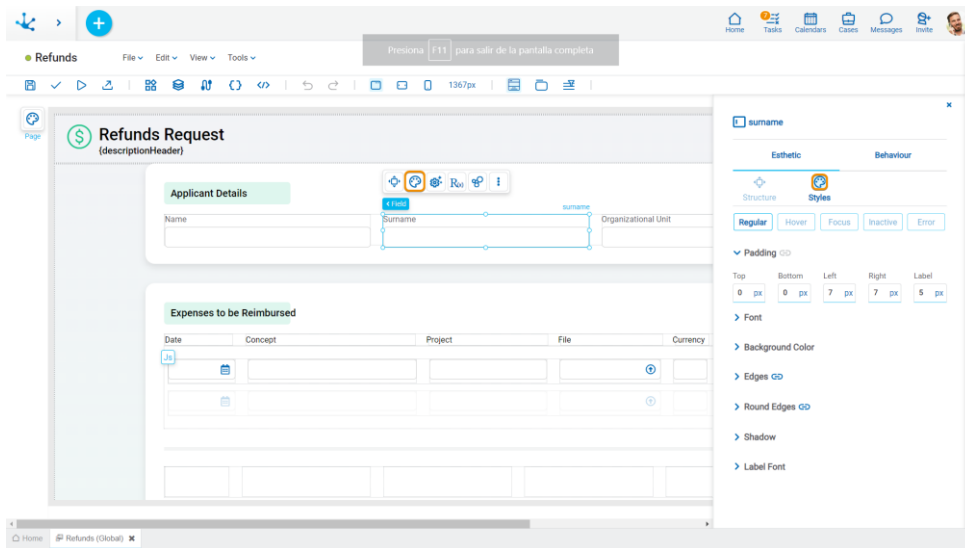
Distance to the right border of the highest ranking element.

⇄ Allows the value entered in one of the margins to be copied to the other ones automatically.

⇄ Allows to indicate different values for each margin.

Style Properties

The style properties panel of an element is opened when selecting the icon  of the context menu.



This type of element may take different states and for each of them different values for its properties may be modeled.





- Regular: the mouse pointer is not over the element.
- Hover: the mouse pointer is over the element.
- Focus: the element is pressed.
- Inactive: The element is not active.
- Error: The element is in error.

Padding

▼ Padding



All padding space properties allow to create a space around the element borders (top, bottom, sides) and its content. The padding space configured is inward, while the margin is configured relative to a top element. It can be expressed in pixels (px), percentage (%), viewport width (vw), and viewport height (vh).

-  Allows values entered in one of the paddings to be copied to the other ones automatically.
-  Allows to indicate different values for each padding.

Font

Font

Family:

Size:

Font Weight:

Justify:

Letter spacing: px

It allows to define the text style.

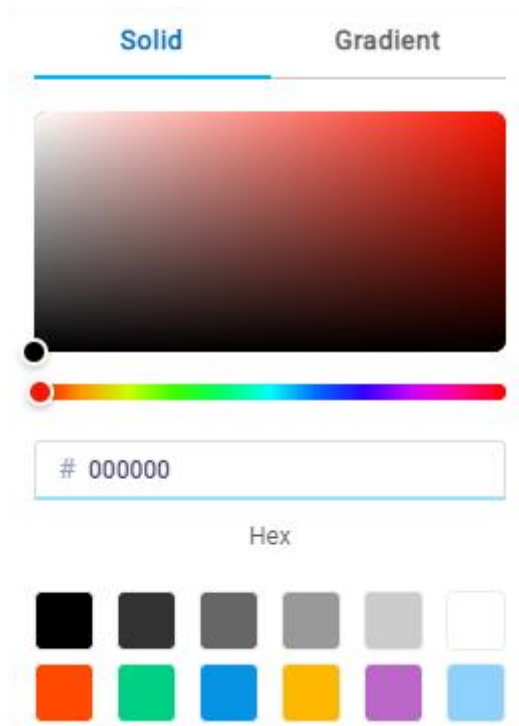
Background Color

It allows to model a background color for the element, it can be solid or gradient and different properties are defined for each one.

Solid

Background Color

This option enables not only to select the color from a palette but also to define the degree of transparency.

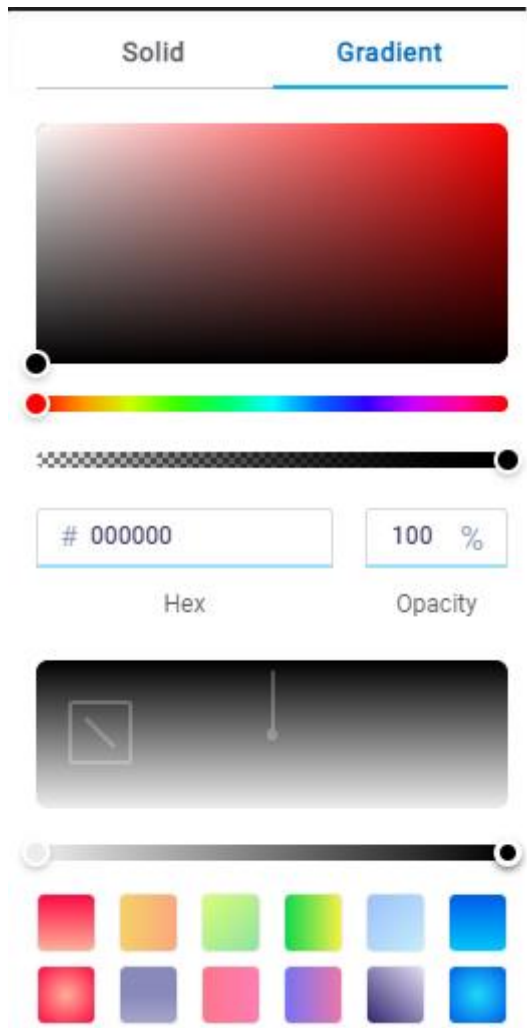


Gradient

▼ Background Color



This option enables to select not only the color from a palette but also to define its opacity and intensity according to the selected angle.





Edges

∨ Edges [↻](#)

	Type	Width	Color	Opacity
	<input type="text" value="-"/> ∨	<input type="text" value="0"/> px	<input type="checkbox"/>	<input type="text" value="100"/> %
	<input type="text" value="-"/> ∨	<input type="text" value="0"/> px	<input type="checkbox"/>	<input type="text" value="100"/> %
	<input type="text" value="-"/> ∨	<input type="text" value="0"/> px	<input type="checkbox"/>	<input type="text" value="100"/> %
	<input type="text" value="-"/> ∨	<input type="text" value="0"/> px	<input type="checkbox"/>	<input type="text" value="100"/> %

It allows to define the style of borders. Each one has its type, width, color and opacity defined, the latter as a percentage.



-  Allows the value entered in one of the borders to be copied to the other ones automatically.
-  Allows to indicate different values for each border.

Round Edges

▼ Round Edges

Top/Left	Top/Right	Bottom/Right	Bottom/Left
<input type="text" value="20 px"/>	<input type="text" value="20 px"/>	<input type="text" value="20 px"/>	<input type="text" value="20 px"/>

It allows to define the round edges at the corners of elements.
It can be expressed in pixels (px), percentage (%), viewport width (vw), and viewport height (vh).

-  Allows the value entered in one of the borders to be copied to the other ones automatically.
-  Allows to indicate different values for each border.

Shadow

▼ Shadow

Type

Horizontal

Vertical

Blur

Spread



Allows to define a shadow effect around the element.

Type

Possible Values

- Outset
- Inset

Horizontal

Horizontal size of the shadow to the right of the element. It can be expressed in pixels (px), percentage (%), viewport width (vw), and viewport height (vh).

Vertical

Vertical size of the shadow below the element. It can be expressed in pixels (px), percentage (%), viewport width (vw), and viewport height (vh).

Blur

The greater this value is, the greater and lighter the shadow becomes. If not specified, its value is 0 and the shadow border is darker. It can be expressed in pixels (px), percentage (%), viewport width (vw), and viewport height (vh).

Spread

Positive values will cause the shadow to expand and grow bigger, while negative values will cause the shadow to shrink. If not specified, its value is 0 and the shadow will have the same size as the element.

Color

Defines the color of the shadow.

Transparency

Defines the transparency of the shadow.

Label Font

▼ Font

Family

Roboto Medium

Size

14

Font Weight

400

Justify

Left


Letter spacing

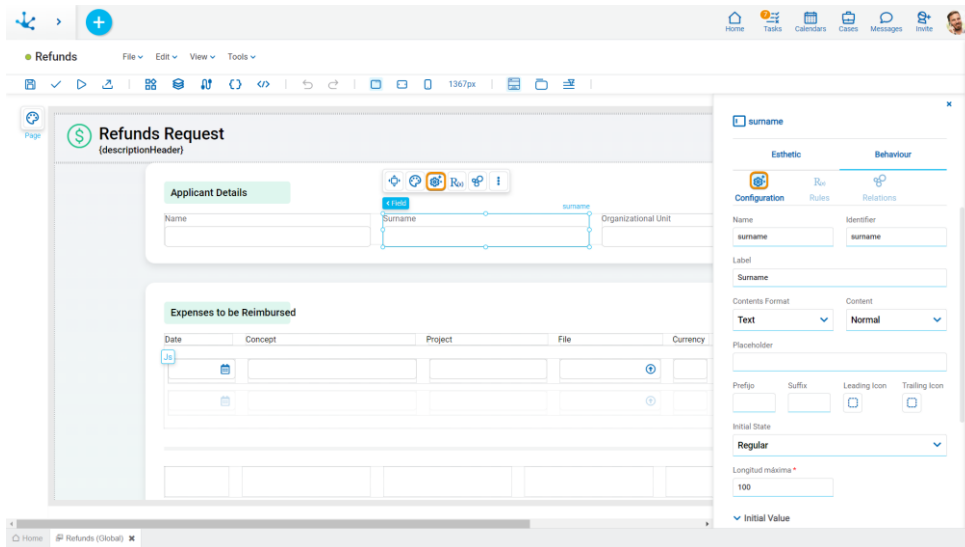
0

px

It allows to define the label style.

Configuration Properties

The configuration properties panel of an element opens when clicking the icon of the  context menu.



Name

Name assigned to reference a field in the modeling, allowing the field to be uniquely identified within the entity. Used in rule wizards to refer to field within conditions. It is automatically generated from the Label property, can be modified by the user and does not allow spaces or special characters.

Identifier

It is the name assigned to reference a field in the programming code, used to refer to the field within Java code in the "Execution Code" tab of advanced rules and in JavaScript code in the "Advanced Editing" tab of the entity modeler. It allows to uniquely identify the field within the modeled form. It can be modified by the user, as long as no data has been loaded into the entity, and it does not allow spaces or special characters.

Label

It allows to enter the text that is displayed on the field. It works together with the prefix to reference the field in validation messages and supports blank spaces.

Content Format

It allows modifying the selected field type.

Possible Values

- Text
- Number
- Multiline
- Date and Time
- File

Content

Options available for this property depend on the value of the property [Content Format](#). For each possible value the options are different:

- Text: the options are "Normal", "Password" and "Mail".
- Number: the options are "Decimal" and "Integer".
- Date and Time: options are "Date and Time", "Local Date and Time", "Time", "Local Time", "Date" and "Local Date".

- Archive: the options for images are "*", "jpeg", "png", "gif", "svg+xml", "bmp", "webp", "tiff" and "x-icon". The options for audio are "*", "mpeg", "wav", "ogg", "midi", "aac" and "x-ms-wma". Video options are "*", "mp4", "quicktime", "webm", "x-msvideo", "x-flv", "3gpp". Application options are "*", "pdf", "mword", "vnd.ms-excel", "vnd.ms-powerpoint", "zip", "x-rar-compressed", "x-tar", "x-gzip", "x-bzip2", "json" and "xml". The options for text are "*", "plain", "csv" and "xml".

Placeholder

It allows guiding the user on the content to enter in the element. The placeholder text is displayed within the element.

Initial Value

Allows to select the source of the element's content.

Value

Value
 Parameters and Variables
 Data Source

Value

Allows to enter a text that is displayed in the element.

Parameters and Variables

Value
 Parameters and Variables
 Data Source

▼

Parameters and Variables

Allows to select a [parameter](#) or a [variable](#) from the page. Its value is displayed in the element.

Data Source

Value Parameters and Variables Data Source

Data Source *

Fields *

Data Source

Allows to select a [data source](#) that was previously defined on the page.

Fields

Allows to select a field from those retrieved in the chosen data source. Its value is displayed in the element.

Description and Help

▼ Description and Help

Description

Help Text


Description

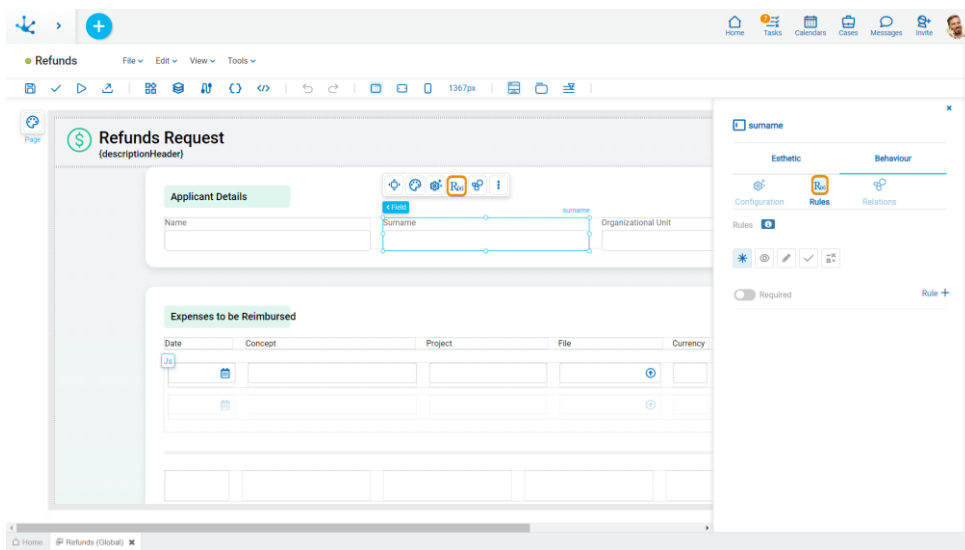
Text that defines the field and optionally its content.

Help Text

This function is to guide the user on the content to be entered in the field. The text entered as help is displayed when the user hovers the cursor over the field.

Rule Properties


The rule properties panel of an element is opened when clicking the icon  of the context menu.




Properties

Rules


[Embedded rules](#) on behavior, validation and calculation can be defined, associated with an element, by using the [wizard](#) (ctrl + space).

 Shows syntax examples for writing the rules.

 **Required**
Indicates whether the element is required on the page.


Required Not required (default)

Rule + Opens an edit area where a rule to determine the required condition can be defined. If a rule is defined, the icon is displayed with light blue borders.

 **Visible**
Indicates whether the element is visible. If this property is not checked, the element is not displayed in the page.

Visible (default) Not visible

Rule + Opens an edit area where a rule to determine the visibility condition can be defined. If a rule is defined, the icon is displayed with light blue borders.

 **Editable**
Indicates if the element is editable. If this property is not checked, the user cannot enter or modify values in the element.

Editable (default) Not editable

Rule + Opens an edit area where a rule to determine the editability condition can be defined. If a rule is defined, the icon is displayed with light blue borders.



Validation

Rule +

Opens an edit area where you can define the condition that determines if the element value is correct or not. It is possible to define more than one rule. If rules are defined, the icon is displayed with light blue borders.



Calculation

Rule +

Opens an edit area where you can define the expression to be executed to calculate the element value. If a rule is defined, the icon is displayed with light blue borders.

Operations when defining the rule:



Saves the new or modified rule



Cancels the operation

Operations once the rule is defined:



Edits the existing rule



Deletes the rule

3.7.7. Rules Modeling

The rules modeler is a tool that allows IT users to model their own [advanced rules](#), using different [adapters](#).

The screenshot shows the 'Modeler' application interface. At the top, there is a navigation bar with various icons, including a 'Rule - Adapter' button. Below the navigation bar, the main content area displays a table with the following columns: Name, Application, Type, State, Update, and Update User. The table contains several rows of data, including 'Address Type', 'Account', 'State of the Accounts', 'Social Network', 'Phone Types', 'Mail Types', 'Origins', 'Industries', 'Customer', and 'Opportunity'.

Name	Application	Type	State	Update	Update User
Address Type	Global	Value List	●	18/11/2022 17:22	[User Icon]
Account	Global	Formulario Agil	●	18/11/2022 17:20	[User Icon]
State of the Accounts	Global	Value List	●	18/11/2022 17:20	[User Icon]
Social Network	Global	Value List	●	18/11/2022 17:20	[User Icon]
Phone Types	Global	Value List	●	18/11/2022 17:20	[User Icon]
Mail Types	Global	Value List	●	18/11/2022 17:20	[User Icon]
Origins	Global	Value List	●	18/11/2022 17:20	[User Icon]
Industries	Global	Value List	●	18/11/2022 17:20	[User Icon]
Customer	MyApp	Form	●	18/11/2022 17:19	[User Icon]
Opportunity	MyApp	Form	●	18/11/2022 17:19	[User Icon]

Its main characteristic lies in its simplicity to model rules using different modeling facilities.

The general characteristics of the rules modeling environment and the main elements that compose it are described in the following topics:

- [Modeling Facilities](#)
- [Rule Properties](#)

3.7.7.1. Business Rules

A business rule allows to perform a specific task, being able to receive information, perform certain processing and inform the results obtained.

In **Deyel** there are business rules used to define the behavior of processes and forms. Rules can be used in validations, specific business logic, process flow control, integration with other applications, and field display control in forms, among other functionalities.

Types

There are rules that can be modeled without programming and others are based on Java code.

- [Embedded Rules](#)
- [Advanced Rules](#)

3.7.7.1.1. Embedded Rules

Embedded rules are used to define the behavior of application objects, such as processes, forms, and pages, without the need for programming.

These rules are defined using a simple syntax, similar to that used in spreadsheets, with the help of a [wizard](#), if necessary. Such wizard is integrated into the corresponding object modelers, within the property definition panels of fields, containers, forms and conditional flows, as well as page elements.

Through the use of embedded rules it is possible to define calculations, validations and conditions that modify the behavior of application objects. In forms, pages and process activities, it is possible to define requirement, visibility and editability rules, as well as calculation and validation rules at field or element level. Furthermore, in the case of processes, gateway conditions can also be modeled using embedded rules.

Unlike [advanced rules](#), embedded rules are not displayed into the [modeler's grid](#), as they can only be used in the **Deyel** object where they are defined.

Types

Behaviour

A behavior rule is used to verify the fulfillment of a condition. A logical expression is evaluated and a "True" or "False" value is returned depending on whether the condition is met or not.

Embedded rules are modeled in form fields and containers, both in the forms modeler and in the process modeler when modeling their activities, in the page elements and in the process gateways if they have conditions.

They are classified according to the purpose of their use.

- **Visibility**
The modeled condition defines whether a field, a form section or a page element is visible to the user at the time of use.
- **Editability**
The modeled condition defines whether a form field or an element of a page are editable by the user at the moment of using them.
- **Required**
The modeled condition defines if a field or an element of a page are required when using them.

Validation

A validation rule is used to ensure the proper information entry or to verify incorrect status. It can be set both at form or page field level.

This rule evaluates a condition and returns a message when it is met, indicating the wrong or invalid situation to the user. If no message returns, it means that the validation was successful.

Conditions involving one or multiple fields and the relations among them can be defined.

Calculation

To define arithmetic expressions that allow to perform calculations to fill in field values when using the form or the page. The rule is defined with a calculation algorithm for the target field that is populated with the resulting value. This value must be of the same type as the field that contains it.

Conditions can also be defined to determine when to execute the calculation rule.

Use

Embedded rules are modeled within the property definition panels of the **Deyel** objects that contain them.

Forms Modeler

- [Rules in Field Properties](#)
- [Rules in Container Properties](#)
- [Rules in Form Properties](#)

Processes Modeler

- [Rules in Activity Properties](#)
- [Rules in Gateway Properties](#)

Pages Modeler

- [Rules in Element Properties](#)

Agile Modeler

- Rules in Field Properties of Agile Forms
- Rules in Container Properties of Agile Forms
- Rules in Properties of Agile Forms

3.7.7.1.1.1. Rule Elements

An embedded rule is an expression that is made up of operands combined by logical or arithmetic operators. where each operand can be a constant, a variable, or a function. Precedence can be determined by using ().

Examples

- Name == "John"
- Amount <= 25.5
- (2+5-1)/2
- addDays(day(),3)

Constants

Constants correspond to the different types of data used in **Deyel**.

- Alphanumeric
Eg: "This is a Text constant"
- Numeric Integer or Decimal
Eg: 10.3 where the decimal symbol corresponds to the value [configured in the environment](#)
- Date, Time, Date and Time
Some of the [exclusive rules functions](#) can be used to convert from alphanumeric format to the selected date type constant.
Eg: `parseDate("07/25/2023")`
`parseTime("15:20")`
`parseDateTime("07/25/2023 15:20")`
- Logical
Eg; True,False

Variables

Variables can be fields, group containers, iterative containers, related form fields, page element properties, variables and page parameters. The variables available for expression depend on where the rule is embedded.

Both form fields and page elements are referenced by name.

The type of data they represent is displayed to the right of the name.

- Fields

In the wizard, they are identified with ● on the left.

Example: Nameandsurname

- Iterative containers

Whenever an iterative container is used, indicate the field name separated by a ".".

In the wizard, they are identified with ● on the left.

Example: Items.Quantity

- [Form field relation](#)

The wizard allows selecting a field that has a relation to a value list, a rule, or an entity.

In the wizard, they are identified with ● on the left.

Example: stateRelation

- Possible values of related fields

When modeling a related field, either to a value list, rule, or entity, the wizard allows to select the name of the field concatenated with "Relation", and the possible values of its relation.

In the wizard, they are identified with ● on the left.

Example: stateRelation.Active

- Properties of page elements

The wizard allows using the "value", "visible" and "editable" properties of page elements. These properties are available depending on the type of element being modeled.

When the "value" property of an "input" element is used, the format of the returned value depends on the type of data entered. For the other elements, the returned value is of "string" type.

When the "visible" and "editable" properties of all the elements of a page are used, the returned value is of "boolean" type.

Examples

- Firstnameandlastname.value
- Firstnameandlastname.visible
- Firstnameandlastname.editable

In the wizard, they are identified with ● on the left.

- Variables and page parameters

The wizard allows using the variables and parameters of a page, and the value returned in the embedded rule corresponds to the type of each one of them.

In the wizard, they are identified with ● on the left.

Functions

To the right of the name of the functions or rules, the data type of the value they return is displayed.

- Functions

By using the editing wizard, the functions of the different categories defined in **Deyel** can be used.

- Advanced rules

The advanced rules that can be used in embedded rules are those that return a single parameter. The wizard does not show rules that do not return a value or that return more than one parameter.

In both cases, in the wizard, they are identified with ● on the left.

Available Operators

Logical Operators

Operator	Description	Example
==	Compares if two operands are equal	5 == getDay()

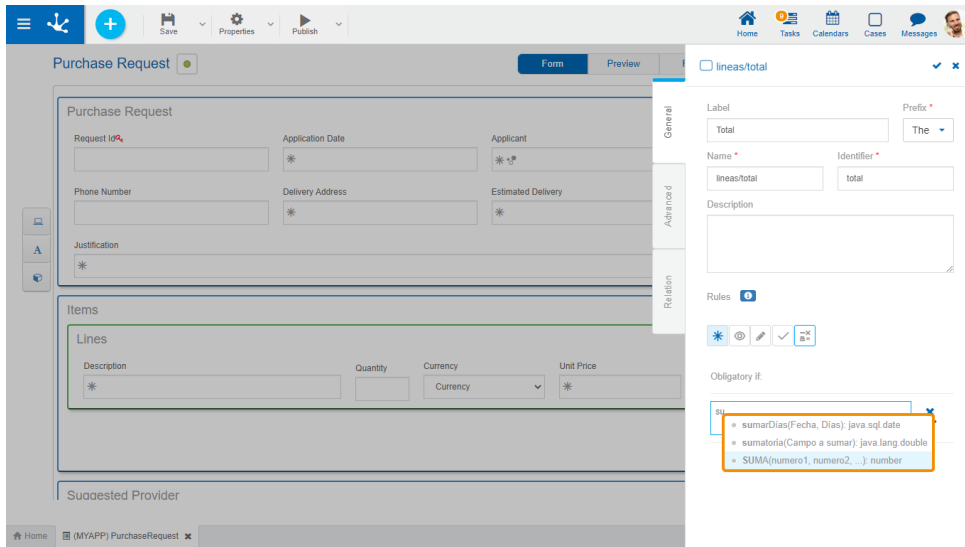
Operator	Description	Example
!=	Compares if two operands are different	last name != "Jones"
<	Compares if the first operand is less than the second one	1 < 3
>	Compares if the first operand is greater than the second one	4 > 1
<=	Compares if the first operand is less or equal than the second one	1 <= 3
>=	Compares if the first operand is greater than or equal to the second one	3 >= 3

Arithmetic Operators

Operator	Description	Example
+	Adds two operands	5 + field3
-	Subtracts two operands	price - discount
*	Multiplies two operands	price * 1.21
/	Divides the first operand by the second one	10 / 2
%	Calculates the division remainder of the first operand by the second one (mod)	5 % 3, the result is 2

3.7.7.1.1.2. Editing Wizard

A wizard to model the rules can be used in the rule editing area. This wizard is activated by pressing the "Ctrl + Space" keys. As text is entered in the wizard, it uses the auto-complete functionality and shows only the [elements](#) whose names begin with the text typed by the user.



3.7.7.1.1.3. Functions

A function is a software unit. It performs a specific task, receives input parameters, and returns a result.

They can be used:


From the function selection wizard in:

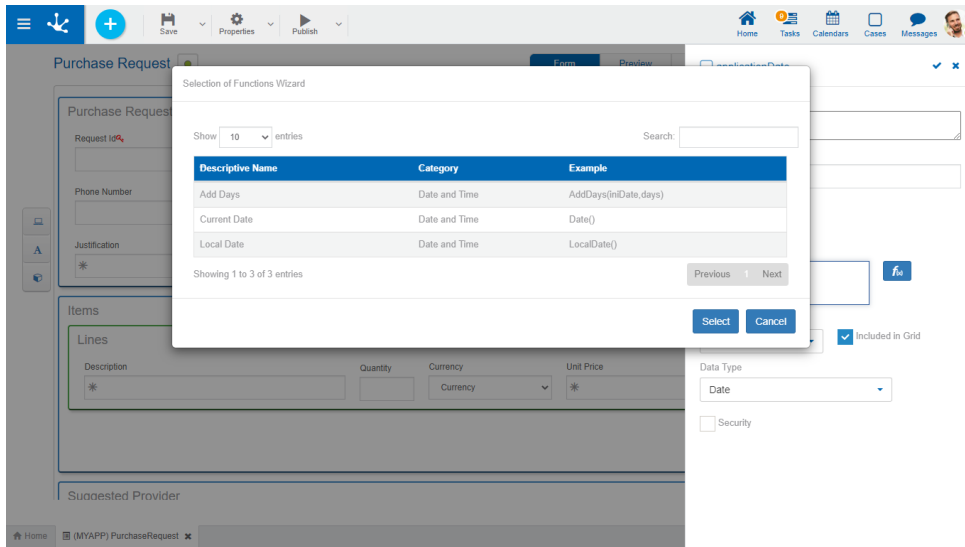
- Form fields, when defining the [Default Value](#).
- The processes, by defining the [Case description](#) property and in alerts and automatic activity parameters.
- The process flows, when defining the [Message](#).

When defining conditions in:

- [Rules in form properties](#).
- [Field Properties](#) to verify conditions of edition, mandatory nature, visibility, validation and calculation rules.
- [Page elements](#), to verify conditions of edition, mandatory nature, visibility, validation and calculation rules.
- [Gateway properties](#) when output flow conditions are evaluated.

Function Selection Wizard

The wizard is used from the icon . When pressed, a window with the list of functions opens and once the function has been selected, it is included in the description area of the form or case.



Elements

- Selection of number of records to display in the window.
- Search field to be able to filter functions, filtering can be performed by the properties [Descriptive Name](#), [Category](#) or [Example](#).
- List of functions where properties are displayed in a grid mode.
- Buttons for paging.

Properties

[Descriptive Name](#)

It is used in the interface when it is referenced, in the functions list.

[Category](#)

Grouping by function type.

[Example](#)

Corresponds to how the function can be used in the calculation or condition areas.

Categories

Functions are grouped into categories.

- [Execution](#)
- [System](#)
- [Date and time](#)
- [Math](#)
- [Validations](#)
- [Miscellaneous](#)
- [Exclusives for Rules](#)

Execution

These functions retrieve information related to the form instance that is being used, to the process if it had one associated and from the connected user.

Descriptive Name	Description	Example
Current User Last Name	Returns the last name of the user that started the session.	currentUserLastName()
Current Activity Code	Returns the code of the activity in progress. It does not work in the first process activity because the case has not been created.	currentActivityCode()
Current Process Code	Returns the code of the process in progress. It does not work in the first process activity because the case has not been created.	processCode()
Current Activity Description	Returns the description of the activity in progress. It does not work in the first process activity because the case has not been created.	currentActivityDescription()
Current Process Description	Returns the description of the process in progress. It does not work in the first process activity because the case has not been created.	processDescription()
Email of the Executing Participant's Organizational Unit	Returns the organizational unit email of the participant responsible for executing the activity in progress, if it is a role, it returns empty. It does not work in the first process activity.	userOrgUnitEmail()
Email of the User Administrator of the Executing Participant's Organizational Unit	Returns the administration user email of the organizational unit of the participant responsible for executing the current activity. It does not work in the first process activity.	orgUnitAdminEmail()
Email of the Role Coordinator Responsible for the Current Activity	Returns the email of the role coordinator user modeled as responsible for the activity in progress, only if the person responsible is a role, otherwise it returns empty. It does not work in the first process activity.	currentRoleCoordinatorEmail()
Executing Participant Email	Returns the email of the participant responsible for executing the current activity It does not work in the first process activity. If the responsible participant is a role or an organizational unit, it returns the emails of all users belonging to the role or organizational unit.	currentUserEmail()

Descriptive Name	Description	Example
Current Activity Name	Returns the name of the activity in progress. It does not work in the first process activity because the case has not been created.	currentActivity-Name()
Name of the Current User's Organizational Unit	Returns the organizational unit name of the user who started the session.	currentUserOrgUnitName()
Current Process Name	Returns the name of the process in progress. It does not work in the first process activity.	processName()
Current User Name	Returns the name of the user that started the session.	currentUserName()
Case ID	Returns the case id without applying the case display mask. It does not work in the first process activity because the case has not been created.	caseNumber()
Executing Participant's Organizational Unit	Returns the organizational unit code of the participant responsible for executing the current activity. If the participant responsible is a role, it returns empty. It does not work in the first process activity.	currentOrgUnitCode()
Code of the Current User's Organizational Unit	Returns the organizational unit code of the user that started the session.	currentUserOrgUnit()
Executing Participant	Returns the participant responsible for executing the current activity. It does not work in the first process activity. It can return a user, a role or a unit: - Returns a user when the participant responsible for the activity is a user, or when it is a role and the user is assigned the activity. - Returns a role only when the participant responsible is a role and the activity is generic, until one of the users is assigned the activity. - Returns an organizational unit when the participant responsible for the activity is a unit.	executingUser()
Executing User of the Current Process Activity	Returns the user that executed the activity informed by parameter. It requires the code of an activity already executed. It does not work in the first process activity.	activityExecutingUser(activityNo)

Descriptive Name	Description	Example
Current User	Returns the user that started the session.	currentUser()
Current Process Version	Returns the version of the process in progress. It does not work in the first process activity.	processVersion()
Last Button Pressed	Returns the last button pressed.	lastButtonPressed()

System

These functions retrieve information related to the environment where the form and the modeled application are being used, if there is one associated.

Descriptive Name	Description	Example
Web Server Address	Returns the web server address.	webServerAddress()
Workflow Engine Email	Returns the workflow engine email address.	workflowEmail()
Workflow Engine Name	Returns the workflow engine name.	workflowEngineName()

Date and Time

Retrieve information related to dates and times and carry out operations with them.

Descriptive Name	Description	Example
Current Year	Returns the current year.	year()
Difference Between Work Days	Returns the difference in business days between 2 past dates as parameters.	difBetweenWorkDays(dateFrom,dateTo)
Difference in Time	Returns the time difference between 2 times entered as parameters. The format must be HH:MM:SS.	difInTime(timeFrom,timeTo)

Descriptive Name	Description	Example
)
Difference in Minutes between Times	Returns the difference in minutes between 2 times entered as parameters. The format is HH:MM:SS.	diffInMinutes(timeFrom,timeTo)
Difference between Days	Returns the difference in days between 2 dates entered as parameters. The format is DD/MM/YYYY.	diffBetweenDays(dateFrom,dateTo)
Current Day	Returns the current day.	day()
In between Dates	Validates that a date falls within a valid date range. The format is DD/MM/YYYY.	inBetweenDates(Datep,StartDatep,EndDate)
Current Date	Returns the server current date.	Date()
Local Date	Returns the local date according to the user's time and time zone.	localDate()
Current Time	Returns the server current time.	time()
Local time	Returns the local time according to the user's time zone.	localTime()
Current Month	Returns the current month.	month()
Month Name	Returns the name of the month according to the number entered.	monthName(monthnumber)
Add days	Returns the date obtained as a result of adding days to a date.	addDays(StartDate,Daysp)
Add work days	Returns the date obtained as a result of adding days to a date. Adds only work days.	addWorkDays(pDate,pDays)
Last business day of the month	Returns the last business day of the month of the date entered as a parameter.	lastWorkDay(pDate)
Subtract days	Returns the date obtained as a result of subtracting days to a date.	subtractDays(pDate,pDays)

Descriptive Name	Description	Example
Current time and date	Returns the current time and date of the server.	dateAndTime()

Math

These functions perform mathematical operations based on the form fields.

Descriptive Name	Description	Example
Sum	Returns the result of the sum of all the field values in a multiple-occurrence container, taken as a parameter. The field data type must be integer or decimal.	sum(field)

Validations

The functions in this category allow to confirm a question about the information used in the form.

Descriptive Name	Description	Example
Is it an Email?	Verifies that the text entered as a parameter has an email format.	isEmail(text)
Only Letters?	Verifies that the value entered as a parameter consists only of letters.	onlyLetters(Text)
Only Numbers?	Verifies that the value entered as a parameter is a valid number.	onlyNumbers(Text)
Is it a Business Day?	Verifies that the value entered as a parameter is a business day.	isBusinessDay(pDate)

Miscellaneous

This category groups functions that return information on different topics.

Descriptive Name	Description	Example
------------------	-------------	---------

Descriptive Name	Description	Example
Organizational Unit Email	Returns the email address of an organizational unit whose code is entered as a parameter.	orgUnitEmail(orgUnitId)
Organizational Unit Users Emails	Returns the email address of an organizational unit users whose code is entered as a parameter.	orgUnitUserEmail(orgUnitId)
Organizational Unit Administrator Email	Returns the email address of an organizational unit administrator whose code is entered as a parameter.	orgUnitAdminEmail(orgUnitId)
Role Coordinator Email	Returns the email address of a role coordinator whose code is entered as a parameter.	roleCoordinatorEmail(roleid)
Email of the Activity Responsible Participant	Returns the email address of the participant responsible for executing an activity whose code is entered as a parameter. If the participant is a role or an organizational unit, it returns the emails of all its members.	activityResponsibleEmail(activityNo)
User Email	Returns the email address of a user whose code is entered as a parameter.	userEmail(userid)
Role Users Emails	Returns the email addresses of an organizational unit users whose code is entered as a parameter.	roleUserEmail(roleid)
Case Show Link	Returns the link to the case show in progress. Requires the user to be logged in.	caseShowLink()
Activity Execution Link	Returns the link to the execution of the activity in progress, requires the user to be connected.	activityExecLink()
My Tasks Link	Returns the link to the user's task list.	myTasksLink()
Login Link	Returns the link to the user portal home panel.	loginLink()

Exclusives for Rules

Functions in this category are used in embedded rules modeling by means of their [wizard](#).

Descriptive Name	Description	Example
IF(logical_test,value_if_true,value_if_false)	Checks if the condition indicated in "logic_test" is met. If it is true, it returns the value informed in "value_if_true", if not, it returns the value informed	IF(amount > 1000000, "Amount exceeds limit")

Descriptive Name	Description	Example
	in "value_if_false". The "value_if_false" parameter is optional, if the condition is not met and such parameter is not defined, the function does not return a value.	If the amount is greater than 1,000,000, the user receives the "Amount exceeds limit" message.
AND(logical_value1, logical_value2,...)	Evaluates that all parameters return "True", in which case it returns "True" value.	AND(day() > 5, month() == "April") Returns "True" only when the day of the month is greater than 5 and the month is April.
OR(logical_value1, logical_value2,...)	Evaluates all parameters and returns "False" value if all parameters return "False". If at least one of them returns "True", it returns "True" value.	OR(contact == "AFARIAS", currentUser() == "AFARIAS") Returns "False" only when the current user and contact are different from AFARIAS.
NO(logical_value)	IF "logical_value" is "True", it returns "False" value. IF "logical_value" is "False", it returns "True" value.	NO(5 > 1) Returns "False", since it is the logical value contrary to evaluation 5 > 1.
ADD(number1, number2,...)	Adds all parameters.	ADD(AmountInvoiced, TaxAmount) Returns the value resulting from adding both amounts.
CONCAT(text1,text2,...)	Joins multiple text elements into one.	CONCAT("Hello,", currentUser()) Returns "Hello AFARIAS", where AFARIAS is the current user.
MAX(number1, number2,...)	Returns the maximum value from a list of parameters. Ignores logical values and text.	MAX(2, 5, customerNumber, 22) Returns 22.
ISBLANK(value)	Checks the value of the reported parameter and returns "True" if it has no content. If the parameter is an iterative field, all its occurrences must be empty for it to return true.	ISBLANK(description) Returns "False", when description has content.
isURL(text)	Indicates whether the text entered corresponds to a	IF(NO(isUrl(field)),

Descriptive Name	Description	Example
	<p>valid URL format. Valid Examples:</p> <ul style="list-style-type: none"> • www.sitename.com ; sitename.com; https://sitename.com • 192.1.1.111; 192.1.1.111:8090 ; 192.1.1.111:8090/myfunction 	<p>"Must inform URL") If field is equal to "De-yel.com", the user does not receive any messages.</p>
REPLACE(text to search; text to replace; original text)	Replaces in "original text", the "text to search" matches with "text to replace".	<p>REPLACE("Supplier XX", "New Supplier", contractText) As a result, the original content of the contractText field remains with all occurrences of Supplier XX replaced with New Supplier.</p>
REGEXMATCH(text, regular_expression)	<p>Returns "True" value if the first parameter meets the regular expression indicated in the second parameter.</p> <p>Regular expressions, also known as regex, are widely used, standardized writing patterns used mainly to process texts. They allow, for example, to validate formats, extract a part of text or replace occurrences of a character string. There are many free access sites that provide information on use and syntax and offer the possibility to perform simulations as tests.</p> <p>If the '\' character is used in the expression, it should be duplicated. If it is not duplicated, the expression is not evaluated as expected.</p>	<p>REGEX-MATCH(myField,"^[0-9]*\$") Returns "True" if myField is made up of numeric characters between 0 and 9.</p> <p>REGEX-MATCH(myField,"^[AZ]{3}\\d{6}") The bar in the expression is duplicated.</p>
equalInAllValues(iterative_field, value)	Returns "True" value if all occurrences of "iterative_field" match with "value".	<p>equalInAllValues(customerNo, 136) Returns "True" if all occurrences of the CustomerNo iterative field has a 136 value.</p>
equalInSomeValue(iterative_field, value)	Returns "True" value if any of the occurrences of "iterative_field" matches with "value".	<p>equalInSomeValue(customerNo, 136) Returns "True" if one or more occurrences of CustomerNo iterative field has a 136 value.</p>
FIRSTVALUE(list)	Returns the first value in a list.	FIRSTVA-

Descriptive Name	Description	Example
		LUE(Items.quantity) Returns 5, the first value of the iterative quantity [5, 3, 2, ...].
QUANTITY(list)	Returns the length of a list.	QUANTITY(Items.price) Returns 3, the iterative price being [100,50,30].
EXTRACT(text, position, amount_characters)	Returns a subset of text characters, given an initial position and length.	EXTRACT("The user was successfully deleted", 13, 12) Returns the characters "successfully".
NUMBER(alphanumeric_value)	Transforms an alphanumeric into a number.	NUMBER("1988") Returns number 1988.
ROUND(numeric_value, decimals)	Rounds a number to a specified number of decimal places. If the digit after the specified position is greater than or equal to 5, the digit is rounded up. Otherwise, it is rounded down. This happens regardless of the sign. It is recommended to use this function when using 4- and 5-place decimals.	ROUND(49.9999, 0) Returns number 50.
extension(file)	Returns the extension of a file type field.	extension(contract) If the contract field is equal to "contract_2022.pdf", it returns "pdf".
length(text)	Returns the number of characters entered in an alphanumeric field or the number of digits in a numeric field.	length(password) If the password field is equal to "deyel123", it returns number 8.
REMOVESPACES(text)	Removes spaces at the beginning and end of a field.	REMOVESPACES(email) If the email field is equal to " afarias.fa@gmail.com ", returns "afarias.fa@gmail.com".
ESCAPEHTML(text)	Removes formatting from the content of a rich type text field .	escapeHTML(notes) Returns content of "notes" field without for-

Descriptive Name	Description	Example
		matting.
mathPow(base, exponent)	Returns the base raised to the indicated exponent.	mathPow(2, 3) Returns number 8.
parseDate(text)	Returns the value in date format equivalent to the one entered as a literal.	parseDate("07/25/2023") Returns the value corresponding to 07/25/2023
parseDateTime(text)	Returns the value in date and time format equivalent to the one entered as a literal.	parseDateTime("07/25/2023 15:07") Returns the value corresponding to 07/25/2023 15:07
parseTime(text)	Returns the value in time format equivalent to the one entered as a literal.	parseTime("15:20") Returns the value corresponding to 15:20

Functions are allowed to be nested in parameters.

3.7.7.1.2. Advanced Rules

Advanced rules can be invoked from processes, forms and scheduled tasks, to incorporate business logic.

In forms and processes they can be included using the [rules wizard](#), whereas in [scheduled tasks](#) the reference to the rule is done manually.

Types

Standard Rules

These are rules developed in the Java programming language that use the SDK adapter to develop logic without accessing components external to **Deyel**.

*Standard rules developed in earlier versions of **Deyel** can continue to use the "Standard Rule" adapter", which is no longer available.*

Integration Rules

These are rules that make use of [adapters](#) that provide integration with components external to **Deyel**.

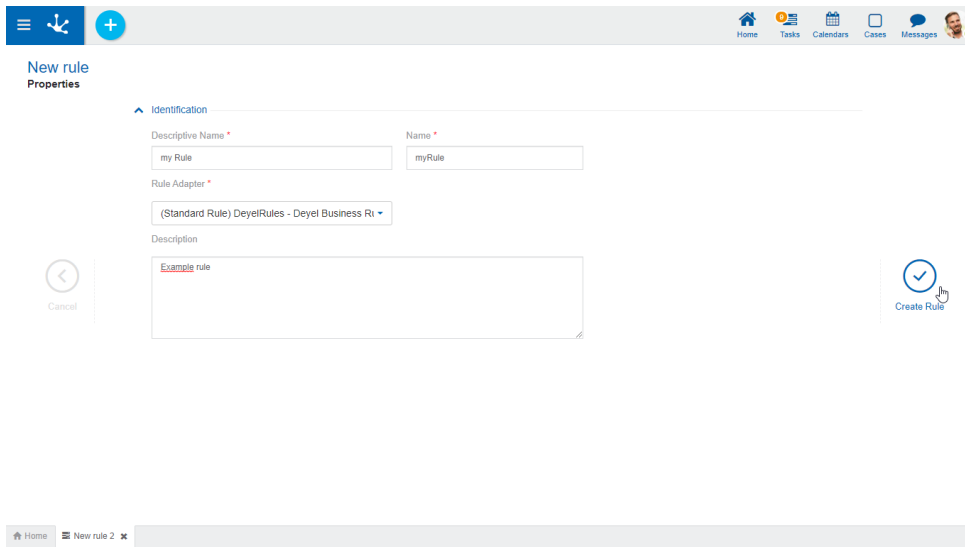
3.7.7.1.2.1. Modeling Facilities

[Phase 6: Advanced Rules Modeling](#)

The advanced rules modeler is a tool that allows to easily design business rules, allowing the addition of the necessary logic to make them work when they are executed.

New Rule

The modeler user can define new rules, which after being published are available to be used in the portal.



Steps to Create a Rule

Step 1: Open the Rules Wizard

A new rule can be created from the icon  corresponding to the [context menu](#).

- From the icon 
- From the menu displayed with the "Rule" option

An existing rule is modified by selecting it from the grid with the "Open" button.

Step 2: Enter the Rule Properties

Properties are organized under the container [Identification](#), which contains information common to all the rules.

Descriptive name

Name used by the modeler to refer to the rule, display it in the rules gallery and in the object tree.

Name

Used internally to refer to the rule within forms, embedded rules, processes or as parameters of other advanced rules. Unlike other objects, the rule name also acts as a unique identifier.

Adapter

Used to determine the adapter to be used by the rule. A list of adapters available for selection is displayed.

Operation

Used to choose the operation to be executed and is only displayed when the chosen adapter type is web services.

Description

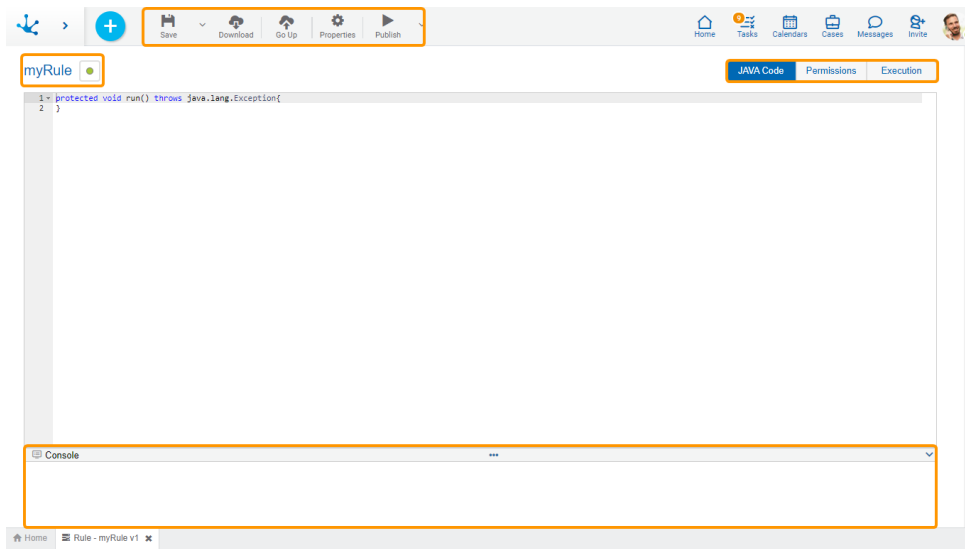
Text that defines the rule describing its functionality and optionally its content.

Step 3: Close the Rules Wizard

- Cancel
Allows to return to the Deyel modeler to display the objects in the gallery.
- Create Rule
Moves to the rule workspace.

Workspace Sections

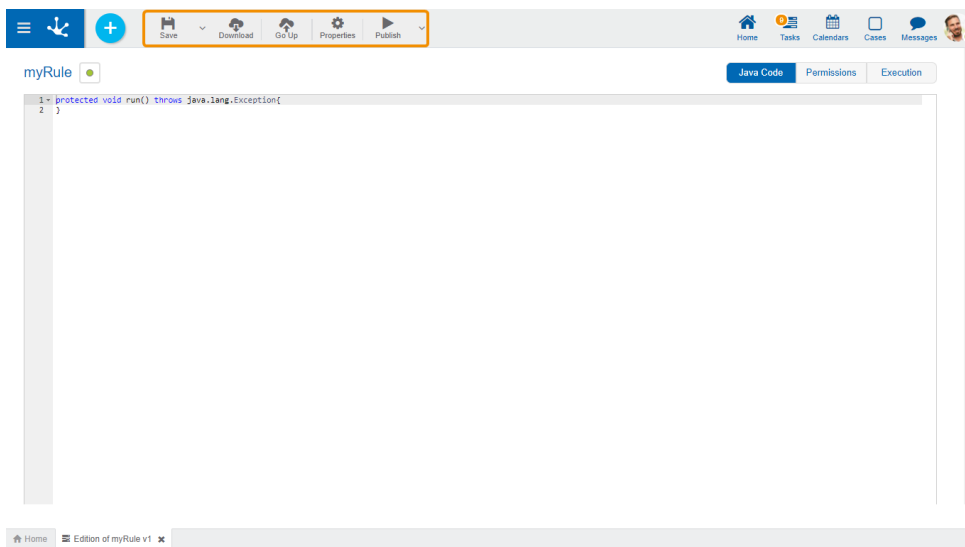
- [Top Toolbar](#)
- Rule Information
 - Name
 - [State](#)
 - [Locking](#)
- [Design Options](#)
- [Console](#)



Top Toolbar

This toolbar contains icons and submenus from which you can perform operations on a rule. Depending on the [state](#) of the rule, some options may be disabled.

The bar is displayed on **Deyel's**.



Save

This icon allows to save the object in the repository of **Deyel**, leaving its state as "Draft" or "Modified". If certain conditions are met, the modeler user receives a message indicating that the operation was performed correctly, otherwise they receive an explanatory message.

Main Conditions

- The object must not be locked by another user,
- There must be an adapter that uses the rule.

To the right of the icon, the option to open the [submenu](#).



Download

Allows to download the Java rule and the model and service classes of the objects related to the object wizard. A compressed file (.zip) containing the classes to edit later in an IDE for Java is generated. This icon is displayed for rules with all types of adapters with the exception of SOAP rules



Increase

Allows to upload a source file to update the Java rule. Such operation updates the window displaying the imported source code in the Java code editing area, but it is not saved until the user saves or publishes the rule. The code must be compilable, otherwise the load operation throws a compilation error. This icon is displayed for rules with all types of adapters with the exception of SOAP rules



Properties

Opens the [rules properties](#).



Publish

By means of this icon the object goes to "Published" state, after verifying a set of additional conditions to those of the "Save" operation. The modeling user receives the corresponding message, indicating the result of the operation.

In the event of an exception due to a failed compilation of the rule code, the error is displayed in the design option "[Compilation errors](#)".

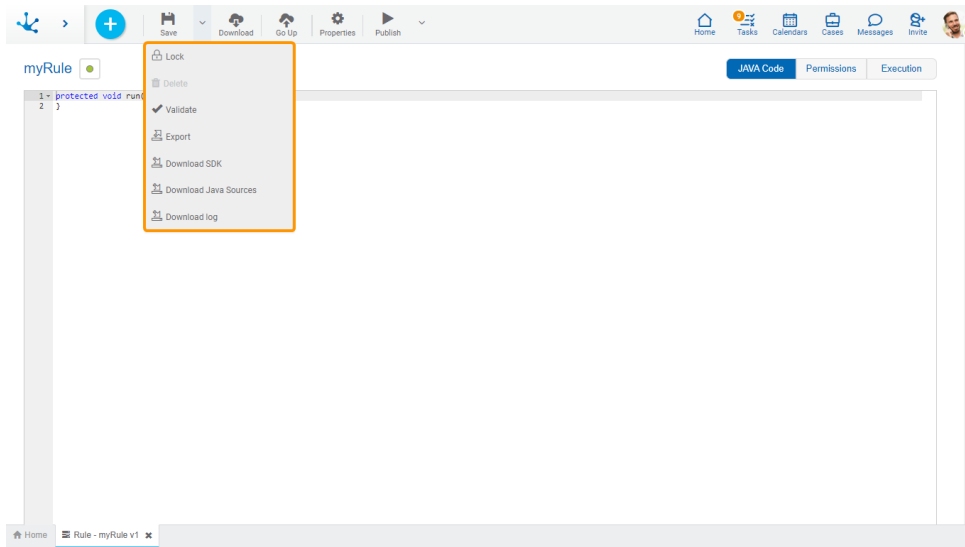
Main Conditions

- The packages corresponding to Java objects included in the rule code must be known to **Deyel**.
- The related objects in the rule must be previously published.

To the right of the icon, the option to open the [submenu](#).



Save Submenu

This submenu is opened by pressing the icon immediately to the right of the icon corresponding to "Save".



/ Lock/Unlock

An advanced rule can only be modified by a modeler user.

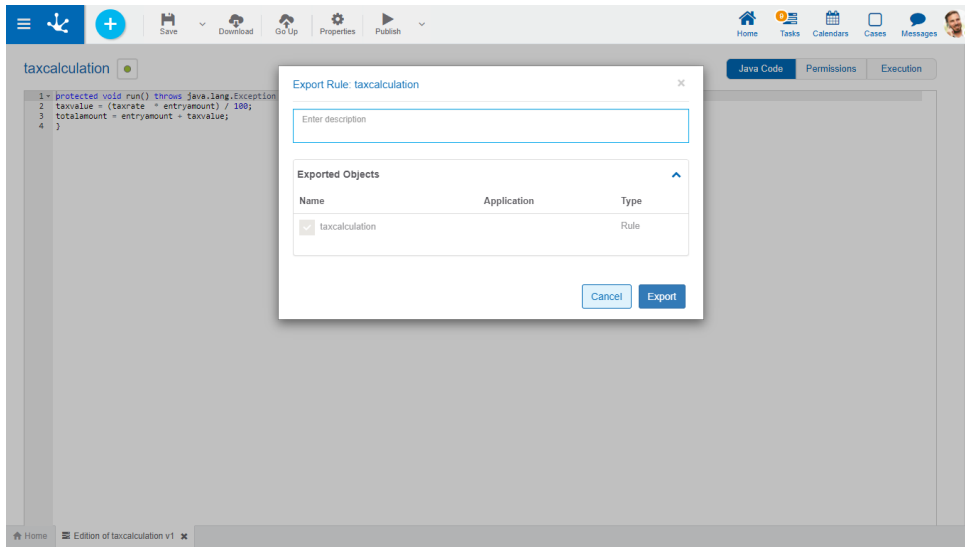
-  It allows to block an advanced rule so that no one can modify it until the person who is using it unlocks it, that is, releases it.
-  Allows to unlock an advanced rule so that another modeler user can modify it.

Validate

This icon allows to validate if the object is ready to be published, that is, the same validations are carried out as when [publishing](#) and the result of them is reported.

Export

This icon opens a window for the user to select and confirm the export of the object.



Description

In this property a text explaining the reason for the operation can be entered.

This text can be modified upon import and is displayed in the description column of the [export record](#).

Exported Objects

By expanding the container, the object being exported is shown.

Press the "Cancel" button to undo export or press the "Export" button to finish.

Delete

Allows to delete the advanced rule only if it is in "Draft" [state](#), closing the tab it is located in and deleting it from the modeler's grid.

Download SDK

This icon allows to download the JAR file that represents Deyel's SDK.

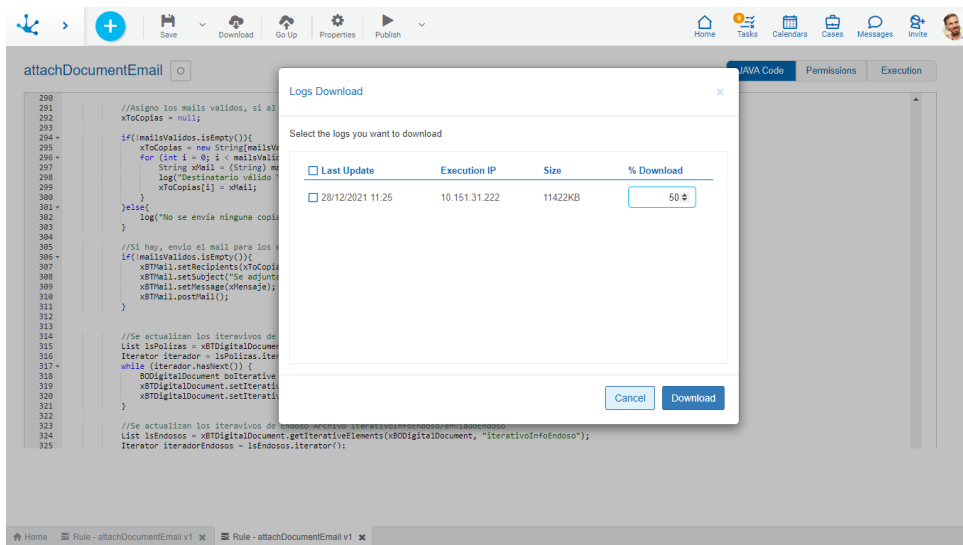
Download Java fonts

This icon allows to download the Java files that represent the object's model and service, so that it can be used in advanced rules.

Pressing the icon displays a message to confirm file download.

Download logs

Allows to download all the logs generated for the rule.



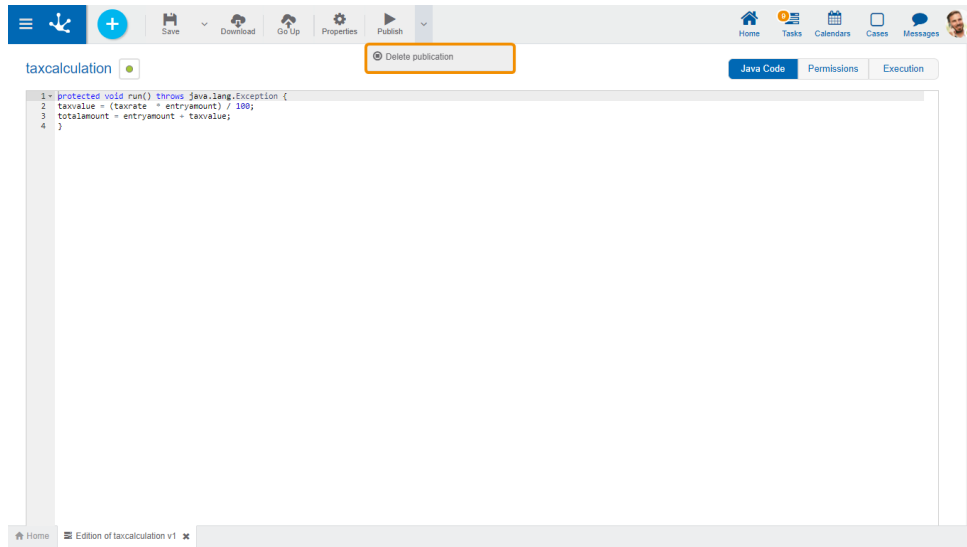
In the wizard, a row is displayed for each log file, with the following information:

- Last update of date and time.
- Execution IP.
- file size.
- percentage of the file to download.

If the percentage is added, that part is downloaded, considering the last portion of the log.

Publish Submenu

This submenu can be opened by pressing the icon immediately to the right of the icon corresponding to "Publish".



Delete Publication

Allows to remove the advanced rule of use, returning it to the "Draft" [state](#).

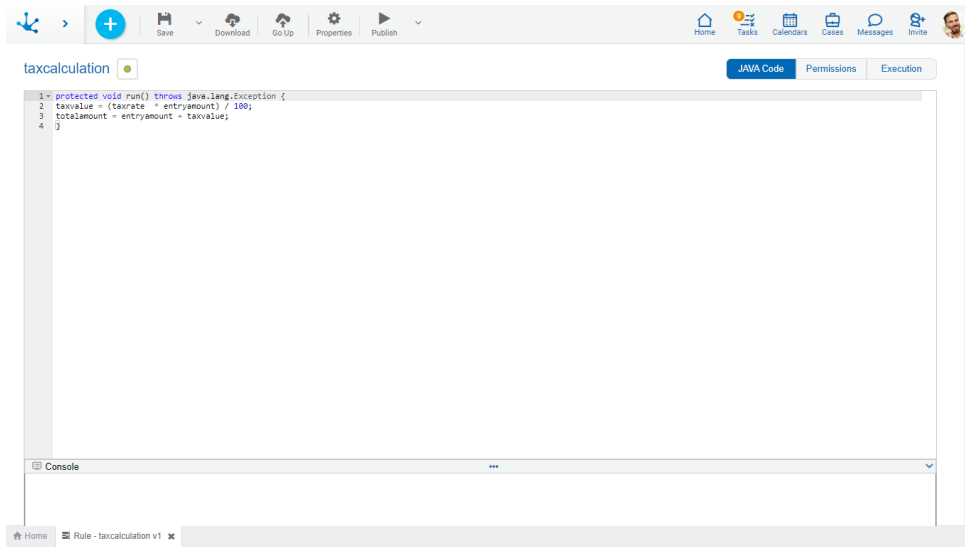
Modeling Area

The modeling area is the space where the rulers are designed and modeled. Within this area we can find the different design options which depend on the type of adapter used by the rule.

Standard Rule

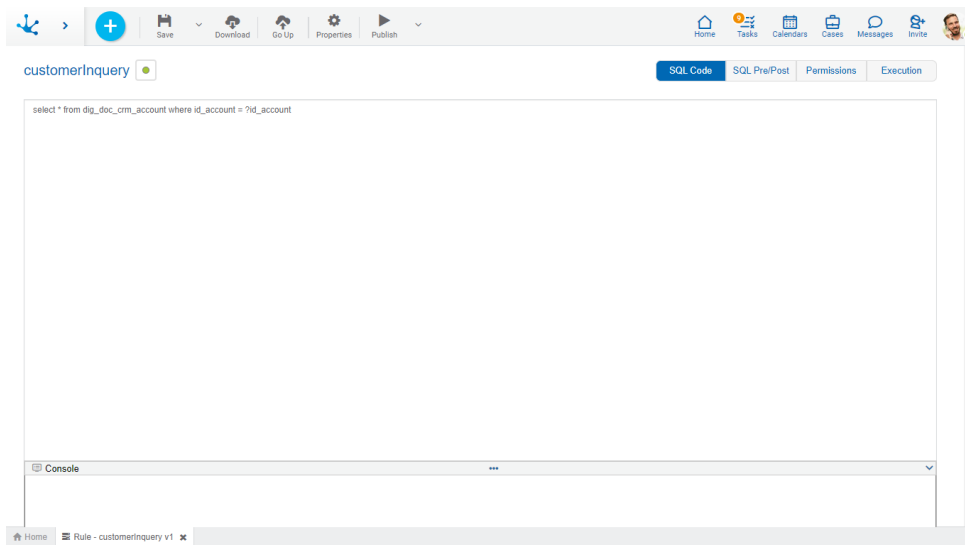
Standard type rules use Java code to implement business logic. They use "SDK Rule" type adapters.

*Standard rules developed in earlier versions of **Deyel** can continue to use the "Standard Rule" adapter", which is no longer available.*



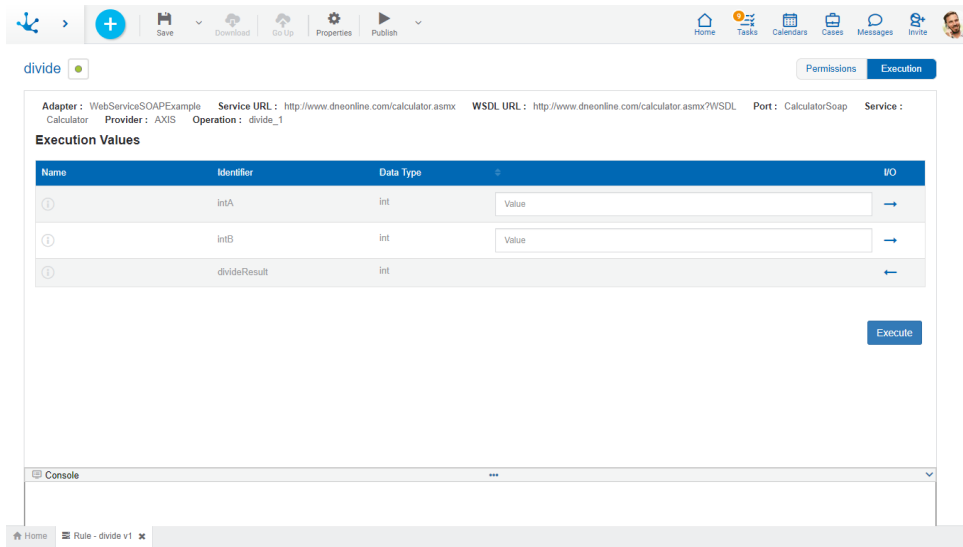
JDBC Rule

JDBC type rules are those used to perform operations related to databases, using a previously defined "JDBC" adapter. From database shows to the execution of store procedures can be performed. These rules use the [adapters](#) available for database connection.



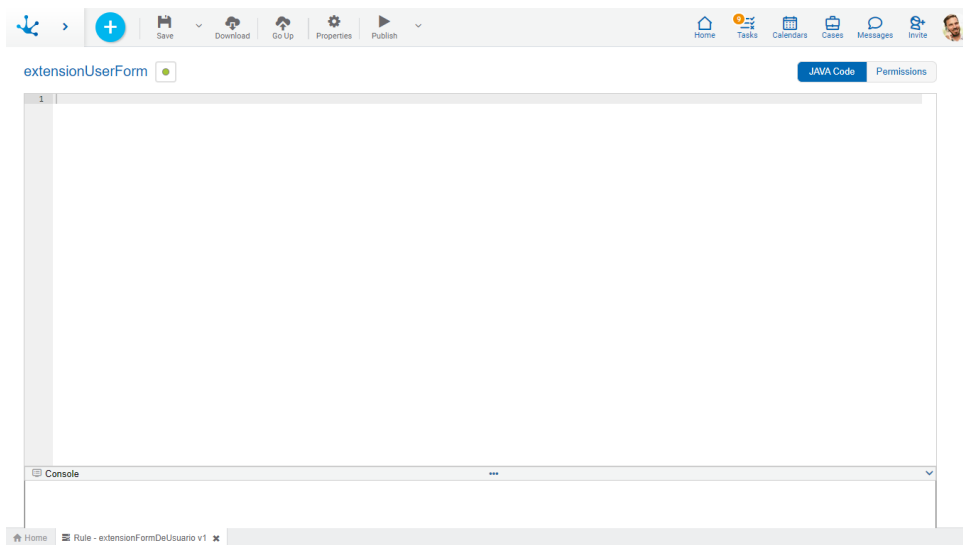
SOAP Rule

SOAP web service type rules are used to use external SOAP services in order to achieve integration with them. They use SOAP Rule" type adapters.



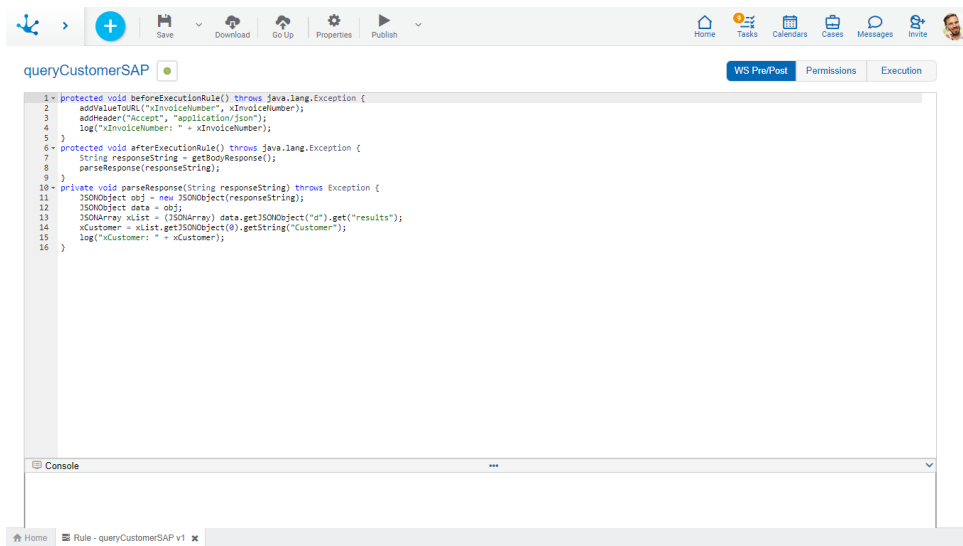
Forms Extension Rule

Forms extension type rules allow to use logic that cannot be done in the form modeler. They use the "Forms Extension" adapter.



Rest Rule

REST type rules are used to invoke ApiRest services external to **Deyel**. They use Java code in their Pre/Post section to execute business logic before and after the ApiRest service call. They use [adapters](#) of "API Rest" type or application adapters as "SAP", "Mercado Libre", "Google Drive", etc.



Design Options

Creating or updating an advanced rule, allows to write the Java code or SQL code as applicable, to test the rule and review its compilation errors, viewing them in the console.

Depending on the type of advanced rule, one or more design options are displayed.

All rule types, except for the form extension rules, have a "Test Cases" tab.

- Standard Rule

The design options available are: "[JAVA Code](#)", "[Permissions](#)", "[Execution](#)" and "[Test Cases](#)".

- JDBC Rule

The design options available are: "[SQL Code](#)", "[Pre/Post SQL](#)", "[Permissions](#)", "[Execution](#)" and "[Test Cases](#)".

- SOAP Rule

The design options available are: "[Permissions](#)", "[Execution](#)" and "[Test Cases](#)".

- Forms Extension Rule

The design options available are: "[JAVA Code](#)" and "[Permissions](#)".

- Rest Rule

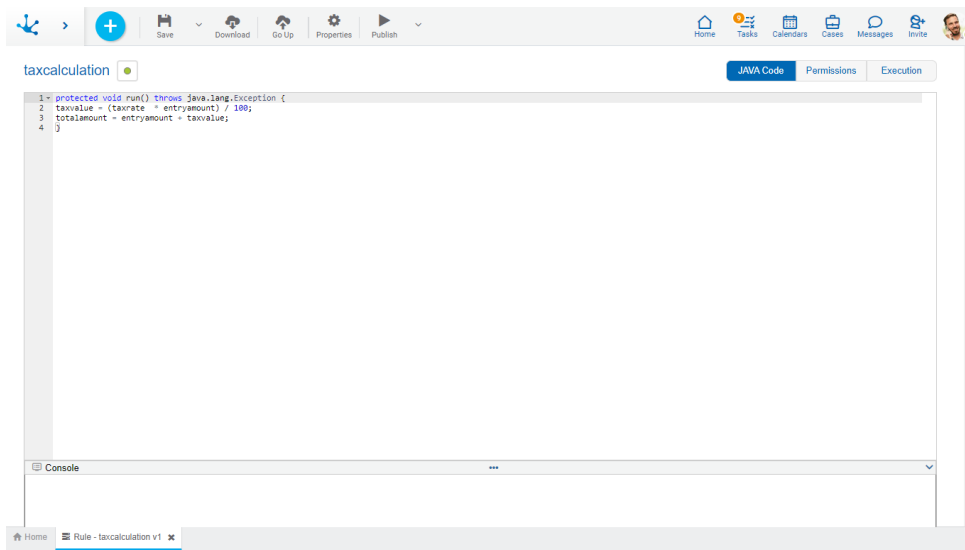
The design options available are: "[Pre/Post WS](#)", "[Execution](#)" and "[Test Cases](#)".

Java Code

The Java code area is displayed when the modeler is started for a standard type rule that uses an "SDK Rule" type adapter.

*Standard rules developed in earlier versions of **Deyel** can continue to use the "Standard Rule" adapter, which is no longer available.*

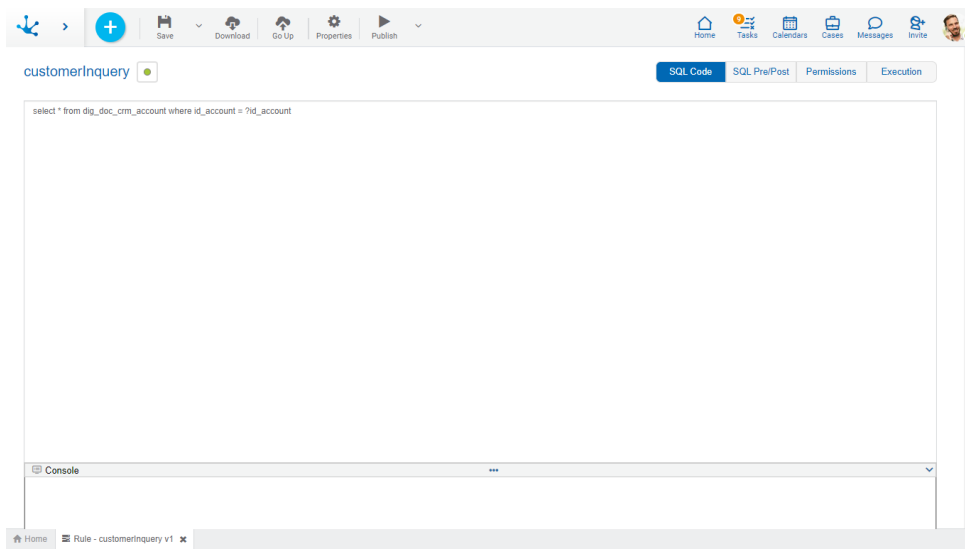
The Java code that executes the rule is written in this area and [Deyel SDK for Java](#) should be used for development.



Sql Code

The SQL code area is displayed when the modeler is started for a rule that uses a "JDBC" adapter.

The SQL show that the rule will execute is written in this area.



Permissions

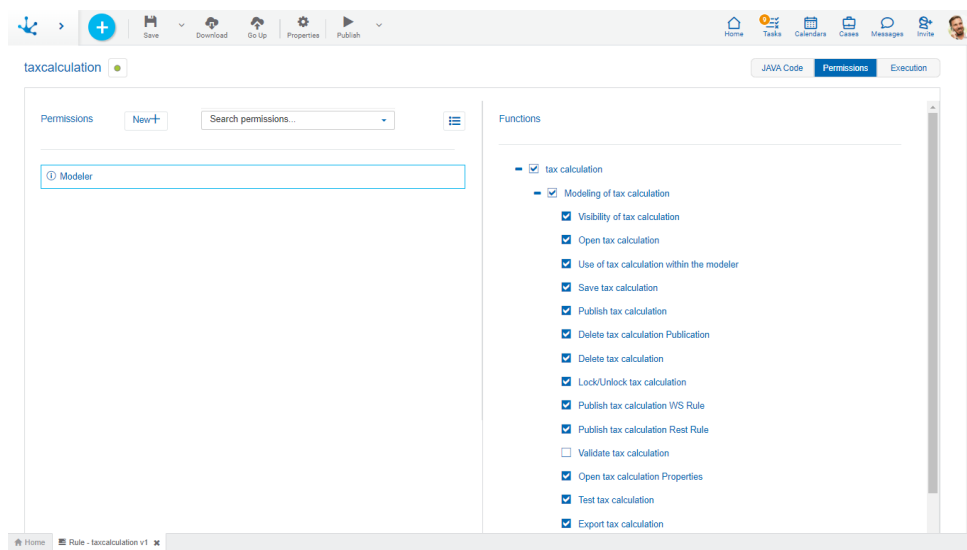
Allows to assign the [security functions](#) for use and modeling of the object to the existing permissions or to new permissions that the user creates, without having to go to the [permission](#) settings option from the menu.


Sections

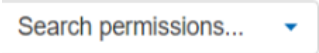
- Permissions: Permissions to which object functions are assigned.
- Security Functions: Represents the total set of security functions, modeling and use of the object. Those that are marked are the ones included in the selected permission.


By default, all security functions for a new object are assigned to the permission [Modeler](#).


Users who are assigned the permissions have access to the functions included in it.



 Opens a panel to create a new permission and once created, the security functions included in it must be selected .

 Allows to select a permission from a list and enables the input of characters to filter the values in the list.

 Opens the wizard to select a permission and once chosen, the necessary object security functions must be checked.

To unrelate a permission from the object, hover the cursor over the permission and press the icon . If there are functions selected for that permission, they must be unchecked in order to delete it.

Security Functions to Model the Rule

- Visibility: Allows to display the object in the Deyel modeller grid.
- Open: Allows to open the object from the Deyel modeller.

- Use within the modeler: Allows the use of the object from another modelable object.
- Save: Enables the save, download rule and upload rule operations.
- Publish: Enables the operation of publishing the object leaving its state as "Published".
- Delete publication: Enables the operation of deleting the object publication leaving its state as "Draft".
- Delete: Enables the delete rule operation.
- Lock/unlock: Enables the lock/unlock operation, only the user who locks it can modify it.
- Publish WS rule: Enables the publish rule operation as SOAP Web Services.
- Publish Rest rule: Enables the operation to publish the API Rest type rule.
- Open properties: Allows to consult the [rule properties panel](#).
- Test: Enables the operation to test the rule execution from the "Execution" option.
- Export: Enables the operation to export the rule definition.
- Download: Enables the operation to download the validate log.

Security Functions to Use the Rule

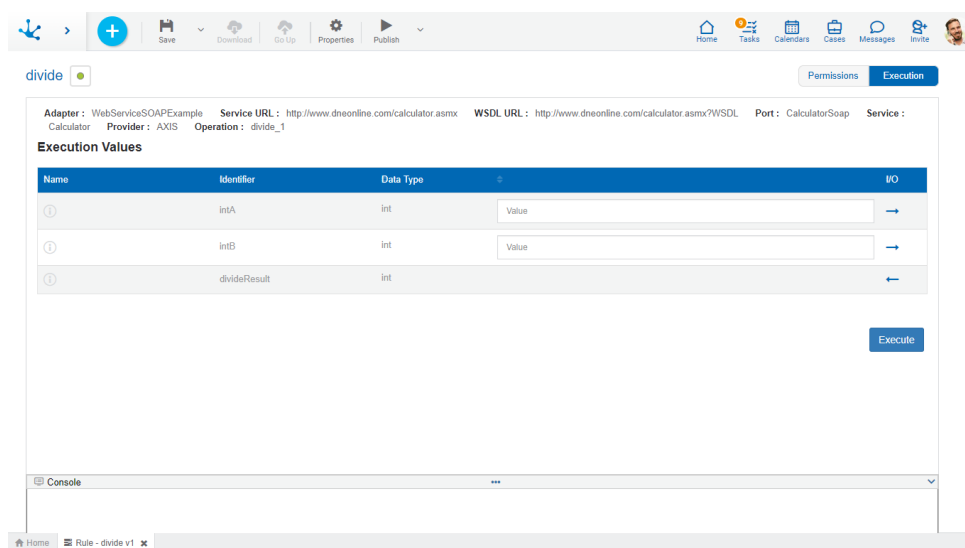
- Execute rule via Rest: Allows the smart thing type user (API Rest type "Client") to execute the endpoints of the rules API Rest.

Execution

This area is displayed for all types of rules with the exception of form functionality extension rules, where the defined parameters are displayed.

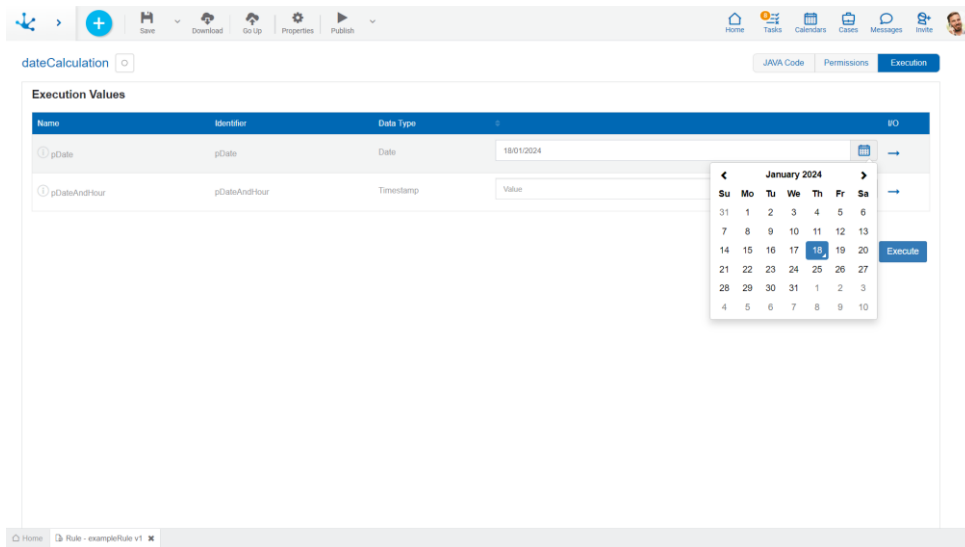
For rules that use a SOAP adapter, this area is accessed by default when entering the modeler. The adapter used for "JDBC" rules and "SOAP web services" is displayed.

Test values can be entered into the input parameters defined for the rule.



For each input parameter, and depending on its type, hovering the cursor over each field displays a help text that indicates the format in which the value should be entered.

Additionally, for "Date" and "Timestamp" parameters, a date or date and time selection panel is displayed, as appropriate. The selected date is displayed respecting [the mask that has been configured in the environment](#).

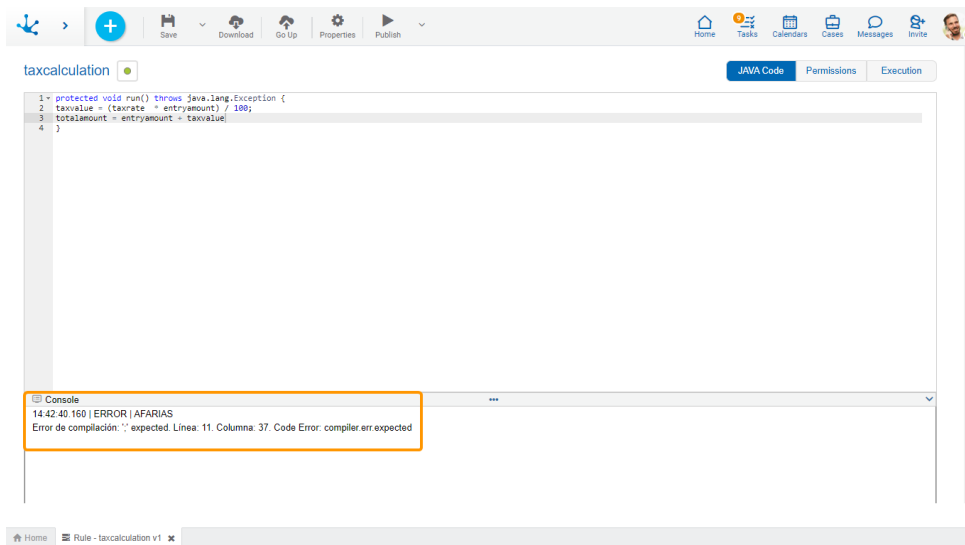


Console

The log console is displayed as a bar at the bottom border of the rule. In the center of the bar there is an icon that allows to modify the size of the console area and on the far right the icon which allows to close it. It is available for all types of advanced rules.

In this area, apart from displaying the errors that arise when publishing or executing a rule, the logs written in its code are displayed.

For the logs to be displayed, the property [Enable to Write Logs](#) should be modeled.



Pre/Post

When starting the modeler for a rule that uses the “Rest” type adapter, the area displayed is Pre/Post WS, and for a “JDBC” type rule is Pre/Post SQL.

Two required initial methods must be coded:

- **protected void beforeExecutionRule() throws java.lang.Exception{**

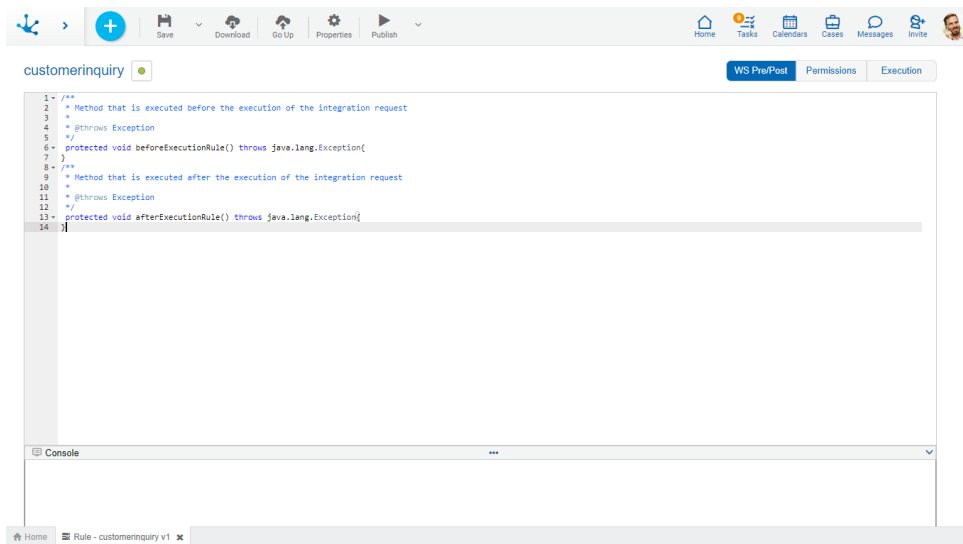
It allows adding logic before the ApiRest service call or the JDBC invocation.

Example: An object can be read using the Deyel SDK and the result used as an input parameter in the JDBC invocation.

- **protected void afterExecutionRule() throws java.lang.Exception{**

It allows adding logic after the ApiRest service call or the JDBC invocation.

Example: The result of the JDBC invocation can be received, processed, and saved in a form.



```
1- /**
2-  * Method that is executed before the execution of the integration request
3-  *
4-  * @throws Exception
5-  */
6- protected void beforeExecutionRule() throws java.lang.Exception{
7- }
8- /**
9-  * Method that is executed after the execution of the integration request
10-  *
11-  * @throws Exception
12-  */
13- protected void afterExecutionRule() throws java.lang.Exception{
14- }
```

Additionally, in the “Rest” type rule, the following methods can be invoked:

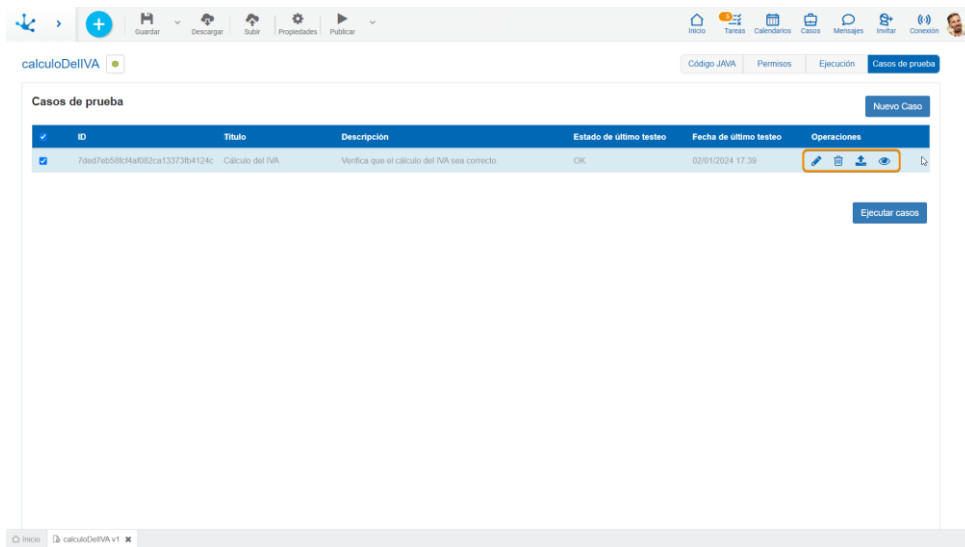
Before Execution (beforeExecutionRule)	After Execution (afterExecutionRule)
setBody(String body): Allows to define the body parameter of the request.	String getBodyResponse(): Allows to get the body of the response.
addHeader(String key, String value): Allows to add a heading to the request.	Integer getHTTPStatus():Allows to get the HTTP state of the response.
addQueryParam(String key, String value): Allows to add a parameter query to the request.	List getHeadersResponse (); It allows to obtain a list of the headers of the HTTP request executed. This list is made up of objects of

Before Execution (beforeExecutionRule)	After Execution (afterExecutionRule)
<p>addValueToURL(String key, String value): Replaces the text indicated in the first parameter with the value of the second parameter in the url of the service to call.</p>	<p>org.apache.http. header type.</p>

Test Cases

This area is displayed for all types of rules except for rules extending form functionality.

In a test case, it is possible to define a title with a description and store values for all the parameters defined in the rule, in order to later perform testing of the rule with those values.



By checking the mark field located in the header line, all existing test cases are selected to subsequently execute them. However, if only some of them are to be executed, each of the chosen lines should be selected with a check mark.

Nuevo Caso

Opens a panel to create a new test case where the title and description are required data. Additionally, values can be entered for all the parameters defined in the rule.


Unlike the [Execution](#) design option, values can also be assigned to output parameters, which are considered expected values at the end of the test case execution. For instance, if the expected value 'true' is defined for the boolean-type parameter "pOutput", and at the end of the rule execution, the actual value assigned to this parameter is "false", the state of the test case execution will be marked as "Failed".


Ejecutar casos


Performs the execution of previously selected cases.


Available Operations

By hovering the mouse pointer over each line, at the level of the "Operations" column, the following options are enabled:

 Opens a panel to edit the data of the selected test case.

 Deletes a test case.

 In the [Execution](#) design option, the input parameters are initialized with the corresponding values stored in the test case.



 Opens a panel to show data of the selected test case.

Execution States

A test case has two possible execution states:

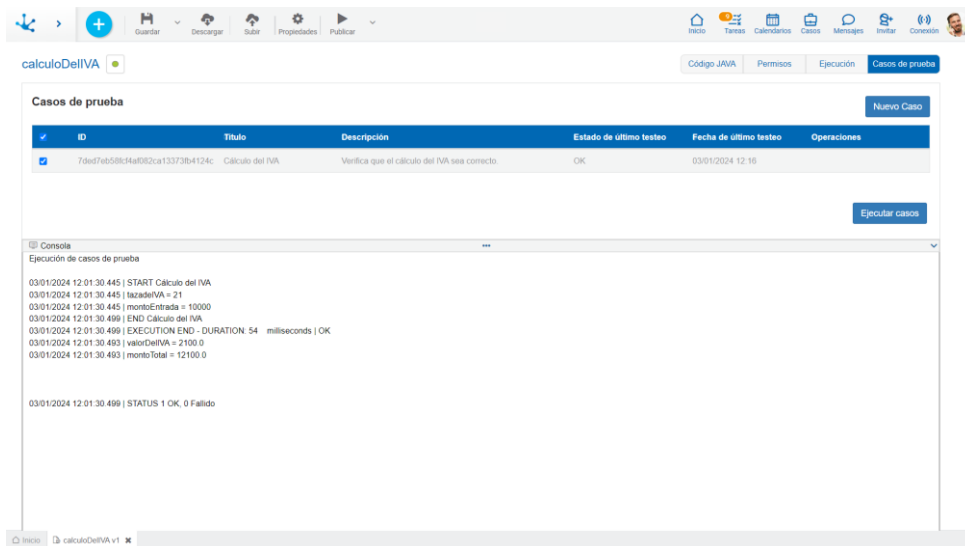
- **Ok**
A case is considered successful if at the end of its execution there were no errors in the rule. And if output parameters with an expected value were defined, they should match the value obtained.
- **Failed**
A case is considered failed if, at the end of its execution, there was an error in the rule code or if any output parameter with an expected value differs from the value obtained.

Console

At the end of the execution of a test case, the console is displayed as a bar at the bottom border of the test case area. In the center of the bar there is an icon  that allows to modify the size of the console area and, on the far right there is an icon  which allows to close it.


The following information is displayed:

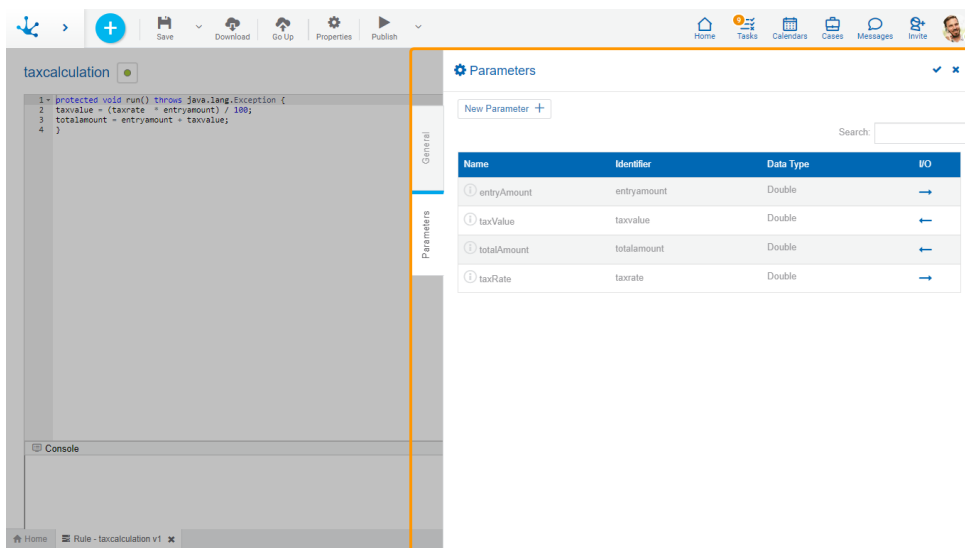
- Date and time of the case execution start.
- Values entered for input parameters.
- Values obtained for output parameters.
- Date and time of the case execution completion and duration.
- Execution state.



3.7.7.1.2.2. Rule Properties

The advanced rule properties can be entered both when they are created while using the wizard, as well as when modifying an existing one.

To enter the rule properties panel, use the icon  in the top toolbar.



Tabs

Entering the properties panel, one, two or three tabs are displayed, depending on the type of rule.

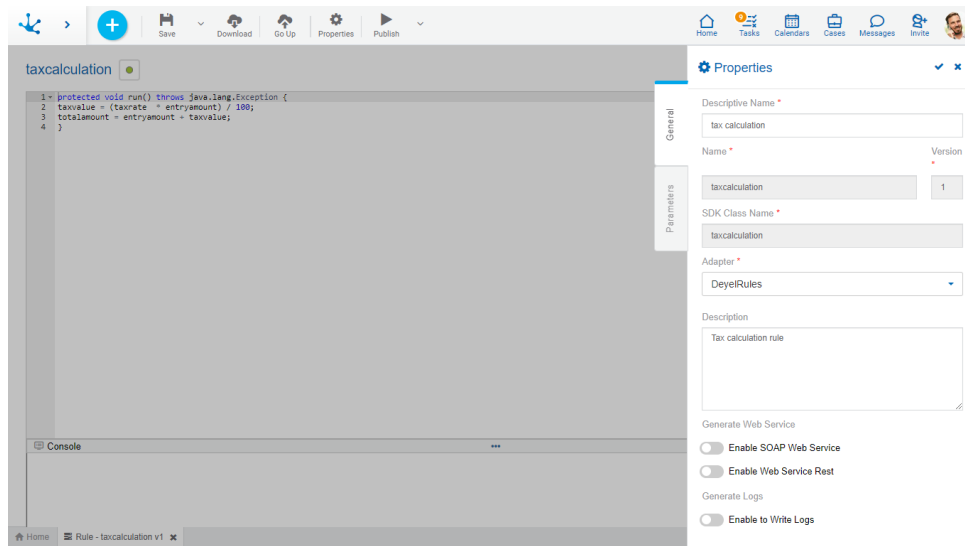
- [General](#)
It is available for all types of rules.
- [Parameters](#)
It is available for all rules except those of the form extension type.

- [Advanced](#)

It is available for all rules except for standard rules, SOAP rules and form extension type rules.

General

The properties panel is displayed on the right side of the advanced rules modeler, where the first tab corresponds to general information.



An asterisk "" on the label indicates that the property is required.*

Properties

Descriptive Name

Name used by the modeler to reference the rule, display it in the rules gallery and in the object tree.

Name

Used internally to reference the rule within forms, embedded rules, processes or as parameters of other advanced rules. Unlike other objects, the rule name also acts as a unique identifier to identify a rule. Once saved, the rule cannot be changed.

Version

Used internally with the rule name to reference the rule within forms, embedded rules, processes or as parameters of other advanced rules. Once saved, the rule cannot be changed.

SDK Class Name

Name that represents the object in the SDK service and model classes.

Adapter

Used to determine the adapter to be used by the rule. Only it is displayed on this screen.

Operation

Used to choose the operation to be executed. This property is only displayed when the chosen adapter type is "Web Services". It is displayed in this section, it is necessary to go to the "parameters" tab in order to change it.

Description

Text that defines the rule describing its functionality and optionally its content.

Generate Web Service

Enable Web Service Soap

Used to publish the rule as a SOAP web service to be consumed from outside **Deyel**. This property is only displayed when the chosen adapter type is either "Standard Rule" or "JDBC".

Enable Web Service Rest

Used to publish the rule as a Rest API to be consumed from outside **Deyel**. This property is only displayed when the chosen adapter type is "Standard Rule".

Generate Logs

Enable to Write Logs

Allows to display in the [console](#) the logs added in the rule code.

When a rule is imported in test or production environments, log writing is automatically disabled.

Specific Properties

Rules with a "Rest" adapter type add specific properties for this type of execution.

HTTP Method

Configures the HTTP method to use.

Context Type

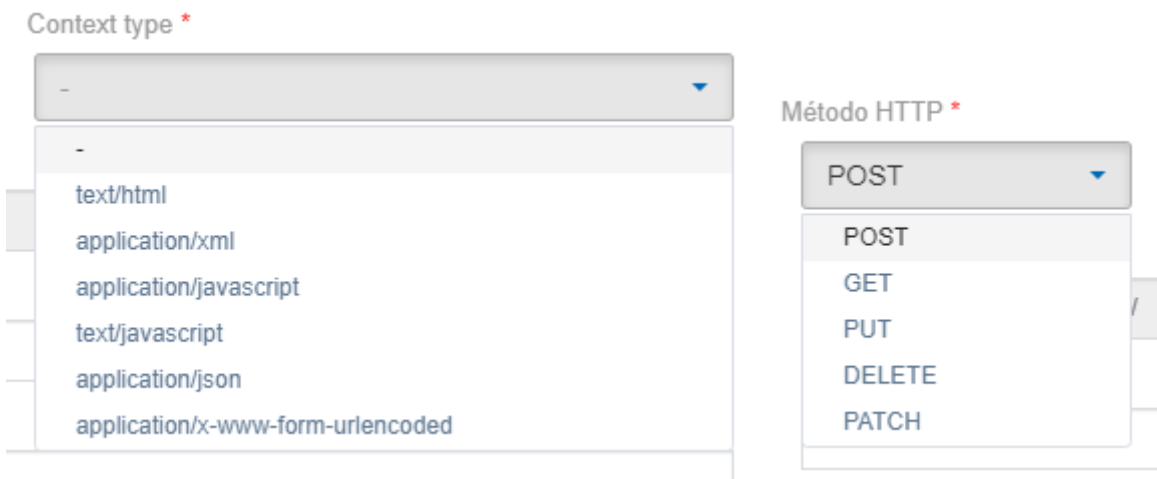
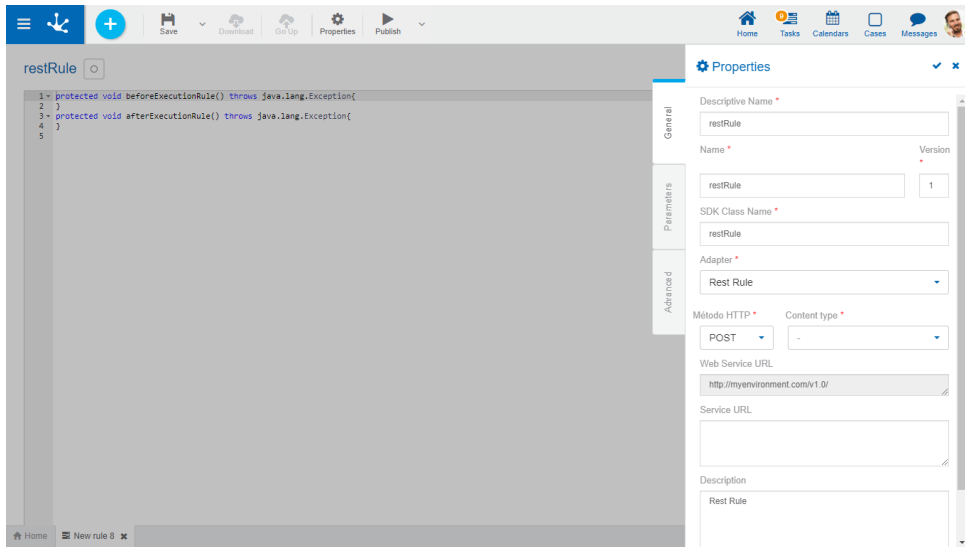
Configures the content type of the request.

Web Services URL

Url entered in the adapter, displayed in a reading mode to facilitate the correct writing of the final url.


URL Service

Url of the service to consume, the final url is the concatenation of the Web Services URL and the URL Service. The `addValueToURL(String key, String value)` method can be used within the [Pre/Post WS](#) section to replace a part of the url (determined by the key) with a new value (determined by the value).



Actions

The icon  is used to confirm the modifications made in the properties panel.

The icon  is used to close the properties panel, if it was not previously saved, changes are discarded.

Parameters

The second tab of the side panel corresponds to the rules parameter. In this tab, the input and output parameters are defined, which are the communication channel between rules and the processes that use them.

Parameters can be configured in any advanced rule except those of [forms extension](#).

Parameter Grid

The grid columns identify the properties of each parameter.

By placing the mouse over the grid, the following operations are enabled:



Allows modifying an existing parameter.



Allows deleting a parameter.

Name	Identifier	Data Type	I/O
entryAmount	entryamount	Double	→
taxValue	taxvalue	Double	←
totalAmount	totalamount	Double	←
taxRate	taxrate	Double	→

Allows Creating a Parameter

New Parameter +

Allows adding a new parameter to the grid, completing all its values.

Name *
entryAmount

Identifier *
entryamount

Type *
Input

Data Type *
java.lang.Double

Description

Cancel Save

Name	Identifier	Data Type	I/O
taxValue	taxvalue	Double	←
totalAmount	totalamount	Double	←
taxRate	taxrate	Double	→

Properties




Name

Name the modeler uses to refer to the parameter.

Identifier

Uniquely identifies the parameter. It is used within Java programming code.

Type

Specifies whether the parameter is input  or output .

Data Type



It can be any type of Java object allowed in **Devel**, either a primitive (integer) or an array.

The type wizard, while typing, gives the most common data type values to use.

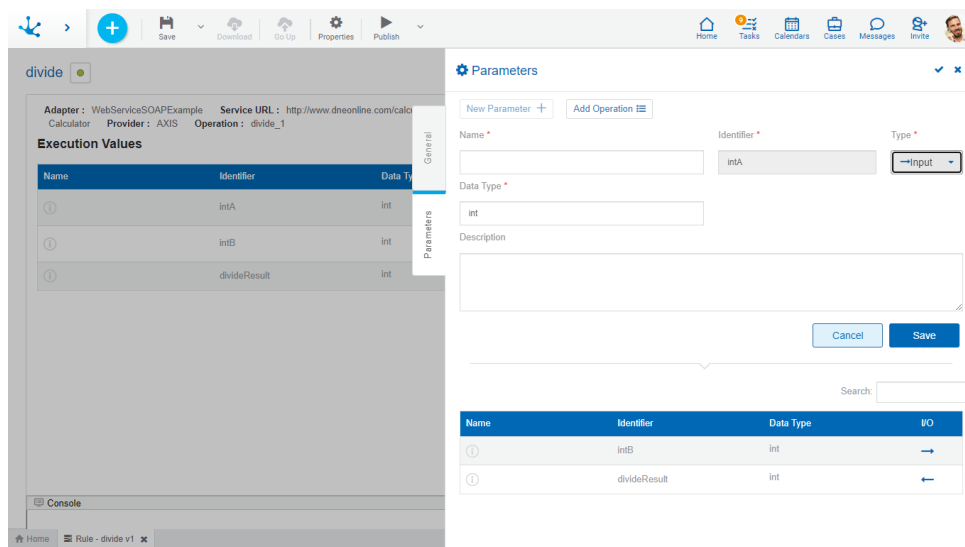
By placing the mouse over the data type in the grid, the complete data type can be displayed, to help.






Description

Describes the parameter use. Its writing when modeling the parameters is optional.

If it was entered, the colored icon is displayed in the grid, in the Name column , otherwise the icon is colorless .

Placing the cursor over the icon shows the help.



Name	Identifier	Data Type	I/O
	intA	int	
	intB	int	
	divideResult	int	

An asterisk "" on the label indicates that the property is required.*

Wizard to Create Parameters in JDBC Rules

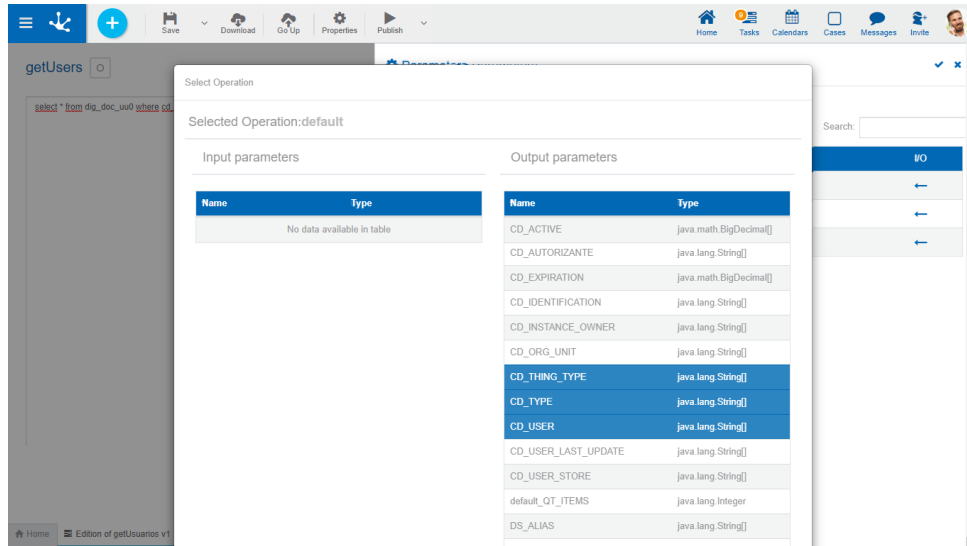


Allows to invoke the wizard available for JDBC type rules.

This wizard allows to select the parameters defined in the SQL statement as input parameters and the columns resulting from the query execution as output parameters.

In this way, the probability of errors is minimized by not having to manually transcribe the names of columns and parameters.

For the wizard to return results, it is necessary to define the SQL statement to execute before invoking it. If it were a Select statement, each input parameter should be preceded by a "?" mark. If executing a store procedure, the output parameters can also be specified, each of them should be preceded by an "@" character.



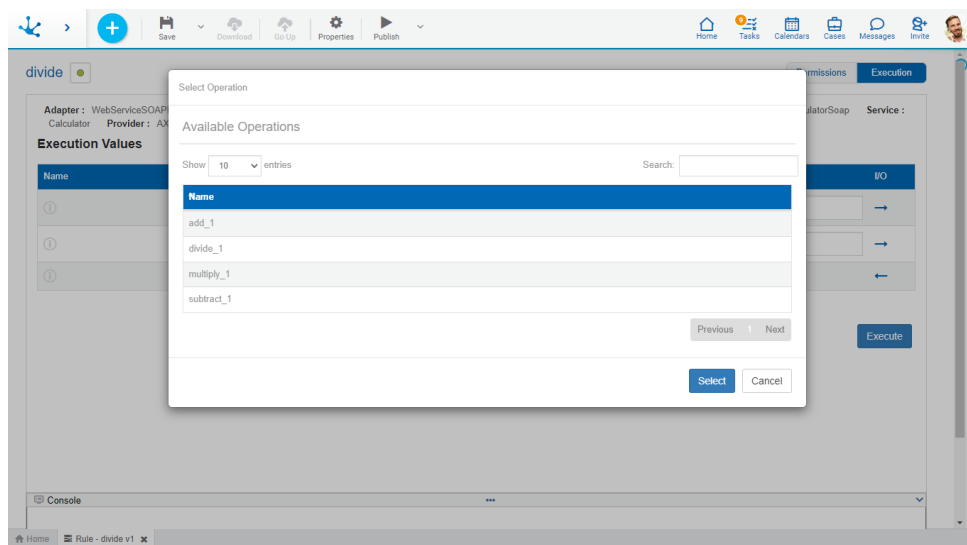
Wizard to Add Operations in SOAP Rules

Add Operation

Allows to invoke the wizard available for SOAP type rules.

The wizard analyzes the adapter used and shows the operations available for such object, along with the input and output parameters for each one.

It allows to select the operation that is executed by default and its parameters, to transfer them to the rule interface. In this way, the probability of errors is minimized by not having to manually transcribe the names of operations and parameters.



The third tab of the side panel corresponds to the objects wizard. When entering the modeler, it is displayed for all rules except for SOAP rules and form extension rules.

This tab lists the objects to be used in the rule.

Creating a relation using the object wizard allows to:

- Work with the model and service classes of the related object from the rule modeler without having to depend on a Java IDE.
- Always keep the Java imports statements of related objects up to date in the rule, regardless of whether the object has been modified after having created the relation.

If significant changes are made to the related objects used in the rules, when they are published:

- Java imports statements of the rules that use them are updated. Rules remain in the same state they were in, with updated modification date.
- Verify that the rule using them is not in a modified state. If modified, it will be requested to be published or unpublished.

Related Objects Grid

The grid columns identify the related object.

Type

Indicates the object type. It can be a form, process or rule.

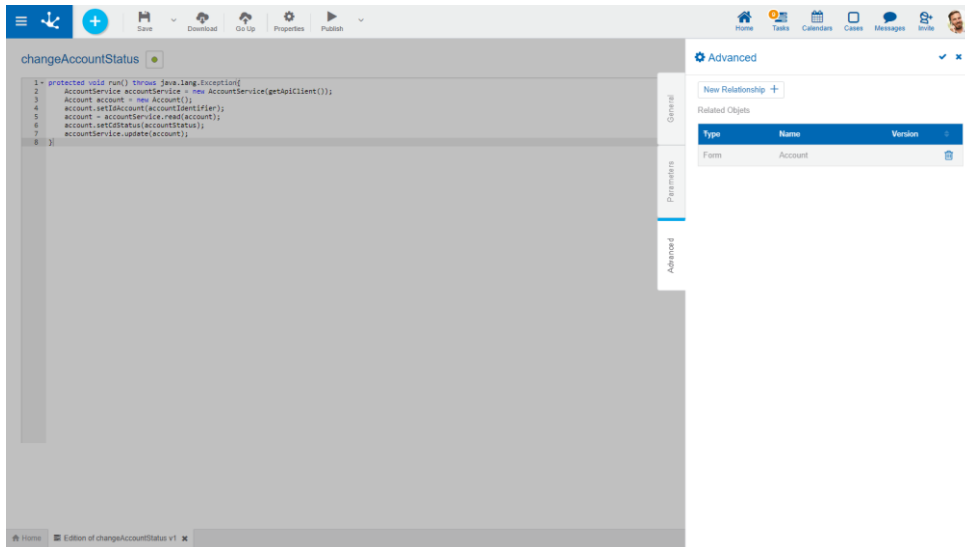
Name

It is used at the modeling level to refer to the object.

Version

Indicates the object version for processes and rules.

By hovering the mouse over each related object in the grid, the delete operation is enabled.



New Relationship +

Opens a panel with the forms, processes and rules that the user can select according to their security permissions. Once selected, it is displayed in the grid of related objects.

3.7.7.1.2.3. Deyel SDK for Java

By using the Deyel SDK (Software Development Kit) **Deyel** incorporates the ease of developing advanced and integration rules that interact with the platform objects and developed applications, in an easy and intuitive way.

These rules can be developed in the advanced rules modeler in the case of those that require low code or when they are more complex in a Java IDE, inheriting all its advantages.

Tools to Develop Advanced Rules with SDK

Deyel SDK allows to use **Deyel** objects in advanced rules, by using one class with the model and another one with the object's service.

Model Class

The model class corresponds to the properties that each object has.

For example, the "Account (CRM_ACCOUNT)" form model class of the CRM application contains the Identifier, Company, Opening, Industry, Source and Status fields, among others. It also contains the getter and setter methods for each of these fields.

The model includes:

- Object constructor.
- Getters and setters for each object attribute.
- Internal classes if necessary. For example, the representation of iteratives for forms.

Service Class

A service class contains the operations to manage the model. For example, the service class of a form allows to perform the create, update, delete, query, and find operations.

The service class includes:

- CRUD (Create, Read, Update, Delete) of the object.
- Searches
- Specific methods to work on the model.

Each object service class has a common method available to initialize all objects

Operation	Description	Parameters
getAPIClient()	Initializes the service to be able to use it.	

The service can also be initialized using a specific method that enables the management of its own connection to the database and the use of methods to execute the commit and rollback commands.

Operation	Description	Parameters
getOwnApiClient()	Initializes the service and returns the API client of such service to be used in services that require managing their own connection to the database.	
ownConnectionCommit()	Executes a commit command to the connected database so that the operations performed on the services of Deyel objects are applied.	
ownConnectionRollback()	Executes a rollback command to the connected database. If an error occurs, it is used to cancel all operations performed on the services of Deyel objects.	

Interaction with Application Objects

In order to interact with **Deyel** objects from a Java IDE, the model and service classes corresponding to each object must be downloaded.

These classes are included when downloading the rule that interacts with such **Deyel** objects, from the "[Download](#)" option available on the top toolbar of the rule modeler.

By using the model and service classes, Deyel SDK allows to use the following objects:

- [Forms](#)
- [Cases](#)
- [Rules](#)
- [Value Lists](#)
- [Users](#)
- [Organizational Units](#)
- [Calendars](#)
- [Email Sending](#)

Forms

The model class contains the properties with its getters and setters, while the service class contains the operations to be performed with the model.

For example, if the "Account (CRM_ACCOUNT)" form from the CRM application is used, when downloading the form Java sources, an account.java file is obtained, representing the model and another accountService.java file with the available operations of the service.

Model Class Content

A form model contains:

- Model constructor.
- Getters and setters of its fields.
- Inner classes that represent the "Multiple occurrences" containers model, if any.

Specific method of the model class

In addition to the getters and setters, there are specific methods related to fields.

Operation	Description	Parameters
getReference_ "idFileTypeField"()	Allows to retrieve the FileReference object associated with the file field of the instance.	

Data Type

Model properties for a form can have the following data types.

Equivalence between form field data types and Java model is shown.

Control	Data Type	Java
Text	Alphanumeric (length)	String
	Alphanumeric Uppercase (length)	String
	Large Alphanumeric	String
	Enriched Text	String
Integer	Number	Integer
	Large Integer	Long
	Decimal	Double
Time	Time	java.sql.Time
	Local time	java.sql.Time
Date	Date	java.sql.Date
	Date and Time	java.sql.Timestamp
	Local Date	java.sql.Timestamp
	Date and Local Time	java.sql.Timestamp
Image	Image in Folder	String
	Image in Database	String
File	File in Database	String
Check	Boolean	Boolean

Service Class Content

The service allows to perform the following CRUD (Create, Read, Update, Delete) and search (search) operations, as well as containing specific methods, for example to retrieve files from the form.

Operation	Description	Parameters
create(entity)	Create a form instance.	entity : Form model class
read(entity)	Reads a form instance.	entity : Form model class
update(entity)	Updates a form instance.	entity : Form model class
delete(entity)	Deletes a form instance.	entity : Form model class
readCases(entity)	Allows to retrieve the case instances associated with a form instance. Returns a list of cases since a form instance can be related to more than one case.	entity : Form model class
bind(entity,case)	Allows to associate a case to a form instance.	entity : Form model class case : Case model class
shortDescription()	It allows retrieving the short description of the instance sent by parameter.	FormInstance
get"idField"_description()	It allows retrieving the descriptive value of the indicated field.	FormInstance
search(searchCriteria)	Allows to retrieve the form instances that meet the search criteria.	searchCriteria : Class that allows defining a set of criteria and search configuration parameters.

Examples of Use

The examples use the "Account (CRM_ACCOUNT)" form of the CRM application and each example contains the use of "Account" model class and "AccountService" service class.

1. Service creation

This service is created only once in the rule and is reused in different operations.

```
AccountService accountService = new AccountService(getApiClient());
```

2. Create a form instance

An instance of "Account" model class is created, values are assigned to its properties. Using the "AccountService" service class, the new account is saved with the assigned values through the create (account) method.

```
Account account = new Account();
account.setNuIdentifNumber("010000123");
account.setDsIndustry("1"); // 1 = Agriculture
account.setDsSource("7"); // 7 = Social Networking
account.setDsCompany("Trees Company");
account.setDtOpening((Date) new java.util.Date());
account.setFlLogo(new File("/photo.png"));
account.setCdStatus("1"); // 1 = Active
Integer accountNumber = accountService.create(account);
log("Account created with account number:" + accountNumber);
```

3. Read a form instance

To obtain data from an existing account, an "Account" model class instance is created, an identifier chosen through the corresponding setter is indicated and such instance is read using the read(account) method of the "AccountService" service class. The instance contains all its properties which can be queried using the corresponding getters. The example reads the dsCompany, dtOpening, dtStore, and dtLastUpdate properties.

```
Account account = new Account();
Integer readAccountNumber = 50000;
account.setIdAccount(readAccountNumber);
account = accountService.read(account);

// Once read, continue working
String dscompany = account.getDsCompany();
Date dtopening = account.getDtOpening();
```



```
// Audit data
Timestamp dtStore = account.getDtStore();
Timestamp dtLastUpdate = account.getDtLastUpdate();
```

4. Modify a form instance

To modify data from an existing account, an "Account" model class instance is created, an identifier chosen through the corresponding setter is indicated and such instance is read using the read(account) method of the "AccountService" service class. The dsCompany property is then modified using the corresponding setter and the update(account) method of the service is invoked to update the account.

```
Account account = new Account();
account.setIdAccount(50000);
account = accountService.read(account);

// Once read, update
account.setDsCompany("Trees Company");
accountService.update(account);
```

5. Delete a form instance

To delete an existing account, an instance of the "Account" model class is created, indicating its identifier by means of the corresponding setter. The delete(account) method of the service is then invoked to delete the instance.

```
Account account = new Account();
account.setIdAccount(50000);
account = accountService.read(account);
accountService.delete(account);
```

6. Use of file and image type fields

To retrieve a file related to a form instance, use the corresponding get+ <fieldname> +(entity) method of the "AccountService" service class.

In this example, the getFILogo(account) method of the "AccountService" service class is invoked, which allows to retrieve the file corresponding to a logo associated with a File object.

```

Account account = new Account();
account.setIdAccount(50000);

// Account reading
account = accountService.read(account);

// Logo image reading
File logo = accountService.getFlLogo(account);

// Assign a new logo to the account
account.setFlLogo(new File("Path"));
accountService.update(account);

```

7. Use of internal objects

Internal objects represent the set of fields modeled in containers of multiple occurrences.

In this example, two new "Account.PhoneLine" internal objects are instantiated and values are assigned to their nrPhone and tpPhone properties.

A new list of "Account.PhoneLine" objects can be saved with the setPhoneLine(lsPhones) method or by adding two instances of the "Account.PhoneLine" object to the current list.

```

Account.PhoneLine phones= new Account.PhoneLine();
phones.setNrPhone("01149834589");
phones.setTpPhone("Line phone");

Account.PhoneLine phones1= new Account.PhoneLine();
phones1.setNrPhone("0115123987");
phones1.setTpPhone("Cell phone");

List<Account.PhoneLine> lsPhones = new ArrayList();
lsPhones.add(phones);
lsPhones.add(phones1);
account.setPhoneLine(lsPhones);

// Another option is
account.getPhoneLine().add(phones);
account.getPhoneLine().add(phones1);

```

8. Reading of cases associated with form instances

The example retrieves the case associated with a form instance and executes that case.

To use this example in addition to the "Account" (Account) form, the "Account Registration" (Account Registration) process that uses that form must be modeled. The case can be started manually or by [Deyel SDK methods](#).

To read cases associated with a form instance, an instance of the "Account" model class is created, indicating the identifier chosen by means of the corresponding setter. The "AccountService" service is instantiated and using the readCases(account) method, the "Cases" list is retrieved with the cases associated with the instance with identifier 10.

Having the "Cases" list, it is possible to iterate through it to retrieve some or all of its cases. The "AccountRegistration" service is instantiated and using the execute(accountRegistrationCase) method, the first associated case is executed.

Both the form instance and the case instance must be created.

```
Account account = new Account();
account.setId(10);

AccountService accountService = new AccountService(
    getApiClient());
List<Cases> listOfCases = accountService.readCases(account);

AccountRegistration accountRegistrationCase = new AccountRegistration(
    listOfCases.get(0));

AccountRegistrationService accountRegistrationService = AccountRegistrationService(
    getApiClient());
accountRegistrationService.execute(accountRegistrationCase);
```

9. Associate a case with a form instance

In the example, a case associated with an "Account" form instance is read to then associate such case to a "Contact" form instance, leaving both instances associated with the same case.

The case associated with the "Account" form instance is read with the readCases(account) method, described in example 8.

The case is associated with the "Contact" form instance, with the bind(contact,accountRegistrationCase) method.

A case can only be linked to a form instance if there is a relation between the form and the process to which the case to be associated belongs.

```

Account account = new Account();
account.setId(10);

AccountService accountService = new AccountService(getApiClient());
List<Cases> listOfCases = accountService.readCases(account);

AccountRegistration accountRegistrationCase = (AccountRegistration) listOfCases.get(0);
AccountRegistrationService accountRegistrationService = AccountRegistrationService(getApiClient());

Contact contact = new Contact();
contact.setId(20);

ContactService contactService = new ContactService(getApiClient());

contactService.bind(contact, accountRegistrationCase);

```

10. Retrieve the code and description of the field value associated with a value list

In order to use this example, the "States" value list should be modeled in **Deyel** and values should have been entered to this list.

Code	Descriptive Value
1	Active
2	Inactive

It is required [to relate an](#) "Account" form field with the "States" value list.

When a field has a relation defined, the content can use its code or its descriptive value.

This example retrieves the field code associated with the value list.

```

String stateCode = account.getAccountState();
//Returns: 1

```

While in the following example, the description of the field associated with the value list is retrieved.

```
String stateDescription = accountService.getAccountState_description(account);  
//Returns: Active
```

The code is retrieved through the model object and the description is retrieved through the service object.

11. Updating form instances with commit or rollback

This example declares a variable that represents the service of the object to be updated. By using it, the list of existing instances is retrieved and traversed with the FOR statement. For each of them, the service is redefined, obtaining its own API client, the VAT value is calculated and updated, and an attempt is made to perform a commit command or a rollback command to the connected database, as appropriate.

```
protected void run() throws java.lang.Exception{  
    TestFormService xTestFormService = new TestFormService(getApiClient());  
    SearchCriteria xSearchCriteria = new SearchCriteria();  
    List<TestForm> xListResult = xTestFormService.search(xSearchCriteria).getResult();  
    for(int j = 0; j < xListResult.size(); j++) {  
        try {  
            xTestFormService = new TestFormService(getOwnApiClient());  
            TestForm xElement = xListResult.get(j);  
            xElement.setValueOfVAT((vatrate * entryamount) / 100);  
            xTestFormService.update(xElement);  
            ownConnectionCommit();  
        } catch (Exception e) {  
            ownConnectionRollback();  
        }  
    }  
}
```

Search

Searches on form instances can be performed using the following objects.

Criteria- represents search criteria on form data. It is made up of elements that can be fields and values, connected by operators.

Operator	Description
eq	Equal
neq	Different
gt	Greater
gte	Greater equal
lt	Less
lte	Less equal
between	Between
betweene	Between and admits equals
nbetween	Out of range
like	Contains
nlike	It does not contain
startsWith	Starts with
nstartsWith	It does not start with
in	Included
nin	Not included
endsWith	Ends with
nendsWith	Does not end with
isNull	It is null

Operator	Description
notNull	It is not null

SearchCriteria: object that groups search criteria (Criteria object), it also allows parameterizing the order of the result, the size of the reading page and the number of pages to be retrieved. Reading by pages is used since the data volume on a form can be very large.

Form Service: service class of the form on which the search is being carried out. Contains the search(searchCriteria) operation that must receive the SearchCriteria object as a parameter and returns the SearchResult object.

Example:

```
SearchResult searchResult = accountService.search(searchCriteria);
```

SearchResult: object that contains the search results. Contains a list of form instances, which are instances of the corresponding model, for example "Account". This object allows to know the total number of reading pages resulting from the search, the size of each page and the number of pages to retrieve.

Search Examples

1. Search

This example retrieves a list of accounts with active state, where such state corresponds to code "1". A quantity of 15 lines per reading page and the number of pages to retrieve are defined. The results are ordered by company name in ascending order.

```
SearchCriteria searchCriteria = new SearchCriteria();
Criteria criterial =
    Criteria.eq("CdStatus", "1");
searchCriteria.addCriteria(criterial);
searchCriteria.setPageSize(15);
searchCriteria.setPage(1);
searchCriteria.addOrderAsc("DsCompany");

SearchResult searchResult =
    accountService.search(searchCriteria);
List<Account> instancesResult = searchResult.getResult();
```

2. Constructor types for search criteria

This example creates a Criteria object and defines different search conditions using the "equal", "different", "greater", "greater equal", "less", "less equal", "between", "between and allows equals", "out of range", "contains", "does not contain", "starts with", "does not start with", "included", "not included", "ends with", "does not end with", "is null", "is not null".

```
// Equal cdStatus= 1 corresponds to an active account
Criteria criteria = Criteria.eq("CdStatus", "1");

// Different cdStatus= 1 corresponds to an active account
// Criteria criteria = Criteria.neq ("CdStatus","1");

// Greater
// Criteria criteria = Criteria.gt ("qtScore", 20) ;

// Greater equal
// Criteria criteria = Criteria.gte ("qtScore", 20) ;

// Less
// Criteria criteria = Criteria.lt ("qtStore", 50) ;

// Less equal
// Criteria criteria = Criteria.lte ("qtStore", 50) ;

// Between
// Criteria criteria = Criteria.between ("dtOpening",
// Date.valueOf("01/01/1990"), Date.valueOf("01/01/2020"));

// Between and admits equals
// Criteria criteria = Criteria.between("dtOpening",
// Date.valueOf("01/01/1990"), Date.valueOf("01/01/2020"));

// Out of range
// Format YYYY-MM-DD is used
// SimpleDateFormat format =
//     new SimpleDateFormat("yyyy-MM-dd");
// Date dateFrom =
//     new Date (format.parse( "1990-01-01" ).getTime());
// Date dateTo =
//     new Date(format.parse( "2020-01-01" ).getTime());
//
// Criteria criteria =
```



```
// Criteria.nbetween ("dtOpening", dateFrom, dateTo );

// Contains In an internal object
// Criteria criteria = Criteria.like("eMailLine/dsEmail",
// yahoo.com.ar");
```

Deyel uses the data type `java.sql.Date` for "date" type fields, so the transformation from `java.util.Date` to `java.sql.Date` must be done, when it is required to create an object with this type of data.

```
// Contains
// Criteria criteria = Criteria.like("dsCompany", "Inc.");

// It does not contain
// Criteria criteria = Criteria.nlike("dsCompany", "Inc.");

// Starts with
// Criteria criteria = Criteria.startsWith("dsCompany", "The");

// It does not start with
// Criteria criteria = Criteria.nstartsWith("dsCompany", "The");

// Included dsIndustry = 6 is Communications, 8 is Education
// Criteria criteria =
// Criteria.in("dsIndustry", Arrays.asList("6", "8" ));

// Not Included dsIndustry 6 is Communications, 8 is Education
// Criteria criteria =
// Criteria.nin("dsIndustry", Arrays.asList("6", "8" ));

// Ends with
// Criteria criteria =
// Criteria.endsWith("dsCompany", "Corporation");

// Does not end with
// Criteria criteria =
// Criteria.nendsWith("dsCompany", "Corporation");

// It is null
```

```

// Criteria criteria =
// Criteria.isNull("CdStatus");

// It is not null
// Criteria criteria =
// Criteria.notNull("CdStatus");

```

3. Operations on the results object

The SearchResult object is an iterative object and as such can be scrolled through in different ways. The example uses a FOR statement to iterate over each of the instances that meet the search conditions of the dsIndustry and qtScore properties, retrieving the idAccount and dsCompany properties.

```

SearchCriteria searchCriteria = new SearchCriteria();
searchCriteria.setPageSize(15);
searchCriteria.addOrderDesc("idAccount");

// Accounts with industry equal to communications
searchCriteria.addCriteria
    (Criteria.eq("dsIndustry", "6"));

// Accounts with a score greater than 20
searchCriteria.addCriteria
    (Criteria.gt("qtScore", 20) );

// Scrolls through all the accounts in the search result
String stringData1 = "";
for (Account account: searchResult) {
    stringData1 += " - " + account.getIdAccount()
        + " - " + account.getDsCompany();
}

// If I only need the first results sheet
SearchResult<Account> resultFirstPage =
    accountService.search(searchCriteria);
List<Account> firstList = resultFirstPage .getResult();

String stringData = "";
stringData += " Amount of data " + firstList.size();
stringData += " Pages " + resultFirstPage .getPages();
stringData += " Actual Page " +
    resultFirstPage .getCurrentPage();

```

Browsing between Related Entities

In the CRM application, the "Contact (CRM_CONTACT)" form has a relation with the "Account (CRM_ACCOUNT)" form and the related account can be retrieved from a business rule, from a contact.

An instance of the "Contact" model class is created and the account identifier is retrieved using the corresponding getter.

Next, an instance of the "Account" model class is created indicating the identifier retrieved from the contact in the setter and the account instance is read using the `read(myAccount)` method of the "AccountService" service class.

```
Contact contact = new Contact() ;
Integer idAccount = contact.getIdCompany() ;
// Retrieve the id of a contact account
// and I read the account with that id

Account myAccount = new Account() ;
myAccount.setIdAccount(idAccount) ;
myAccount = accountService.read(myAccount) ;
```

Cases

The model class contains properties with their getters and setters, while the service class contains operations to be performed on the model.

For example, when downloading the Java sources of the process, if using the "Request Payment" process, a `requestPayment.java` file is generated with the model methods and also another `requestPaymentService.java` file with the available service operations.

Model Class Content

A case model contains:

- Model constructor.
- Getters and setters of the case properties.
- Getters to get the related forms.
- Getters to get the activities in progress.
- Getters to get the process corresponding to the case.

Getters and setters of the case properties

The case model class contains a set of getters and setters for the case properties.

Operation	Description	Parameters
getCdCase()	Gets the identifier of the case.	
setCdCase(casenumber)	Allows to set the case identifier value.	String casenumber : Case number
getCdState()	Gets the state of the case. Possible values: ACTIVE - Active CANCELLED Cancelled ENDEDCASE - Ended	
getDsCase()	Gets the description of the case.	
getDtEnded()	Gets the end date of the case.	
getDtExpiration()	Gets the expiration date of the case.	
getDtInitiated()	Gets the start date of the case.	
getPriority()	Gets the priority of the case. Possible values: 1 - Urgent 2 - High 3 - Medium 4 - Low	
setLastPressedButton(button)	Allows to set the last button pressed.	String button : Name of the last button pressed.
getLastPressedButton()	Gets the last button pressed.	
get + <Form class name> + Entity()	Gets an instance of the form class related to the process.	
getLsVinculatedForms()	Gets a list of form instances related to the case.	
getVinculatedFormByIdEntity(idEntity)	Gets a form instance related to the case.	String idEntity : Identifier of the form instance

Operation	Description	Parameters
getProcess()	Gets the process corresponding to the case.	
getLsExecutedActivities()	Gets the executed activities of the case.	
getLsCurrentActivities()	Gets the activities in progress of the case.	

Getter to get the related forms.

Given a case, the values of the form fields related to it can be used, in the same way as if the activities were executed manually.

The model class has a getter for each form related to the process, with a "get + <Form class name> + Entity()" structure. Once an instance has been retrieved, it is used in the same way as for [forms](#).

Example

If the "Request Payment" process related to the "Payment" and "Report" forms is modeled, the RequestPayment class has the following methods:

- getPaymentEntity(): Gets an instance of the Payment class that corresponds to the "Payment" form related to the case.
- getReportEntity(): Gets an instance of the Report class that corresponds to the "Report" form related to the case.

The case cannot have forms associated with the same class name, even if they belong to different applications.

Getters to get the activities in progress

Given a case, the list of its activities in progress can be accessed, using the getLsCurrentActivities() case properties method of the model class, which returns a list of "ExecutedActivity" objects with their methods.

Operation	Description	Parameters
getCdActivity()	Gets the code of the activity.	
getDsNameActivity()	Gets the activity name.	

Operation	Description	Parameters
getCdState()	Gets the state of the activity. Possible values: EXEC - In execution CANCELLEDACT - Cancelled ENDEDACT - Ended	
getPriority()	Gets the activity priority. Possible values: 1 - Urgent 2 - High 3 - Medium 4 - Low	
getDtEnded()	Gets the end date of the activity.	
getDtExpiration()	Gets the expiration date of the activity.	
getDtInitiated()	Gets the start date of the activity.	
getCdUserExec()	Gets the code of the user that executed the activity.	
getCdUserInit()	Gets the code of the user that started the activity.	
getNuDurationSeconds()	Gets the duration in seconds of the activity execution.	
getTpActivity()	Gets the activity type. Possible values: TP_GATEWAY - Gateway TP_STANDARD - Standard TP_ABSTRACT - Abstract	
getTpParticipant()	Gets the type of participant for the activity. Possible values: USER - User ORG_UNIT - Organizational	

Operation	Description	Parameters
	Unit ROLE - Role THING - Userthing	
getLsExecutedActions()	Gets a list of actions executed by the activity.	

Getter to get the process corresponding to the case.

A case process can be obtained through the `getProcess()` method of the model class, which returns an instance of the "Process" class with its methods.

Operation	Description	Parameters
<code>getCdProcess()</code>	Gets the code of the process.	
<code>getCdVersion()</code>	Gets the version of the process.	
<code>getIdApplication()</code>	Gets the application identifier of the process.	
<code>getCdFirstActivity()</code>	Gets an Activity object with the first process activity,	
<code>getDsComment()</code>	Gets the comment of the process.	
<code>getDsDescription()</code>	Gets the description of the process.	
<code>getDsName()</code>	Gets the name of the process.	

Service Class Content

The service allows the following operations to be performed on the cases:

Operation	Description	Parameters
-----------	-------------	------------

Operation	Description	Parameters
<p>startCase(case)</p> <p>startCase(case, user)</p>	<p>Starts a case, executing the initial activity of the related process. Returns the code of the created case.</p>	<p>Case case: Model of the case to start. Related form fields must have values</p> <p>Case case: Model of the case to start. Related form fields must have values</p> <p>String user: Code of the user that executes the activity. It must be specified when the participant responsible for the activity is a role</p>
<p>startCase(case, moveCase)</p> <p>startCase(case, user, moveCase)</p>	<p>Starts a case, with the possibility of not executing the initial activity of the related process. Returns the code of the created case.</p>	<p>Case case: Model of the case to start. Related form fields must have values</p> <p>Boolean moveCase: Configure with false value, to indicate that it does not have to execute the initial activity of the process</p> <p>Case case: Model of the case to start. Related form fields must have values</p> <p>String user: Code of the user that executes the activity. It must be specified when the participant responsible for the activity is a role</p> <p>Boolean moveCase: Configure with false value, to indicate that it does not have to execute the initial activity of the process</p>
<p>execute(case)</p> <p>execute(case, user)</p>	<p>Executes the current activity of a case. Returns the state of the updated case.</p>	<p>Case case: Model of the case with assigned case number</p> <p>Case case: Model of the case with assigned case number</p> <p>String user: Code of the user that executes the activity. It must be specified when the participant responsible for the activity is a role</p>

Operation	Description	Parameters
execute(case,activity)	Executes the activity of a case indicated in the parameter. Returns the state of the updated case.	Case case : Model of the case with assigned case number
execute(case,activity,user)		ExecutedActivity activity : Activity retrieved from the list of activities in progress of the case Case case : Model of the case with assigned case number ExecutedActivity activity : Activity retrieved from the list of activities in progress of the case String user : Code of the user that executes the activity. It must be specified when the participant responsible for the activity is a role
read(case)	Reads a case.	Case case : Model of the case with assigned case number
cancelCase(case, observation)	Cancels a case.	Case case : Model of the case with case number to be cancelled. Cancellation is done with the online user executing the sdk rule String observation : Reason for cancellation
reassignCase(case, reassignUser)	Assigns the case task in execution.	Case case : Case model with case number assigned to the task String reassignUser : Code of the user to whom the case task is assigned
reactivate(case)	Reactivate a canceled case.	Case case : Model of the case with case number to be reactivated.

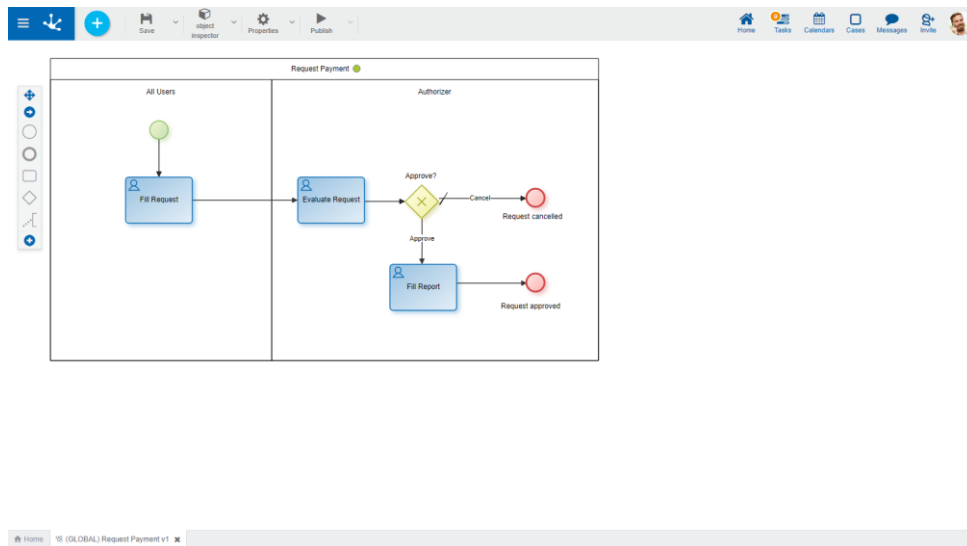
Examples of Use

The examples use the "Request Payment" process and each example contains the use of the "Request-Payment" model class and the "RequestPaymentService" service class.

In addition, "Request" and "Report" classes are used, which represent models of forms related to the "Request Payment" process.

The examples detail how to start a case, read it, execute and assign its activities, finish it and cancel it.

Process Diagram for Examples 1 to 7



1. Starting a case

To start the case, the first activity "Fill Request" is executed. The case moves to the "Evaluate Request" activity under the liability of "Afarías" user, configured in the "Authorizer" lane.

Executing the "Fill Request" activity performs the "Create" operation on the "Request" form with the values assigned to its fields.

An instance of the "RequestPayment" model class is created, in the "Request" form obtained through the `getRequestEntity()` method, values are assigned to its fields with the corresponding setters. The case is started using the "RequestPaymentService" service class with the `startCase(myFirstPaymentCase)` method.

```
RequestPayment myFirstPaymentCase = new RequestPayment();
myFirstPaymentCase.getRequestEntity().setAmount(new Double(200));

SimpleDateFormat format = new SimpleDateFormat("yyyy-MM-dd");
myFirstPaymentCase.getRequestEntity().setDueDate(new Date(format.parse("2020-06-28").getTime()));
myFirstPaymentCase.getRequestEntity().setMessage("This is my
```

```
first payment request .. i need to buy more coffee !!");

RequestPaymentService myService = new RequestPaymentService(getApiClient());
String cdCase = myService.startCase(myFirstPaymentCase);
```

2. Starting a case without executing the first activity

The process of Example 1 is used.

The case starts using the "RequestPaymentService" service class with the startCase(case.moveCase) method with the second parameter set to false so that it does not execute the first activity "Fill Request".

```
RequestPaymentService myService = new RequestPaymentService(getApiClient());
String cdCase = myService.startCase(myFirstPaymentCase, false);
```

3. Reading the case

An instance of the "RequestPayment" model class is created, it is assigned a case number generated by the startCase(myFirstPaymentCase) method of the "RequestPaymentService" service class, in the previous example.

The case is read with the read(myFirstPaymentCase) method of the "RequestPaymentService" service class and the case number.

```
RequestPayment myPaymentCase = new RequestPayment();
myPaymentCase.setCdCase(cdCase);
myPaymentCase = myService.read(myFirstPaymentCase);
```

4. Activity execution that defines modeled buttons

The case is in the "Evaluate Request" activity, which has two modeled buttons. The next activity to be executed depends on the button selected, in this example "Approve" is selected. If no button is specified, the modeled flow is followed as default.

The "Approve" button is assigned to the "Request Payment" model class using the corresponding setter. The "Evaluate Request" activity is executed with execute(myPaymentCase) method of the "RequestPaymentService" service class.

As a result, the case is in the "Fill Report" activity and its state is "ACTIVE",

```
myPaymentCase.setLastPressedButton("Approve");
myService.execute(myPaymentCase);
```

5. Activity execution not defining modeled buttons

The case is in the "Fill Report" activity. This activity execution creates the "Report" form. This form has a field called "request" that is related to the "Request" entity.

The "request" field is completed by means of the corresponding setter, with the identifier of the "Request" entity related to the case, which is obtained by means of the getRequestEntity() method.

The rest of the fields are completed and the "Fill Report" activity is executed with the execute(myPaymentCase) method of the "RequestPaymentService" service class.

The case is sent to the "Request approved" end event and its state is ended.

```
Integer requestId = myPaymentCase.getRequestEntity().GetRequestId();

myPaymentCase.getReportEntity().setRequest(requestId.toString());
myPaymentCase.getReportEntity().setPaymentMethod("Credit");
myPaymentCase.getReportEntity().setSummary("Filling the report using the SDK.");
myService.execute(myPaymentCase);
```

6. Cancellation of a case

An instance of the "RequestPayment" model class is created, it is assigned the case number to be canceled.

The cancellation reason is entered in the "observation" parameter and the case is canceled with the cancelCase(myPaymentCase, observation) method of the "RequestPaymentService" service class.

```
RequestPaymentService myService = new RequestPaymentService(getApiClient());
RequestPayment myPaymentCase = new RequestPayment();
myPaymentCase.setCdCase("0000000091120000");
myService.cancelCase(myPaymentCase, "Duplicate case");
```

7. Assignment of the task in execution of a case

An instance of the "RequestPayment" model class is created, indicating the case number to which the task is assigned.

The user code is entered in the "reassignUser" parameter and the task is assigned with the reassignCase(myPaymentCase, reassignUser) method of the "RequestPaymentService" service class.

When the task of a case is assigned, the online user that executes the sdk rule is used. This user can assign their own tasks, those of their team and those of the participants of a role, if they were their coordinator.

```
RequestPaymentService myService = new RequestPaymentService(getApiClient());
RequestPayment myPaymentCase = new RequestPayment();
myPaymentCase.setCdCase("0000000091120000");
myService.reassignCase(myPaymentCase, "JPEREZ");
```

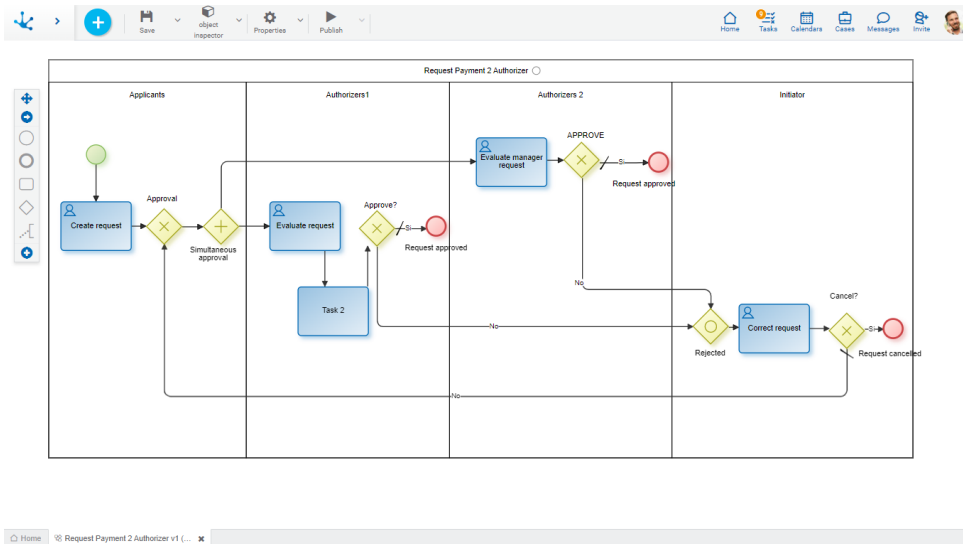
8. Reactivation of a canceled case

An instance of the "RequestPayment" model class is created, and the canceled case number is assigned to it.

The case is reactivated with the reactivate(myPaymentCase) method of the "RequestPaymentService" service class.

```
RequestPaymentService myService = new RequestPaymentService(getApiClient());
RequestPayment myPaymentCase = new RequestPayment();
myPaymentCase.setCdCase("0000000091120000");
myService.reactivate(myPaymentCase);
```

Process Diagram for Example 9



9. Execution of a specific activity

Activities "Evaluate request" (9) and "Evaluate manager request" (11) are sent to be evaluated by two authorizers.

Activity "Evaluate manager request" (11) is executed. JPAZ user is the authorizer and rejects the activity in this case.

An instance of the "RequestPayment2Authorizer" model class is created, a case number to be read is assigned.

The case is read with the read(xMyCase) method of the "RequestPayment2AuthorizerService" service class and the case number.

Every activity in progress is retrieved with the getLsCurrentActivities() method and an ExecutedActivity object is instantiated.

If the activity is "Evaluate manager request" (11), the "Reject" button is assigned through the corresponding setter and the activity is executed with the execute(xMyCase, xActivity, user) method of the "RequestPayment2AuthorizerService" service class.

```
RequestPayment2AuthorizerService xRequestPaymentService = new
RequestPayment2AuthorizerService(getApiClient());
RequestPayment2Authorizer xMyCase = new RequestPay-
ment2Authorizer();

xMyCase.setCdCase(idCase);
xMyCase = xRequestPaymentService.read(xMyCase);

for (int i = 0 ; i < xMyCase.getLsCurrentActivities().size();
i++) {
    ExecutedActivity xActivity = xMyCa-
se.getLsCurrentActivities().get(i);
```

```

        if (xActivity.getCdActivity() == 11 [
            xMyCase.setLastPressedButton("Reject");
            xRequestPaymentService.execute(xMyCase, xActivity,
                "JPAZ" );
        ]
    }
}

```

Search

Case searches of a process can be performed through the interaction of the following objects.

Criteria: represents search criteria on case data. It is made up of elements that can be properties and values, connected by operators.

Property Identifier	Description
Case.searchCdState	Case state
Case.searchPriority	Case priority
Case.searchDsCase	Case description
Case.searchDtInitiated	Case start date
Case.searchDtEnded	Case end date
Case.searchCdActivity	Activity code
Case.searchCdCase	Case number

Operator	Description
eq	Equal
gt	Greater
lt	Less
betweene	Between and admits equals
like	Contain

Possible values of the case state:

Identifier	Description
Case.stateActive	Active
Case.stateCancelled	Cancelled
Case.stateEnded	Finalized

Possible values of the case priority:

Identifier	Description
Case.priorityUrgent	Urgent
Case.priorityHigh	High
Case.priorityMedium	Medium
Case.priorityLow	Low

SearchCriteria: object that groups search criteria (Criteria object), it also allows parameterizing the order of the result, the size of the reading page and the number of pages to be retrieved. Reading by pages is used since the data volume on a process can be very large.

Process Service: service class of the process on which the case search is being carried out. Contains the search(searchCriteria) operation that must receive the SearchCriteria object as a parameter and returns the SearchResult object.

Example:

```
SearchResult searchResult = actionsService.search(searchCriteria);
```

SearchResult: object that contains the search results. Contains a list of the process cases, for example "Actions". This object allows to know the total number of reading pages resulting from the search, the size of each page and the number of pages to retrieve.

Search Examples

1. Search

This example retrieves a list of cases from the "Actions" process with an active state, where the state property corresponds to the "Case.searchCdState" identifier and the active value corresponds to the "Case.stateActive" identifier. The number of pages to retrieve is also defined.


```

AccionesService xaccioneservice = new AccionesService(
    getApiClient());
SearchCriteria searchCriteria = new SearchCriteria();
Criteria criterial =
    Criteria.eq(Case.searchCdState, Case.stateActive);
searchCriteria.addCriteria(criterial);
searchCriteria.setPage(1);

SearchResult searchResult =
    xaccioneservice.search(searchCriteria);
List<Acciones> instancesResult = searchResult.getResult();

```

2. Constructor types for search criteria

This example creates a Criteria object and defines different search conditions using the "between and admits equals", "contains" and "greater" operators.

```

// Between and admits equals. Dates must be in year-month-day
// format.
// SearchCriteria searchCriteria = new SearchCriteria();
// SimpleDateFormat format =
//     new SimpleDateFormat("yyyy-MM-dd");
// Date dateFrom =
//     new Date(format.parse("2020-01-01").getTime());
// Date dateTo =
//     new Date(format.parse("2021-01-01").getTime());
//
// criteria criteriaDate = Crite-
// ria.between(Case.searchDtInitiated,
// DateFrom, DateTo);
// searchCriteria.addCriteria(criteria Date);

// Contains. The case description contains the test word
// Criteria criteriaLike = Crite-
// ria.like(Case.searchDsCase, "test");

// Greater. Case number greater than 80
// Criteria criteria = Criteria.gt (Case.searchCdCase, "80") ;

```

Deyel uses the data type `java.sql.Date` for "date" type fields, so the transformation from `java.util.Date` to `java.sql.Date` must be done, when it is required to create an object with this type of data.

3. Operations on the results object

The `SearchResult` object is an iterative object and as such can be scrolled through in different ways. The example uses a FOR statement to iterate over the cases that meet the search conditions of example 1 (active state), retrieving the case start date and priority.

```
AccionesService xaccioneservice = new AccionesService(getApiClient());
SearchCriteria searchCriteria = new SearchCriteria();
// Cases with active state
Criteria criterial = Criteria.eq(Case.searchCdState, "ACTIVE");
searchCriteria.addCriteria(criterial);
searchCriteria.setPageSize(10);
searchCriteria.setPage(1);

SearchResult searchResult = xaccioneservice.search(searchCriteria);

List <Case>instancesResult = searchResult.getResult();
// Loop through the list of cases
String log = "";
for (Case cases :instancesResult){
    log = cases.getDtInitiated() + " - " + cases.getPriority();
}
```

Rules

The model class contains getters and setters for each of the parameters defined in an advanced rule, while the service class contains the operation to be performed with the model.

The model name as well as the service name are determined by the property `SDK Class Name` specified when modeling the [advanced rule](#).

For example, if the "taxCalculation" advanced rule is used when downloading the Java sources of the rule, you get a taxCalculation.java file that represents the model and another taxCalculationService.java file with the available operation of the service.

Model Class Content

An advanced rule model contains:

- Model constructor.
- General getter.
- Getters and setters of its parameters. The output parameters only have getters.

General getter

Operation	Description	Parameter
getCdRule()	Returns the identifier of the rule.	

Data Type

The parameters of an advanced rule have their [equivalence with the data types](#) of form fields.

Service Class Content

Service allows the following operations to be performed:

Operation	Description	Parameter
execute(rule)	Executes an advanced rule.	Rule rule : Model of the rule to be executed

Example of Use

The example invokes the "taxCalculation" advanced rule, using the model and service classes.

Values for "amount" and "taxRate" input parameters are defined in the model using its setters. Next, the execute(myRule) method of the service is executed and a VAT value is obtained from the getter of the "taxValue" parameter.

```

// Calculation of 21% VAT on the Amount Received
taxCalculationService myService =
    new taxCalculationService (getApiClient());
taxCalculation myRule = new taxCalculation() ;
myRule.setAmount(new Double(100.12));
myRule.setTaxRate(new Double(21.00));

myRule = myService.execute(myRule);
// Gets the Amount of VAT Applied
Double doubleResult = myRule.getTaxValue();
log("The result of the tax value is:"
    + doubleResult);

```

Value Lists

All value lists have the same structure and are administrated by a single model class and a single service class, which are included in Deyel SDK.

The model class contains properties with getters and setters, while the service class contains the operations to be performed with the model.

The "ValueList" model class has the value list structure, while the "ValueListData" model class has the data.

ValueList Model Class Content

The "ValueList" model contains:

- Model constructor.
- Getters and setters to access its properties.
- ValueListData Collection.

ValueListData Model Class Content

This class is in a "Value list" model class collection. It represents each of the values in the value list.

The "ValueListData" model contains:

- Model constructor.
- Getters and setters to access its properties.

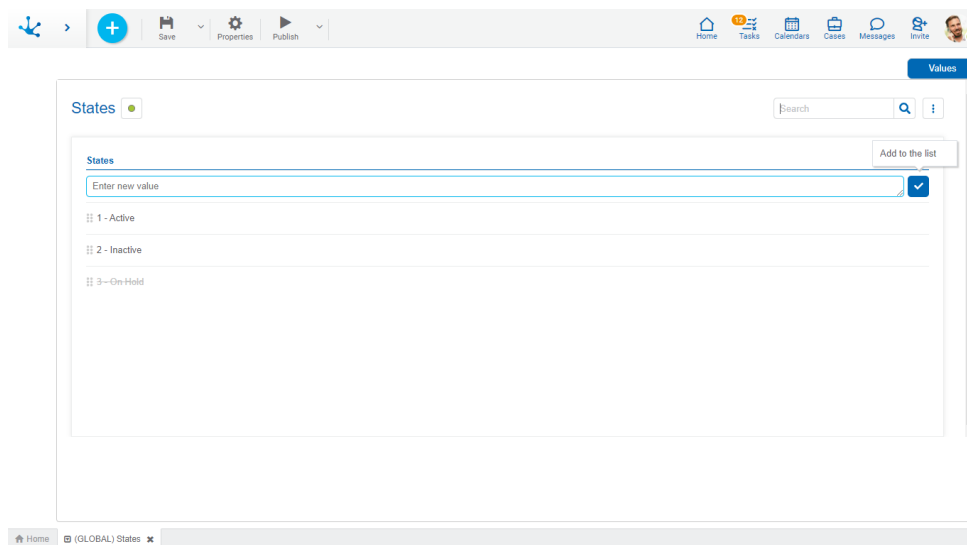
ValueListService Service Class Content

The service allows to read the value list.

Operation	Description	Parameters
read(valuelist)	Reads the value list data received as a parameter.	valuelist: Value list model class

Example of Use

In order to use this example, model the "States" value list in **Deyel** and previously enter the values to this list.



Read these values using Deyel SDK classes, which retrieve the following:

Code	Descriptive Value	Low Logic
1	Active	False
2	Inactive	False
3	On Hold	True

To read the value list, instantiate the "ValueListService" service. The "ValueList" model class is instantiated and the value of the [identifier](#) property of the list to be read is indicated, using the corresponding setters.

This instance is read using the read(valueList) method of the "ValueListService" service class. The instance contains all its properties which can be shown using the corresponding getters.

To read the data, access the "ValueListData" list with the corresponding getters of the "ValueList" model class.

Having the "ValueListData" list, it is possible to iterate through it to retrieve some or all of its values. This example retrieves the first value.

```
ValueListService valueListService = new ValueListService(getApiClient());

ValueList valueList = new ValueList();
valueList.setId("id_value_list");

valueList = valueListService.read(valueList);

valueList.getDsDisplayName();
valueList.getDsName();

List <ValueListData> valueListData = valueList.getValueListData();

ValueListData firstValue = valueListData.get(0);

Integer code = firstValue.getCode(); // code = 1
String value = firstValue.getValue(); // value = "Active"
Boolean isDeleted = firstValue.getDeleted(); // isDeleted = false
```

Users

The model class contains the properties with its getters and setters, while the service class contains the operations to be performed with the model.

Model Class Content

A user's model contains:

- Model constructor.
- Getters and setters of its attributes.

Getters to get user attributes

The model class for a case contains a set of getters for the attributes of the case.

Operation	Description	Parameters
getFirstName()	Gets the user name.	
getLastName()	Gets the user last name.	
getEmail()	Gets the user email.	
getUserCode()	Gets the user code.	
getAlias()	Gets the user alias.	
getOrganizationalUnit()	Gets the user organizational unit.	
getAuthorizedUserCode()	Gets the authorizing user code.	
getCalendar()	Gets the user calendar.	
getJobs()	Gets the job positions.	
getDelegates()	Gets the user delegated users.	
getDelegatesOf()	Gets the users where the user is defined as a delegate.	
getActive()	Gets the user state. Possible values: 1 - Active 0 - Inactive	
getExpiration()	Gets the user expiration date.	
getUserDurationDays()	Gets the number of days the password expires since the user was created. Possible values: 0 - Never	

Operation	Description	Parameters
	30 - 30 days 60 - 60 days 90 - 90 days	
getLicenses()	Returns a list of licensed products for the user.	
getPermissions()	Returns a list with the user permissions.	
getRoles()	Returns a list with the user roles.	
getIdentificationType()	Gets the identification type of the user personal data.	
getIdentificationNumber()	Gets the identification number of the user personal data.	
getPhone()	Gets the user phone number.	
getExtensionNumber()	Gets the user phone extension number.	
getNationality()	Gets the user nationality.	
getBirthday()	Gets the user birthdate.	
getCountry()	Gets the user country.	
getState()	Gets the user state	
getCity()	Gets the user city.	
getZipCode()	Gets the user zip code.	
getStreetName()	Gets the user street name.	
getStreetNumber()	Gets the user street number.	
getDepartament()	Gets the user department code.	
getLinkedinAccount()	Gets the linkedin user code.	

Operation	Description	Parameters
getTwitterAccount()	Gets the twitter user code.	
getFacebookAccount()	Gets the facebook user code.	
getYouTubeAccount()	Gets the youtube user code.	
getSkypeAccount()	Gets the skype user code.	
getObservation()	Gets the user observations.	

Service Class Content

The service allows the following operations to be performed:

Operation	Description	Parameters
read(user)	Reads an instance.	User user : Model object to read
create(user)	If the executing user has permission to create users, a user is created. If successful, it returns the user code, otherwise it gives an exception with an error message.	User user : Model object to create
update(user)	If the executing user has permission to modify users, the modification is performed. If successful, it returns the user code, otherwise it gives an exception with an error message.	User user : Model object to modify
delete(user)	If the executing user has permission to delete users, it deletes them. If it is not successful, it throws an exception with an error message.	User user : Model object to delete
getUserImage(user)	Gets the user profile image.	User user : Model object to read
getThumbnail(user)	Gets the thumbnail image of	User user : Model object to read

Operation	Description	Parameters
	the user profile.	
verifySecurity(user,function)	Returns true if the user has the security function specified as a parameter in his permissions, and false if otherwise.	User user : Model object to read String function : Code of the specified safety function
search(searchCriteria)	Allows to retrieve the user instances that meet the search criteria.	SearchCriteria searchCriteria : Search criteria

Example of Use

The examples use the **Deyel** user object and each example contains the use of the "User" model class and the "UserService" service class.

1. Service creation

This service is created only once in the rule and is reused in different operations.

```
UserService userService = new UserService(getApiClient());
```

2. User reading

In this example, a user with the userCode "AFARIAS" is read, using the read(user) method of the "UserService" service class. The value of the lastName property is obtained with the getter method of the "User" model class.

```
User user = new User();
user.setUserCode("AFARIAS");
user = userService.read(user);
```

3. Create a user

This example creates a user with the userCode property with value "NEW". It is activated with a license for the **Deyel** product and the End user permission.

```

UserService userService = new UserService(getApiClient());
User user = new User();
user.setUserCode("NEW");
user.setFirstName("New");
user.setLastName("User");
user.setEmail("newuser@optaris.com");
user.setAlias("newuser@optaris.com");
user.setOrganizationalUnit("0000000003");
user.setActive(1);
List<User.Licenses> licensesList = new ArrayList<>();
User.Licenses licenses = new User.Licenses();
licenses.setProduct("DEYEL");
licenses.setLicenseType("EVE");
licensesList.add(licenses);
list<User.Permissions> permissionsList = new ArrayList<>();
User.Permissions permissions = new User.Permissions();
permissions.setApplication("DEYEL");
permissions.setPermissionCode("ENDUSER");
permissionsList.add(permissions);
user.setLicenses(licensesList);
user.setPermissions(permissionsList);
userService.create(user);

```

4. User update

In this example, the user identified with userCode "AFARIAS" is updated. It is inactivated and the organizational unit is changed.

```

User user = new User();
user.setUserCode("AFARIAS");
user = userService.read(user);
user.setOrganizationalUnit("0000000008");
user.setActive(0);
userService.update(user);

```

5. User Deletion

In this example, the user identified with userCode "AFARIAS" is deleted.

```
User user = new User();
user.setUserCode("AFARIAS");
user = userService.read(user);
userService.delete(user);
```

6. Get the user profile image

In this example, a user identified with the userCode "AFARIAS" is read and its profile image is obtained through the `getUserImage(user)` method of the "UserService" service class.

```
User user = new User();
user.setUserCode("AFARIAS");
userService.getUserImage(user);
```

7. Get the thumbnail image of the user profile.

In this example, a user identified with the userCode "AFARIAS" is read and its thumbnail profile image is obtained through the `getThumbnail(user)` method of the "UserService" service class.

```
User user = new User();
user.setUserCode("AFARIAS");
userService.getThumbnail(user);
```

8. Security check

In this example it is verified if a user identified with userCode "AFARIAS" has the "DUU0C001" security function defined. The `verifySecurity((user, "DUU0C001"))` method of the "UserService" service class is used with a user that has been read using the `read(user)` method and the specified security function, as parameters.

```
User user = new User();
user.setUserCode("AFARIAS");
user = userService.read(user);
boolean userHasAccess = userService.verifySecurity(user,
"DUU0C001");
```

Search

There are two types of search: Eager and Lazy.

Searches on users can be performed by using the SearchCriteria object. Such an object implements the setReadTypeLazy() and setReadTypeEager() methods to indicate the type of search to perform, and the getReadType() method to retrieve the set search type.

It is not necessary to specify the use of Eager search with the setReadTypeEager() method because it is the one used by default.

Lazy search reading by default retrieves the values of the following user properties: UserCode, First-Name, LastName, Active, Type, Alias, Email, OrganizationalUnit, Calendar, the user image reference that is retrieved by the getUserImageLink() method, and the user thumbnail image reference that is retrieved by the method getThumbnailLink() of the User object.

The searchCriteria object implements the setLazyFields() method where the properties to be obtained are defined. This method is used when the value of a property that is not retrieved by default in the Lazy search is required.

To retrieve the user properties: dsFirstName, dsLastName, cdActive, codeMail, ImgUser, the setLazyFields() method is used, which implements the searchCriteria object.

```
List xProjection = new java.util.ArrayList();
xProjection.add("dsFirstName");
xProjection.add("dsLastName");
xProjection.add("cdActive");
xProjection.add("AMail code");
xProjection.add("imgUser");
xSearchCriteria.setLazyFields(xProjection);
```

Search Examples

1. Eager Search

In this example a list is retrieved with the users that in the dsEmail property contain "gmail" and that in the cdOrgUnit property have the identifier of the "Sales" organizational unit (0000000007). The results are sorted by last name in ascending order. The list is scrolled displaying the first and last names of the users. The same criteria are used as for the [form searches](#).

```
SearchCriteria searchCriteria = new SearchCriteria();
Criteria criteria1 = Criteria.like("dsEmail", "gmail");
Criteria criteria2 = Criteria.eq("cdOrgUnit", "0000000007");
searchCriteria.addCriteria(criteria1);
```

```

searchCriteria.addCriteria(criteria2);
searchCriteria.addOrderAsc("dsLastName");
SearchResult SearchResult = userService.search(searchCriteria);
Iterator it = SearchResult.getResult().iterator();
while (it.hasNext()) {
    User user = (User) it.next();
    log(user.getFirstName() + " " + user.getLastName());
}

```

2. Lazy Search

This is an example to get the values of the properties "dsFirstName" and "dsLastName". The users retrieved are those that in the cdOrgUnit property have values of the organizational unit identifier other than "Sales" (0000000007) and "Systems" (0000000008). The results are sorted by last name in descending order and the page size is set to 5. The list is scrolled displaying the first and last names of the users. The same criteria are used as for the [form searches](#).

```

SearchCriteria xSearchCriteria = new SearchCriteria();
xSearchCriteria.setReadTypeLazy();
xSearchCriteria.addCriteria(Criteria.nin("cdOrgUnit", java.util.Arrays.asList("0000000007", "0000000008")));
xSearchCriteria.setPageSize(5);
List xProjection = new java.util.ArrayList();
xProjection.add("dsFirstName");
xProjection.add("dsLastName");
xSearchCriteria.addOrderDesc("dsLastName");
xSearchCriteria.setLazyFields(xProjection);
SearchResult xSearchResult= userService.search(xSearchCriteria);
for (int page = 1; page <= xSearchResult.getPages(); page++) {
    List<User> lsUser = xSearchResult.goToPage(page).getResult();
    for (User xUser : lsUser) {
        log(xUser.getFirstName() + " " + xUser.getLastName() + " page = "+page);
    }
}

```

Organizational Units

The model class contains the properties with its getters and setters, while the service class contains the operation to be performed with the model.

Model Class Content

A user's model contains:

- Model constructor.
- Getters and setters of its attributes.

Getters to get the organizational unit attributes

The model class of a case contains a set of getters for the organizational unit attributes.

Operation	Description	Parameters
getDisplayname()	Gets the descriptive name of the organizational unit.	
getName()	Gets the name of the organizational unit.	
getManager()	Gets the manager user of the organizational unit.	
getSuperiorOrganizationalUnit()	Gets the superior organizational unit of the organizational unit.	
getDescription()	Gets the description of the organizational unit.	
getEmail()	Gets the email of the organizational unit.	
getCalendar()	Gets the calendar of the organizational unit.	
getManagerCanReadPrivateData()	Returns true if the organizational unit manager has permission to read private data, false otherwise.	
getManagerCanUpdatePrivateData()	Returns true if the organizational unit manager has permission to update private data,	

Operation	Description	Parameters
	false otherwise.	
getManagerCanDeletePrivateData()	Returns true if the organizational unit manager has permission to delete private data, false otherwise.	
getUserCanReadPrivateData()	Returns true if the organizational unit users have permission to read private data, false otherwise.	
getUserCanUpdatePrivateData()	Returns true if the organizational unit users have permission to update private data, false otherwise.	
getUserCanDeletePrivateData()	Returns true if the organizational unit users have permission to delete private data, false otherwise.	

Service Class Content

The service allows the following operations to be performed:

Operation	Description	Parameter
read(orgUnit)	Reads an instance.	User OrgUnit : Code of the organizational unit to read

Example of Use

The **Deyel** organizational unit object is used. It contains the use of the "OrganizationalUnit" model class and the "OrganizationalUnitService" service class.

1. Service creation

This service is created only once in the rule and is reused in different operations.




```
OrganizationalUnitService organizationalUnitService = new Orga-
nizationalUnitService(getApiClient());
```

2. Reading of the organizational unit

This example retrieves the manager property value of an organizational unit identified with the "000000008" code, using the read method (organizationalUnit) of the "OrganizationalUnitService" service class. The manager property value is obtained through the corresponding getter of the "OrganizationalUnit" model class.

```
OrganizationalUnit organizationalUnit = new OrganizationalU-
nit();
organizationalUnit.setOrganizationalUnit("0000000008");
OrganizationalUnit xOrganizationalUnitReaded = organiza-
tionalUnitService.read(organizationalUnit); log("Manager: " + organi-
zationalUnitReaded.getManager());
```

Calendars

For the calendar object, only service class operations are defined to work with dates, the model class is not necessary because the **Deyel** data types are used. The service class is predefined in the Deyel SDK and does not need to be downloaded.

Service Class Content

The service allows the following operations to be performed:

Operation	Description	Parameters
worksDays(start, end)	Obtains work days between dates, using the current user's calendar or another one specified as a parameter.	Timestamp start : Period start date Timestamp end : Period end date
worksDays(start, end, calendar)	Obtains work days between dates, using the calendar spe-	Timestamp start : Period start date

Operation	Description	Parameters
	cified as a parameter.	<p>Timestamp end: Period end date</p> <p>Integer calendar: Code of the specified calendar</p>
convertToTimeZone(date, calendar)	Converts a date into a specified time zone.	<p>Timestamp date: Date to convert</p> <p>Integer calendar: Calendar code with specified time zone</p>

Example of Use

Examples contain the use of "CalendarService" service class.

1. Service creation

This service is created only once in the rule and is reused in different operations.

```
CalendarService calendarService = new
    CalendarService(getApiClient());
```

2. Calculation of work days between dates

In this example, a budget number is read and the number of work days between the budget entry date and the budget due date is calculated.

A budget with the dsNumber "100234" property value of the "Budget" model class is read, using the read(budget) method of the "BudgetService" service class.

With the workDays(start, end) method of the "CalendarService" service class, the number of work days between the dtQuote and dtDue properties values is obtained, from the corresponding getter methods of the "Budget" model class.

```
BudgetService budgetService = new BudgetService(
    getApiClient());
String dsNumber = "100234";
Budget budget = new Budget();
budget.setDsNumber(dsNumber);
```

```

budget = budgetService.read(budget);
Timestamp start = new Times-
tamp(budget.getDtQuote().getTime());
Timestamp end = new Timestamp(budget.getDtDue().getTime());
calendarService.worksDays(start, end);

```

3. Time calculation with another time zone

This example converts local time to Mexico time, set by calendar 2 time zone, using the `convertToTimeZone(localTime, 2)` method of the "CalendarService" service.

```

Timestamp localTime = Timestamp.valueOf(LocalDateTime.now());
Timestamp timeMexico =
calendarService.convertToTimeZone(localTime, 2);
log("Local Time: " + localTime + " Time Mexico: " + timeMe-
xico);

```

Email Sending

Email delivery is administrated by a single model class and a single service class, included in the Deyel SDK.

The model class contains the properties with its getters and setters, while the service class contains the operations to be performed with the model.

Email Model Class Content

The "Email" model contains:

- Model constructor.
- Getters and setters to access the email properties.

Getters and setters of the Email model properties

Operation	Description	Parameters
<code>getTo()</code>	Retrieves the list of recipients' email addresses.	
<code>getCc()</code>	Retrieves the list of email addresses of those who will receive the email.	

Operation	Description	Parameters
	ve a carbon copy of the email.	
getBcc()	Retrieves the list of email addresses of those who will receive a blind carbon copy of the email.	
getReplyTo()	Retrieves the list of email addresses configured with automatic response.	
getSubject()	Allows to retrieve the email subject.	
setSubject()	Allows to define the email subject.	String subject : Email subject
getText()	Allows to retrieve the email text.	
setText()	Allows to define the email text.	String text : Email text
getAttachments()	Allows to retrieve the list of email attachments.	
setAttachments()	Allows to define a list of attachments to the email.	List of Files: Files that are sent as attachments in the email
getAttachmentReferences()	Allows to retrieve the set of file references associated with the email.	
setAttachments()	Allows to define the set of references to files and associate them to the email.	FileReference List
setAlias()	Allows to define an alias for the email.	String alias : Alias text

The Reply To attribute in the email standard allows to assign recipient addresses of the reply email. When the email recipient selects "Reply" from their email client, the boxes entered with Reply To are proposed as recipients and can be updated if the user so wishes.

The maximum defined for the total sum of the attached files size is 25mb, both for File and FileReference objects.

When using the `setAlias()` method, the issuing account is not being masked, which is considered spam, but rather other informative data is being added.

EmailService Service Class Content

Service allows the following operation to be performed:

Operation	Description	Parameters
<code>send(email)</code>	Sends an email.	Email email : Email model class

Example of Use

The example contains the use of "EmailService" service class.

1- Sending an email with an attachment

In this example, an email is sent where its different sections are specified: "Recipient", "With carbon copy", "With a blind copy", "Reply to", "Subject", "Email alias", "Email body". An invitation card generated by an external method is attached to the email (generating the file is not covered in this example).

The "EmailService" service and the "Email" model class are instantiated, and the value of their properties is indicated by means of the corresponding getters and setters of the model class. An invitation card is created, which is attached to the "Email" model class with the corresponding method.

To send the email, the `send(email)` method of the "EmailService" service is executed.

```
EmailService emailService = new EmailService(getApiClient());

Email email = new Email();

email.setTo().add("partner@gmail.com");

email.getCc().add("afarias@deyel.com");

email.getBcc().add("slopez@deyel.com");
```

```
email.getReplyTo().add("contact@deyel.com");

email.setSubject("Invitation to Event");

email.setAlias("Internal Communication");

email.setText("Hi Partner!!, our new webinar will be next Friday..");

File invitationCardFile = createInvitationCard();

email.getAttachments().add(invitationCardFile);

emailService.send(email);
```

2- Sending an email with an attached file read from a form field

This example shows two alternatives for retrieving a file from a form. The retrieved file is sent by email.

The Java object model of a form provides [methods to retrieve the reference](#) to the file stored in its fields. This reference is a more efficient Java object for this type of operation and allows for faster rule processing time.

When the files retrieved from a form are sent via email, the use of the FileReference alternative is recommended.

An "Account" form instance is read using the read(account) method of the "AccountService" service class.

```
AccountService accountService = new AccountService(getApiClient());
Account account = new Account();
account.setIdAccount(50);
account = accountService.read(account);
```

File Alternative

The "fllogo" field of the "Account" form is retrieved, creating a new File object and the file is sent by email.

```
File logo = accountService.getFlLogo(account);
email.getAttachments().add(logo);
emailService.send(email);
```

FileReference Alternative

The "fllogo" field of the "Account" form is retrieved, using FileReference and the file is sent by email.

```
FileReference logoReference = account.getReference_FlLogo();
email.getAttachmentReferences().add(logoReference);
emailService.send(email);
```

Programming Advanced Rules with a Java IDE

To develop an advanced rule using an IDE, a series of steps must be followed.

Once the rule is created in the advanced rules modeler, it is downloaded to be included in the IDE project, it is developed and, once finished, it is imported from the context menu into the Deyel modeler.

Example of Use

This example describes the steps to develop the "getCostsWithTax" rule in the IDE.

A rule named "getCostsWithTax" is created. It receives a list of amounts as input parameter. Such list is added and the VAT cost is obtained. Returns the total VAT and the total amount of the sum as output parameter.

The "getCostsWithTax" rule invokes the "taxCalculation" rule, which receives the sum of amounts as an input parameter, in the "inputAmount" field. Returns the VAT value as an output parameter, in the "taxValue" field.

For the example, the "taxCalculation" rule is assumed to be available within the environment.

Step 1: Create the "getCostsWithTax" rule

In the rule modeler, [a rule is created](#) with the "getCostsWithTax" descriptive name. The previously created adapter is selected, enter a description and press "Create Rule".

An input parameter is defined:

Name	Data Type
"amountList"	Double[]

Defined as output parameters:

Name	Data Type
"totalAmount"	Double
"AmountOfTaxApplied"	Double

This rule should be related to the "taxCalculation" rule using the wizard to include related objects, from the [advanced properties](#) tab.

Once the parameters have been entered and the new relation has been added, select the "Save" option from the [top toolbar](#).

Step 2: Download the "getCostsWithTax" rule

From the [top toolbar](#) of the rule modeler, select the "Download" option. The rule download includes the Java sources for developing and testing the rule.

Step 3: Setup the local environment

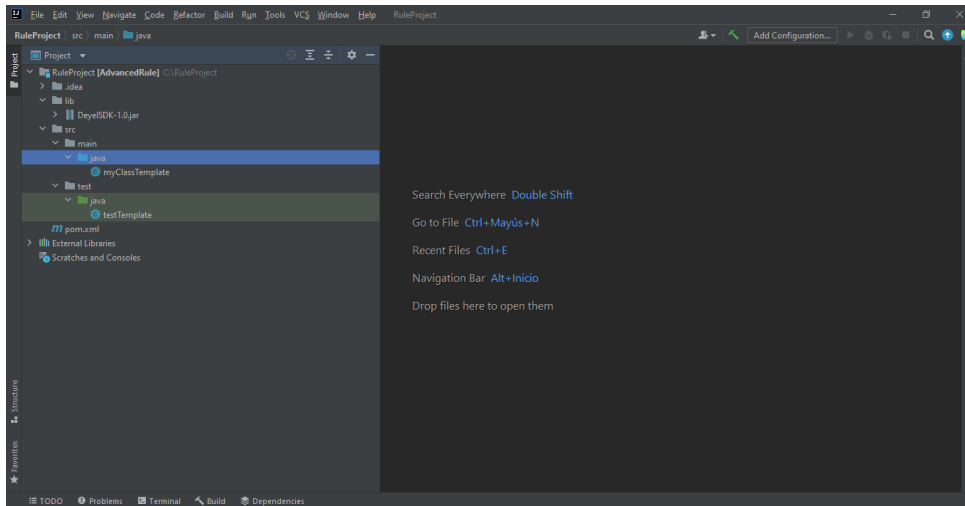
To develop the rule you need to have a [local environment](#) to work with Java.

Step 4: Include the "getCostsWithTax" rule in the Java IDE project

The rule download generates a file with a zip extension containing a "src" folder that respects the structure of Maven projects.

The file with zip extension should be copied to the project folder and decompressed in the same folder.

The structure of the project already configured is shown:



Step 5: Rule development

When the "getCostsWithTax" rule is included in the Java IDE project, two classes are obtained:

Name	Description
getCostsWithTax_1	Includes the rule logic
getCostsWithTax_1_Test	Includes the values to test from the IDE

The following code is defined in the getCostsWithTax_1 class:

```

public class getCostsWithTax_1 extends
getCostsWithTax_1_abstract{
    protected void run() throws java.lang.Exception{
        // The sum of the amounts is calculated
        totalAmount = 0.0 ;
        for (Double amount: AmountList
            totalAmount += amount;
        }
        // 21% VAT on the amount entered is calculated
        taxCalculationService myService =
            new taxCalculationService(getApiClient());
        taxCalculation myRule = new taxCalculation();
        myRule.setInputAmount(totalAmount);
        myRule.setTaxRate(new Double(21.0));
        myRule = myService.execute(myRule);
        // Gets the amount of VAT applied
    }
}

```

```
amountOfTaxApplied = myRule.getTaxValue() ;  
  
}  
  
}
```

Setup of the Local Environment

The steps necessary to setup the local environment to work with Java are described below. After completing these steps, the rule can be included in the Java IDE.

For projects created in a version earlier than 7.7, it is recommended to build a new project with the Maven project structure.

Step 1: Install the Java JDK

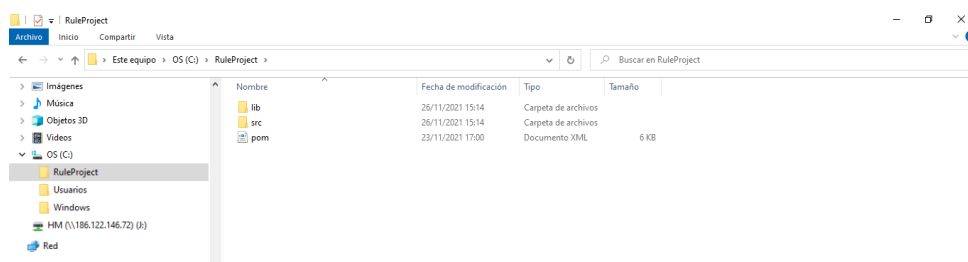
Download and install the Java JDK (Java Development Kit).

Step 2: Install an IDE of preference to work with Java

Download and install a Java IDE.

Step 3: Download the Maven Project

From the top toolbar in the [save submenu of the rule modeler](#) select the option "Download SDK". Downloading the Maven project, a file with a zip extension is obtained, once it is unzipped into a folder, it is subsequently imported into the project defined in the IDE.



Step 4: Create the project in a Java IDE

In order to create a project in a Java IDE it is necessary to:

- Import from the IDE the Maven project previously downloaded in the folder in Step 3. Folders will automatically be associated with the project in the IDE used.

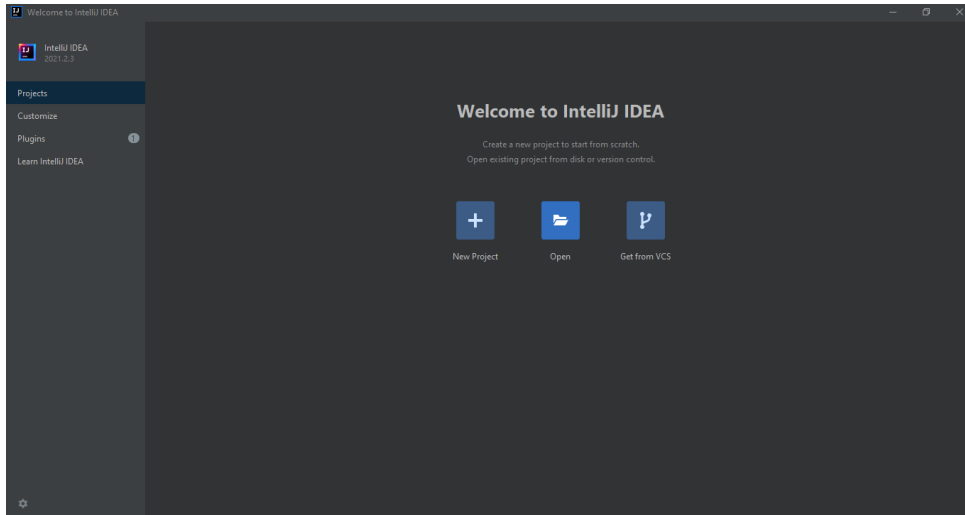
[Guide to create the project in the IntelliJ IDE](#)

[Guide to create a project in Eclipse IDE](#)

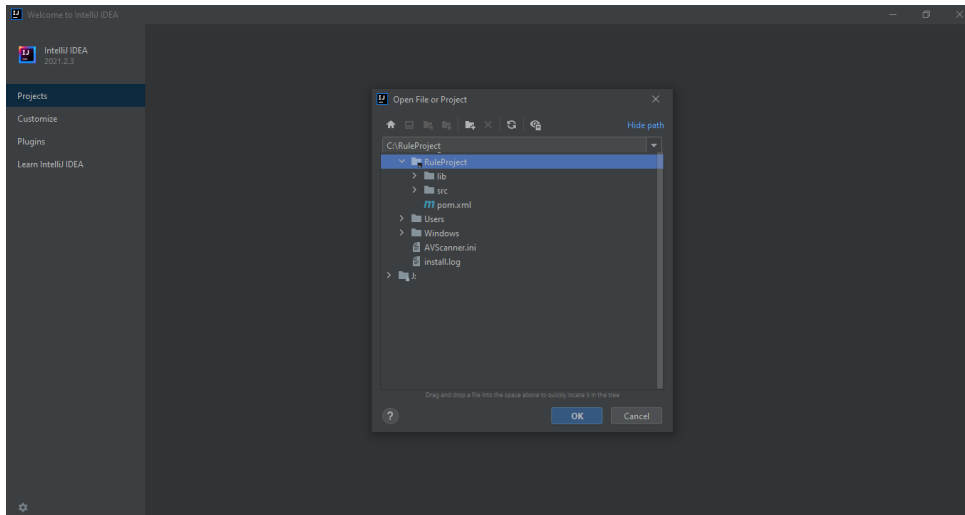
Guide to create the project in the IntelliJ IDE

The steps required to create the project in the IntelliJ IDE are described below.

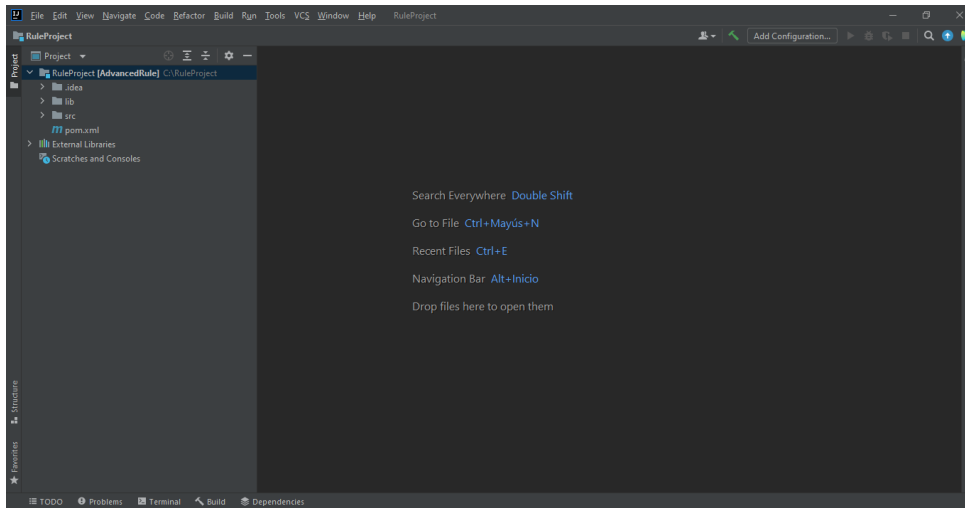
1. Press the button corresponding to open.



2. Select the folder in which the Maven project downloaded from **Deyel** was unzipped. Press the button corresponding to accept.



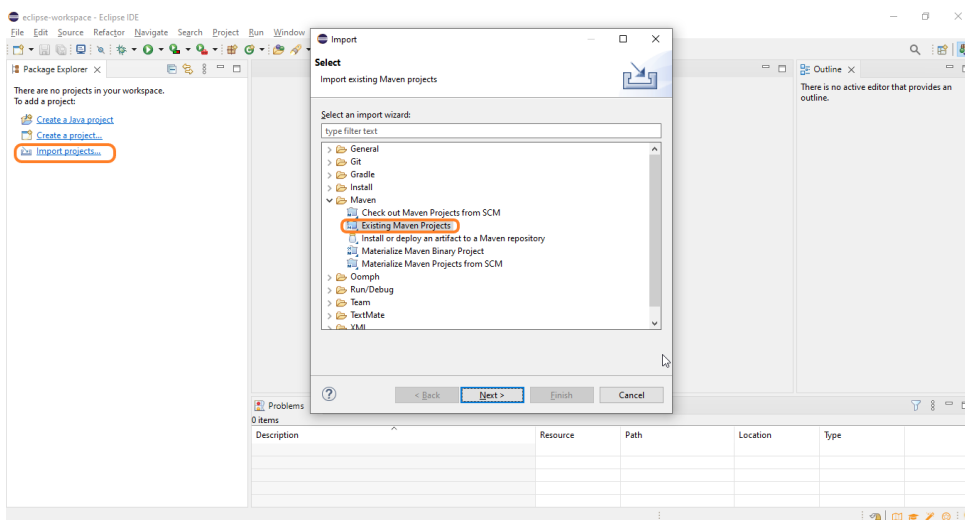
3. End of installation, the project has already been imported.



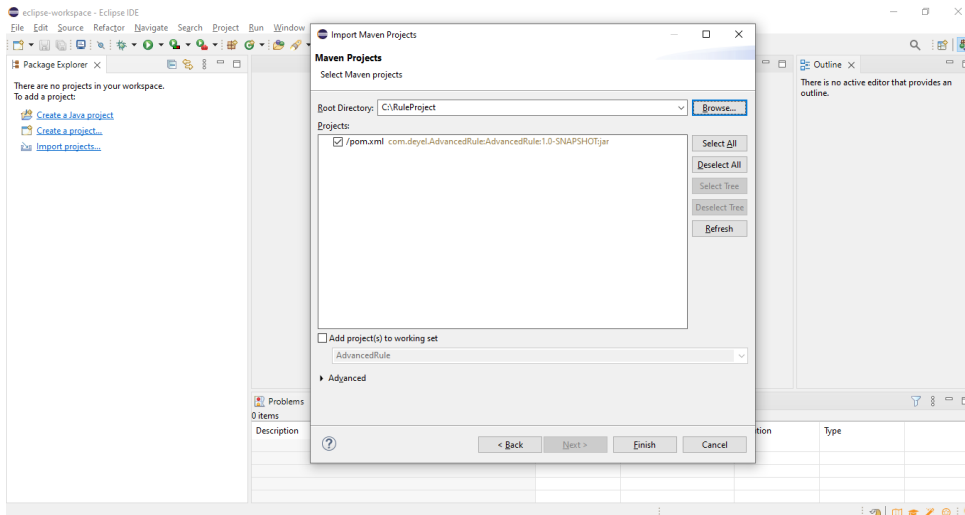
Guide to create a project in Eclipse IDE

The steps required to create a project in Eclipse IDE are described below.

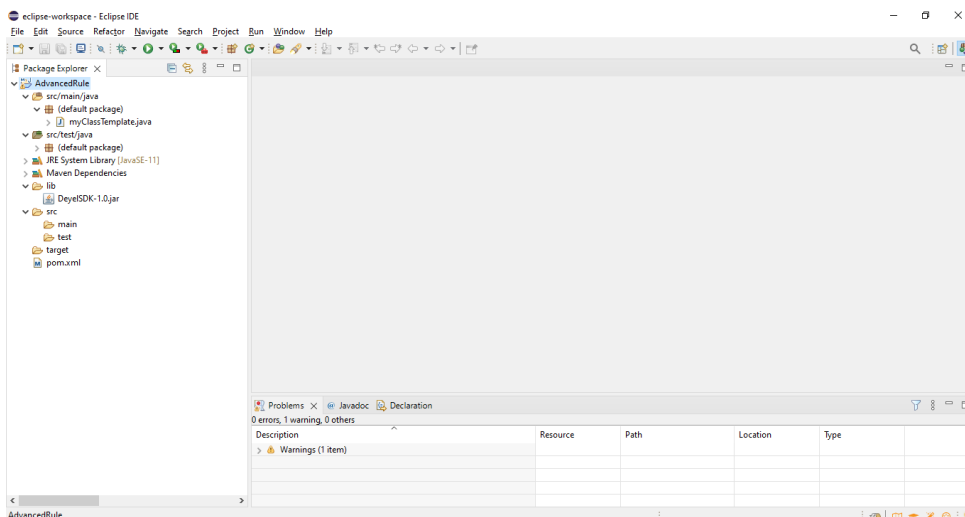
1. Select "Import Projects". Choose the option "Existing Maven Projects" and press the button corresponding to next.



2. Select the folder in which the Maven project downloaded from **Deyel** was unzipped. Press the button corresponding to end.



3. End of installation, the project has already been imported.



3.7.7.1.2.4. Built-in Rules

Deyel includes examples of built-in rules to perform certain functionalities. These rules can be used as a reference for the development of new rules that meet the specific logic required by the business.

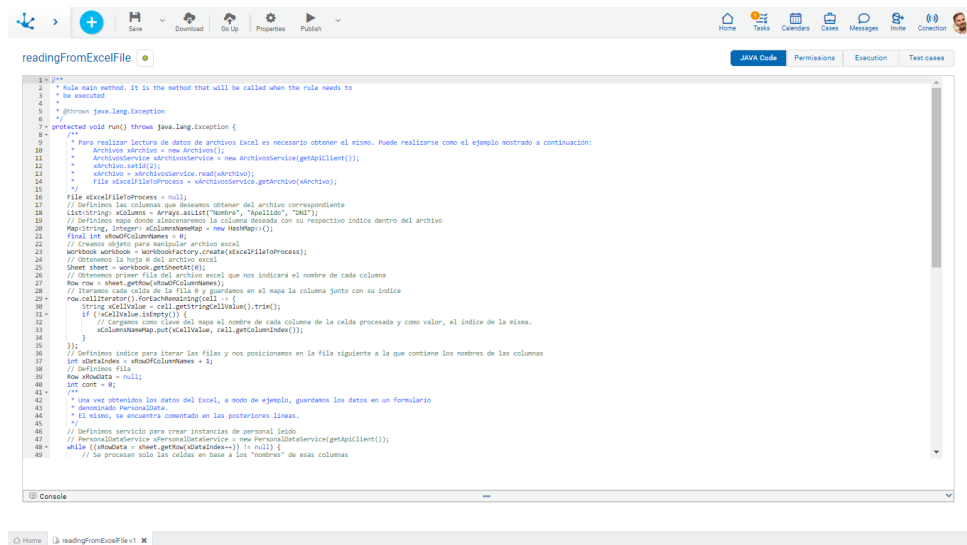
Examples

Below are some examples of built-in rules.

Reading data from an Excel file

This example is used to read an Excel file and for each row a destination form instance is created. An initial comment exemplifies how to recover the Excel file, which must be loaded as an attachment in source form instance.

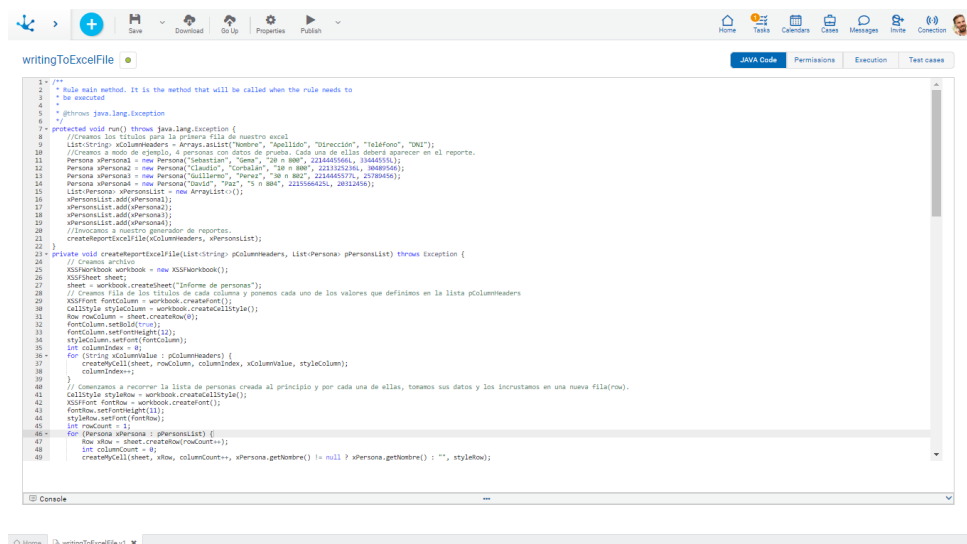
From each row of this file, the values of its cells are retrieved, which are used to populate the fields of a new destination form instance.



```
1 /**
2  * Rule main method. It is the method that will be called when the rule needs to
3  * be executed
4  */
5  @throws java.lang.Exception
6
7  protected void run() throws java.lang.Exception {
8
9      // Para realizar lectura de datos de archivos Excel es necesario obtener el mismo. Puede realizarse con el ejemplo mostrado a continuación:
10     * Archivos archivo = new Archivos();
11     * ArchivoServicio archivoServicio = new ArchivoServicio(getApiClient());
12     * ArchivoServicio archivoServicio = new ArchivoServicio(getApiClient());
13     * archivo = archivoServicio.read(archivo);
14     * file excelFileToProcess = archivoServicio.getArchivo(archivo);
15
16     file excelFileToProcess = null;
17
18     // Definimos las columnas que deseamos obtener del archivo correspondiente
19     List<String> xColumnas = Arrays.asList("Nombre", "Apellido", "DNI");
20     // Definimos una matriz de columnas para almacenar los datos de cada columna dentro del archivo
21     Map<String, Integer> xColumnasMap = new HashMap<>();
22     final int xColumnasCount = 0;
23     // Creamos objeto para manejar el archivo excel
24     Workbook workbook = WorkbookFactory.create(excelFileToProcess);
25     // Obtenemos la hoja # del archivo excel
26     Sheet sheet = workbook.getSheet(0);
27     // Obtenemos primer fila del archivo excel que nos indicará el nombre de cada columna
28     Row row = sheet.getRow(sheet.getRowNum());
29     // Iteramos cada celda de la fila # y guardamos en el mapa la columna junto con su índice
30     RowCellIterator<Cell> rowCellIterator = sheet.getRowNum();
31     String xCellValue = cell.getStringCellValue().trim();
32     if (xCellValue.startsWith("#")) {
33         // Cargamos como clave del mapa el nombre de cada columna de la celda procesada y como valor, el índice de la misma.
34         xColumnasMap.put(xCellValue, rowCellIterator.getRowNum());
35     }
36 }
37
38 // Definimos índice para iterar las filas y nos posicionamos en la fila siguiente a la que contiene los nombres de las columnas
39 int xRowIndex = xColumnasMap.get("Nombre") + 1;
40 // Definimos fila
41 Row xRow = null;
42 int count = 0;
43
44 // Una vez obtenidos los datos del Excel, a modo de ejemplo, guardamos los datos en un formulario
45 * denuncias = new Denuncias();
46 * denuncias.addDenuncia();
47 * denuncias.addDenuncia();
48 * denuncias.addDenuncia();
49
50 // Definimos servicio para crear instancias de personal lido
51 * PersonalistaServicio personalistaServicio = new PersonalistaServicio(getApiClient());
52 * personalistaServicio.createPersonalista();
53
54 // Se procesan solo las celdas en base a los "nombres" de esas columnas
```

Writing data to an Excel file

This example is used to save the data obtained from an array to an Excel file which is sent by email. From each occurrence of the array, the values entered to complete the cells of the Excel file rows are recovered. The first row corresponds to column names. Finally, a name is given to the file, along with the extension "xlsx". Once the file is complete, it is closed and sent as an email attachment.



```
1 /**
2  * Rule main method. It is the method that will be called when the rule needs to
3  * be executed
4  */
5  @throws java.lang.Exception
6
7  protected void run() throws java.lang.Exception {
8
9      // Creamos lista para la primera fila de nuestro excel
10     List<String> xColumnHeaders = Arrays.asList("Nombre", "Apellido", "Direccion", "Telefono", "DNI");
11     // Creamos lista de personas con datos de prueba. Cada una de ellas deberá aparecer en el reporte.
12     Persona xPersona1 = new Persona("Sebastian", "Gema", "C/8 de Mayo, 223445566, 33445555");
13     Persona xPersona2 = new Persona("Claudia", "Sofía", "C/8 de Mayo, 223445566, 33445555");
14     Persona xPersona3 = new Persona("Guillermo", "Pura", "C/8 de Mayo, 223445566, 33445555");
15     List<Persona> xPersonasList = new ArrayList<>();
16     xPersonasList.add(xPersona1);
17     xPersonasList.add(xPersona2);
18     xPersonasList.add(xPersona3);
19     // Creamos un generador de reportes.
20     createReportExcelFile(xColumnHeaders, xPersonasList);
21
22     // Creamos archivo
23     private void createReportExcelFile(List<String> xColumnHeaders, List<Persona> xPersonasList) throws Exception {
24         // Creamos libro de trabajo
25         XSSFWorkbook workbook = new XSSFWorkbook();
26         XSSFSheet sheet = workbook.createSheet("Informe de personas");
27         // Creamos fila de los títulos de cada columna y ponemos cada uno de los valores que definimos en la lista xColumnHeaders
28         XSSFFont fontColumn = workbook.createFont();
29         CellStyle styleColumn = workbook.createCellStyle();
30         Font fontColumn = workbook.createFont();
31         Row rowColumn = sheet.createRow(0);
32         fontColumn.setFontName("Arial");
33         fontColumn.setFontWeight(12);
34         styleColumn.setFont(fontColumn);
35         int columnCount = 0;
36         for (String xCellValue : xColumnHeaders) {
37             createCell(sheet, rowColumn, columnCount++, xCellValue, styleColumn);
38             columnCount++;
39         }
40         // Comenzamos a recorrer la lista de personas creada al principio y por cada una de ellas, tomamos sus datos y los insertamos en una nueva fila(row).
41         CellStyle styleRow = workbook.createCellStyle();
42         XSSFFont fontRow = workbook.createFont();
43         Font fontRow = workbook.createFont();
44         styleRow.setFont(fontRow);
45         int rowCount = 1;
46         for (Persona xPersona : xPersonasList) {
47             Row row = sheet.createRow(rowCount++);
48             createCell(sheet, row, columnCount++, xPersona.getNombre() != null ? xPersona.getNombre() : "", styleRow);
49         }
50     }
51 }
```

3.7.7.2. Adapters

In **Devel**, adapters that allow integration with different applications and platforms through the use of advanced business rules are defined. Its purpose is to exchange data and share behaviors.

An adapter encapsulates the complexity of communicating with an external component. It allows different advanced rules to use it to invoke the operations that such component exposes.

When an adapter is defined, the following is configured:

- The attributes that identify the platform with which you want to interact.
- The way to establish communication.
- The operations the software component exposes.

The definition of adapters is done using the [modeling facilities](#).

Types

Standard

Advanced rules that do not communicate with external suppliers use the adapter:

- [Deyel SDK](#)

The Deyel SDK adapter, for development and execution of business rules, allows the rules that use it to make use of the Deyel SDK facilities.

Within the standard adapters, those that allow access to web services from external suppliers are also used, in their different communication architectures:

- [Rest API](#)
- [SOAP](#)

The rules that use these adapters make invocations to specific endpoints, made up of the service URL and information about the operation to be performed. These calls can use different types of authentication, which depend on the security settings implemented by the provider.

Database

Adapters that allow to define access to relational databases through the Java JDBC protocol.

Deyel provides custom adapters for the most popular database engines on the market, facilitating configuration and optimizing interaction with such engines.

The available adapters are:

- [IBM/DB2](#)
- [Informix](#)
- [MySQL](#)
- [Microsoft SQL Server](#)
- [ORACLE](#)

The rules used by these adapters can execute SQL statements to get and write data to and from any database.

Application

These adapters allow to define access to market applications that expose services to interact with them, integrating operation between **Deyel** and such applications. Thus, the rules that use these adapters can do it safely and encapsulated.

The available adapters are:

- [AWSRekognition](#)
- [AwsTextract](#)
- [Azure AD](#)
- [DocuSign](#)
- [GoogleCalendar](#)
- [GoogleDrive](#)
- [IDMAuthorizationCode](#)
- [Mail Reader](#)
- [Mercado Libre](#)
- [Mercado Pago](#)
- [Niubiz](#)
- [OneDrive](#)
- [OpenAI](#)
- [PayPal](#)
- [SAP](#)
- [Stripe](#)
- [Tiendanube](#)
- [Twitter](#)
- [WhatsApp Business](#)

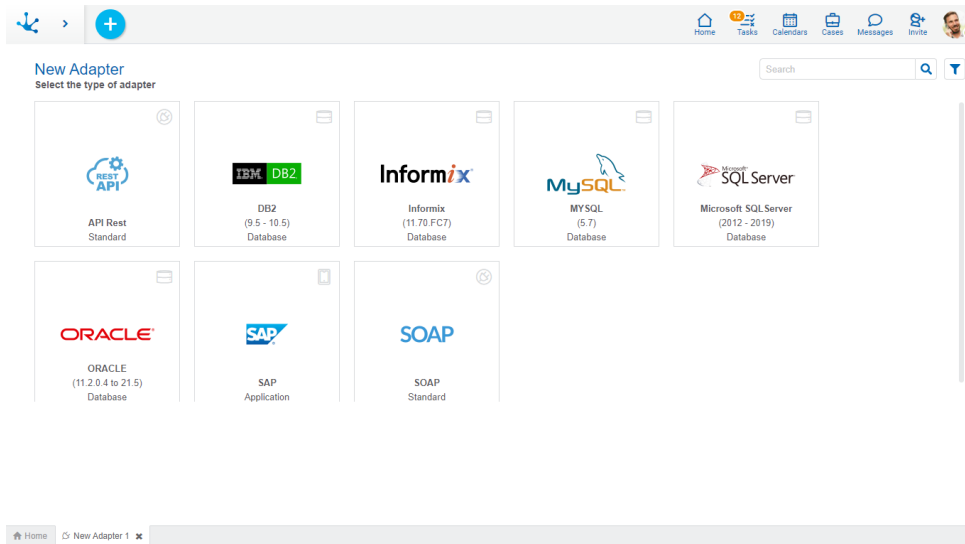
For each of the adapters, with the exception of `AwsTextract` and `AWSRekognition`, an application should be created on each of the platforms in order to establish the relation between the platform and the environment of **Deyel**. When creating this application, each platform provides the necessary values to configure the connection credentials of the corresponding adapter.

In particular, to configure the `Niubiz` adapter, the merchant should be registered and attached to this platform, and it should be granted the corresponding merchant code.

3.7.7.2.1. Modeling Facilities

New Adapter

To define a new adapter, the modeling user must select its type from a gallery.



In the gallery, for each adapter, the type it belongs to is displayed, and its version is displayed only if applicable. Once the type is selected, go to the properties panel of each one to define its own characteristics.

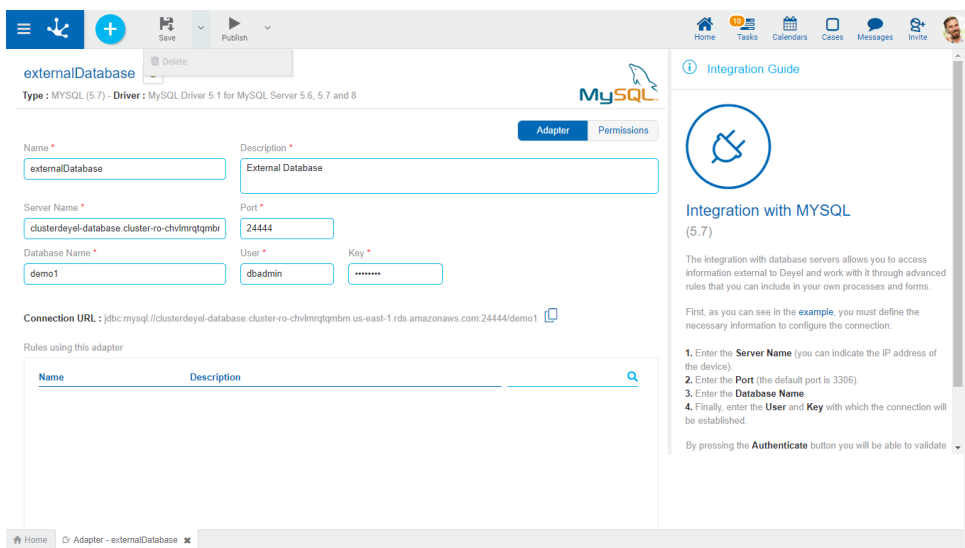
Workspace Sections:

- [Top Toolbar](#)
- [Adapter Definition Area](#)

3.7.7.2.1.1. Top Toolbar

This toolbar contains icons and submenus from which operations on the adapter can be performed.

The bar is displayed on the toolbar of **Deyel**.



This icon allows to save the object in the repository of **Deyel**, leaving its state as "Draft" or "Modified". It is verified that certain conditions are met.

Main Conditions

- The name must be unique.
- All the fields indicated as required must be complete.



Publish

By means of this icon the object goes to "Published" state, after verifying a set of additional conditions to those of the "Save" operation.

As for integration adapters with services from other platforms, authentication is performed. On the other hand, if it is a database integration adapter, the connection is tested.

Main Conditions

- Integration adapters with services from other platforms require valid URLs, authentication methods and other attributes of the connection such as user, token or keys.
- Database integration adapters require valid specified values for the server name, database, schemas, users, and user password used to establish the connection.



Delete

Allows to delete the object only if it is in "Draft" [state](#), closing the tab in which it is located and deleting it from the modeler's grid. This operation is not available for predefined adapters.



Delete Publication

This icon allows to remove the adapter from use by returning it to the [state](#) "Draft".

3.7.7.2.2. Definition Area

The definition area consists of a panel with the adapter properties and an integration guide that assists and guides the modeler. Depending on each adapter, it may contain examples of use or references to external sites that facilitate configuration.

The adapter properties can be entered both at the time of their creation and when modifying an existing one. Each adapter allows configuration of specific properties, although they share some, for example the name that identifies them.

The screenshot displays the 'New Adapter' configuration interface. The form includes the following fields and labels:

- Name***: A text input field.
- Description***: A text input field.
- URL of the REST API Web Service***: A text input field.
- Key***: A text input field.
- Value***: A text input field.

Navigation buttons include 'Adapter Type' (left) and 'Create Adapter' (right). The right sidebar contains an 'Integration Guide' for 'Integration with SAP', which explains that the integration allows synchronizing business information and provides a five-step process for configuration.

An asterisk "" on the label indicates that the property is required.*

Properties

In addition to these shared properties, each type of adapter has specific properties.

Name

Name of the adapter that uniquely identifies it. It is mandatory. Identifier that is displayed in the modeler's grid and selecting the adapter when creating an advanced rule.

Description

Text that defines the adapter describing its functionality. It is mandatory. This description is displayed along with its name by selecting the adapter when creating an advanced rule.

Standard Adapters

- [Rest API](#)
- [Deyel SDK](#)
- [Soap](#)

Database Adapters

- [IBM/DB2](#)
- [Informix](#)
- [Microsoft SQL Server](#)
- [MySQL](#)
- [Oracle](#)

Application Adapters

- [AWSRekognition](#)
- [AwsTextextract](#)

- [Azure AD](#)
- [DocuSign](#)
- [GoogleCalendar](#)
- [GoogleDrive](#)
- [IDMAuthorizationCode](#)
- [Mail Reader](#)
- [Mercado Libre](#)
- [Mercado Pago](#)
- [Niubiz](#)
- [OneDrive](#)
- [OpenAI](#)
- [PayPal](#)
- [SAP](#)
- [Stripe](#)
- [Tiendanube](#)
- [Twitter](#)
- [WhatsApp Business](#)

3.7.7.2.2.1. API Rest

Apart from [properties shared by adapters](#) those specific to API Rest are added.

The screenshot shows the configuration page for a 'Rest Rule' adapter. The form includes the following fields and options:

- Name:** Rest Rule
- Description:** Rest Rule
- Web Service URL:** http://myenvironment.com/v1.0/
- Authentication Method:**
 - ApiKey *
 - Basic Authentication *
 - Bearer Token *
 - No Authentication *

Below the form, a table lists rules using this adapter:

Name	Description
restRule - v1	Rest Rule

The right sidebar contains an 'Integration Guide' with the following steps:

1. Enter the **Web Service URL**.
2. Enter the **Authentication Method**.
If you select **API Key**, you must indicate the values of **Key**, **Value** and **Parameters add to**.
If you select **Basic Authentication**, you must indicate the **User** and **Password** values.
If you select **Bearer Token**, you must indicate the value of the **Token**.
3. Press the **Authenticate** button to validate the information entered.
4. Press the **Publish** button to make the adapter available for use.

Then, through the **Deyel** Integration Rules, you can use this adapter to consume the defined service.

An asterisk "" on the label indicates that the property is required.*

Web Service URL

Address of the Rest service with which it is being integrated.

Authentication Method

Identifies the way **Deyel** must authenticate with the service depending on the security scheme it implements.

The possible schemes are:

- **ApiKey:** in this case the service platform generates a combination of unique values called **Key** and **Value**. In addition to these values, the value for the property **Parameters add to** must be indicated,

where it is specified in which way the parameters should be sent to the service, it can be done in the [Header](#) or as [Query Params](#).

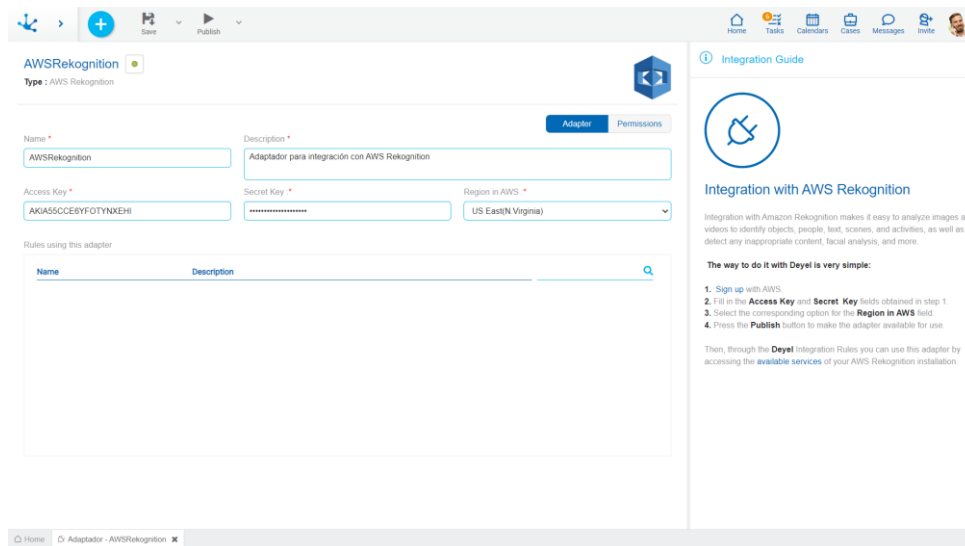
- **Basic Authentication:** it is the simplest authentication scheme. It must specify the [User](#) and [Password](#), provided by the participant responsible of the service.
- **Bearer Token:** it is a scheme similar to [ApiKey](#) but in this case it must specify the [Token](#), which is generated by the service.
- **No Authentication:** it does not require any access validation.

Rules using this adapter

In this grid, the advanced rules used by the adapter are displayed and their definition can be shown from each line.

3.7.7.2.2.2. AWSRekognition

Apart from the [properties shared by adapters](#), those specific to AWSRekognition are added.



An asterisk "" on the label indicates that the property is required.*

Access Key

Identification key of the service that AWSRekognition issues when creating an application on its platform.

Secret Key

Secret key associated to the property [Access Key](#), are used together when requesting access to the resources provided by the platform.

Region on AWS

Indicates the location of the services to be used. The region determines the transaction processing quotas, based on the [AWS documentation](#).

Rules using this adapter

In this grid, the advanced rules used by the adapter are displayed and their definition can be shown from each line.

3.7.7.2.2.3. AwsTextract

Apart from [properties shared by adapters](#) those specific to AwsTextract are added.

The screenshot displays the configuration page for the 'AwsTextract' adapter. The form includes the following fields:

- Name ***: A text input field containing 'AwsTextract'.
- Description ***: A text input field containing 'Reglas de integración con AWS Textract'.
- Access Key ***: A text input field with a 'Password' placeholder.
- Secret Key ***: A text input field with a masked password '.....'.
- Region on AWS ***: A dropdown menu currently set to 'South America(Sao Paulo)'.

Below the form, the 'Service URL' is listed as 'https://textract.sa-east-1.amazonaws.com'. A table titled 'Rules using this adapter' is currently empty. On the right side, the 'Integration Guide' section provides instructions on how to set up the adapter, including steps for signing up for AWS Textract, entering credentials, and publishing the adapter.

An asterisk "" on the label indicates that the property is required.*

Access Key

Identification key of the service that AwsTextract issues when creating an application on its platform.

Secret Key

Secret key associated to the property [Access Key](#), are used together when requesting access to the resources provided by the platform.

Region on AWS

Indicates the location of the services to be used. The region determines the transaction processing quotas, based on the [documentation](#).

Service URL

This property is filled in automatically when selecting the [Region on AWS](#) property.

Rules using this adapter

In this grid, the advanced rules used by the adapter are displayed and their definition can be shown from each line.

3.7.7.2.2.4. Azure AD

This adapter must be configured when the user authentication is delegated to Microsoft Azure AD. For this, [register an application in the Azure AD portal](#) and get the required credentials.

Apart from the [properties shared by adapters](#) , those specific to Azure AD are added.



An asterisk "" on the label indicates that the property is required.*

Client ID

Identification of the service that Azure AD issues when creating an application on its platform.

Client Secret

Secret key associated to the [Client ID](#) property, they are used together when requesting access to the resources provided by the platform.

Tenant Id

Identifier of the directory where the application is registered in the Azure AD portal.

Scopes

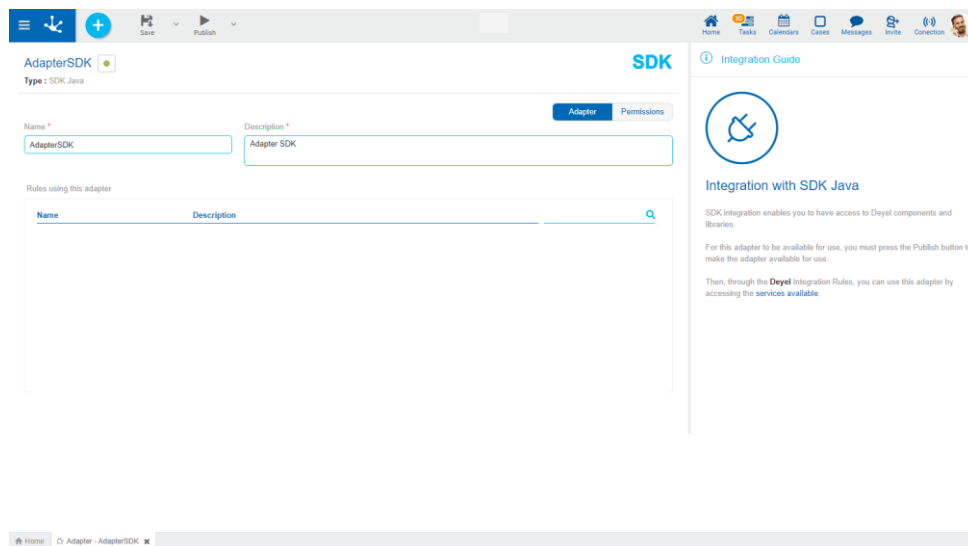
Represents the scopes provided by the access data after successful authorization.

Redirect URL

Indicates the redirect URL that Microsoft responds to when the user is successfully authenticated. It is not editable.

3.7.7.2.2.5. Deyel SDK

Apart from [properties shared by adapters](#) the grid of rules used by the adapter is added.



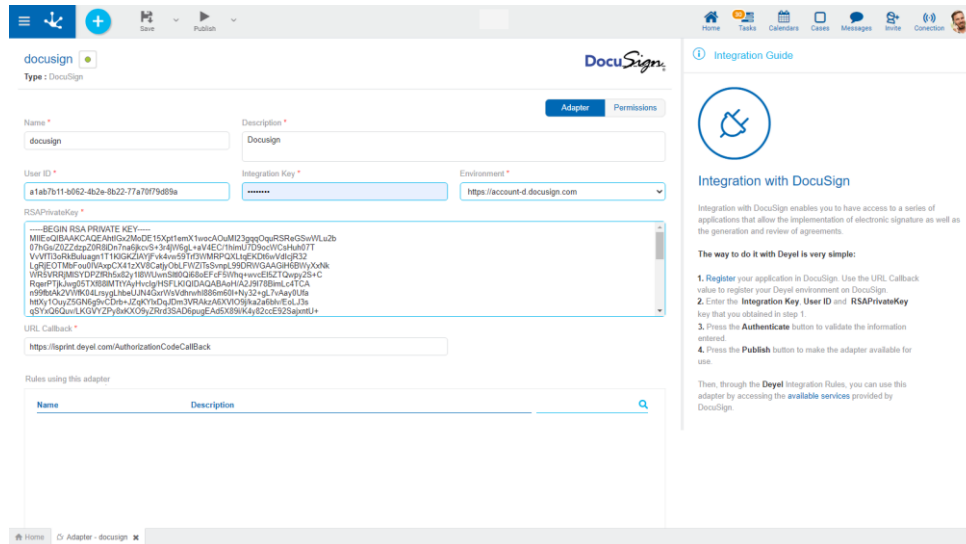
An asterisk "" on the label indicates that the property is required.*

Rules using this adapter

In this grid, the advanced rules used by the adapter are displayed and their definition can be shown from each line.

3.7.7.2.2.6. DocuSign

Apart from [properties shared by adapters](#) those specific to DocuSign are added.



An asterisk "*" on the label indicates that the property is required.

User ID

Identification of the user account registered in DocuSign.

Integration Key

Identification key of the service that DocuSign issues when creating an application on its platform.

Environment

Corresponds to the DocuSign URL against which APIRest operations are performed, it can be the production environment or the development environment. This URL can be obtained in the properties of the application registered in DocuSign under the name "Account Base URI".

RSAPrivateKey

Secret key associated to the [Integration Key](#) property, they are used together when requesting access to the resources provided by the platform.

URL Callback

This property must be defined when creating the application on DocuSign and corresponds to the URL that handles the return of requests for services that are made from the **Deyel** environment to the DocuSign platform.

The value for this property must have the name of the environment Deyel
`https://.deyel.com/AuthorizationCodeCallBack`.

Rules using this adapter

In this grid, the advanced rules used by the adapter are displayed and their definition can be shown from each line.

3.7.7.2.2.7. GoogleCalendar

Integration with Google Calendar allows to manage calendars from **Deyel**. For example, events can be created or updated with associated conferences via Google Meet.

Apart from the [properties shared by adapters](#), those specific to GoogleCalendar are added.

The screenshot shows the Deyel configuration page for a Google Calendar adapter. The main form has the following fields:

- Name ***: Google Calendar
- Description ***: Adaptador para integracin con Google Calendar
- API Key ***: [Empty field]
- Client ID ***: afarias_fa@gmail.com
- Client Secret ***: [Redacted]
- Email Address ***: [Empty field]
- URL Callback ***: https://english74.deyel.com/AuthorizationCodeCallBack

The sidebar on the right, titled "Integration Guide", contains the following text:

Integration with Google Calendar

Integration with Google Calendar allows calendar management from Deyel. For example, you can create or update events with associated Google Meet conferences.

The way to do it with Deyel is very simple:

1. Sign up for Google Cloud and integrate your account with Google Calendar. Remember to register your Deyel environment as the Callback URL value.
2. Enter the values of **Client ID**, **Client Secret**, and **API Key** obtained in step 1.
3. Fill in the email address with which you registered in Google Cloud.
4. Press the **Publish** button to make the adapter available for use.

Then, through **Deyel's** predefined Integration Rules, you can use the **available services** provided by Google Calendar.

An asterisk "" on the label indicates that the property is required.*

API Key

Access key to the service issued by GoogleCloud when creating an application on its platform.

Client ID

Identification of the service that GoogleCloud issues when creating an application on its platform.

Client Secret

Secret key associated to the **Client ID** property, they are used together when requesting access to the resources provided by the platform.

Email Address

Account associated and owner of the GoogleCloud space.

URL Callback

This property should be defined when creating the application on Google Cloud and corresponds to the URL that handles the return of requests for services that are made from the **Deyel** environment to the Google Calendar platform.

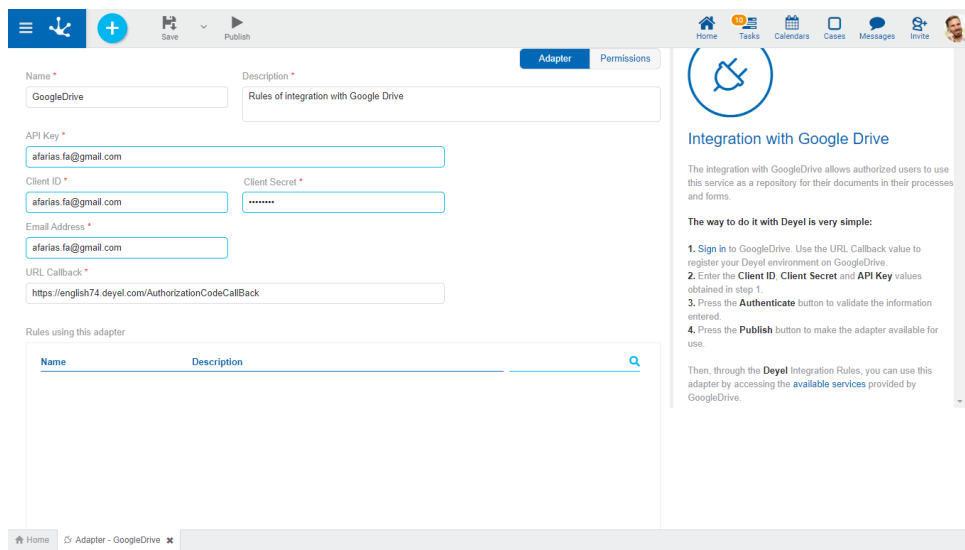
The value for this property must have the name of the **Deyel** environment:

https://<miambiente>.deyel.com/AuthorizationCodeCallBack.

It is a predefined, non-editable value.

3.7.7.2.2.8. GoogleDrive

Apart from [properties shared by adapters](#) those specific to GoogleDrive are added.



An asterisk "" on the label indicates that the property is required.*

API Key

Access key to the service that Google Drive issues when creating an application on its platform.

Client ID

Identification of the service that Google Drive issues when creating an application on its platform.

Client Secret

Secret key associated to the [Client ID](#) property, they are used together when requesting access to the resources provided by the platform.

Email Address

Associated account and owner of the Google Drive space.

URL Callback

This property should be defined when creating the application on Google Drive and corresponds to the URL that handles the return of requests for services that are made from the **Deyel** environment to the Google Drive platform.

The value for this property must have the name of the **Deyel** environment:

`https://<miambiente>.deyel.com/AuthorizationCodeCallBack.`

It is a predefined, non-editable value.

Rules using this adapter

In this grid, the advanced rules used by the adapter are displayed and their definition can be shown from each line.

Predefined Rules

There are predefined rules in **Deyel** to use the adapter, they perform operations using the Google Drive API.

Name	Description	Parameters
insertFileInGoogleDrive	Adds a file within the Google Drive account configured on the adapter.	<p><u>Input</u></p> <ul style="list-style-type: none"> • pFile: File to be added in Google Drive. • parentId: Identifier of the directory in which the file is added. It can be obtained from the URL of the current Google Drive directory. <p><u>Output</u></p> <ul style="list-style-type: none"> • fileId: Identifier of the file added in Google Drive.
insertNewFileInGoogleDrive	Adds a file within the Google Drive account. Determines whether its access is public or not, by assigning a permission type and a role to a specific user.	<p><u>Input</u></p> <ul style="list-style-type: none"> • pFile: File to be added in Google Drive. • parentId: Identifier of the directory in which the file is added. It can be obtained from the URL of the current Google Drive directory. • type: Indicates the type of permission being added. Possible values are: "user" or "anyone". • role: Indicates the role associated to the type of permission being added. Possible values are: "writer", "reader". • cdUser: User code of Deyel to whom permission is granted. • title: File name with which it is added in Google Drive. If the parameter is not filled in, the file is added with the original file name. <p><u>Output</u></p> <ul style="list-style-type: none"> • fileId: Identifier of the file added in Google Drive. • alternateLink: URL obtained from the

Name	Description	Parameters
		<p>added file to be used according to the permissions obtained.</p> <ul style="list-style-type: none"> • permissionId: Identifier of the permission associated to the file added in Google Drive.
deleteFileInGoogleDrive	Deletes a certain file from the Google Drive account.	<p><u>Input</u></p> <ul style="list-style-type: none"> • fileId: Identifier of the file stored in Google Drive to be deleted.
getFileFromGoogleDrive	Gets the link of a certain file from the Google Drive account.	<p><u>Input</u></p> <ul style="list-style-type: none"> • fileId: Identifier of the file stored in Google Drive to be obtained. <p><u>Output</u></p> <ul style="list-style-type: none"> • alternateLink: URL of the file obtained to be used according to the permissions of the current user.
createCopyFileFromGoogleDrive	Makes a copy of a certain file from the Google Drive account. Its name should be provided. By default, it is generated with the name of the original file, concatenating the "-copy" value.	<p><u>Input</u></p> <ul style="list-style-type: none"> • fileId: Identifier of the file stored in Google Drive to be copied. • nameOfCopy: Indicates the name under which the file copy is generated. This parameter is optional. If it has no value, the name of the copied file will be that of the original file concatenated with "-copy". <p><u>Output</u></p> <ul style="list-style-type: none"> • alternativeLinkOfCopiedFile: URL of the file copied to be used according to the permissions of the current user. • fileIdCopied: Identifier of the file copied in Google Drive.
createPermissionInGoogleDriveFile	Adds a permission, either to read or to read and write, to a specific file in the	<p><u>Input</u></p> <ul style="list-style-type: none"> • fileId: Identifier of the file stored in

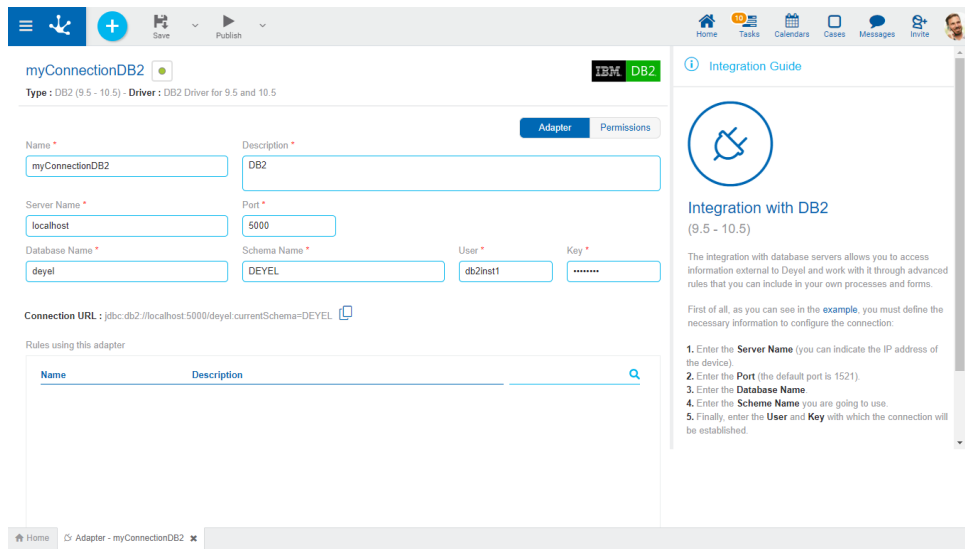
Name	Description	Parameters
	Google Drive account for a specific user.	<p>Google Drive to be added a permission.</p> <ul style="list-style-type: none"> • type: Indicates the type of permission being added. Possible values are: "user" or "anyone". • role: Indicates the role associated to the type of permission generated. Possible values are: "writer", "reader". • cdUser: Code of Deyel user to whom permission is granted. <p><u>Output</u></p> <ul style="list-style-type: none"> • permissionId: Identifier of the permission created and associated to the Google Drive file.
deletePermissionInGoogleDriveFile	Deletes permissions for a specific user on a certain file in the Google Drive account.	<p><u>Input</u></p> <ul style="list-style-type: none"> • fileId: Identifier of the file stored in Google Drive which permissions are to be deleted. • cdUser: Code of Deyel user whose permissions are removed.
getPermissionFromGoogleDriveFile	Gets a permission associated with a certain file in the Google Drive account.	<p><u>Input</u></p> <ul style="list-style-type: none"> • fileId: Identifier of the file stored in Google Drive whose permission is to be obtained. • permissionId: Identifier of the permission associated to the Google Drive file. <p><u>Output</u></p> <ul style="list-style-type: none"> • permissionType: Indicates the type of permission. Possible values are: "user", "group", "domain", "anyone". • permissionRole: Indicates the permission role. Possible values are: "owner", "organizer", "fileOrganizer",

Name	Description	Parameters
		<p>"writer", "commenter", "reader".</p> <ul style="list-style-type: none"> • permissionUser: Indicates the user to which the permission is associated.
getPermissionsFromGoogleDriveFile	Gets all permissions associated with a certain file in the Google Drive account.	<p><u>Input</u></p> <ul style="list-style-type: none"> • fileId: Identifier of the file stored in Google Drive whose permissions are to be obtained. <p><u>Output</u></p> <ul style="list-style-type: none"> • listOfPermissions: List containing the permissions associated with the Google Drive file.
exportToPdfGoogleDriveFile	Generates a temporary file in PDF format from a certain file stored in Google Drive. The name of the PDF file can be indicated through the fileName parameter, by default it is the identifier concatenated with the extension ".pdf".	<p><u>Input</u></p> <ul style="list-style-type: none"> • fileId: Identifier of the file stored in Google Drive to be generated in PDF format. • fileName: Name used for the file generated as PDF. <p><u>Output</u></p> <ul style="list-style-type: none"> • pdfFile: File obtained from Google Drive in PDF format.

These rules are in "Draft" [state](#) and should be published by a user with [administrator permissions](#). The Google Drive adapter should be previously published.

3.7.7.2.2.9. IBM/DB2

Apart from [properties shared by adapters](#) those specific to IBM/DB2 are added.



An asterisk "" on the label indicates that the property is required.*

Server Name

Name or IP address of the server where the database engine is installed.

Port

Port number used by the database engine.

Database Name

Corresponds to the identification of the database with which you want to integrate.

Schema Name

Name of the schema within the database with which you want to integrate.

User

Identification of the database user that has permissions on the schema.

Key

Password of the database user making the connection.

Connection URL

Shows the connection string for the adapter.



Allows to copy the connection URL.

Rules using this adapter

In this grid, the advanced rules used by the adapter are displayed and its definition can be shown from each line.

3.7.7.2.2.10. IDMAuthorizationCode

It is used to store properties when user authentication is performed on an [external Identity Manager](#) using the Authorization Code flow.

The screenshot shows the configuration page for the IDMAuthorizationCode adapter in Identity Manager. The form contains the following fields:

- Name ***: IDMAuthorizationCode
- Description ***: Permite almacenar informacin acerca del Identity Manager utilizado para realizar autenticacin de usuarios
- Client ID ***: afarias_fa@gmail.com
- Client Secret ***: [Redacted]
- Scope ***: [Empty]
- Authentication URL ***: Auth URL
- Access Token Endpoint ***: Access Token Endpoint
- Client Authentication ***: [Dropdown menu]
- Rule to Invoke ***: Rule to Invoke
- Logout URL ***: Logout URL
- Redirect URI ***: https://english74.deyel.com/IDMCallback

The right sidebar, titled "Integration Guide", contains the following text:

Integration with IDMAuthorizationCode

Integration with an Identity Manager allows user authentication externally to Deyel.

First, the necessary information to establish the integration must be filled in:

1. Enter the **Client ID** of your application registered in the IDM.
2. Enter the **Client Secret** obtained from your application registered in the IDM.
3. Enter the **Scope** which represents the scopes that will provide the access data after successful authorization.
4. Enter the **Auth URL** that represents the endpoint of the authorization server from which the authorization code is requested.
5. Enter the **Access token endpoint** which represents the endpoint to use to obtain the access token.
6. Select the type of **Client Authentication** which indicates how credentials are sent of the client.
7. Complete the field **Rule to invoke** specifying the name of the rule to execute to perform additional operations before Deyel authenticates the user. You must enter the name of the rule followed by @()@ followed by the version of the rule.

An asterisk "" on the label indicates that the property is required.*

Authentication URL

Represents the endpoint of the authorization server to which the authorization code is requested.

Access Token Endpoint

Indicates the endpoint to which the access token request is made.

Client Id

Indicates the Client id of the application registered in the IDM.

Client Secret

Indicates the Client Secret of the application registered in the IDM.

Redirect URI

It is not editable. Indicates the redirection URL to which the IDM responds with the code authorization and the corresponding access token.

Scope

Represents the scopes provided by the access data after successful authorization.

Rule to Invoke

It is used to indicate the rule that performs an additional operation with the access token before **Deyel** authenticates the user internally. This rule must be published before the adapter. It must respect the String data type parameter named "access_token" as input parameter. The user that is registering is obtained.

Client Authentication

Indicates how client credentials are sent. The options are:

- Basic Auth Header
- Client Credentials in Body

Logout URL

Indicates the URL where the user is automatically redirected to close the IDM session, once the **Deyel** session is closed.

3.7.7.2.2.11. Informix

Apart from [properties shared by adapters](#) those specific to Informix are added.

The screenshot shows the configuration page for the Informix adapter. The main form includes the following fields:

- Name: myConnectionInformix
- Description: Connection to production Informix
- Server Name: 190.122.80.68
- Port: 9088
- Database Name: Accounting
- Informix Server: PRODUCTION
- User: admin
- Key: [masked]

The Connection URL is: jdbc:informix-sqli://190.122.80.68:9088/Contabilidad:informixserver=PRODUCCION

The sidebar on the right, titled 'Integration Guide', provides instructions for integration with Informix (11.70.FC7):

1. Enter the **Server Name** (you can indicate the IP address of the device).
2. Enter the **Port** (the default port is 9088).
3. Enter the **Database Name**.
4. Enter the **Informix Server** you are going to use.
5. Finally, enter the **User** and **Key** with which the connection will be established.

An asterisk "" on the label indicates that the property is required.*

Server Name

Name or IP address of the server where the database engine is installed.

Port

Port number used by the database engine.

Database Name

Corresponds to the identification of the database with which you want to integrate.

Informix Server

Name of the server that manages the database with which you want to integrate.

User

Identification of the database user that has permissions on the schema.

Key

Password of the database user making the connection.

Connection URL

Shows the connection string for the adapter.



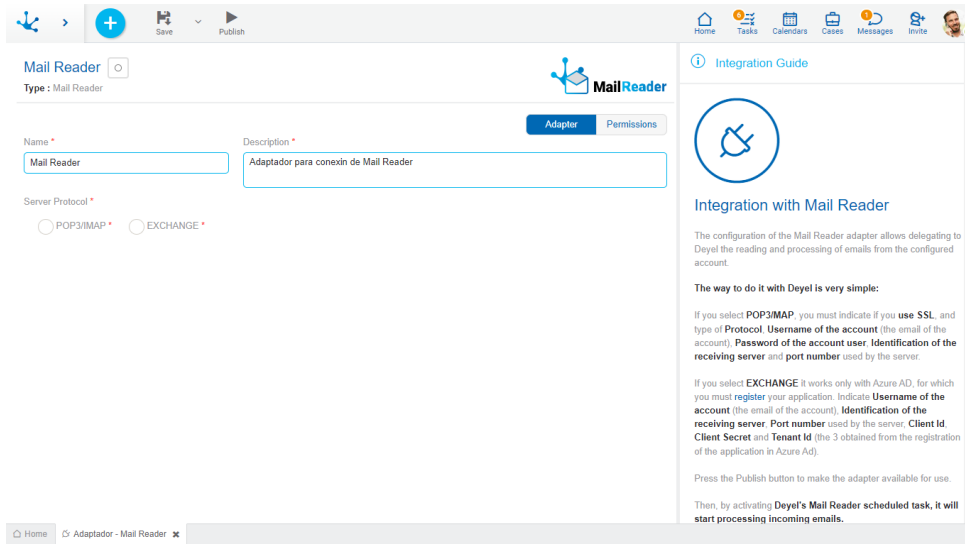
Allows to copy the connection URL.

Rules using this adapter

In this grid, the advanced rules used by the adapter are displayed and their definition can be shown from each line.

3.7.7.2.2.12. Mail Reader

Apart from the [properties shared by adapters](#), those specific to Mail Reader are added.



An asterisk "" on the label indicates that the property is required.*

The adapters modeling allows to define which protocol is used for reading emails.

- POP3/IMAP
- EXCHANGE

Different properties are enabled depending on the selected option.

POP3/IMAP protocol

The screenshot shows the 'Mail Reader' configuration page. The form contains the following fields and values:

- Name: Mail Reader
- Description: Mail Reader connection adapter
- Server Protocol: POP3/IMAP (selected), EXCHANGE (unselected)
- Use of SSL: No
- Protocol: POP3
- Account Username: afarias_fa@gmail.com
- Account User Password: [Redacted]
- Server Identification: 200.55.240.40
- Port: 110

The right sidebar contains an 'Integration Guide' section with the title 'Integration with Mail Reader'. It explains that the configuration allows delegating to Deyel for email reading and processing. It provides instructions for both POP3/IMAP and EXCHANGE protocols, listing required fields like SSL, Protocol, Account Username, Password, Identification, and Port. It concludes with instructions to press the 'Publish' button and activate the 'Deyel's Mail Reader scheduled task'.

An asterisk "" on the label indicates that the property is required.*

Use of SSL

Determines if the SSL protocol is used for sending emails.

Protocol

Allows to select whether the connection is under the IMAP or POP3 protocol.

Account Username

Defines the account where the reading of emails is carried out.

Account User Password

Secret key associated to the [Account Username](#) property, they are used together to establish the connection with the selected protocol.

Server Identification

Identifies whether the server with which the connection is established is IMAP or POP3.

Port

Port number for accessing the IMAP or POP3 server.

EXCHANGE protocol

An asterisk "" on the label indicates that the property is required.*

Server Identification

It must be completed with the value: "outlook.office365.com".

Account Username

Defines the account where the reading of emails is carried out.

Port

Port number for accessing the EXCHANGE server with which the connection is established.

Client Id

Identification of the application registered in the Google Cloud developer console.

Client Secret

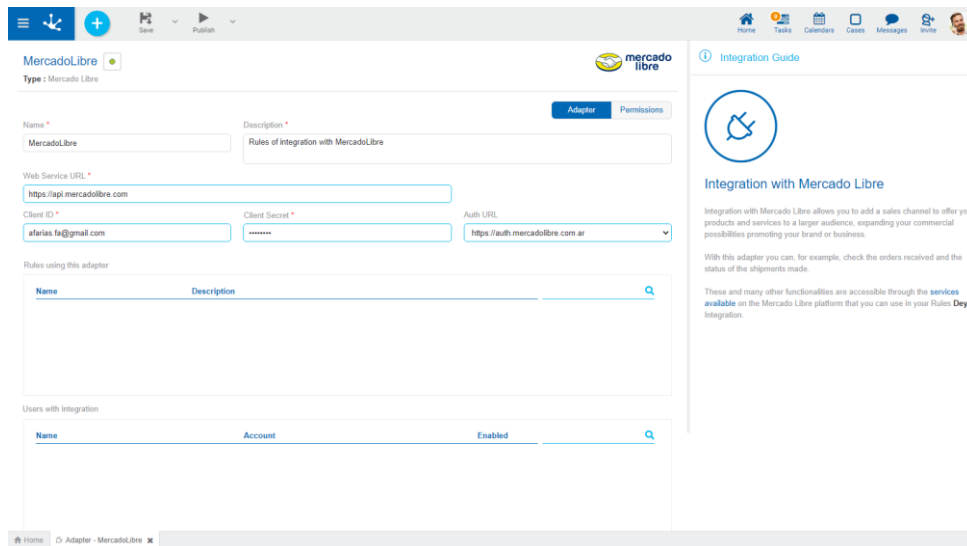
Secret key associated to the [Client ID](#), they are used together to perform user authentication and subsequent use of the application.

Tenant Id

Indicates the id of the directory where the application is registered in the Google Cloud developer console.

3.7.7.2.2.13. Mercado Libre

Apart from [properties shared by adapters](#) those specific to Mercado Libre are added.



An asterisk "" on the label indicates that the property is required.*

Web Service URL

Corresponds to the URL that attends requests for services that are made from the **Deyel** environment to the Mercado Libre platform.

Client ID

Identification of the service that Mercado Libre issues when creating an application on its platform.

Client Secret

Secret key associated to the **Client ID** property, they are used together when requesting access to the resources provided by the platform.

Auth URL

Corresponds to the Mercado Libre URL against which the authentication must be performed.

Rules using this adapter

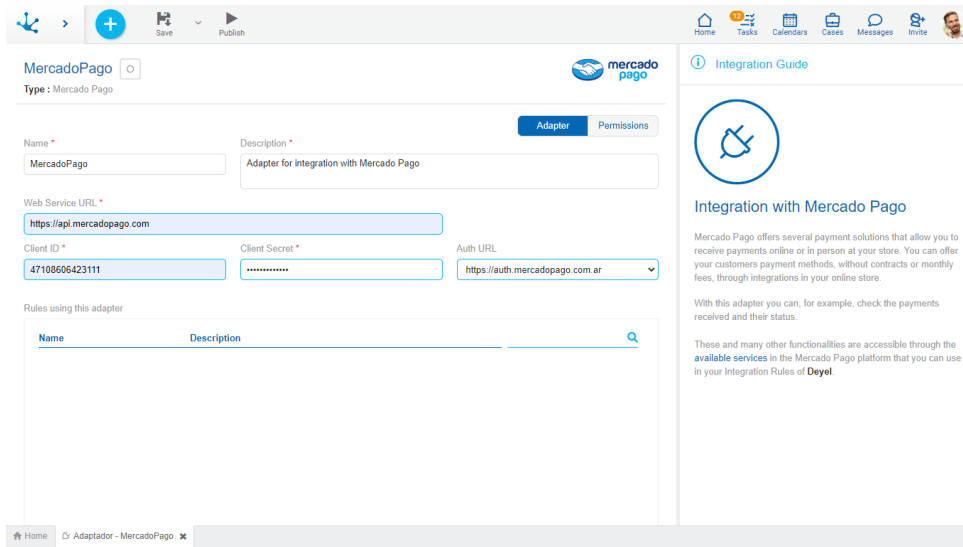
In this grid, the advanced rules used by the adapter are displayed and their definition can be shown from each line.

Users with integration

In this grid you can see the users who have the Mercado Libre integration configured and the state of each one, which can be enabled or disabled. The state can be modified from each line.

3.7.7.2.2.14. Mercado Pago

Apart from [properties shared by adapters](#) those specific to Mercado Pago are added.



An asterisk "" on the label indicates that the property is required.*

Web Service URL

Corresponds to the URL that handles requests for services that are made from the **Deyel** environment to the Mercado Pago platform.

Client ID

Identification of the service that Mercado Pago issues when creating an application on its platform.

Client Secret

Secret key associated to the **Client ID** property, they are used together when requesting access to the resources provided by the platform.

Auth URL

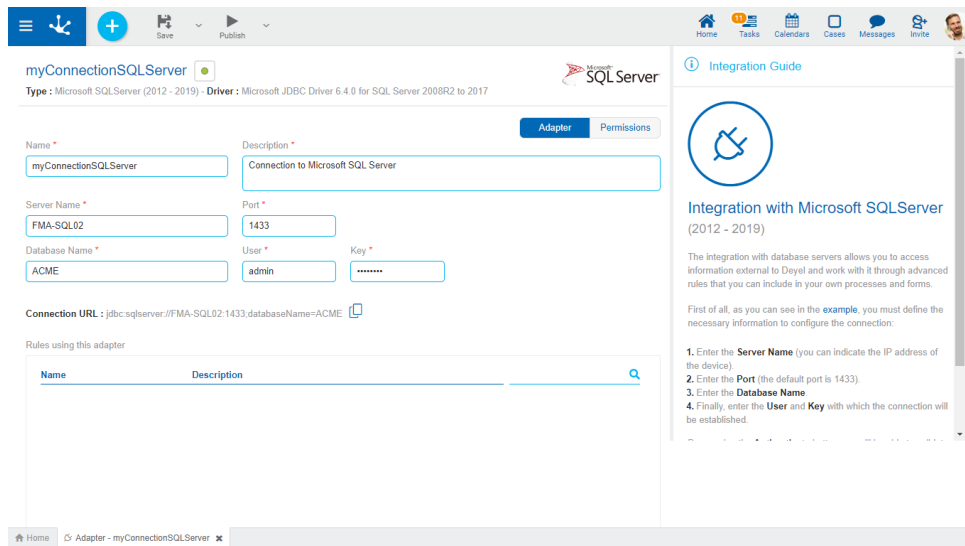
Corresponds to the Mercado Pago URL against which the authentication must be performed.

Rules using this adapter

In this grid, the advanced rules used by the adapter are displayed and their definition can be shown from each line.

3.7.7.2.2.15. Microsoft SQL Server

Apart from [properties shared by adapters](#) those specific to Microsoft SQL Server are added.



An asterisk "" on the label indicates that the property is required.*

Server Name

Name or IP address of the server where the database engine is installed.

Port

Port number used by the database engine.

Database Name

Corresponds to the identification of the database with which you want to integrate.

User

Identification of the database user that has permissions on the schema.

Key

Password of the database user making the connection.

Connection URL

Shows the connection string for the adapter.



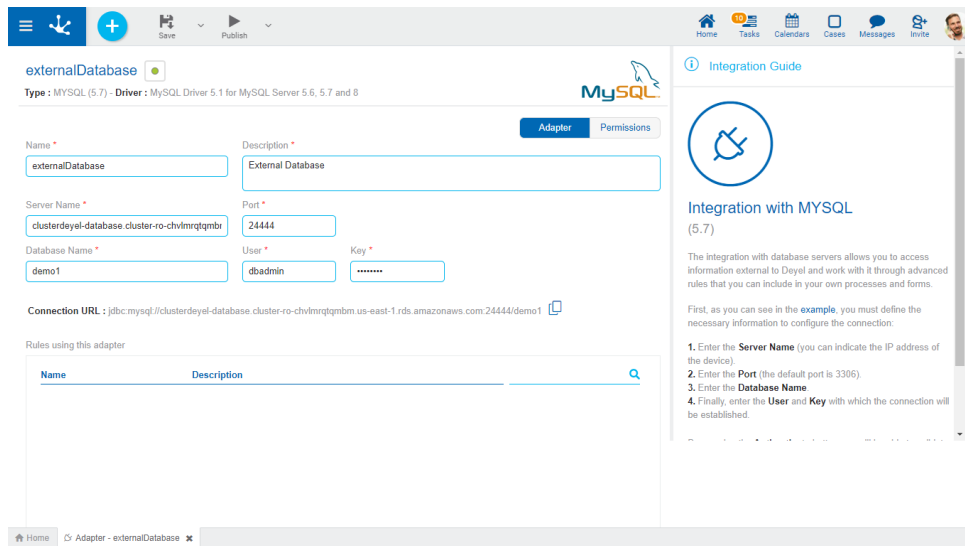
Allows to copy the connection URL.

Rules using this adapter

In this grid, the advanced rules used by the adapter are displayed and their definition can be shown from each line.

3.7.7.2.2.16. MySQL

Apart from [properties shared by adapters](#) those specific to MySQL are added.



An asterisk "" on the label indicates that the property is required.*

Server Name

Name or IP address of the server where the database engine is installed.

Port

Port number used by the database engine.

Database Name

Corresponds to the identification of the database with which you want to integrate.

User

Identification of the database user that has permissions on the schema.

Key

Password of the database user making the connection.

Connection URL

Shows the connection string for the adapter.



Allows to copy the connection URL.

Rules using this adapter

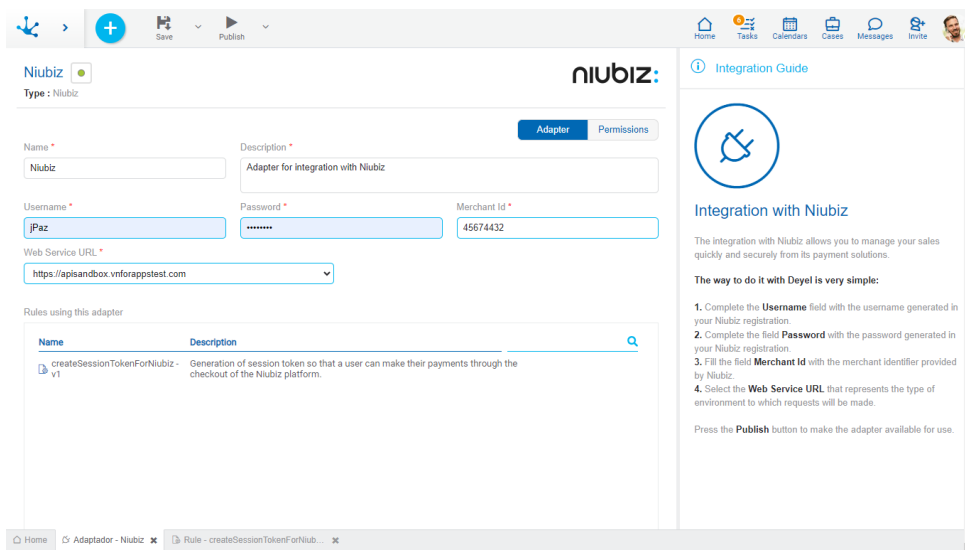
In this grid, the advanced rules used by the adapter are displayed and their definition can be shown from each line.

3.7.7.2.2.17. Niubiz

Integration with Niubiz allows managing sales quickly and securely through its payment solutions.

For its configuration, the merchant that performs the integration should be registered and attached to the Niubiz platform and thus have a merchant code assigned.

Apart from the [properties shared by adapters](#) those specific to Niubiz are added.



An asterisk "" on the label indicates that the property is required.*

Username

Username generated when registering in Niubiz. It is used together with the Password attribute to generate the corresponding access token.

Password

Password generated when registering in Niubiz. It is used together with the Username attribute to generate the corresponding access token.

Merchant Id

Merchant identifier provided by Niubiz upon registration.

Web Service URL

It represents the type of environment to which the requests are made and can be selected between a productive or sandbox environment.

Built-in Rules

In **Deyel**, there is a built-in rule that performs operations using the Niubiz API and provides the corresponding session token to use the payment checkout of the platform.

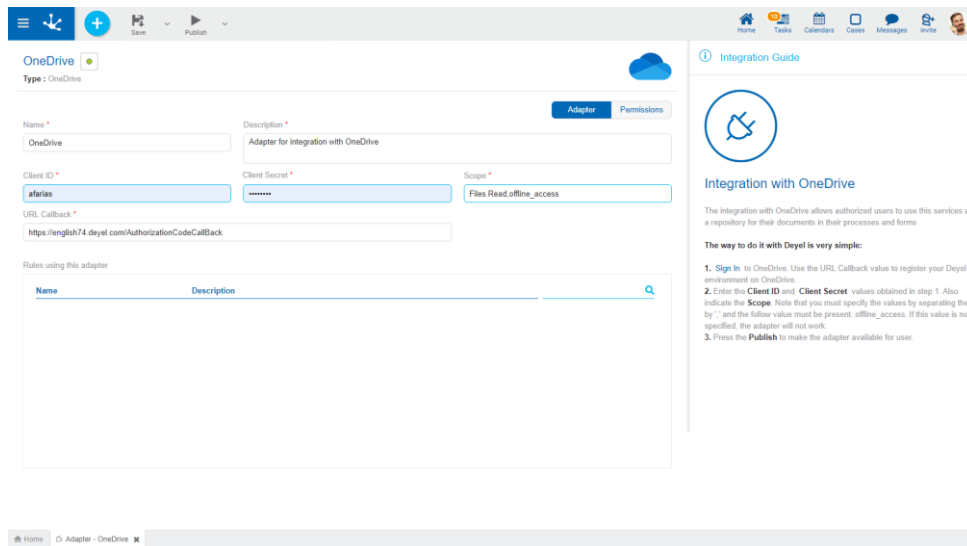
Name	Description	Parameters
createSessionTokenForNiubiz	Generates the session token, for a user to perform their payments through the Niubiz platform checkout.	<u>Input</u> <ul style="list-style-type: none"> pAmount: amount to show and pay through the Niubiz checkout.

Name	Description	Parameters
		<ul style="list-style-type: none"> • pMerchantDefineData: values assigned by Niubiz for each merchant to form the anti-fraud object. <p><u>Output</u></p> <ul style="list-style-type: none"> • pSessionToken: session token generated to instantiate the Niubiz checkout. • pMerchantId: merchant code. It is used to instantiate the payment checkout.

This rule is in "Draft" [state](#) and should be published by a user with [administrator permissions](#). The Niubiz adapter should be previously published.

3.7.7.2.2.18. OneDrive

Apart from [properties shared by adapters](#) those specific to OneDrive are added.



An asterisk "*" on the label indicates that the property is required.

Client ID

Identification of the service that OneDrive issues when creating an application on its platform.

Client Secret

Secret key associated to the [Client ID](#) property, they are used together when requesting access to the resources provided by the platform.

Scope

Determines what type of access is granted to the application when the user logs in, based on [documentation](#).

URL Callback

This property must be defined when creating the application on OneDrive and corresponds to the URL that handles the return of requests for services that are made from the **Deyel** environment to the GoogleDrive platform.

The value for this property must be composed with the name of the environment Deyel <https://deyel.com/AuthorizationCodeCallBack>.

Rules using this adapter

In this grid, the advanced rules used by the adapter are displayed and their definition can be shown from each line.

3.7.7.2.2.19. OpenAI

Apart from the [properties shared by adapters](#) those specific to OpenAI are added.

The screenshot displays the configuration page for the OpenAI adapter in the Deyel system. At the top, there are navigation icons and a 'Publish' button. The main area is titled 'OpenAI' and includes a 'Type: OpenAI' label. Below this, there are input fields for 'Name' (filled with 'OpenAI'), 'Description' (filled with 'Adaptador para integración con OpenAI'), 'Web Service URL' (filled with 'https://api.openai.com'), and 'API Key' (masked with dots). A 'Publish' button is located next to the 'Name' field. Below the input fields, a table titled 'Rules using this adapter' lists three rules with their names and descriptions. To the right, an 'Integration Guide' sidebar provides instructions on how to use the adapter, including a list of steps: 1. Enter the Service URL, 2. Enter the API Key, and 3. Press the Publish button. The bottom of the page shows a breadcrumb trail: Home > Adaptador - OpenAI.

An asterisk "" on the label indicates that the property is required.*

Web Service URL

Corresponds to the URL that handles requests for services that are made from the **Deyel** environment to the OpenAI platform.

API Key

It is the access key granted by OpenAI to perform user authentication.

Rules using this adapter

In this grid, the advanced rules used by the adapter are displayed and their definition can be shown from each line.

Built-in Rules

There are built-in rules to use the adapter in **Deyel** that perform operations using the OpenAI API.

Name	Description	Parameters
openAICreateEmbeddings	Given an input text generates the corresponding embedding.	<p><u>Input</u></p> <ul style="list-style-type: none">• input: Text from which the embedding is generated.• model: Model identifier to use. It can use text-embedding-ada-002 or text-search-ada-doc-001. By default, text-embedding-ada-002 is used. <p><u>Output</u></p> <ul style="list-style-type: none">• response: Embedding generated.
openAIIntegrationRule	Given a text and additional parameters, a query is sent to ChatGPT and its answer is awaited.	<p><u>Input</u></p> <ul style="list-style-type: none">• model: Model identifier to use. It can use any provided by OpenAI.• messages: List of messages indicating the context of the conversation. Each message should keep to the format required by OpenAI where the role and content must be specified.• name: Name of the author of the message.• temperature: Value indicating randomness in the response by OpenAI. Values correspond to those indicated in its API Reference.• topp: Alternative to the temperature parameter. Either one should be used.• n: Indicates the number of possible answers for the chat indicated in the message list.• maxtokens: Maximum number of tokens to generate in the chat completion. It is limited by the model

Name	Description	Parameters
		<p>used.</p> <ul style="list-style-type: none"> • presencepenalty: Number between -2.0 and 2.0. Positive values penalize new tokens based on whether they appear in the text so far, increasing the likelihood that the model will talk about new topics. • frequencypenalty: Number between -2.0 and 2.0. Positive values penalize new tokens based on their existing frequency in the text so far, reducing the likelihood that the model will repeat the same line word for word. • user: Unique identifier representing the end user, which can help OpenAI monitor and detect abuse. <p><u>Output</u></p> <ul style="list-style-type: none"> • completeResponse: Full answer by OpenAI. • listOfMessages: List of messages generated by OpenAI. • listOfMessagesWithRoles: List of messages generated by OpenAI with roles included.
openAIModerationRule	Given an input text, it is checked for inappropriate content according to the OpenAI content policies.	<p><u>Input</u></p> <ul style="list-style-type: none"> • input: Input text to classify. <p><u>Output</u></p> <ul style="list-style-type: none"> • hate: Represents whether or not the given text has hate content. • hatethreatening: Represents whether or not the given text has threatening or hate content. • selfharm: Represents whether or not the given text has self-harm content.

Name	Description	Parameters
		<ul style="list-style-type: none"> • sexual: Represents whether or not the given text has sexual content. • sexualminors: Represents whether or not the given text has sexual content on minors. • violence: Represents whether or not the given text has violence content. • violencegraphic: Represents whether or not the given text has violence graphic content.

These rules are in "Draft" [state](#) and they should be published by a user with [administrator permissions](#). The OpenAI adapter should be previously published.

3.7.7.2.2.20. Oracle

Apart from [properties shared by adapters](#) those specific to Oracle are added.

The screenshot displays the configuration page for the 'myConnectionOracle' adapter. The 'Name' field is 'myConnectionOracle' and the 'Description' is 'Oracle connection'. The 'Server Name' is 'ORA_PROD', 'Port' is '1521', 'Schema Name' is 'Budgets', 'User' is 'dbo', and 'Key' is masked with asterisks. The 'Connection URL' is 'jdbc:oracle:thin:@ORA_PROD:1521:Budgets'. A table below shows 'Rules using this adapter' with columns for 'Name' and 'Description'. On the right, an 'Integration Guide' for ORACLE (11.2.0.4 to 21.5) is visible, detailing the steps to configure the connection and the use of integration rules.

An asterisk "*" on the label indicates that the property is required.

Server Name

Name or IP address of the server where the database engine is installed.

Port

Port number used by the database engine.

Schema Name

Name of the schema within the database with which you want to integrate.

User

Identification of the database user that has permissions on the schema.

Key

Password of the database user making the connection.

Connection URL

Shows the connection string for the adapter.



Allows to copy the connection URL.

Rules using this adapter

In this grid, the advanced rules used by the adapter are displayed and their definition can be shown from each line.

3.7.7.2.2.21. PayPal

Apart from the [properties shared by adapters](#), those specific to PayPal are added.

The screenshot displays the configuration page for the PayPal adapter. The 'Name' field is 'PayPal' and the 'Description' is 'Adapter for integration with PayPal'. The 'Web Service URL' is 'https://api-m.sandbox.paypal.com/'. The 'Client ID' is 'AXZajbF-1gc5Wqh_mi33NYbvKX8RDafVq4P1'. The 'Client Secret' is masked with dots. The 'Token Endpoint' is 'https://api-m.sandbox.paypal.com/v1/oauth'. The 'Webhook Rule' is 'paypalWebhookNotificationProcessing@@1'. Below these fields is a table titled 'Rules using this adapter' with columns for 'Name' and 'Description'. On the right, an 'Integration Guide' sidebar provides instructions on how to register the application and configure the adapter.

An asterisk "" on the label indicates that the property is required.*

Web Service URL

Corresponds to the URL that handles requests for services that are made from the **Deyel** environment to the PayPal platform.

Token Endpoint

Allows to select whether the token is obtained from a production environment or a test environment.

Client ID

Identification of the service that PayPal issues when creating an application on its platform.

Client Secret

Secret key associated to the [Client ID](#) property, they are used together when requesting access to the resources provided by the platform.

Webhook Rule

Indicates the rule that must be modified or created in case it does not exist, to administrate the necessary webhook notifications. It is a non-editable property.

Webhook URL

Indicates the URL that must be copied and configured in the application registered with PayPal, in order to receive and process webhook notifications. It is a non-editable property.

Rules using this adapter

In this grid, the advanced rules used by the adapter are displayed and their definition can be shown from each line.

3.7.7.2.2.2. SAP

Apart from [properties shared by adapters](#) those specific to SAP are added.

The screenshot displays the configuration page for the 'sapAdapter' in the Deyel platform. The main form includes the following fields:

- Name ***: sapAdapter
- Description ***: Sap
- URL of the REST API Web Service ***: https://sandbox.api.sap.com/s4hanacloud/sap/opu/odata/sap/
- Key ***: APIKey
- Value ***:

Below the form is a table titled 'Rules using this adapter' with columns for 'Name' and 'Description'. The table is currently empty.

On the right side, the 'Integration Guide' sidebar contains the following information:

- Integration with SAP**: The integration with SAP allows you to synchronize business information and processes such as Inventory Management, Budget Control, Sales, etc.
- The way to do it with Deyel is very simple:**
 1. Get the value of your **Api Key** in SAP.
 2. Enter the values of the **Api Key** obtained in step 1, filling in the **Key** and **Value** fields.
 3. Enter the **URL of the Web Service REST API** of your SAP installation.
 4. Press the **Authenticate** button to validate the information entered.
 5. Press the **Publish** button to make the adapter available for use.

An asterisk "" on the label indicates that the property is required.*

URL of the REST API Web Service

Service URL of the SAP environment with which it is integrating.

Key

Identifier that serves as a means of authentication to use of the service, provided by the SAP environment.

Value

Key associated to the property [Key](#), also provided by the SAP environment.

Rules using this adapter

In this grid, the advanced rules used by the adapter are displayed and their definition can be shown from each line.

3.7.7.2.2.23. Soap

Apart from [properties shared by adapters](#) those specific to Soap are added.

The screenshot displays the configuration page for a SOAP adapter in the Deyel system. The main form includes the following fields:

- Name ***: adapterSOAP
- Description ***: SOAP
- Service URL ***: https://english74.deyel.com/services/Workflow
- WSDL URL ***: https://english74.deyel.com/services/Workflow?wsdl
- Port ***: Workflow
- Service ***: WSWorkflowImplService
- Axis ***: (unselected)
- Standard ***: (selected)

Below the form is a table titled "Rules using this adapter" with columns for Name and Description. To the right, an "Integration Guide" sidebar explains that SOAP integration allows access to objects and functions and lists five steps: 1. Enter the Service URLs and the WSDL URL. 2. Enter the Port and the name of the Service you want to use. 3. Indicate the type of the Provider. 4. Press the Authenticate button to validate the information entered. 5. Press the Publish button to make the adapter available for use.

An asterisk "" on the label indicates that the property is required.*

Service URL

Address of the SOAP service with which you want to integrate.

WSDL URL

Address where the definition of the SOAP service classes and methods is obtained.

Port

Port number used by the SOAP service.

Service

It is the name of the service class.

Authentication Method

Identifies how **Deyel** will authenticate with the service. Possible values are:

- Axis
- Standard

Rules using this adapter

In this grid, the advanced rules used by the adapter are displayed and their definition can be shown from each line.

3.7.7.2.2.24. Stripe

Apart from the [properties shared](#) by adapters, those specific to Stripe are added.

The screenshot shows the configuration interface for the Stripe adapter. It includes a header with navigation icons and a sidebar with an 'Integration Guide' section. The main form contains the following fields:

- Name ***: Stripe
- Description ***: Adapter for integration with Stripe
- Public API Key ***: [Empty field]
- Secret API Key ***: [Empty field]
- Webhook Rule ***: stripeWebhookNotificationProcessing@@1
- Webhook URL ***: https://docu.deyel.com/webhooks/Stripe

Below the form is a table titled 'Rules using this adapter' with columns for Name and Description. The table is currently empty.

The sidebar on the right contains an 'Integration Guide' section with a Stripe logo and text explaining the integration process, including a list of steps: 1. Sign up for Stripe, 2. Enter the Public API Key and Secret API Key codes provided by Stripe, 3. Press the Publish button to make the adapter available for use.

An asterisk "" on the label indicates that the property is required.*

Public API Key

It is the public key given by Stripe to build payment flows using the Stripe.js library.

Secret Api Key

It is the secret key given by Stripe, used to request access to the resources provided by the platform.

Webhook Rule

Indicates the name of the rule that should be used, to administrate the necessary webhook notifications. If the rule does not exist, it must be created. It is a non-editable property.

Webhook URL

Indicates the URL to be copied and configured in the application registered with Stripe, in order to receive and process webhook notifications. It is a non-editable property.

Rules using this adapter

In this grid, the advanced rules used by the adapter are displayed and their definition can be shown from each line.

Available Methods

Advanced rules created on the Stripe adapter have built-in methods.

Name	Description	Result
getPublicAPIKey()	Gets the public key configured on the adapter.	String

Name	Description	Result
createPaymentIntent(pAmount, pCurrency, pRelatedObject)	<p>Used to create a payment attempt and instantiate the Stripe payment form.</p> <p>Parameters</p> <ul style="list-style-type: none"> • Double pAmount: Payment amount. • String pCurrency: Payment currency code. According to currency codes available on Stripe. • String pRelatedObject: Identifier of the Deyel object to associate with the payment. It's optional. 	String

For example, to use Stripe's Payment Element solution, an advanced rule that uses the `getPublicAPIKey()` method and stores the obtained value in an output parameter of the rule should be created.

Subsequently, the previous advanced rule must be executed and the value of the output parameter must be used as the public key.

For detailed information, refer to the [Stripe documentation](#).

3.7.7.2.2.25. Tiendanube

Apart from [properties shared by adapters](#) those specific to Tiendanube are added.

The screenshot shows the configuration page for the 'Tiendanube' adapter in the Deyel interface. The form contains the following fields:

- Name ***: Tiendanube
- Description ***: Rules of integration with Tienda Nube
- Web Service URL ***: https://api.tiendanube.com/v1/
- Client ID ***: 2688
- Client Secret ***: [Redacted]
- Store ID ***: 121212
- Auth URL**: https://www.tiendanube.com/apps/

Below the form is a table for 'Rules using this adapter' with columns for Name and Description. On the right, an 'Integration Guide' sidebar provides instructions on how to integrate with Tiendanube, including steps for registration, entering credentials, and publishing the adapter.

An asterisk "" on the label indicates that the property is required.*

Web Service URL

Corresponds to the URL that handles the return of requests for services that are made from the **Deyel** environment to the Tiendanube platform.

Client ID

Identification of the service that Tiendanube issues when creating an application on its platform.

Client Secret

Secret key associated to the [Client ID](#) property, they are used together when requesting access to the resources provided by the platform.

Store ID

It is the unique identification of the store in Tiendanube

Auth URL

It corresponds to the URL of Tiendanube against which the authentication must be performed.

Rules using this adapter

In this grid, the advanced rules used by the adapter are displayed and their definition can be shown from each line.

3.7.7.2.2.26. Twitter

Deyel allows integration with the Twitter platform through this adapter. In it, the connection credentials are registered and the interaction of the network users of **Deyel** with Twitter can be centrally managed.

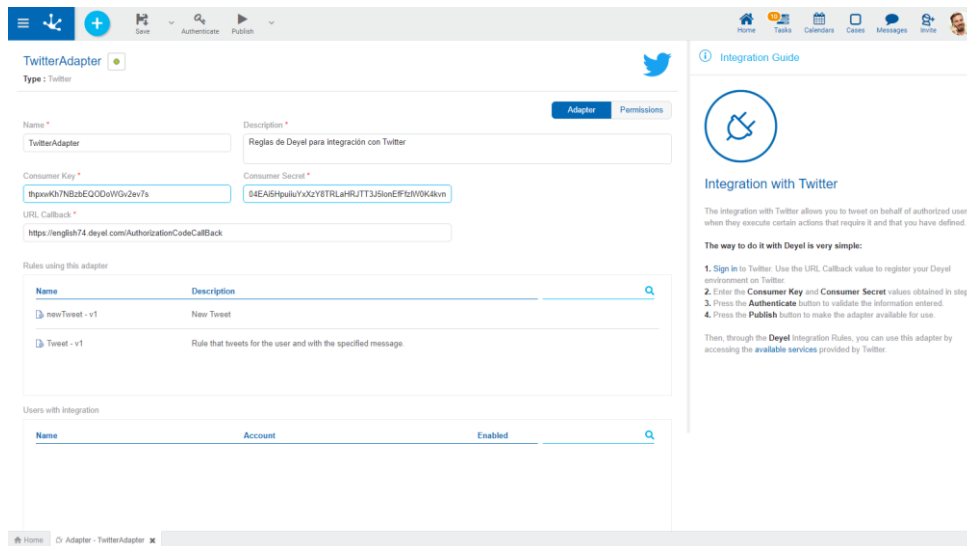
From their profile, each user can enter their credentials to access their Twitter account so that **Deyel** uses them when connecting on its behalf, for example, to publish a post.

Steps for Integration with Twitter

- [Register an application on Twitter](#) that identifies the instance of **Deyel**.
- Model the properties of the Twitter adapter detailed below.
- Users must authorize **Deyel** to use the Twitter account from their [profile](#).

Properties

Apart from [properties shared by adapters](#) those specific to Twitter are added.



An asterisk "" on the label indicates that the property is required.*

Consumer Key

Identification key of the service that Twitter issues when creating an application on its platform.

Consumer Secret

Secret key associated to the property [Consumer Key](#), are used together when requesting access to the resources provided by the platform.

URL Callback

This property must be defined when creating the application on Twitter and corresponds to the URL that handles the return of requests for services that are made from the **Deyel** environment to the Twitter platform.

The value for this property must be composed with the name of the environment Deyel `https://.deyel.com/AuthorizationCodeCallBack`.

Rules using this adapter

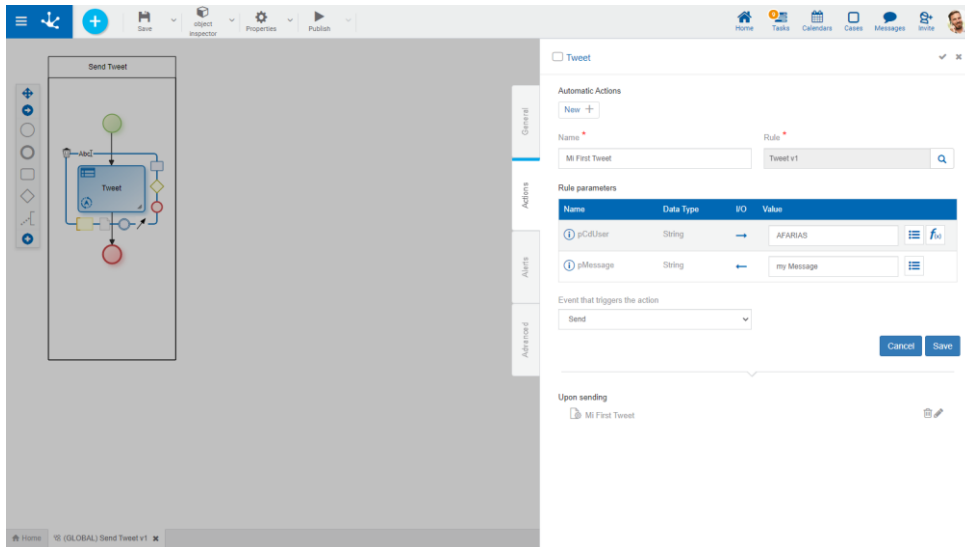
In this grid, the advanced rules used by the adapter are displayed and their definition can be shown from each line.

Users with integration

This grid shows users who have configured the integration with Twitter in their [profile](#) and the state of each one, which can be enabled or disabled. The state can be modified from each line.

Example of Use

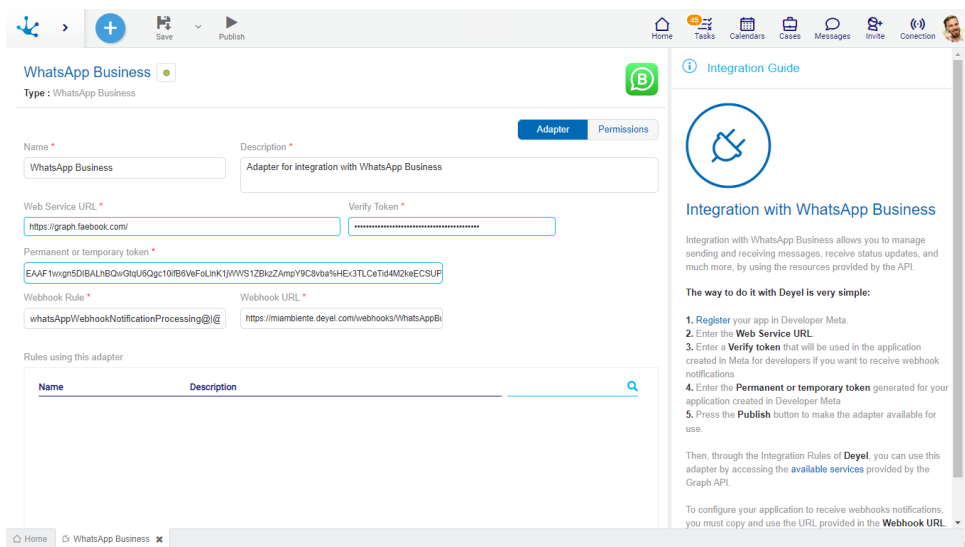
In a content publishing management process, an activity can publish a tweet automatically.



It must be a [rule](#) type activity and as an [automatic action](#) it invokes a "Tweet v1 - Rule" rule that publishes a tweet to the user with the specified message. The user that publishes the tweet and the message are reported as parameters.

3.7.7.2.27. WhatsApp Business

Apart from the [properties shared](#) by adapters, those specific to WhatsApp Business are added.



An asterisk "" on the label indicates that the property is required.*

Web Service URL

Corresponds to the URL that handles requests for services that are made from the **Deyel** environment to the WhatsApp Business platform.

Verify Token

Verification token configured in the application developed in WhatsApp Business. It is used to verify that the webhook that is indicated to receive notifications works correctly.

Permanent or Temporary Token

Temporary or permanent token obtained in the application developed in WhatsApp Business. It is used to access the different endpoints offered by the WhatsApp API.

Webhook Rule

Indicates the rule that must be modified or created in case it does not exist, to administrate the necessary webhook notifications. It is a non-editable property.

Webhook URL

Indicates the URL that must be copied and configured in the application registered with WhatsApp Business, in order to receive and process webhook notifications. It is a non-editable property.

Rules using this adapter

In this grid, the advanced rules used by the adapter are displayed and their definition can be shown from each line.

3.7.8. Pages Modeling

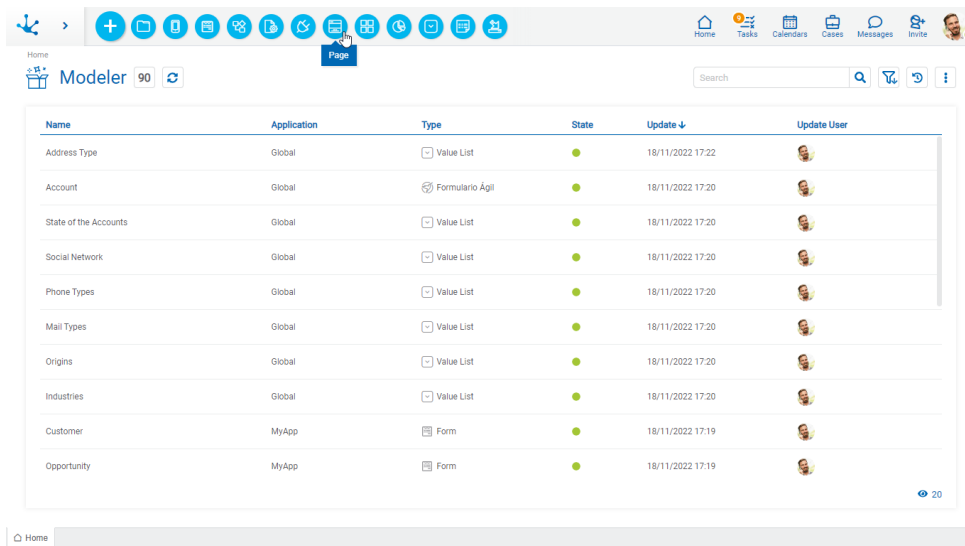
The page modeler allows to create custom interfaces that make up the application being modeled. Pages can display business information and define data sources if necessary.

Pages are fully responsive, automatically adjusting to the screen or device they are being viewed on to deliver the best user experience, every time. The [elements](#) can be modeled as fixed (size in px), which means that their size does not change, regardless of the breakpoint, or fluid (size in %) which means that the element automatically changes its size according to the [breakpoint](#) and the modeler preferences. These units of measure help create a layout that fits perfectly in any breakpoint.

To have a page that is as adaptable as possible, it is convenient to use relative measurements, allowing inferior elements to change size in relation to the superior elements, ensuring that elements do not overlap and look good on all types of screens, this is achieved by setting the size of elements from highest to lowest hierarchy.

Elements can be dragged anywhere on the page, within [sections](#) or [containers](#). They can also be dragged into [layout](#) elements.


Although the page modeler is aimed at modeling without writing a single line of code, there is the possibility of extending the operation of the page and its elements through [events](#) and Deyel SDK for JS.



The general characteristics of the page modeler and the main elements that compose it are described in the following topics:

- [Modeling Facilities](#)
- [Modeling Area](#)
- [Page Properties](#)

A new page can be created from the icon  corresponding to the context menu in the modeler.

- From the icon .
- From the expanded menu using the "Page" option.

Operations can be performed on existing pages by using the icons available in each line of the [objects grid](#) of the **Deyel** modeler.

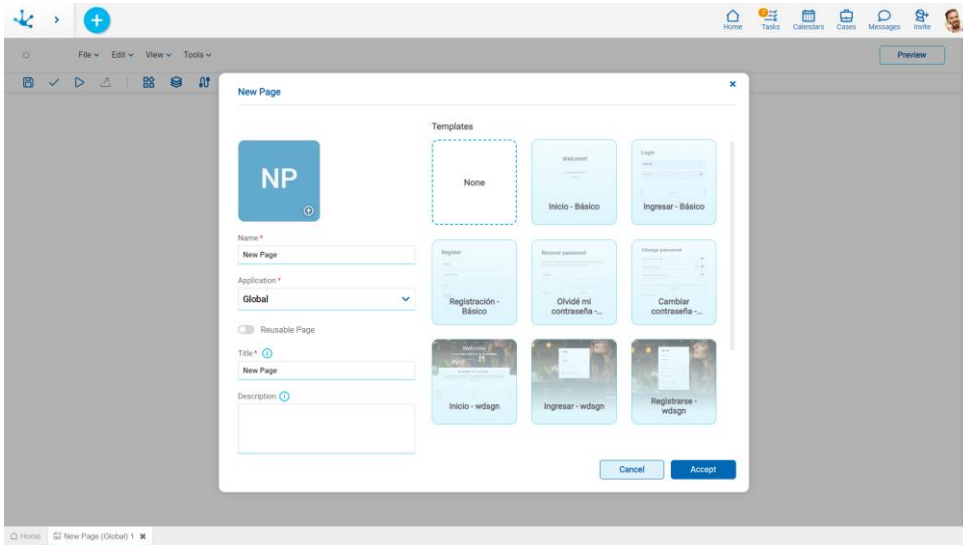
3.7.8.1. Modeling Facilities

General characteristics of this modeler are specified below.

New Page

The modeler user defines a new page, which after being published is available to be used on any device.

When creating the page, it opens a panel that allows to define some of its [general properties](#) and select a built-in template that is displayed in the graphic modeling area when starting the page modeler. The page modeler can also be started without selecting a template.

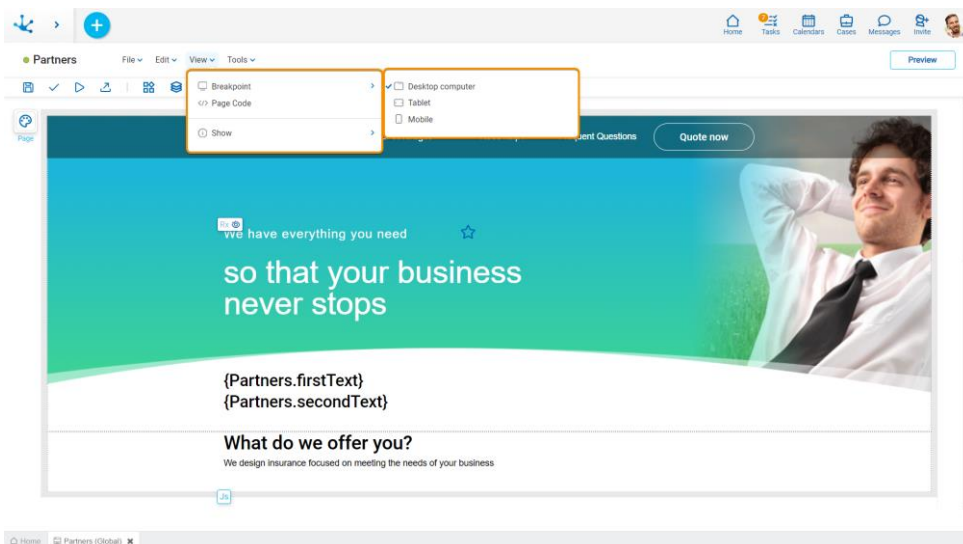


Workspace Sections

- [Expanded Menu](#)
- [Top Toolbar](#)
- [Modeling Area](#)

3.7.8.1.1. Expanded Menu

It is a horizontal list of options containing vertical submenus with different operations on the page or on its modeling. In turn, each option in a submenu may expand a dependent submenu.



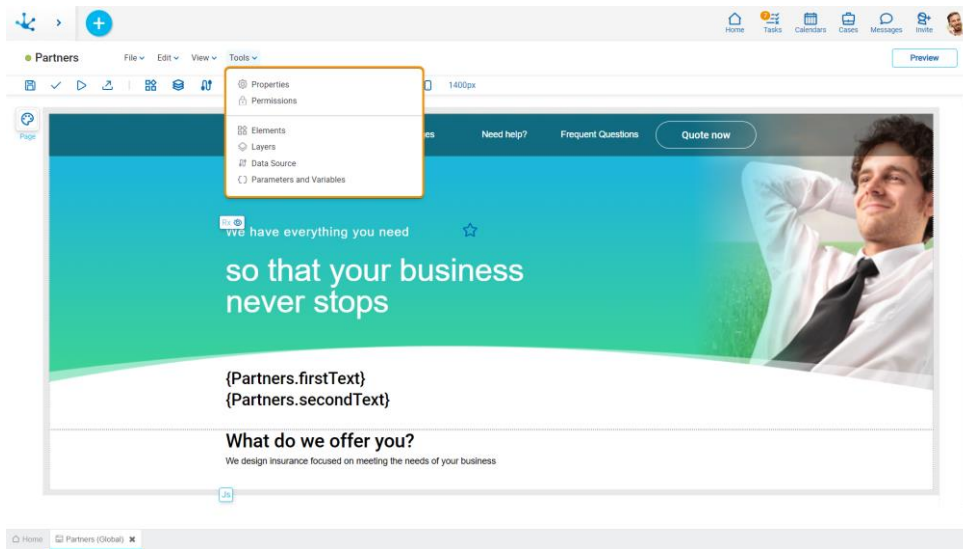
The expanded menu is made up of:

- [File Submenu](#)

- [Edit Submenu](#)
- [View Submenu](#)
- [Tools Submenu](#)

3.7.8.1.1.1. File Submenu

This submenu is opened by clicking on the "File" option and allows to perform operations on the page.



Save

This icon allows to save the object in the repository of **Deyel**, leaving its state as "Draft" or "Modified". If certain conditions are met, the modeler user receives a message indicating that the operation was performed correctly, otherwise they receive an explanatory message.

Conditions

- The application for the object must exist.
- The name in the application must be unique.
- The permissions for the object must exist.

Save As

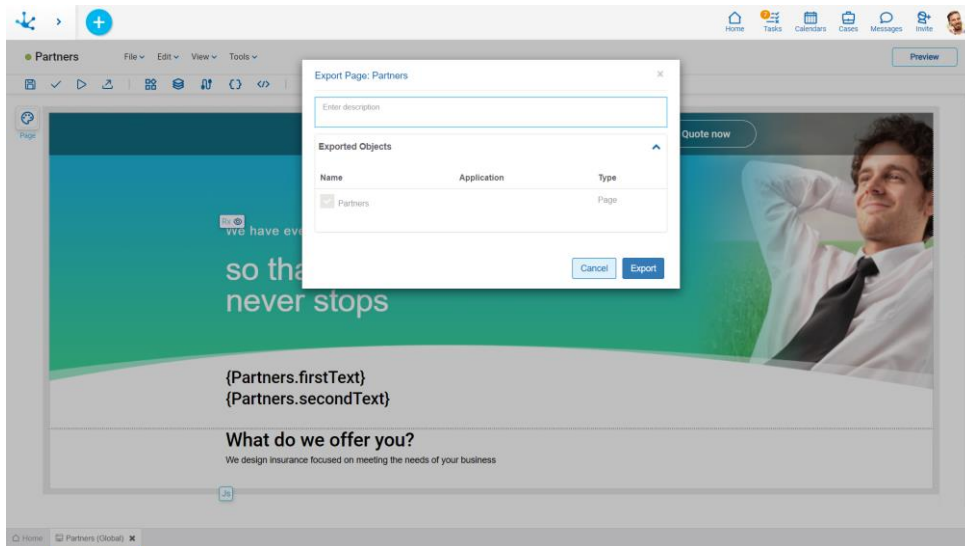
It allows to create a copy of the modeled page, defining a new name, application, title and description. That copy is opened in a new tab in [state](#) "Draft".

Delete

It allows to delete the object only if it is in [state](#) "Draft" and does not have other associated objects of **Deyel** that were previously saved or published. When deleted, the tab it is on closes and the object is removed from the modeler's grid.

Export

This icon opens a window for the user to select and confirm the export of the object.



Properties

Description

In this property a text explaining the reason for the operation can be entered.

This text can be modified upon import and is displayed in the description column of the [export record](#).

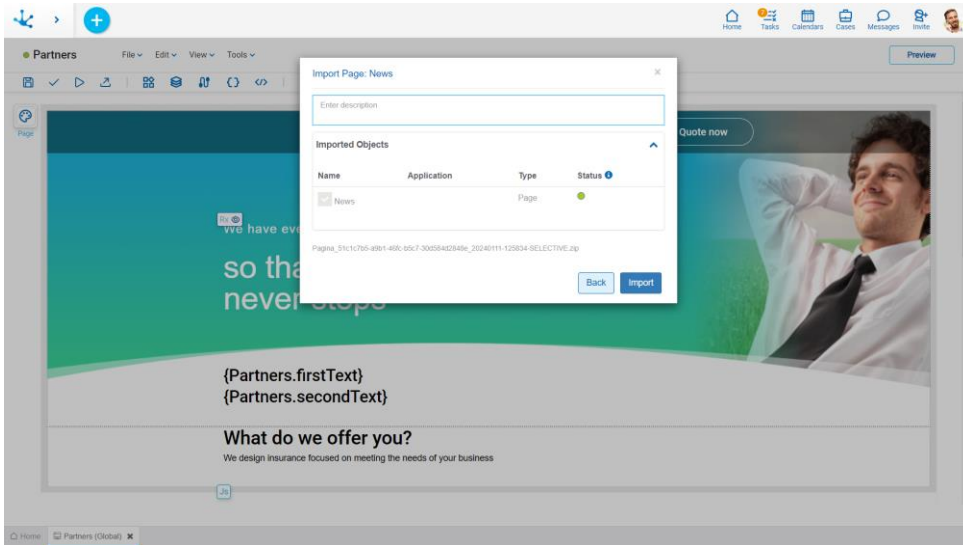
Exported Objects

By expanding the container, the object being exported is shown.

Press the "Cancel" button to undo export or press the "Export" button to finish.

Import

It allows to open a window for the user to select and confirm the import of the object.



Performing this operation is equivalent to using the functionality of [importing](#) from the modeler's context menu.

✓ Validate

This icon allows to validate if the object is ready to be published, that is, the same validations are carried out as when [publishing](#) and the result of them is reported.

▶ Publish

Through this icon the object changes to "Published" [state](#) and the modeler user receives the corresponding message, indicating the result of the operation. The condition for publishing is the same as for the "Save" operation.

Condition

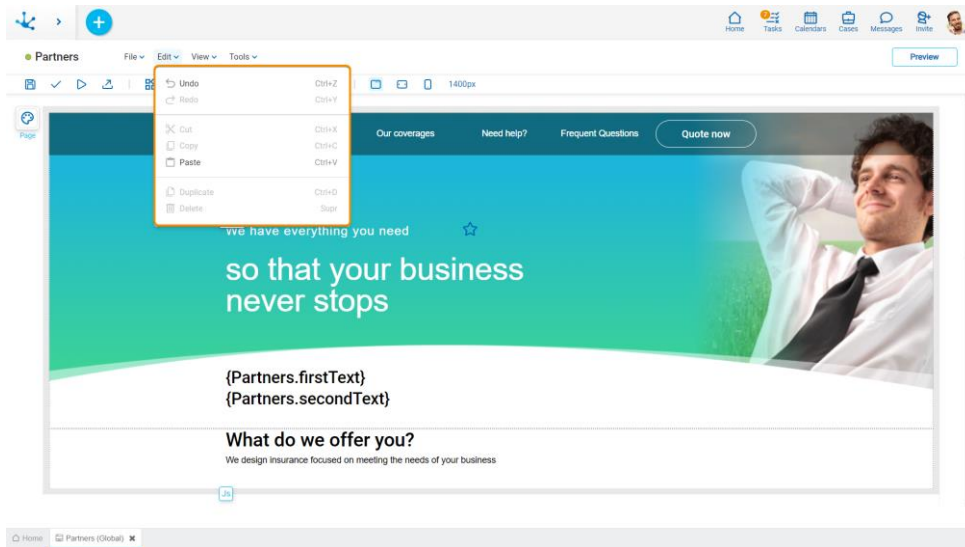
- The entities and [related rules](#) used in a data source must be published.

🗑️ Delete Publication

Allows to leave the object unavailable for use by returning it to the "Draft" [state](#).

3.7.8.1.1.2. Edit Submenu

This submenu is opened by clicking on the "Edit" option and allows to perform operations within the modeler.



↶ Undo (Ctrl+Z)

Allows to easily reverse the changes made in the modeler.

↷ Redo (Ctrl+Y)

Allows to easily reapply the changes made in the modeler.

✂ Cut (Ctrl+X)

Allows to send the selected element to the clipboard while deleting it from the graphic modeling area.

📄 Copy (Ctrl+C)

It allows to copy any application element and temporarily place it on the clipboard.

📄 Paste (Ctrl+V)

It allows to take the item from the clipboard and place it elsewhere in the graphic modeling area.

📄 Duplicate (Ctrl+D)

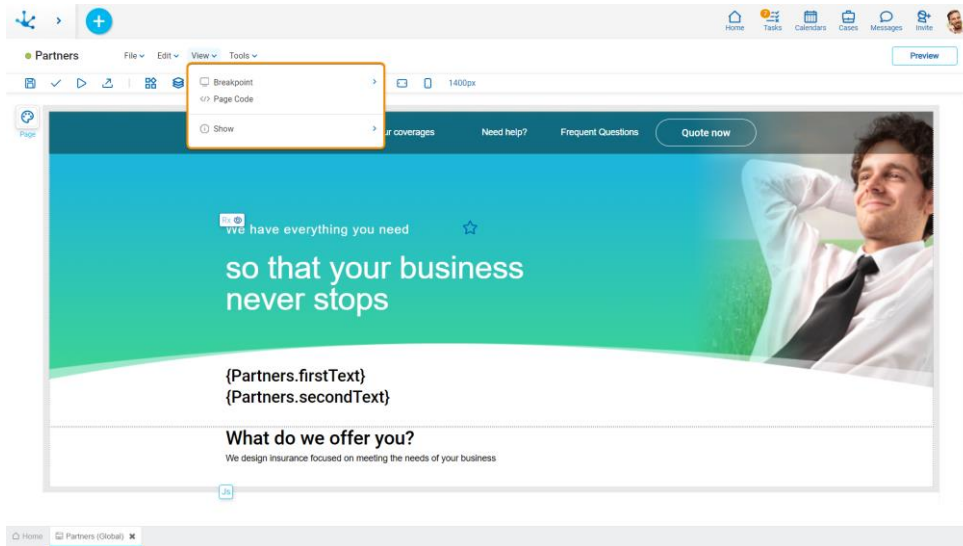
It allows to make a copy of any application element within the graphic modeling area.

Delete (Del)

It allows to delete the selected element from the graphic modeling area.

3.7.8.1.1.3. View Submenu

This submenu is opened by clicking on the "View" option and allows to select different ways of displaying the page.



Breakpoint

By clicking on "Breakpoint", a secondary submenu is displayed, where the following options can be selected:

- Desktop Computer
- Tablet
- Mobile

Page Code

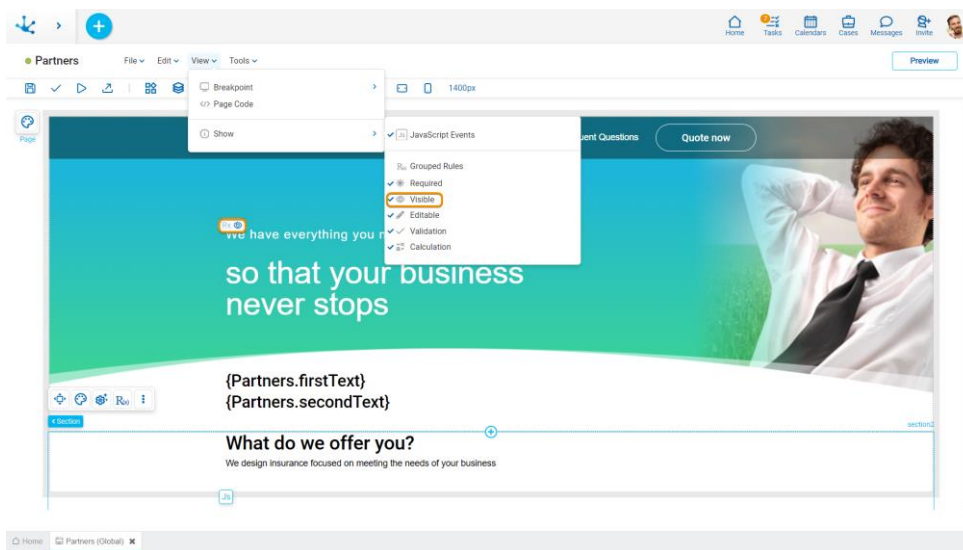
By selecting this option, an area for [code editing](#) at the bottom margin of the modeling area is either opened or closed.

Show

This functionality allows showing or hiding the set of visual icons that indicate the behavior that affects the elements.

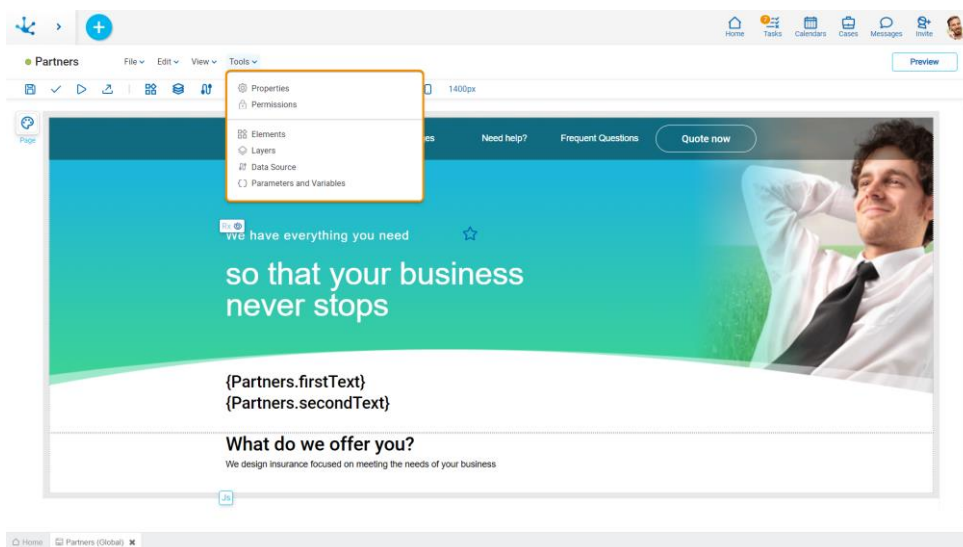
By clicking on the "Show" option, a secondary submenu expands, where the icons corresponding to the modeled rules that should be displayed for each element can be selected.

- JavaScript Events
- Grouped Rules
- Required
- Visible
- Editable
- Validation
- Calculation



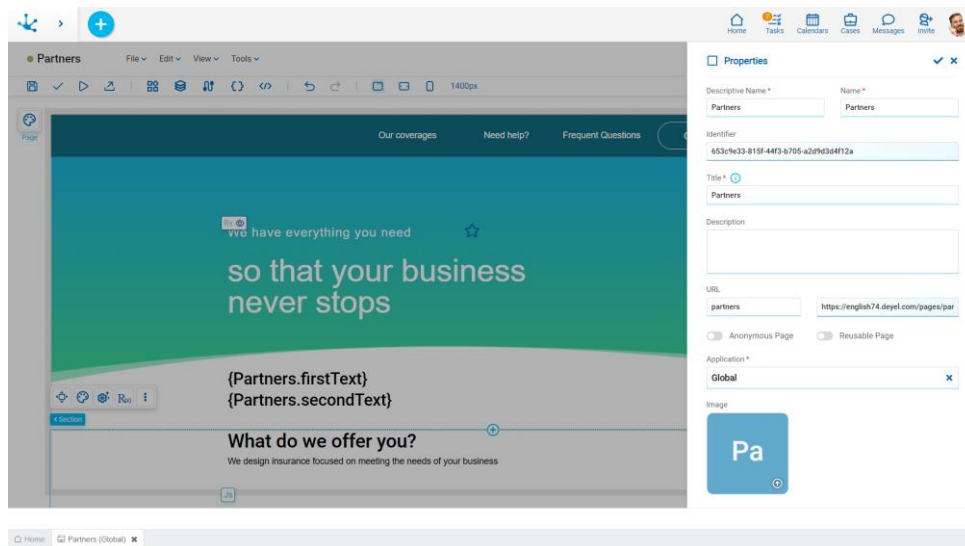
3.7.8.1.1.4. Tools Submenu

This submenu is opened by clicking on the "Tools" option and it allows modeling page properties and permissions, as well as different modeling functionalities.



Properties

This option allows opening the [general properties](#) panel of the page in order to model its features.



Permissions

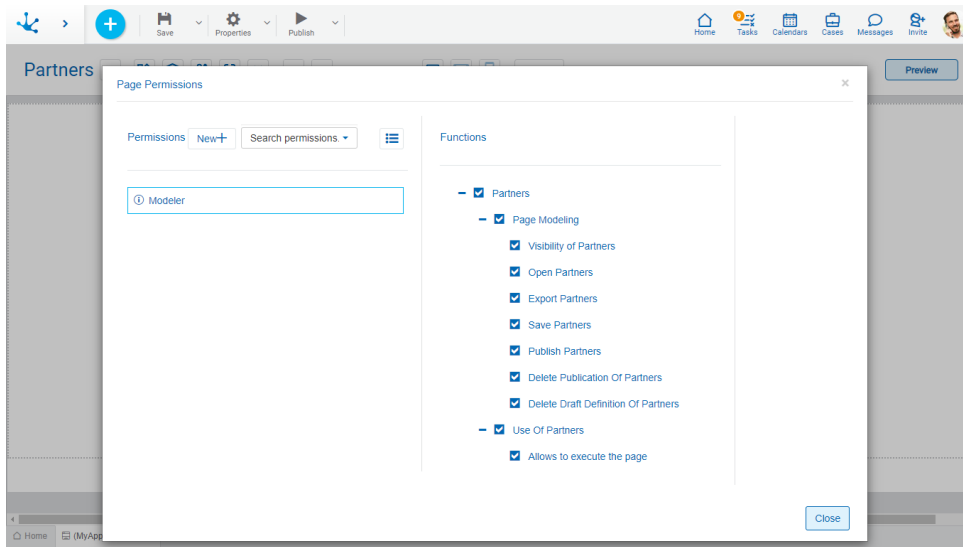
Allows to assign the [security functions](#) for use and modeling of the object to the existing permissions or to new permissions that the user creates, without having to go to the [permission](#) settings option from the menu.


Sections

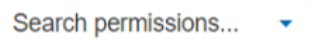
- Permissions: Permissions to which object functions are assigned.
- Security Functions: Represents the total set of security functions, modeling and use of the object. Those that are marked are the ones included in the selected permission.


By default, all security functions for a new object are assigned to the permission [Modeler](#).


Users who are assigned the permissions have access to the functions included in it.



 Opens a panel to create a new permission and once created, the security functions included in it must be selected .

 Allows to select a permission from a list and enables the input of characters to filter the values in the list.

 Opens the wizard to select a permission and once chosen, the necessary object security functions must be checked.

To unrelate a permission from the object, hover the cursor over the permission and press the icon . If there are functions selected for that permission, they must be unchecked in order to delete it.

Modeling Security Functions

- Visibility: Allows to display the object in the Deyel modeler grid.
- Open: Allows to open the object from the Deyel modeler.
- Export: Enables the operation to export the object from the tools submenu of the expanded menu.
- Save: Enables the operation of saving modifications made to the object.
- Publish: Enables the operation of publishing the object leaving its state as "Published".
- Delete publication: Enables the operation of deleting the object publication leaving its state as "Draft".
- Delete draft definition: Enables the operation of deleting the object.

Use Security Function

- It allows to execute the page.

When a page is configured as [anonymous](#), the use function is automatically assigned to the ["Anonymous" permission](#).

Elements

This option allows opening the [elements](#) panel from where it is possible to select those that will be incorporated into the page.

Layers

This option allows opening the [layers](#) panel of the page where the page elements organized hierarchically can be displayed.

Data Source

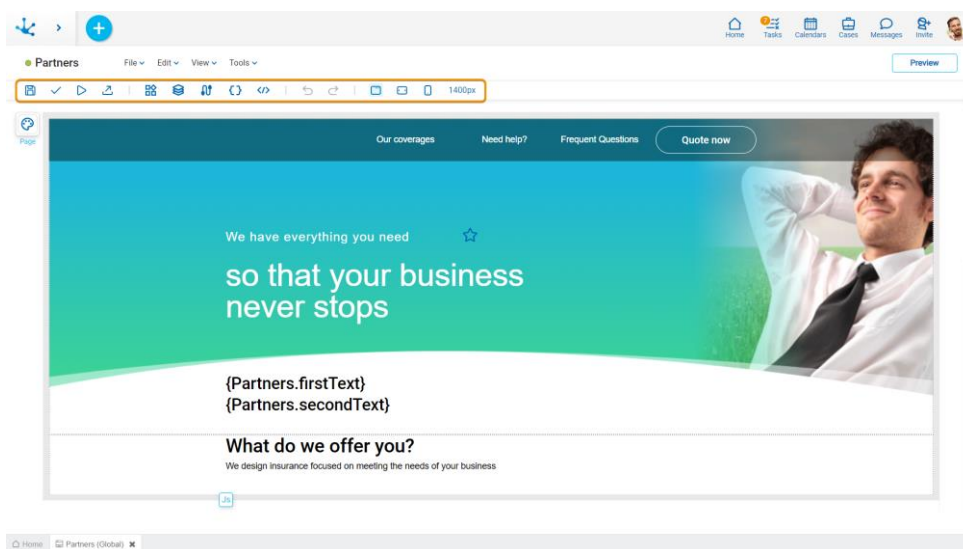
This option allows opening the [data source](#) panel from where those that will be used on the page can be defined.

Parameters and Variables

This option allows opening the [parameters and variables](#) panel from where those that will be used on the page can be defined.

3.7.8.1.2. Top Toolbar






Contains icons for quick access to the most used operations of the [expanded menu](#).




[File](#)

-  Save
-  Validate
-  Publish
-  Export

Tools


-  [Elements](#)
-  [Layers](#)
-  [Data Source](#)
-  [Parameters and Variables](#)
-  [Page Code](#)

Edit

-  [Undo](#)
-  [Redo](#)

View

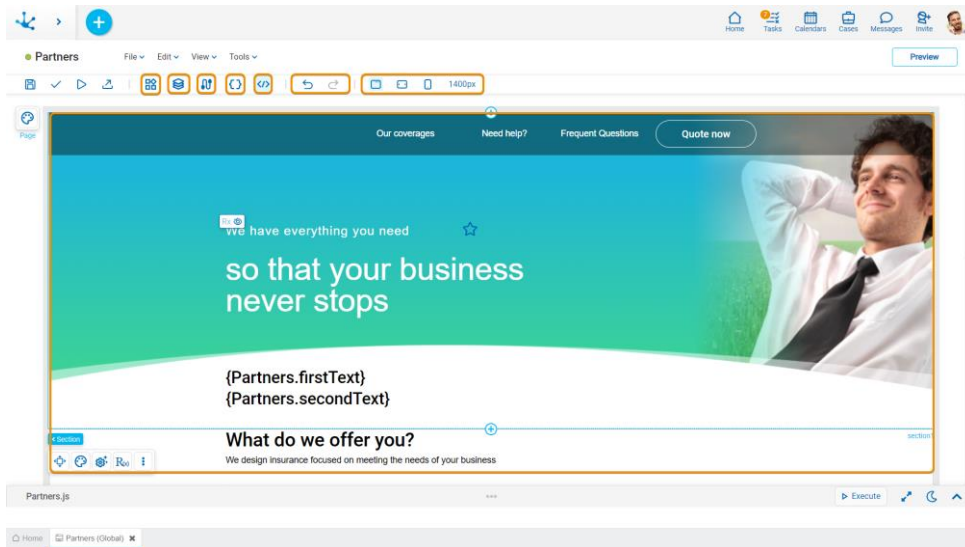
[Breakpoints](#)

-  Desktop Computer
-  Tablet
-  Mobile

- px** Pixels

3.7.8.1.3. Modeling Area

It is the space where pages can be modeled using the "drag and drop" of different elements.



The modeling area of a page is divided into [sections](#) within which elements can be added.

Preview

To the right of the expanded menu is the [Preview](#) button.

Properties

The [general properties](#) and the [style properties](#) of the page can be opened in the right side panel of the modeling area.

Events

Pages allow the use of different events.

Event	Description
onInit()	It is executed before loading the page.
afterViewInit()	It is executed after rendering the page.
beforeViewUnload()	It is executed before closing the page.

3.7.8.1.3.1. Elements

A page contains [elements of different types](#), each of these types can be modeled with specific properties.

Each element can contain other elements, in these cases they are called superior elements while the elements they contain are called inferior elements.

Superior Elements

- [Containers](#)
- [Sections](#)
- [Layout](#)
- [Repeater](#)

Operations

Add Elements on the Page

Elements can be added to a page via “drag-and-drop” to any location on the page, in isolation, or embedded in superior elements.

When adding an element, it automatically docks to the top or bottom border of the closest highest ranking element.

When added, the elements width is defined by default as a percentage, with the exception of the button element, which has an automatic width.

Modify Position of an Element

Once the element is added, its position can be changed by moving it within the page or by changing its structure and position properties with respect to the superior element.

If an element changes its position, this applies to all [breakpoints](#).

Modify Element Size

The dimensions of an element can be modified by dragging the handles on its outline or by modifying its structure properties.

Guides

There are different types of guides that are displayed when selecting an element and pressing the “Alt” key.

- Docking guides: they are displayed when moving an element and the position where it is moved depends on how close it is to its highest hierarchy element. In addition, the distance to the margins of the upper element is indicated.
- Alignment guides: displayed to help items align.

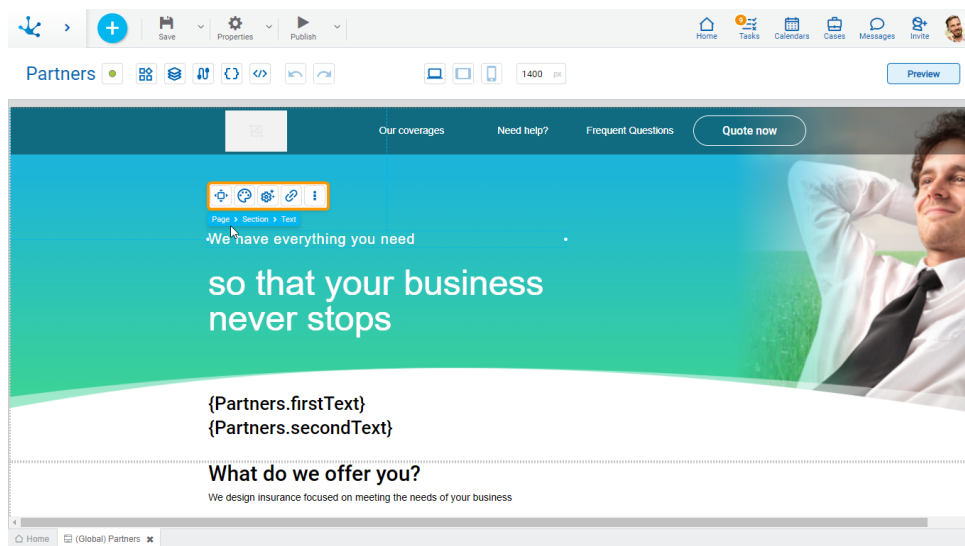
- Guides of space between elements to know the space between them.


Properties

Each element has specific properties that are displayed using a [context menu](#), which is enabled when selecting the element. Properties are grouped according to their functionality and are detailed for each [element type](#).

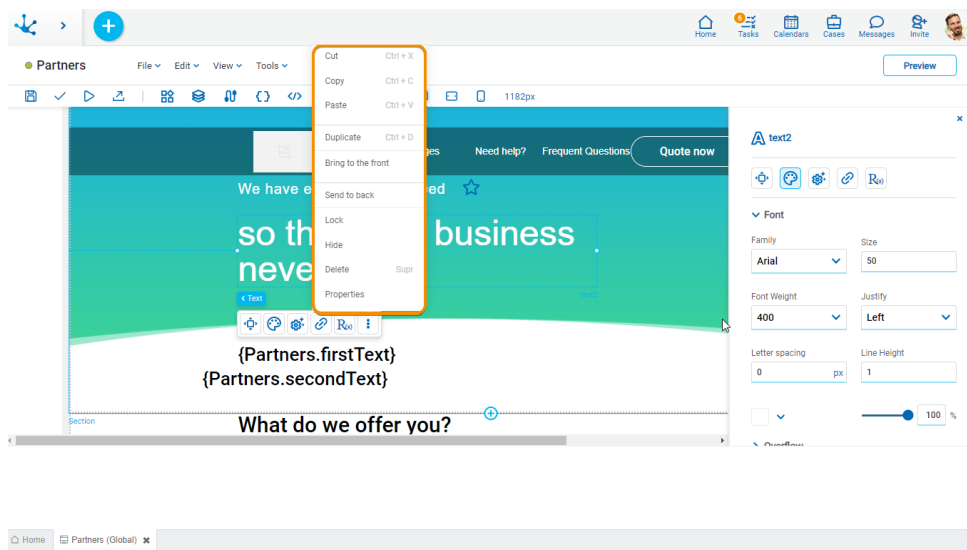
Context Menu

When selecting an element, a palette of icons opens, where each icon represents a group of specific properties of the selected element. The name of the element is also displayed and when the mouse is slid over it, the path from the page to the element can be seen, indicating the superior elements where the content is found.



Clicking the right button of the mouse on an element expands a second context menu whose options correspond to operations that can be performed on the selected element. The same menu is displayed by pressing the icon  on the palette.

- Cut (Ctrl+X)
- Copy (Ctrl+C)
- Paste (Ctrl+V)
- Duplicate (Ctrl+D)
- Bring to the front
- Send to back
- Lock/Unlock When an element is locked, it cannot be moved until it is unlocked.
- Hide: Hides the element in the [breakpoint](#) that is being used and in minor breakpoints. Once hidden it can be displayed again from [Layers](#).
- Delete (Supr)
- Properties




Section

Pages are divided into sections where elements can be included. The page has a defined section by default.

Operations

Add

It allows to add a new section by clicking on the icon  of the existing section.


Modify Size

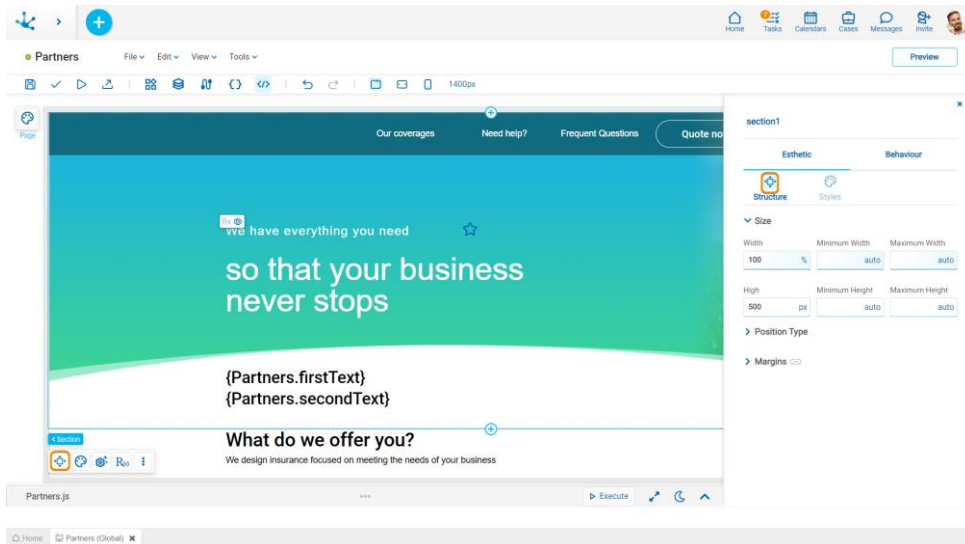
The section height can be changed from the top or bottom borders, by clicking on them and dragging them. Another way to change its size is from the section structure panel.

Move

A section can be moved using the functionality of [layers](#).

Structure Properties

The structure properties panel of a section opens when selecting the icon  of the context menu.



Size

Size

Width	Minimum Width	Maximum Width
100 %	auto	auto
High	Minimum Height	Maximum Height
auto	auto	auto

All size properties can be expressed in pixels (px), percentage (%), viewport width (vw), and viewport height (vh). Additionally, for **Width** and **Height** properties, the "auto" option is added.

Sections do not allow modifying the Width property.

Position Type

Position Type

Position Type

Default ^

Default

Sticky

Possible Values

- **Default:** The element has a relative position with respect to the superior element where it was placed (container or section).

- **Sticky:** Available only in sections, it allows the section to remain visible while users continue to scroll through it. At first, the section positioned on the page is viewed, but it "sticks" to the screen as it is scrolled down.

Margins

▼ Margins

Top	Bottom	Left	Right
<input type="text" value="-"/>	<input type="text" value="-"/>	<input type="text" value="-"/>	<input type="text" value="-"/>

It allows to define the distance of elements from the borders of their top element. The behavior of margins depends on the docking of the element. It can be expressed in pixels (px), percentage (%), viewport width (vw), and viewport height (vh).

Top

Distance to the top border of the highest ranking element.

Bottom

Distance to the bottom border of the highest ranking element.

Left

Distance to the left border of the highest ranking element.

Right

Distance to the right border of the highest ranking element.

Advanced

▼ Advanced

Name	Identifier
<input type="text" value="section1"/>	<input type="text" value="section1"/>


Name

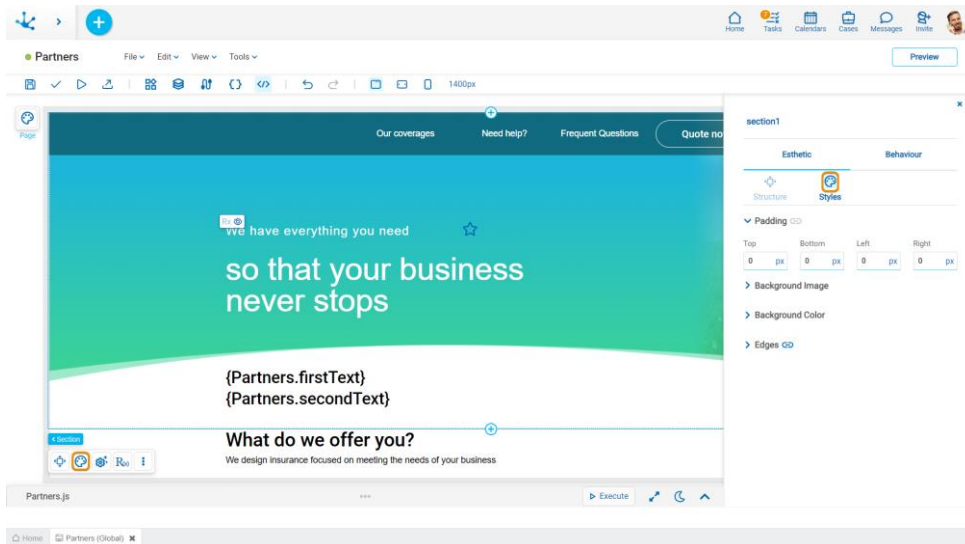
Name used to reference the section during modeling.

Identifier

Uniquely identifies the section. It is used in the Javascript SDK.

Style Properties

The style properties panel of a section opens when selecting the icon  of the context menu.



Padding

▼ Padding ⇄

Top	Bottom	Left	Right
<input type="text" value="0"/> px	<input type="text" value="0"/> px	<input type="text" value="0"/> px	<input type="text" value="0"/> px

All padding space properties allow to create a space around the element borders (top, bottom, sides) and its content. The padding space configured is inward, while the margin is configured relative to a top element. It can be expressed in pixels (px), percentage (%), viewport width (vw), and viewport height (vh).

Background Image

▼ Background Image

Selected



Size

Cover ▼

Repeat

Do Not Repeat ▼

Position

Horizontal Position

Center ▼

Vertical Position

Center ▼

It allows to add a background image to the section.

Selected

An image can be uploaded from the computer where it is being modeled.

Size

Possible Values

- Cover
- Content
- Auto

Repeat

Possible Values

- Repeat
- Repeat Hor.
- Repeat Vert.
- Spacing
- Rounded
- Do Not Repeat

Horizontal and Vertical Position

Possible Values

- Center

- Left
- Right

Background Color

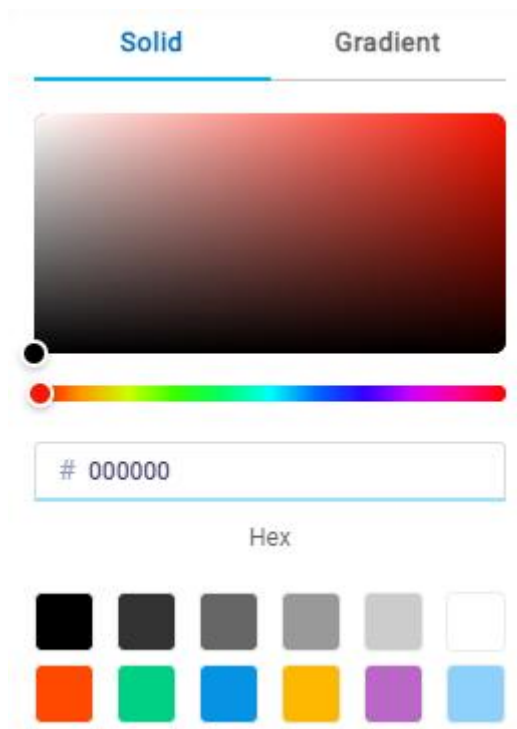
It allows to model a background color for the element, it can be solid or gradient and different properties are defined for each one.

Solid

▼ Background Color



This option enables not only to select the color from a palette but also to define the degree of transparency.

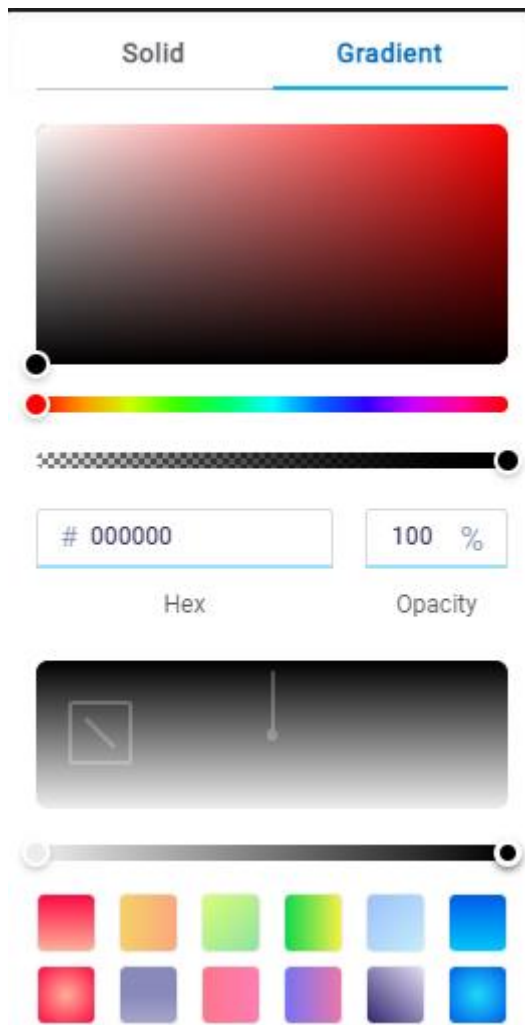


Gradient

▼ Background Color











This option enables to select not only the color from a palette but also to define its opacity and intensity according to the selected angle.




Edges

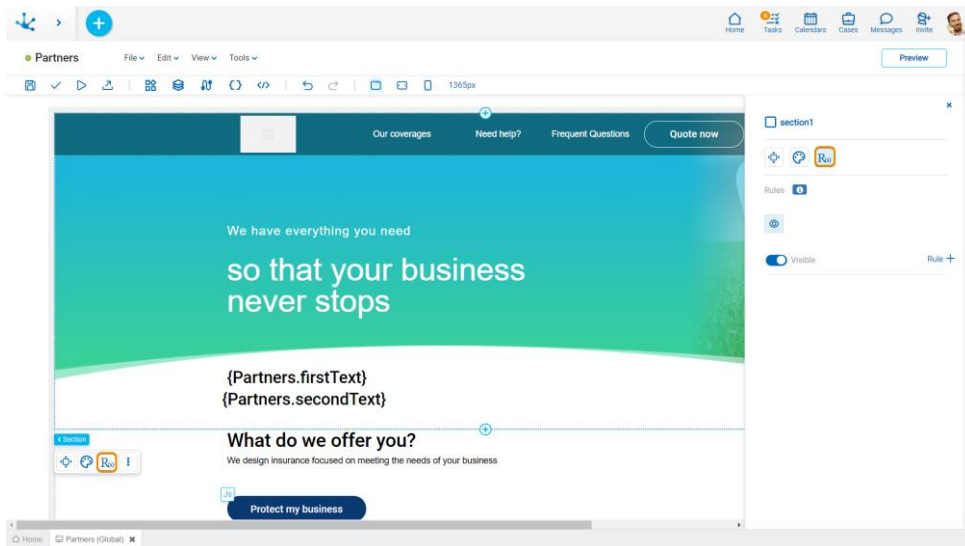
Edges

	Type	Width	Color	Opacity
		<input type="text" value="0"/> px	<input type="color"/>	<input type="text" value="100"/> %
		<input type="text" value="0"/> px	<input type="color"/>	<input type="text" value="100"/> %
		<input type="text" value="0"/> px	<input type="color"/>	<input type="text" value="100"/> %
		<input type="text" value="0"/> px	<input type="color"/>	<input type="text" value="100"/> %

It allows to define the style of borders. Each one has its type, width, color and opacity defined, the latter as a percentage.

Embedded Rules


The embedded rules properties panel of a section opens when selecting the icon  of the context menu.



Properties

Rules

It is possible to define behavior, validation and calculation [embedded rules](#) associated with a section, by using the [wizard](#) (ctrl + space).

 Shows syntax examples to write rules.



Visible

Indicates whether the section is visible. If this property is not checked, the section is not displayed on the page.

Visible (default) Not visible

Rule + Opens an edit area where a rule to determine the visibility condition can be defined. If a rule is defined, the icon is displayed with light blue borders.

Operations when defining the rule:

- Saves the new or modified rule
- Cancels the operation

Operations once the rule is defined:

- Edits the existing rule
- Deletes the rule

Events

Sections allow the use of different events.

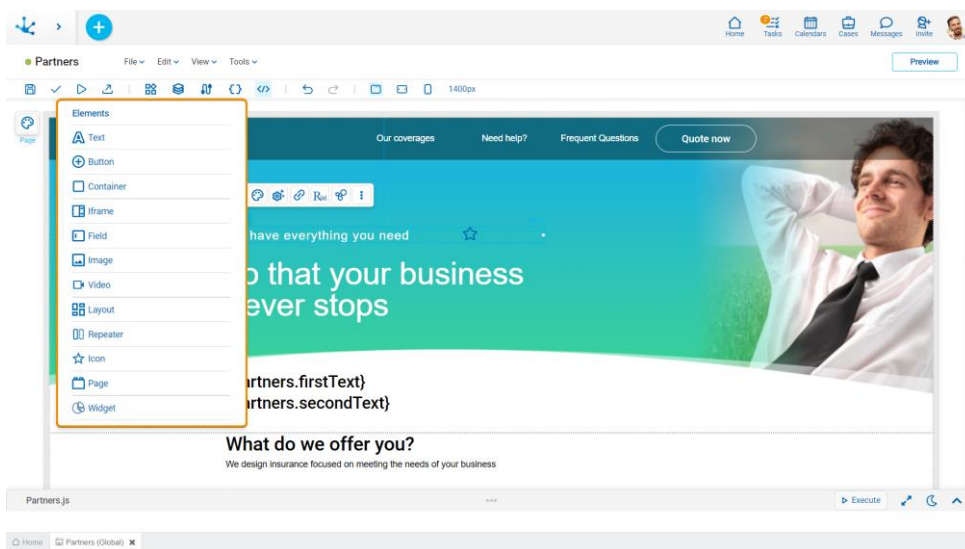
Event	Description
onMouseIn()	It is executed when the cursor is positioned on the element.
onMouseOut()	It is executed when the cursor moves out of the element.
onClick()	It is executed when clicking on the element.
onDoubleClick()	It is executed when clicking twice on the element.
onInit()	It is executed before the element is loaded.
afterViewInit()	It is executed after viewing the element.
onViewportEnter()	It is executed when the element is visible.
onViewportLeave()	It is executed when the element is no longer visible.

Element Types

The elements define the page content and can be of different types.

- [Text](#)
- [Button](#)
- [Container](#)
- [Iframe](#)
- [Input](#)
- [Image](#)
- [Layout](#)
- [Repeater](#)
- [Icon](#)

In each of these types their properties can be configured in structure, style, configuration, hyperlink and embedded rules panels.



Text


Texts can be included on a page, defining the characteristics by modeling its properties.

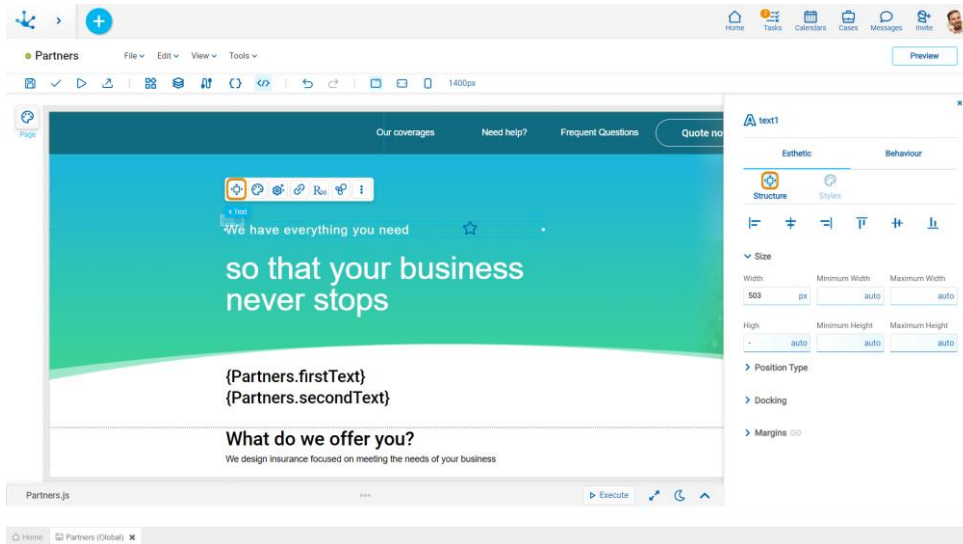
The element properties are represented by icons in its [context menu](#), where its operations are also available.

Subtypes

- Title 1
- Title 2
- Subtitle 1
- Subtitle 2
- Paragraph
- Normal Text
- Rich Text







Structure Properties

The structure properties panel of an element opens when selecting the icon  of the context menu.



Alignment

Allows to align the element by selecting one of the available icons.

-  Align to the left.
-  Align to horizontal center.
-  Align to the right.
-  Align up.
-  Align vertical center.
-  Align bottom.

Size

Size

Width	Minimum Width	Maximum Width
<input type="text" value="100"/> %	<input type="text" value="auto"/>	<input type="text" value="auto"/>
High	Minimum Height	Maximum Height
<input type="text" value="auto"/>	<input type="text" value="auto"/>	<input type="text" value="auto"/>

All size properties can be expressed in pixels (px), percentage (%), viewport width (vw), and viewport height (vh). Additionally, for **Width** and **Height** properties, the "auto" option is added.

If selecting percentage (%) for the width and height properties, the size is calculated relative to the top element.

Position Type

It determines if at the time of execution the element remains fixed on the page or if it moves as the scroll bar moves forward or backward.

Position Type

Position Type

Default ▲

Default

Fixed

Possible Values

- Default: The element has a relative position with respect to the superior element where it was placed (container or section).
- Fixed: Fixes the element to the page so that it is always visible in the same position. It allows to increase the visibility of important content.

Docking

▼ Docking



Determines the vertical and horizontal position of elements within the page section or container, when the screen is resized.

When an element is added or moved within the section or container, the modeler automatically docks it to the nearest corners or edges. It can also be configured by clicking on the arrows of the side to be docked to or on the center.

Once the element is docked, its exact position is indicated in the [Margins](#) property. The direction of the docking arrows determine the values that are automatically displayed for margins.

The docking position is indicated in the modeling area by dotted lines on the element.

Margins

▼ Margins ⇄

Top	Bottom	Left	Right
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

It allows to define the distance of elements from the borders of their top element. The behavior of margins depends on the docking of the element. It can be expressed in pixels (px), percentage (%), viewport width (vw), and viewport height (vh).

Top

Distance to the top border of the highest ranking element.

Bottom

Distance to the bottom border of the highest ranking element.

Left

Distance to the left border of the highest ranking element.

Right

Distance to the right border of the highest ranking element.



Allows the value entered in one of the margins to be copied to the other ones automatically.



Allows to indicate different values for each margin.

Advanced

▼ Advanced

Name	Identifier
<input type="text" value="text1"/>	<input type="text" value="text1"/>


Name

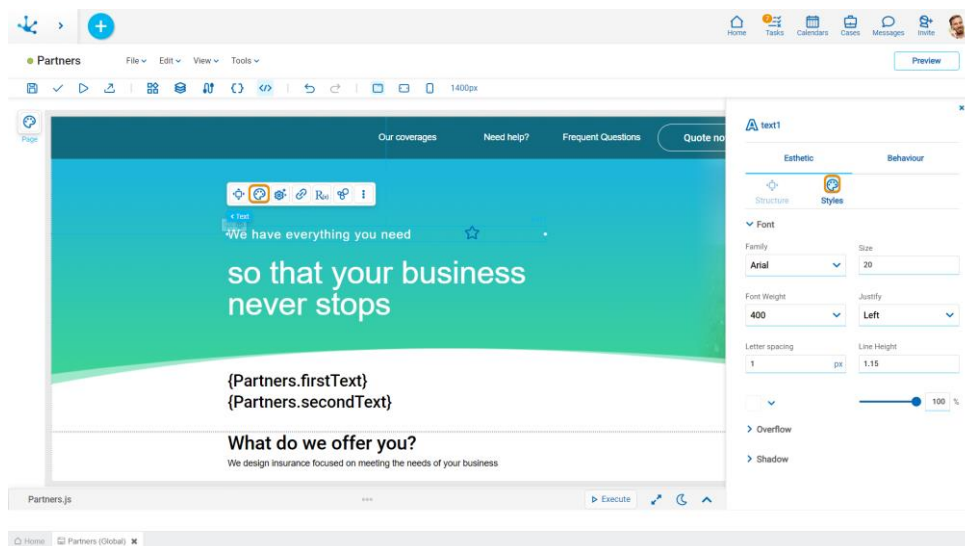
Name used to reference the element during modeling.

Identifier

Uniquely identifies the element. It is used in the Javascript SDK.

Style Properties

The style properties panel of an element opens when selecting the icon  of the context menu.



Source

Font

Family	Size
<input type="text" value="Arial"/>	<input type="text" value="50"/>
Font Weight	Justify
<input type="text" value="400"/>	<input type="text" value="Left"/>
Letter spacing	Line Height
<input type="text" value="0"/> px	<input type="text" value="1"/>
<input type="checkbox"/>	<input type="range" value="100"/> %

Allows to define the text style.

Overflow

Overflow

Limit number of lines

Maximum number of lines

Allows to limit the number of lines that contain the text, having to indicate the maximum number of lines. In case that the text overcomes the number of lines indicated in this property, then it is truncated and the icon \dots is displayed.

Shadow

Shadow

Horizontal	Vertical	Blur
<input type="text" value="0"/> px	<input type="text" value="0"/> px	<input type="text" value="0"/> px
<input type="checkbox"/>	<input type="range" value="100"/> %	

Allows to define the shadow effect over the element.

Horizontal

Horizontal size of the shadow to the right of the element. It can be expressed in pixels (px), percentage (%), viewport width (vw), and viewport height (vh).

Vertical

Vertical size of the shadow below the element. It can be expressed in pixels (px), percentage (%), viewport width (vw), and viewport height (vh).

Blur

The greater this value is, the greater and lighter the shadow becomes. If not specified, its value is 0 and the shadow border is darker. It can be expressed in pixels (px), percentage (%), viewport width (vw), and viewport height (vh).


Color

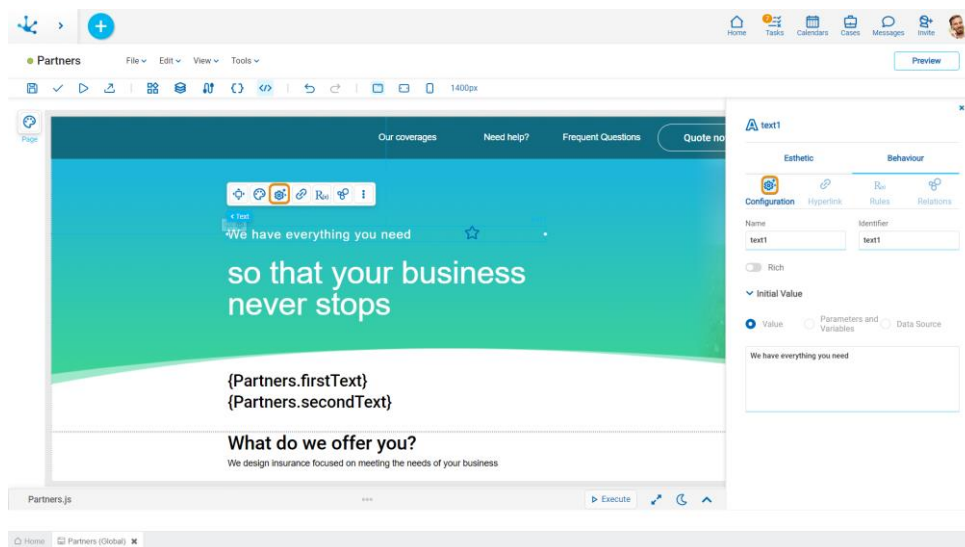
Defines the color of the shadow.

Transparency

Defines the transparency of the shadow.

Configuration Properties

The configuration properties panel of an element opens when clicking the icon  of the context menu.



Allows to select the source of the element content and optionally define the text style.

Value

Value Parameters and Variables Data Source

so that your business never stops

Value

Allows to enter a text that is displayed in the element.

Parameters and Variables

Value Parameters and Variables Data Source

Search... ▼

Parameters and Variables

Allows to select a [parameter](#) or a [variable](#) from the page. Its value is displayed in the element.

Data Source

Value Parameters and Variables Data Source

Data Source *

Search... ▼

Fields *

Search... ▼

Data Source

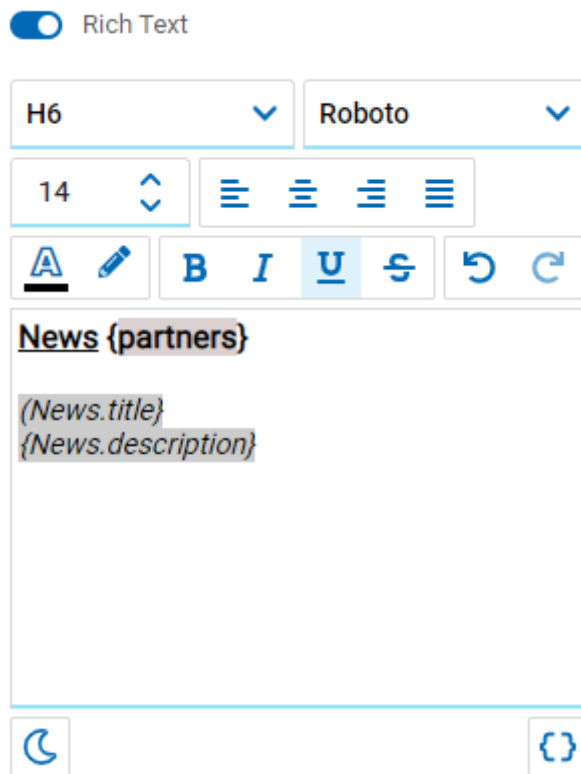
Allows to select a [data source](#) that was previously defined on the page.




Fields

Allows to select a field from those retrieved in the chosen data source. Its value is displayed in the element.


Rich Text

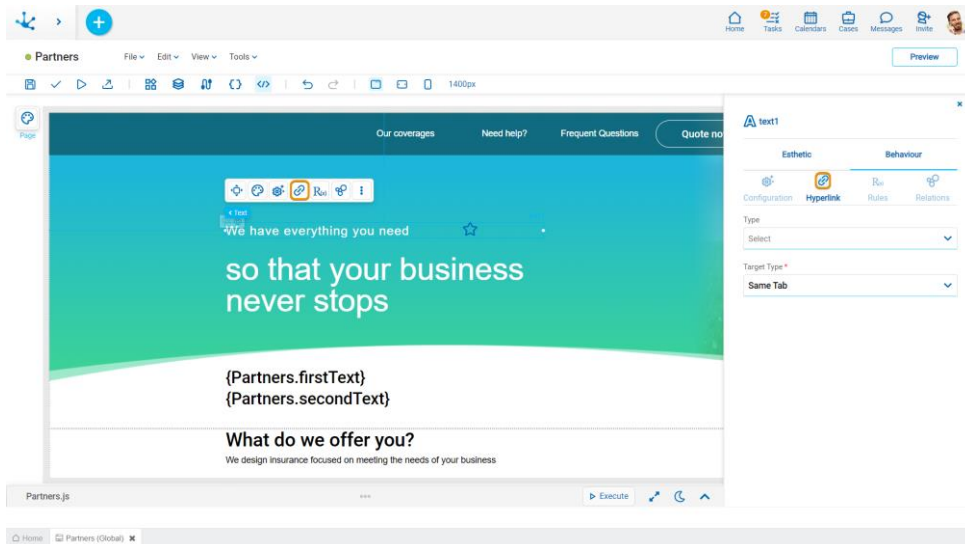
Allows to define formats that modify the appearance of the content of the text element. Different styles can be combined in the same text, highlight some part of it and add more than one data source or more than one parameter or variable.



-  Changes the style of the code editor to dark mode.
-  Changes the style of the code editor to the previous mode.
-  Allows to add the variables content, parameters or information coming from different data sources to the text.

Hyperlink Properties

The hyperlink properties panel of an element opens by pressing the icon  of the context menu.



Define the behavior of the element when selecting it. Different properties are enabled depending on the type of object selected.

Page

Type

Page

Page *

Partners

Target Type *

Same Tab

Parameters

[partner](#)

Code

partner

Value
 Parameters and Variables
 Data Source

Page

The pages modeled in the environment are displayed.

Target Type

The available options for opening the object are displayed.

Possible Values

- Same Tab
- New Window
- Modal: if this option is selected the additional properties are enabled.
 - [Modal Horizontal Size](#)
Define its width.
 - [Modal Vertical Size](#)
Define its height.
- Iframe: this option is selected and an additional property is enabled.
 - [Target Iframe](#)
Displays the iframes previously defines in the page.

Parameters

If there are parameters, their value can be specified with text, parameters and variables or data source.

Deyel Page

Type

Deyel Page ×

Deyel Page *

Agents ×

Target Type *

Same Tab ▾

Parameters

Parameters have not yet been created to send

[+ Create new parameter](#)

Deyel Page

The pages belonging to **Deyel** are displayed.

Target Type

The available options for opening the object are displayed.

Possible Values

- Same Tab
- New Window
- Modal: if this option is selected the additional properties are enabled.
 - [Modal Horizontal Size](#)
Define its width.
 - [Modal Vertical Size](#)
Define its height.
- Iframe: this option is selected and an additional property is enabled.
 - [Target Iframe](#)
Displays the iframes previously defines in the page.

Parameters

Allows sending parameters to the selected object type.

Form

Type

Form ✕

Form *

Partners ✕

Operation *

New ▼

Target Type *

Same Tab ▼

Parameters

Parameters have not yet been created to send

[+ Create new parameter](#)

Form

The forms modeled in the environment are displayed.

Operation

Defines the operation made when selecting the object.

Possible Values

- New: Indicates that the panel of the form selected in the previous property is opened for the creation of an instance.
- Grid: Indicates that the grid of the form selected in the previous property is opened.

Target Type

The available options for opening the object are displayed.

Possible Values

- Same Tab
- New Window
- Modal: if this option is selected the additional properties are enabled.
 - [Modal Horizontal Size](#)
Define its width.
 - [Modal Vertical Size](#)
Define its height.
- Iframe: this option is selected and an additional property is enabled.
 - [Target Iframe](#)
Displays the iframes previously defines in the page.

Parameters

Allows sending parameters to the selected object type.

Process

Type

Process ✕

Process *

New Partner ✕

Operation *

New Case ▼

Target Type *

Same Tab ▼

Parameters

Parameters have not yet been created to send

[+ Create new parameter](#)

Process

The processes modeled in the environment are displayed.

Operation

Defines the operation made when selecting the object.

Possible Value

- New Case: Indicates that a case of the process selected in the previous property is started.

Target Type

The available options for opening the object are displayed.

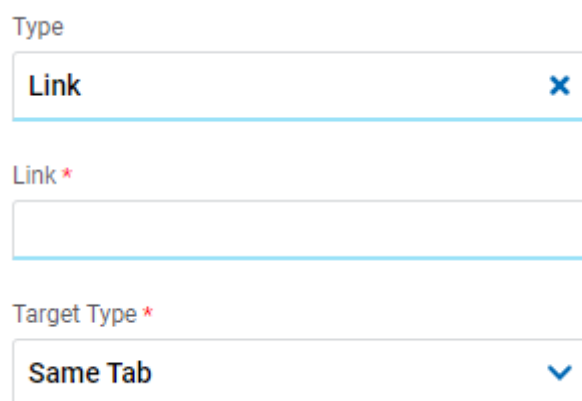
Possible Values

- Same Tab
- New Window
- Modal: if this option is selected the additional properties are enabled.
 - [Modal Horizontal Size](#)
Define its width.
 - [Modal Vertical Size](#)
Define its height.
- Iframe: this option is selected and an additional property is enabled.
 - [Target Iframe](#)
Displays the iframes previously defines in the page.

Parameters

Allows sending parameters to the selected object type.

Link



The screenshot shows a configuration form for a 'Link' object. It contains three fields: 1. 'Type' is a dropdown menu with 'Link' selected and a blue 'x' icon on the right. 2. 'Link *' is a text input field that is currently empty. 3. 'Target Type *' is a dropdown menu with 'Same Tab' selected and a blue downward arrow icon on the right. The form is enclosed in a light blue border.

Link

Allows to enter any link.

Target Type

The available options for opening the object are displayed.

Possible Values

- Same Tab
- New Window
- Modal: if this option is selected the additional properties are enabled.
 - [Modal Horizontal Size](#)
Define its width.
 - [Modal Vertical Size](#)
Define its height.
- Iframe: this option is selected and an additional property is enabled.
 - [Target Iframe](#)
Displays the iframes previously defines in the page.

Element

Type

 ✕

Element *

 ▼

Operation *

 ▼

Behaviour

 ▼

Vertical Scroll

 ▼

Element

The modeled elements in the page are displayed.

Operation

Defines the operation made when selecting the element.

Behaviour

Establishes the transition of the animation. It is only modelable if the "Focus" operation was selected.

Possible Values

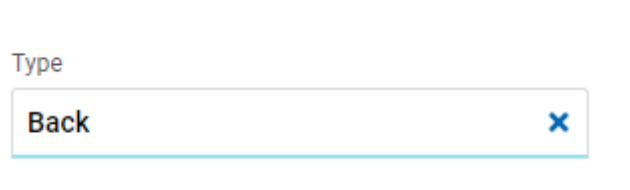
- Auto
- Smooth

Vertical Scroll

Possible Values


- Start: Moves to the start of the selected element.
- Closest: Moves to the closest position to the selected element from the element the event fires.
- Center: Moves to the center of the selected element.
- End: Moves to the end of the selected element.

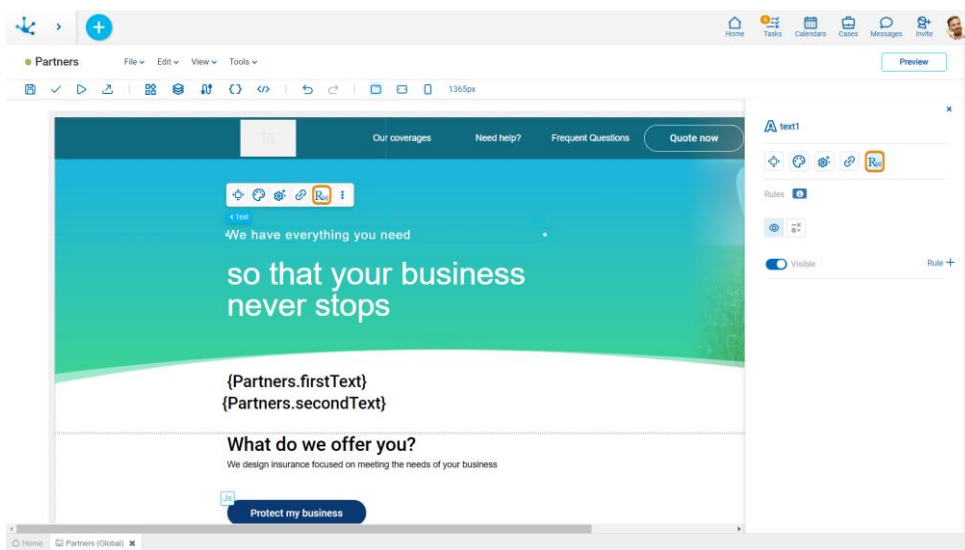
Go Back



It allows associating the event to go back in the browser to the element.

Embedded Rules


The embedded rules properties panel of an element opens when selecting the icon  of the context menu.




Properties

Rules


[Embedded rules](#) on behavior, validation and calculation can be defined, associated with an element, by using the [wizard](#) (ctrl + space).

 Shows syntax examples for writing the rules.

 **Visible**
Indicates whether the element is visible. If this property is not checked, the element is not displayed in the page.


Visible (default) Not visible

Rule + Opens an edit area where a rule to determine the visibility condition can be defined. If a rule is defined, the icon is displayed with light blue borders.


 **Calculation**
Rule + Opens an edit area where you can define the expression to be executed to calculate the element value. If a rule is defined, the icon is displayed with light blue borders.

Operations when defining the rule:

 Saves the new or modified rule

 Cancels the operation

Operations once the rule is defined:

 Edits the existing rule

 Deletes the rule

Events

The texts allow to use different events.

Event	Description
onMouseIn()	It is executed when the cursor is positioned on the element.
onMouseOut()	It is executed when the cursor moves out of the element.
onClick()	It is executed when clicking on the element.
onDoubleClick()	It is executed when clicking twice on the element.
onInit()	It is executed before the element is loaded.

Event	Description
afterViewInit()	It is executed after viewing the element.
onViewportEnter()	It is executed when the element is visible.
onViewportLeave()	It is executed when the element is no longer visible.

Button


A button can be included on a page, defining the characteristics by modeling its properties.

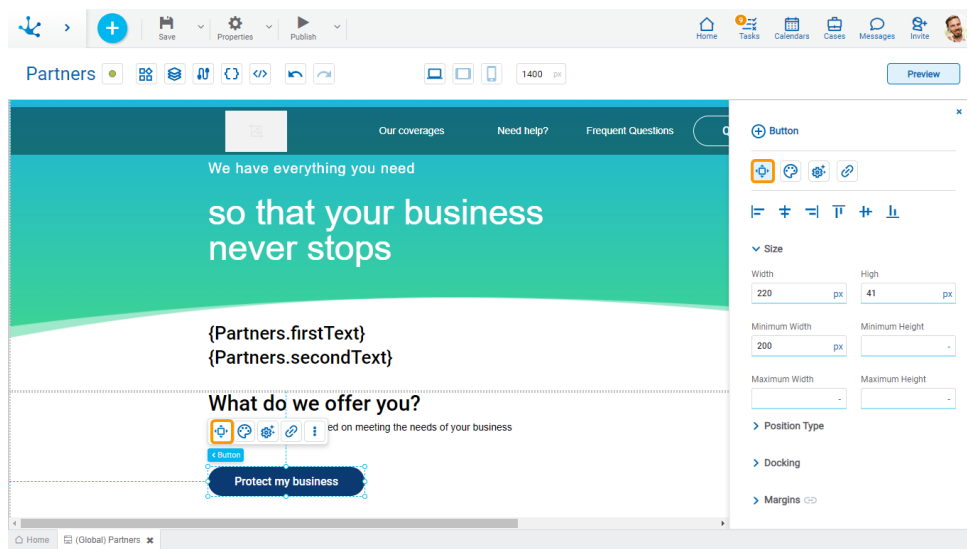
The element properties are represented by icons in its [context menu](#), where its operations are also available.

Subtypes

- Primary
- Secondary
- Tertiary







Structure Properties

The structure properties panel of an element opens when selecting the icon  of the context menu.



Alignment

Allows to align the element by selecting one of the available icons.

-  Align to the left.
-  Align to horizontal center.
-  Align to the right.
-  Align up.
-  Align vertical center.
-  Align bottom.

Size

▼ Size

Width	Minimum Width	Maximum Width
<input type="text" value="100"/> %	<input type="text" value="auto"/>	<input type="text" value="auto"/>
High	Minimum Height	Maximum Height
<input type="text" value="auto"/>	<input type="text" value="auto"/>	<input type="text" value="auto"/>

All size properties can be expressed in pixels (px), percentage (%), viewport width (vw), and viewport height (vh). Additionally, for **Width** and **Height** properties, the "auto" option is added.

If selecting percentage (%) for the width and height properties, the size is calculated relative to the top element.

Position Type

It determines if at the time of execution the element remains fixed on the page or if it moves as the scroll bar moves forward or backward.

▼ Position Type

Position Type

Default ▲

Default

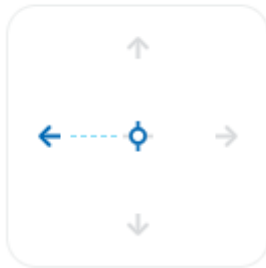
Fixed

Possible Values

- Default: The element has a relative position with respect to the superior element where it was placed (container or section).
- Fixed: Fixes the element to the page so that it is always visible in the same position. It allows to increase the visibility of important content.

Docking

▼ Docking



Determines the vertical and horizontal position of elements within the page section or container, when the screen is resized.

When an element is added or moved within the section or container, the modeler automatically docks it to the nearest corners or edges. It can also be configured by clicking on the arrows of the side to be docked to or on the center.

Once the element is docked, its exact position is indicated in the [Margins](#) property. The direction of the docking arrows determine the values that are automatically displayed for margins.

The docking position is indicated in the modeling area by dotted lines on the element.

Margins

▼ Margins ⇄

Top	Bottom	Left	Right
<input type="text" value="-"/>	<input type="text" value="-"/>	<input type="text" value="-"/>	<input type="text" value="-"/>

It allows to define the distance of elements from the borders of their top element. The behavior of margins depends on the docking of the element. It can be expressed in pixels (px), percentage (%), viewport width (vw), and viewport height (vh).

Top

Distance to the top border of the highest ranking element.

Bottom

Distance to the bottom border of the highest ranking element.

Left

Distance to the left border of the highest ranking element.

Right

Distance to the right border of the highest ranking element.

 Allows the value entered in one of the margins to be copied to the other ones automatically.

 Allows to indicate different values for each margin.

Advanced

Advanced

Name

Identifier


Name

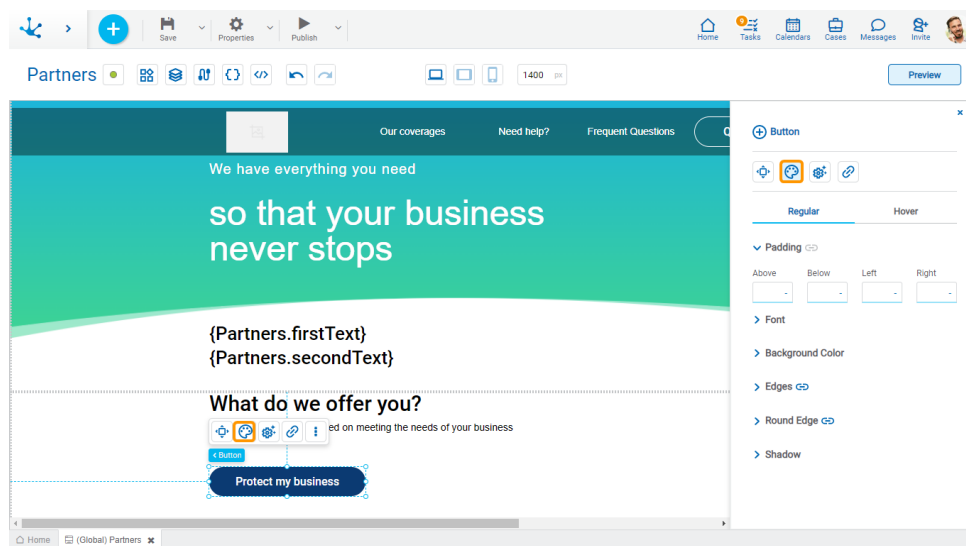
Name used to reference the element during modeling.

Identifier

Uniquely identifies the element. It is used in the Javascript SDK.

Style Properties

The style properties panel of an element opens when selecting the icon  of the context menu.



This type of element may take different states and for each of them different values for its properties may be modeled.

Regular

Hover

Inactive



- Regular: The mouse pointer is not over the element.
- Hover: The mouse pointer is over the element.
- Inactive: The element is disabled.

Padding

▼ Padding

Top	Bottom	Left	Right
<input type="text" value="0"/> px	<input type="text" value="0"/> px	<input type="text" value="0"/> px	<input type="text" value="0"/> px

All padding space properties allow to create a space around the element borders (top, bottom, sides) and its content. The padding space configured is inward, while the margin is configured relative to a top element. It can be expressed in pixels (px), percentage (%), viewport width (vw), and viewport height (vh).

-  Allows values entered in one of the paddings to be copied to the other ones automatically.
-  Allows to indicate different values for each padding.

Font

▼ Font

Family	Size
<input type="text" value="Roboto Medium"/> ▼	<input type="text" value="16"/>
Font Weight	Justify
<input type="text" value="400"/> ▼	<input type="text" value="Centered"/> ▼
Letter spacing	
<input type="text" value="0"/> px	
<input type="checkbox"/> ▼	<input type="range" value="100"/> %

It allows to define the text style.

Background Color

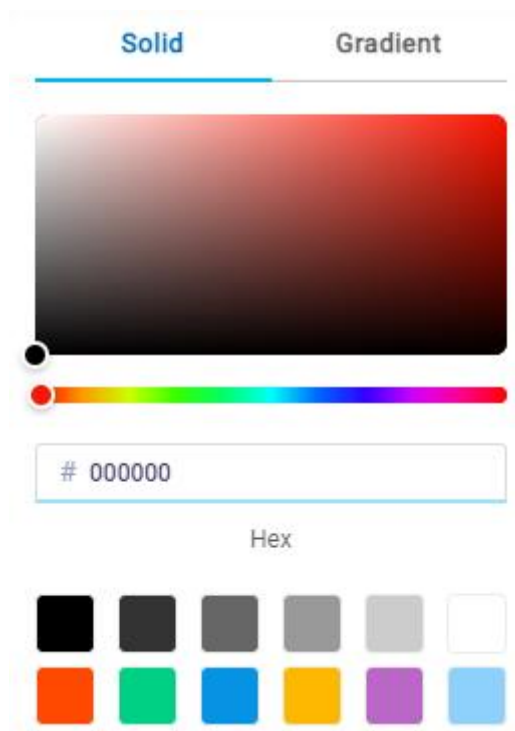
It allows to model a background color for the element, it can be solid or gradient and different properties are defined for each one.

Solid

Background Color



This option enables not only to select the color from a palette but also to define the degree of transparency.

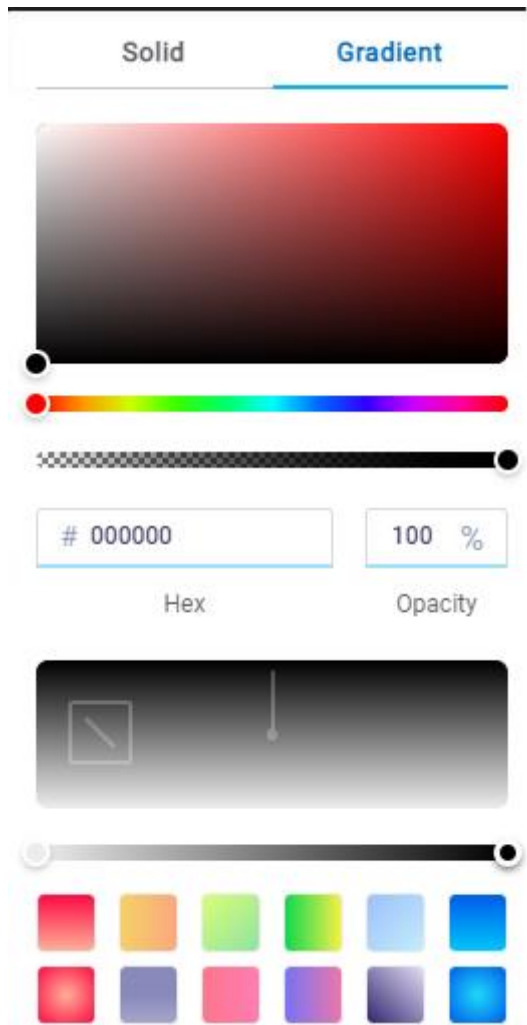


Gradient

Background Color







This option enables to select not only the color from a palette but also to define its opacity and intensity according to the selected angle.





Edges

∨ Edges [↔](#)

	Type	Width	Color	Opacity
	<input type="text" value="-"/> ∨	<input type="text" value="0"/> px	<input type="checkbox"/>	<input type="text" value="100"/> %
	<input type="text" value="-"/> ∨	<input type="text" value="0"/> px	<input type="checkbox"/>	<input type="text" value="100"/> %
	<input type="text" value="-"/> ∨	<input type="text" value="0"/> px	<input type="checkbox"/>	<input type="text" value="100"/> %
	<input type="text" value="-"/> ∨	<input type="text" value="0"/> px	<input type="checkbox"/>	<input type="text" value="100"/> %

It allows to define the style of borders. Each one has its type, width, color and opacity defined, the latter as a percentage.

-  Allows the value entered in one of the borders to be copied to the other ones automatically.
-  Allows to indicate different values for each border.



Round Edges

▼ Round Edges

Top/Left	Top/Right	Bottom/Right	Bottom/Left
<input type="text" value="20 px"/>	<input type="text" value="20 px"/>	<input type="text" value="20 px"/>	<input type="text" value="20 px"/>

It allows to define the round edges at the corners of elements.

It can be expressed in pixels (px), percentage (%), viewport width (vw), and viewport height (vh).

-  Allows the value entered in one of the borders to be copied to the other ones automatically.
-  Allows to indicate different values for each border.

Shadow

▼ Shadow

Type

Horizontal

Vertical

Blur

Spread

 0 %

Allows to define a shadow effect around the element.

Type

Possible Values

- Outset
- Inset

Horizontal

Horizontal size of the shadow to the right of the element. It can be expressed in pixels (px), percentage (%), viewport width (vw), and viewport height (vh).

Vertical

Vertical size of the shadow below the element. It can be expressed in pixels (px), percentage (%), viewport width (vw), and viewport height (vh).

Blur

The greater this value is, the greater and lighter the shadow becomes. If not specified, its value is 0 and the shadow border is darker. It can be expressed in pixels (px), percentage (%), viewport width (vw), and viewport height (vh).

Spread

Positive values will cause the shadow to expand and grow bigger, while negative values will cause the shadow to shrink. If not specified, its value is 0 and the shadow will have the same size as the element.


Color

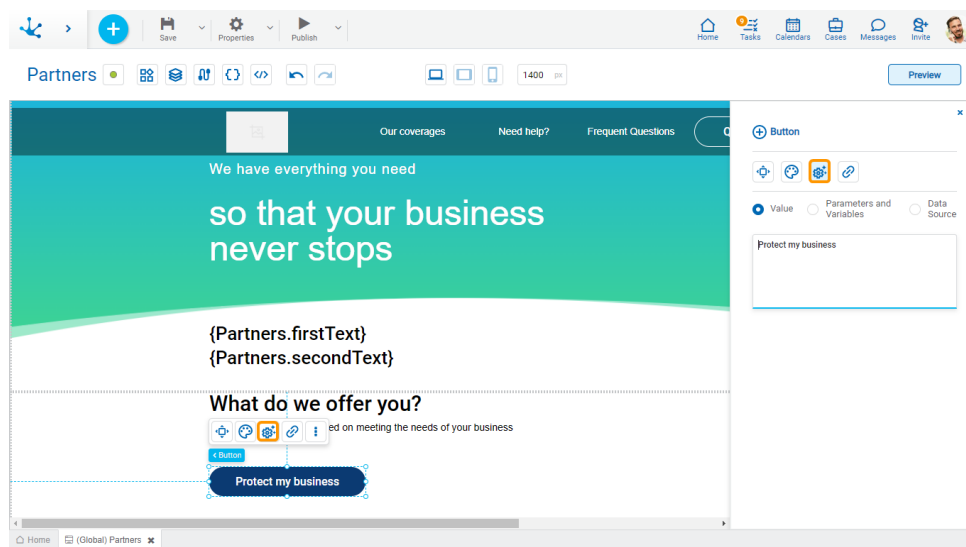
Defines the color of the shadow.

Transparency

Defines the transparency of the shadow.

Configuration Properties

The configuration properties panel of an element opens when clicking the icon  of the context menu.



Allows to select the source of the element's content.

Value

Value Parameters and Variables Data Source

Protect my business

Value

Allows to enter a text that is displayed in the element.

Parameters and Variables

Value Parameters and Variables Data Source

Search... ▼

Parameters and Variables

Allows to select a [parameter](#) or a [variable](#) from the page. Its value is displayed in the element.

Data Source

Value Parameters and Variables Data Source

Data Source *

Search... ▼

Fields *

Search... ▼


Data Source

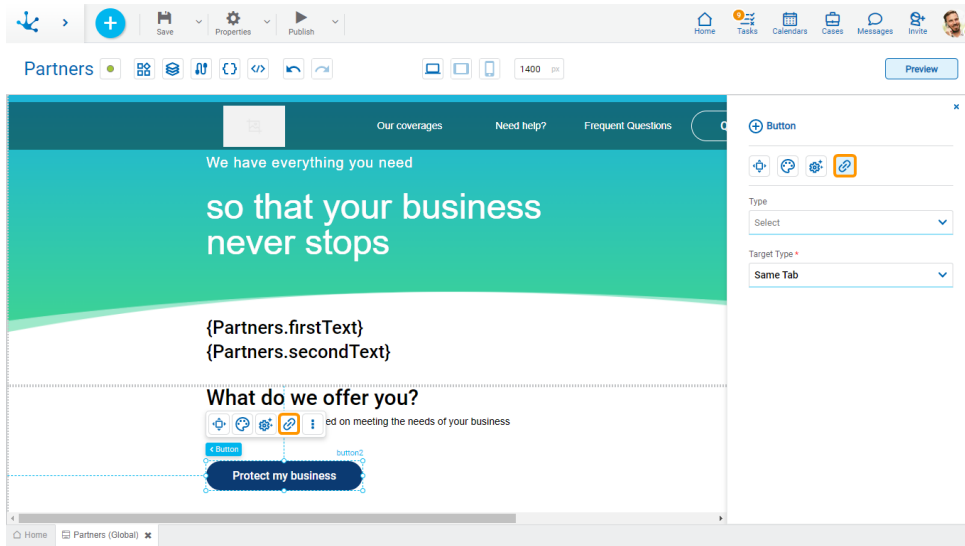
Allows to select a [data source](#) that was previously defined on the page.

Fields

Allows to select a field from those retrieved in the chosen data source. Its value is displayed in the element.

Hyperlink Properties

The hyperlink properties panel of an element opens by pressing the icon  of the context menu.



Define the behavior of the element when selecting it. Different properties are enabled depending on the type of object selected.

Page

Type

 ✕

Page*

 ✕

Target Type *

 ▼

Parameters

partner

Code

Value Parameters and Variables Data Source

Page

The pages modeled in the environment are displayed.

Target Type

The available options for opening the object are displayed.

Possible Values

- Same Tab
- New Window
- Modal: if this option is selected the additional properties are enabled.
 - [Modal Horizontal Size](#)
Define its width.
 - [Modal Vertical Size](#)
Define its height.
- Iframe: this option is selected and an additional property is enabled.
 - [Target Iframe](#)
Displays the iframes previously defines in the page.

Parameters

If there are parameters, their value can be specified with text, parameters and variables or data source.

Deyel Page

Type

Deyel Page



Deyel Page *

Calendars



Target Type *

Same Tab



Parameters

Parameters have not yet been created to send

[+ Create new parameter](#)

[Deyel Page](#)

The pages belonging to **Deyel** are displayed.

[Target Type](#)

The available options for opening the object are displayed.

Possible Values

- Same Tab
- New Window
- Modal: if this option is selected the additional properties are enabled.
 - [Modal Horizontal Size](#)
Define its width.
 - [Modal Vertical Size](#)
Define its height.
- Iframe: this option is selected and an additional property is enabled.
 - [Target Iframe](#)
Displays the iframes previously defines in the page.

[Parameters](#)

Allows sending parameters to the selected object type.

Form

Type

Form



Form *

Partners



Operation *

New



Target Type *

Same Tab



Parameters

Parameters have not yet been created to send

[+ Create new parameter](#)

Form

The forms modeled in the environment are displayed.

Operation

Defines the operation made when selecting the object.

Possible Values

- New: Indicates that the panel of the form selected in the previous property is opened for the creation of an instance.
- Grid: Indicates that the grid of the form selected in the previous property is opened.

Target Type

The available options for opening the object are displayed.

Possible Values

- Same Tab
- New Window
- Modal: if this option is selected the additional properties are enabled.
 - [Modal Horizontal Size](#)
Define its width.
 - [Modal Vertical Size](#)
Define its height.
- Iframe: this option is selected and an additional property is enabled.
 - [Target Iframe](#)

Displays the iframes previously defines in the page.

Parameters

Allows sending parameters to the selected object type.

Process

Type

Process ✕

Process *

New Partner ✕

Operation *

New Case ▼

Target Type *

Same Tab ▼

Parameters

Parameters have not yet been created to send

[+ Create new parameter](#)

Process

The processes modeled in the environment are displayed.

Operation

Defines the operation made when selecting the object.

Target Type

The available options for opening the object are displayed.

Possible Values

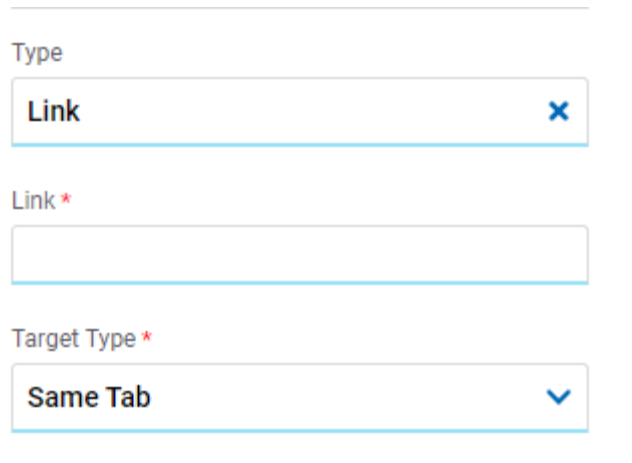
- Same Tab
- New Window
- Modal: if this option is selected the additional properties are enabled.
 - [Modal Horizontal Size](#)
Define its width.
 - [Modal Vertical Size](#)

- Define its height.
- **Iframe:** this option is selected and an additional property is enabled.
 - [Target Iframe](#)
Displays the iframes previously defines in the page.

Parameters

Allows sending parameters to the selected object type.

Link



The screenshot shows a configuration panel for a 'Link' object. It contains three main sections: 1. A 'Type' dropdown menu with 'Link' selected and a close button (X). 2. A 'Link' text input field with a red asterisk indicating it is required. 3. A 'Target Type' dropdown menu with 'Same Tab' selected and a downward arrow.

Link

Allows to enter any link.

Target Type

The available options for opening the object are displayed.

Possible Values

- Same Tab
- New Window
- **Modal:** if this option is selected the additional properties are enabled.
 - [Modal Horizontal Size](#)
Define its width.
 - [Modal Vertical Size](#)
Define its height.
- **Iframe:** this option is selected and an additional property is enabled.
 - [Target Iframe](#)
Displays the iframes previously defines in the page.

Element

Type

Element



Element *

Search...



Operation *

Focus



Behaviour

Select



Vertical Scroll

Select



Element

The modeled elements in the page are displayed.

Operation

Defines the operation made when selecting the element.

Possible Values

- Focus
- Show
- Hide
- Show/Hide

Behaviour

Establishes the transition of the animation. It is only modelable if the "Focus" operation was selected.

Possible Values

- Auto
- Smooth

Vertical Scroll

Possible Values

- Start: Moves to the start of the selected element.
- Closest: Moves to the closest position to the selected element from the element the event fires.
- Center: Moves to the center of the selected element.


- End: Moves to the end of the selected element.

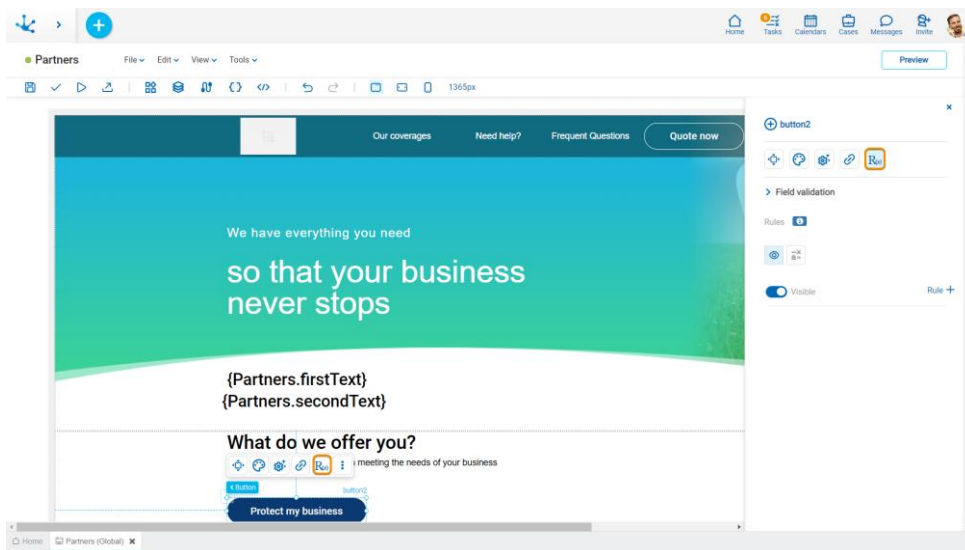
Back



It allows associating the event to go back in the browser to the element.

Embedded Rules


The embedded rules properties panel of an element opens when selecting the icon  of the context menu.




Properties

Rules

[Embedded rules](#) on behavior, validation and calculation can be defined, associated with an element, by using the [wizard](#) (ctrl + space).

 Shows syntax examples for writing the rules.

 **Visible**
Indicates whether the element is visible. If this property is not checked, the element is not displayed in the page.

Visible (default) Not visible

Rule + Opens an edit area where a rule to determine the visibility condition can be defined. If a rule is defined, the icon is displayed with light blue borders.





Calculation

Rule + Opens an edit area where you can define the expression to be executed to calculate the element value. If a rule is defined, the icon is displayed with light blue borders.

Operations when defining the rule:

- ✓ Saves the new or modified rule
- ✗ Cancels the operation

Operations once the rule is defined:

-  Edits the existing rule
-  Deletes the rule

Events

The buttons allow to use different events.

Event	Description
onMouseIn()	It is executed when the cursor is positioned on the element.
onMouseOut()	It is executed when the cursor moves out of the element.
onClick()	It is executed when clicking on the element.
onDoubleClick()	It is executed when clicking twice on the element.
onInit()	It is executed before the element is loaded.
afterViewInit()	It is executed after viewing the element.
onViewportEnter()	It is executed when the element is visible.
onViewportLeave()	It is executed when the element is no longer visible.

Container


To create an adaptive and structured design for the page, container boxes are used. Drag the elements inside the container and its style is then arranged for different displays. Elements are automatically attached to the container so they change size in direct relation to the container.

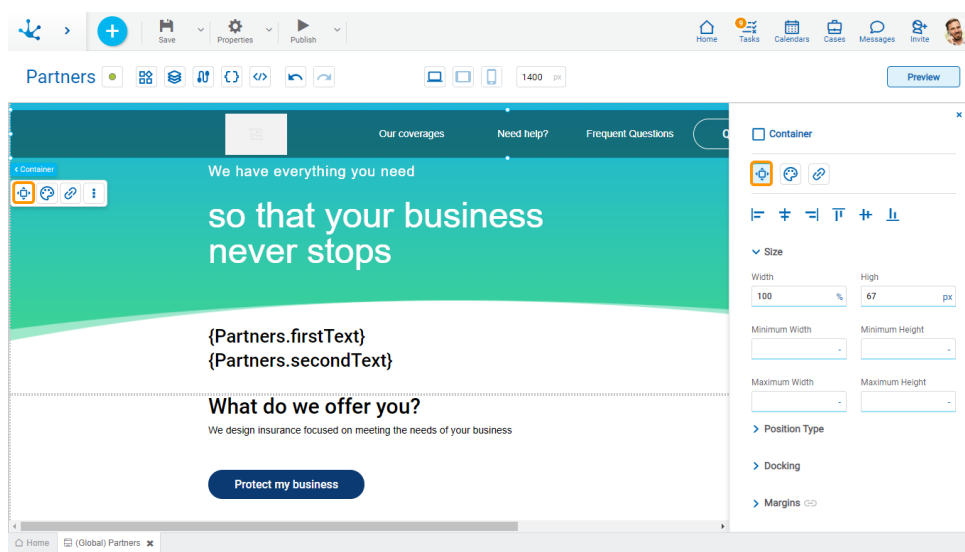
The element properties are represented by icons in its [context menu](#), where its operations are also available.

Subtypes

- Simple
- Background Color
- Border
- Shadow




Structure Properties




The structure properties panel of an element opens when selecting the icon  of the context menu.



Alignment

Allows to align the element by selecting one of the available icons.

-  Align to the left.
-  Align to horizontal center.
-  Align to the right.

-  Align up.
-  Align vertical center.
-  Align bottom.

Size

Size

Width	Minimum Width	Maximum Width
<input type="text" value="100"/> %	<input type="text" value="auto"/>	<input type="text" value="auto"/>
High	Minimum Height	Maximum Height
<input type="text" value="auto"/>	<input type="text" value="auto"/>	<input type="text" value="auto"/>

All size properties can be expressed in pixels (px), percentage (%), viewport width (vw), and viewport height (vh). Additionally, for [Width](#) and [Height](#) properties, the "auto" option is added.


If selecting percentage (%) for the width and height properties, the size is calculated relative to the top element.

Position Type

It determines if at the time of execution the element remains fixed on the page or if it moves as the scroll bar moves forward or backward.

Position Type

Position Type

Default 

Default

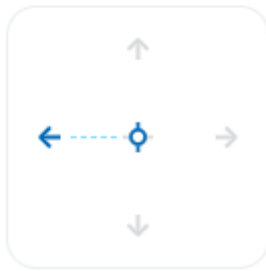
Fixed

Possible Values

- Default: The element has a relative position with respect to the superior element where it was placed (container or section).
- Fixed: Fixes the element to the page so that it is always visible in the same position. It allows to increase the visibility of important content.

Docking

▼ Docking



Determines the vertical and horizontal position of elements within the page section or container, when the screen is resized.

When an element is added or moved within the section or container, the modeler automatically docks it to the nearest corners or edges. It can also be configured by clicking on the arrows of the side to be docked to or on the center.

Once the element is docked, its exact position is indicated in the [Margins](#) property. The direction of the docking arrows determine the values that are automatically displayed for margins.

The docking position is indicated in the modeling area by dotted lines on the element.

Margins

▼ Margins ⇄

Top	Bottom	Left	Right
<input type="text" value="-"/>	<input type="text" value="-"/>	<input type="text" value="-"/>	<input type="text" value="-"/>

It allows to define the distance of elements from the borders of their top element. The behavior of margins depends on the docking of the element. It can be expressed in pixels (px), percentage (%), viewport width (vw), and viewport height (vh).

Top

Distance to the top border of the highest ranking element.

Bottom

Distance to the bottom border of the highest ranking element.

Left

Distance to the left border of the highest ranking element.

Right

Distance to the right border of the highest ranking element.

⇄ Allows the value entered in one of the margins to be copied to the other ones automatically.

⇄ Allows to indicate different values for each margin.

Advanced

Advanced

Name

container1

Identifier

container1


Name

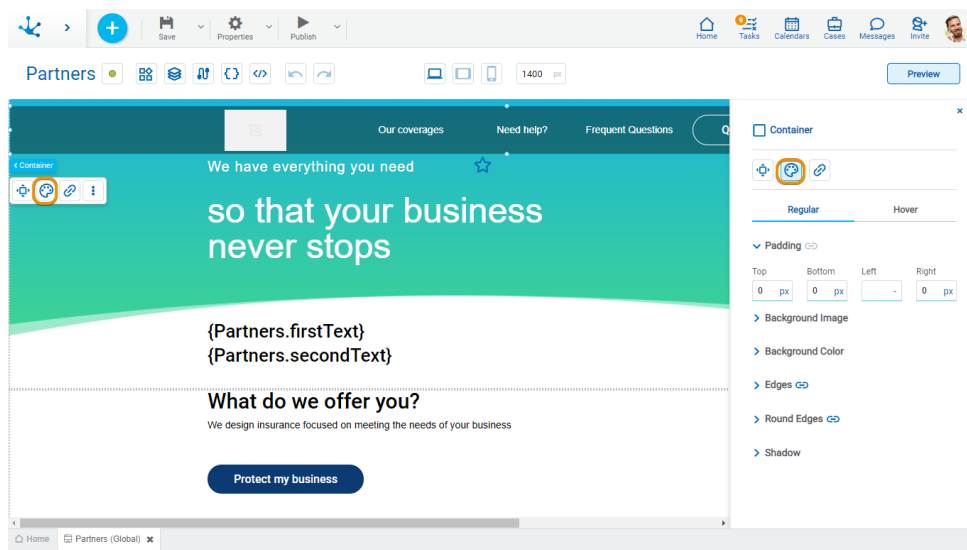
Name used to reference the element during modeling.

Identifier

Uniquely identifies the element. It is used in the Javascript SDK.

Style Properties

The style properties panel of an element opens when selecting the icon  of the context menu.



This type of element may take different states and for each of them different values for its properties may be modeled.

Regular

Hover


- Regular: The mouse pointer is not over the element.
- Over: The mouse pointer is over the element.

Padding

▼ Padding

Top	Bottom	Left	Right
<input type="text" value="0"/> px	<input type="text" value="0"/> px	<input type="text" value="0"/> px	<input type="text" value="0"/> px

All padding space properties allow to create a space around the element borders (top, bottom, sides) and its content. The padding space configured is inward, while the margin is configured relative to a top element. It can be expressed in pixels (px), percentage (%), viewport width (vw), and viewport height (vh).

 Allows values entered in one of the paddings to be copied to the other ones automatically.

 Allows to indicate different values for each padding.

Background Image

▼ Background Image

Selected



Size

Repeat

Position

Horizontal Position

Vertical Position

Allows to add a background image to the element.

Selected

An image can be uploaded from the computer where it is being modeled.

Size

Possible Values

- Cover
- Content

- Auto

Repeat

Possible Values

- Repeat
- Repeat Hor.
- Repeat Vert.
- Spacing
- Rounded
- Do Not Repeat

Horizontal and Vertical Position

Possible Values

- Center
- Left
- Right

Background Color

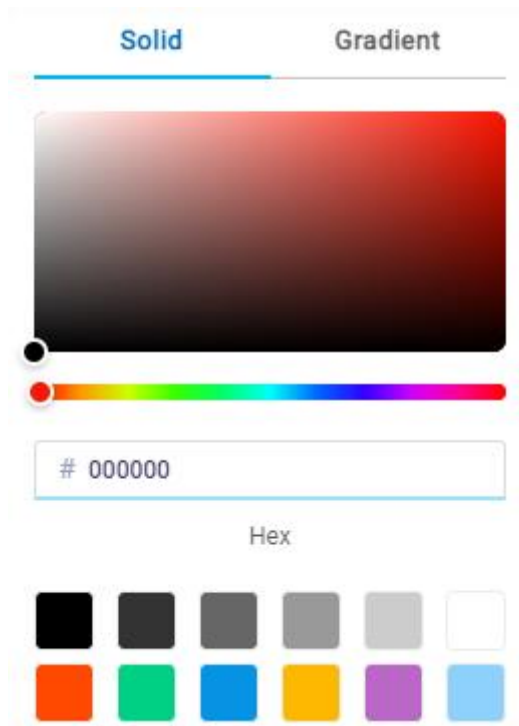
It allows to model a background color for the element, it can be solid or gradient and different properties are defined for each one.

Solid

▼ Background Color



This option enables not only to select the color from a palette but also to define the degree of transparency.

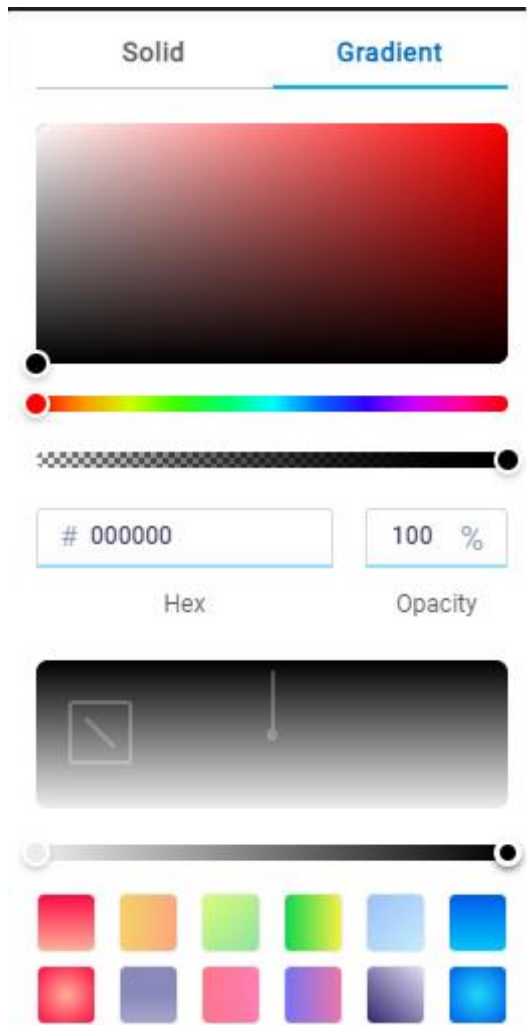


Gradient

▼ Background Color







This option enables to select not only the color from a palette but also to define its opacity and intensity according to the selected angle.





Edges

∨ Edges [↔](#)

	Type	Width	Color	Opacity
	<input type="text" value="-"/> ∨	<input type="text" value="0"/> px	<input type="checkbox"/>	<input type="text" value="100"/> %
	<input type="text" value="-"/> ∨	<input type="text" value="0"/> px	<input type="checkbox"/>	<input type="text" value="100"/> %
	<input type="text" value="-"/> ∨	<input type="text" value="0"/> px	<input type="checkbox"/>	<input type="text" value="100"/> %
	<input type="text" value="-"/> ∨	<input type="text" value="0"/> px	<input type="checkbox"/>	<input type="text" value="100"/> %

It allows to define the style of borders. Each one has its type, width, color and opacity defined, the latter as a percentage.



-  Allows the value entered in one of the borders to be copied to the other ones automatically.
-  Allows to indicate different values for each border.

Round Edges

▼ Round Edges

Top/Left	Top/Right	Bottom/Right	Bottom/Left
<input type="text" value="20 px"/>	<input type="text" value="20 px"/>	<input type="text" value="20 px"/>	<input type="text" value="20 px"/>

It allows to define the round edges at the corners of elements.
It can be expressed in pixels (px), percentage (%), viewport width (vw), and viewport height (vh).



-  Allows the value entered in one of the borders to be copied to the other ones automatically.
-  Allows to indicate different values for each border.

Shadow

▼ Shadow

Type

Horizontal	Vertical
<input type="text" value="0 px"/>	<input type="text" value="0 px"/>
Blur	Spread
<input type="text" value="0 px"/>	<input type="text" value="0 px"/>

Allows to define a shadow effect around the element.

Horizontal

Horizontal size of the shadow to the right of the element. It can be expressed in pixels (px), percentage (%), viewport width (vw), and viewport height (vh).

Vertical

Vertical size of the shadow below the element. It can be expressed in pixels (px), percentage (%), viewport width (vw), and viewport height (vh).

Blur

The greater this value is, the greater and lighter the shadow becomes. If not specified, its value is 0 and the shadow border is darker. It can be expressed in pixels (px), percentage (%), viewport width (vw), and viewport height (vh).

Spread

Positive values will cause the shadow to expand and grow bigger, while negative values will cause the shadow to shrink. If not specified, its value is 0 and the shadow will have the same size as the element.


Color

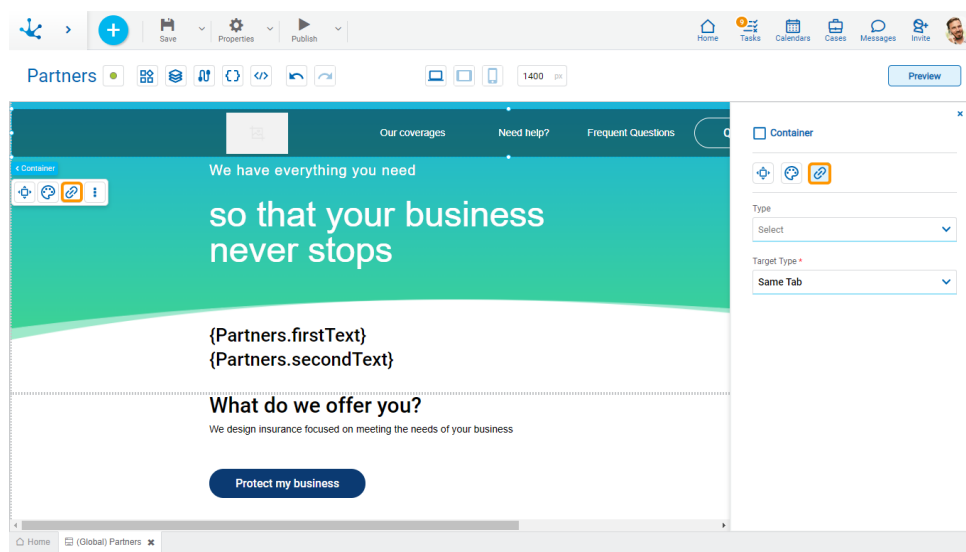
Defines the color of the shadow.

Transparency

Defines the transparency of the shadow.

Hyperlink Properties

The hyperlink properties panel of an element opens by pressing the icon  of the context menu.



Define the behavior of the element when selecting it. Different properties are enabled depending on the type of object selected.

Page

Type

Page



Page *

Partners



Target Type *

Same Tab



Parameters

partner

Code

partner



Value



Parameters and
Variables



Data
Source

Page

The pages modeled in the environment are displayed.

Target Type

The available options for opening the object are displayed.

Possible Values

- Same Tab
- New Window
- Modal: if this option is selected the additional properties are enabled.
 - [Modal Horizontal Size](#)
Define its width.
 - [Modal Vertical Size](#)
Define its height.
- Iframe: this option is selected and an additional property is enabled.
 - [Target Iframe](#)
Displays the iframes previously defines in the page.

Parameters

If there are parameters, their value can be specified with text, parameters and variables or data source.

Deyel Page

Type

Deyel Page



Deyel Page *

Calendars



Target Type *

Same Tab



Parameters

Parameters have not yet been created to send

[+ Create new parameter](#)

Deyel Page

The pages belonging to **Deyel** are displayed.

Target Type

The available options for opening the object are displayed.

Possible Values

- Same Tab
- New Window
- Modal: if this option is selected the additional properties are enabled.
 - [Modal Horizontal Size](#)
Define its width.
 - [Modal Vertical Size](#)
Define its height.
- Iframe: this option is selected and an additional property is enabled.
 - [Target Iframe](#)
Displays the iframes previously defines in the page.

Parameters

Allows sending parameters to the selected object type.

Form

Type

Form



Form *

Partners



Operation *

New



Target Type *

Same Tab



Parameters

Parameters have not yet been created to send

[+ Create new parameter](#)

Form

The forms modeled in the environment are displayed.

Operation

Defines the operation made when selecting the object.

Target Type

The available options for opening the object are displayed.

Possible Values

- Same Tab
- New Window
- Modal: if this option is selected the additional properties are enabled.
 - [Modal Horizontal Size](#)
Define its width.
 - [Modal Vertical Size](#)
Define its height.
- Iframe: this option is selected and an additional property is enabled.
 - [Target Iframe](#)
Displays the iframes previously defines in the page.

Parameters

Allows sending parameters to the selected object type.

Process

Type

Process ✕

Process *

New Partner ✕

Operation *

New Case ▼

Target Type *

Same Tab ▼

Parameters

Parameters have not yet been created to send

[+ Create new parameter](#)

Process

The processes modeled in the environment are displayed.

Operation

Defines the operation made when selecting the object.

Target Type

The available options for opening the object are displayed.

Possible Values

- Same Tab
- New Window
- Modal: if this option is selected the additional properties are enabled.
 - [Modal Horizontal Size](#)
Define its width.
 - [Modal Vertical Size](#)
Define its height.
- Iframe: this option is selected and an additional property is enabled.
 - [Target Iframe](#)
Displays the iframes previously defines in the page.

Parameters

Allows sending parameters to the selected object type.

Link

Type

Link ✕

Link *

Target Type *

Same Tab ▾

Link

Allows to enter any link.

Target Type

The available options for opening the object are displayed.

Possible Values

- Same Tab
- New Window
- Modal: if this option is selected the additional properties are enabled.
 - [Modal Horizontal Size](#)
Define its width.
 - [Modal Vertical Size](#)
Define its height.
- Iframe: this option is selected and an additional property is enabled.
 - [Target Iframe](#)
Displays the iframes previously defines in the page.

Element

Type

Element



Element *

Search...



Operation *

Focus



Behaviour

Select



Vertical Scroll

Select



Element

The modeled elements in the page are displayed.

Operation

Defines the operation made when selecting the element.

Behaviour

Establishes the transition of the animation. It is only modelable if the "Focus" operation was selected.

Possible Values

- Auto
- Smooth

Vertical Scroll

Possible Values

- Start: Moves to the start of the selected element.
- Closest: Moves to the closest position to the selected element from the element the event fires.
- Center: Moves to the center of the selected element.
- End: Moves to the end of the selected element.

Back


Type

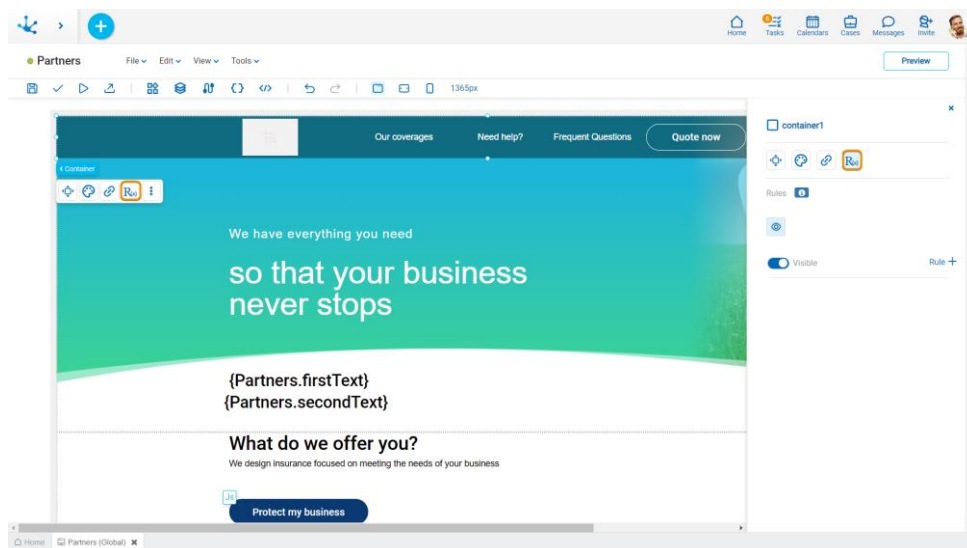
Back



It allows associating the event to go back in the browser to the element.

Embedded Rules


The embedded rules properties panel of an element opens when selecting the icon  of the context menu.




Properties


Rules

[Embedded rules](#) on behavior, validation and calculation can be defined, associated with an element, by using the [wizard](#) (ctrl + space).



 Shows syntax examples for writing the rules.

 **Visible**
Indicates whether the element is visible. If this property is not checked, the element is not displayed in the page.



Visible (default) Not visible

 **Rule +** Opens an edit area where a rule to determine the visibility condition can be defined. If a rule is defined, the icon is displayed with light blue borders.

Operations when defining the rule:

-  Saves the new or modified rule
-  Cancels the operation

Operations once the rule is defined:

-  Edits the existing rule
-  Deletes the rule

Events

The containers allow to use different events.

Event	Description
onMouseIn()	It is executed when the cursor is positioned on the element.
onMouseOut()	It is executed when the cursor moves out of the element.
onClick()	It is executed when clicking on the element.
onDoubleClick()	It is executed when clicking twice on the element.
onInit()	It is executed before the element is loaded.
afterViewInit()	It is executed after viewing the element.
onViewportEnter()	It is executed when the element is visible.
onViewportLeave()	It is executed when the element is no longer visible.


Iframe

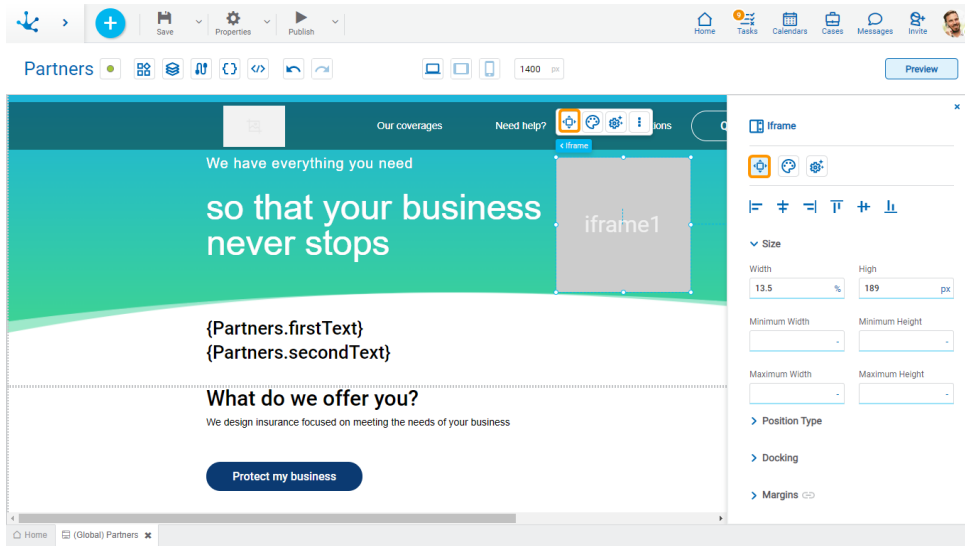
This element is used to show objects **Deyel** or external web pages. For example, it can contain forms, pages, cases, etc. Its position and size must be selected so that it responds to different display windows.

Subtypes

- Iframe with Scroll
- Adaptable Iframe







Structure Properties

The structure properties panel of an element opens when selecting the icon  of the context menu.



Alignment

Allows to align the element by selecting one of the available icons.

-  Align to the left.
-  Align to horizontal center.
-  Align to the right.
-  Align up.
-  Align vertical center.
-  Align bottom.

Size

Size

Width	Minimum Width	Maximum Width
<input type="text" value="100"/> %	<input type="text" value="auto"/>	<input type="text" value="auto"/>
High	Minimum Height	Maximum Height
<input type="text" value="auto"/>	<input type="text" value="auto"/>	<input type="text" value="auto"/>

All size properties can be expressed in pixels (px), percentage (%), viewport width (vw), and viewport height (vh). Additionally, for **Width** and **Height** properties, the "auto" option is added.

If selecting percentage (%) for the width and height properties, the size is calculated relative to the top element.

Position Type

It determines if at the time of execution the element remains fixed on the page or if it moves as the scroll bar moves forward or backward.

Position Type

Position Type

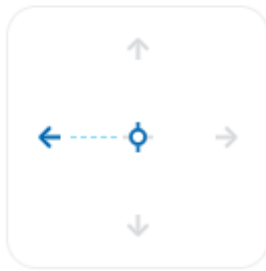
Default	^
Default	
Fixed	

Possible Values

- Default: The element has a relative position with respect to the superior element where it was placed (container or section).
- Fixed: Fixes the element to the page so that it is always visible in the same position. It allows to increase the visibility of important content.

Docking

▼ Docking



Determines the vertical and horizontal position of elements within the page section or container, when the screen is resized.

When an element is added or moved within the section or container, the modeler automatically docks it to the nearest corners or edges. It can also be configured by clicking on the arrows of the side to be docked to or on the center.

Once the element is docked, its exact position is indicated in the [Margins](#) property. The direction of the docking arrows determine the values that are automatically displayed for margins.

The docking position is indicated in the modeling area by dotted lines on the element.

Margins

▼ Margins ⇄

Top	Bottom	Left	Right
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

It allows to define the distance of elements from the borders of their top element. The behavior of margins depends on the docking of the element. It can be expressed in pixels (px), percentage (%), viewport width (vw), and viewport height (vh).

Top

Distance to the top border of the highest ranking element.

Bottom

Distance to the bottom border of the highest ranking element.

Left

Distance to the left border of the highest ranking element.

Right

Distance to the right border of the highest ranking element.



Allows the value entered in one of the margins to be copied to the other ones automatically.



Allows to indicate different values for each margin.

Advanced

Advanced

Name

Identifier


Name

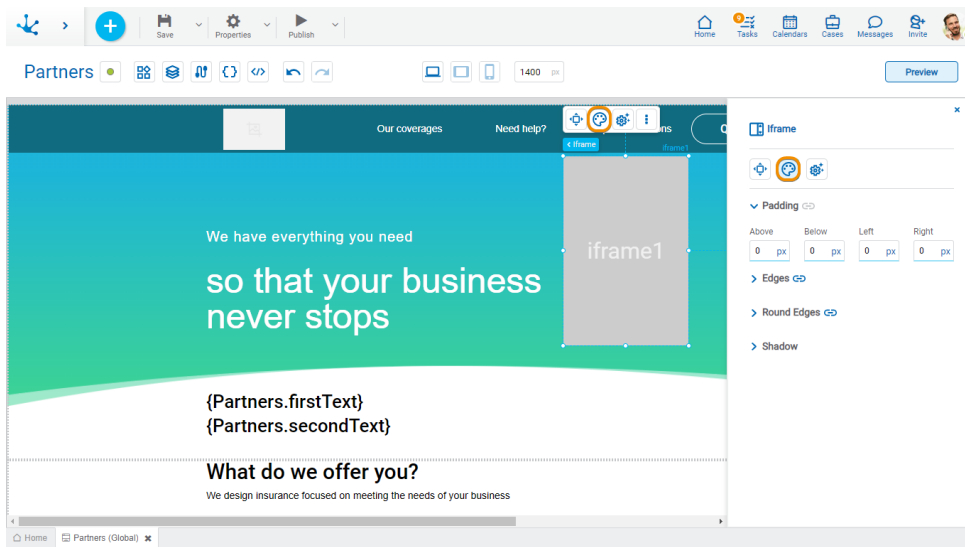
Name used to reference the element during modeling.

Identifier

Uniquely identifies the element. It is used in the Javascript SDK.

Style Properties

The style properties panel of an element opens when selecting the icon  of the context menu.



Padding

Padding

Top



Bottom

Left

Right









All padding space properties allow to create a space around the element borders (top, bottom, sides) and its content. The padding space configured is inward, while the margin is configured relative to a

top element. It can be expressed in pixels (px), percentage (%), viewport width (vw), and viewport height (vh).



-  Allows values entered in one of the paddings to be copied to the other ones automatically.
-  Allows to indicate different values for each padding.

Edges

Edges

	Type	Width	Color	Opacity
	<input type="text" value="-"/> 	<input type="text" value="0"/> px	<input type="color"/>	<input type="text" value="100"/> %
	<input type="text" value="-"/> 	<input type="text" value="0"/> px	<input type="color"/>	<input type="text" value="100"/> %
	<input type="text" value="-"/> 	<input type="text" value="0"/> px	<input type="color"/>	<input type="text" value="100"/> %
	<input type="text" value="-"/> 	<input type="text" value="0"/> px	<input type="color"/>	<input type="text" value="100"/> %

It allows to define the style of borders. Each one has its type, width, color and opacity defined, the latter as a percentage.



-  Allows the value entered in one of the borders to be copied to the other ones automatically.
-  Allows to indicate different values for each border.

Round Edges

Round Edges

Top/Left	Top/Right	Bottom/Right	Bottom/Left
<input type="text" value="20"/> px	<input type="text" value="20"/> px	<input type="text" value="20"/> px	<input type="text" value="20"/> px

It allows to define the round edges at the corners of elements. It can be expressed in pixels (px), percentage (%), viewport width (vw), and viewport height (vh).

-  Allows the value entered in one of the borders to be copied to the other ones automatically.
-  Allows to indicate different values for each border.

Shadow

Shadow

Type

Horizontal

 px

Vertical

 px

Blur

 px

Spread

 px %

Allows to define a shadow effect around the element.

Type

Possible Values

- Outset
- Inset

Horizontal

Horizontal size of the shadow to the right of the element. It can be expressed in pixels (px), percentage (%), viewport width (vw), and viewport height (vh).

Vertical

Vertical size of the shadow below the element. It can be expressed in pixels (px), percentage (%), viewport width (vw), and viewport height (vh).

Blur

The greater this value is, the greater and lighter the shadow becomes. If not specified, its value is 0 and the shadow border is darker. It can be expressed in pixels (px), percentage (%), viewport width (vw), and viewport height (vh).

Spread

Positive values will cause the shadow to expand and grow bigger, while negative values will cause the shadow to shrink. If not specified, its value is 0 and the shadow will have the same size as the element.


Color

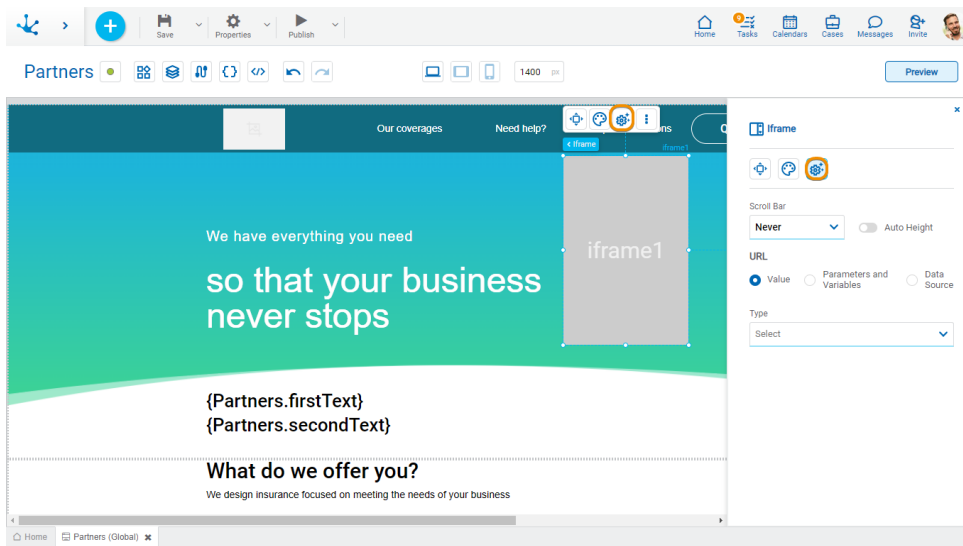
Defines the color of the shadow.

Transparency

Defines the transparency of the shadow.

Configuration Properties

The configuration properties panel of an element opens when clicking the icon  of the context menu.



Scroll

Scroll Bar



Auto Height

Allows the iframe height to adapt to the size of its content in case that the former exceeds the iframe size. If such property is not checked the different values from the [Scroll Bar](#) property can be selected.

Scroll Bar

Indicates if the scroll in the element is displayed: always, never or according to the size of the iframe content.


URL

Allows to select the source of the element's content.

Value

Value Parameters and Variables Data Source

Type

Type

Allows to select the object type to show in the iframe, it can be an object from **Deyel** or a link to an external web page. Depending on the type selected, different properties are enabled to be completed.

- Page
[Page](#)
Allows to select the external page displayed on the iframe. Once it is selected it displays its parameters in case it has them.
- Deyel Page
[Deyel Page](#)
Allows to select the external **Deyel** page displayed on the iframe. Once it is selected it displays its parameters in case it has them or allows to add one.
- Form
[Form](#)
Allows to select the form name displayed on the iframe. Once it is selected it displays its parameters in case it has them or allows to add one.

[Operation](#)
Allows to select whether to display the creation of an instance or the form grid.
- Process
[Process](#)
Allows to select the name of the process executed on the iframe. Once it is selected it displays its parameters in case it has them or allows to add one.

[Operation](#)
Indicates that the creation of a case is displayed.
- Link
[Link](#)
Allows the entry of the link of the page that is executed in the iframe.

Parameters and Variables

Value Parameters and Variables Data Source

Parameters and Variables

Allows to select a [parameter](#) or a [variable](#) from the page. Its value is displayed in the element.

Data Source

Value Parameters and Variables Data Source

Data Source *

Fields *


Data Source

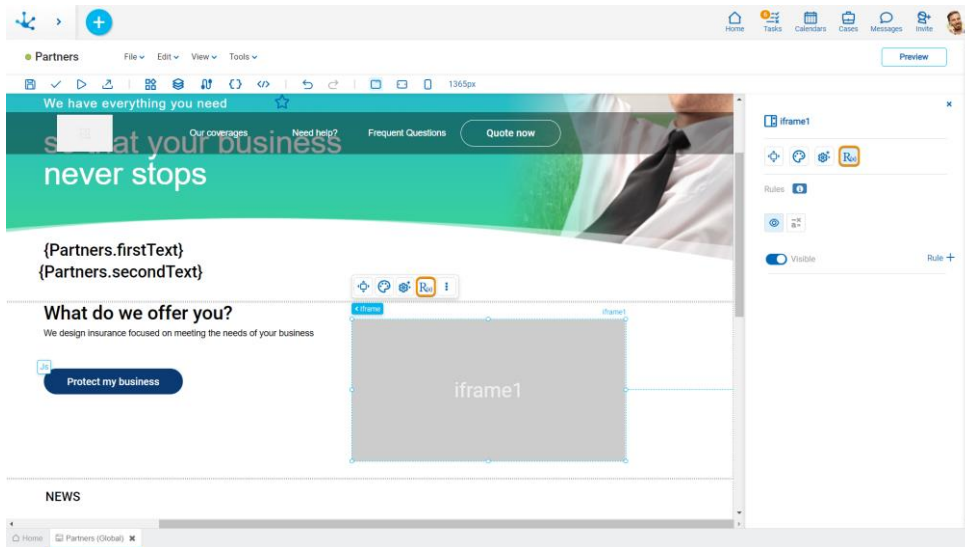
Allows to select a [data source](#) that was previously defined on the page.

Fields

Allows to select a field from those retrieved in the chosen data source. Its value is displayed in the element.

Embedded Rules


The embedded rules properties panel of an element opens when selecting the icon  of the context menu.




Properties

Rules


[Embedded rules](#) on behavior, validation and calculation can be defined, associated with an element, by using the [wizard](#) (ctrl + space).

 Shows syntax examples for writing the rules.



 **Visible**
Indicates whether the element is visible. If this property is not checked, the element is not displayed in the page.

Visible (default) Not visible



Rule + Opens an edit area where a rule to determine the visibility condition can be defined. If a rule is defined, the icon is displayed with light blue borders.

 **Calculation**
Rule + Opens an edit area where you can define the expression to be executed to calculate the element value. If a rule is defined, the icon is displayed with light blue borders.

Operations when defining the rule:

-  Saves the new or modified rule
-  Cancels the operation

Operations once the rule is defined:

-  Edits the existing rule
-  Deletes the rule

Events

The iframes allow to use an event.

Event	Description
onLoad()	It is executed once all the iframe elements have been loaded.

Input


This element is used for entering data.

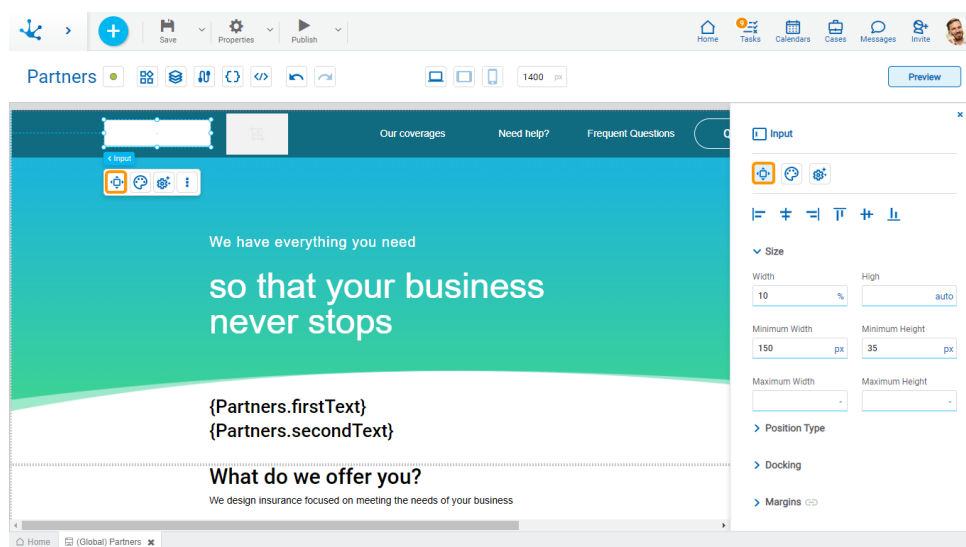
The element properties are represented by icons in its [context menu](#), where its operations are also available.

Subtypes

- Text
- Number
- Password
- Multiline







Structure Properties

The structure properties panel of an element opens when selecting the icon  of the context menu.



Alignment

Allows to align the element by selecting one of the available icons.

-  Align to the left.
-  Align to horizontal center.
-  Align to the right.
-  Align up.
-  Align vertical center.
-  Align bottom.

Size

Size

Width	Minimum Width	Maximum Width
<input type="text" value="100"/> %	<input type="text" value="auto"/>	<input type="text" value="auto"/>
High	Minimum Height	Maximum Height
<input type="text" value="auto"/>	<input type="text" value="auto"/>	<input type="text" value="auto"/>

All size properties can be expressed in pixels (px), percentage (%), viewport width (vw), and viewport height (vh). Additionally, for **Width** and **Height** properties, the "auto" option is added.


If selecting percentage (%) for the width and height properties, the size is calculated relative to the top element.

Position Type

It determines if at the time of execution the element remains fixed on the page or if it moves as the scroll bar moves forward or backward.

Position Type

Position Type

Default 

Default

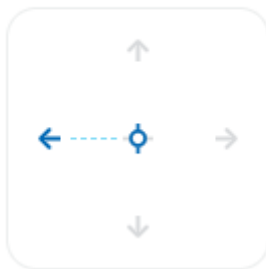
Fixed

Possible Values

- Default: The element has a relative position with respect to the superior element where it was placed (container or section).
- Fixed: Fixes the element to the page so that it is always visible in the same position. It allows to increase the visibility of important content.

Docking

▼ Docking



Determines the vertical and horizontal position of elements within the page section or container, when the screen is resized.

When an element is added or moved within the section or container, the modeler automatically docks it to the nearest corners or edges. It can also be configured by clicking on the arrows of the side to be docked to or on the center.

Once the element is docked, its exact position is indicated in the [Margins](#) property. The direction of the docking arrows determine the values that are automatically displayed for margins.

The docking position is indicated in the modeling area by dotted lines on the element.

Margins

▼ Margins ⇄

Top	Bottom	Left	Right
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

It allows to define the distance of elements from the borders of their top element. The behavior of margins depends on the docking of the element. It can be expressed in pixels (px), percentage (%), viewport width (vw), and viewport height (vh).

Top

Distance to the top border of the highest ranking element.

Bottom

Distance to the bottom border of the highest ranking element.

Left

Distance to the left border of the highest ranking element.

Right

Distance to the right border of the highest ranking element.

 Allows the value entered in one of the margins to be copied to the other ones automatically.

 Allows to indicate different values for each margin.

Advanced

Advanced

Name

Identifier


Name

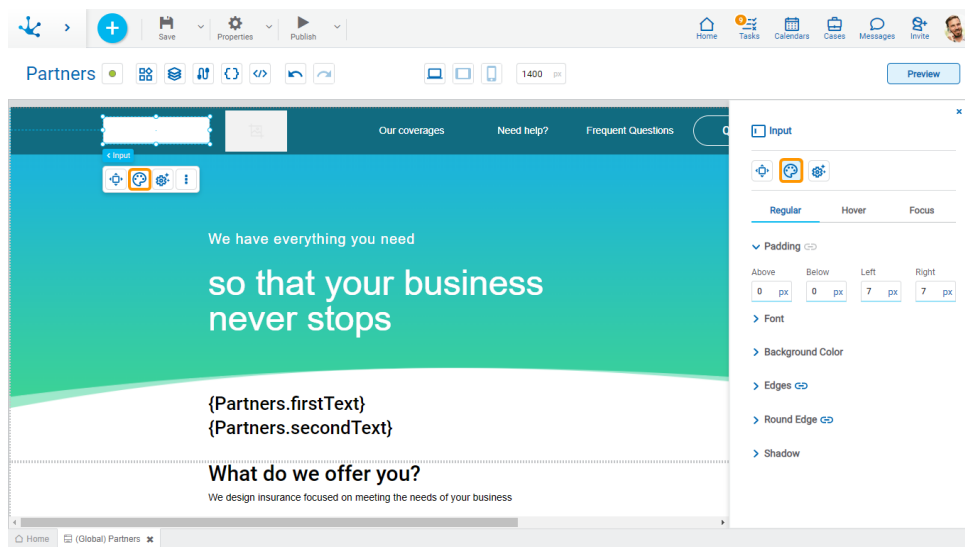
Name used to reference the element during modeling.

Identifier

Uniquely identifies the element. It is used in the Javascript SDK.

Style Properties

The style properties panel of an element opens when selecting the icon  of the context menu.



This type of element may take different states and for each of them different values for its properties may be modeled.

Regular Hover Focus



- Regular: the mouse is no longer over the element.
- Hover: the mouse is over element.
- Focus: the element is clicked.

Padding

▼ Padding

Top	Bottom	Left	Right
<input type="text" value="0"/> px	<input type="text" value="0"/> px	<input type="text" value="0"/> px	<input type="text" value="0"/> px

All padding space properties allow to create a space around the element borders (top, bottom, sides) and its content. The padding space configured is inward, while the margin is configured relative to a top element. It can be expressed in pixels (px), percentage (%), viewport width (vw), and viewport height (vh).

-  Allows values entered in one of the paddings to be copied to the other ones automatically.
-  Allows to indicate different values for each padding.

Font

▼ Font

Family	Size
<input type="text" value="Roboto Medium"/> ▼	<input type="text" value="16"/>
Font Weight	Justify
<input type="text" value="400"/> ▼	<input type="text" value="Centered"/> ▼
Letter spacing	
<input type="text" value="0"/> px	
<input type="checkbox"/> ▼	<input type="range" value="100"/> 100 %

It allows to define the text style.

Background Color

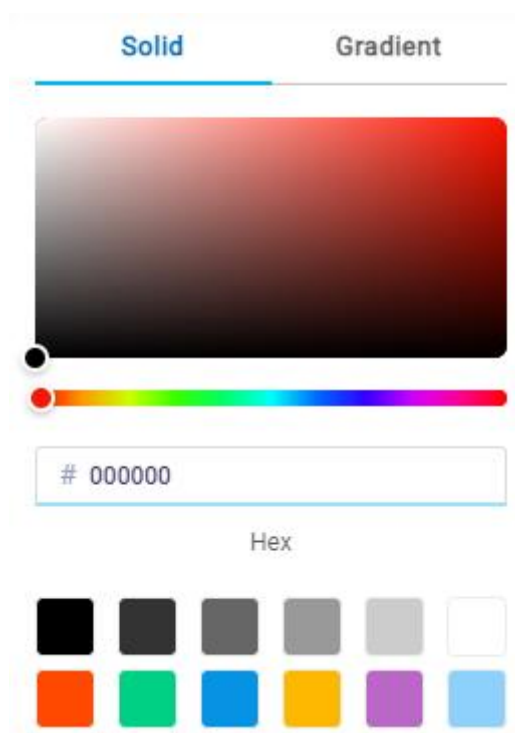
It allows to model a background color for the element, it can be solid or gradient and different properties are defined for each one.

Solid

▼ Background Color



This option enables not only to select the color from a palette but also to define the degree of transparency.

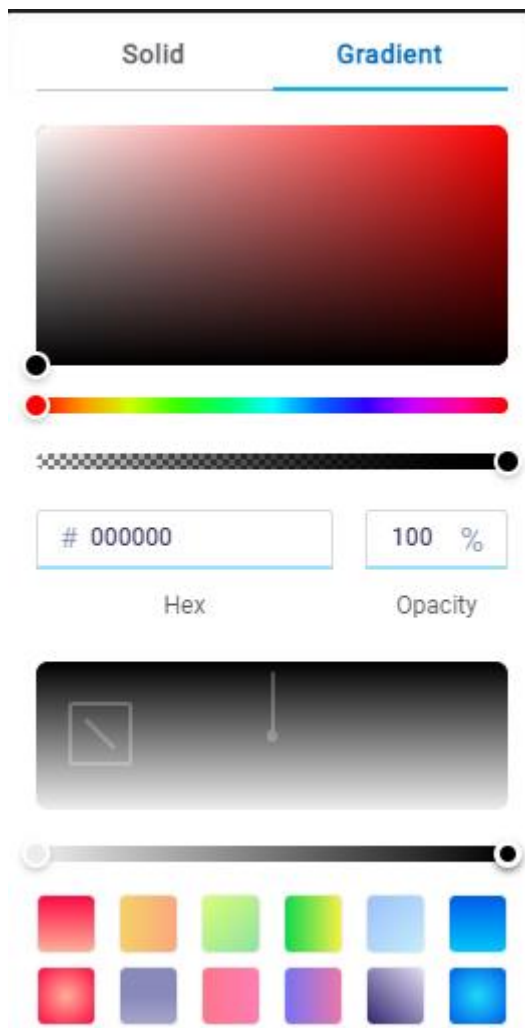


Gradient

▼ Background Color











This option enables to select not only the color from a palette but also to define its opacity and intensity according to the selected angle.



Edges

Edges

	Type	Width	Color	Opacity
	<input type="text" value="-"/> 	<input type="text" value="0"/> px	<input type="color" value=""/>	<input type="text" value="100"/> %
	<input type="text" value="-"/> 	<input type="text" value="0"/> px	<input type="color" value=""/>	<input type="text" value="100"/> %
	<input type="text" value="-"/> 	<input type="text" value="0"/> px	<input type="color" value=""/>	<input type="text" value="100"/> %
	<input type="text" value="-"/> 	<input type="text" value="0"/> px	<input type="color" value=""/>	<input type="text" value="100"/> %

It allows to define the style of borders. Each one has its type, width, color and opacity defined, the latter as a percentage.

 Allows the value entered in one of the borders to be copied to the other ones automatically.

 Allows to indicate different values for each border.

Round Edges

Round Edges

Top/Left	Top/Right	Bottom/Right	Bottom/Left
<input type="text" value="20"/> px	<input type="text" value="20"/> px	<input type="text" value="20"/> px	<input type="text" value="20"/> px

It allows to define the round edges at the corners of elements.

It can be expressed in pixels (px), percentage (%), viewport width (vw), and viewport height (vh).

 Allows the value entered in one of the borders to be copied to the other ones automatically.

 Allows to indicate different values for each border.

Shadow

Shadow

Type

Horizontal

 px

Vertical

 px

Blur

 px

Spread

 px %

Allows to define a shadow effect around the element.

Type

Possible Values

- Outset
- Inset

Horizontal

Horizontal size of the shadow to the right of the element. It can be expressed in pixels (px), percentage (%), viewport width (vw), and viewport height (vh).

Vertical

Vertical size of the shadow below the element. It can be expressed in pixels (px), percentage (%), viewport width (vw), and viewport height (vh).

Blur

The greater this value is, the greater and lighter the shadow becomes. If not specified, its value is 0 and the shadow border is darker. It can be expressed in pixels (px), percentage (%), viewport width (vw), and viewport height (vh).

Spread

Positive values will cause the shadow to expand and grow bigger, while negative values will cause the shadow to shrink. If not specified, its value is 0 and the shadow will have the same size as the element.


Color

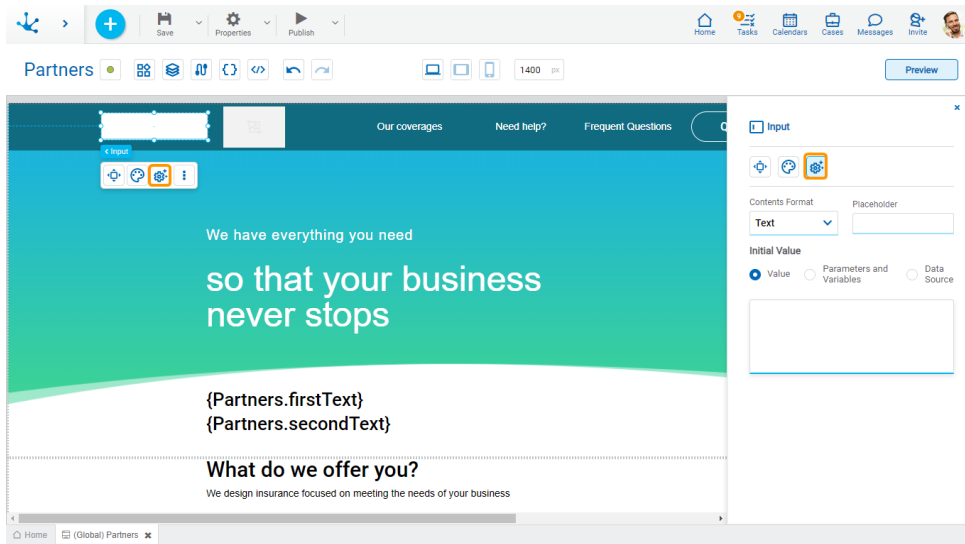
Defines the color of the shadow.

Transparency

Defines the transparency of the shadow.

Configuration Properties

The configuration properties panel of an element opens when clicking the icon  of the context menu.



Format and Placeholder

Contents Format	Placeholder
<input type="text" value="Text"/>	<input type="text"/>

Contents Format

Allows to select text, password, number and multiline.

Placeholder

Allows to guide the user on the content to load in the element. The text entered as a placeholder is displayed within the element.

Initial Value

Allows to select the source of the element's content.

Value

Value Parameters and Variables Data Source

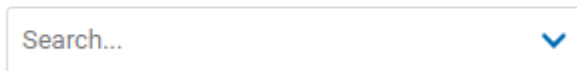


Value

Allows to enter a text that is displayed in the element.

Parameters and Variables

Value Parameters and Variables Data Source



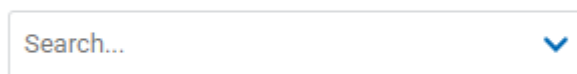
Parameters and Variables

Allows to select a [parameter](#) or a [variable](#) from the page. Its value is displayed in the element.

Data Source

Value Parameters and Variables Data Source

Data Source *



Fields *




Data Source

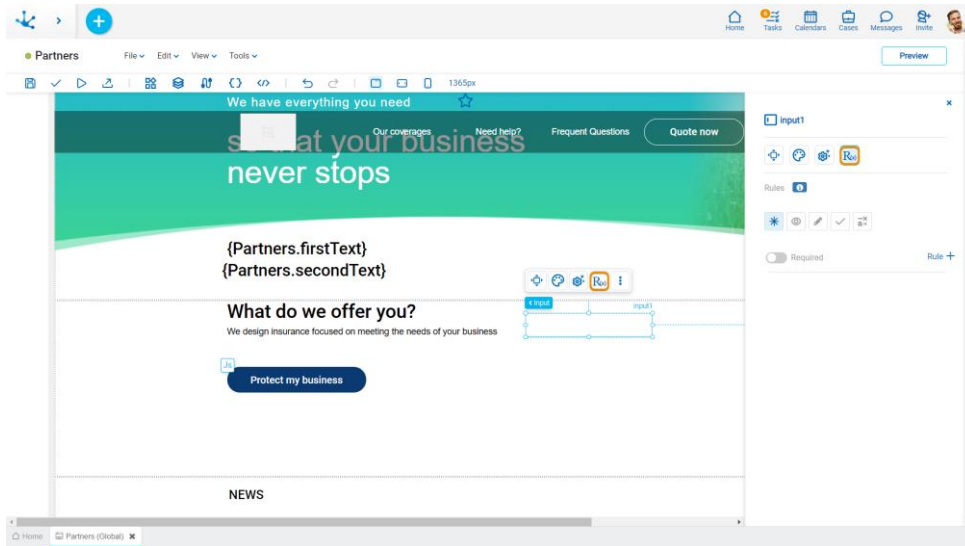
Allows to select a [data source](#) that was previously defined on the page.

Fields

Allows to select a field from those retrieved in the chosen data source. Its value is displayed in the element.

Embedded Rules


The embedded rules properties panel of an element opens when selecting the icon  of the context menu.



Properties

Rules

[Embedded rules](#) on behavior, validation and calculation can be defined, associated with an element, by using the [wizard](#) (ctrl + space).

 Shows syntax examples for writing the rules.



Required

Indicates whether the element is required on the page.

Required Not required (default)

Rule + Opens an edit area where a rule to determine the required condition can be defined. If a rule is defined, the icon is displayed with light blue borders.



Visible

Indicates whether the element is visible. If this property is not checked, the element is not displayed in the page.

Visible (default) Not visible

Rule + Opens an edit area where a rule to determine the visibility condition can be defined. If a rule is defined, the icon is displayed with light blue borders.



Editable

Indicates if the element is editable. If this property is not checked, the user cannot enter or modify values in the element.

Editable (default) Not editable

Rule + Opens an edit area where a rule to determine the editability condition can be defined. If a rule is defined, the icon is displayed with light blue borders.



Validation



Rule + Opens an edit area where you can define the condition that determines if the element value is correct or not. It is possible to define more than one rule. If rules are defined, the icon is displayed with light blue borders.





Calculation

Rule + Opens an edit area where you can define the expression to be executed to calculate the element value. If a rule is defined, the icon is displayed with light blue borders.

Operations when defining the rule:

-  Saves the new or modified rule
-  Cancels the operation

Operations once the rule is defined:

-  Edits the existing rule
-  Deletes the rule

Events

The inputs allow to use different events.

Event	Description
onMouseIn()	It is executed when the mouse is over the element.
onMouseOut()	It is executed when the mouse is no longer over the element.
onClick()	It is executed by clicking on the element.
onDoubleClick()	It is executed by double clicking on the element.
onInit()	It is executed before loading the element.
afterViewInit()	It is executed after presenting the element.

Event	Description
onViewportEnter()	It is executed when the element is visible.
onViewportLeave()	It is executed when the element stops being visible.
pnChange()	It is executed when the enter value is changed.
onFocus()	It is executed when focusing on the element.
onBlur()	It is executed when losing focus on the element.

Imagen


Allows to add any multimedia content of visual type.

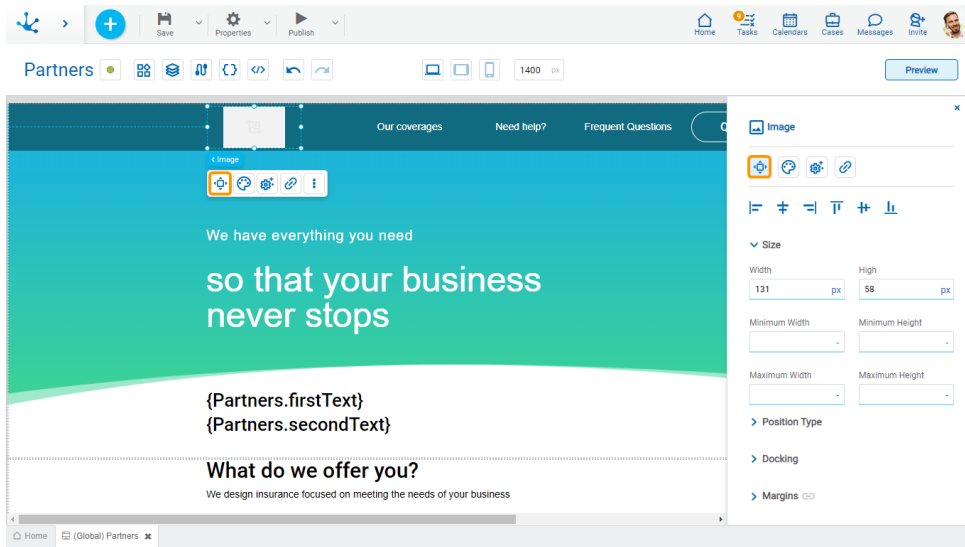
The element properties are represented by icons in its [context menu](#), where its operations are also available.

Subtypes

- Rounded
- Square
- Small
- Medium
- Large







Structure Properties

The structure properties panel of an element opens when selecting the icon  of the context menu.



Alignment

Allows to align the element by selecting one of the available icons.

-  Align to the left.
-  Align to horizontal center.
-  Align to the right.
-  Align up.
-  Align vertical center.
-  Align bottom.

Size

Size

Width	Minimum Width	Maximum Width
<input type="text" value="100"/> %	<input type="text" value="auto"/>	<input type="text" value="auto"/>
High	Minimum Height	Maximum Height
<input type="text" value="auto"/>	<input type="text" value="auto"/>	<input type="text" value="auto"/>

All size properties can be expressed in pixels (px), percentage (%), viewport width (vw), and viewport height (vh). Additionally, for **Width** and **Height** properties, the "auto" option is added.

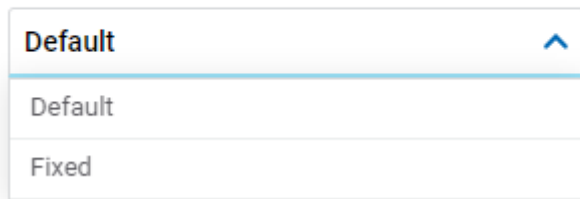
If selecting percentage (%) for the width and height properties, the size is calculated relative to the top element.

Position Type

It determines if at the time of execution the element remains fixed on the page or if it moves as the scroll bar moves forward or backward.

▼ Position Type

Position Type

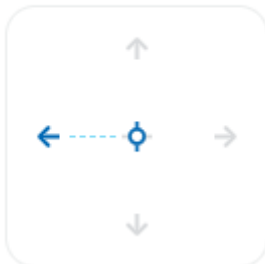


Possible Values

- Default: The element has a relative position with respect to the superior element where it was placed (container or section).
- Fixed: Fixes the element to the page so that it is always visible in the same position. It allows to increase the visibility of important content.

Docking

▼ Docking



Determines the vertical and horizontal position of elements within the page section or container, when the screen is resized.

When an element is added or moved within the section or container, the modeler automatically docks it to the nearest corners or edges. It can also be configured by clicking on the arrows of the side to be docked to or on the center.

Once the element is docked, its exact position is indicated in the [Margins](#) property. The direction of the docking arrows determine the values that are automatically displayed for margins.

The docking position is indicated in the modeling area by dotted lines on the element.

Margins

▼ Margins

Top	Bottom	Left	Right
<input type="text" value="-"/>	<input type="text" value="-"/>	<input type="text" value="-"/>	<input type="text" value="-"/>

It allows to define the distance of elements from the borders of their top element. The behavior of margins depends on the docking of the element. It can be expressed in pixels (px), percentage (%), viewport width (vw), and viewport height (vh).

Top

Distance to the top border of the highest ranking element.

Bottom

Distance to the bottom border of the highest ranking element.

Left

Distance to the left border of the highest ranking element.

Right

Distance to the right border of the highest ranking element.



Allows the value entered in one of the margins to be copied to the other ones automatically.



Allows to indicate different values for each margin.

Advanced

▼ Advanced

Name	Identifier
<input type="text" value="image1"/>	<input type="text" value="image1"/>


Name

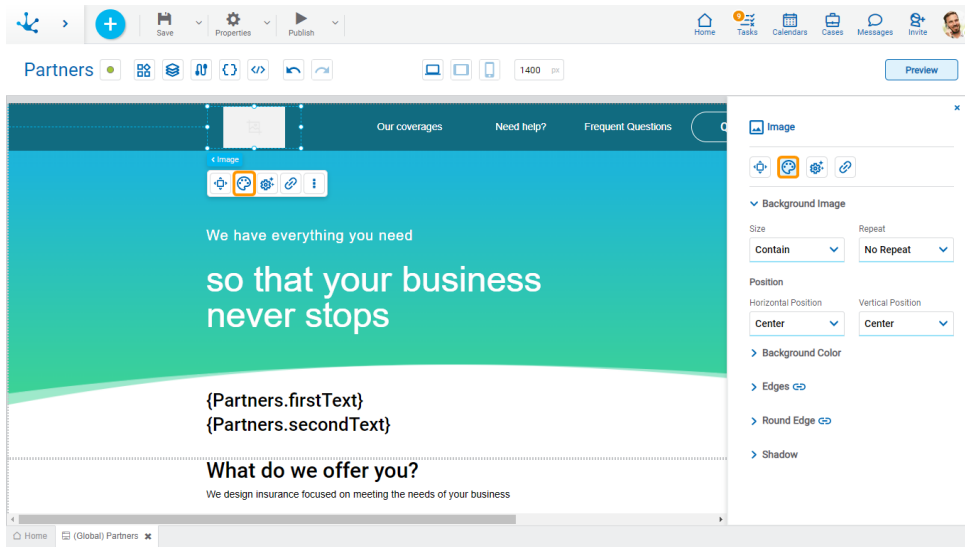
Name used to reference the element during modeling.

Identifier

Uniquely identifies the element. It is used in the Javascript SDK.

Style Properties

The style properties panel of an element opens when selecting the icon  of the context menu.



Background Image

Defines the background image properties.

Background Image

Size

Repeat

Position

Horizontal Position

Vertical Position

Size

Possible Values

- Cover
- Content
- Auto

Repeat

Possible Values

- Repeat
- Repeat Hor.
- Repeat Vert.
- Spacing
- Rounded
- Do Not Repeat

Horizontal and Vertical Position

Possible Values

- Center
- Left
- Right

Background Color

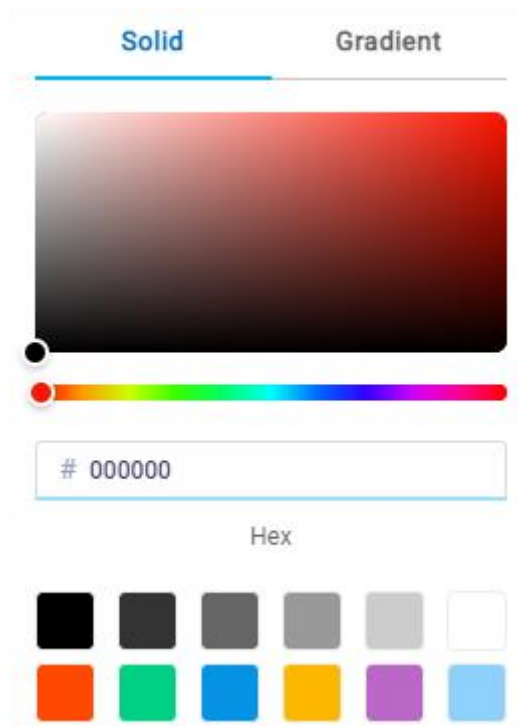
It allows to model a background color for the element, it can be solid or gradient and different properties are defined for each one.

Solid

▼ Background Color



This option enables not only to select the color from a palette but also to define the degree of transparency.

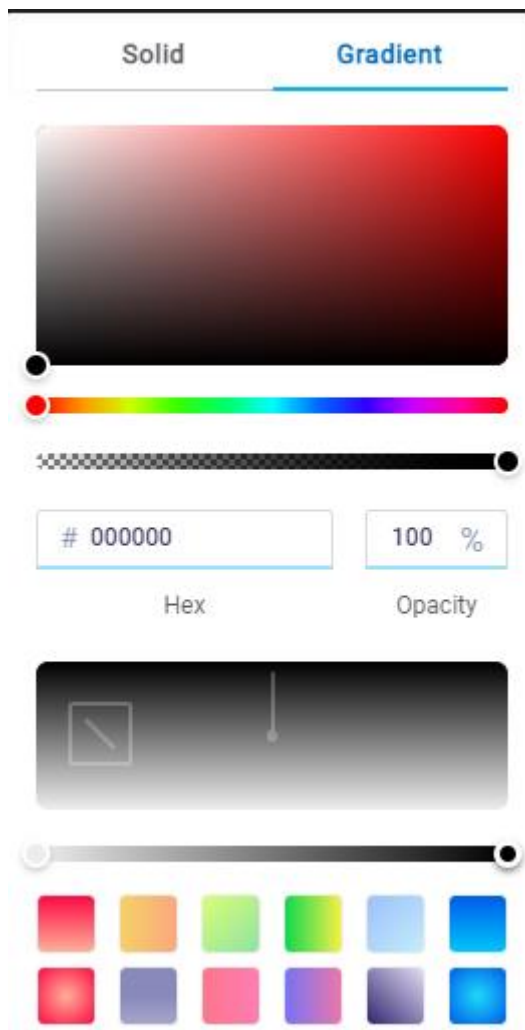


Gradient

▼ Background Color











This option enables to select not only the color from a palette but also to define its opacity and intensity according to the selected angle.



Edges

Edges

	Type	Width	Color	Opacity
	<input type="text" value="—"/> 	<input type="text" value="0"/> px	<input type="color"/>	<input type="text" value="100"/> %
	<input type="text" value="—"/> 	<input type="text" value="0"/> px	<input type="color"/>	<input type="text" value="100"/> %
	<input type="text" value="—"/> 	<input type="text" value="0"/> px	<input type="color"/>	<input type="text" value="100"/> %
	<input type="text" value="—"/> 	<input type="text" value="0"/> px	<input type="color"/>	<input type="text" value="100"/> %

It allows to define the style of borders. Each one has its type, width, color and opacity defined, the latter as a percentage.

 Allows the value entered in one of the borders to be copied to the other ones automatically.

 Allows to indicate different values for each border.

Round Edges

Round Edges

Top/Left	Top/Right	Bottom/Right	Bottom/Left
<input type="text" value="20"/> px	<input type="text" value="20"/> px	<input type="text" value="20"/> px	<input type="text" value="20"/> px

It allows to define the round edges at the corners of elements.

It can be expressed in pixels (px), percentage (%), viewport width (vw), and viewport height (vh).

 Allows the value entered in one of the borders to be copied to the other ones automatically.

 Allows to indicate different values for each border.

Shadow

Shadow

Type

Horizontal

 px

Vertical

 px

Blur

 px

Spread

 px

Allows to define a shadow effect around the element.

Type

Possible Values

- Outset
- Inset

Horizontal

Horizontal size of the shadow to the right of the element. It can be expressed in pixels (px), percentage (%), viewport width (vw), and viewport height (vh).

Vertical

Vertical size of the shadow below the element. It can be expressed in pixels (px), percentage (%), viewport width (vw), and viewport height (vh).

Blur

The greater this value is, the greater and lighter the shadow becomes. If not specified, its value is 0 and the shadow border is darker. It can be expressed in pixels (px), percentage (%), viewport width (vw), and viewport height (vh).

Spread

Positive values will cause the shadow to expand and grow bigger, while negative values will cause the shadow to shrink. If not specified, its value is 0 and the shadow will have the same size as the element.


Color

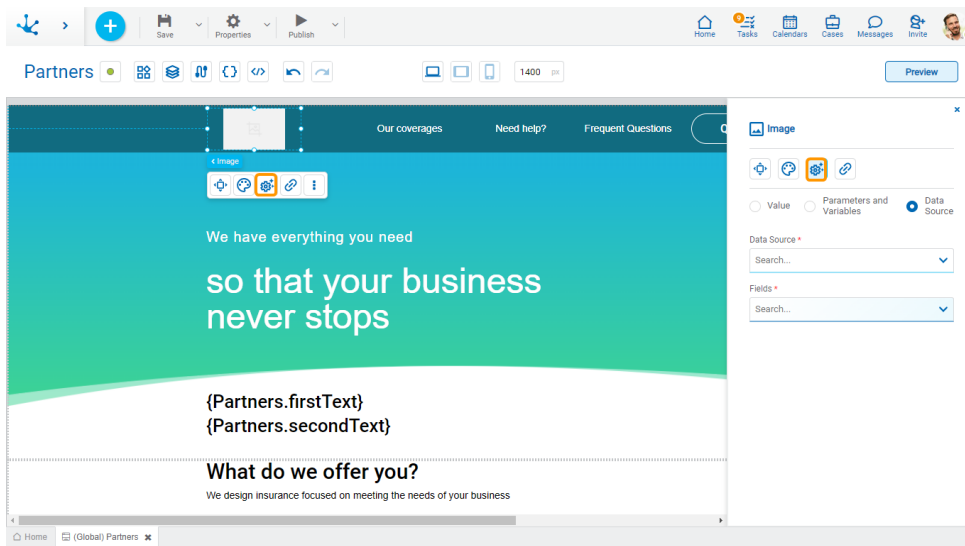
Defines the color of the shadow.

Transparency

Defines the transparency of the shadow.

Configuration Properties

The configuration properties panel of an element opens when clicking the icon  of the context menu.



Allows to select the source of the element's content.

Value


Value Parameters and Variables Data Source



Allows to add an image from a file on the user's computer.

Parameters and Variables

Value Parameters and Variables Data Source

Parameters and Variables

Allows to select a [parameter](#) or a [variable](#) from the page. Its value is displayed in the element. This value can be a valid url.

Data Source

Value Parameters and Variables Data Source

Data Source *

Fields *


Data Source

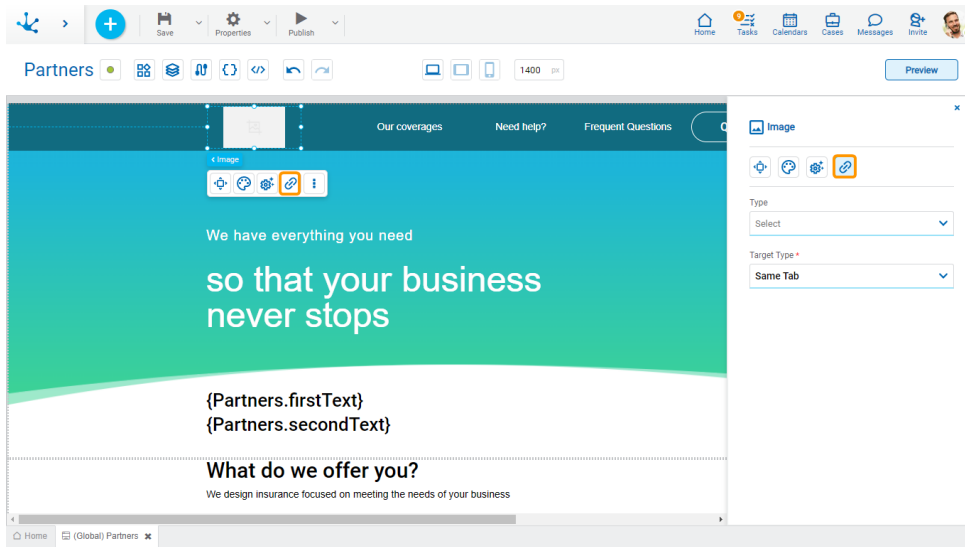
Allows to select a [data source](#) that was previously defined on the page.

Fields

Allows to select a field from those retrieved in the chosen data source. Its value is displayed in the element.

Hyperlink Properties

The hyperlink properties panel of an element opens by pressing the icon  of the context menu.



Define the behavior of the element when selecting it. Different properties are enabled depending on the type of object selected.

Page

Type

Page ✕

Page *

Partners ✕

Target Type *

Same Tab ▾

Parameters

partner

Code

partner

Value
 Parameters and Variables
 Data Source

Page

The pages modeled in the environment are displayed.

Target Type

The available options for opening the object are displayed.

Possible Values

- Same Tab
- New Window
- Modal: if this option is selected the additional properties are enabled.
 - [Modal Horizontal Size](#)
Define its width.
 - [Modal Vertical Size](#)
Define its height.
- Iframe: this option is selected and an additional property is enabled.
 - [Target Iframe](#)
Displays the iframes previously defines in the page.

Parameters

If there are parameters, their value can be specified with text, parameters and variables or data source.

Deyel Page

Type

Deyel Page *

Target Type *

Parameters

Parameters have not yet been created to send

[+ Create new parameter](#)

Deyel Page

The pages belonging to **Deyel** are displayed.

Target Type

The available options for opening the object are displayed.

Possible Values

- Same Tab
- New Window
- Modal: if this option is selected the additional properties are enabled.
 - [Modal Horizontal Size](#)
Define its width.
 - [Modal Vertical Size](#)
Define its height.
- Iframe: this option is selected and an additional property is enabled.
 - [Target Iframe](#)
Displays the iframes previously defines in the page.

Parameters

Allows sending parameters to the selected object type.

Form

Type

Form ×

Form *

Partners ×

Operation *

New ▾

Target Type *

Same Tab ▾

Parameters

Parameters have not yet been created to send

[+ Create new parameter](#)

Form

The forms modeled in the environment are displayed.

Operation

Defines the operation made when selecting the object.

Possible Values

- New: Indicates that the panel of the form selected in the previous property is opened for the creation of an instance.
- Grid: Indicates that the grid of the form selected in the previous property is opened.

Target Type

The available options for opening the object are displayed.

Possible Values

- Same Tab
- New Window
- Modal: if this option is selected the additional properties are enabled.
 - [Modal Horizontal Size](#)
Define its width.
 - [Modal Vertical Size](#)
Define its height.
- Iframe: this option is selected and an additional property is enabled.
 - [Target Iframe](#)
Displays the iframes previously defines in the page.

Parameters

Allows sending parameters to the selected object type.

Process

Type

Process



Process *

New Partner



Operation *

New Case



Target Type *

Same Tab



Parameters

Parameters have not yet been created to send

[+ Create new parameter](#)

Process

The processes modeled in the environment are displayed.

Operation

Defines the operation made when selecting the object.

Possible Value

- New Case: Indicates that a case of the process selected in the previous property is started.

Target Type

The available options for opening the object are displayed.

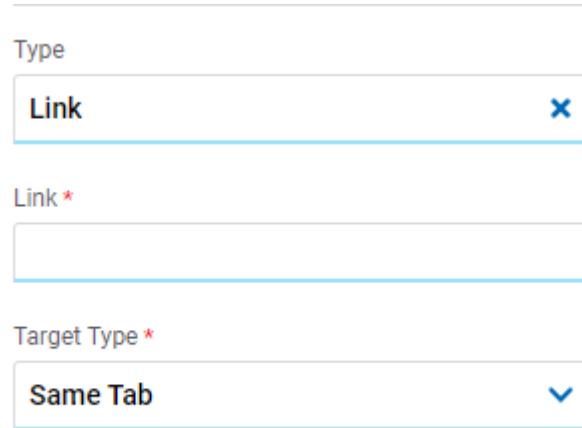
Possible Values

- Same Tab
- New Window
- Modal: if this option is selected the additional properties are enabled.
 - [Modal Horizontal Size](#)
Define its width.
 - [Modal Vertical Size](#)
Define its height.
- Iframe: this option is selected and an additional property is enabled.
 - [Target Iframe](#)
Displays the iframes previously defines in the page.

Parameters

Allows sending parameters to the selected object type.

Link



The screenshot shows a configuration form for a 'Link' object. It contains three fields: a 'Type' dropdown menu with 'Link' selected, a 'Link' text input field, and a 'Target Type' dropdown menu with 'Same Tab' selected. The 'Link' and 'Target Type' fields are marked with a red asterisk, indicating they are required.

Link

Allows to enter any link.

Target Type

The available options for opening the object are displayed.

Possible Values

- Same Tab
- New Window
- Modal: if this option is selected the additional properties are enabled.
 - [Modal Horizontal Size](#)
Define its width.
 - [Modal Vertical Size](#)
Define its height.
- Iframe: this option is selected and an additional property is enabled.
 - [Target Iframe](#)
Displays the iframes previously defines in the page.

Element

Type

Element ✕

Element *

Search... ▼

Operation *

Focus ▼

Behaviour

Select ▼

Vertical Scroll

Select ▼

Element

The modeled elements in the page are displayed.

Operation

Defines the operation made when selecting the element.

Behaviour

Establishes the transition of the animation. It is only modelable if the "Focus" operation was selected.

Possible Values

- Auto
- Smooth

Vertical Scroll

Possible Values

- Start: Moves to the start of the selected element.
- Closest: Moves to the closest position to the selected element from the element the event fires.
- Center: Moves to the center of the selected element.
- End: Moves to the end of the selected element.


Back

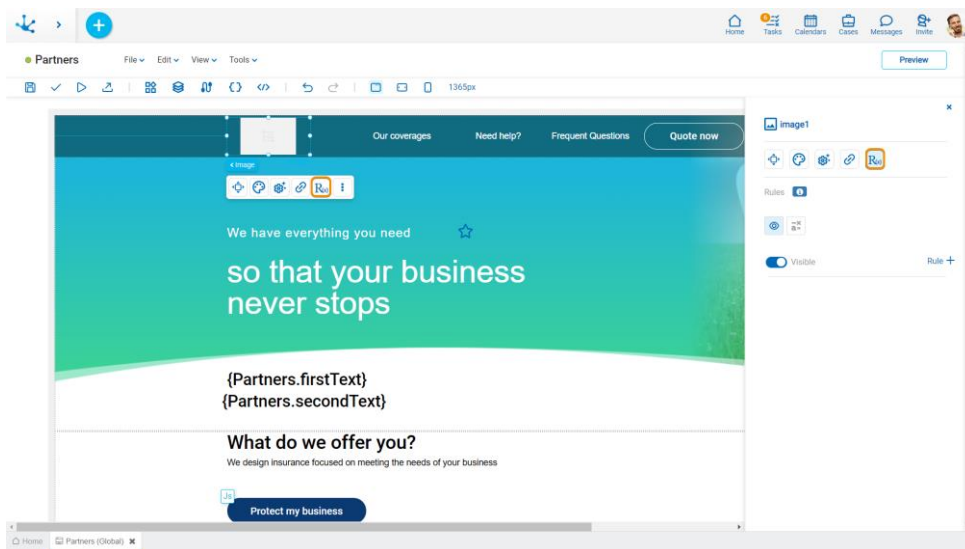
Type

Back ✕

It allows associating the event to go back in the browser to the element.

Embedded Rules


The embedded rules properties panel of an element opens when selecting the icon  of the context menu.




Properties

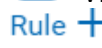
Rules


[Embedded rules](#) on behavior, validation and calculation can be defined, associated with an element, by using the [wizard](#) (ctrl + space).

 Shows syntax examples for writing the rules.

 **Visible**
Indicates whether the element is visible. If this property is not checked, the element is not displayed in the page.



Visible (default) Not visible

 **Rule +** Opens an edit area where a rule to determine the visibility condition can be defined. If a rule is defined, the icon is displayed with light blue borders.



 **Calculation**

Rule + Opens an edit area where you can define the expression to be executed to calculate the element value. If a rule is defined, the icon is displayed with light blue borders.

Operations when defining the rule:

-  Saves the new or modified rule
-  Cancels the operation

Operations once the rule is defined:

-  Edits the existing rule
-  Deletes the rule

Events

The images allow to use different events.

Event	Description
onMouseIn()	It is executed when the cursor is positioned on the element.
onMouseOut()	It is executed when the cursor moves out of the element.
onClick()	It is executed when clicking on the element.
onDoubleClick()	It is executed when clicking twice on the element.
onInit()	It is executed before the element is loaded.
afterViewInit()	It is executed after viewing the element.
onViewportEnter()	It is executed when the element is visible.
onViewportLeave()	It is executed when the element is no longer visible.

Layout


This element is a structure built of a set of [items](#) and allows to structure them based on different styles: column, row, stripe and mosaic. Such items are containers, which allows to add other elements. These elements can be moved with each item when the layout structure is resized.

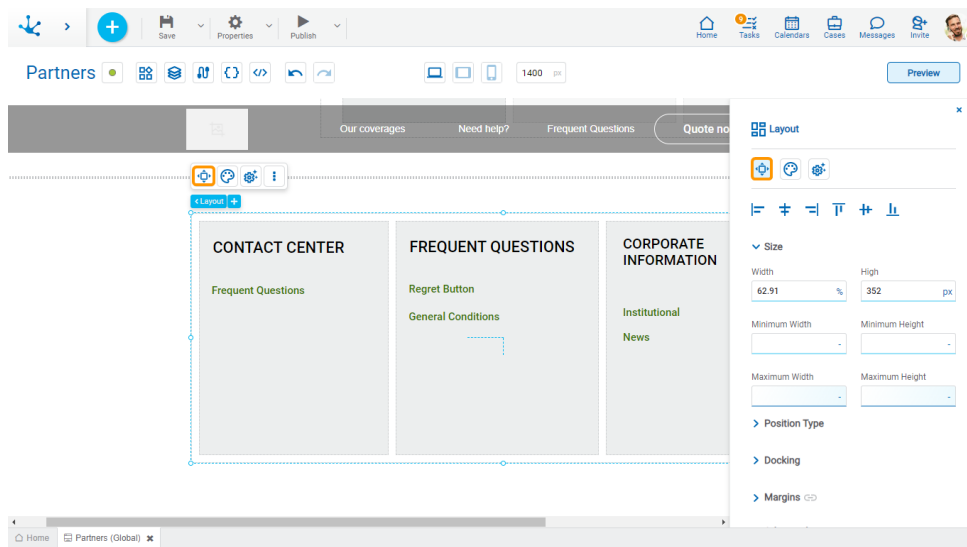
The element properties are represented by icons in its [context menu](#), where its operations are also available.

Subtypes

- Column
- Row
- Stripe
- Mosaic






Structure Properties

The structure properties panel of an element opens when selecting the icon  of the context menu.



Alignment

Allows to align the element by selecting one of the available icons.

-  Align to the left.
-  Align to horizontal center.
-  Align to the right.
-  Align up.
-  Align vertical center.

-  Align bottom.

Size

Size

Width	Minimum Width	Maximum Width
<input type="text" value="100"/> %	<input type="text" value="auto"/>	<input type="text" value="auto"/>
High	Minimum Height	Maximum Height
<input type="text" value="auto"/>	<input type="text" value="auto"/>	<input type="text" value="auto"/>

All size properties can be expressed in pixels (px), percentage (%), viewport width (vw), and viewport height (vh). Additionally, for **Width** and **Height** properties, the “auto” option is added.


If selecting percentage (%) for the width and height properties, the size is calculated relative to the top element.

Position Type

It determines if at the time of execution the element remains fixed on the page or if it moves as the scroll bar moves forward or backward.

Position Type

Position Type

Default 

Default

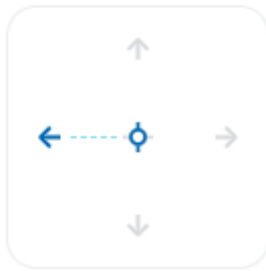
Fixed

Possible Values

- **Default:** The element has a relative position with respect to the superior element where it was placed (container or section).
- **Fixed:** Fixes the element to the page so that it is always visible in the same position. It allows to increase the visibility of important content.

Docking

▼ Docking



Determines the vertical and horizontal position of elements within the page section or container, when the screen is resized.

When an element is added or moved within the section or container, the modeler automatically docks it to the nearest corners or edges. It can also be configured by clicking on the arrows of the side to be docked to or on the center.

Once the element is docked, its exact position is indicated in the [Margins](#) property. The direction of the docking arrows determine the values that are automatically displayed for margins.

The docking position is indicated in the modeling area by dotted lines on the element.

Margins

▼ Margins ⇄

Top	Bottom	Left	Right
<input type="text" value="-"/>	<input type="text" value="-"/>	<input type="text" value="-"/>	<input type="text" value="-"/>

It allows to define the distance of elements from the borders of their top element. The behavior of margins depends on the docking of the element. It can be expressed in pixels (px), percentage (%), viewport width (vw), and viewport height (vh).

Top

Distance to the top border of the highest ranking element.

Bottom

Distance to the bottom border of the highest ranking element.

Left

Distance to the left border of the highest ranking element.

Right

Distance to the right border of the highest ranking element.

⇄ Allows the value entered in one of the margins to be copied to the other ones automatically.

⇄ Allows to indicate different values for each margin.

Advanced

▼ Advanced

Name

Identifier


Name

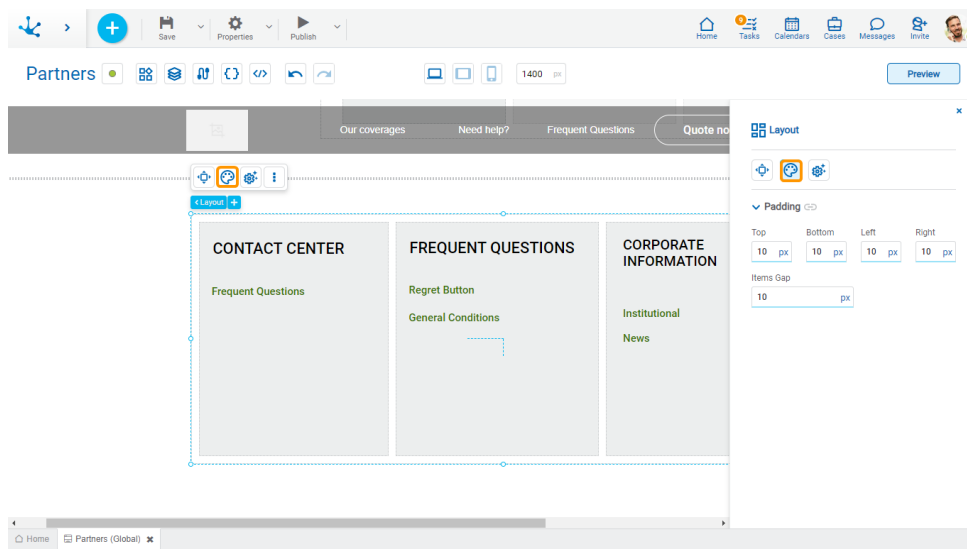
Name used to reference the element during modeling.

Identifier

Uniquely identifies the element. It is used in the Javascript SDK.

Style Properties

The style properties panel of an element opens when selecting the icon  of the context menu.



Padding

▼ Padding ↔

Top

Bottom

Left

Right



Items Gap

px


All padding space properties allow you to create a space around the borders (top, bottom, sides) and the bottom elements. It can be expressed in pixels (px), percentage (%), viewport width (vw), and viewport height (vh).

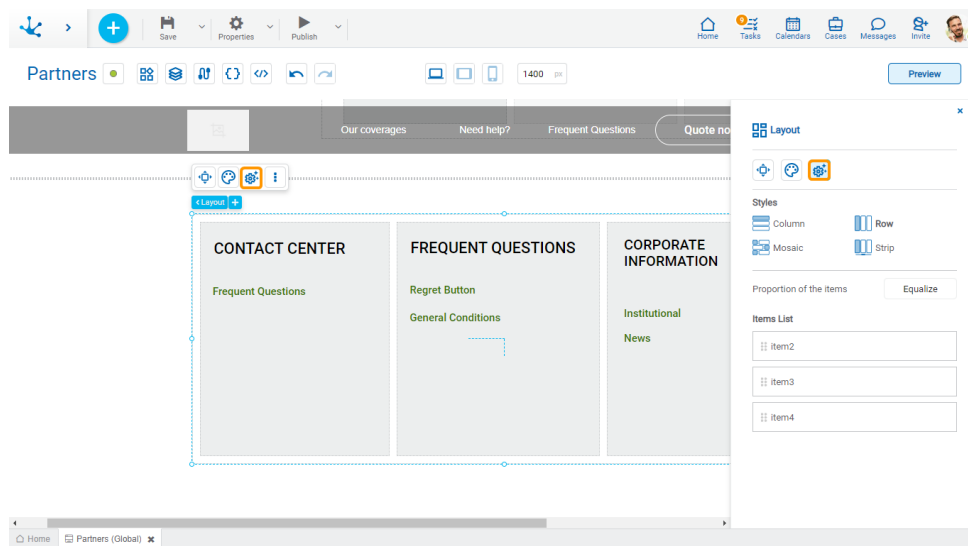
Items Gap

Defines the gap between the design items.

-  Allows values entered in one of the paddings to be copied to the other ones automatically.
-  Allows to indicate different values for each padding.

Configuration Properties

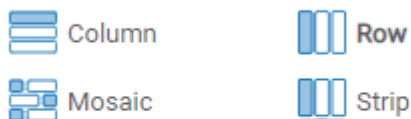
The configuration properties panel of an element opens when clicking the icon  of the context menu.



Styles

Indicates the way in which items are grouped within the layout.

Styles



Proportion of the items

Equalize

Column

Items are placed vertically within the layout.

Row

Items are placed horizontally within the layout.

Mosaic

Combines the vertical and horizontal placement of items based on their size within the layout.

Strip

Items are placed horizontally within the layout. Allows scrolling.

Proportion of the items

Pressing the "Equalize" button adjusts the size of the items proportionally within the layout.


Items List

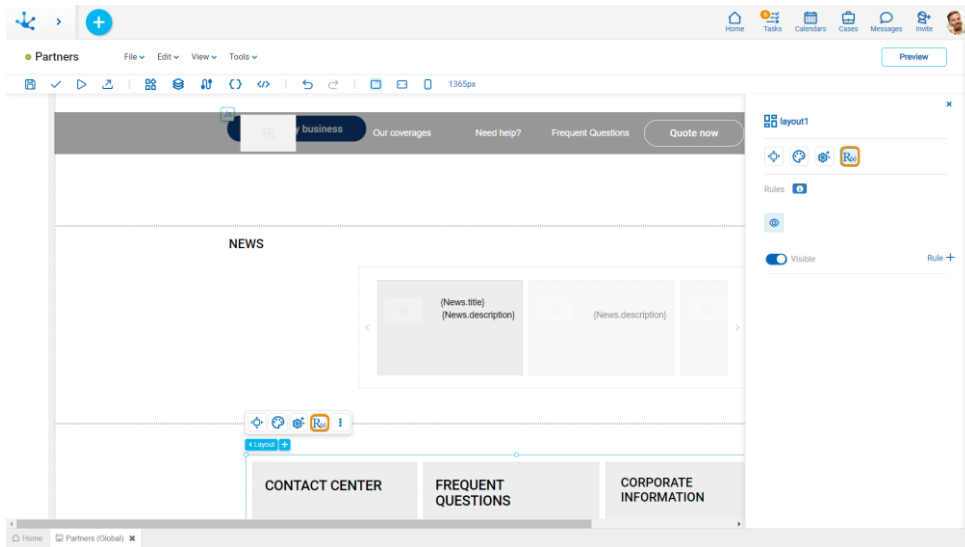
Items List



The [items](#) contained in the design are visualized and can change position by dragging them within the list.

Embedded Rules


The embedded rules properties panel of an element opens when selecting the icon  of the context menu.




Properties

Rules

[Embedded rules](#) on behavior, validation and calculation can be defined, associated with an element, by using the [wizard](#) (ctrl + space).

 Shows syntax examples for writing the rules.


 **Visible**
Indicates whether the element is visible. If this property is not checked, the element is not displayed in the page.

Visible (default) Not visible


Rule + Opens an edit area where a rule to determine the visibility condition can be defined. If a rule is defined, the icon is displayed with light blue borders.

Operations when defining the rule:

 Saves the new or modified rule

 Cancels the operation

Operations once the rule is defined:

 Edits the existing rule


 Deletes the rule

Item

Items can be included to the layout and their characteristics can be defined by modeling its properties.

Operations

Add



Allows to add an item to the design clicking on the icon  from the element's context menu.



Move


The change of position for an item is made in the [configuration properties panel of the layout](#).

Change Size

The size of an item can be changed both from its context menu using the icons  to increase its size and  to reduce it, as well as from its structure properties panel.




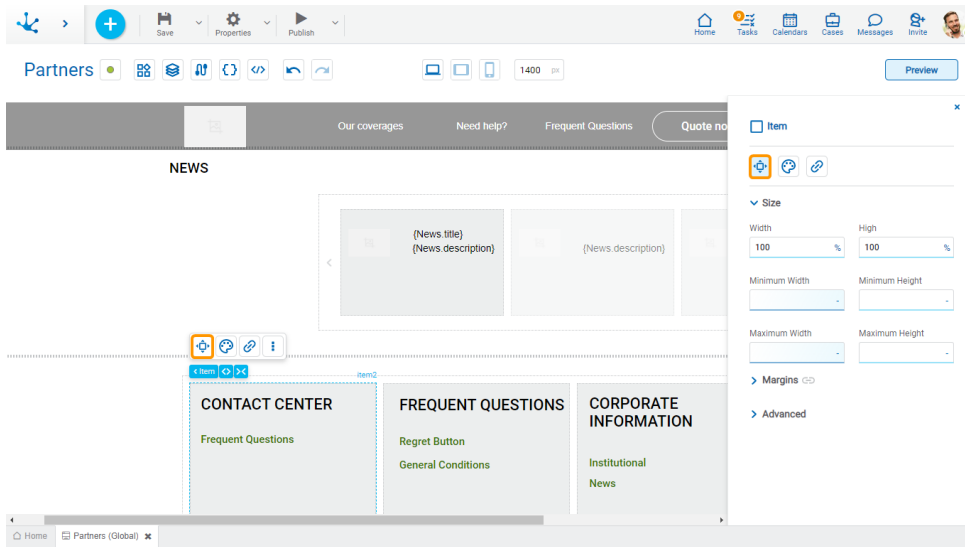
Context Menu

Clicking the right button of the mouse on an item expands a second context menu whose options correspond to operations that can be performed on the selected item. The same menu is displayed by pressing the icon  on the palette.

- Cut (Ctrl+X)
- Copy (Ctrl+C)
- Paste (Ctrl+V)
- Duplicate (Ctrl+D)
- Lock/Unlock When an item is locked, it cannot be moved until it is unlocked.
- Hide: Hides the item in the [breakpoint](#) that is being used and in minor breakpoints. Once hidden it can be displayed again from [Layers](#).
- Delete (Supr)
- Properties

Structure Properties

The structure properties panel of an item opens when selecting the icon  of the context menu.



Size

Size

Width	Minimum Width	Maximum Width
<input type="text" value="100 %"/>	<input type="text" value="auto"/>	<input type="text" value="auto"/>
High	Minimum Height	Maximum Height
<input type="text" value="auto"/>	<input type="text" value="auto"/>	<input type="text" value="auto"/>

All size properties can be expressed in pixels (px), percentage (%), viewport width (vw), and viewport height (vh). Additionally, for **Width** and **Height** properties, the "auto" option is added.

If selecting percentage (%) for the width and height properties, the size is calculated relative to the top element.

Margins

Margins

Top	Bottom	Left	Right
<input type="text" value="-"/>	<input type="text" value="-"/>	<input type="text" value="-"/>	<input type="text" value="-"/>

Allows to define the distance among items and also from items to the borders of the containing element. It can be expressed in pixels (px), percentage (%), viewport width (vw), and viewport height (vh).

Top

Distance to the top border of the containing element.

Bottom

Distance to the bottom border of the containing element.

Left

Distance to the left border of the containing element or to the previous item.

Right

Distance to the right border of the containing element or to the following item.

 Allows the value entered in one of the margins to be copied to the other ones automatically.

 Allows to indicate different values for each margin.

Advanced

Advanced

Name

Identifier


Name

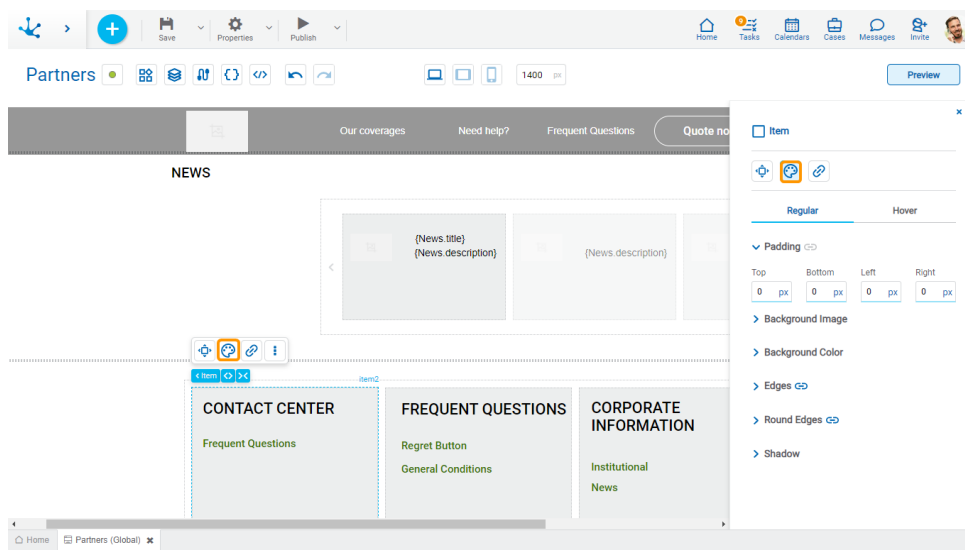
Name used to reference the item during modeling.

Identifier

Uniquely identifies the item. It is used in the Javascript SDK.

Style Properties

The style properties panel of an item opens when selecting the icon  of the context menu.



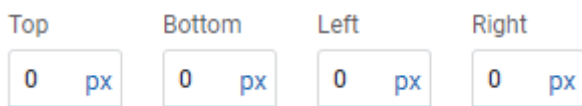
This type of element may take different states and for each of them different values for its properties may be modeled.





- Regular: The mouse pointer is not over the element.
- Over: The mouse pointer is over the element.

Padding

▼ Padding



All padding space properties allow to create a space around the item borders (top, bottom, sides) and its content. The padding space configured is inward, while the margin is configured relative to a top item. It can be expressed in pixels (px), percentage (%), viewport width (vw), and viewport height (vh).

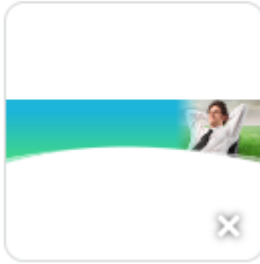
-  Allows values entered in one of the paddings to be copied to the other ones automatically.
-  Allows to indicate different values for each padding.

Background Image

Allows to add a background image to the item.

▼ Background Image

Selected



Size

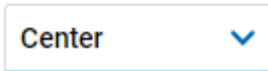


Repeat

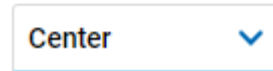


Position

Horizontal Position



Vertical Position



Selected

An image can be uploaded from the computer where it is being modeled.

Background Color

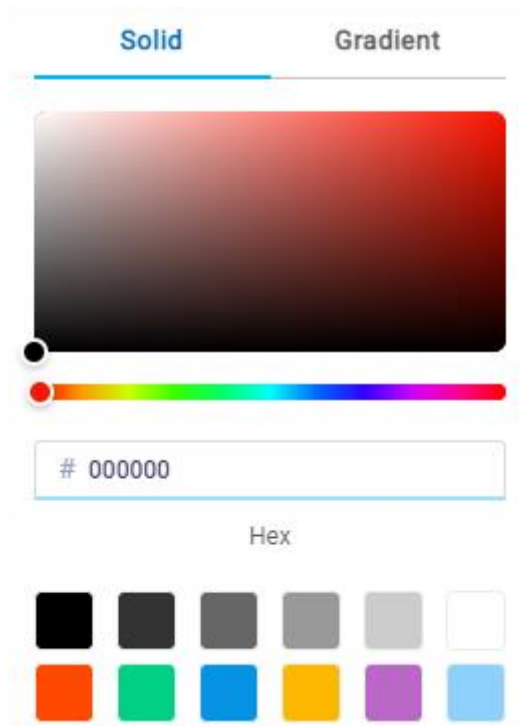
It allows to model a background color for the element, it can be solid or gradient and different properties are defined for each one.

Solid

▼ Background Color



This option enables not only to select the color from a palette but also to define the degree of transparency.

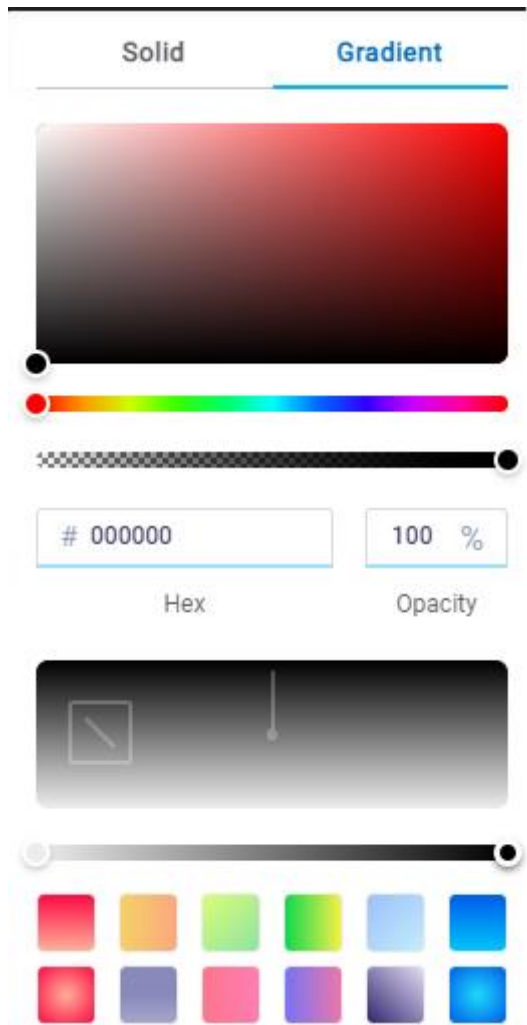


Gradient

▼ Background Color







This option enables to select not only the color from a palette but also to define its opacity and intensity according to the selected angle.



Edges

∨ Edges [↻](#)

	Type	Width	Color	Opacity
	<input type="text" value="-"/> ∨	<input type="text" value="0"/> px	<input type="checkbox"/>	<input type="text" value="100"/> %
	<input type="text" value="-"/> ∨	<input type="text" value="0"/> px	<input type="checkbox"/>	<input type="text" value="100"/> %
	<input type="text" value="-"/> ∨	<input type="text" value="0"/> px	<input type="checkbox"/>	<input type="text" value="100"/> %
	<input type="text" value="-"/> ∨	<input type="text" value="0"/> px	<input type="checkbox"/>	<input type="text" value="100"/> %

It allows to define the style of borders. Each one has its type, width, color and opacity defined, the latter as a percentage.

- ⌕ Allows the value entered in one of the borders to be copied to the other ones automatically.
- ⌕ Allows to indicate different values for each border.

Round Edges

▼ Round Edges ⌕

Top/Left	Top/Right	Bottom/Right	Bottom/Left
<input type="text" value="20 px"/>	<input type="text" value="20 px"/>	<input type="text" value="20 px"/>	<input type="text" value="20 px"/>

It allows to define the round edges at the corners of items.
It can be expressed in pixels (px), percentage (%), viewport width (vw), and viewport height (vh).

- ⌕ Allows the value entered in one of the borders to be copied to the other ones automatically.
- ⌕ Allows to indicate different values for each border.

Shadow

▼ Shadow

Type

Horizontal	Vertical
<input type="text" value="0 px"/>	<input type="text" value="0 px"/>
Blur	Spread
<input type="text" value="0 px"/>	<input type="text" value="0 px"/>
<input type="color" value="#000000"/>	<input type="range" value="0 %"/>

Allows to define a shadow effect around the item.

Type

Possible Values

- Outset
- Inset

Horizontal

Horizontal size of the shadow to the right of the item. It can be expressed in pixels (px), percentage (%), viewport width (vw), and viewport height (vh).

Vertical

Vertical size of the shadow below the item. It can be expressed in pixels (px), percentage (%), viewport width (vw), and viewport height (vh).

Blur

The greater this value is, the greater and lighter the shadow becomes. If not specified, its value is 0 and the shadow border is darker. It can be expressed in pixels (px), percentage (%), viewport width (vw), and viewport height (vh).

Spread

Positive values will cause the shadow to expand and grow bigger, while negative values will cause the shadow to shrink. If not specified, its value is 0 and the shadow will have the same size as the item.


Color

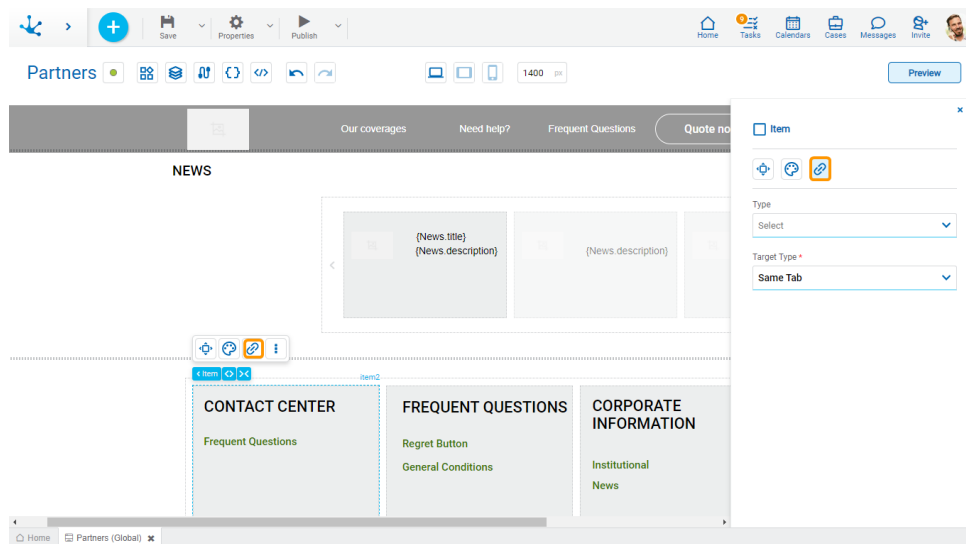
Defines the color of the shadow.

Transparency

Defines the transparency of the shadow.

Hyperlink Properties

The hyperlink properties panel of an item opens by pressing the icon  of the context menu.



Define the behavior of the item when selecting it. Different properties are enabled depending on the type of object selected.

Page

Type

Page ✕

Page *

Contact Center ✕

Target Type *

Same Tab ▼

Parameters

partner

Code

partner

Value
 Parameters and Variables
 Data Source

Page

The pages modeled in the environment are displayed.

Target Type

The available options for opening the object are displayed.

Possible Values

- Same Tab
- New Window
- Modal: if this option is selected the additional properties are enabled.
 - [Modal Horizontal Size](#)
Define its width.
 - [Modal Vertical Size](#)
Define its height.
- Iframe: this option is selected and an additional property is enabled.
 - [Target Iframe](#)
Displays the iframes previously defines in the page.

Parameters

If there are parameters, their value can be specified with text, parameters and variables or data source.

Deyel Page

Type

Deyel Page ✕

Deyel Page *

Agents ✕

Target Type *

Same Tab ▼

Parameters

Parameters have not yet been created to send

[+ Create new parameter](#)

Deyel Page

The pages belonging to **Deyel** are displayed.

Target Type

The available options for opening the object are displayed.

Possible Values

- Same Tab
- New Window
- Modal: if this option is selected the additional properties are enabled.
 - [Modal Horizontal Size](#)
Define its width.
 - [Modal Vertical Size](#)
Define its height.
- Iframe: this option is selected and an additional property is enabled.
 - [Target Iframe](#)
Displays the iframes previously defines in the page.

Parameters

Allows sending parameters to the selected object type.

Form

Type

 ✕

Form *

 ✕

Operation *

 ▼

Target Type *

 ▼

Parameters

Parameters have not yet been created to send

[+ Create new parameter](#)

Form

The forms modeled in the environment are displayed.

Operation

Defines the operation made when selecting the object.

Possible Values

- New: Indicates that the panel of the form selected in the previous property is opened for the creation of an instance.
- Grid: Indicates that the grid of the form selected in the previous property is opened.

Target Type

The available options for opening the object are displayed.

Possible Values

- Same Tab
- New Window
- Modal: if this option is selected the additional properties are enabled.
 - [Modal Horizontal Size](#)
Define its width.
 - [Modal Vertical Size](#)
Define its height.
- Iframe: this option is selected and an additional property is enabled.
 - [Target Iframe](#)

Displays the iframes previously defines in the page.

Parameters

Allows sending parameters to the selected object type.

Process

Type

Process *

Operation *

Target Type *

Parameters

Parameters have not yet been created to send

[+ Create new parameter](#)

Process

The processes modeled in the environment are displayed.

Operation

Defines the operation made when selecting the object.

Target Type

The available options for opening the object are displayed.

Possible Values

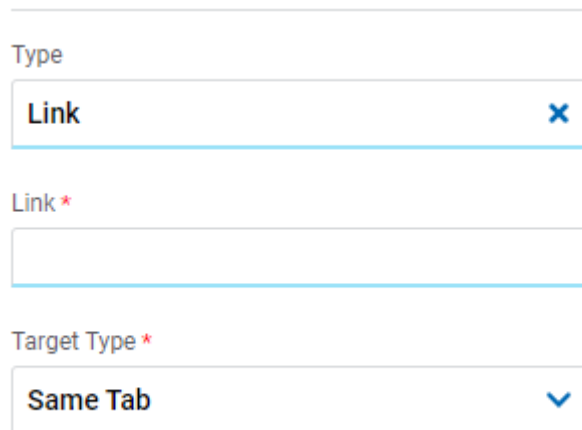
- Same Tab
- New Window
- Modal: if this option is selected the additional properties are enabled.
 - [Modal Horizontal Size](#)
Define its width.
 - [Modal Vertical Size](#)
Define its height.

- Iframe: this option is selected and an additional property is enabled.
[Target Iframe](#)
Displays the iframes previously defines in the page.

Parameters

Allows sending parameters to the selected object type.

Link



The screenshot shows a configuration form for a 'Link' object. It consists of three main sections: 1. 'Type' section with a dropdown menu currently set to 'Link'. 2. 'Link *' section with an empty text input field. 3. 'Target Type *' section with a dropdown menu currently set to 'Same Tab'.

Link

Allows to enter any link.

Target Type

The available options for opening the object are displayed.

Possible Values

- Same Tab
- New Window
- Modal: if this option is selected the additional properties are enabled.
[Modal Horizontal Size](#)
Define its width.
[Modal Vertical Size](#)
Define its height.
- Iframe: this option is selected and an additional property is enabled.
[Target Iframe](#)
Displays the iframes previously defines in the page.

Element

Type

Element ✕

Element *

Search... ▼

Operation *

Focus ▼

Behaviour

Auto ▼

Vertical Scroll

Closest ▼

Element

The modeled elements in the page are displayed.

Operation

Defines the operation made when selecting the element.

Possible Values

- Focus
- Show
- Hide
- Show/Hide

Behaviour

Establishes the transition of the animation. It is only modelable if the "Focus" operation was selected.

Possible Values

- Auto
- Smooth

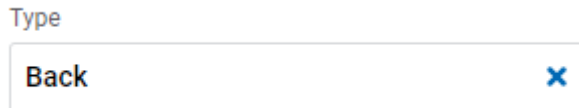
Vertical Scroll

Possible Values

- Start: Moves to the start of the selected element.
- Closest: Moves to the closest position to the selected element from the element the event fires.
- Center: Moves to the center of the selected element.


- End: Moves to the end of the selected element.

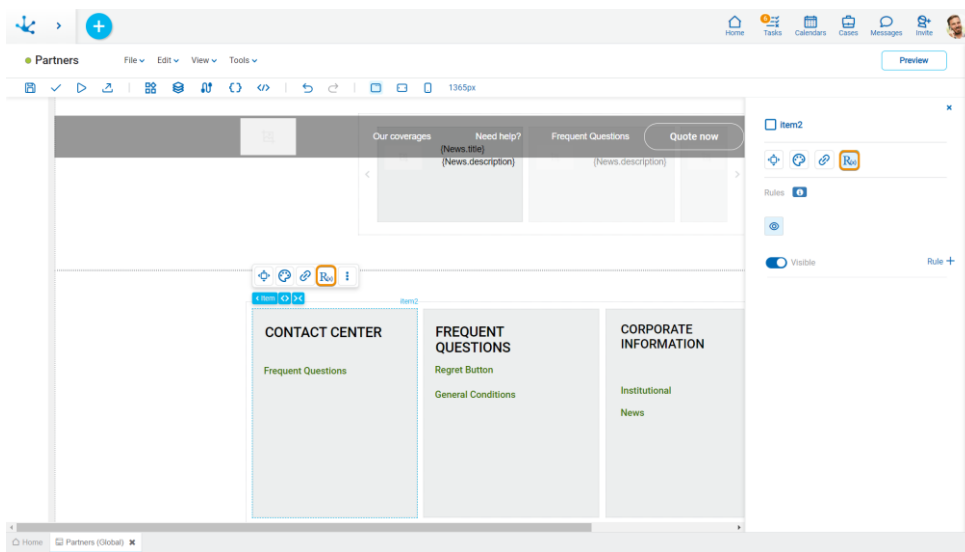
Back



It allows associating the event to go back in the browser to the element.

Embedded Rules


The embedded rules properties panel of an element opens when selecting the icon  of the context menu.



Properties

Rules

[Embedded rules](#) on behavior, validation and calculation can be defined, associated with an element, by using the [wizard](#) (ctrl + space).

 Shows syntax examples for writing the rules.

 Visible

Indicates whether the element is visible. If this property is not checked, the element is not displayed in the page.

Visible (default) Not visible

Rule + Opens an edit area where a rule to determine the visibility condition can be defined. If a rule is defined, the icon is displayed with light blue borders.

Events

The items allow to use different events.

Event	Description
onMouseIn()	It is executed when the cursor is positioned on the element.
onMouseOut()	It is executed when the cursor moves out of the element.
onClick()	It is executed when clicking on the element.
onDoubleClick()	It is executed when clicking twice on the element.
onInit()	It is executed before the element is loaded.
afterViewInit()	It is executed after viewing the element.
onViewportEnter()	It is executed when the element is visible.
onViewportLeave()	It is executed when the element is no longer visible.

Repeater

The repeater element allows to display a set of retrieved instances by a data source, unlike other elements that only allow a single instance to be displayed.

Visually it is similar to the layout element but only the first item can be modified and a data source must be defined. Such item repeats as many times as instances are obtained from the data source.


If the [items](#) included in the repeater show information on the instances of the data source defined in it, such source must be previously configured.

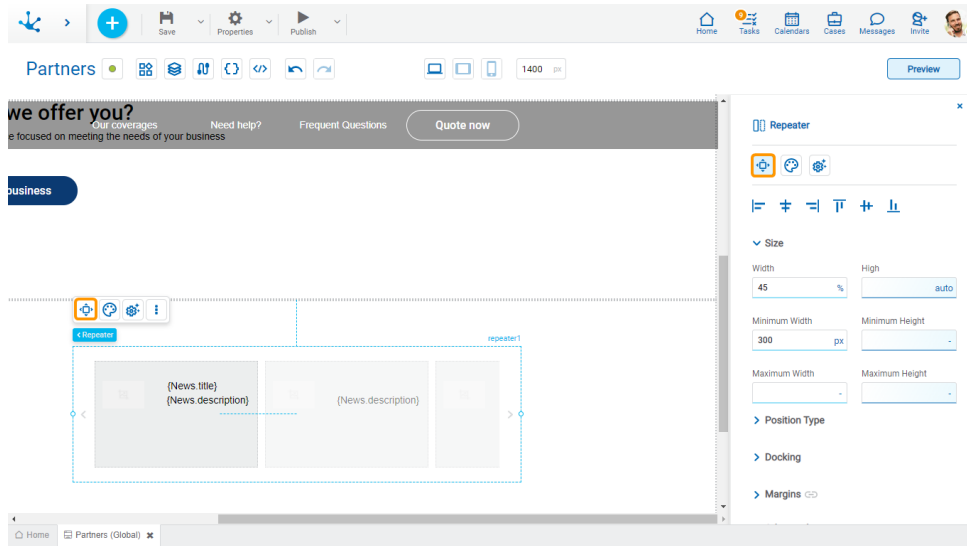
The element properties are represented by icons in its [context menu](#), where its operations are also available.

Subtypes

- Cards
- Tape







Structure Properties

The structure properties panel of an element opens when selecting the icon  of the context menu.



Alignment

Allows to align the element by selecting one of the available icons.

-  Align to the left.
-  Align to horizontal center.
-  Align to the right.
-  Align up.
-  Align vertical center.
-  Align bottom.

Size

Size

Width	Minimum Width	Maximum Width
<input type="text" value="100"/> %	<input type="text" value="auto"/>	<input type="text" value="auto"/>
High	Minimum Height	Maximum Height
<input type="text" value="auto"/>	<input type="text" value="auto"/>	<input type="text" value="auto"/>

All size properties can be expressed in pixels (px), percentage (%), viewport width (vw), and viewport height (vh). Additionally, for **Width** and **Height** properties, the "auto" option is added.

If selecting percentage (%) for the width and height properties, the size is calculated relative to the top element.

Position Type

It determines if at the time of execution the element remains fixed on the page or if it moves as the scroll bar moves forward or backward.

Position Type

Position Type

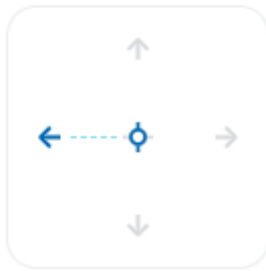
Default	^
Default	
Fixed	

Possible Values

- Default: The element has a relative position with respect to the superior element where it was placed (container or section).
- Fixed: Fixes the element to the page so that it is always visible in the same position. It allows to increase the visibility of important content.

Docking

▼ Docking



Determines the vertical and horizontal position of elements within the page section or container, when the screen is resized.

When an element is added or moved within the section or container, the modeler automatically docks it to the nearest corners or edges. It can also be configured by clicking on the arrows of the side to be docked to or on the center.

Once the element is docked, its exact position is indicated in the [Margins](#) property. The direction of the docking arrows determine the values that are automatically displayed for margins.

The docking position is indicated in the modeling area by dotted lines on the element.

Margins

▼ Margins ⇄

Top	Bottom	Left	Right
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

It allows to define the distance of elements from the borders of their top element. The behavior of margins depends on the docking of the element. It can be expressed in pixels (px), percentage (%), viewport width (vw), and viewport height (vh).

Top

Distance to the top border of the highest ranking element.

Bottom

Distance to the bottom border of the highest ranking element.

Left

Distance to the left border of the highest ranking element.

Right

Distance to the right border of the highest ranking element.

⇄ Allows the value entered in one of the margins to be copied to the other ones automatically.

⇄ Allows to indicate different values for each margin.

Advanced

Advanced

Name

repeater1

Identifier

repeater1


Name

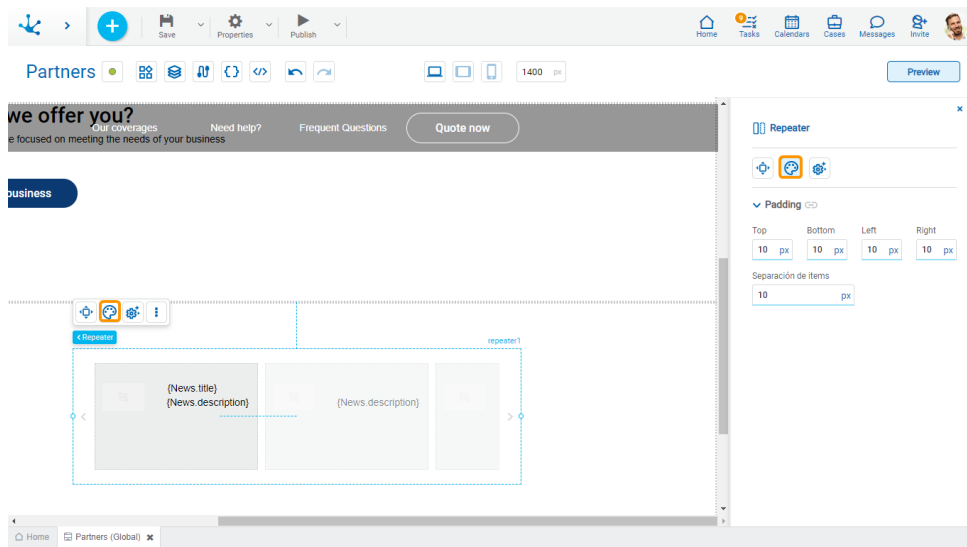
Name used to reference the element during modeling.

Identifier

Uniquely identifies the element. It is used in the Javascript SDK.

Style Properties

The style properties panel of an element opens when selecting the icon  of the context menu.



Padding

Padding

Top

10 px

Bottom

10 px

Left

10 px

Right

10 px

Items Gap



10

px


All padding space properties allow you to create a space around the borders (top, bottom, sides) and the bottom elements. It can be expressed in pixels (px), percentage (%), viewport width (vw), and viewport height (vh).

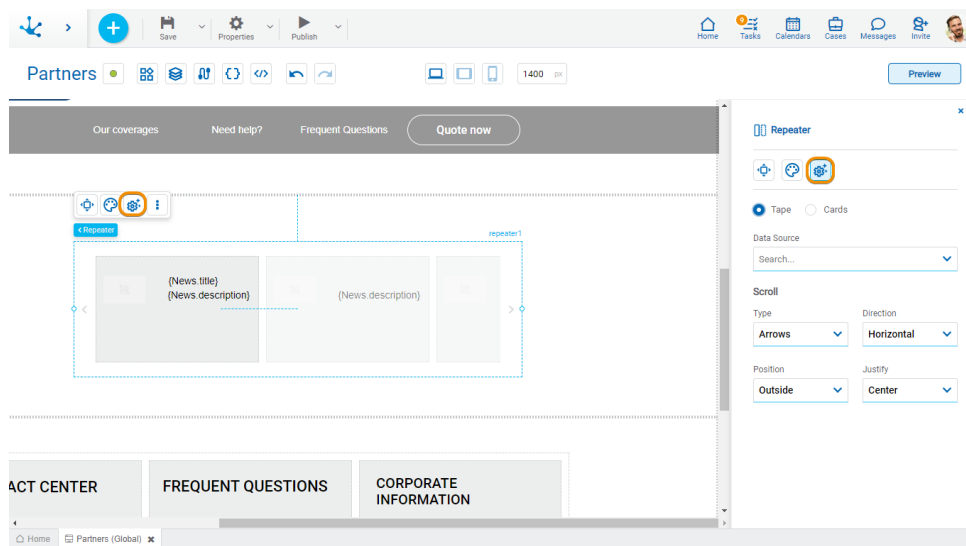
Items Gap

Defines the gap between the repeater items.

-  Allows values entered in one of the paddings to be copied to the other ones automatically.
-  Allows to indicate different values for each padding.

Configuration Properties

The configuration properties panel of an element opens when clicking the icon  of the context menu.



The items can be repeated in tape or card format.

Tape

When executing a page the items scroll within the repeater as the forward and back icons are pressed. The number of items are visualized initially on the tape depending on the repeater size.

Tape Cards

Data Source

Scroll

Type

Direction

Position

Justify

Data Source

Allows to select the form from which the data is retrieved to be displayed in the repeater.

Type

If the page is used from a desk the icons *< and >* that indicate the advance or regression of the items on the tape must be selected. If it is used from a touch breakpoint, the "None" option can be selected to scroll.

If the "Arrows" value is selected the properties enabled are [Position](#) and [Alignment](#).

Possible Values

- Arrows
- None

Direction

Allows to select the direction in which the items within the example are displayed.

Possible Values

- Horizontal
- Vertical

Position and Alignment

It selects the position of the scroll icons within the repeater.

Possible Values

- If for the property [Position](#) the values "Inset" and "Outset" are selected, the possible values of the property [Alignment](#) are: "Top", "Center", "Bottom".
- If for the property [Position](#) the values "Top" or "Bottom" are selected, the possible values for the property [Alignment](#) are: "Left", "Center", "Right".

Cards

Different from the tape, items page into the repeater as the forward and back icons are pressed. The number of items is displayed initially in the repeater depending on the modeled values in the [Columns](#) and [Rows](#) properties.

Tape Cards

Data Source

Search... ▼

Columns Rows

3 2

Scroll

Type Direction

Dots ▼ Horizontal ▼

Position Justify

Bottom ▼ Center ▼

Data Source

Allows to select the form from which the data is retrieved to be displayed in the repeater.

Columns

Allows to define the number of columns in the repeater.

Rows

Allows to define the number of rows in the repeater.

Type

Allows to select if the icons ● ● or < > that indicate the progress or regression of the items in the repeater are visualized.

Possible Values

- Dots
- Arrows

Direction

Allows to select the direction in which the items within the example are displayed.

Possible Values

- Horizontal
- Vertical

Position and Alignment

It selects the position of the scroll icons within the repeater.


Possible Values for Position

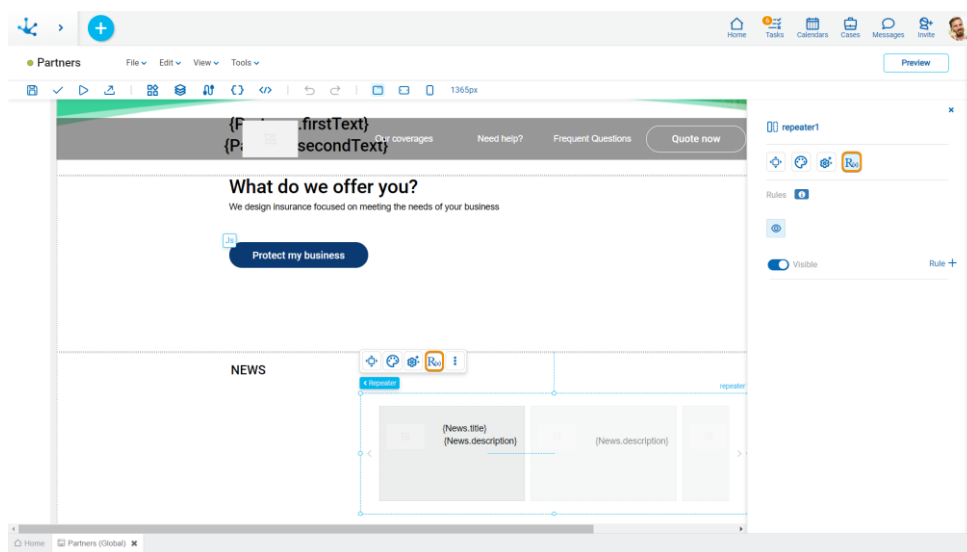
- Top
- Bottom
- Inside Top
- Inside Bottom

Possible Values for Alignment

- Left
- Center
- Right

Embedded Rules


The embedded rules properties panel of an element opens when selecting the icon  of the context menu.



Properties

Rules

[Embedded rules](#) on behavior, validation and calculation can be defined, associated with an element, by using the [wizard](#) (ctrl + space).

 Shows syntax examples for writing the rules.



Visible

Indicates whether the element is visible. If this property is not checked, the element is not displayed in the page.

Visible (default) Not visible

Rule + Opens an edit area where a rule to determine the visibility condition can be defined. If a rule is defined, the icon is displayed with light blue borders.

Operations when defining the rule:

- Saves the new or modified rule
- Cancels the operation


Operations once the rule is defined:

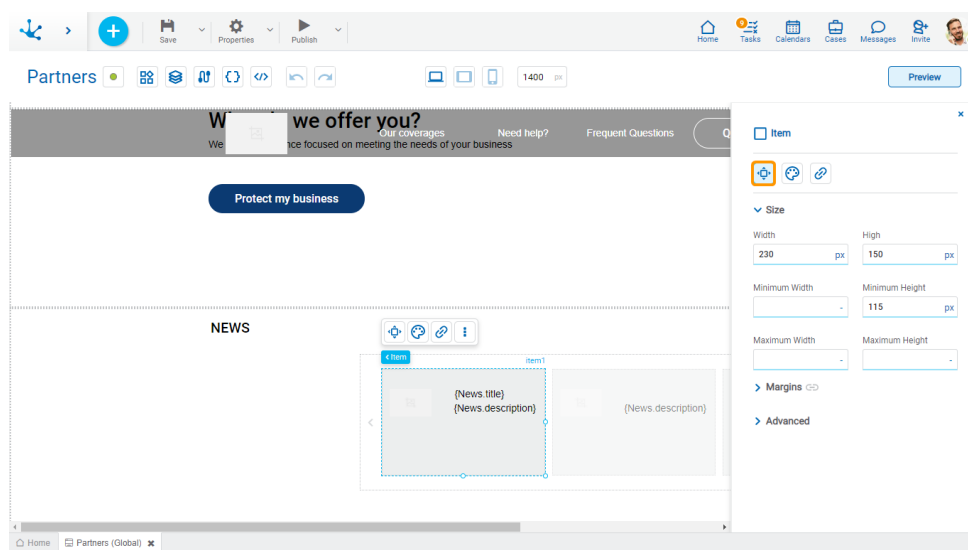
- Edits the existing rule
- Deletes the rule

Item

Items are defined within the repeater and only the first one can be modified since the changes are applied to the rest.

Structure Properties

The structure properties panel of an item opens when selecting the icon  of the context menu.



Size

Size

Width	Minimum Width	Maximum Width
<input type="text" value="100"/> %	<input type="text" value="auto"/>	<input type="text" value="auto"/>
High	Minimum Height	Maximum Height
<input type="text" value="auto"/>	<input type="text" value="auto"/>	<input type="text" value="auto"/>

All size properties can be expressed in pixels (px), percentage (%), viewport width (vw), and viewport height (vh). Additionally, for **Width** and **Height** properties, the "auto" option is added.

If selecting percentage (%) for the width and height properties, the size is calculated relative to the top element.

Margins

Margins

Top	Bottom	Left	Right
<input type="text" value="-"/>	<input type="text" value="-"/>	<input type="text" value="-"/>	<input type="text" value="-"/>

Allows to define the distance among items and also from items to the borders of the containing element. It can be expressed in pixels (px), percentage (%), viewport width (vw), and viewport height (vh).

Top

Distance to the top border of the containing element.

Bottom

Distance to the bottom border of the containing element.

Left

Distance to the left border of the containing element or to the previous item.

Right

Distance to the right border of the containing element or to the following item.



Allows the value entered in one of the margins to be copied to the other ones automatically.



Allows to indicate different values for each margin.

Advanced

Advanced

Name

item1

Identifier

item1


Name

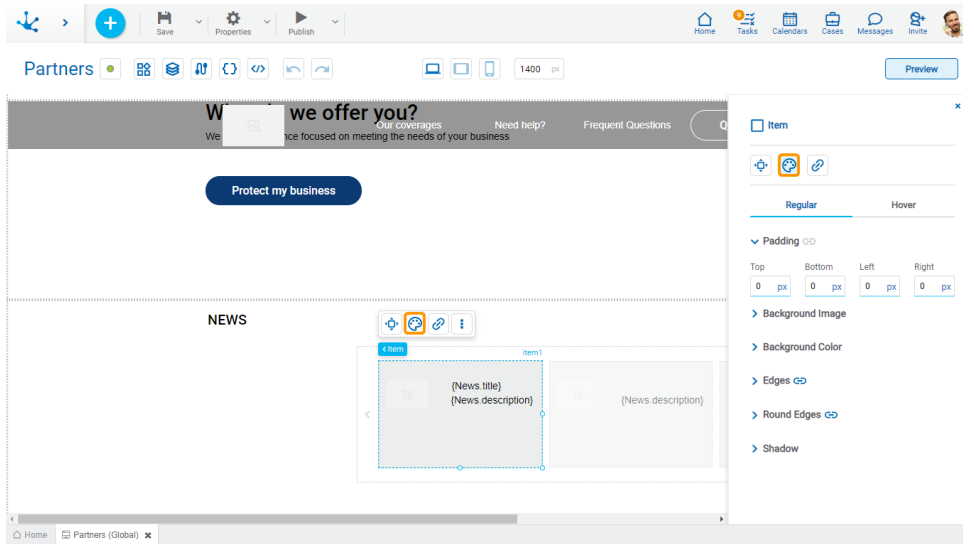
Name used to reference the item during modeling.

Identifier

Uniquely identifies the item. It is used in the Javascript SDK.

Style Properties

The style properties panel of an item opens when selecting the icon  of the context menu.



This type of element may take different states and for each of them different values for its properties may be modeled.

Regular

Hover


- Regular: The mouse pointer is not over the element.
- Over: The mouse pointer is over the element.

Padding

▼ Padding

Top	Bottom	Left	Right
<input type="text" value="0"/> px	<input type="text" value="0"/> px	<input type="text" value="0"/> px	<input type="text" value="0"/> px

All padding space properties allow to create a space around the item borders (top, bottom, sides) and its content. The padding space configured is inward, while the margin is configured relative to a top item. It can be expressed in pixels (px), percentage (%), viewport width (vw), and viewport height (vh).

 Allows values entered in one of the paddings to be copied to the other ones automatically.

 Allows to indicate different values for each padding.

Background Image

Allows to add a background image to the item.

▼ Background Image

Selected



Size

▼

Repeat

▼

Position

Horizontal Position

▼

Vertical Position

▼

Selected

An image can be uploaded from the computer where it is being modeled.

Background Color

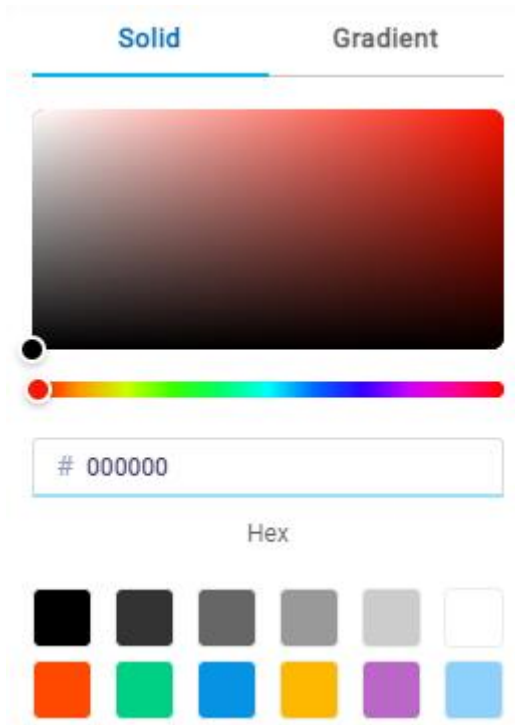
It allows to model a background color for the element, it can be solid or gradient and different properties are defined for each one.

Solid

▼ Background Color



This option enables not only to select the color from a palette but also to define the degree of transparency.

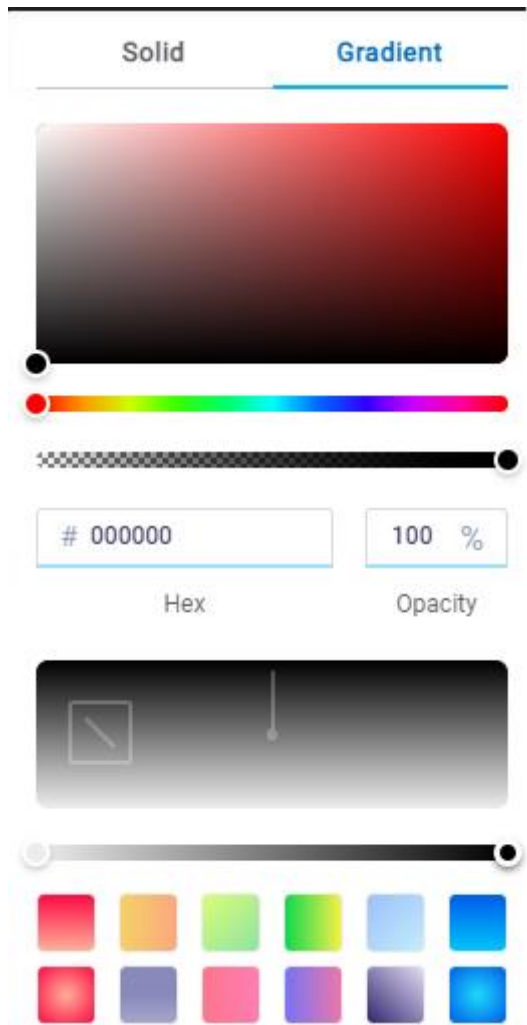


Gradient

▼ Background Color







This option enables to select not only the color from a palette but also to define its opacity and intensity according to the selected angle.





Edges

∨ Edges [↻](#)

	Type	Width	Color	Opacity
	<input type="text" value="-"/> ∨	<input type="text" value="0"/> px	<input type="checkbox"/>	<input type="text" value="100"/> %
	<input type="text" value="-"/> ∨	<input type="text" value="0"/> px	<input type="checkbox"/>	<input type="text" value="100"/> %
	<input type="text" value="-"/> ∨	<input type="text" value="0"/> px	<input type="checkbox"/>	<input type="text" value="100"/> %
	<input type="text" value="-"/> ∨	<input type="text" value="0"/> px	<input type="checkbox"/>	<input type="text" value="100"/> %

It allows to define the style of borders. Each one has its type, width, color and opacity defined, the latter as a percentage.



-  Allows the value entered in one of the borders to be copied to the other ones automatically.
-  Allows to indicate different values for each border.

Round Edges

▼ Round Edges

Top/Left	Top/Right	Bottom/Right	Bottom/Left
<input type="text" value="20 px"/>	<input type="text" value="20 px"/>	<input type="text" value="20 px"/>	<input type="text" value="20 px"/>

It allows to define the round edges at the corners of items.
It can be expressed in pixels (px), percentage (%), viewport width (vw), and viewport height (vh).

-  Allows the value entered in one of the borders to be copied to the other ones automatically.
-  Allows to indicate different values for each border.

Shadow

▼ Shadow

Type

Horizontal

Vertical

Blur

Spread

 0 %

Allows to define a shadow effect around the item.

Type

Possible Values

- Outset
- Inset

Horizontal

Horizontal size of the shadow to the right of the item. It can be expressed in pixels (px), percentage (%), viewport width (vw), and viewport height (vh).

Vertical

Vertical size of the shadow below the item. It can be expressed in pixels (px), percentage (%), viewport width (vw), and viewport height (vh).

Blur

The greater this value is, the greater and lighter the shadow becomes. If not specified, its value is 0 and the shadow border is darker. It can be expressed in pixels (px), percentage (%), viewport width (vw), and viewport height (vh).

Spread

Positive values will cause the shadow to expand and grow bigger, while negative values will cause the shadow to shrink. If not specified, its value is 0 and the shadow will have the same size as the item.


Color

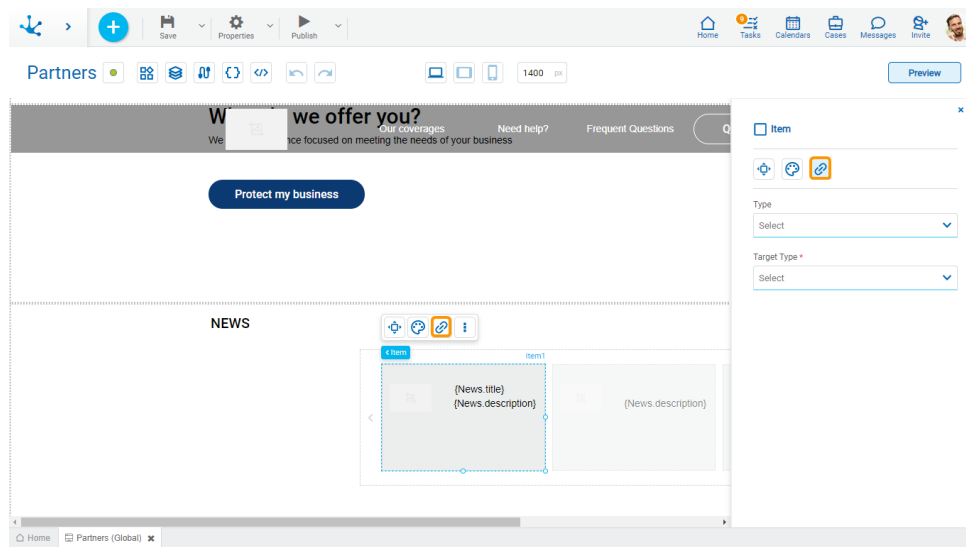
Defines the color of the shadow.

Transparency

Defines the transparency of the shadow.

Hyperlink Properties

The hyperlink properties panel of an item opens by pressing the icon  of the context menu.



Define the behavior of the item when selecting it. Different properties are enabled depending on the type of object selected.

Page

Type

Page ✕

Page *

News ✕

Target Type *

Select ▼

Parameters

partner

Code

partner

Value Parameters and Variables Data Source

Page

The pages modeled in the environment are displayed.

Target Type

The available options for opening the object are displayed.

Possible Values

- Same Tab
- New Window
- Modal: if this option is selected the additional properties are enabled.
 - [Modal Horizontal Size](#)
Define its width.
 - [Modal Vertical Size](#)
Define its height.
- Iframe: this option is selected and an additional property is enabled.
 - [Target Iframe](#)
Displays the iframes previously defines in the page.

Parameters

If there are parameters, their value can be specified with text, parameters and variables or data source.

Deyel Page

Type

Deyel Page ✕

Deyel Page *

Reports ✕

Target Type *

Same Tab ▼

Parameters

Parameters have not yet been created to send

[+ Create new parameter](#)

Deyel Page

The pages belonging to **Deyel** are displayed.

Target Type

The available options for opening the object are displayed.

Possible Values

- Same Tab
- New Window
- Modal: if this option is selected the additional properties are enabled.
 - [Modal Horizontal Size](#)
Define its width.
 - [Modal Vertical Size](#)
Define its height.
- Iframe: this option is selected and an additional property is enabled.
 - [Target Iframe](#)
Displays the iframes previously defines in the page.

Parameters

Allows sending parameters to the selected object type.

Form

Type

Form



Form *

News



Operation *

New



Target Type *

Same Tab



Parameters

Parameters have not yet been created to send

[+ Create new parameter](#)

Form

The forms modeled in the environment are displayed.

Operation

Defines the operation made when selecting the object.

Possible Values

- New: Indicates that the panel of the form selected in the previous property is opened for the creation of an instance.
- Grid: Indicates that the grid of the form selected in the previous property is opened.

Target Type

The available options for opening the object are displayed.

Possible Values

- Same Tab
- New Window
- Modal: if this option is selected the additional properties are enabled.
 - [Modal Horizontal Size](#)
Define its width.
 - [Modal Vertical Size](#)
Define its height.
- Iframe: this option is selected and an additional property is enabled.
 - [Target Iframe](#)

Displays the iframes previously defines in the page.

Parameters

Allows sending parameters to the selected object type.

Process

Type

Process ✕

Process *

Group ✕

Operation *

New Case ▼

Target Type *

Same Tab ▼

Parameters

Parameters have not yet been created to send

[+ Create new parameter](#)

Process

The processes modeled in the environment are displayed.

Operation

Defines the operation made when selecting the object.

Target Type

The available options for opening the object are displayed.

Possible Values

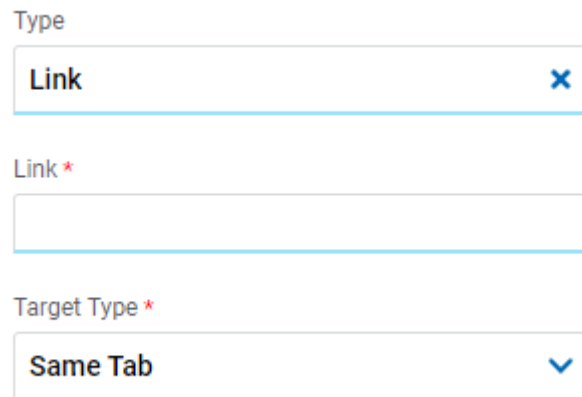
- Same Tab
- New Window
- Modal: if this option is selected the additional properties are enabled.
 - [Modal Horizontal Size](#)
Define its width.
 - [Modal Vertical Size](#)
Define its height.

- Iframe: this option is selected and an additional property is enabled.
[Target Iframe](#)
Displays the iframes previously defines in the page.

Parameters

Allows sending parameters to the selected object type.

Link



The screenshot shows a configuration form for a 'Link' object. It contains three fields: 1. 'Type' is a dropdown menu with 'Link' selected and a blue 'x' icon on the right. 2. 'Link *' is a text input field that is currently empty. 3. 'Target Type *' is a dropdown menu with 'Same Tab' selected and a blue downward arrow icon on the right.

Link

Allows to enter any link.

Target Type

The available options for opening the object are displayed.

Possible Values

- Same Tab
- New Window
- Modal: if this option is selected the additional properties are enabled.
[Modal Horizontal Size](#)
Define its width.
[Modal Vertical Size](#)
Define its height.
- Iframe: this option is selected and an additional property is enabled.
[Target Iframe](#)
Displays the iframes previously defines in the page.

Element

Type

Element



Element *

Search...



Operation *

Focus



Behaviour

Auto



Vertical Scroll

Closest



Element

The modeled elements in the page are displayed.

Operation

Defines the operation made when selecting the element.

Possible Values

- Focus
- Show
- Hide
- Show/Hide

Behaviour

Establishes the transition of the animation. It is only modelable if the "Focus" operation was selected.

Possible Values

- Auto
- Smooth

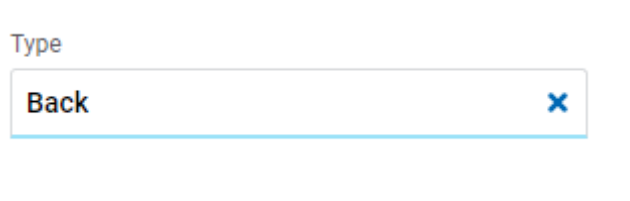
Vertical Scroll

Possible Values

- Start: Moves to the start of the selected element.
- Closest: Moves to the closest position to the selected element from the element the event fires.


- Center: Moves to the center of the selected element.
- End: Moves to the end of the selected element.

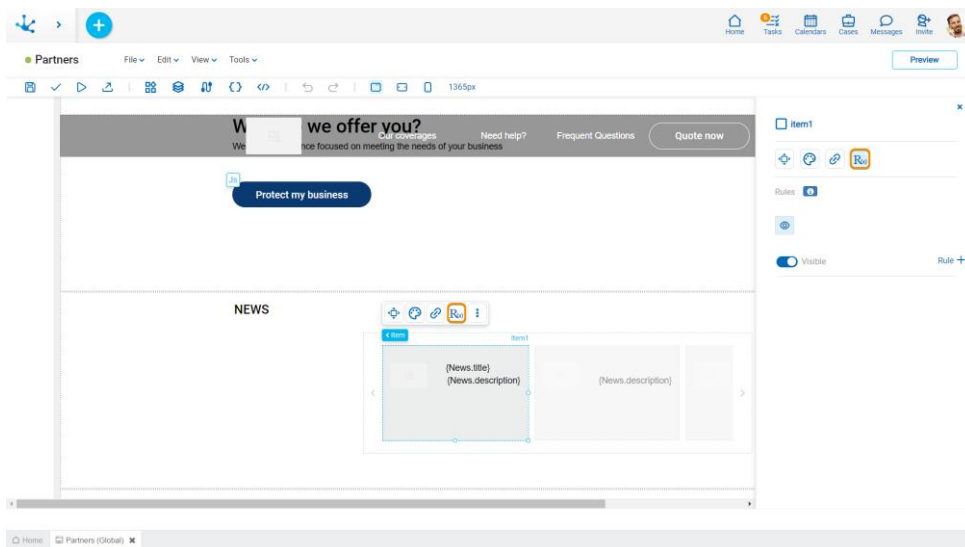
Back



It allows associating the event to go back in the browser to the element.

Embedded Rules


The embedded rules properties panel of an element opens when selecting the icon  of the context menu.




Properties

Rules

[Embedded rules](#) on behavior, validation and calculation can be defined, associated with an element, by using the [wizard](#) (ctrl + space).

 Shows syntax examples for writing the rules.

 **Visible**
Indicates whether the element is visible. If this property is not checked, the element is not displayed in the page.



Visible (default) Not visible

Rule + Opens an edit area where a rule to determine the visibility condition can be defined. If a rule is defined, the icon is displayed with light blue borders.

Operations when defining the rule:

- ✓ Saves the new or modified rule
- ✗ Cancels the operation

Operations once the rule is defined:

-  Edits the existing rule
-  Deletes the rule

Events

The items allow to use different events.

Event	Description
onMouseIn()	It is executed when the cursor is positioned on the element.
onMouseOut()	It is executed when the cursor moves out of the element.
onClick()	It is executed when clicking on the element.
onDoubleClick()	It is executed when clicking twice on the element.
onInit()	It is executed before the element is loaded.
afterViewInit()	It is executed after viewing the element.
onViewportEnter()	It is executed when the element is visible.
onViewportLeave()	It is executed when the element is no longer visible.

Icon


Allows to incorporate any icon type.

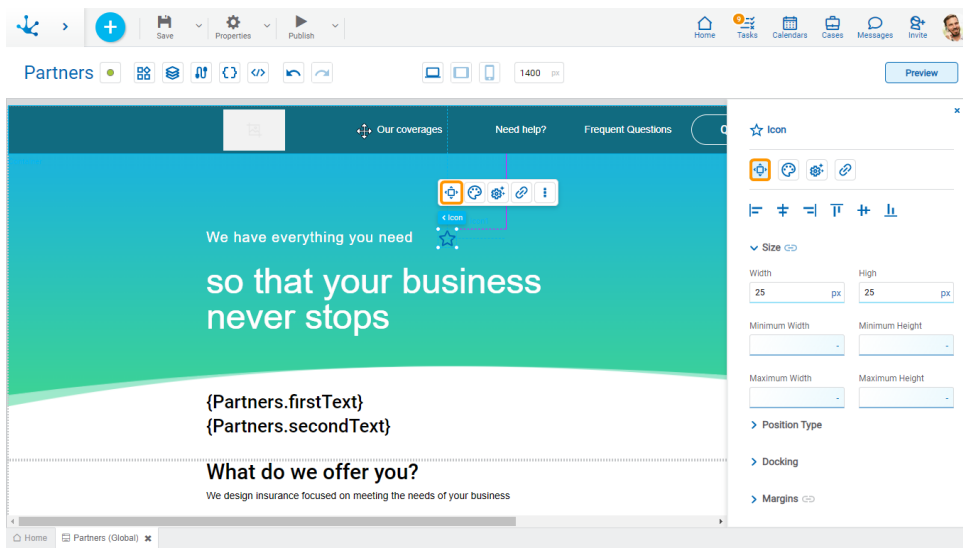
The element properties are represented by icons in its [context menu](#), where its operations are also available.

Subtypes

- Small
- Medium
- Large







Structure Properties

The structure properties panel of an element opens when selecting the icon  of the context menu.



Alignment

Allows to align the element by selecting one of the available icons.

-  Align to the left.
-  Align to horizontal center.
-  Align to the right.
-  Align up.
-  Align vertical center.
-  Align bottom.

Size

Size

Width	High
<input type="text" value="50"/> px	<input type="text" value="50"/> px
Minimum Width	Minimum Height
<input type="text" value="-"/>	<input type="text" value="-"/>
Maximum Width	Maximum Height
<input type="text" value="-"/>	<input type="text" value="-"/>


Allows to complete [Width](#) and [Height](#). The value entered in one of the properties is automatically copied to the other. These properties are expressed in pixels.

Position Type

It determines if at the time of execution the element remains fixed on the page or if it moves as the scroll bar moves forward or backward.

Position Type

Position Type

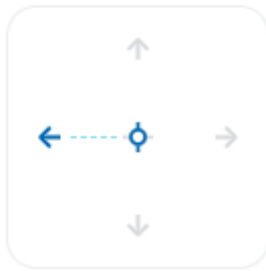
Default 
Default
Fixed

Possible Values

- Default: The element has a relative position with respect to the superior element where it was placed (container or section).
- Fixed: Fixes the element to the page so that it is always visible in the same position. It allows to increase the visibility of important content.

Docking

▼ Docking



Determines the vertical and horizontal position of elements within the page section or container, when the screen is resized.

When an element is added or moved within the section or container, the modeler automatically docks it to the nearest corners or edges. It can also be configured by clicking on the arrows of the side to be docked to or on the center.

Once the element is docked, its exact position is indicated in the [Margins](#) property. The direction of the docking arrows determine the values that are automatically displayed for margins.

The docking position is indicated in the modeling area by dotted lines on the element.

Margins

▼ Margins ⇄

Top	Bottom	Left	Right
<input type="text" value="-"/>	<input type="text" value="-"/>	<input type="text" value="-"/>	<input type="text" value="-"/>

It allows to define the distance of elements from the borders of their top element. The behavior of margins depends on the docking of the element. It can be expressed in pixels (px), percentage (%), viewport width (vw), and viewport height (vh).

Top

Distance to the top border of the highest ranking element.

Bottom

Distance to the bottom border of the highest ranking element.

Left

Distance to the left border of the highest ranking element.

Right

Distance to the right border of the highest ranking element.

⇄ Allows the value entered in one of the margins to be copied to the other ones automatically.

⇄ Allows to indicate different values for each margin.

Advanced

Advanced

Name

icon1

Identifier

icon1


Name

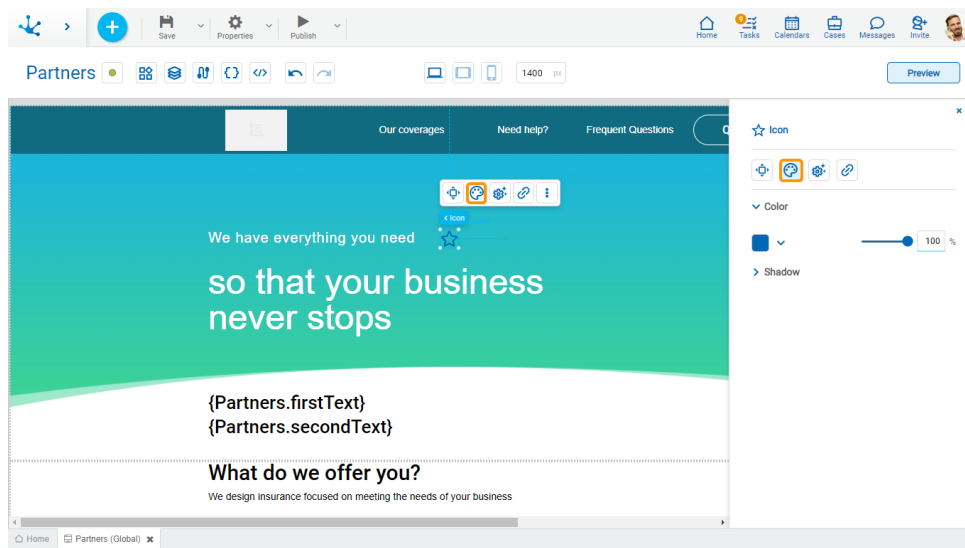
Name used to reference the element during modeling.

Identifier

Uniquely identifies the element. It is used in the Javascript SDK.

Style Properties

The style properties panel of an element opens when selecting the icon  of the context menu.



Color

Color

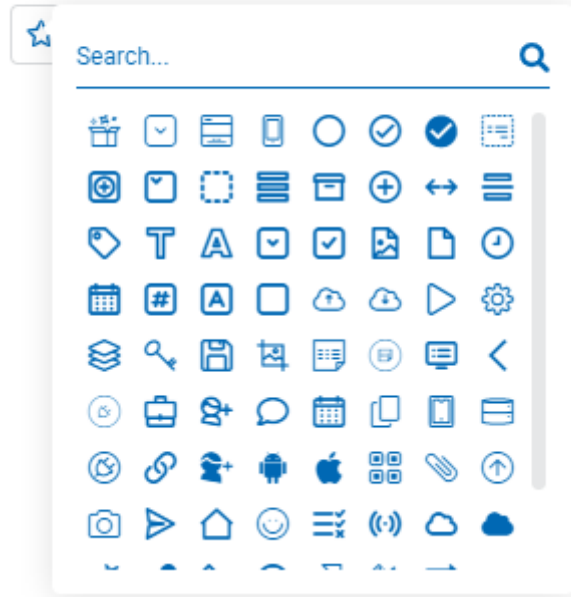


Allows to define the element color.

Shadow

Value Parameters and Variables Data Source


Icon



Allows to select an icon from a palette.

Parameters y Variables

Value Parameters and Variables Data Source

Search... 

Parameters and Variables

Allows to select a [parameter](#) or a [variable](#) from the page. Its value is displayed in the element. This value can be the code that represents the icon or a valid url.

Data Source

Value Parameters and Variables Data Source

Data Source *

Fields *


Data Source

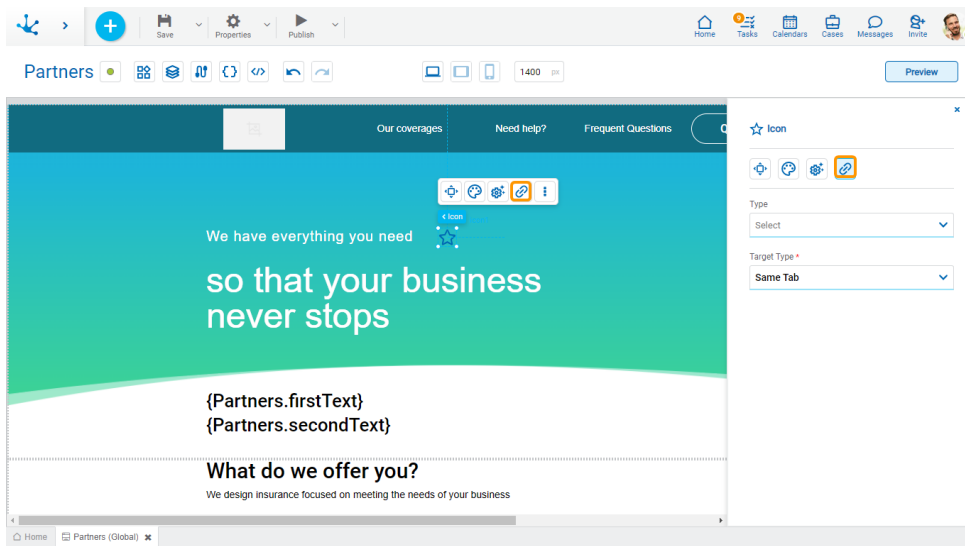
Allows to select a [data source](#) that was previously defined on the page.

Fields

Allows to select a field from those retrieved in the chosen data source. Its value is displayed in the element.

Hyperlink Properties

The hyperlink properties panel of an element opens by pressing the icon  of the context menu.



Define the behavior of the element when selecting it. Different properties are enabled depending on the type of object selected.

Page

Type

Page ×

Page*

Partners ×

Target Type *

Same Tab ▾

Parameters

partner

Code

partner

Value Parameters and Variables Data Source

Page

The pages modeled in the environment are displayed.

Target Type

The available options for opening the object are displayed.

Possible Values

- Same Tab
- New Window
- Modal: if this option is selected the additional properties are enabled.
 - [Modal Horizontal Size](#)
Define its width.
 - [Modal Vertical Size](#)
Define its height.
- Iframe: this option is selected and an additional property is enabled.
 - [Target Iframe](#)
Displays the iframes previously defines in the page.

Parameters

If there are parameters, their value can be specified with text, parameters and variables or data source.

Deyel Page

Type

Deyel Page



Deyel Page *

Agents



Target Type *

Same Tab



Parameters

Parameters have not yet been created to send

[+ Create new parameter](#)

[Deyel Page](#)

The pages belonging to **Deyel** are displayed.

[Target Type](#)

The available options for opening the object are displayed.

Possible Values

- Same Tab
- New Window
- Modal: if this option is selected the additional properties are enabled.
 - [Modal Horizontal Size](#)
Define its width.
 - [Modal Vertical Size](#)
Define its height.
- Iframe: this option is selected and an additional property is enabled.
 - [Target Iframe](#)
Displays the iframes previously defines in the page.

[Parameters](#)

Allows sending parameters to the selected object type.

Form

Type

Form



Form *

Partners



Operation *

New



Target Type *

Same Tab



Parameters

Parameters have not yet been created to send

[+ Create new parameter](#)

Form

The forms modeled in the environment are displayed.

Operation

Defines the operation made when selecting the object.

Possible Values

- New: Indicates that the panel of the form selected in the previous property is opened for the creation of an instance.
- Grid: Indicates that the grid of the form selected in the previous property is opened.

Target Type

The available options for opening the object are displayed.

Possible Values

- Same Tab
- New Window
- Modal: if this option is selected the additional properties are enabled.
 - [Modal Horizontal Size](#)
Define its width.
 - [Modal Vertical Size](#)
Define its height.
- Iframe: this option is selected and an additional property is enabled.

Target Iframe

Displays the iframes previously defines in the page.

Parameters

Allows sending parameters to the selected object type.

Process

Type

Process ✕

Process *

New Partner ✕

Operation *

New Case ▼

Target Type *

Same Tab ▼

Parameters

Parameters have not yet been created to send

[+ Create new parameter](#)

Process

The processes modeled in the environment are displayed.

Operation

Defines the operation made when selecting the object.

Possible Value

- New Case: Indicates that a case of the process selected in the previous property is started.

Target Type

The available options for opening the object are displayed.

Possible Values

- Same Tab

- New Window
- Modal: if this option is selected the additional properties are enabled.
 - [Modal Horizontal Size](#)
Define its width.
 - [Modal Vertical Size](#)
Define its height.
- Iframe: this option is selected and an additional property is enabled.
 - [Target Iframe](#)
Displays the iframes previously defines in the page.

Parameters

Allows sending parameters to the selected object type.

Link

Type

Link
✕

Link *

Target Type *

Same Tab
▼

Link

Allows to enter any link.

Target Type

The available options for opening the object are displayed.

Possible Values

- Same Tab
- New Window
- Modal: if this option is selected the additional properties are enabled.
 - [Modal Horizontal Size](#)
Define its width.
 - [Modal Vertical Size](#)
Define its height.
- Iframe: this option is selected and an additional property is enabled.
 - [Target Iframe](#)
Displays the iframes previously defines in the page.

Element

Type

Element ✕

Element *

Search... ▼

Operation *

Focus ▼

Behaviour

Select ▼

Vertical Scroll

Select ▼

Element

The modeled elements in the page are displayed.

Operation

Defines the operation made when selecting the element.

Behaviour

Establishes the transition of the animation. It is only modelable if the "Focus" operation was selected.

Possible Values

- Auto
- Smooth

Vertical Scroll

Possible Values

- Start: Moves to the start of the selected element.
- Closest: Moves to the closest position to the selected element from the element the event fires.
- Center: Moves to the center of the selected element.
- End: Moves to the end of the selected element.

Back


Type

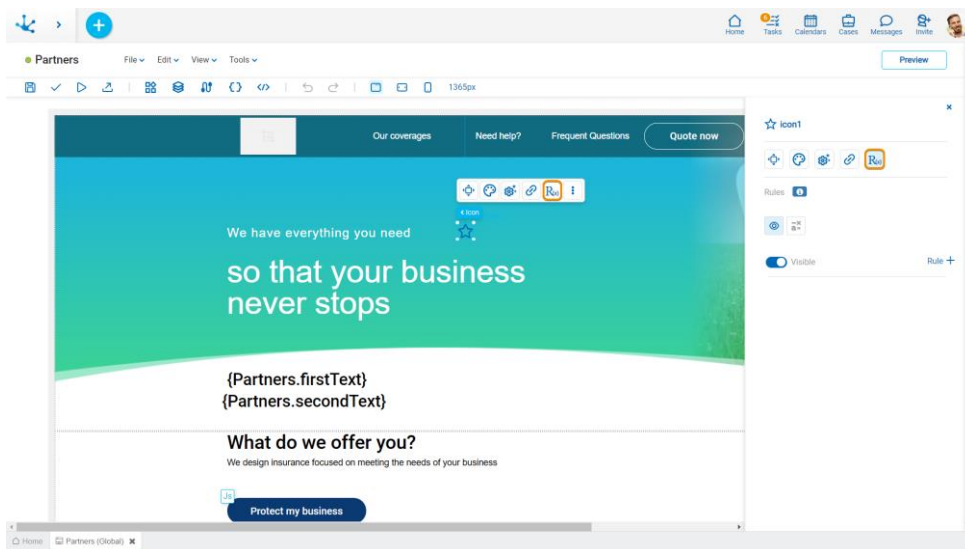
Back



It allows associating the event to go back in the browser to the element.

Embedded Rules


The embedded rules properties panel of an element opens when selecting the icon  of the context menu.




Properties

Rules

[Embedded rules](#) on behavior, validation and calculation can be defined, associated with an element, by using the [wizard](#) (ctrl + space).

 Shows syntax examples for writing the rules.

 **Visible**
Indicates whether the element is visible. If this property is not checked, the element is not displayed in the page.

Visible (default) Not visible

Rule + Opens an edit area where a rule to determine the visibility condition can be defined. If a rule is defined, the icon is displayed with light blue borders.



Calculation



Rule +

Opens an edit area where you can define the expression to be executed to calculate the element value. If a rule is defined, the icon is displayed with light blue borders.

Operations when defining the rule:

- ✓ Saves the new or modified rule
- ✗ Cancels the operation

Operations once the rule is defined:

-  Edits the existing rule
-  Deletes the rule

Events

The icons allow to use an event.

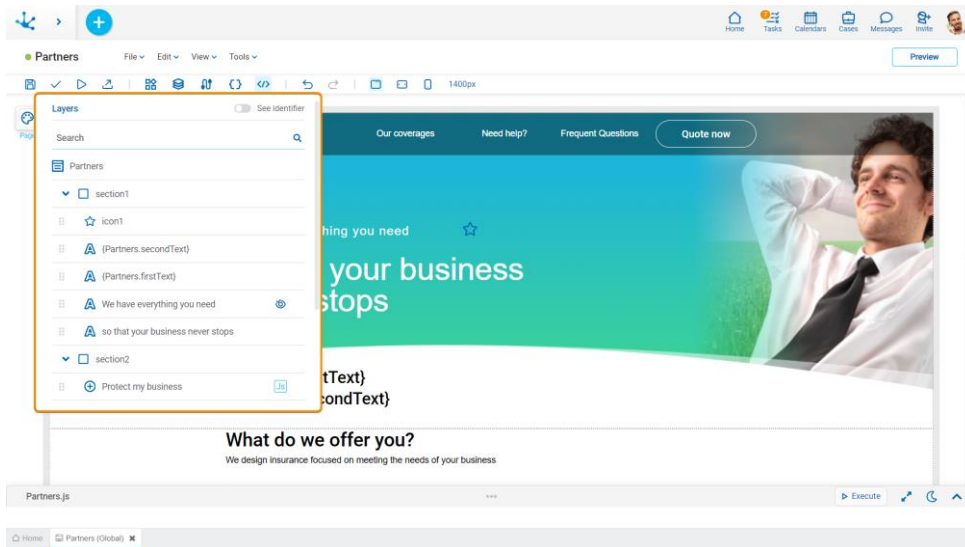
Event	Description
onClick()	It is executed by clicking on the element.

3.7.8.1.3.2. Layers

It allows to display the page elements organized hierarchically. First, sections are displayed, ordered as they are located on the page and within each one, all its elements can be seen.

The elements within a section are displayed in the reverse order, that is, if an element was modeled on another, it is seen first in the list.

If an element was modeled as fixed, it is located at the same level as the sections, that is, as the inferior element of the page.




Operations


Selecting Elements

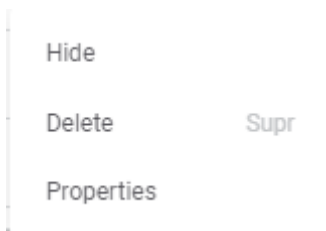
The layers panel allows to quickly find an element on the page. When selecting an element, it is highlighted on the page.

Show Hidden Elements

If an element is hidden on the page, it is displayed on the layers panel in gray and with the icon . If this icon is pressed, the element becomes visible.

Elements Panel

Selecting the icon  displays a panel with different options.




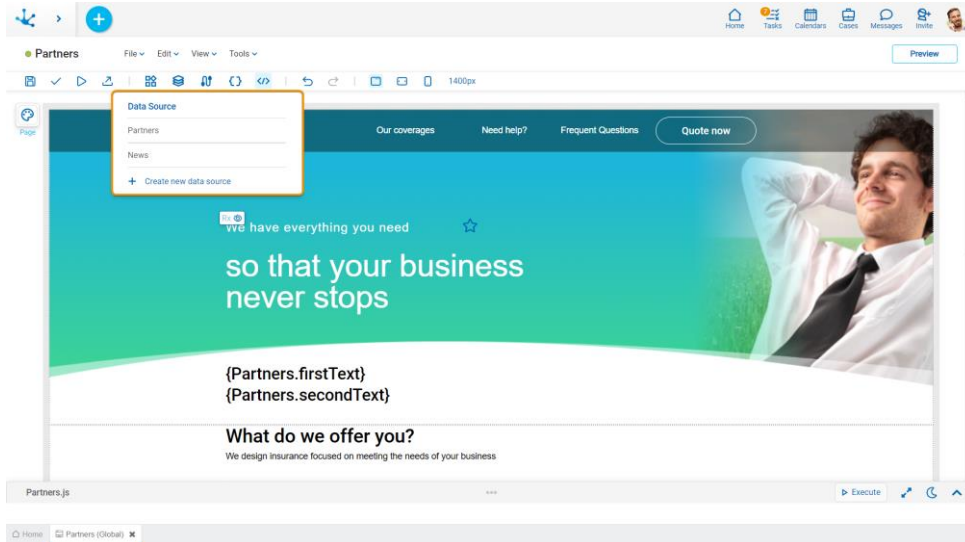
Reorder Elements



It allows to easily order the elements within the same superior element, dragging them in the list to the desired position.


3.7.8.1.3.3. Data Source

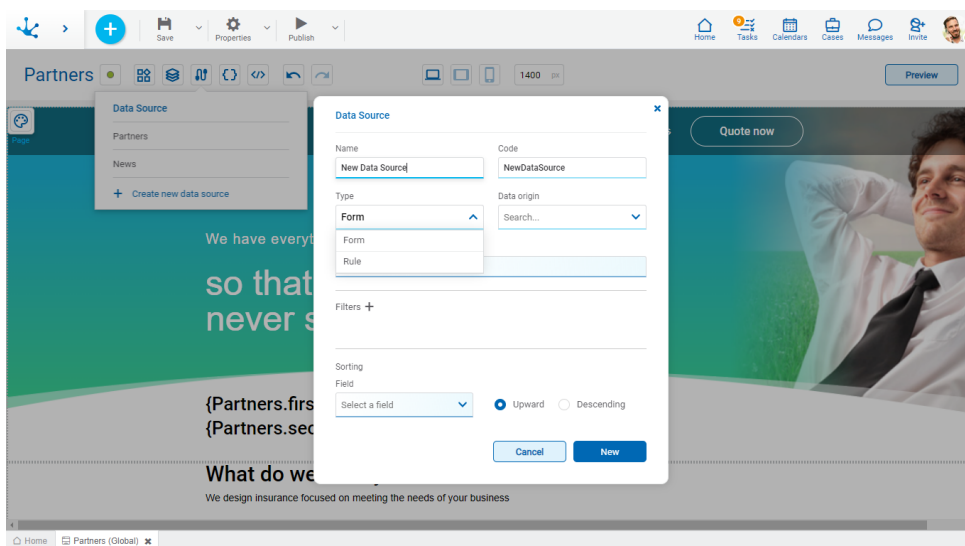
A data source retrieves data from forms or by executing advanced rules depending on the properties modeled on it.

Through the icon , a set of data sources to be used on the page can be defined.



Operations can be performed on each line of the existing sources. Click on the icons  and  delete or update it respectively.

A new data source can be created from the icon . When defining a new data source or selecting an existing one, a panel with its information opens.



Properties

Data sources can originate in [forms](#) or in [rules](#), in both cases they share some properties and have specific ones.

Name

Name used in the modeler to reference the data source.

Code

It is used internally to reference the data source.

Type

Determines the type of object from which the data is to be taken. The possible values for this property are "Form" and "Rule".

Data origin

It allows to select the object from which the data will be taken.

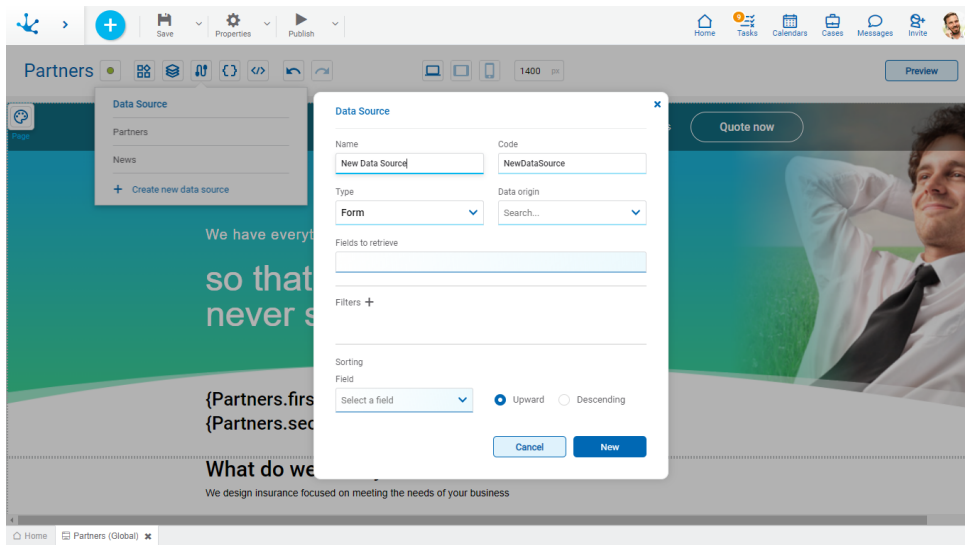
Sorting

Field

It allows to select the field the information will be sorted by in ascending or descending order.

Form as Data Source

When the data source is of the form type, specific properties must be modeled.



Properties

Fields to retrieve

It allows to select the fields of the selected entity.

Filter

The icon **+** allows to expand a panel with the available fields to define the selection criteria of the data.

Depending on the type of field, filter conditions are different, fixed values, variables or parameters can be entered and combined by means of operators. Once the filter criteria have been defined, the "Add" button should be pressed so as to define the filter.

Filter Conditions

Numeric Fields

The value entered should be numeric.

Search criteria:

- Greater than
- Greater equal to
- Less than
- Less equal to
- Between
- With Data
- No Data

Alphanumeric Fields

Enter a text to search for.

Search criteria:

- Contains
- Equal to
- Starts with
- Does not start with
- No Data
- With Data

Date Fields

A calendar opens to select the date and it can be filtered using different search criteria.

Options:

- Today
- Last 7 days
- Current Month
- Current Year
- Last Month
- Last Year
- From (Requires selection of a start date)
- To (Requires selection of an end date)
- Range (Requires the selection of a start date and an end date)
- Equal (Requires selection of a date)

DateTime Fields

A calendar opens to select the date and time, it can be filtered using different search criteria.

- From
- Until
- Equal
- Range

Value Lists Fields

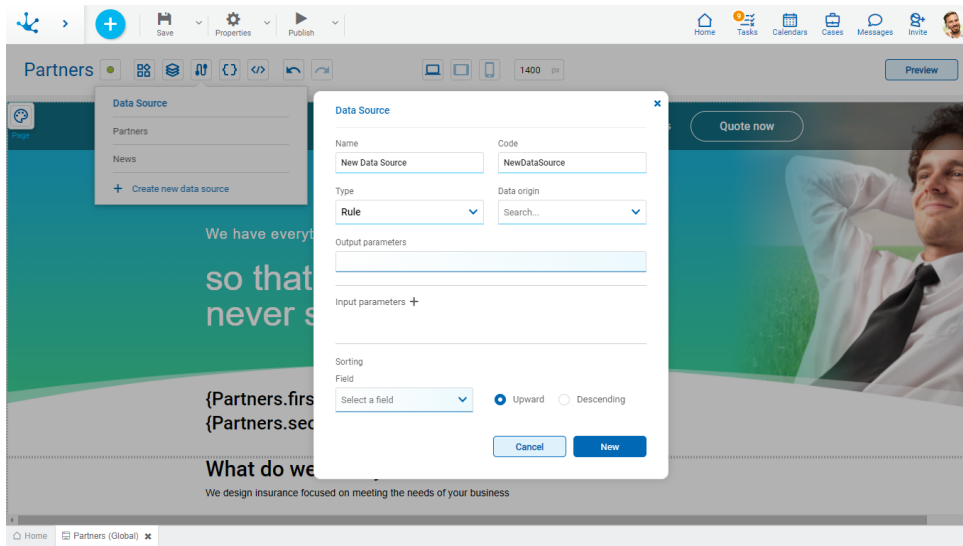
The list values are displayed.

Search criteria:

- Included
- Not Included
- With Data
- No Data

Rule as Data Source

When the data source is of the rule type, specific properties must be modeled.



Properties


Output parameters

The output parameters of the selected rule are displayed.

Input parameters

The icon **+** allows to expand a panel with all the input parameters available for selection. Page parameters, fixed values or variables can be entered for each chosen parameter.



3.7.8.1.3.4. Parameters and Variables

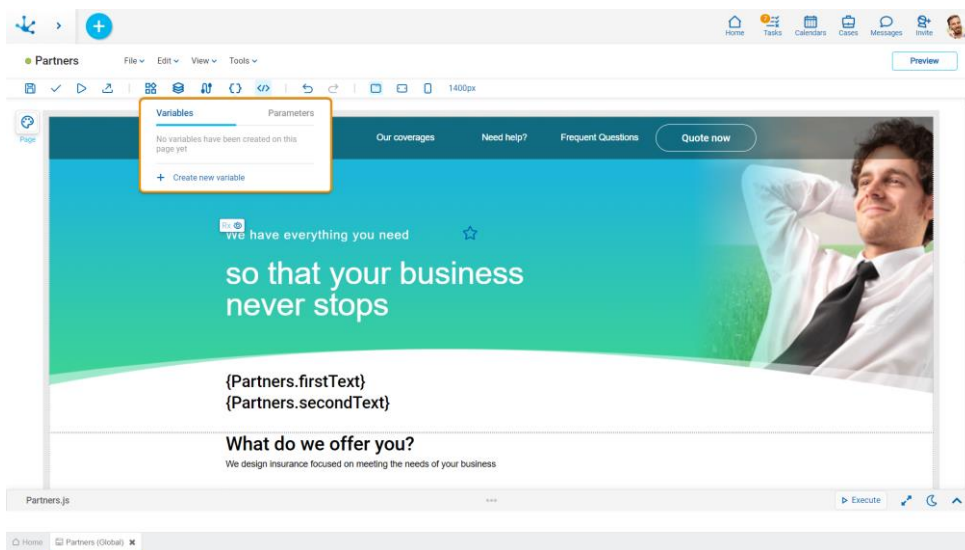
The modeled page allows to define variables and input parameters by means of the icon . Once the panel is opened, variables are displayed by default, parameters can also be selected.


Variables

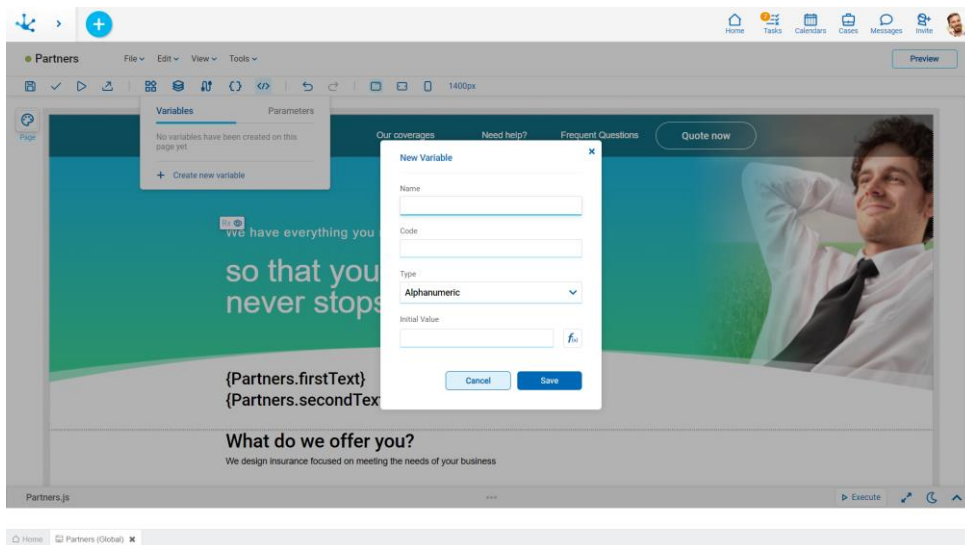
Variables used in pages are defined.

They allow to define data that can be used as the value of elements and in the filters of [data sources](#). They can only be modified by code.

Operations can be performed on variables. Click on the icons  and  on each row to delete or update it respectively.





A new variable can be created from the icon . When a new variable is defined or an existing one is selected, a panel with its information opens.

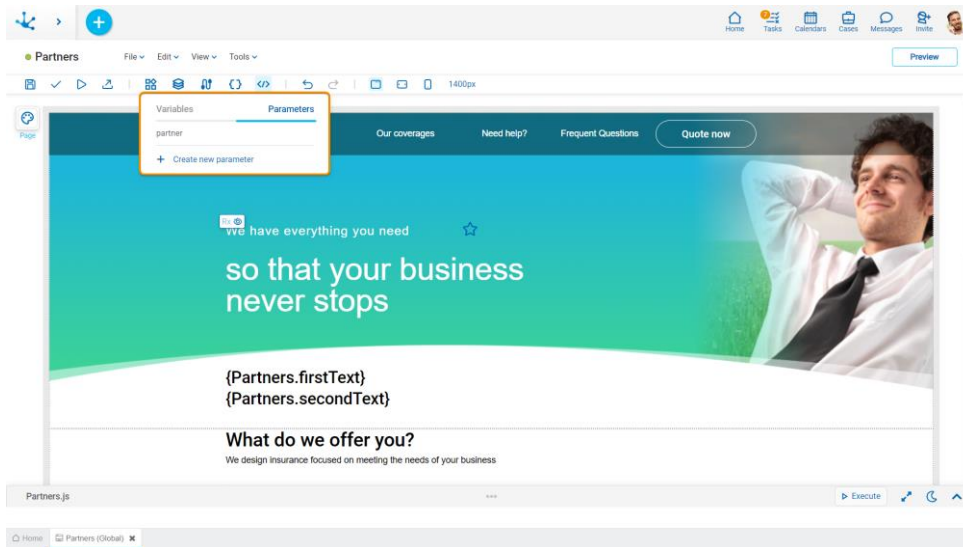



Parameters

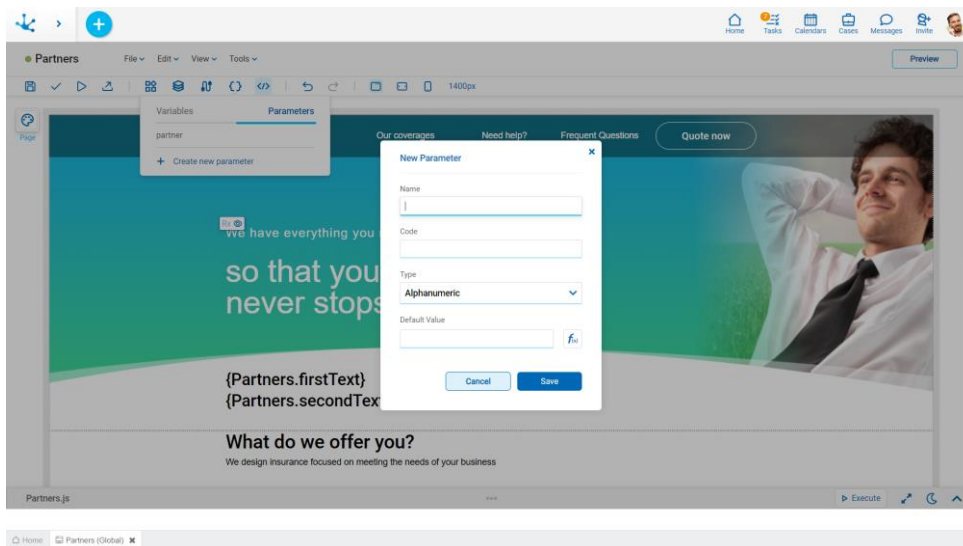
The parameters used in pages are defined.

Data received by the page that cannot be modified. As with variables, they can be used in elements and [data sources](#).

Operations can be performed parameters. Click on the icons  and  on each row to delete or update it respectively.





A new parameter can be created from the icon . When defining a new parameter or selecting an existing one, a panel with its information opens.

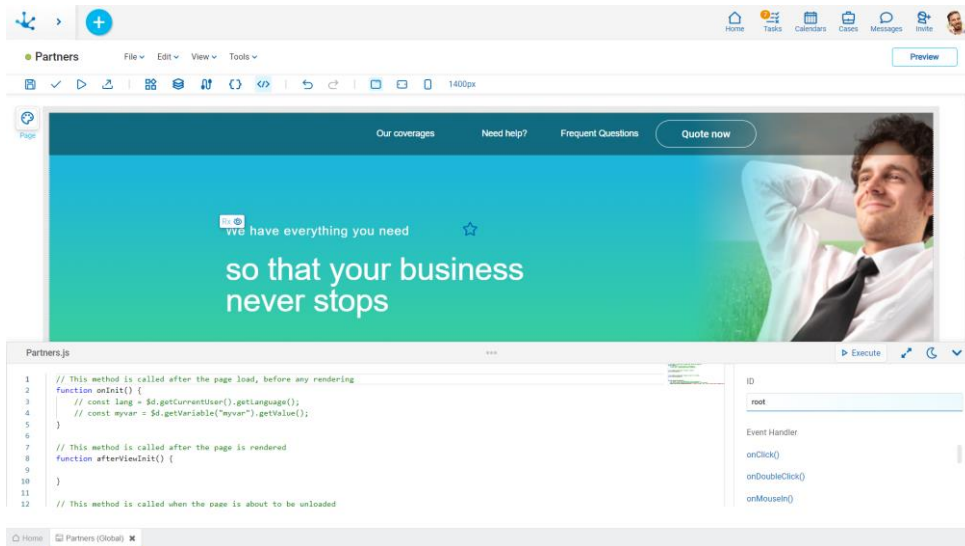


Once the page is published, it can be accessed from a web browser with the [full access path](#), followed by the sign "?", the name of each parameter, the sign "=", and its value. If there is more than one parameter, they are concatenated by the sign "&". For example "myenvironment.deyel.com/pages/<URL property content><parameter name>=<parameter value>".

3.7.8.1.3.5. Code Editing

It is the part of the modeling area where the functionality of the page and its elements can be extended. Each element has a list of built-in events depending on the [element type](#).


The code editing area is displayed at the bottom of the page, following a bar with icons. The icon  in the center of the bar allows you to modify the size of the area, while the icon  on the far right allows to close it.





Sections


- Javascript code editor of the page: It allows to add and update functions associated with the events of elements or pages.
- Event list: The event handler is displayed to the right of the code editor, it contains the identifier and the list of events of the selected element. If no element is selected, the list of page events expands.

Editor Options

 **Execute** Performs the same operation as the preview.

 Increases the panel size and covers the page modeling area.

 Returns the panel to its previous size.

 Changes the style of the code editor to dark mode.

 Changes the style of the code editor to the previous mode.

Operations

Associate a Function

The page has functions defined by default associated with its three events. Instead, its elements do not have any function defined.


To associate a function to an event, select the event in the event list of the element and enable entering the function name. A name is automatically generated with the identifier of the element concatenated with the event name and when pressing the icon, **+** the function that is associated with the event is created in the code.

If the function already exists, a number is automatically added as a suffix. It must be validated that no functions with the same name are created.

Select a Function



Selecting a function in the event list of the element sets focus to that function in the Javascript code editor.

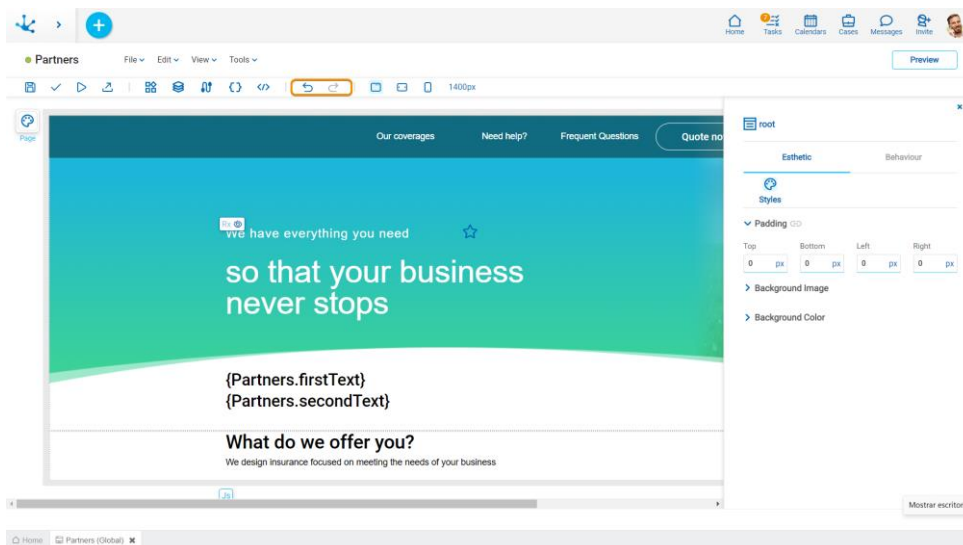
Disassociate a Function

To disassociate a function from an event, press the icon  that is displayed when hovering the cursor over the line in the event list. The association of the function with the event is deleted but it is not deleted from the code.

If the function is deleted in the Javascript code, it remains associated in the list of events, however the event does not execute any function and does not throw any error.

3.7.8.1.3.6. Undo and Redo

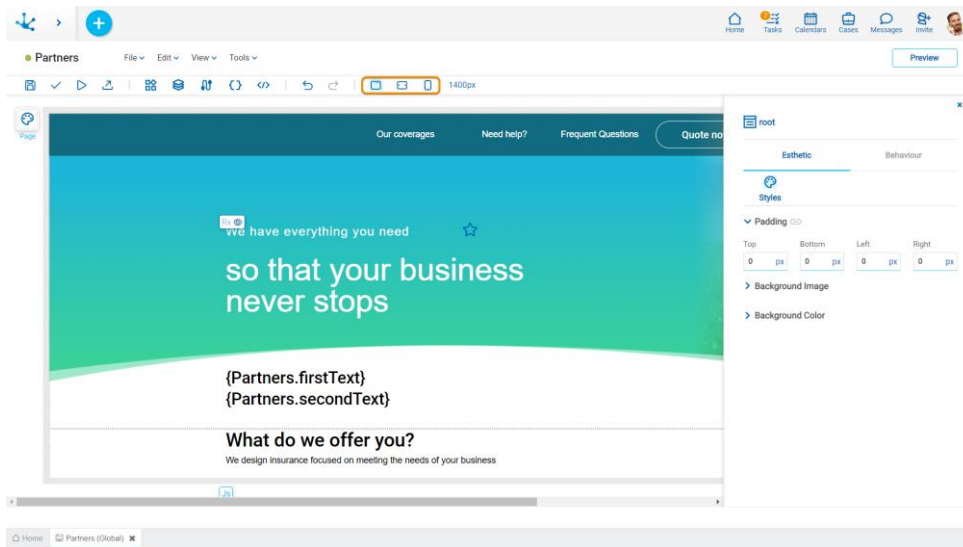
Easily reverts or resets changes made on the page using the icons  and  respectively.



3.7.8.1.3.7. Breakpoints

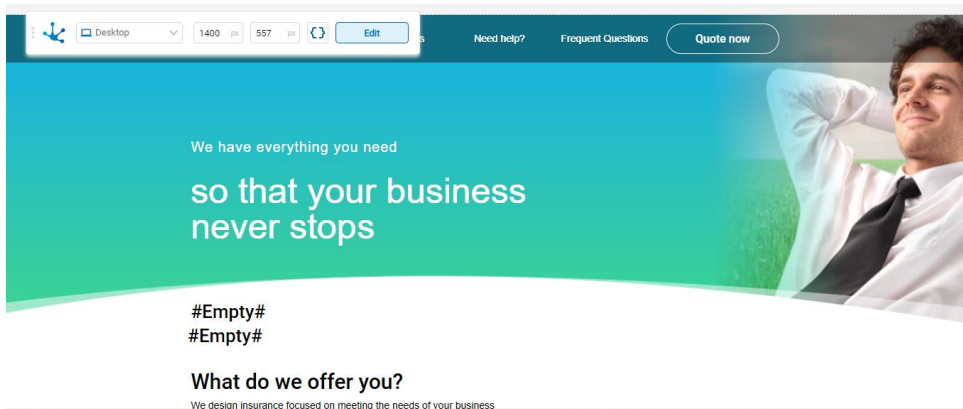
They allow users to always see the best version of their page, regardless of the device they are viewing it from.

The modeler includes the most common breakpoints (desktop, tablet and mobile), they allow to adapt the page to individual screen sizes by defining what prevails in the layout. Styles can be rearranged, elements can be chosen to be shown or hidden, and the layout can be customized for each of the breakpoints.



3.7.8.1.3.8. Preview

It provides a view of the modeled page, showing how it would look on different devices.



Top Bar Items

Breakpoints and Devices

The type of device on which the preview of the modeled page will be displayed is selected

Pixels

It is displayed automatically according to the selected device.



No parameters defined on the page.




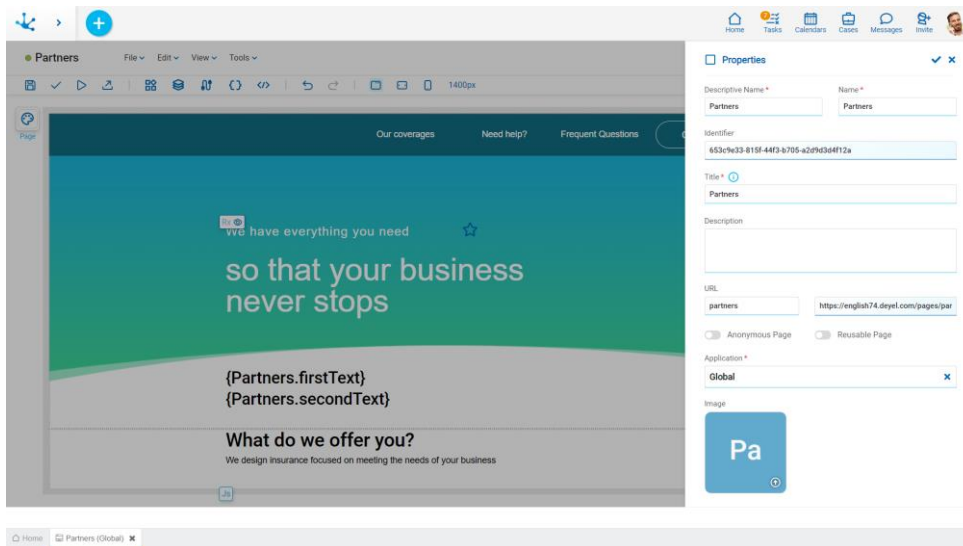
It allows to enter a value for each parameter defined on the page.

Edit

It allows to go back to code editing.

3.7.8.2. General Properties

To enter the properties panel of a page, click on the icon  from the [top toolbar](#).



Properties

Descriptive Name

Name used by the user to reference the page.

Name

It is used at the modeling level to reference the page.

Identifier

Uniquely identifies the page.

Title

It should summarize the page content and is displayed in the search results.

Description

Text that defines the page describing its functionality.

URL

Page identifier in the URL.

Absolute Path

When defining the identifier, the access path to the page is automatically filled in.

*Once the page is published, it can be accessed from a web browser with the absolute path. If [parameters](#) are defined, their names and values should be added below.
The published page can also be accessed from the modeler by clicking on this property.*

Anonymous Page

If this property is checked, the user does not have to be connected to the application to access the page.

Reusable Page

If this property is checked, it indicates that the page can be referenced from other pages.


Application

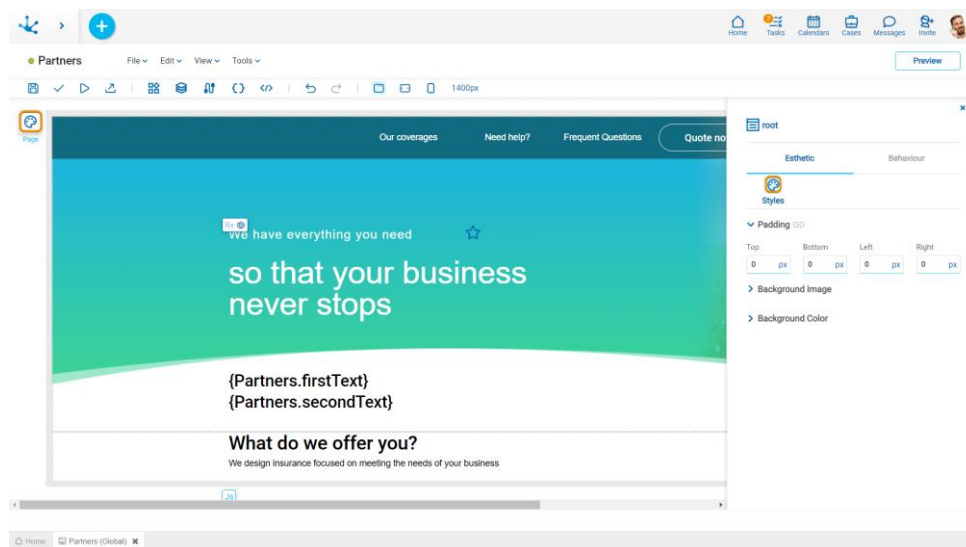
It allows to define the application to which the object belongs.

Image

It allows to customize the page by adding an image. This image represents the page in the applications modeler if it is selected as the home page.

3.7.8.3. Style Properties

The style properties panel of a page opens when selecting the icon  of the context menu.




Padding

▼ Padding

Top	Bottom	Left	Right
<input type="text" value="0"/> px	<input type="text" value="0"/> px	<input type="text" value="0"/> px	<input type="text" value="0"/> px

All padding space properties allow to create a space around the element borders (top, bottom, sides) and its content. The padding space configured is inward, while the margin is configured relative to a top element. It can be expressed in pixels (px), percentage (%), viewport width (vw), and viewport height (vh).

o

 Allows values entered in one of the paddings to be copied to the other ones automatically.

 Allows to indicate different values for each padding.

▼ Background Image

Selected



Size

Repeat

Position

Horizontal Position

Vertical Position

It allows to add a background image to the section.

Selected

An image can be uploaded from the computer where it is being modeled.

Size

Possible Values

- Cover
- Content
- Auto

Repeat

Possible Values

- Repeat
- Repeat Hor.
- Repeat Vert.
- Spacing
- Rounded
- Do Not Repeat

Horizontal and Vertical Position

Possible Values

- Center
- Left
- Right

Background Color

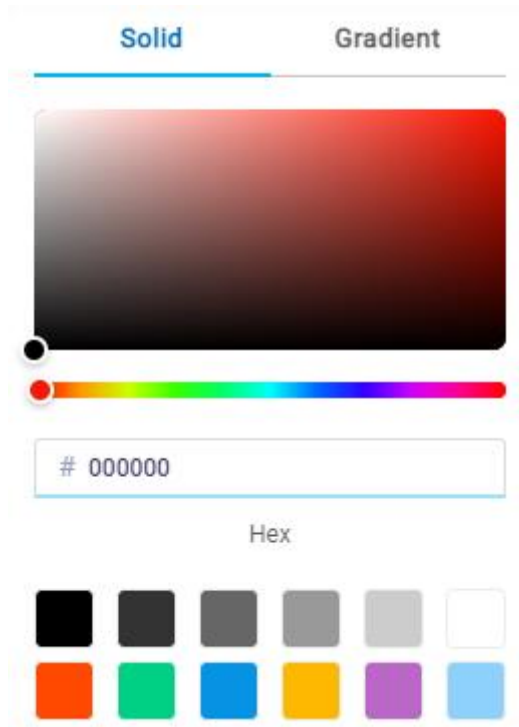
It allows to model a background color for the element, it can be solid or gradient and different properties are defined for each one.

Solid

▼ Background Color



This option enables not only to select the color from a palette but also to define the degree of transparency.

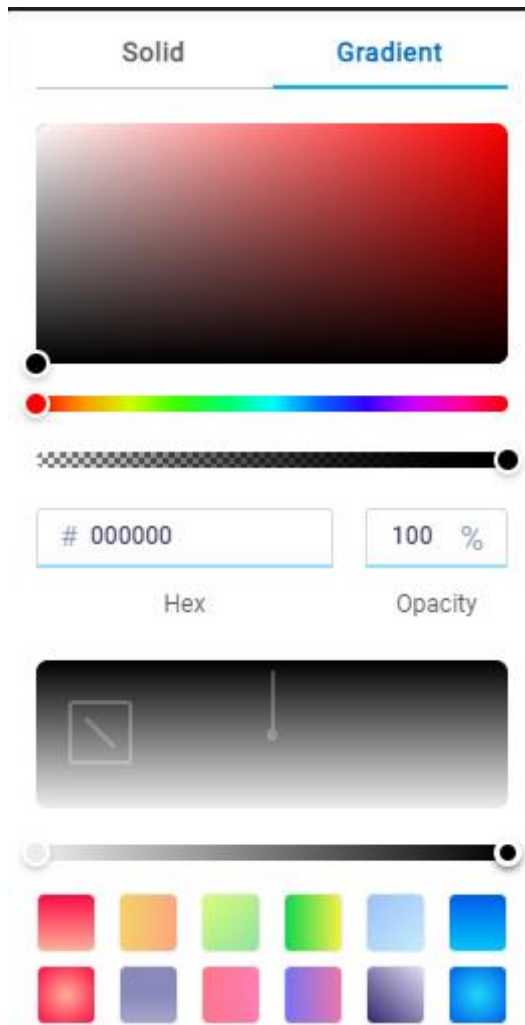


Gradient

▼ Background Color



This option enables to select not only the color from a palette but also to define its opacity and intensity according to the selected angle.



3.7.8.4. Deyel SDK for Javascript

Using Deyel SDK (Software Development Kit), a set of development tools for pages is incorporated, based on JavaScript, which allows extending the functionality of the pages modeled within **Deyel**. There is available a set of methods that help manage the modeled elements and facilitate the incorporation of behavior.

To access the global methods of the Deyel SDK for JS, the reserved namespace \$d should be used.

Example:

```
$d.getVariable("name");
```

Methods of the Pages SDK

The Deyel SDK for JS methods are grouped under the following classification:

- [Element](#)
- [Repeater](#)

- [Widget](#)
- [Data Source](#)
- [Variable](#)
- [Parameter](#)
- [User](#)
- [Rule Execution](#)
- [Embedded Rules](#)
- [Redirection](#)
- [File Usage](#)
- [API](#)
- [Root](#)
- [Miscellaneous](#)

3.7.8.4.1. Element

Access methods are used to retrieve items or access specific functionalities.

Class methods are specific to each element, facilitating their management and incorporating their own behavior.

Access Method

Name	Description	Result
<code>\$d.getElement(idElement)</code>	Searches and gets an element by identifier. Parameter <ul style="list-style-type: none"> • String idElement: Element identifier 	PageElement
<code>\$d.getButton(idElement)</code>	Searches and gets a button by identifier. Parameter <ul style="list-style-type: none"> • String idElement: Button identifier 	Button
<code>\$d.getColumnItem(idElement)</code>	Searches and gets a column of an item. Parameter <ul style="list-style-type: none"> • String idElement: Column identifier 	ColumnItem
<code>\$d.getContainer(idElement)</code>	Searches and gets a container by identifier. Parameter <ul style="list-style-type: none"> • String idElement: Container identifier 	container
<code>\$d.getEnrichedText(idElement)</code>	Searches and gets a rich text by identifier.	EnrichedText

Name	Description	Result
	Parameter <ul style="list-style-type: none"> String idElement: Rich text identifier 	
\$d.getStripItem(idElement)	Searches and gets a strip of the item by identifier. Parameter <ul style="list-style-type: none"> String idElement: Strip identifier 	PageStripItem
\$d.getIcon(idElement)	Searches and gets an icon by identifier. Parameter <ul style="list-style-type: none"> String idElement: Icon identifier 	Icon
\$d.getIframe(idElement)	Searches and gets an iframe by identifier. Parameter <ul style="list-style-type: none"> String idElement: Iframe identifier 	iframe
\$d.getImage(id Element)	Searches and gets an image by identifier. Parameter <ul style="list-style-type: none"> String idElement: Image identifier 	Image
\$d.getInput(idElement)	Searches and gets an input by identifier. Parameter <ul style="list-style-type: none"> String idElement: Input identifier 	input
\$d.getItem(idElement)	Searches and gets an item by identifier. Parameter <ul style="list-style-type: none"> String idElement: Item identifier 	Item
\$d.getLayout(IdElement)	Searches and gets a layout by identifier. Parameter <ul style="list-style-type: none"> String idElement: Layout identifier 	Layout
\$d.getMosaicItem(IdElement)	Searches and gets an item mosaic by identifier. Parameter <ul style="list-style-type: none"> String idElement: Item mosaic identifier 	MosaicItem
\$d.getRepeater(idElement)	Searches and gets a repeater by identifier.	Repeater

Name	Description	Result
	Parameter <ul style="list-style-type: none"> String idElement: Repeater identifier 	
<code>\$d.getRowItem(idElement)</code>	Searches and gets an item row by identifier. Parameter <ul style="list-style-type: none"> String idElement: Item row identifier 	Row
<code>\$d.getSection(idElement)</code>	Searches and gets a section by identifier. Parameter <ul style="list-style-type: none"> String idElement: Section identifier 	Section
<code>\$d.getText(idElement)</code>	Searches and gets a text by identifier. Parameter <ul style="list-style-type: none"> String idElement: Text identifier 	Text
<code>\$d.getWidget(idElement)</code>	Searches and gets a widget by identifier. Parameter <ul style="list-style-type: none"> String idElement: widget identifier 	Widget

PageElement Class Methods

Name	Description	Result
<code>getDOMEElement()</code>	Gets the element within the DOM.	DOMEElement
<code>getMargin()</code>	Gets the margin value.	String
<code>getMarginBottom()</code>	Gets the bottom margin value.	String
<code>getMarginLeft()</code>	Gets the left margin value.	String
<code>getMarginRight()</code>	Gets the right margin value.	String
<code>getMarginTop()</code>	Gets the top margin value.	String
<code>getPosition()</code>	Gets the value of the element's position.	String

Name	Description	Result
getPositionBottom()	Gets the value of the element's bottom position.	String
getPositionLeft()	Gets the value of the element's left position.	String
getPositionRight()	Gets the value of the element's right position.	String
getPositionTop()	Gets the value of the element's top position.	String
getVisible()	Gets if the element is visible.	Boolean
setMargin(margin)	Parameter <ul style="list-style-type: none"> String margin: Margin value 	PageElement
setMarginBottom(margin)	Parameter <ul style="list-style-type: none"> String margin: Bottom margin value 	PageElement
setMarginLeft(margin)	Parameter <ul style="list-style-type: none"> String margin: Gets the left margin value 	PageElement
setMarginRight(margin)	Parameter <ul style="list-style-type: none"> String margin: Gets the right margin value 	PageElement
setMarginTop(margin)	Parameter <ul style="list-style-type: none"> String margin: Top margin value 	PageElement
setPosition(position)	Parameter <ul style="list-style-type: none"> String position: Position value 	PageElement
setPositionBottom(position)	Parameter <ul style="list-style-type: none"> String position: Bottom position value 	PageElement
setPositionLeft(position)	Parameter <ul style="list-style-type: none"> String position: Left position value 	PageElement
setPositionRight(position)	Parameter <ul style="list-style-type: none"> String position: Right position value 	PageElement
setPositionTop(position)	Parameter <ul style="list-style-type: none"> String position: Top position value 	PageElement
setVisible(visible)	Sets if the page is visible. Parameter <ul style="list-style-type: none"> Boolean visible: Determines whether it is 	PageElement

Name	Description	Result
	visible or not	

3.7.8.4.2. Repeater

Access methods are used to retrieve items or access specific functionalities.

Class methods are specific to each element, facilitating their management and incorporating their own behavior.

Access Method

Name	Description	Result
<code>\$d.getRepeater(idElement)</code>	Searches and gets a repeater by identifier. Parameter <ul style="list-style-type: none"> String idElement: Repeater identifier 	Repeater

Class Methods

Name	Description	Result
<code>getColumns()</code>	Gets the number of columns of the repeater.	Number
<code>getData()</code>	Gets repeater data.	Object[]
<code>getDataSource()</code>	Gets the repeater datasource.	Datasource
<code>getPage()</code>	Gets the number of pages (pagination) of the repeater.	Number
<code>getPerPage()</code>	Gets the total number of items per page (pagination) of the repeater.	Number
<code>getRows()</code>	Gets the number of rows of the repeater.	Number
<code>getTotalPages()</code>	Gets the total number of pages (pagination) of the repeater.	Number

Name	Description	Result
getTotalItems()	Gets the total number of items of the repeater.	Number
refreshRepeater()	Refreshes the repeater, that is, it requests data from the configured datasource again.	Repeater
setColumns(columns)	Sets a number of columns to the repeater. Parameter <ul style="list-style-type: none"> Number columns: Number of columns 	Repeater
setDataSource(idDataSource)	Sets a datasource to the repeater. Parameter <ul style="list-style-type: none"> String idDataSource: Datasource identifier 	Repeater
setPage(page)	Sets the page (pagination) of the repeater. Parameter <ul style="list-style-type: none"> Number page: Page number 	Repeater
setRows(rows)	Sets a number of rows to the repeater. Parameter <ul style="list-style-type: none"> Number rows: Number of columns 	Repeater

3.7.8.4.3. Widget

Access methods are used to retrieve items or access specific functionalities.

Class methods are specific to each element, facilitating their management and incorporating their own behavior.

Access Method

Name	Description	Result
<code>\$d.getWidget(idElement)</code>	Searches and gets a widget by identifier. Parameter <ul style="list-style-type: none"> String idElement: Widget identifier 	Widget

Class Methods

Name	Description	Result
getWidgetType()	Gets the type of widget	String
getMockupJSON(type)	Gets an example JSON, which contains the internal format of widgets with their respective type. Parameter <ul style="list-style-type: none">String type: Widget type	Object
getValue()	Gets the JSON that contains the internal format of the widgets.	Object
setJSONValue(widgetJSON, index)	Sets the JSON that contains the internal format of a widget and instantiates it. Parameters <ul style="list-style-type: none">Object widgetJSON: JSON of the widgetNumber index: Instance number	Widget
setValue()	Sets the id of a pre-existing widget and instantiates it. Parameters <ul style="list-style-type: none">Number idWidget: widget idNumber index: Instance number	Widget

3.7.8.4.4. Data Source

Access methods are used to retrieve items or access specific functionalities.

Class methods are specific to each element, facilitating their management and incorporating their own behavior.

Access Method

Name	Description	Result
setDataSource(idDataSource)	Gets a DataSource object, with the ID sent by parameter.	Datasource

Name	Description	Result
	Parameter <ul style="list-style-type: none"> String idDataSource: Datasource identifier. 	

Class Methods

Name	Description	Result
afterExecute(callback)	It is used to execute a function after invoking the Datasource. Parameter <ul style="list-style-type: none"> (data: Object?) => Object callback: Function to be invoked 	-
createDataSource(idDataSource, executeCallback)	It allows to create a datasource with a specific identifier. Parameters <ul style="list-style-type: none"> String idDataSource: Datasource identifier Callback executeCallback: Function to be executed upon completion of the operation Example: <pre>\$d.createDataSource(idDataSource: string, execute: (nuPage: number, qtRows: number) => { instances: Record<string, any>; paging?: { pages: number, "page-number": number; }; } Record<string, any> Record<...>[]):</pre>	Datasource
execute(callback, nuPage, qtRows)	It executes a datasource and upon receiving a response from the server it calls the callback function. Parameters	-

Name	Description	Result
	<ul style="list-style-type: none"> • Function callback: Function to be executed upon completion of the operation • Number nuPage (optional): indicates the page to search. If not defined, it is the home page • Number qtRows (optional): Number of records to read, if not specified, will be 20 <p>Example:</p> <pre>\$d.getDataSource("business").afterExecute((data) => { isOwner = data.instances[0]?.owner activeButton("profileButton"); if (isOwner) { hideEditOption(true); } else { hideEditOption(false); } });</pre>	
getData()	Gets the data from the datasource.	Object
getFilters()	Gets the filters from the datasource. Gets an array of objects with code, operation, type and value.	<pre>Array<{ code: string; type: "LITERAL" "VARIABLE" "PARAMETER"; operation: string[]; value: FilterValue; }></pre>
getName()	Gets the name of the datasource.	String
getOrder()	Gets the object that represents the order modeled in the datasource.	<pre>{ code: string; order: "ASC" "DESC"; } null</pre>
getSelection()	Gets the selected form fields or rule out-	String[]

Name	Description	Result
	put parameters.	
getSource()	Gets the form identifier or rule name.	String
getType()	Gets the type. It can be rule or form.	String
setFilter(code, operation, type, value)	<p>Sets a filter to the datasource.</p> <p>Parameters</p> <ul style="list-style-type: none"> • String code: Field identifier or rule or form parameter. • String String[] null operation (optional): Comparison operator (Logical operators). If null, the filter is cleared. • "LITERAL" "VARIABLE" "PARAMETER" type (Optional): Type of Operation. • Any value (Optional): Value to set <p>Example:</p> <pre>\$d.getDataSource("SuccessfulPaymentInformation").setFilter("relatedSale", "eq", "LITERAL", \$d.getDataSource("DigitalSale").getData()[0].procedureNumber);</pre>	-
setOrder(code, order)	<p>Sets an order to the datasource.</p> <p>Parameters</p> <ul style="list-style-type: none"> • String code: Field identifier or rule or form parameter. • "ASC" "DESC" order: Indicates the type of order with which the operation will be carried out 	-

3.7.8.4.5. Variable

Access methods are used to retrieve items or access specific functionalities.

Class methods are specific to each element, facilitating their management and incorporating their own behavior.

Access Method

Name	Description	Result
<code>\$d.getVariable(idVariable)</code>	<p>Searches the interface for a variable by identifier.</p> <p>Parameter</p> <ul style="list-style-type: none"> String idVariable: Variable identifier 	Variable

Class Methods

Name	Description	Result
<code>getValue(description)</code>	<p>Returns the value of the variable. If the variable has no value, it returns its initial value.</p> <p>Parameter</p> <ul style="list-style-type: none"> Boolean description (Optional): Returns if the variable description is taken into account <p>Example:</p> <pre><code>\$d.getVariable("variable name").getValue()</code></pre>	String Number Boolean
<code>setValue(value)</code>	<p>Sets the value of the variable.</p> <p>Parameter</p> <ul style="list-style-type: none"> String Number Boolean value: Value to assign to the variable <p>Example:</p> <pre><code>\$d.getVariable("variable name").setValue("Argentina")</code></pre>	-

3.7.8.4.6. Parameter

Access methods are used to retrieve items or access specific functionalities.

Class methods are specific to each element, facilitating their management and incorporating their own behavior.

Access Method

Name	Description	Result
<code>\$d.getParameter(idParameter)</code>	<p>Searches the interface for a parameter by identifier.</p> <p>Parameter</p> <ul style="list-style-type: none"> String idParameter: Parameter identifier 	Parameter

Class Methods

Name	Description	Result
<code>getValue()</code>	Gets the parameter value.	String Number Boolean

3.7.8.4.7. User

Access methods are used to retrieve items or access specific functionalities.

Class methods are specific to each element, facilitating their management and incorporating their own behavior.

Access Method

Name	Description	Result
<code>\$d.getCurrentUser()</code>	Returns the current user.	User

Class Methods

Name	Description	Result
<code>getLanguage()</code>	Returns the configured language of the user.	"es_AR" "en_US" "pt_BR"
<code>getLastName()</code>	Returns the user last name.	String

Name	Description	Result
getName()	Returns the username.	String
getUsername()	Returns the code of the logged in user.	String

3.7.8.4.8. Rule Execution

Access methods are used to retrieve items or access specific functionalities.

Access Method

Name	Description	Result
\$d.executeRule(name, version, params, callback)	<p>It allows to execute an advanced Rest API-type rule.</p> <p>Parameters</p> <ul style="list-style-type: none"> • String name: Rule name • Number version: Rule version • Object params: Object where the rule parameters are sent • Callback callback: Function that is executed after performing the operation <p>Example:</p> <pre>\$d.executeRule("generateResponseAboutDocumentation", 1, { 'pQuery': query, 'pTemplate': template, 'user': user, 'pEnvironment': environment, 'pResponse': answer, }, (response, error) => {});</pre>	--

3.7.8.4.9. Embedded Rules

Access methods are used to retrieve items or access specific functionalities.

Access Method

Name	Description	Result
<code>\$d.validateElements(elements, onSuccess, onFailure)</code>	<p>Executes validation and requirement rules for the elements passed as parameter.</p> <p>Parameters</p> <ul style="list-style-type: none"> • String [] elements: Elements identifiers • Callback onSuccess: Function that is executed if all validations were successful • Callback onFailure: Function that is executed if any of the validations failed 	

3.7.8.4.10. Redirection

Access methods are used to retrieve items or access specific functionalities.

Access Method

Name	Description	Result
<code>\$d.redirectToCalendar(target, params)</code>	<p>Redirection to the user's calendar.</p> <p>Parameters</p> <ul style="list-style-type: none"> • String target: Navigation Url • Object params (optional): Configuration object 	-
<code>\$d.redirectToCase(idCase, target, params)</code>	<p>Redirection to a process case.</p> <p>Parameters</p> <ul style="list-style-type: none"> • String idCase: Case identifier • String target: Navigation url • Object params (optional): Parameter configuration object as modeled. It is used to send the parameters to the destination, in the key format: value <p>Example:</p> <pre>params?: { [key: string]: string; }</pre>	-
<code>\$d.redirectToCaseExecution(idCase, target, params)</code>	<p>Redirection to a process activity.</p> <p>Parameters</p> <ul style="list-style-type: none"> • String idCase: Case identifier 	-

Name	Description	Result
	<ul style="list-style-type: none"> String target: Navigation url Object params (optional): Parameter configuration object as modeled. It is used to send the parameters to the destination, in the key format: value Example: <pre>params?: { [key: string]: string; }</pre>	
\$.redirectToCaseStart(idCase, target, params)	Redirection to the process start. Parameters <ul style="list-style-type: none"> String idCase: Case identifier String target: Navigation url Object params (optional): Parameter configuration object as modeled. It is used to send the parameters to the destination, in the key format: value Example: <pre>params?: { [key: string]: string; }</pre>	-
\$.redirectToDashboard(target, params)	Redirection to the user's dashboard. Parameters <ul style="list-style-type: none"> String target: Navigation url Object params (optional): Parameter configuration object as modeled. It is used to send the parameters to the destination, in the key format: value Example: <pre>params?: { [key: string]: string; }</pre>	-
\$.redirectToError(message)	Redirection to the error page modeled in the application. Parameter <ul style="list-style-type: none"> String message: Content of the message to be displayed on the page 	-
\$.redirectToFormCreate(idForm, target, params)	Redirection to a form creation. Parameters <ul style="list-style-type: none"> String idForm: Form identifier String target: Destination type 	-

Name	Description	Result
	<ul style="list-style-type: none"> Object params (optional): Parameter configuration object as modeled. It is used to send the parameters to the destination, in the key format: value Example: <pre>params?: { [key: string]: string; }</pre>	
\$.redirectToFormUpdate(idForm, idKey, idInstance, target, params)	Redirection to a form update. Parameters <ul style="list-style-type: none"> String idForm: Form identifier String idKey: Document key String idInstance: Identifier of the instance String target: Destination type Object params (optional): Parameter configuration object as modeled. It is used to send the parameters to the destination, in the key format: value Example: <pre>params?: { [key: string]: string; }.</pre>	-
\$.redirectToFormDelete(idForm, idKey, idInstance, target, params)	Redirection to a form deletion. Parameters <ul style="list-style-type: none"> String idForm: Form identifier String idKey: Document key String idInstance: Identifier of the instance String target: Destination type Object params (optional): Configuration object 	-
\$.redirectToFormShow(idForm, idKey, idInstance, target, params)	Redirection to a form show. Parameters <ul style="list-style-type: none"> String idForm: Form identifier String idKey: Document key String idInstance: Identifier of the instance String target: Destination type Object params (optional): Parameter configuration object as modeled. It is used to send the parameters to the destination, in 	-

Name	Description	Result
	<p>the key format: value</p> <p>Example:</p> <pre>params?: { [key: string]: string; }</pre>	
<p><code>\$d.redirectToFormSearch(idForm, target, params)</code></p>	<p>Redirection to a form search.</p> <p>Parameters</p> <ul style="list-style-type: none"> • String idForm: Form identifier • String target: Destination type • Object params (optional): Parameter configuration object as modeled. It is used to send the parameters to the destination, in the key format: value <p>Example:</p> <pre>params?: { [key: string]: string; }</pre>	-
<p><code>\$d.redirectToPage(idPage, target, params)</code></p>	<p>Redirection to a page.</p> <p>Parameters</p> <ul style="list-style-type: none"> • String idPage: Destination page identifier • String target: Destination type • Object params (optional): Parameter configuration object as modeled. It is used to send the parameters to the destination, in the key format: value <p>Example:</p> <pre>params?: { [key: string]: string; }</pre>	-
<p><code>\$d.redirectToTasks(idTasks, target, params)</code></p>	<p>Redirection to the user's tasks.</p> <p>Parameters</p> <ul style="list-style-type: none"> • String idTasks: Task identifier • String target: Destination type • Object params (optional): Parameter configuration object as modeled. It is used to send the parameters to the destination, in the key format: value <p>Example:</p> <pre>params?: { [key: string]: string; }</pre>	-
<p><code>\$d.redirectToUrl(url, target,</code></p>	<p>Redirection to a specific URL.</p>	-

Name	Description	Result
params)	<p>Parameters</p> <ul style="list-style-type: none"> • String url: Navigation url • String target: Destination type • Object params (optional): Parameter configuration object as modeled. It is used to send the parameters to the destination, in the key format: value <p>Example:</p> <pre>params?: { [key: string]: string; }</pre>	

3.7.8.4.11. File Usage

Access methods are used to retrieve items or access specific functionalities.

Access Method

Name	Description	Result
\$d.selectFile(callback, accept)	<p>It allows selecting files. When executed, the file explorer opens so the user can choose one or more files.</p> <p>Parameters</p> <ul style="list-style-type: none"> • Function callback: Function to be executed upon completion of the operation • String accept: Type of file that will be allowed to be selected. If null or undefined is sent, it is assumed that all file types are accepted <p>Example:</p> <pre>\$d.selectFile((event, files, input) => { console.log(files[0]); }, 'image/png')</pre>	-
\$d.uploadFile(file, callback, objectType)	<p>Allows uploading a file to Deyel.</p> <p>Parameters</p> <ul style="list-style-type: none"> • File file: Javascript Object that represents a file 	

Name	Description	Result
	<ul style="list-style-type: none"> Function callback: Function to be executed upon completion of the operation String objectType: Destination type of object in Deyel. Example, "FORM" "RULE". <p>Example:</p> <pre>\$d.uploadFile(files[0], (result, error) => { console.log(result); }, "FORM");</pre>	

3.7.8.4.12. API

Access methods are used to retrieve items or access specific functionalities.

Class methods are specific to each element, facilitating their management and incorporating their own behavior.

Access Method

Name	Description	Result
\$d.getAPI()	Gets an API object	API

Class Methods

Name	Description	Result
delete(url)	<p>Makes a DELETE request to the url, using the online user's credentials (token).</p> <p>Parameter</p> <ul style="list-style-type: none"> String url: Rest API path <p>Example:</p> <pre>\$d.delete("https://hostname.com/API/id")</pre>	Promise<Object>

Name	Description	Result
get(url)	<p>Makes a GET request to the url, using the online user's credentials (token).</p> <p>Parameter</p> <ul style="list-style-type: none"> • String url: Rest API path <p>Example:</p> <pre>\$d.get ("https://hostname.com/API")</pre>	Promise<Object>
patch(url, data)	<p>Makes a PATCH request to the url, using the credentials (token) of the online user and sending the object received in the "data" parameter in JSON format as a payload.</p> <p>Parameters</p> <ul style="list-style-type: none"> • String url: Rest API path • Object data: Object to send in the body of the request <p>Example:</p> <pre>\$d.patch ("https://hostname.com/API/id", { commentId: 1, commentContent: "Hello!" })</pre>	Promise<Object>
post(url, data)	<p>Makes a POST request to the url, using the credentials (token) of the online user and sending the object received in the "data" parameter in JSON format as a payload.</p> <p>Parameters</p> <ul style="list-style-type: none"> • String url: Rest API path • Object data: Object to send in the body of the request <p>Example:</p> <pre>\$d.post ("https://hostname.com/API/id", { commentId: 1, commentContent: "Hello!" })</pre>	Promise<Object>

Name	Description	Result
put(url, data)	<p>Makes a PUT request to the url, using the credentials (token) of the online user and sending the object received in the "data" parameter in JSON format as a payload.</p> <p>Parameters</p> <ul style="list-style-type: none"> • String url : Rest API path • Object data: Object to send in the body of the request <p>Example:</p> <pre>\$d.put("https://hostname.com/API/id", { commentId: 1, commentContent: "Hello!" })</pre>	Promise<Object>

3.7.8.4.13. Root

Represents the main styles and configurations of the page.

Access methods are used to retrieve items or access specific functionalities.

Class methods are specific to each element, facilitating their management and incorporating their own behavior.

Access Method

Name	Description	Result
\$d.getRoot()	Gets the main configuration of the page.	Root

Class Methods

Name	Description	Result
getBackgroundColor()	Gets the color of the page background.	String

Name	Description	Result
getBackgroundPosition()	Gets the position of the page background.	String
getBackgroundPositionX()	Gets the position of the background on the horizontal axis.	String
getBackgroundPositionY()	Gets the position of the background on the vertical axis.	String
getBackgroundRepeat()	Gets the background repeat configuration.	String
getBackgroundSize()	Gets the background size.	String
getDOMElement()	Gets the Javascript node	Javascript DOM
getVisible()	Gets if the element is visible.	Boolean
getPadding()	Gets the configured padding space.	String
getPaddingBottom()	Gets the configured bottom padding space.	String
getPaddingLeft()	Gets the configured left padding space.	String
getPaddingRight()	Gets the configured right padding space.	String
getPaddingTopt()	Gets the configured top padding space.	String
setBackground-color(color, state)	<p>Sets the background color.</p> <p>Parameters</p> <ul style="list-style-type: none"> • String color: Color in hexadecimal • String state: Color state 	Root
setBackgroundPosition(position, state)	<p>Sets the position of the page background.</p> <p>Parameters</p> <ul style="list-style-type: none"> • Object position: Object where the X and Y coordinates are configured • String state: Position state 	Root
setBackgroundPositionX(position, state)	Sets the background position on the horizontal axis of the page.	Root

Name	Description	Result
	Parameters <ul style="list-style-type: none"> • Object position: Object where the X and Y coordinates are configured • String state: Position state 	
setBackgroundPositionY(position, state)	Sets the background position on the vertical axis of the page. Parameters <ul style="list-style-type: none"> • Object position: Object where the X and Y coordinates are configured • String state: Position state 	Root
setBackgroundRepeat(repeat, state)	Sets the page background repeat configuration. Parameters <ul style="list-style-type: none"> • String repeat: Repetition type • String state: Repetition state 	Root
setBackgroundSize(size, state)	Sets the size of the page background. Parameters <ul style="list-style-type: none"> • String size: Background size • String state: Size status 	Root
setPadding(padding, state)	Sets the page padding space. Parameters <ul style="list-style-type: none"> • String padding: Padding space • String state: Padding status 	Root
setPaddingBottom(paddingBottom, state)	Sets bottom page padding space. Parameters <ul style="list-style-type: none"> • String paddingBottom: Padding space • String state: Padding status 	Root
setPaddingLeft(paddingLeft, state)	Sets left page padding space. Parameters <ul style="list-style-type: none"> • String paddingLeft: Padding space • String state: Padding status 	Root
setPaddingRight(paddingRight, state)	Sets right page padding space. Parameters	Root

Name	Description	Result
	<ul style="list-style-type: none"> String paddingRight: Padding space String state: Padding status 	
setPaddingTop(paddingTop, state)	<p>Sets top page padding space.</p> <p>Parameters</p> <ul style="list-style-type: none"> String paddingTop: Padding space String state: Padding status 	Root
setVisible(visible)	<p>Sets if the page is visible.</p> <p>Parameter</p> <ul style="list-style-type: none"> Boolean visible: Determines whether it is visible or not 	Root

3.7.8.4.14. Authentication

Access methods are used to retrieve items or access specific functionalities.

Access Method

Name	Description	Result
\$d.createGoogleLoginButton(config, container, onLogin, onNewUser)	<p>Creates the Google login button in a specific container. After successfully executing the login, it redirects to the home page configured in the application where it is running.</p> <p>Parameters</p> <ul style="list-style-type: none"> Object config: Object specified by Google to configure the button DomElement string container: Container where the Google button will be displayed Callback onLogin: Function that is executed when the user logs in Callback onNewUser: Function that is executed when a new user is registered 	-
\$d.createGoogleLoginButton WithoutRedirection(config, container, onLogin, onNewUser)	<p>Creates the Google login button in a specific container. After successfully executing the login, it does not perform any redirection.</p> <p>Parameters</p>	-

Name	Description	Result
	<ul style="list-style-type: none"> • Object config: Object specified by Google to configure the button • DOMELEMENT string container: Container where the Google button will be displayed • Callback onLogin: Function that is executed when the user logs in • Callback noNewUser: Function that is executed when a new user is registered 	
\$d.logout()	Logs out of the current user.	-

3.7.8.4.15. Miscellaneous

Access methods are used to retrieve items or access specific functionalities.

Access Method

Name	Description	Result
\$d.createSelect(configuration, container)	<p>Creates a selection list, within a container, with the values specified in the configuration sent by parameter.</p> <p>Parameters</p> <ul style="list-style-type: none"> • Object configuration: List configuration object • DOMELEMENT string container: Container where the list will be displayed <p>Example</p> <pre>let itemList = [{ value: 'Argentina' id: '1' }, { value: 'Chile:', id: '2' }, { value: 'Brazil', id: '3' },],</pre>	UpdateSelectFunctions: Object with functions

Name	Description	Result
	<pre> { value: 'Paraguay', id: '4' }]; \$d.createSelect({ idKey: "id", valueKey: "value", list: itemsList, test_id: "types", onHandleSelectedItem: handleChangeTypeFilter, placeholder: 'Select Item' }, 'container1'); function handleChangeTypeFilter(value) { console.log("value", value); } </pre> <p>Notes</p> <ul style="list-style-type: none"> • The format of the list must be as specified. • The value of the idKey attribute is the identifier of each item. • The value of the valueKey attribute is the attribute on which to filter. • In the onHandleSelectedItem attribute, the function to be executed is sent when an item is selected. In the example, the function <code>handleChangeTypeFilter</code> was passed, which prints the value on the screen. 	
<p><code>\$d.createSelectMultiple(configuration, container)</code></p>	<p>Creates a multiple selection list, within a container, with the values specified in the configuration sent by parameter.</p> <p>Parameters</p> <ul style="list-style-type: none"> • Object configuration: List configuration object • <code>DOMElement</code> string container: Container where the list will be displayed <p>Example</p> <pre> let itemsList = [{ value: 'CRM', id: '1' }]; </pre>	<p>UpdateSelectMultipleFunctions: Object with functions</p>

Name	Description	Result
	<pre>function showSelect() { componentSelect = \$d.createSelectMultiple({ idKey: "id", valueKey: "value", list: itemsList, selects: selectedApps, placeholder: " Select application...", functions: { onChange: handleChan- geTypeFilter, }, }, "selectApps"); function handleChangeTypeFil- ter(value) { console.log("value ",value);} } }</pre>	
<p><code>\$d.createTextEditor(configuration, container)</code></p>	<p>Creates a rich text editor within a specified container.</p> <p>Parameters</p> <ul style="list-style-type: none"> • Object configuration: List configuration object • DOMELEMENT string container: Container where the list will be displayed <p>Example</p> <pre>let textEditorProps = { initialValue: "text", onChange: handleChangeTex- tEditor, options: ["blockType", "fontFamily", "fontSize", "textAlign", "colorPicker", "inline", "history",], inlineOptions: ["bold", "ita- lic", "underline", "striketh- rough"], blockTypeOptions: ["Normal", "H1", "H2", "H3", "H4", "H5", "H6"],</pre>	-

Name	Description	Result
	<pre> fontFamilyOptions: ["Arial", "Brush Script MT, cursi- ve", "Calibri", "Courier New", "Georgia", "Lucida Sans Typewriter, monospace", "Roboto Medium", "Roboto", "Tahoma", "Times New Roman", "Trebuchet MS",], }; \$.createTextEditor(textEditorPro ps, "container1"); </pre>	
<code>\$.getAttributeDataType(idElement, attributeName)</code>	<p>Gets the attribute data sent by parameter of a given element.</p> <p>Parameters</p> <ul style="list-style-type: none"> String idElement: Element identifier String attributeName: Name of the attribute to show <p>Possible Values: "value" "editable" "visible"</p>	String
<code>\$.getCurrentBreakpoint()</code>	Gets the current breakpoint.	String "DESKTOP" "TABLET" "MOBILE"

3.7.8.4.16. Examples of SDK Use

In this SDK use example, a rule is executed to add a new comment in a restaurant app.

It consists of associating an `onClick` function with a comment button, and its objective is to execute a rule to add a comment about the application.

The rule parameters are obtained from an input element entered by the logged-in user and from a page parameter.

After executing the rule, the callback method is triggered where the result is processed. If there is no error, it clears the value of the input element and updates the repeater iterating over the comments.

```

function inputComment_onClick(event) {
  const comment = $.getInput("newComment").getValue();
  const user = $.getCurrentUser().getUsername();

```

```

const idMenu = $d.getParameter("idMenu").getValue();
$d.executeRule("menuCommentSDK", 1, {
    commentDescription: comment,
    nameUser: user,
    menu: idMenu,
}, callback);

function callback(result, error) {
    $d.getInput("newComment").setValue("");
    $d.getRepeater("repeater1").refreshRepeater();
}
}

```

3.7.8.5. Best Practices

The best practices for the [pages modeling](#) in **Deyel** consist of a set of recommendations, to be met whenever possible.

They allow to build clearer and more understandable page models, standardizing the use of the graphic elements that compose them.

On the one hand, good practices recommended for the construction of pages at a general level are described and, on the other hand, some specific ones associated with the page modeler of **Deyel**.

- [General Considerations](#)
- [Modeling](#)

3.7.8.5.1. General Considerations

Structure and patterns specific to each device

For each device, the elements have specific characteristics such as headers, footers, sidebars, menus, modals and buttons, among others.

- These features or patterns that solve common interaction problems in interfaces must be reusable to ensure consistency and an effective user experience. In **Deyel** is solved with the concept of reusable pages.

Visual consistency

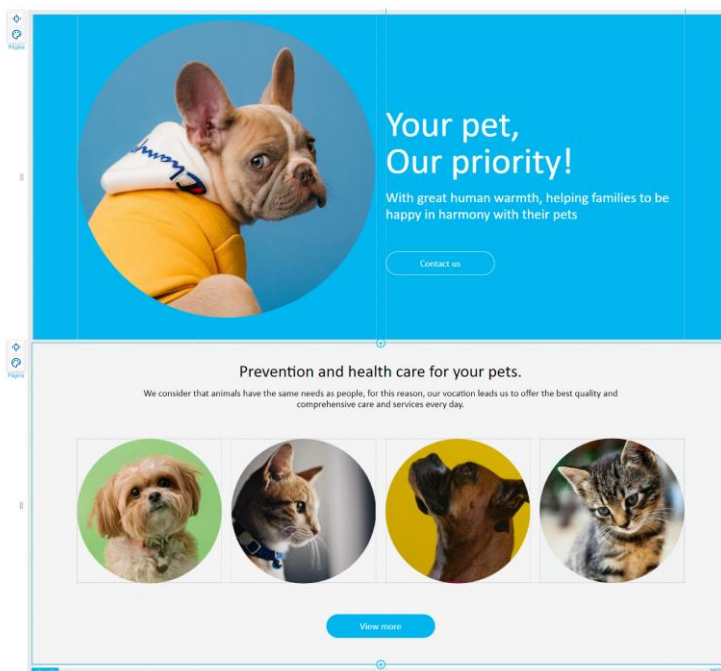
- The user interface must have visual consistency, to do so, graphic backgrounds must be reviewed, such as the company's site, in order to maintain color palettes, fonts, sizes and image treatment.

3.7.8.5.2. Modeling

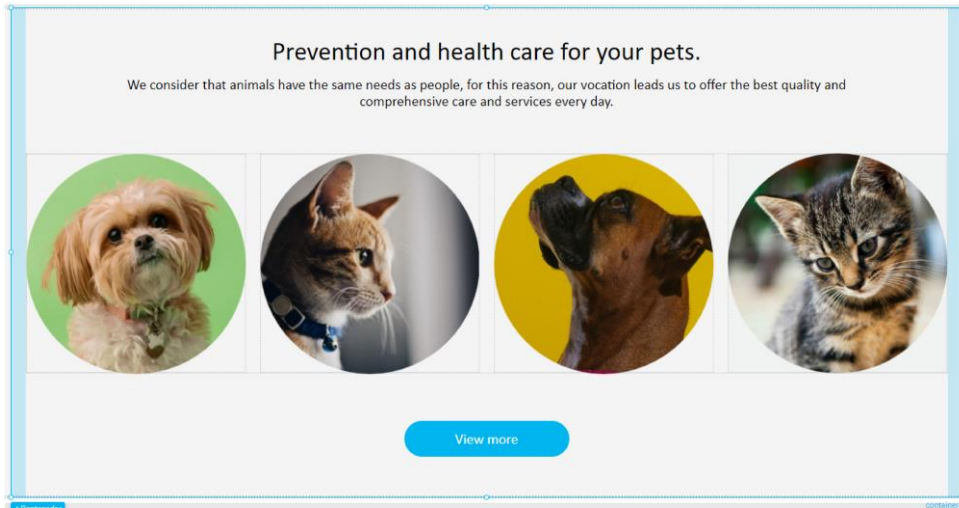
Below are some good practices that should be considered when modeling pages, aimed at information blocks, margins, breakpoints, images, fonts, buttons, padding spaces and docking, among others.

Information blocks in top elements

- In the user Interface, group and generate blocks of information within sections for greater control of the elements that make up each section and thus facilitate the necessary adjustments for each breakpoint.

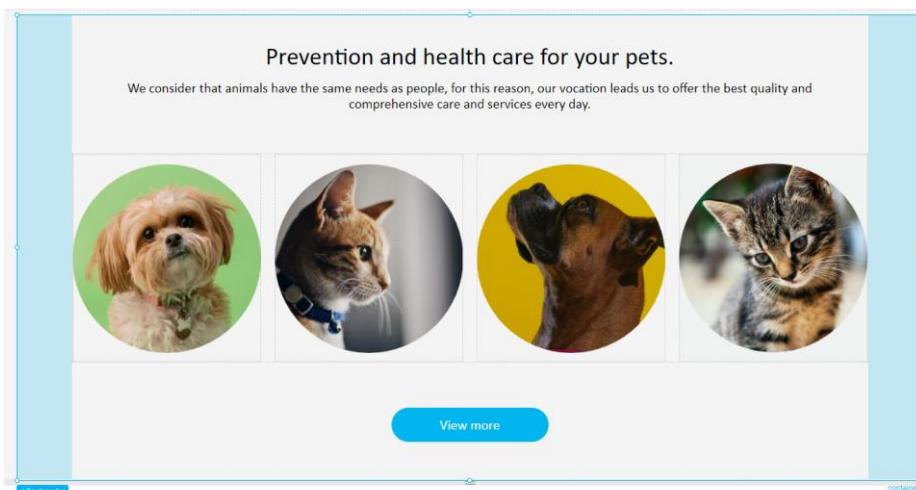


- The same applies to blocks of information inside containers.



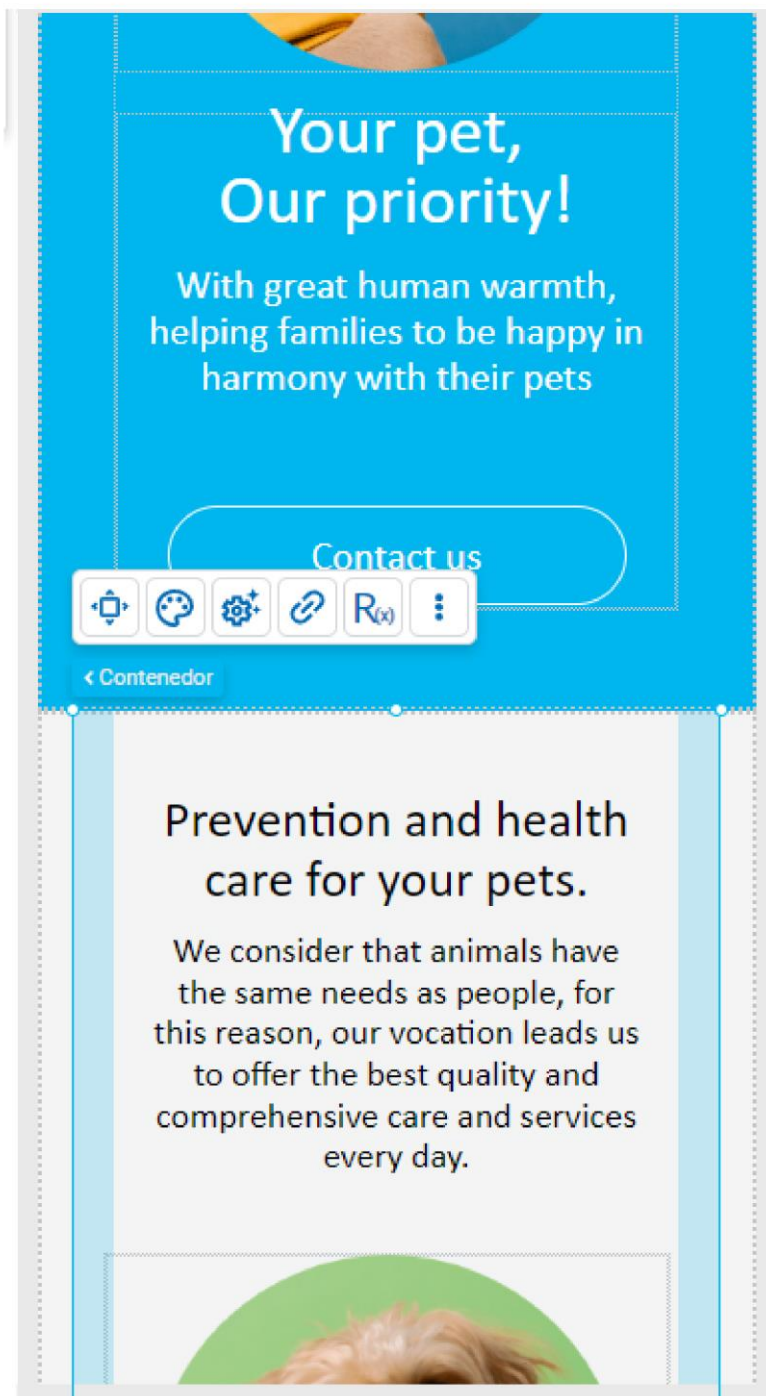
Set width to container

- Set a specific width to a container allows working with more facilities the elements that it contains. In this example the container has specific width and all the elements it contains have their width at 100%. This makes it easier to adjust the display of elements at the remaining breakpoints.



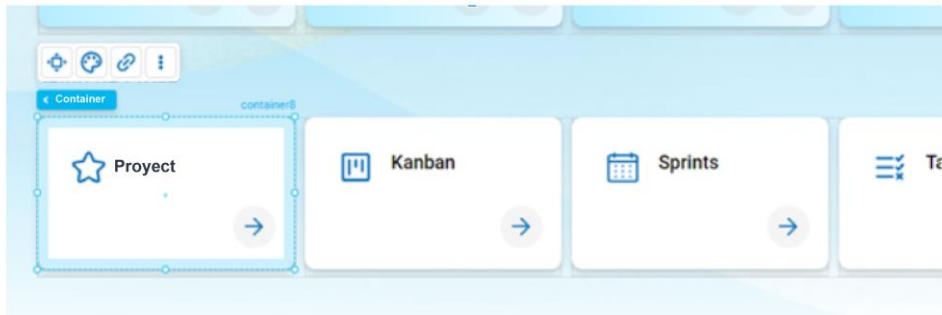
Consistent margins

- Working with consistent margins between sections or groups of information generates visual order and the necessary separation of content.



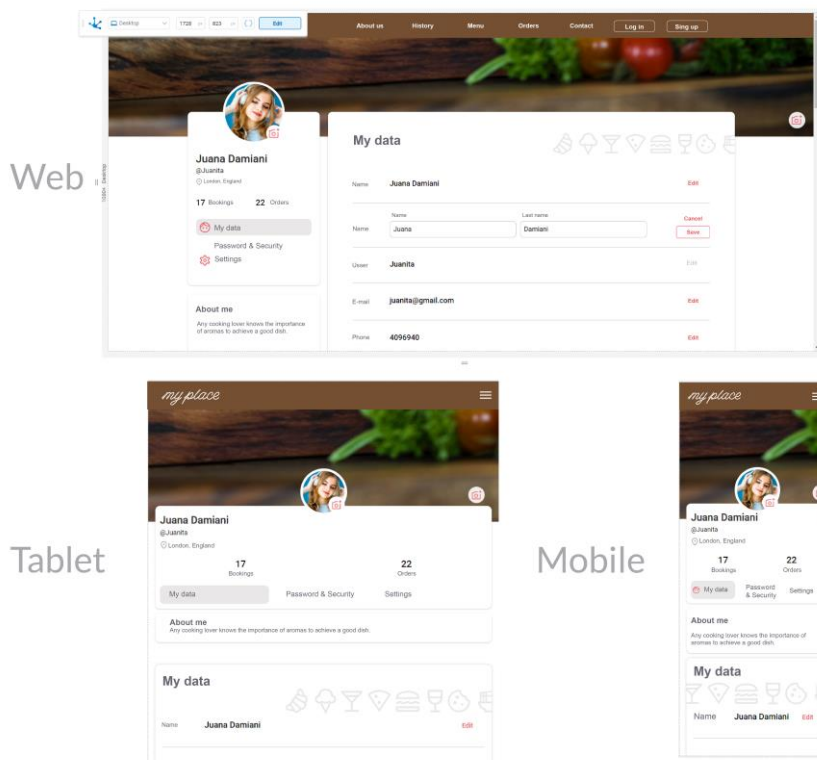
- Likewise, within sections and containers, both margins and padding spaces should be consistent.
- Equality of margins must be maintained on similar elements when they are repeated in the modeling and are not within a repeater.

- For example, to model exactly the same cards, a good tip is to adjust the first card and once you achieve the desired design, copy and paste to finally edit each one in particular.



Control breakpoints gradually by section

- When modeling, as the content grows, it is advisable to work on the breakpoints gradually. This makes it easier to control the correct position of the elements and adjust the breakpoints as the modeling progresses.

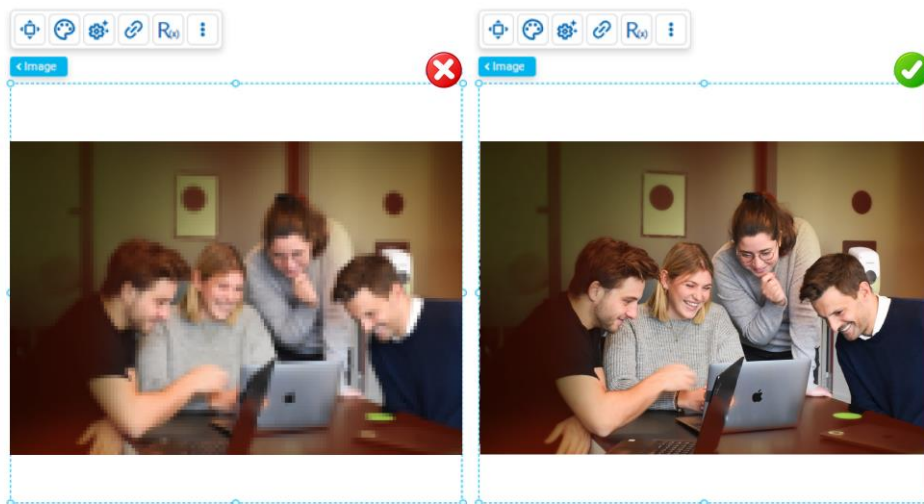


Images: sizes and resolutions

- When modeling an image element, the size at which it will be used on the page must be equal to or smaller than the original.

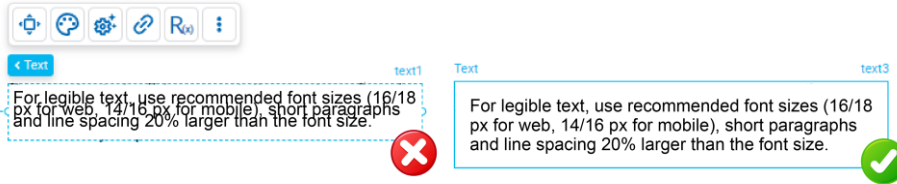
For example, if the size of a modeled image is small and it is used as the background of a section on a desktop computer, it will not look sharp and the result will not be as expected.

- Ideally, images should be in jpg or png format and use a resolution of 72dpi, to optimize the weight of the page.
- For icons, the best is the svg format because it does not lose definition, for photos the best is jpg because the files are lighter and if the user wants to use transparency, the use of png is recommended.
- Images must be optimized for use on the web, the most common formats are JPG, PNG, GIF and their resolution must be 72 dpi.
- The JPG format is ideal for photographs, PNG for images with transparency, GIF for short animations. On the other hand, for icons or logos, the use of SVG is recommended since they can be scaled without loss of definition.
- There are new image formats such as WebP and AVIF that offer greater compression and quality images with lighter files. While most browsers support them, it is advisable to check compatibility before use.



Source

- When modeling a text element, it must be able to be read clearly. To do this, it is advisable not to use sizes lower than those recommended for both a web interface (for text body 16/18 px) and for a mobile interface (for text body 14/16 px).
- Blocks of text should be short and concise since long paragraphs are difficult to read on the screen. If they are too wide they make reading difficult.
- The line spacing must be adequate, the recommended proportion is 20% larger than the font size.



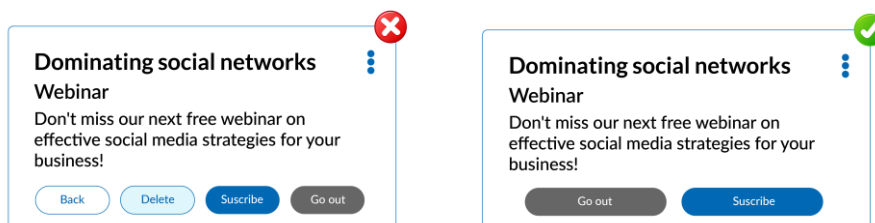
Contrast

- We must always ensure a good contrast between the text and the background to ensure readability.



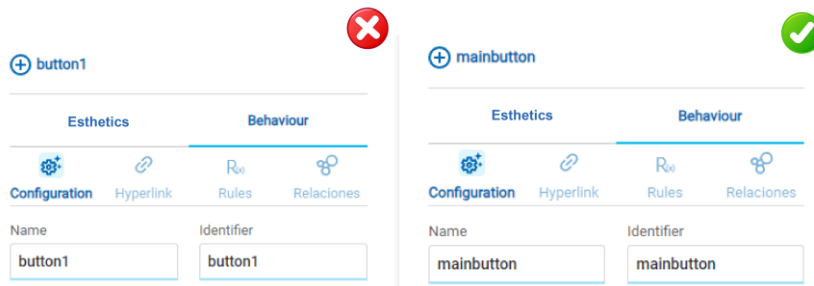
Buttons

- The user should not add too many buttons per groups of information and they should differentiate which one corresponds to the main call to action.
- Try to generate the fewest steps and clicks in the interaction with the user.



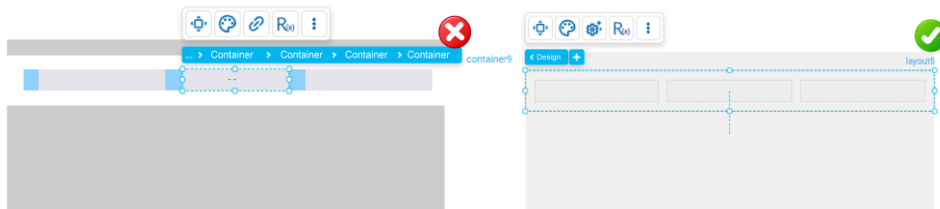
Element names and identifiers

- The identifiers and names of the elements of a page must be descriptive, allowing easy queries when using the layers menu and in embedded rules modeling. It can also be useful when modeling behavior through the use of scripting.
- The names and identifiers of elements on a page must be descriptive. Names are used to reference elements within the modeling while identifiers are used when referencing fields in the Deyel SDK for JavaScript. When using the layers facility, items can be searched by both name and identifier.



Simple structure

- Avoid excessive nesting of elements on a page. For example, adding unnecessary containers makes modeling difficult. If a container occupies the same size as the section, container or item that contains it, then it can be removed.



Padding

- Align elements within a container using "padding", rather than manually. Besides it allows to control spaces easily.

For example, use:



▼ Padding ☰

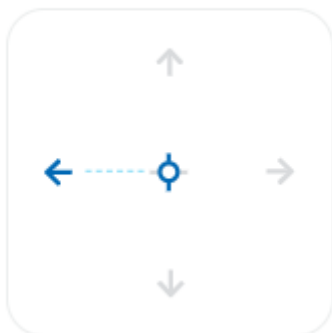
Top	Bottom	Left	Right
0 px	0 px	0 px	0 px



Docking

- Dock the elements to the side that must remain fixed when it changes size.

▼ Docking

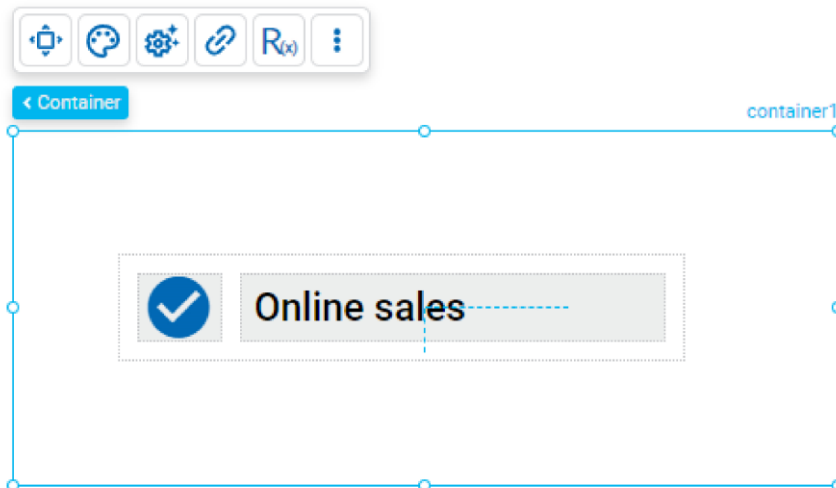


Alignment icons can also be useful, to dock to a specific position and automatically remove the margin if necessary.



Elements in the same row

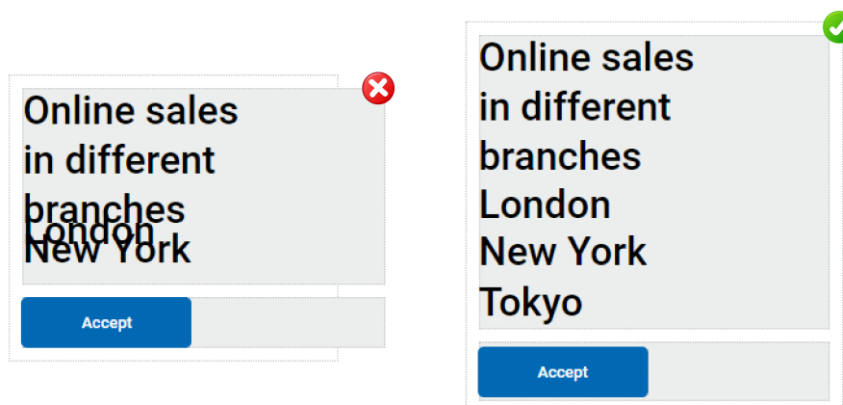
When modeling two or more horizontally oriented elements it is recommended to use a row type “Layout” element to contain them. This allows the page to be responsive and these elements do not overlap.



Elements in a same column

- When modeling two or more vertically oriented elements it is recommended to use a column type “Layout” element to contain them.

If there are items within the design that are of variable size, the height of the item must be indicated as “automatic”. This ensures they do not overlap.



Minimum size

- The “Minimum Height” and “Minimum Width” properties of an element should be modeled to prevent its content from overflowing or displaying undesiredly if the size of the browser window is reduced. This improves the user experience and ensures that the page layout remains readable and functional across different browser window sizes.

Size

Width	Minimum Width	Maximum Width
25.63 %	140 px	auto
High	Minimum Height	Maximum Height
400 px	160 px	auto

3.7.9. Dashboards Modeling

The dashboard modeler is a tool that allows to model in an easy and intuitive way the applications dashboards and to publish them. The indicators included in the dashboards are modeled with the indicator modeler.


From the portal, each business user can design its own dashboard, with the personalized information and their use preference, or they can use the dashboards created by the IT modelers.


The screenshot shows the 'Dashboard Modeler' interface. At the top, there is a navigation bar with various icons and a search bar. Below the navigation bar, there is a table with the following columns: Name, Application, Type, State, Update, and Update User. The table contains 11 rows of dashboard items.

Name	Application	Type	State	Update	Update User
Address Type	Global	Value List	●	18/11/2022 17:22	[User Icon]
Account	Global	Formulario Agil	●	18/11/2022 17:20	[User Icon]
State of the Accounts	Global	Value List	●	18/11/2022 17:20	[User Icon]
Social Network	Global	Value List	●	18/11/2022 17:20	[User Icon]
Phone Types	Global	Value List	●	18/11/2022 17:20	[User Icon]
Mail Types	Global	Value List	●	18/11/2022 17:20	[User Icon]
Origins	Global	Value List	●	18/11/2022 17:20	[User Icon]
Industries	Global	Value List	●	18/11/2022 17:20	[User Icon]
Customer	MyApp	Form	●	18/11/2022 17:19	[User Icon]
Opportunity	MyApp	Form	●	18/11/2022 17:19	[User Icon]

The general characteristics of the dashboards modeling and the elements that compose it are described in the topics:

- [Modeling Facilities](#)
- [Dashboard Properties](#)

A new dashboard can be created from the icon  corresponding to the [context menu](#).

- From the icon  displayed when hovering over the context menu.
- From the menu displayed with the option "Dashboard".

An existing dashboard is modified by selecting it from the grid with the "Open" button.

3.7.9.1. Modeling Facilities

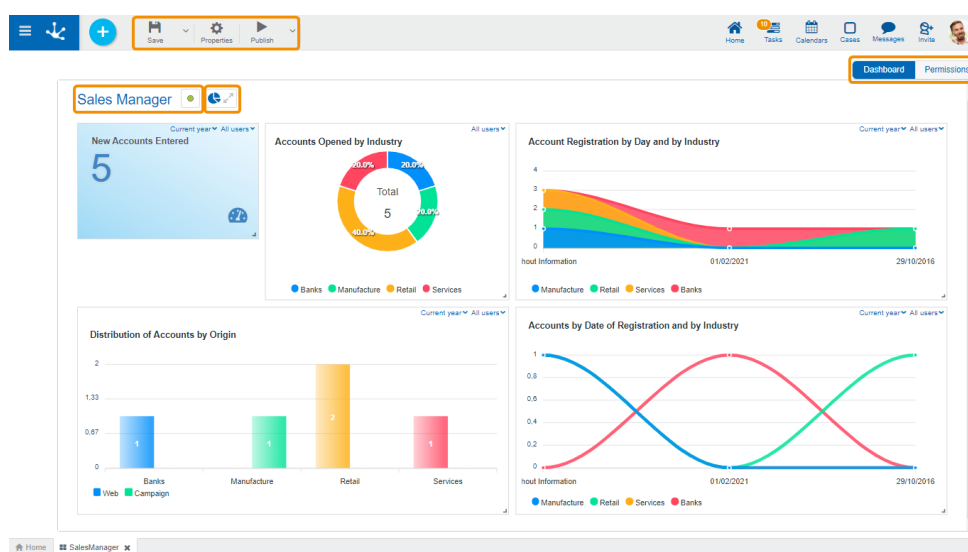
General characteristics of this modeler are specified below.

New Dashboard

The IT modeler user can define application dashboards. After being published it is available for users to have permission in an application or, in case of being more than one application dashboard, to have the specific permission.

Workspace Sections

- [Top Toolbar](#)
- [Design Options](#)
- Data Area
- Icon to Add Indicators
- Dashboard Body



Data Area

Contains the dashboard name and the [state](#) of the dashboard.

Icon to Add Indicators

Allows to [incorporate indicators](#) to the dashboard.

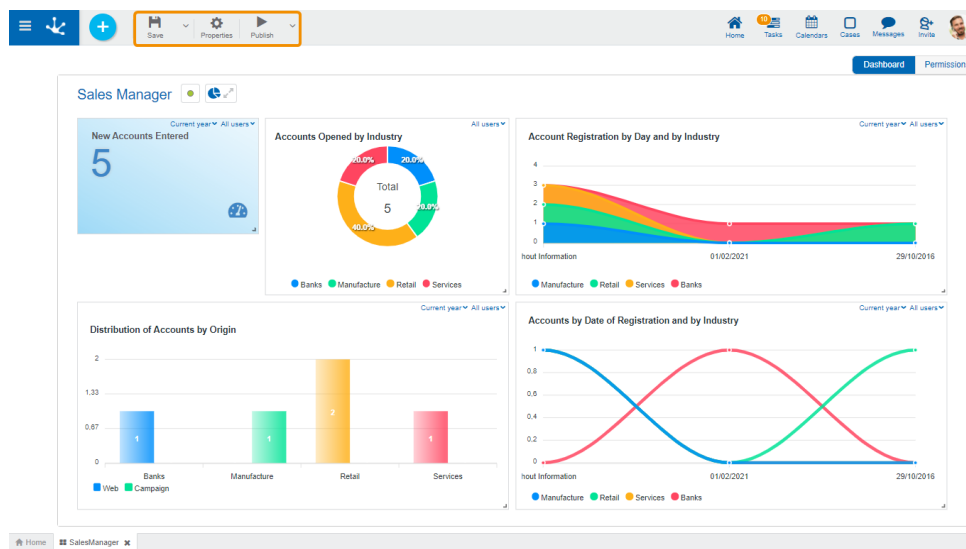
Body

In this section the published indicators that make up the dashboard are located. Its maintenance is done from the modeling option "[Dashboard](#)".

3.7.9.1.1. Top Toolbar

This toolbar contains icons and submenus from which you can perform operations on the object. Depending on its [state](#), some options may be disabled.

The bar is displayed on the toolbar of **Deyel**.



Save

This icon allows to save the object in the repository of **Deyel**, leaving its state as "Draft" or "Modified". If certain conditions are met, the modeler user receives a message indicating that the operation was performed correctly, otherwise they receive an explanatory message.

Main Conditions

- The application of the object must exist.
- The name must be unique in the application.
- The object must not be locked by another user.
- The object's permissions must exist.

To the right of the icon the option to open the [submenu](#).

Properties

Open the [dashboard properties](#) panel.

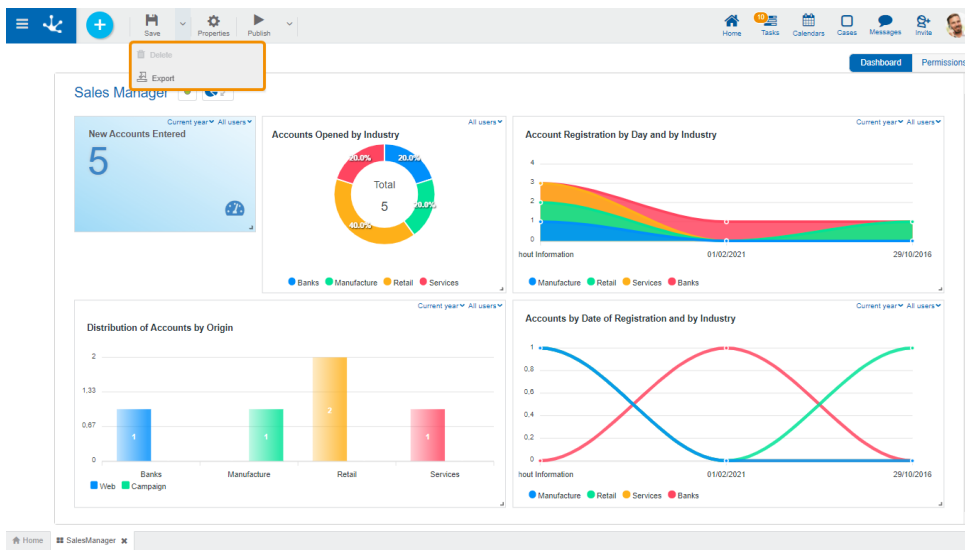
Publish

By means of this icon the object goes to "Published" state, after verifying a set of additional conditions to those of the "Save" operation. The modeling user receives the corresponding message, indicating the result of the operation.

To the right of the icon the option to open the submenu [submenu](#).

3.7.9.1.1.1. Save Submenu

This submenu is opened by pressing the icon immediately to the right of the icon corresponding to "Save".

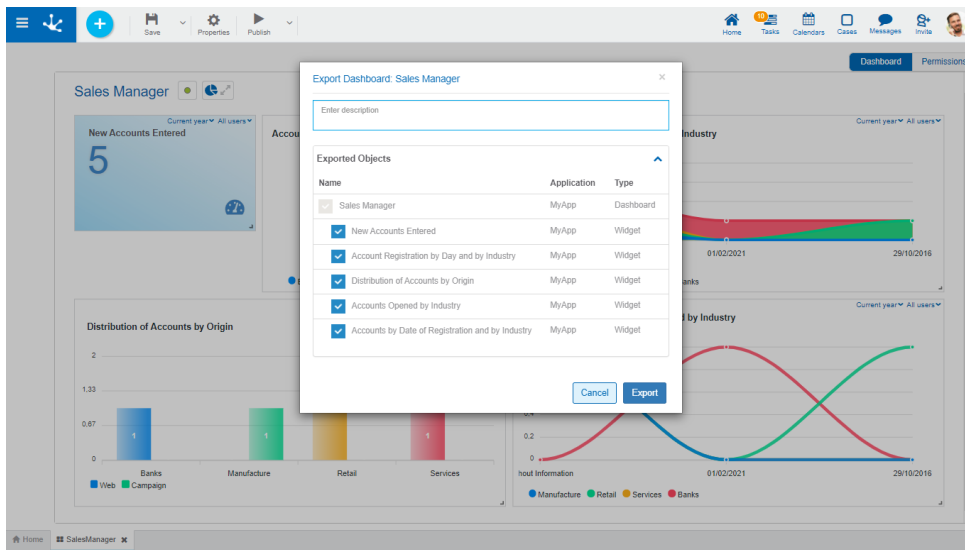


Delete

Allows to delete the object only if it is in "Draft" [state](#), closing the tab in which it is located and deleting it from the modeler's grid.

Export

This icon opens a window for the user to select and confirm the export of the object and the related objects included in it.



Description

In this property a text explaining the reason for the operation can be entered.

This text can be modified upon import and is displayed in the description column of the [export record](#).

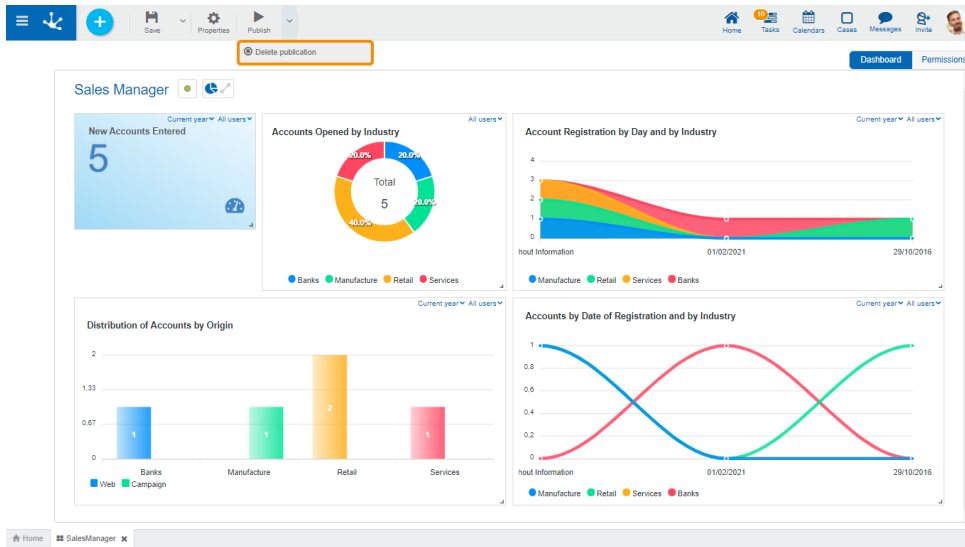
Exported objects

By expanding the container, the objects related to the dashboard being exported are shown. Objects not meant to be exported are unchecked.

You must press the "Cancel" button to leave the export without effect or the "Export" button to finish the operation.

3.7.9.1.1.2. Publish Submenu

This submenu can be opened by pressing the icon immediately to the right of the icon corresponding to "Publish".

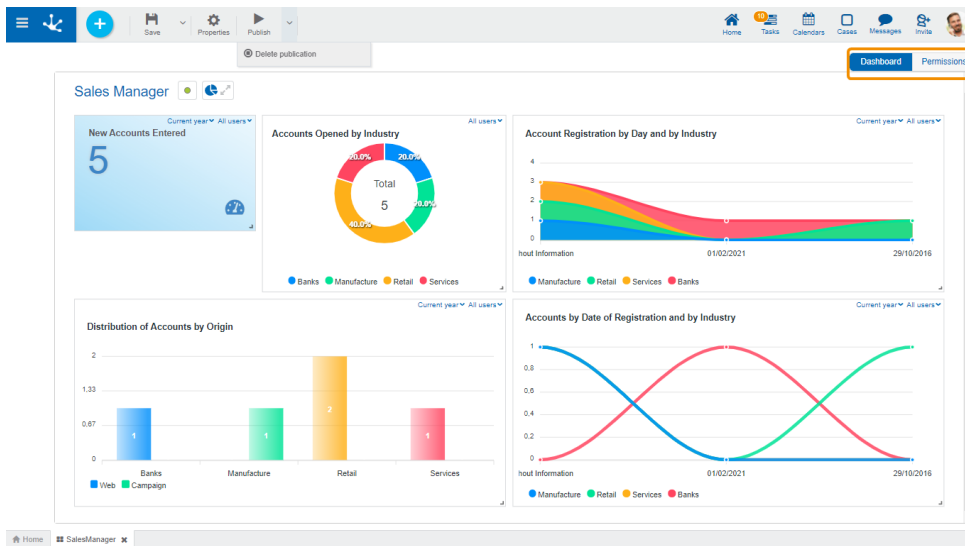


Delete Publication

Allows to leave the dashboard unavailable for use by returning it to the "Draft" [state](#).

3.7.9.1.2. Design Options

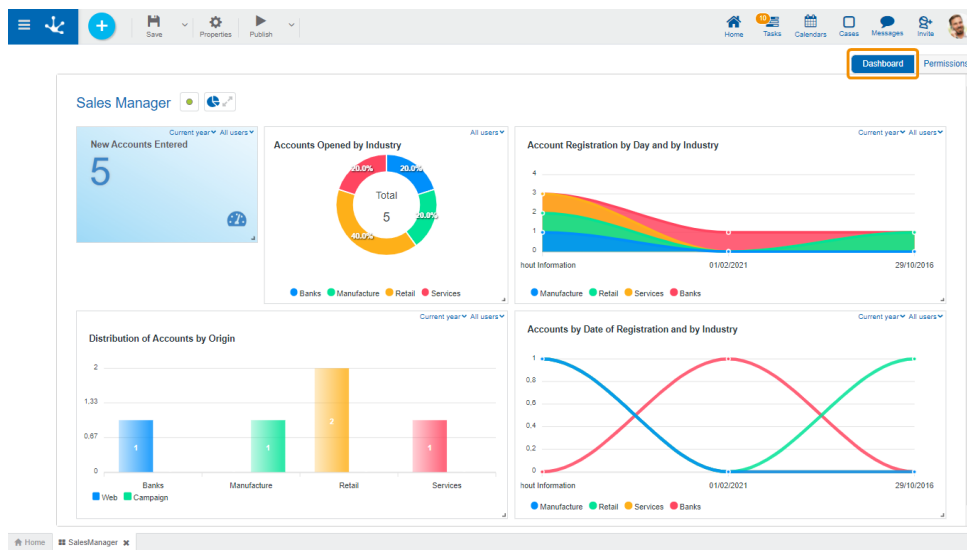
These options are presented on the upper right margin.



- [Dashboard](#)
- [Permissions](#)

3.7.9.1.2.1. Dashboard

In this section the maintenance of the dashboard widgets is done.



Operations

Add Indicators



Displays the gallery of published indicators on which the user has permission. For each indicator its name is visualized as well as its [icon](#). The "Search" option, in the gallery allows to filter indicators by the entered text.



Closes the indicators gallery.

Modify Indicators

The modifications the user applies on the indicators of a dashboard, have impact only in the visualization of such dashboard.

- Modify the indicators size. in order to secure the suitable visualization, each indicator is assigned a minimum size to respect.
- Modify the location of the dashboards in the dashboard area.
- Change user filters.
- Change date filters.
- Delete dashboard indicator.
- Add indicator.

Operation modify size and modify location are done with the function "Drag and Drop".

3.7.9.1.2.2. Permissions

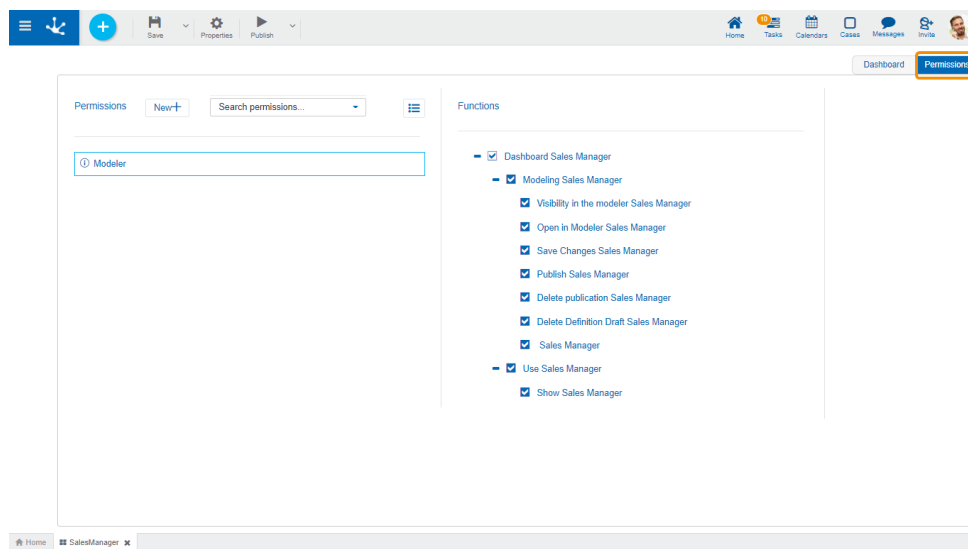
Allows to assign the [security functions](#) for use and modeling of the object to the existing permissions or to new permissions that the user creates, without having to go to the [permission](#) settings option from the menu.

Sections

- Permissions: Permissions to which object functions are assigned.
- Security Functions: Represents the total set of security functions, modeling and use of the object. Those that are marked are the ones included in the selected permission.

By default, all security functions for a new object are assigned to the permission [Modeler](#).

Users who are assigned the permissions have access to the functions included in it.



New+


Opens a panel to create a new permission and once created, the security functions included in it must be selected .

Search permissions...

Allows to select a permission from a list and enables the input of characters to filter the values in the list.



Opens the wizard to select a permission and once chosen, the necessary object security functions must be checked.

To unrelate a permission from the object, hover the cursor over the permission and press the icon . If there are functions selected for that permission, they must be unchecked in order to delete it.

Security Functions to Model the Dashboard


- Visibility: Allows to display the object in the Deyel modeler grid.
- Open: Allows to open the object from the Deyel modeler.
- Save: Enables the operation of saving modifications made to the object.
- Publish: Enables the operation of publishing the object leaving its state as "Published".
- Delete publication: Enables the operation of deleting the object publication leaving its state as "Draft".
- Delete draft definition: Enables the operation of deleting the object.
- Export: Enables the operation to export the object from the tools submenu of the expanded menu.

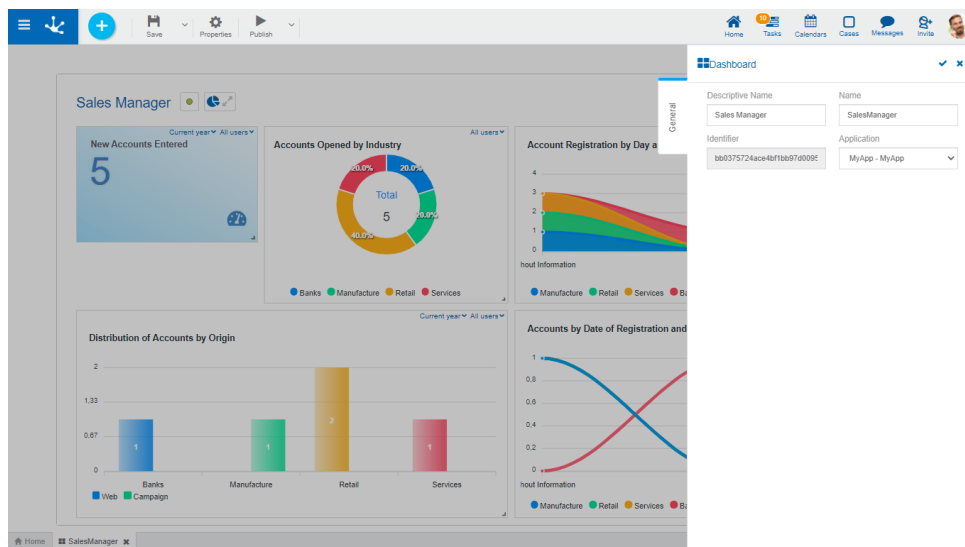
Security Functions to Use the Dashboard

- Show: Allows to show the object.

3.7.9.2. Dashboard Properties

The properties of the dashboards can be entered both at the time of their creation and when modifying an existing one.

Entering the dashboard properties panel is done using the icon  which is in the [top toolbar](#).



General Tab

Properties

Descriptive Name

It is the name visualized from the dashboard.

Name

It is the dashboard's name. It does not allow blanks or special characters. It is unique and required.

Identifier

It is the internal dashboard's name. It is automatically generated.

Application

Allows to define the application to which the object belongs. If no application is reported, the object is assigned to the application "Global".

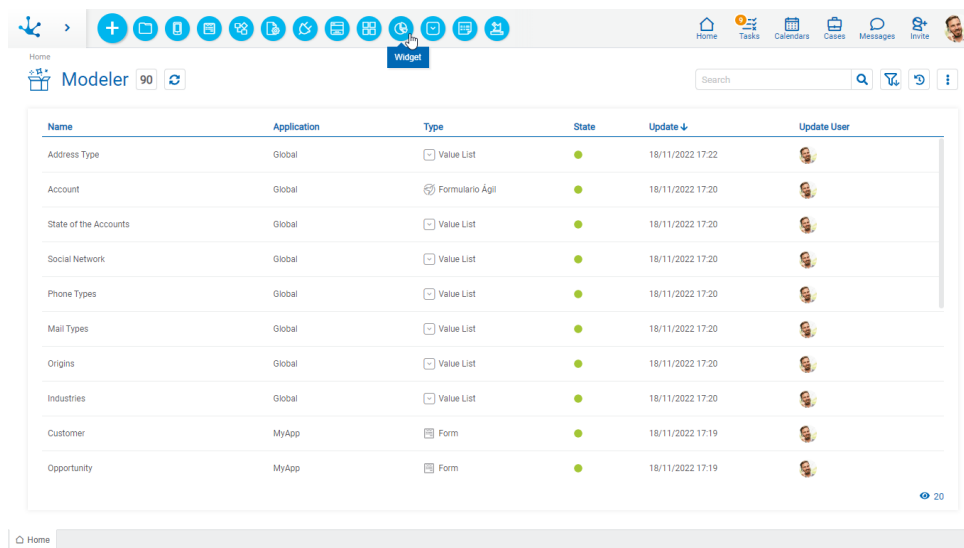
Actions

The icon ✓ is used to confirm the modifications made in the properties panel.

The icon ✕ is used to close the properties panel, if it was not previously saved, changes are discarded.

3.7.10. Widgets Modeling

The widgets modeling can be used to design and implement in an easy and intuitive way, the required widgets to display the relevant information for the user, as management issues, tasks and calendars.




The screenshot shows the Modeler application interface. At the top, there is a navigation bar with various icons, including a plus sign for adding widgets. Below the navigation bar, the main content area displays a table of widgets. The table has columns for Name, Application, Type, State, Update, and Update User. The widgets listed include Address Type, Account, State of the Accounts, Social Network, Phone Types, Mail Types, Origins, Industries, Customer, and Opportunity.

Name	Application	Type	State	Update ↓	Update User
Address Type	Global	Value List	●	18/11/2022 17:22	
Account	Global	Formulario Agil	●	18/11/2022 17:20	
State of the Accounts	Global	Value List	●	18/11/2022 17:20	
Social Network	Global	Value List	●	18/11/2022 17:20	
Phone Types	Global	Value List	●	18/11/2022 17:20	
Mail Types	Global	Value List	●	18/11/2022 17:20	
Origins	Global	Value List	●	18/11/2022 17:20	
Industries	Global	Value List	●	18/11/2022 17:20	
Customer	MyApp	Form	●	18/11/2022 17:19	
Opportunity	MyApp	Form	●	18/11/2022 17:19	

The general characteristics of the widgets modeling and the elements that compose it are described in the topics:

- [Modeling Facilities](#)
- [Widget Properties](#)

A new widget can be created from the icon  corresponding to the [context menu](#).

- From the icon 
- From the menu displayed with the option "Widget"

An existing widget is modified by selecting it from the grid with the "Open" button.

3.7.10.1. Modeling Facilities

General characteristics of this modeler are specified below.

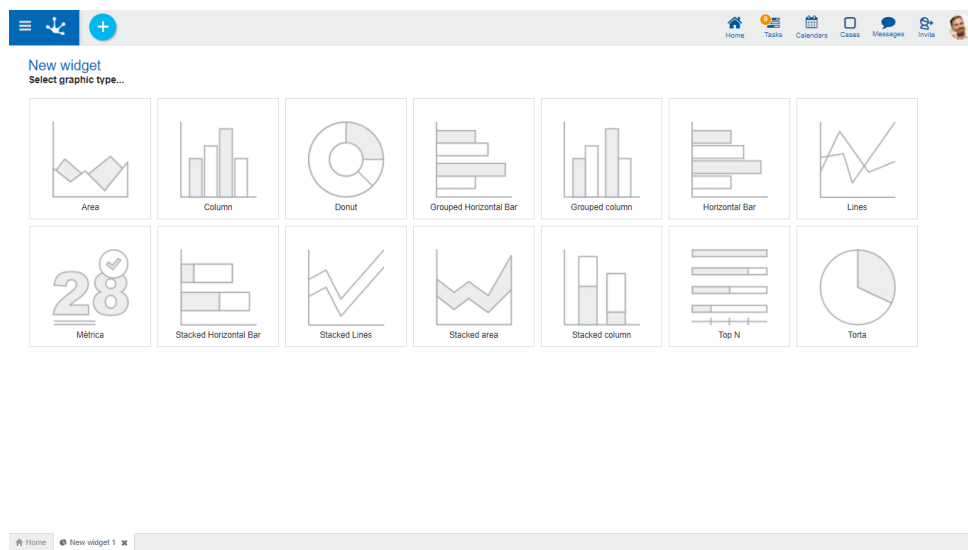
New Widget

The TI modeler user can design a new widget, which after being published, is available to be used on a dashboard.

Steps for Creating a New Widget

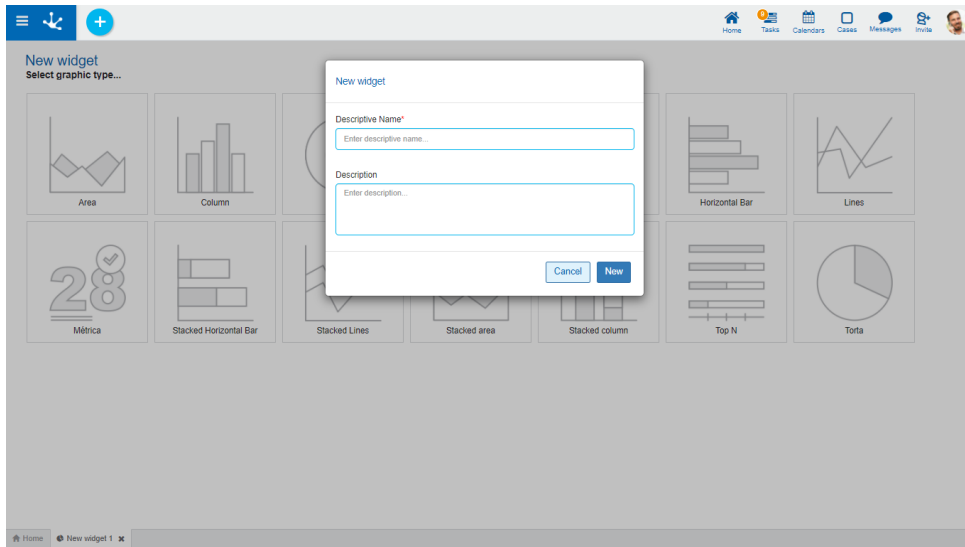
Step 1

Select the graphic type.



Step 2


Assign the name, optionally write the description and press the "Create" button.

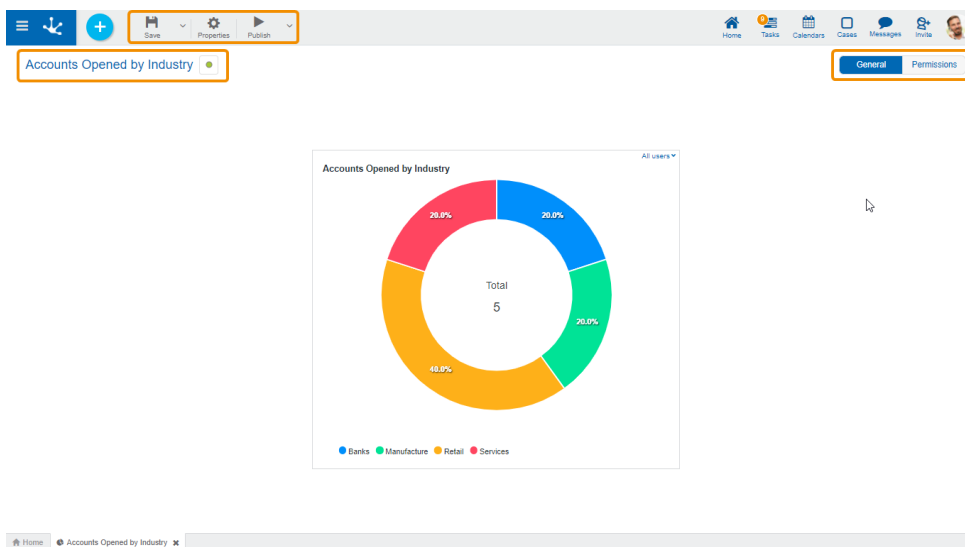


Step 3

Complete the widget using the sections of the workspace.

Workspace Sections

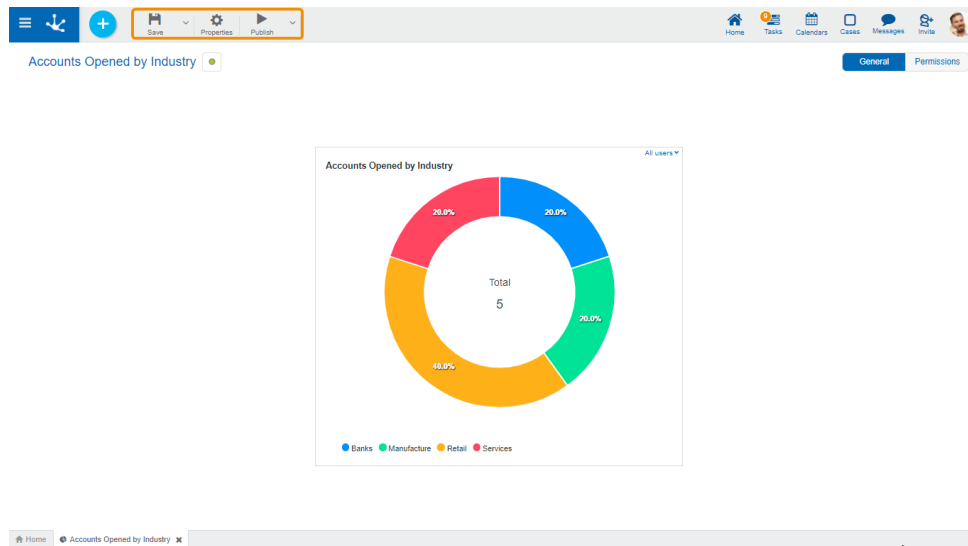
- [Top Toolbar](#)
- Widget Information
 - Name
 -  [State](#)
- [Design Options](#)



3.7.10.1.1. Top Toolbar

This toolbar contains icons and submenus from which you can perform operations on the object. Depending on its [state](#), some options may be disabled.

The bar is displayed on the toolbar of **Deyel**.



Save

This icon allows to save the object in the repository of **Deyel**, leaving its state as "Draft" or "Modified". If certain conditions are met, the modeler user receives a message indicating that the operation was performed correctly, otherwise they receive an explanatory message.

Main Conditions

- The application of the object must exist.
- The name must be unique in the application.
- The object must not be locked by another user.

To the right of the icon the option to open the [submenu](#).

Properties

Open the [widget properties](#) panel.

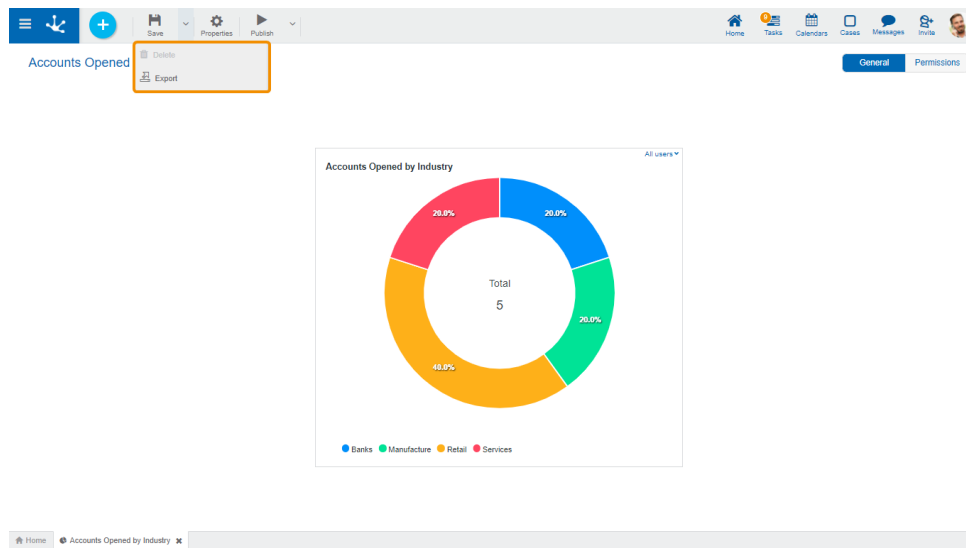
Publish

By means of this icon the object goes to "Published" state, after verifying a set of additional conditions to those of the "Save" operation. The modeling user receives the corresponding message, indicating the result of the operation.

To the right of the icon the option to open the [submenu](#).

3.7.10.1.1.1. Save Submenu

This submenu is opened by pressing the icon immediately to the right of the icon corresponding to "Save".

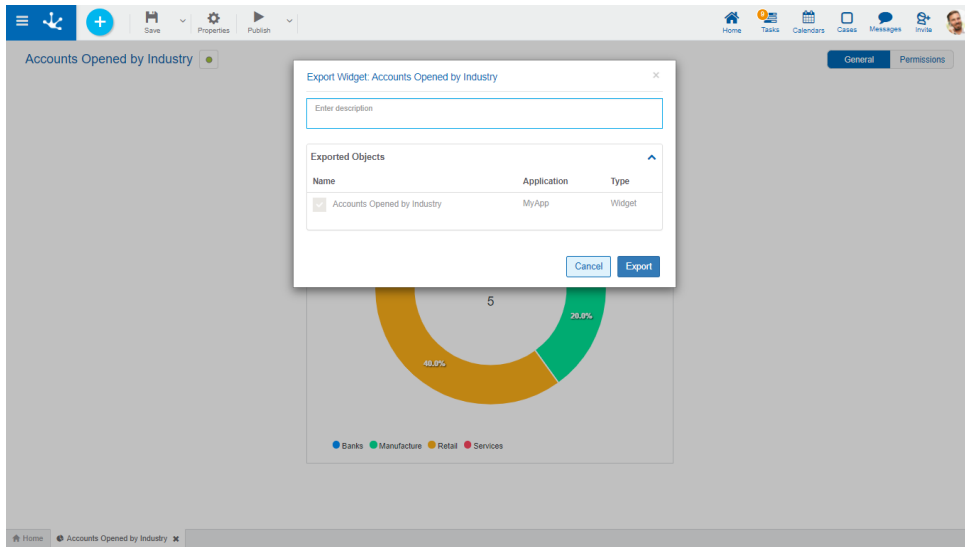


Delete

Allows to delete the object only if it is in "Draft" [state](#), closing the tab in which it is located and deleting it from the modeler's grid.

Export

This icon opens a window for the user to select and confirm the export of the object.



Description

In this property a text explaining the reason for the operation can be entered. This text can be modified upon import and is displayed in the description column of the [export record](#).

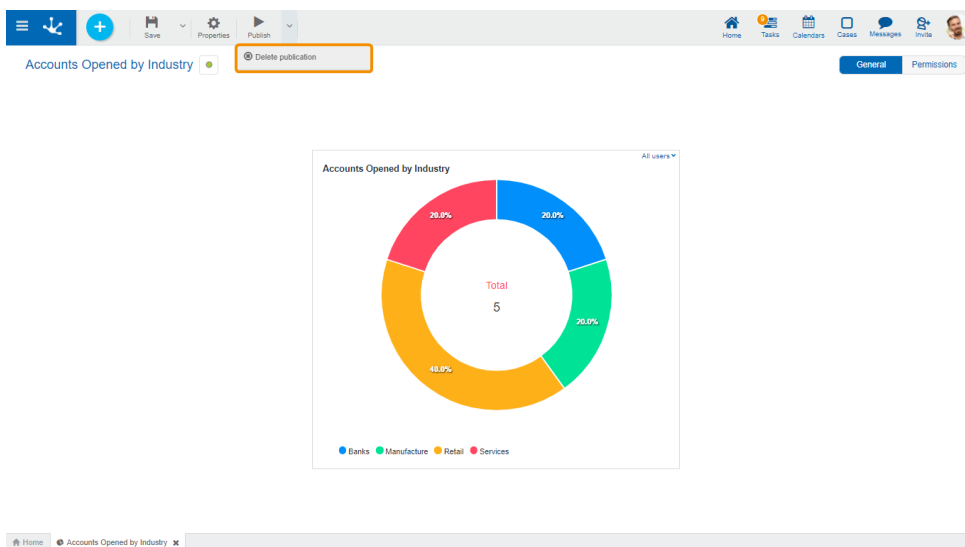
Exported objects

By expanding the container, the name of the object being exported is displayed.

You must press the "Cancel" button to leave the export without effect or the "Export" button to finish the operation.

3.7.10.1.1.2. Submenu Publish

This submenu can be opened by pressing the icon immediately to the right of the icon corresponding to "Publish".

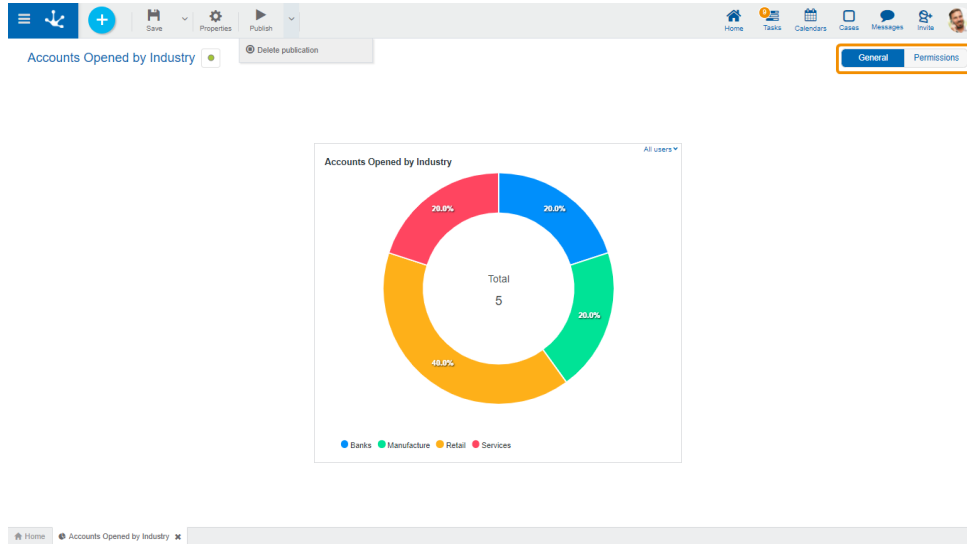


Delete Publication

Allows to leave the widget unavailable for use by returning it to the "[Draft](#)" state.

3.7.10.1.2. Design Options

These options are presented on the upper right margin.



- **General**
From this design option the widget is visualized and when hovering over it the data values that compose it can be seen.
- [Permissions](#)

3.7.10.1.2.1. Permissions

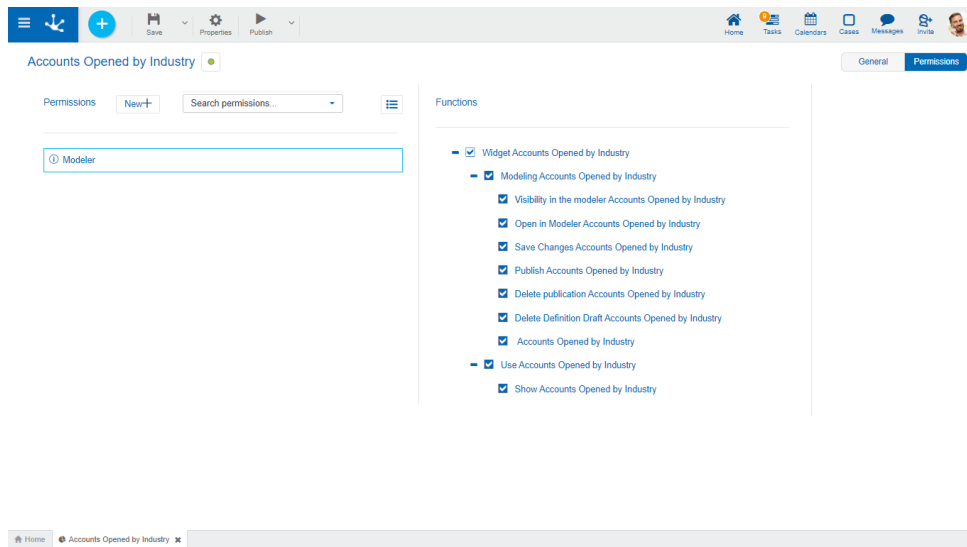
Allows to assign the [security functions](#) for use and modeling of the object to the existing permissions or to new permissions that the user creates, without having to go to the [permission](#) settings option from the menu.


Sections

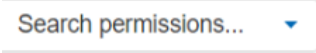
- **Permissions:** Permissions to which object functions are assigned.
- **Security Functions:** Represents the total set of security functions, modeling and use of the object. Those that are marked are the ones included in the selected permission.


By default, all security functions for a new object are assigned to the permission [Modeler](#).


Users who are assigned the permissions have access to the functions included in it.



 Opens a panel to create a new permission and once created, the security functions included in it must be selected .

 Allows to select a permission from a list and enables the input of characters to filter the values in the list.

 Opens the wizard to select a permission and once chosen, the necessary object security functions must be checked.

To unrelate a permission from the object, hover the cursor over the permission and press the icon . If there are functions selected for that permission, they must be unchecked in order to delete it.

Security Functions to Model the Widget


- Visibility: Allows to display the object in the Deyel modeler grid.
- Open: Allows to open the object from the Deyel modeler.
- Save: Enables the operation of saving modifications made to the object.
- Publish: Enables the operation of publishing the object leaving its state as "Published".
- Delete publication: Enables the operation of deleting the object publication leaving its state as "Draft".
- Delete draft definition: Enables the operation of deleting the object.
- Export: Enables the operation to export the object from the tools submenu of the expanded menu.

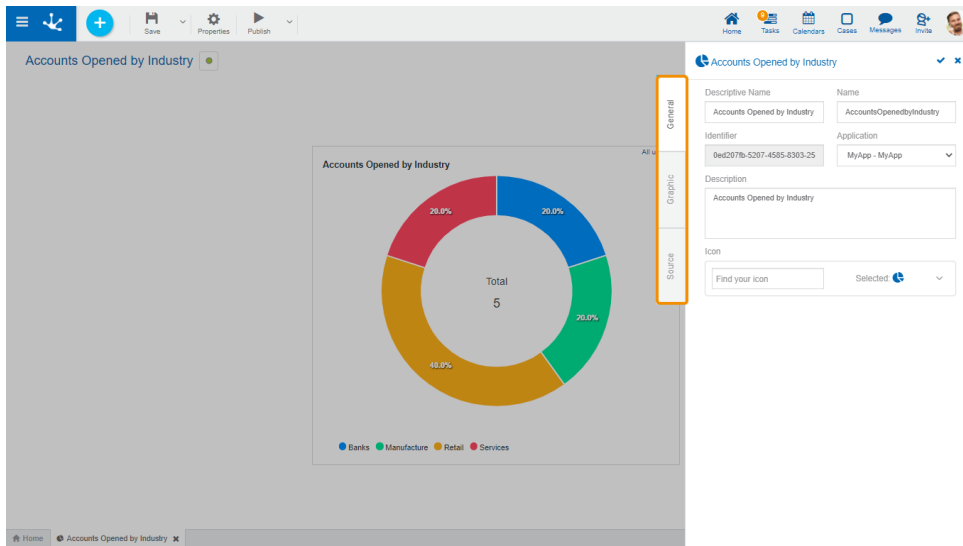
Security Functions to Use the Widget

Show: Enables the operation of showing the object.

3.7.10.2. Widget Properties

The properties of the widgets can be entered both at the time of their creation, and when modifying an existing one.

Entering the widget properties panel is done using the icon  which is in the [top toolbar](#).

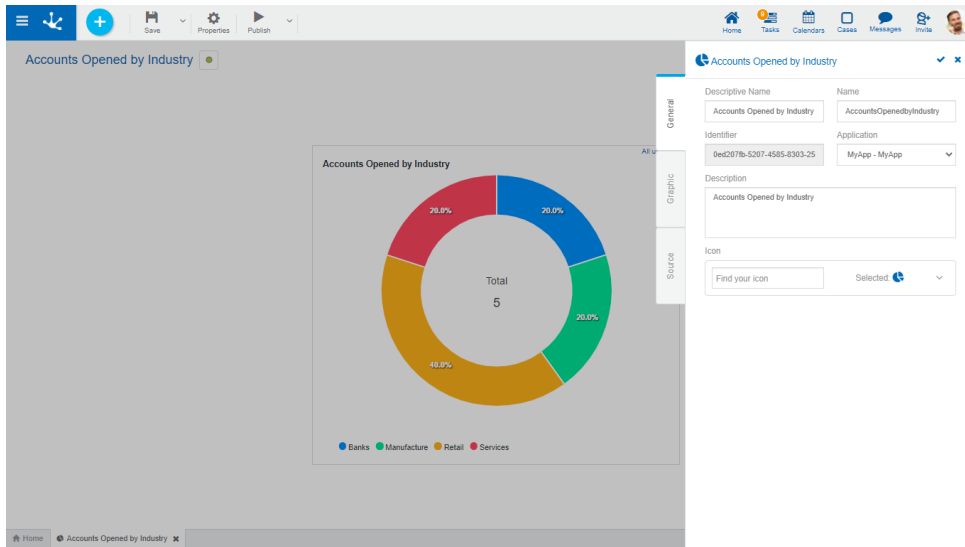


Tabs

- [General](#)
- [Graphic](#)
- [Source](#)

3.7.10.2.1. General

The properties panel is displayed on the right side of the widget modeler, where the first tab corresponds to general information.



Properties

Descriptive Name

It is the name used by users to reference the widget, for example in the modeler's grid and in the dashboards. It is required.

Name

It is internally used to reference the widget. It does not allow blanks or special characters. It is unique and required.

Identifier

Uniquely identifies the widget. It is automatically generated.

Application

Allows to define the application to which the object belongs. If no application is reported, the object is assigned to the application "Global".

Description

Text that describes the topic the widget allows to analyze, when incorporated into a dashboard.


Icon

Allows to incorporate an icon that visually identifies the widget when the operation is made [Add widget](#), from the use of the dashboard.

The list of available icons is displayed to select one of them. The list is reduced as the name is written on the text "Find your icon".

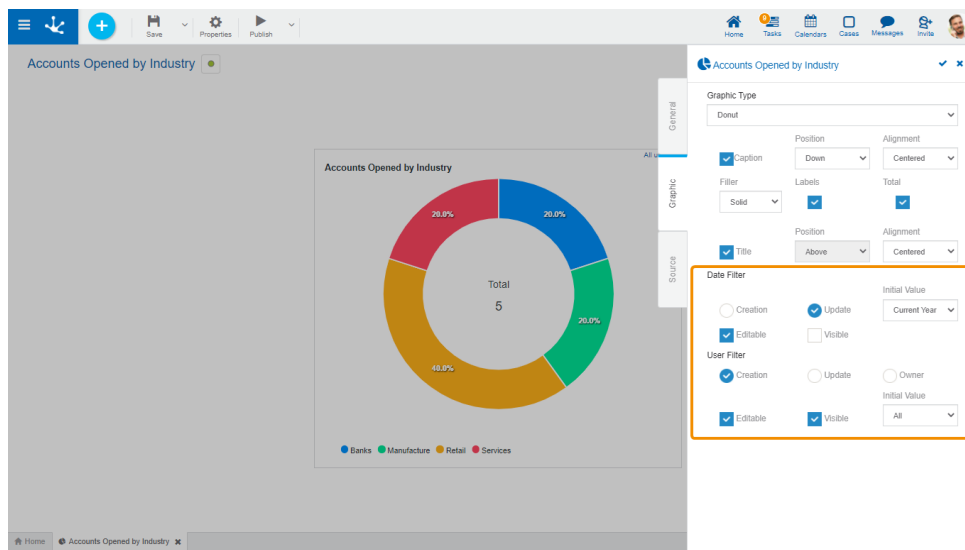
Actions

The icon  is used to confirm the modifications made in the properties panel.

The icon  is used to close the properties panel, if it was not previously saved, changes are discarded.

3.7.10.2.2. Graphic

The second tab of the side panel corresponds to the charts information. Allows to do the management of the properties of each chart type.



Properties

In addition to these shared properties, each type of widget has specific properties, which are detailed for each chart.

- [Metrics](#)
- [Areas](#)
- [Lines](#)
- [Bars and Columns](#)
- [Pies and Donuts](#)
- [Funnel](#)

Title

If this property is selected, when using the widget on a dashboard, the descriptive name is displayed. In this case it must also indicate:

Position

Allows to locate the title in the upper or lower sector of the widget area.

Justify

Allows to position the title to the right, center, or left, within the widget area.

Date Filter

Creation

Indicates that the date filter is applied on the creation date.

Update

Indicates that the date filter is applied on the modification date.

Editable

Indicates if the user can modify the filter conditions when using the widget from the dashboard, only if they have permission to do it.

If the user makes modifications and saves the dashboard, the new filter conditions established are maintained.

Visible

Indicates whether the filter is visualized or not when using the widget from the dashboard.

Initial Value

Indicates the value displayed from the dashboard by default.

Possible Values:

- Today
- From
- Last 7 days
- Current month
- Current year
- Last month
- Last year

User Filter

Creation

Indicates that the user filter is applied on the creation user.

Update

Indicates that the user filter is applied on the modification user.

Owner

Indicates that the user filter is applied on the instance owner.

Editable

Indicates if the user can modify the filter conditions when using the widget from the dashboard, only if they have permission to do it.

If the user makes modifications and saves the dashboard, the new filter conditions established are maintained.

Visible

Indicates whether the filter is visualized or not when using the widget from the dashboard.

Initial Value

Indicates the value displayed from the dashboard by default.

Possible Values:

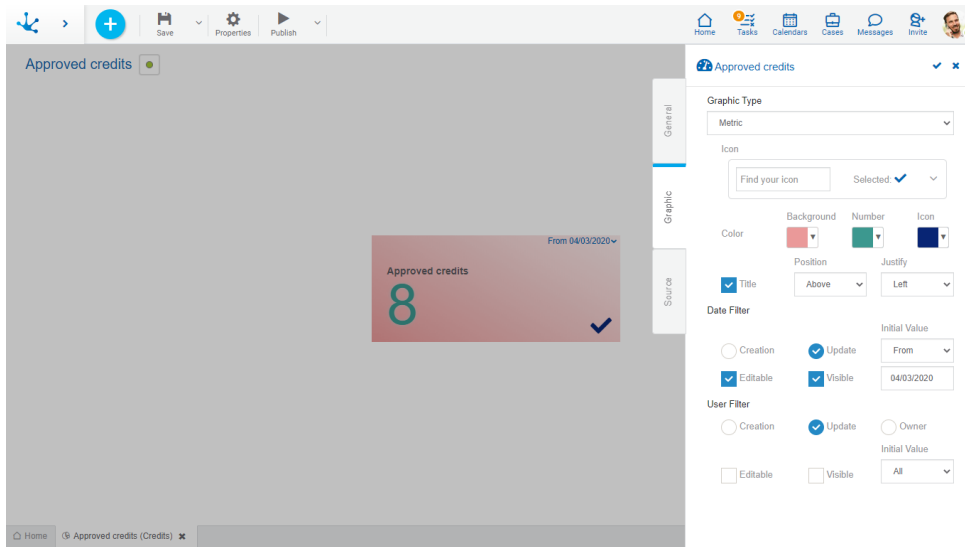
- Current user
- All
- My Team

My team is made up by all of the users that belong to the organizational unit for which the logged in user is the administrator and all users of a role for which they are coordinator.

3.7.10.2.2.1. Metrics

Metric type widgets represent a numerical value, a quantitative measure that is used to measure and compare.

To the [properties shared](#) by all the widgets those specific to metrics are added.



Properties

Icon

Allows to incorporate an image displayed within the widget. It is incorporated in the same way as the [icon](#) of the "General" tab.

Color

Background

Allows to modify the background color of the widget, selecting it from the color palette.

Number

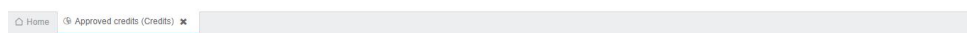
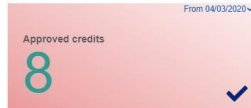
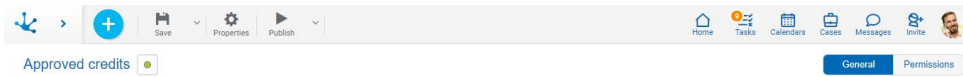
Allows to modify the value color of the widget, selecting it from the color palette.

Icon

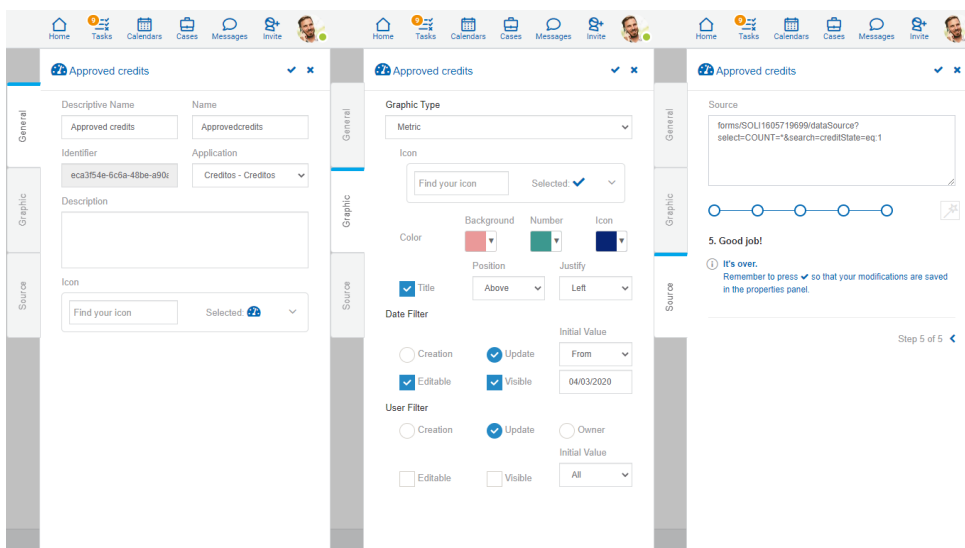
Allows to modify the icon color, selecting it from the color palette.

Example of Use

This metric chart shows the number of accounts entered during a selected period and for the users indicated in the filter.



The source code to model this chart is detailed.



Steps of the Modeling Wizard



1. Define the data source ✓

Form*

The "Credit Request" form from which the data displayed in the chart is taken should be selected.



2. Define the data you want to display ✓

Series*

```
count(ALL)
```

The "count(ALL)" function is used to determine the number of loans.



3. Define display criteria

Select by

```
equal(creditStatus, 1)
```

A condition is added to display all requests with "creditState=1" where "creditState" corresponds to a value list with numerical code "1" and descriptive text "Approved".



4. Define how to group the results

Group by

```
'Ctrl + Space' to open assistant.
```

In this type of widget the results are not grouped.



5. Good job!

- It's over.**
Remember to press so that your modifications are saved in the properties panel.

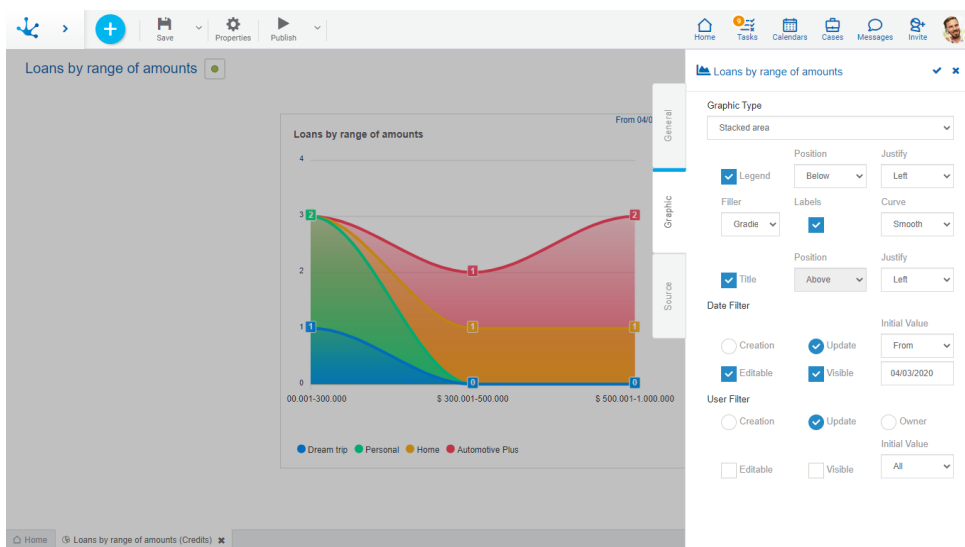
Step 5 reporting that all steps are met is completed .

3.7.10.2.2.2. Areas

Widgets of area type, comprehend the area and stacked area charts.

They can show changes over time, general trends, and continuity in a data set. But, while they may work in the same way as row widgets, the space between the row and the axis is filled in, indicating volume.

To the [properties shared](#) by all the widgets are added those specific to areas.



Properties

Legend

Indicates the incorporation of the data series description.

If this property is selected, it must also indicate:

Position

Select above or below.

Justify

If above or below position is selected, it allows to indicate right, center or left alignment.

Filler

Allows to highlight the area of data series in a gradient or solid way.

Labels

Allows to indicate whether the labels corresponding to the data series are displayed.

Curve

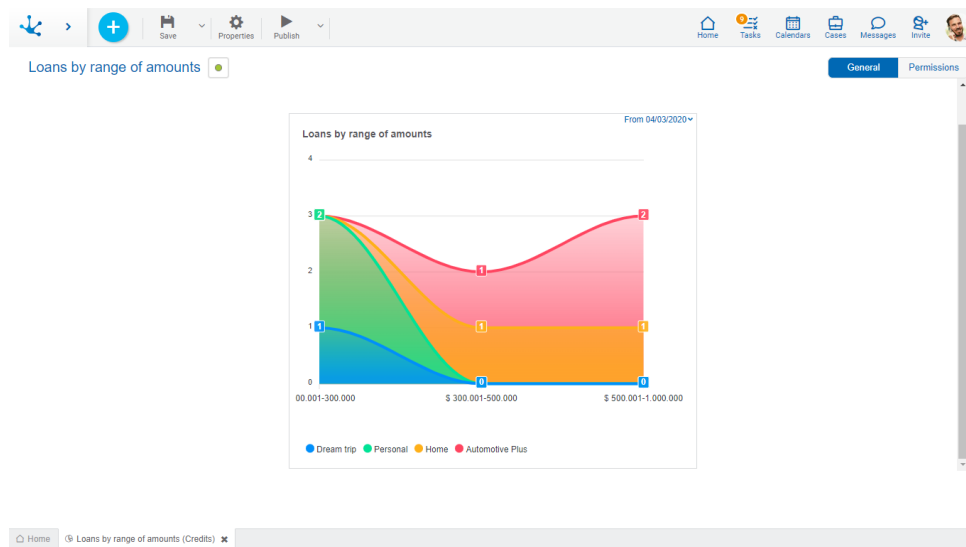
Indicates whether data lines are displayed as smooth, straight, or stepwise curve.

Example of Use

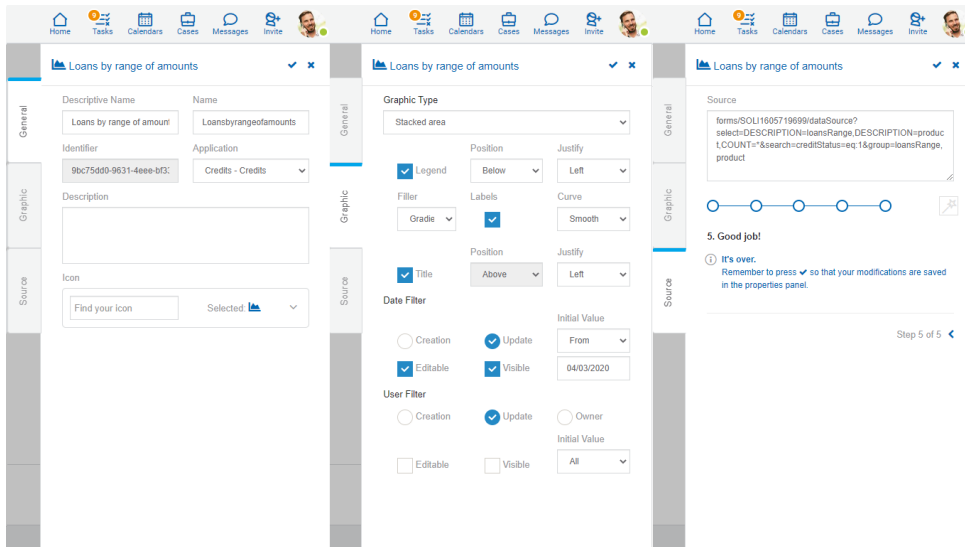
This stacked area widget shows the number of credits approved by range of expenses during a selected period and for the users indicated in the filter.

The ranges of expenses are represented on the horizontal axis and the number of credits approved for each range on the vertical axis.

The percentage of each product is given by the colored surface, and the grouping of all surfaces represents the total number of approved credits.



Below are the properties modeled to get this chart and the source code that is automatically generated when completing the [wizard steps](#) for widgets modeling.



Steps of the Modeling Wizard



1. Define the data source ✓

Form*

The "Credit Request" form from which the data displayed in the chart is taken should be selected.



2. Define the data you want to display ✓

Series*

First the "loansRank" field of the form visualized on the horizontal axis of the chart is indicated. Secondly the "product" field that corresponds to the colored surfaces is indicated. And lastly the "count(ALL)" function is used to determine the number of loans per product that are displayed on the vertical axis.

For fields that use value lists, the "description()" function must be used to display every list value with its descriptive text, otherwise the numerical code is displayed.



3. Define display criteria

Select by

```
equal(creditStatus, 1)
```

A condition is added to display all requests with "creditState=1" where "creditState" corresponds to a value list with numerical code "1" and descriptive text "Approved".



4. Define how to group the results

Group by

```
loansRank, product
```

Grouping the results by the same form fields that were modeled in step 2 is defined.

In this step, the names of fields must be used without the "description()" function, despite being value lists.



5. Good job!

- i** **It's over.**
Remember to press ✓ so that your modifications are saved in the properties panel.

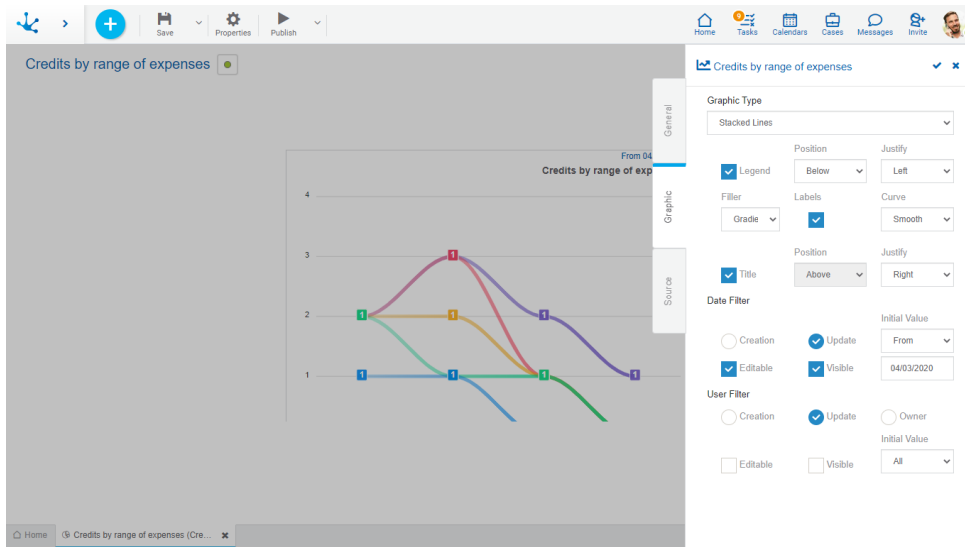
Step 5 reporting that all steps are met is completed .

3.7.10.2.2.3. Lines

Widgets of line type comprehend line and stacked line charts.

They are useful to show tendencies through time and compare different data series.

To the [properties shared](#) by all the widgets are added those specific to lines.



Properties

Legend

Indicates the incorporation of the data series description.
If this property is selected, it must also indicate:

Position

Select above or below.

Justify

If above or below position is selected, it allows to indicate right, center or left alignment.

Filler

Allows to highlight the area of data series in a gradient or solid way.

Labels

Allows to indicate whether the labels corresponding to the data series are displayed.

Curve

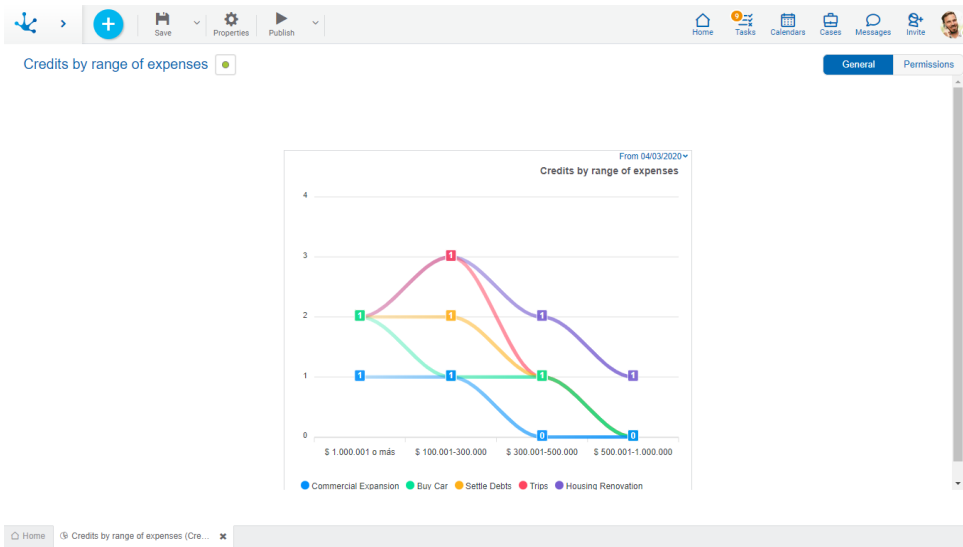
Indicates whether data lines are displayed as smooth, straight, or stepwise curve.

Example of Use

This stacked lines widget shows the number of credits approved by range of expenses during a selected period and for the users indicated in the filter.

The ranges of expenses are represented on the horizontal axis and the number of credits approved for each range on the vertical axis.

The height of the line for each destination indicates the total number of credits approved per rank.



The source code to model this chart is detailed.

Credits by range of expenses

Source

```
forms/SOL1605719699/dataSource?
select=DESCRIPTION=expenseRange.DESCRPTION=des
tination.COUNT=&search=creditState=eq 1&group=expens
eRange.destination
```

Steps of the Modeling Wizard



1. Define the data source ✓

Form*

Credit Request

The "Credit Request" form from which the data displayed in the chart is taken should be selected.



2. Define the data you want to display ✓

Series*

```
description(expensesRange), description(destination),  
count(ALL)
```

First the "expensesRange" field of the form visualized on the horizontal axis of the chart is indicated. Secondly, the "destination" field that corresponds to the height of the line is indicated. And lastly, the "count(ALL)" function is used to determine the number of loans per destination that are displayed on the vertical axis.

For fields that use value lists, the "description()" function must be used to display every list value with its descriptive text, otherwise the numerical code is displayed.



3. Define display criteria

Select by

```
equal(creditStatus, 1)
```

A condition is added to display all requests with "creditState=1" where "creditState" corresponds to a value list with numerical code "1" and descriptive text "Approved".



4. Define how to group the results

Group by


```
expensesRange, destination
```

Grouping the results by the same form fields that were modeled in step 2 is defined.

In this step, the names of fields must be used without the "description()" function, despite being value lists.



5. Good job!

- i** It's over.
Remember to press  so that your modifications are saved in the properties panel.

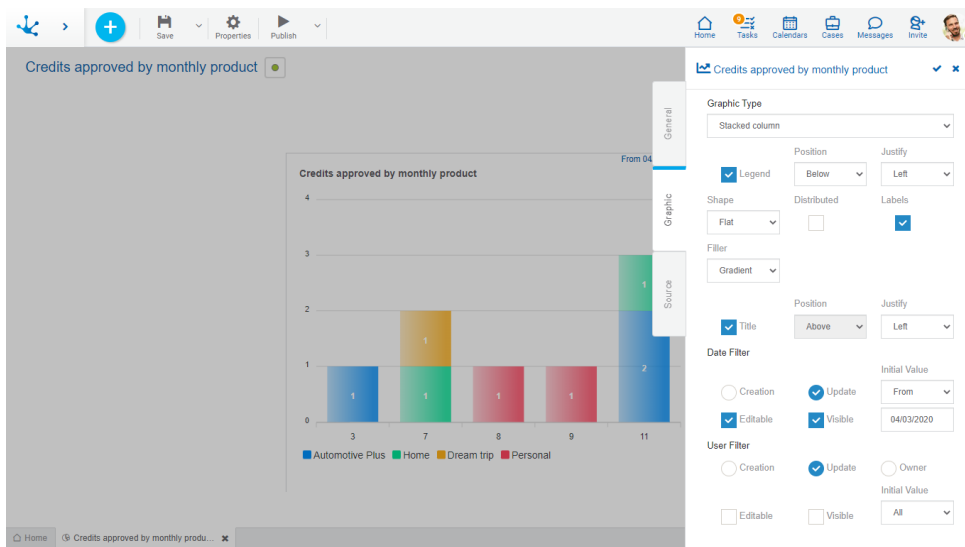
Step 5 reporting that all steps are met is completed .

3.7.10.2.2.4. Bars and Columns

The bar and column widgets, comprehend the charts of type: bar, grouped bar and stacked bar, column, grouped column and stacked column and N Top.

They are used to compare different data series.

To the [properties shared](#) by all the widgets are added those specific to bars and columns.



Properties

Legend

Indicates the incorporation of the data series description.

If this property is selected, it must also indicate:

Position

Select above or below.

Justify

If above or below position is selected, it allows to indicate right, center or left alignment.

Shape

Allows to select if the shape has a plane or rounded border.

Distributed

Indicates whether the series are grouped or interleaved.

Labels

Allows to indicate whether the labels corresponding to the data series are displayed.

Filler

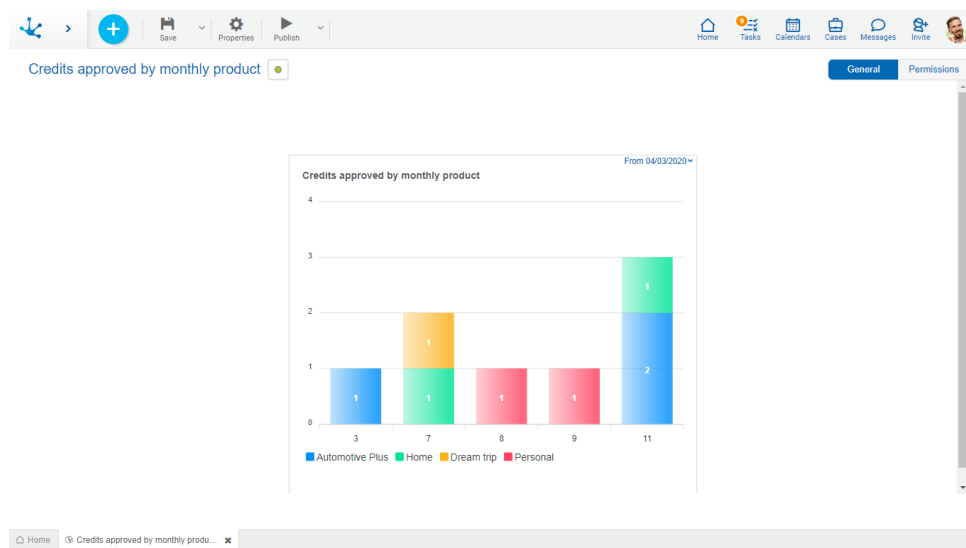
Allows to highlight the area of data series in a gradient or solid way.

Example of Use

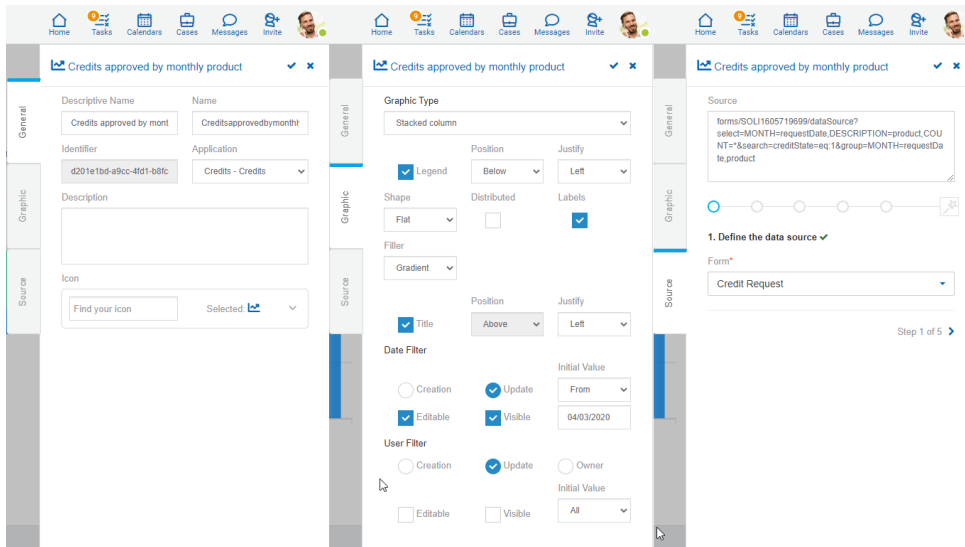
This stacked column widget shows the number of credits approved by range of expenses, during a selected period and for the users indicated in the filter.

The months are represented on the horizontal axis and the number of credits approved for each month is represented on the vertical axis

The percentage of each product is given by the colored surface, and the grouping of all surfaces represents the total number of approved credits.



The source code to model this chart is detailed.



Steps of the Modeling Wizard



1. Define the data source ✓

Form*

Credit Request

The "Credit Request" form from which the data displayed in the chart is taken should be selected.



2. Define the data you want to display ✓

Series*

month(requestDate), description(product), count(ALL)

First the "month(requestDate)" function is used to determine the month of the loan request that is displayed on the horizontal axis of the chart. Secondly the "product" field that corresponds to the height of the column is indicated. And lastly the "count(ALL)" function is used to determine the number of loans per product per month that are displayed on the vertical axis.

For fields that use value lists, the "description()" function must be used to display every list value with its descriptive text, otherwise the numerical code is displayed.



3. Define display criteria

Select by

A condition is added to display all requests with "creditState=1" where "creditState" corresponds to a value list with numerical code "1" and descriptive text "Approved".



4. Define how to group the results

Group by

Grouping the results by the same form fields that were modeled in step 2 is defined.

In this step, the names of fields must be used without the "description()" function, despite being value lists.



5. Good job!

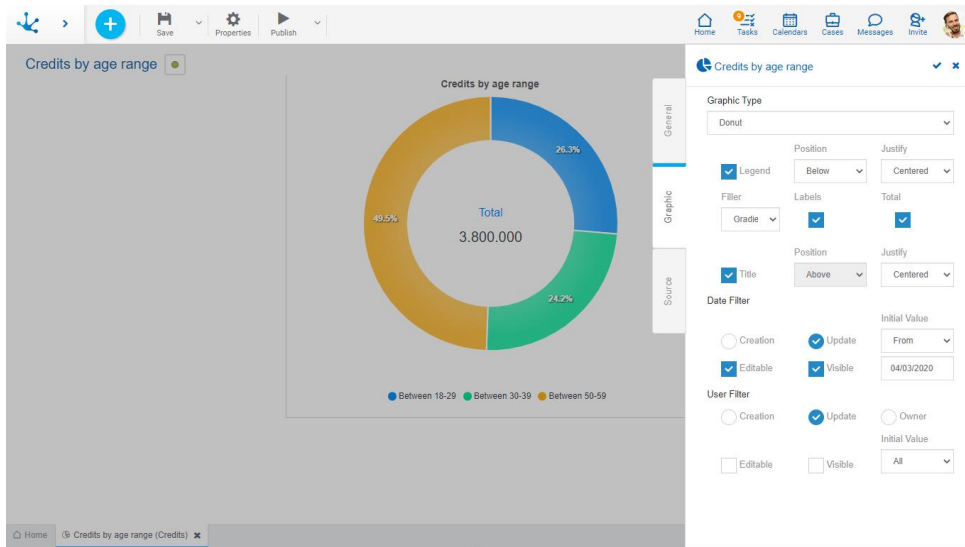
i **It's over.**
Remember to press ✓ so that your modifications are saved in the properties panel.

Step 5 reporting that all steps are met is completed .

3.7.10.2.2.5. Pies and Donuts

Widgets of pies and donuts type are used to show parts of a whole. They represent the amount of segments in percentages and the total sum is equal to 100 %.

To the [properties shared](#) by all the widgets are added those specific to pies and donuts.



Properties

Legend

Indicates the entry of data series description.

If this property is selected, also indicate:

Position

Select above, below, left, right.

Justify

If above or below position is selected, it allows to justify right, center or left.

If right or left position is selected, the legend is displayed top right or left as indicated.

Filler

Allows to highlight the area of data series in a gradient or solid way.

Labels

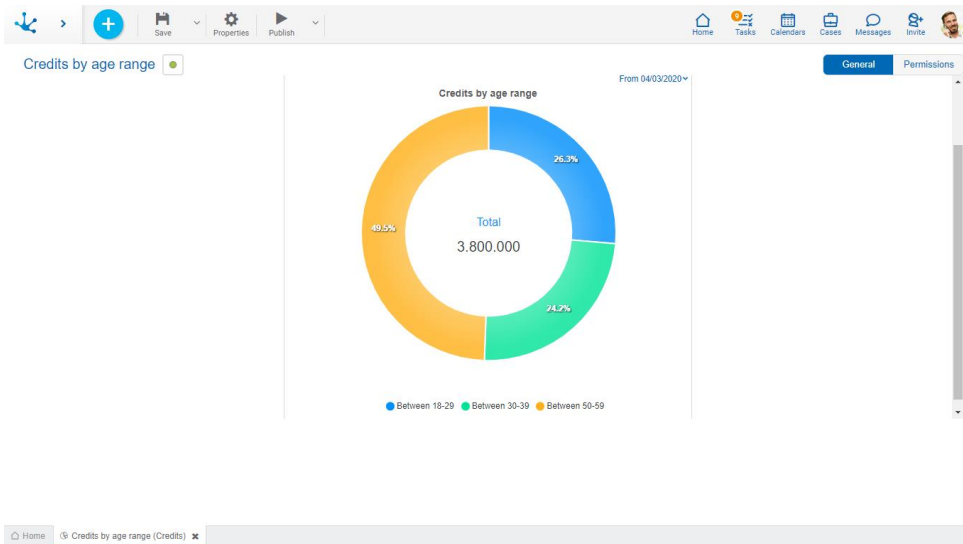
Allows to indicate whether the labels corresponding to the data series are displayed.

Total

Indicates whether or not the total of all series is displayed.

Example of Use

In this donut widget the total amount requested grouped by age range is visualized, for a selected period and to the users indicated in the filter.



The source code to model this chart is detailed.

```

forms:SQL11605719699(dataSource?
select=DESCRIPTION=ageRange.SUM=requestedAmount
&search=creditState=eq:1&group=ageRange

```

Steps of the Modeling Wizard



1. Define the data source ✓

Form*

The "Credit Request" form from which the data displayed in the chart is taken should be selected.



2. Define the data you want to display ✓

Series*

```
description(ageRange), sum(requestedAmount)
```

First the "ageRange" field of the form visualized on each chart portion is indicated. And lastly the "sum(requestedAmount)" function to determine the total amount of loans requested by age range is used.

For fields that use value lists, the "description()" function must be used to display every list value with its descriptive text, otherwise the numerical code is displayed.



3. Define display criteria

Select by

```
equal(creditStatus, 1)
```

A condition is added to display all requests with "creditState=1" where "creditState" corresponds to a value list with numerical code "1" and descriptive text "Approved".



4. Define how to group the results

Group by


```
ageRange
```

Grouping the results by the same form fields that were modeled in step 2 is defined.

In this step, the names of fields must be used without the "description()" function, despite being value lists.



5. Good job!

- It's over.**
Remember to press  so that your modifications are saved in the properties panel.

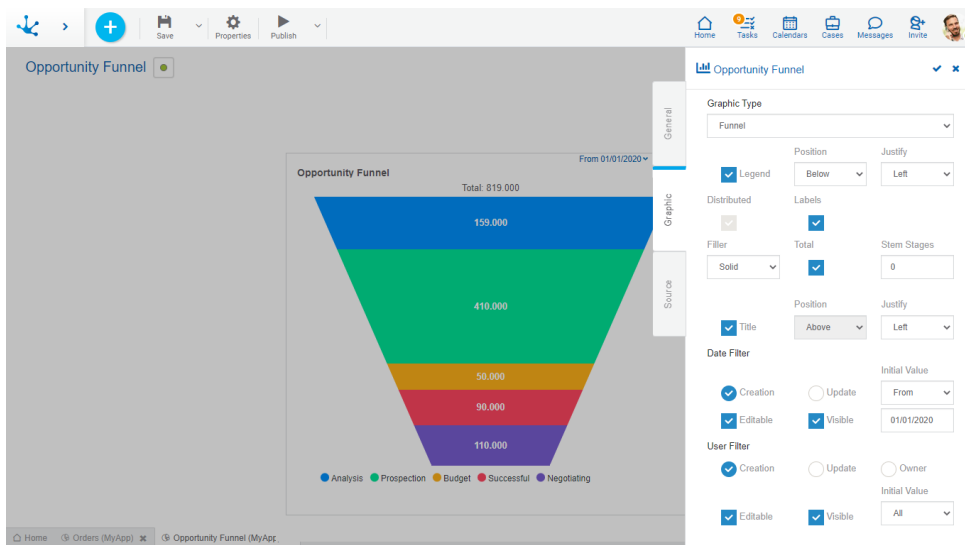
Step 5 reporting that all steps are met is completed .

3.7.10.2.2.6. Funnel

Widgets of funnel type show values in gradually decreasing proportions. In this type of charts the data is shown as a value for each stage.

To the [properties shared](#) by all the widgets are added those specific to funnels.

This chart type also incorporates [stages modeling](#) to identify each represented value and define its location.



Properties

Legend

Indicates the entry of data series description.

If this property is selected, also indicate:

Position

Select above, below, left, right.

Justify

If above or below position is selected, it allows to justify right, center or left.

If right or left position is selected, the legend is displayed top right or left as indicated.

Distributed

Indicates whether the series are grouped or interleaved.

Labels

Allows to indicate whether the labels corresponding to the data series are displayed.

Filler

Allows to highlight the area of data series in a gradient or solid way.

Total

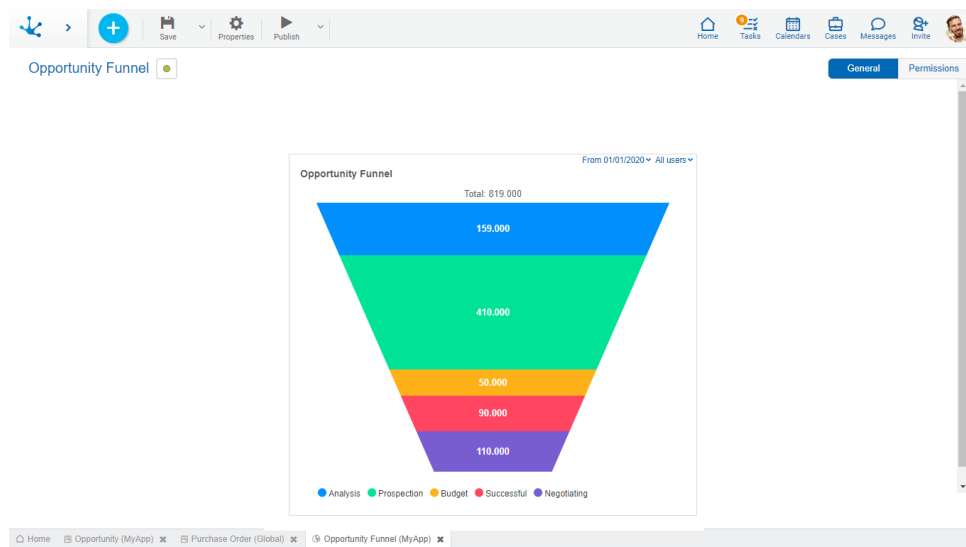
Indicates whether or not the total of all series is displayed.

Stem Stages

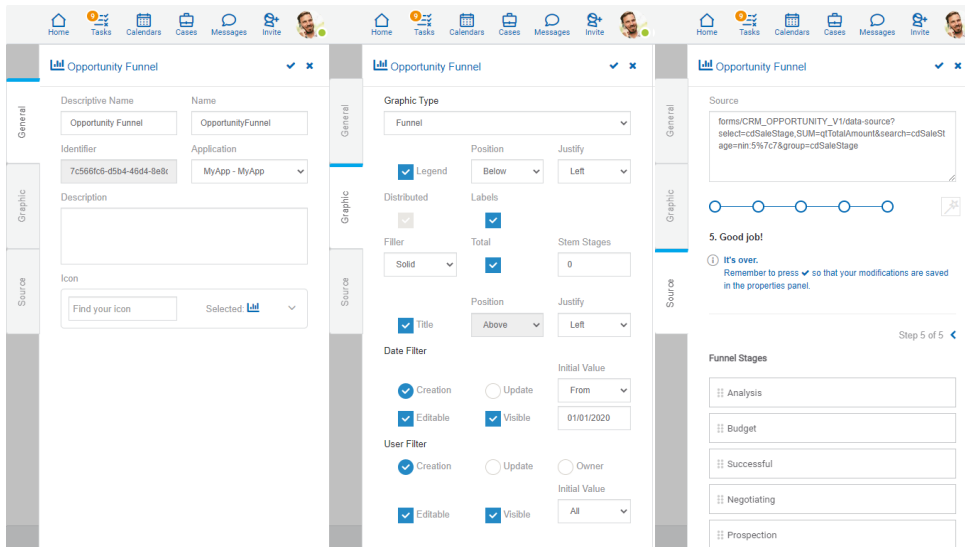
Indicates the number of stages or bars that are displayed in the stem of the funnel. If this property is zero the stages are part of the funnel and it does not have a stem.

Example of Use

In this funnel widget the estimated total amount of CRM opportunities grouped by Sales stage is displayed, during a selected period and for the users indicated in the filter.



The source code to model this chart is detailed.



Steps of the Modeling Wizard



1. Define the data source ✓

Form*

Opportunity

Step 1 of 5 >

Funnel Stages

Analysis

Budget

Successful

Negotiating

Prospection

The "Opportunity" form is selected from which the data displayed in the chart is taken. And the order of the stages of the funnel is defined.



2. Define the data you want to display ✓

Series*

```
cdSalesStage, sum(qtTotalAmount)
```

First the "cdSalesStage" field of the form visualized on each funnel stage is indicated. And finally the function "sum(qtTotalAmount)" is used to determine the total amount estimated for each stage.

In this step, the names of the fields must be used without the "description()" function, despite being values lists.



3. Define display criteria

Select by

```
notIncluded(cdSaleStage, 5,7)
```

The condition to display all opportunities is added, excluding the stages with numerical code "5" and "7" and descriptive text "Lost" and "Stand-By".



4. Define how to group the results

Group by

```
cdSaleStage
```

Grouping the results by the same form fields that were modeled in step 2 is defined.

In this step, the names of fields must be used without the "description()" function, despite being value lists.



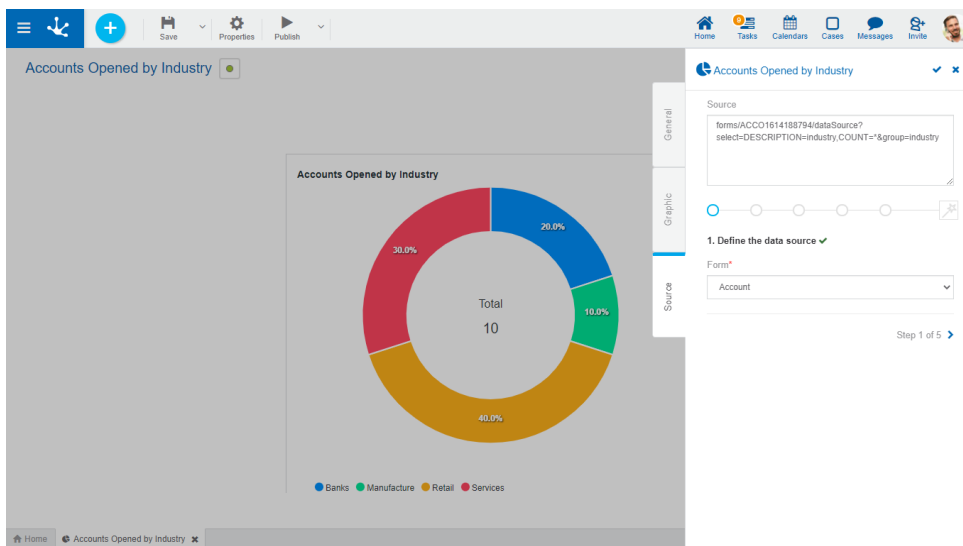
5. Good job!

- i** **It's over.**
Remember to press ✓ so that your modifications are saved in the properties panel.

Step 5 reporting that all steps are met is completed .

3.7.10.2.3. Source

The third tab of the side panel corresponds to the Rest API for obtaining the data of the selected chart and the modeling wizard for its automatic generation, following a series of steps.



Properties

Source

Corresponds to the URI on the Rest API to obtain the data displayed on the selected chart. It can be codified or automatically generated through the modeling wizard steps.

Wizard for Widgets Modeling

Allows to automatically generate the URI of the Rest API in the area of the source following the sequence of steps represented by the lines of circles.

Each step is identified by a number and accompanied by an informative paragraph, represented by the "i" icon.

The required steps are represented by the red circle and once they are completed they are displayed in light blue, indicating that the part corresponding to the source code has been completed. The circles corresponding to the steps not yet completed are displayed in grey.

The pre-established order must be respected and advance by selecting the next circle or by pressing the paging icon, located at the bottom of the wizard. The completed steps can be navigated through by pressing the circles or by using the paging icon.

Wizard Steps for Widgets Modeling

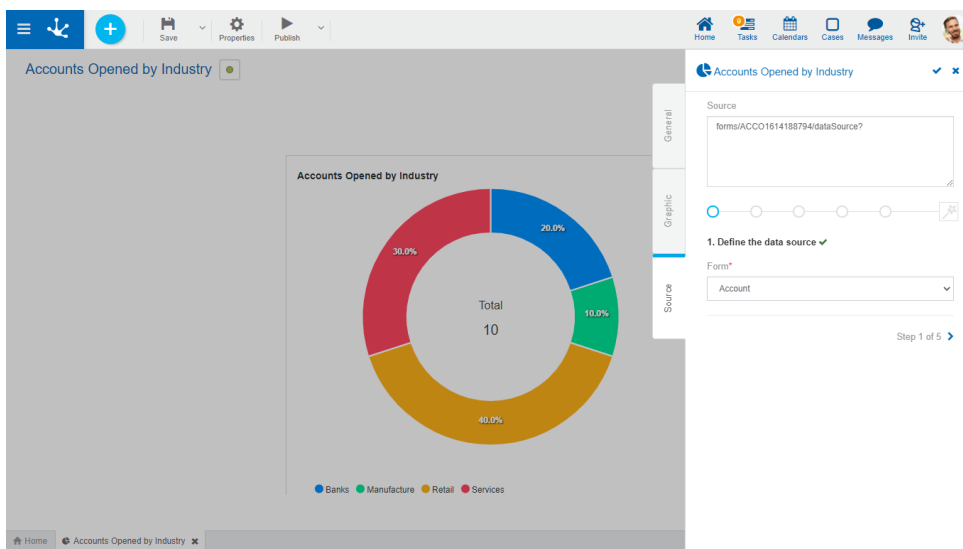
Step 1: Define the data source

This step is required.

Form

Allows to select the entity from which the data to be displayed on the chart will be taken. Once it is selected there is a check mark to the right of the step description, indicating that it was completed successfully. When finishing the step, the generated code is displayed on the source.

When expanding the available form list a search field is activated. As the user enters characters into it, the number of forms displayed is reduced to those whose names contain such characters.



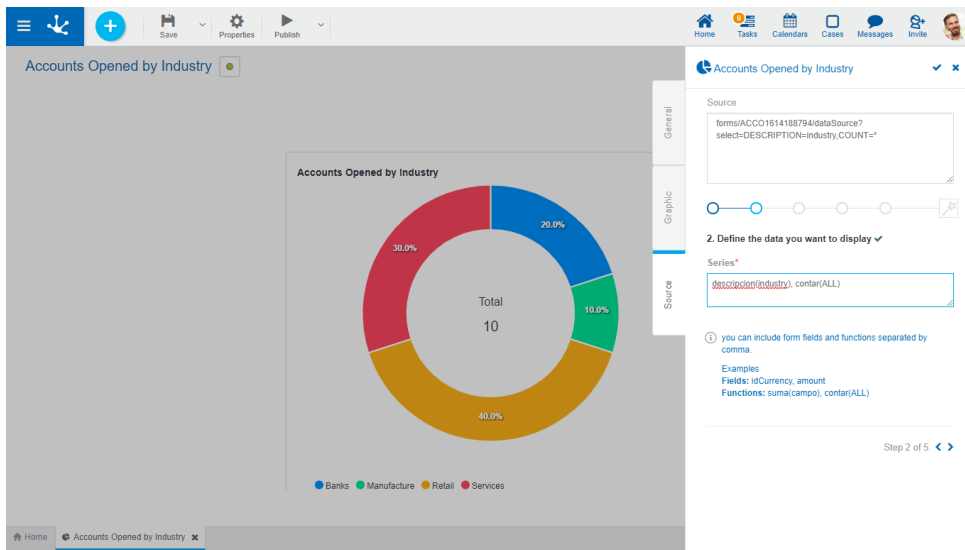
Step 2: Define the data you want to display.

This step is required.

Series

It must be indicated which [elements](#) are going to be displayed on the chart, being able to use the help of the [wizard](#). Once the series are entered, there is a check mark to the right of the step description,

indicating that it was completed successfully. When completing the series, the added code is displayed on the source.

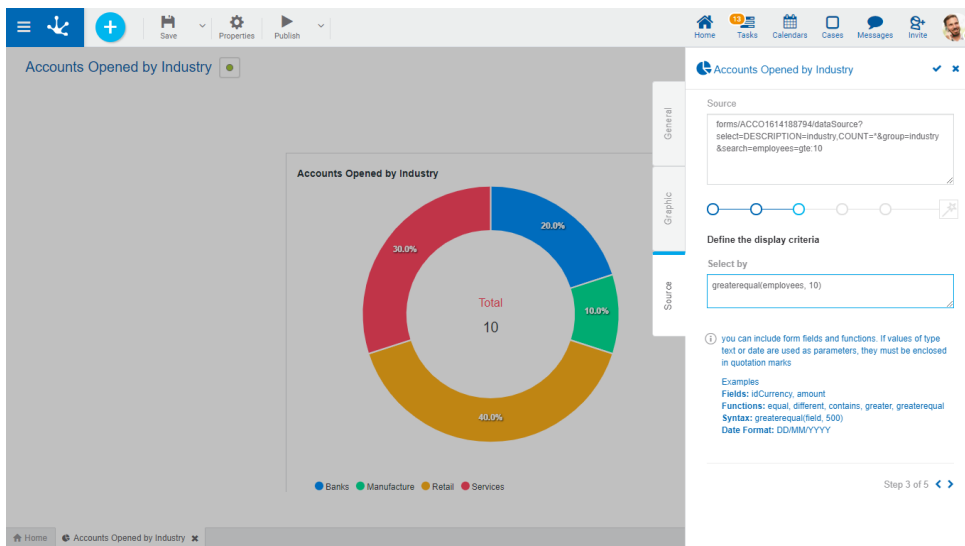


Step 3: Define the display criteria.

This step is optional.

Select by

Allows to indicate with the help of the [wizard](#) the [elements](#) that must meet a condition for the data to be displayed on the chart. When completing this step, the added code is displayed on the source.

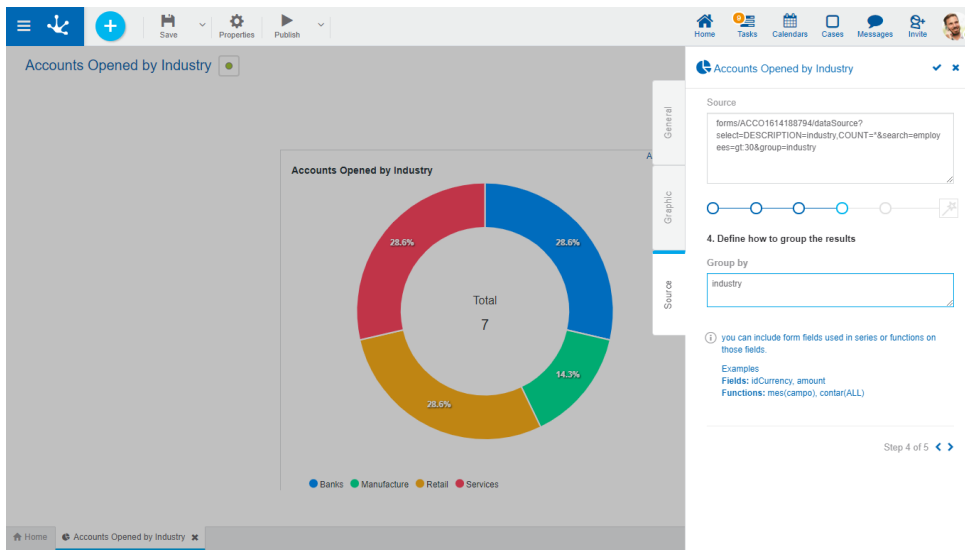


Step 4: Define how to group the results.

This step is optional.

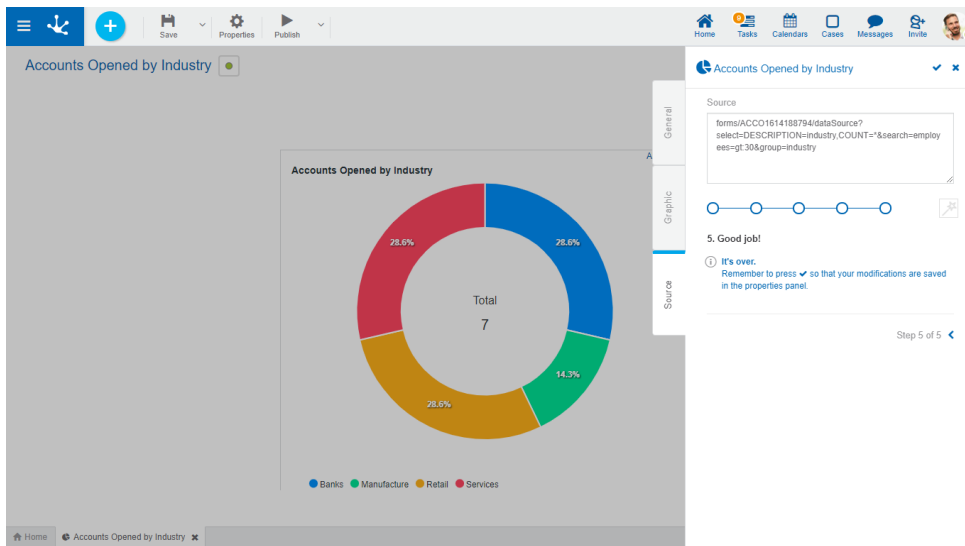
Group by

Allows to indicate with the help of the [wizard](#) the [elements](#) of the series, by which the results will be grouped. When completing this step, the added code is displayed on the source.



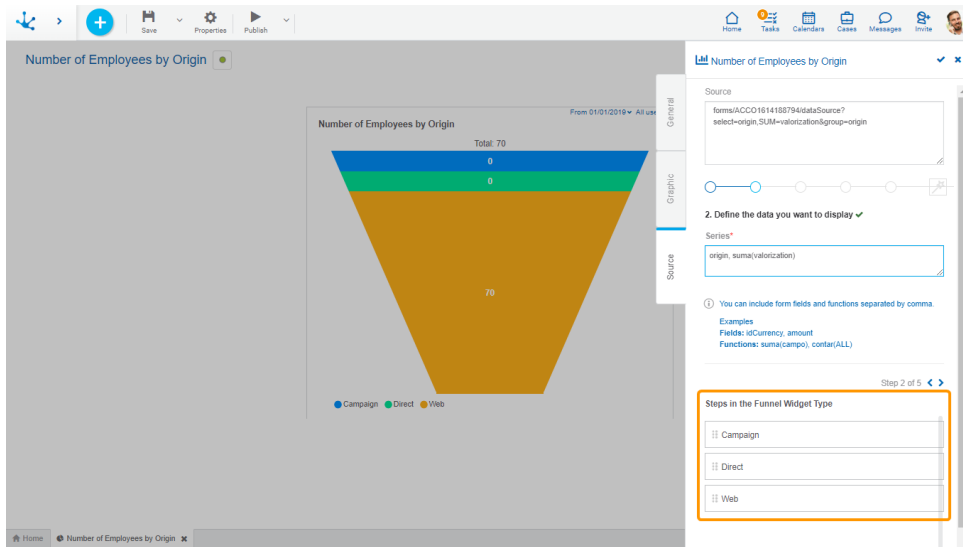
Step 5: Good job.

Informs that all the steps have been completed, and reminds that changes made on the widget properties panel must be saved.



Stages in the Funnel Type Widget

When modeling a funnel type widget a form must be selected where the value of one of its fields [originates in a value list or a rule](#). Once the series field is indicated, the stages are displayed as a list in all the steps of the wizard, being able to sort or delete them.

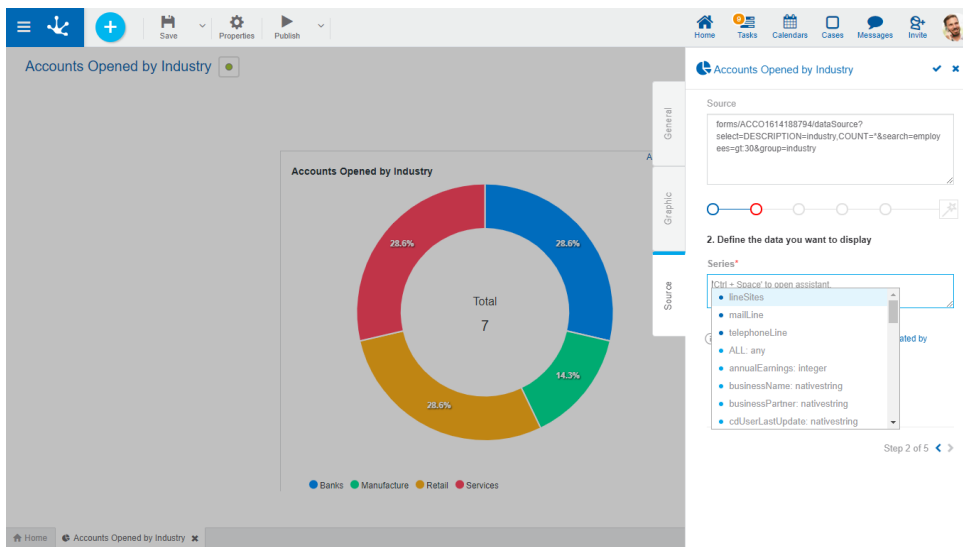


3.7.10.2.3.1. Editing Wizard

In the editing area of each of the steps you can use a wizard for the automatic generation of the source.

Such wizard is activated pressing the "Ctrl + Space" keys, using the functionality of autocompleting, that is, as text is entered in the wizard, only are shown the [elements](#) which names start with the text the user writes.

In case of not using autocomplete the complete list of elements available for the step you are working on opens.



3.7.10.2.3.2. Elements Used in the Wizard

The steps can be composed by different types of elements, separated by a ".".

- Form field

Form fields are used identifying them by the property [Name](#). In the wizard they are displayed with ● in their left.

- Iterative containers

The property [Name](#) of the container is shown. Whenever an iterative container is used, then the field separated by a "." must be indicated. In the wizard they are displayed with ● in their left.

Example: Items.Number

- Functions

In the wizard they are displayed with ● in their left.

In every case it is indicated on the right, the data type they represent and in the case of the functions, the data type they receive as a parameter.

In case of a syntax error, a message is displayed indicating the problem.

Wizard Functions

These functions are displayed in the wizard, for each of them it is indicated a brief description of its functionality and in which steps of the wizard it is suggested.

Function	Description	Wizard (Step)	Return Type
count(field)	Counts the occurrences of a certain field.	Series and group	Numeric
description(field)	Returns the field description.	Series	Text
max(field)	Returns the maximum value.	Series and group	Field type used
month(field)	Month of the year. It is used for date type fields.	Series	Numeric
min(field)	Returns the minimum value.	Series and group	Field type used
average(field)	Returns the average value.	Series and group	Numeric
sum(field)	Sums the values entered from the field.	Series and group	Numeric Decimal
equal(field, field or value)	Compares by equality the first field with the other field or value.	Display criteria	Boolean

Function	Description	Wizard (Step)	Return Type
different(field, field or value)	Compares by inequality the first field with the other field or value.	Display criteria	Boolean
contains(field, value)	Checks if the field contains a determined value.	Display criteria	Boolean
starts-With(field, value)	Checks if the field starts with a determined value.	Display criteria	Boolean
doesNotStartWith(field, value)	Checks if the field does NOT start with a determined value.	Display criteria	Boolean
greater(field, field or value)	Checks if the first field is greater than the second field or value entered.	Display criteria	Boolean
greaterEqual(field, field or value)	Checks if the first field is greater than or equal to the second field or value entered.	Display criteria	Boolean
lower(field, field or value)	Checks if the first field is lower than the second field or value entered.	Display criteria	Boolean
lowerEqual(field, field or value)	Checks if the first field is lower than or equal to the second field or value entered.	Display criteria	Boolean
included(field, value1, value2, ...)	Checks if the field value exists in the value list separated by a comma.	Display criteria	Boolean
notIncluded(field, value1, value2, ...)	Checks if the field value does not exist in the value list separated by a comma.	Display criteria	Boolean

3.7.11. Value Lists Modeling

The value list modeler allows to define a set of possible values for a field, grouped under some criteria. These values can be associated to form fields.

Name	Application	Type	State	Update ↓	Update User
Address Type	Global	Value List	●	18/11/2022 17:22	
Account	Global	Formulario Ágil	●	18/11/2022 17:20	
State of the Accounts	Global	Value List	●	18/11/2022 17:20	
Social Network	Global	Value List	●	18/11/2022 17:20	
Phone Types	Global	Value List	●	18/11/2022 17:20	
Mail Types	Global	Value List	●	18/11/2022 17:20	
Origins	Global	Value List	●	18/11/2022 17:20	
Industries	Global	Value List	●	18/11/2022 17:20	
Customer	MyApp	Form	●	18/11/2022 17:19	
Opportunity	MyApp	Form	●	18/11/2022 17:19	



The value list modeler allows to administer each list, respecting their progress through the different [states](#) of a modeling object.

- Save
- Publish
- Delete
- Export
- Delete Publication

The general characteristics of the list of values modeling environment are described in the topics:

- [Modeling Facilities](#)
- [Value List Properties](#)

A new value list can be created from the:

- [Context menu](#)  .
 - The icon  .
 - The menu displayed with the "Value List" option.
- The form modeler, in the "Relation" tab of a field selecting the value list option of a [form](#) or of an agile form.
- The form modeler, through the control [Value List](#).
- The agile modeler, through the control [Value List](#).

An already existing value list is modified by selecting it from the grid with the "Open" button.

3.7.11.1. Modeling Facilities

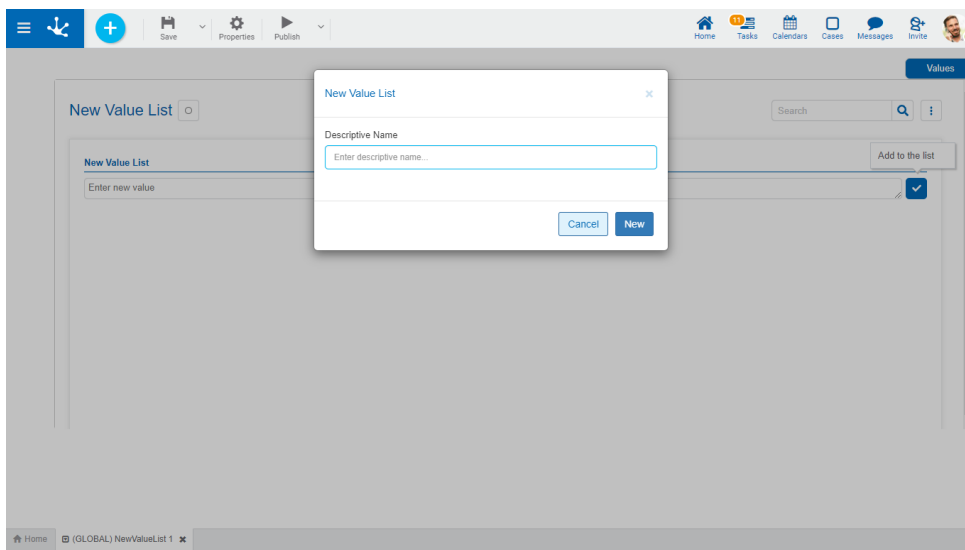
General characteristics of this modeler are specified below.

New Value List

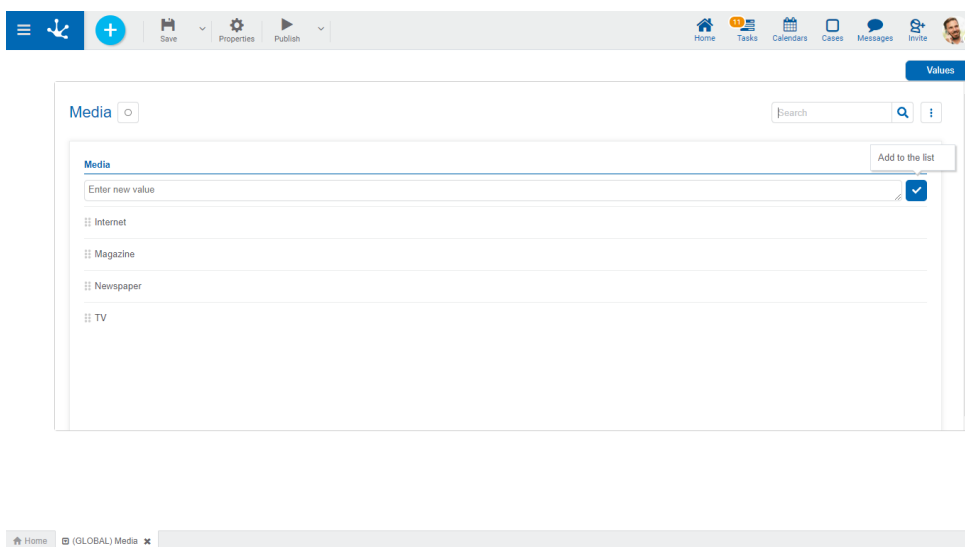
The IT modeler user can design a new value list, available to be used from any form after being published.

Steps for Creating a New Value List




Step 1: Assign the name and press the "Create" button.

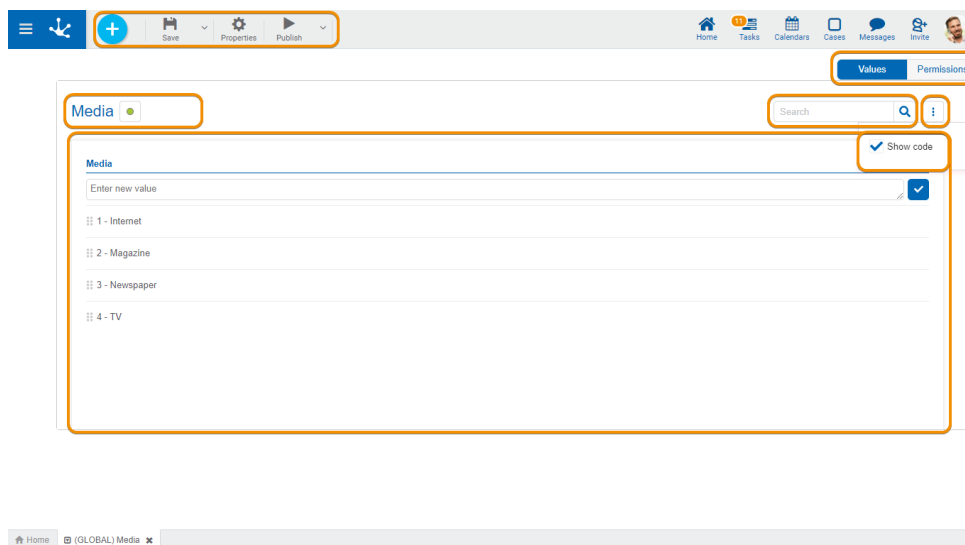


Step 2: Enter a new value and press the accent mark icon or the enter key. Repeat this step until all the desired values are entered.



Workspace Sections

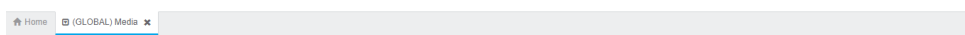
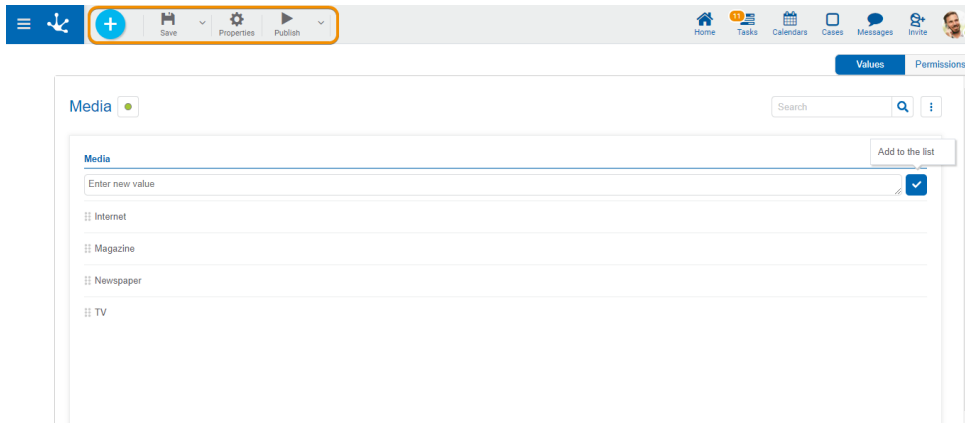
- [Top Toolbar](#)
- Value List Information
 - Name
 -  [State](#)
-  Allows to filter values from the list based on the characters entered. If a list is very long it helps users to easily visualize the desired values.
-  Enables an option that allows to visualize the internal code from the list values. If the property [Internationalize](#) is active the available languages are enabled. When selecting a language [a column is added](#) for the entry of the value list translations.
- [Design Options](#)
- [Modeling Area](#)



3.7.11.1.1. Top Toolbar

This toolbar contains icons and submenus from which you can perform operations on the object. Depending on its [state](#), some options may be disabled.

The bar is displayed on the toolbar of **Deyel**.



Save

This icon allows to save the object in the repository of **Deyel**, leaving its state as "Draft" or "Modified". If certain conditions are met, the modeler user receives a message indicating that the operation was performed correctly, otherwise they receive an explanatory message.

Main Conditions

- The application of the object must exist.
- The name must be unique in the application.
- The object's permissions must exist if you select the property **Models Security** in the "General" tab of the properties panel.

To the right of the icon the option to open the [submenu](#).

Properties

Open the [value list properties](#).

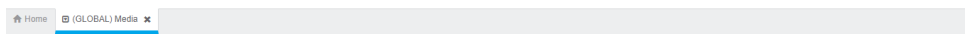
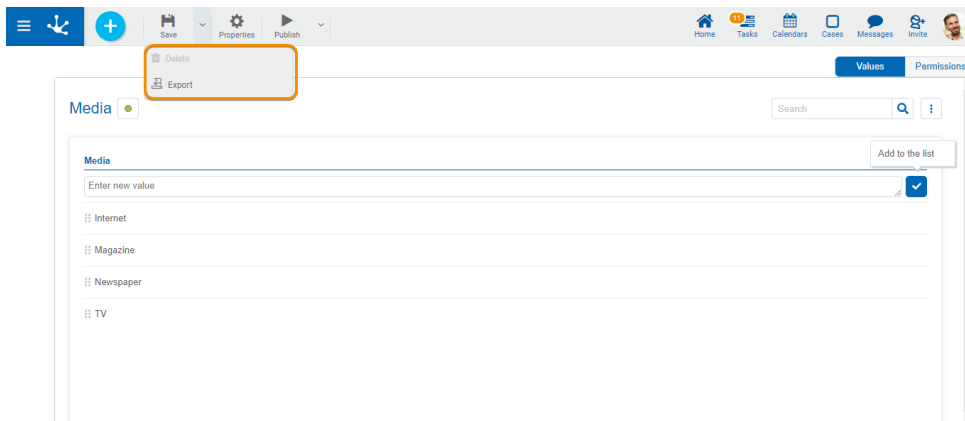
Publish

By means of this icon the object goes to "Published" state, after verifying a set of additional conditions to those of the "Save" operation. The modeling user receives the corresponding message, indicating the result of the operation.

To the right of the icon the option to open the [submenu](#).

3.7.11.1.1. Save Submenu

This submenu is opened by pressing the icon immediately to the right of the icon corresponding to "Save".

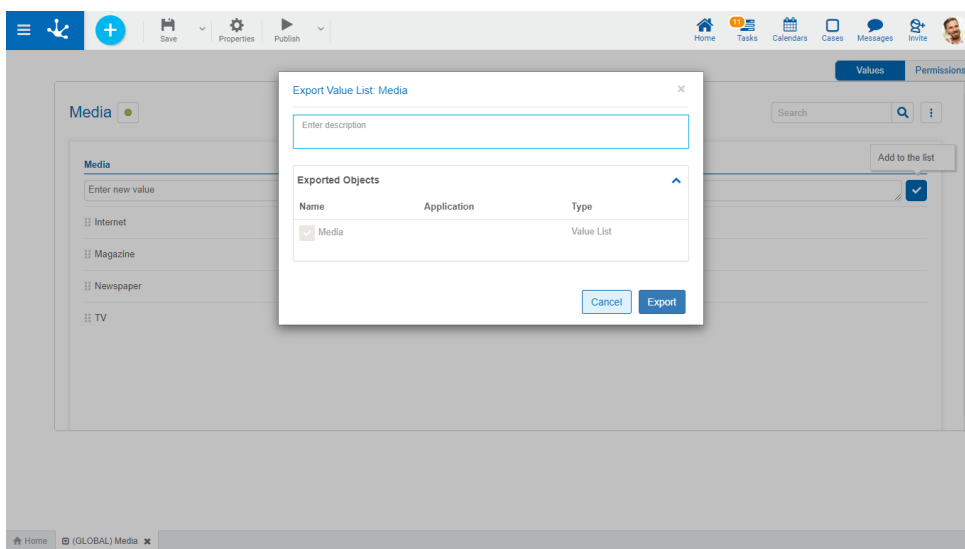


Delete

Allows to delete the object only if it is in "Draft" [state](#), closing the tab in which it is located and deleting it from the modeler's grid.

Export

This icon opens a window for the user to select and confirm the export of the object.



Description

In this property a text explaining the reason for the operation can be entered.
This text can be modified upon import and is displayed in the description column of the [export record](#).

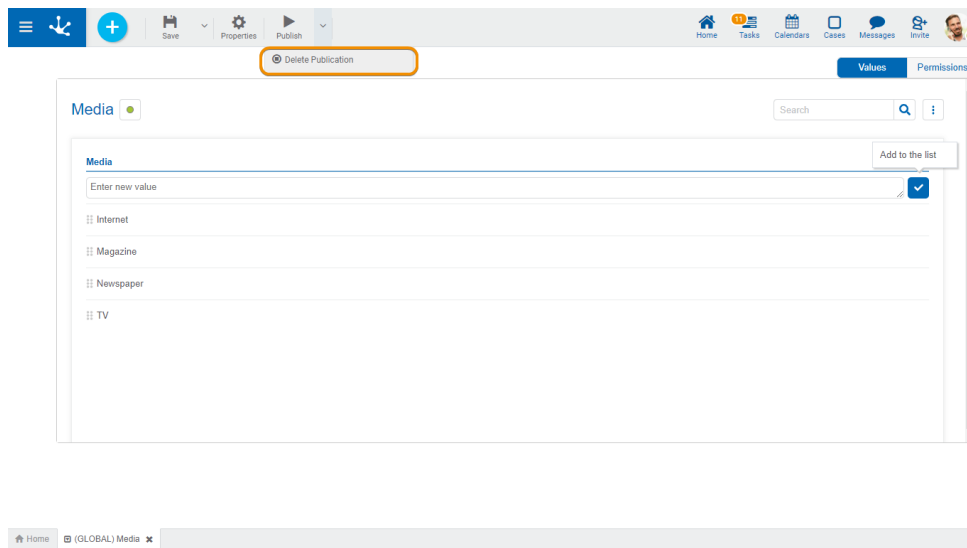
Exported Objects

By expanding the container, the object being exported is displayed.

You must press the "Cancel" button to leave the export without effect or the "Export" button to finish the operation.

3.7.11.1.1.2. Publish Submenu

This submenu can be opened by pressing the icon immediately to the right of the icon corresponding to "Publish".



Delete Publication

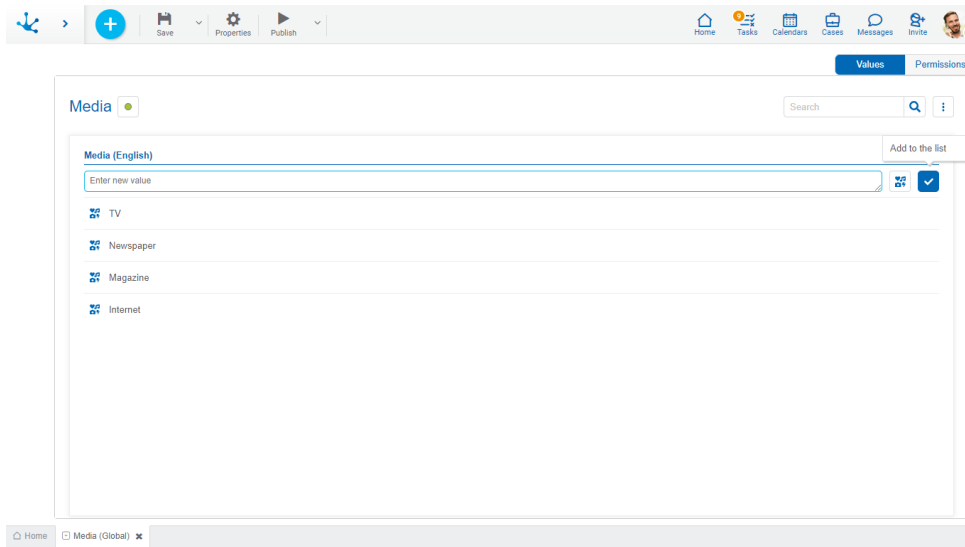
Allows to leave the value list unavailable for use by returning it to the "Draft" [state](#).

3.7.11.1.2. Modeling Area



The modeling area is the space where the values can be entered, modified or deleted from the lists.

Once it has been published, the updates to its values are reflected in the value lists:



- Used in the execution of forms from the user portal.
- Used in the forms modeler.
- From the menu option "Configuration", "Value Lists".





Operations on Values

-  Allows adding each entered value to the list of values.
-  It is displayed if the list has the [Icons property](#) modeled. It allows to associate icons to the list values.
- Double click: Allows to modify a value in the list.
- Move: Allows to change the position of a value within the list by dragging the value with the mouse.


Hovering the cursor over each of the values entered, a set of icons is displayed and this allows to perform different operations.

-  Allows to delete a value from the list of values. Once deleted, it is displayed in gray and crossed out.
-  Allows to restore a previously deleted value.

Display the Selected Line

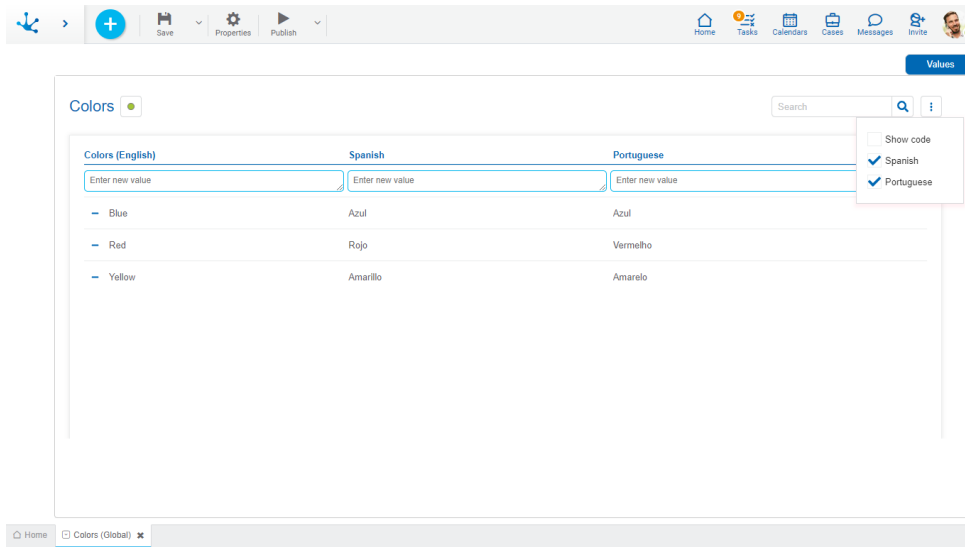
-  Hides the icons that are displayed.
-  Shows hidden icons.

Values Internationalization

If the value list has the [Internationalize](#) property active, the language configured for the user is displayed in the header of the list. For each [language selected from the icon](#)  a new column is added.

The user can load the corresponding translation for each value.

Removing the check mark of a language deletes the column corresponding to that language.

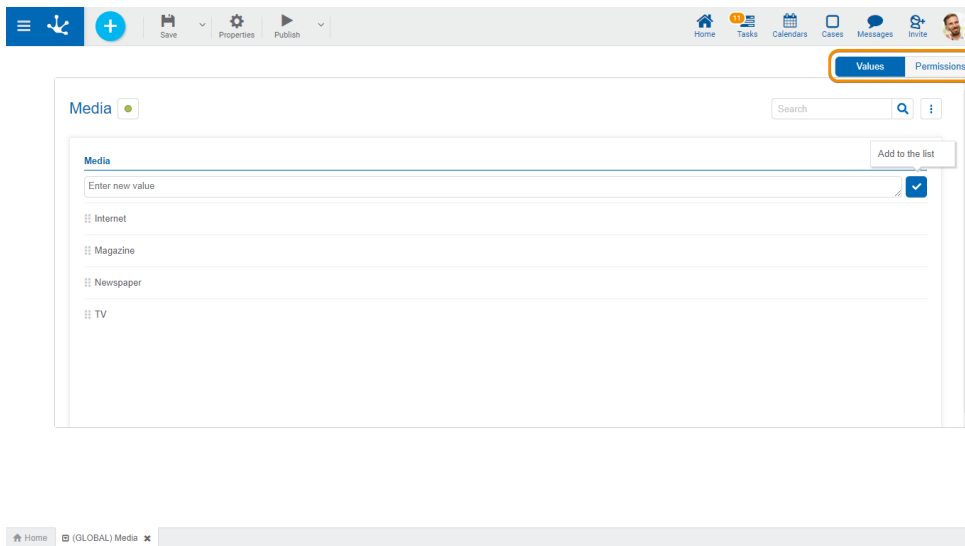


Once the internationalization has been modeled, it is suggested to load values to the list in all the selected languages.

3.7.11.1.3. Design Options

When creating or modifying a value list, it allows to enter the values that are going to be displayed in it.

These options are presented on the upper right margin.



- Values

From this design option the value list is displayed and new values can be added in it in the [modeling area](#).

- [Permissions](#)

This option is displayed if the property [Models Security](#) is selected in the [properties panel of the value list](#).

3.7.11.1.3.1. Permissions

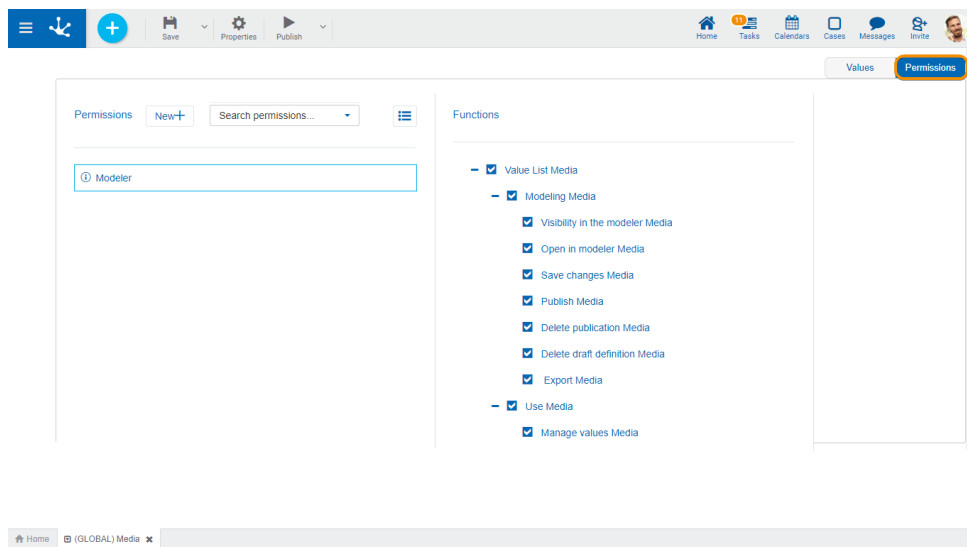
Allows to assign the [security functions](#) for use and modeling of the object to the existing permissions or to new permissions that the user creates, without having to go to the [permission](#) settings option from the menu.

Sections

- Permissions: Permissions to which object functions are assigned.
- Security Functions: Represents the total set of security functions, modeling and use of the object. Those that are marked are the ones included in the selected permission.

By default, all security functions for a new object are assigned to the permission [Modeler](#).

Users who are assigned the permissions have access to the functions included in it.




New+ Opens a panel to create a new permission and once created, the security functions included in it must be selected .

Search permissions... Allows to select a permission from a list and enables the input of characters to filter the values in the list.



Opens the wizard to select a permission and once chosen, the necessary object security functions must be checked.

To unrelate a permission from the object, hover the cursor over the permission and press the icon . If there are functions selected for that permission, they must be unchecked in order to delete it.

Security Functions to Model the Value List

- Visibility: Allows to display the object in the Deyel modeler grid.
- Open: Allows to open the object from the Deyel modeler.
- Save: Enables the operation of saving modifications made to the object.
- Publish: Enables the operation of publishing the object leaving its state as "Published".
- Delete publication: Enables the operation of deleting the object publication leaving its state as "Draft".
- Delete draft definition: Enables the operation of deleting the object.
- Export: Enables the operation to export the object from the tools submenu of the expanded menu.

Security Functions to Use the Value List


Security functions to use the value list are available if the value list is in "Published" state.

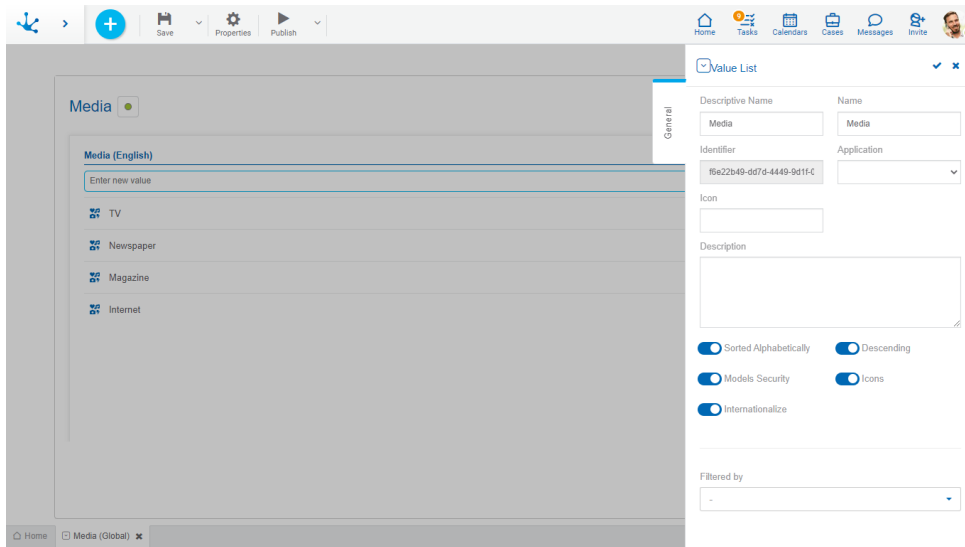
- Manage values: Enables the operation to enter, modify or delete values in the list.

The design option "Permissions" is only displayed if the property [Models Security](#) has been selected.

3.7.11.2. Value List Properties

The properties of the value list can be entered both at the time of their creation and when modifying an existing one.

Entering the value list properties panel is done using the icon  which is in the [Top Toolbar](#).



General Tab

Properties

Descriptive Name

It is the name used by the user to reference the value list.

Name

It is used internally to reference the value list. No blanks or special characters allowed. It is unique and required.

Identifier

It identifies unequivocally the value list. It is generated automatically.

Application

Allows to define the application to which the object belongs. If no application is reported, the object is assigned to the application "Global".

Description

Text which defines the value list and its respective content.

Sorted Alphabetically

Checking this property indicates that the values in the value list are sorted alphabetically, and allows to select if the order will be descending.

Descending

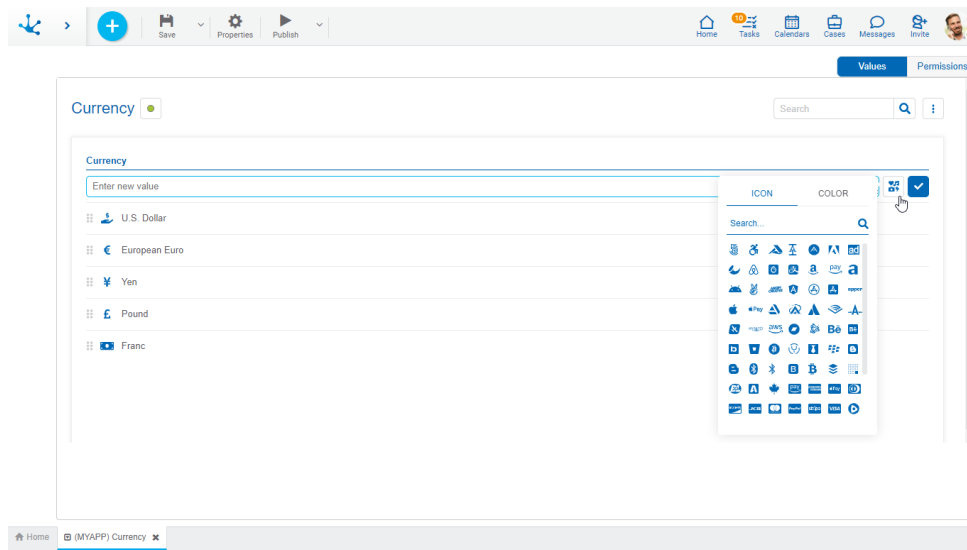
Indicates that the order of the values in the value list is descending. This property can be selected if it was previously indicated that the list is sorted alphabetically.

Models Security

Allows to add security to the value list, creating the security functions of modeling and of use to be assigned in the design option "[Permissions](#)" or in the permission configuration.

Icons

Allows to associate an icon to each value list when such values are incorporated.



Internationalize

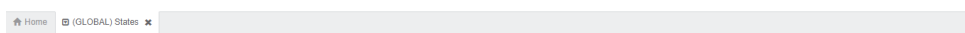
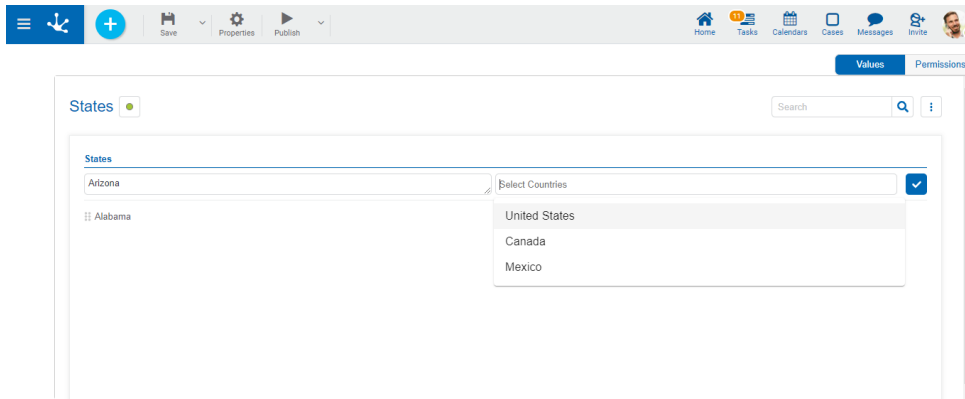
If this property is deactivated, the value list can be used in one language only. If activated values can be entered in [different languages](#) available in **Deyel**.

- When activating it:
The property [Language of Existing Values](#) is enabled to select the language in which the values were entered or in which they will be entered if the list were new.
- When deactivating it:
The property [Language of Existing Values](#) is enabled to select the language in which the value list are going to be kept.

Filtered by


Allows to select the value list to be related to the list being modeled. When a value is entered in the modeled list its corresponding is indicated in the list selected in this property.

Example: If the modeled list it Provinces and the list selected in the property [Filtered by](#) is Countries, when entering a province you must indicate which country it corresponds to.



Actions

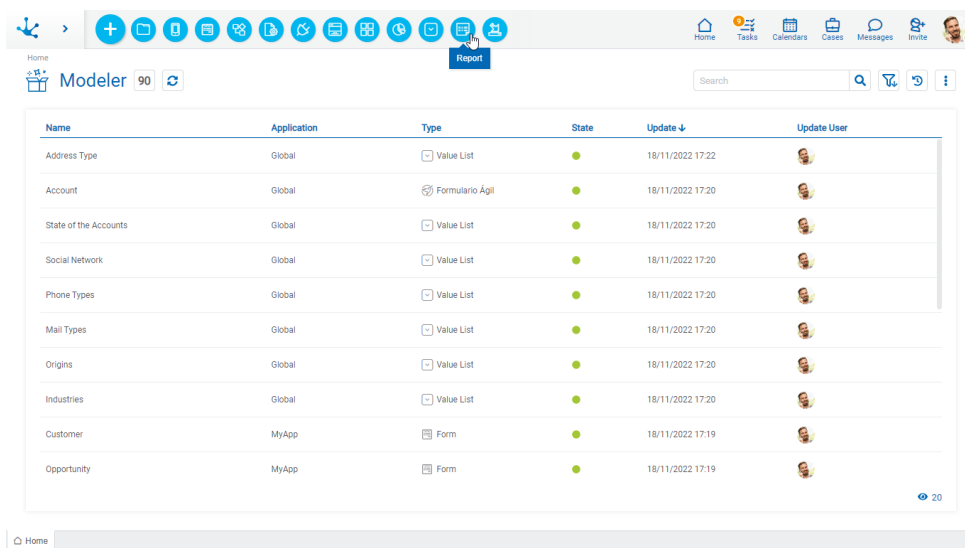
The icon  is used to confirm the modifications made in the properties panel.

The icon  is used to close the properties panel, if it was not previously saved, changes are discarded.

3.7.12. Reports Modeling

The reports modeler allows to easily and intuitively model application reports in order to get detailed information on one or more [related entities](#).

Each business user can design their own reports from the [portal](#), using personalized information and their preferred output format.



The general characteristics of the reports modeler and the main elements that compose it are described in the following topics:

- [Modeling Facilities](#)
- [Report Properties](#)


3.7.12.1. Modeling Facilities

General characteristics of this modeler are specified below.

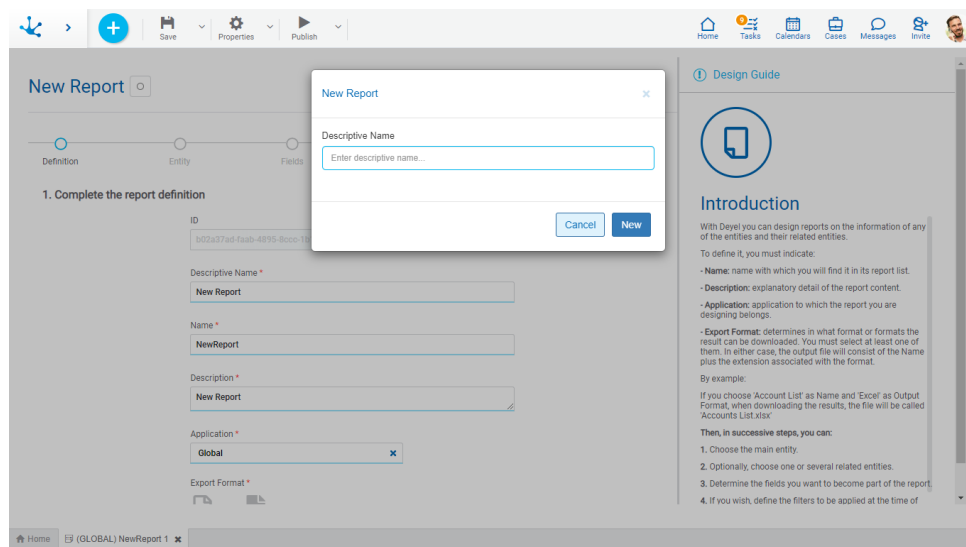
New Report

The modeler user defines a new report, which after being published is available to be used in the portal by business users.

A new report can be created from the icon  corresponding to the [context menu](#) in the modeler.

- From the icon .
- From the expanded menu using the "Report" option.

When the report is created, a panel opens and allows to enter its name.



An existing report is updated by selecting it from the [modeler's objects grid](#) using the "Open" button.

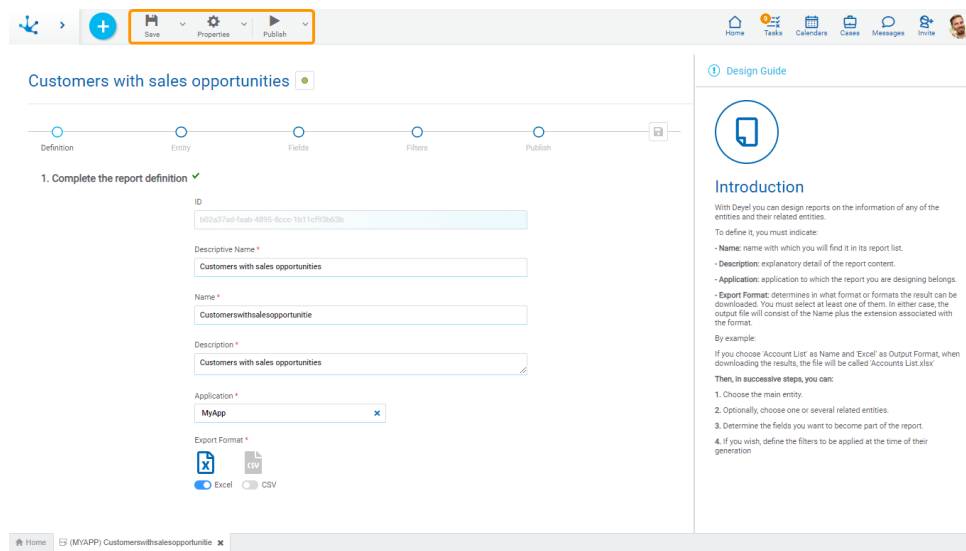
Workspace Sections

- [Top Toolbar](#)
- [Modeling Wizard](#)

3.7.12.1.1. Top Toolbar

This toolbar contains icons and submenus from which you can perform operations on the object. Depending on its [state](#), some options may be disabled.

The bar is displayed on the toolbar of **Deyel**.



Save

This icon allows to save the object in the repository of **Deyel**, leaving its state as "Draft" or "Modified". If certain conditions are met, the modeler user receives a message indicating that the operation was performed correctly, otherwise they receive an explanatory message.

Main Conditions

- The application of the object must exist.
- The name in the application must be unique.
- The object's permissions must exist.

To the right of the icon, the option to open the [submenu](#) is displayed.

Properties

Opens the [report properties](#) panel.

To the right of the icon, the option to open the [submenu](#) is displayed.

Publish

By means of this icon the object goes to "Published" state, after verifying a set of additional conditions to those of the "Save" operation. The modeling user receives the corresponding message, indicating the result of the operation.

This option is equivalent to the step of [publishing in the wizard](#).

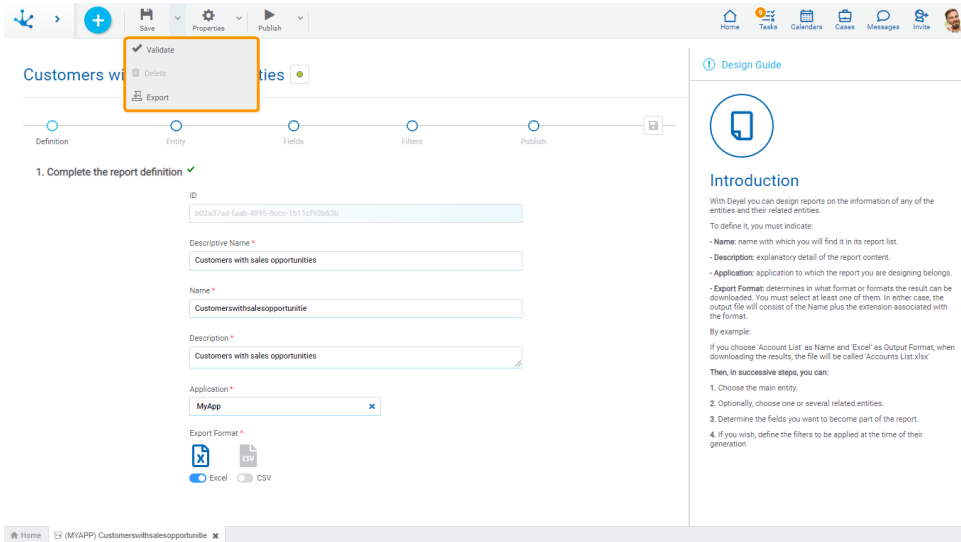
Condition

- Related entities must be published.

To the right of the icon, the option to open the [submenu](#) is displayed.

3.7.12.1.1.1. Save Submenu

This submenu is opened by pressing the icon immediately to the right of the icon corresponding to "Save".



The screenshot displays the 'Properties' panel for a report definition. The 'Publish' icon is highlighted with a red box, and its submenu is open, showing options: 'Validate', 'Delete', and 'Export'. The main panel shows the '1. Complete the report definition' step with fields for ID, Descriptive Name, Name, Description, Application, and Export Format (Excel/CSV).

Validate

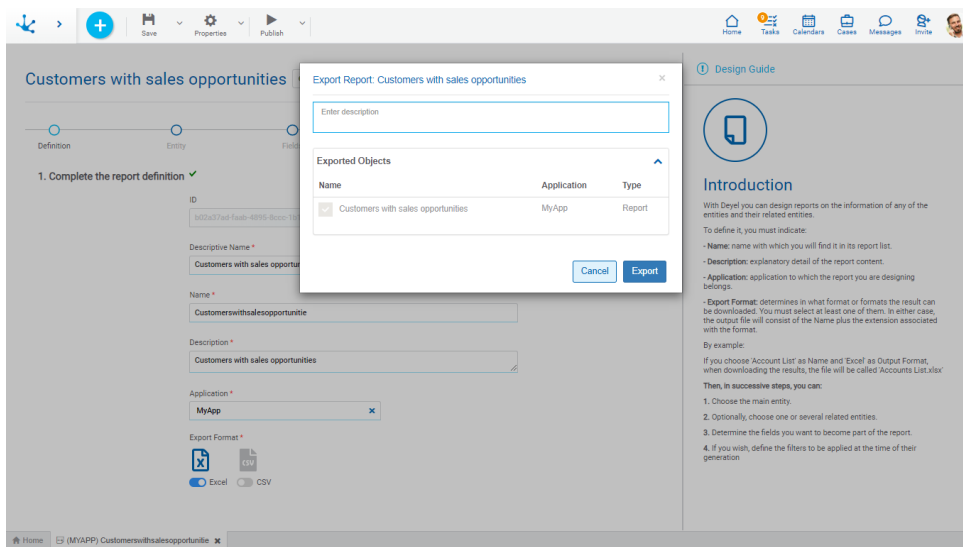
This icon allows to validate if the object is ready to be published, that is, the same validations are carried out as when [publishing](#) and the result of them is reported.

Delete

Allows to delete the object only if it is in "Draft" [state](#), closing the tab in which it is located and deleting it from the modeler's grid.

Export

This icon opens a window for the user to select and confirm the export of the object and the related objects included in it.



Description

In this property a text explaining the reason for the operation can be entered.

This text can be modified upon import and is displayed in the description column of the [export record](#).

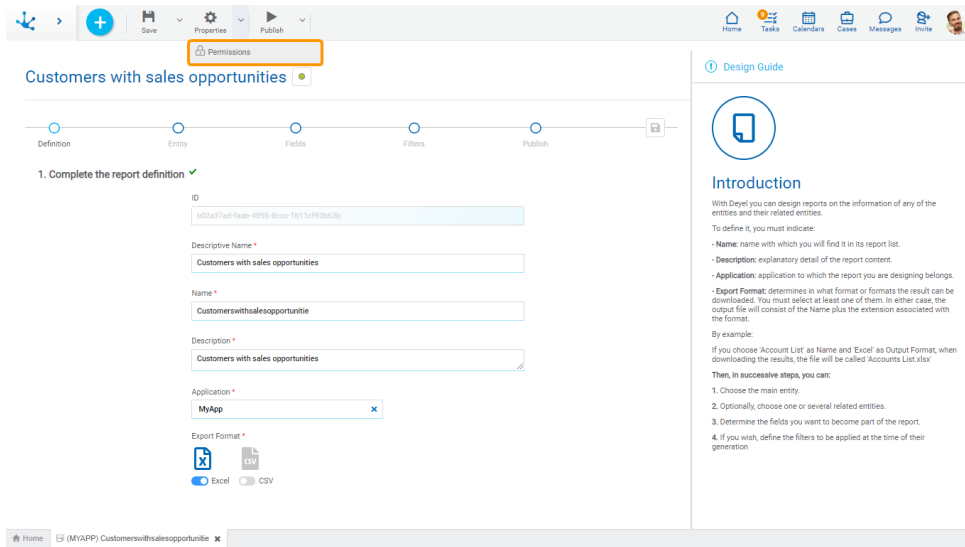
Exported Objects

By expanding the container, the object being exported is displayed. Objects not meant to be exported can be unchecked.

Press the "Cancel" button to undo export or press the "Export" button to finish.

3.7.12.1.1.2. Properties Submenu

This submenu can be opened by pressing the icon immediately to the right of the icon corresponding to "Properties".



Permissions

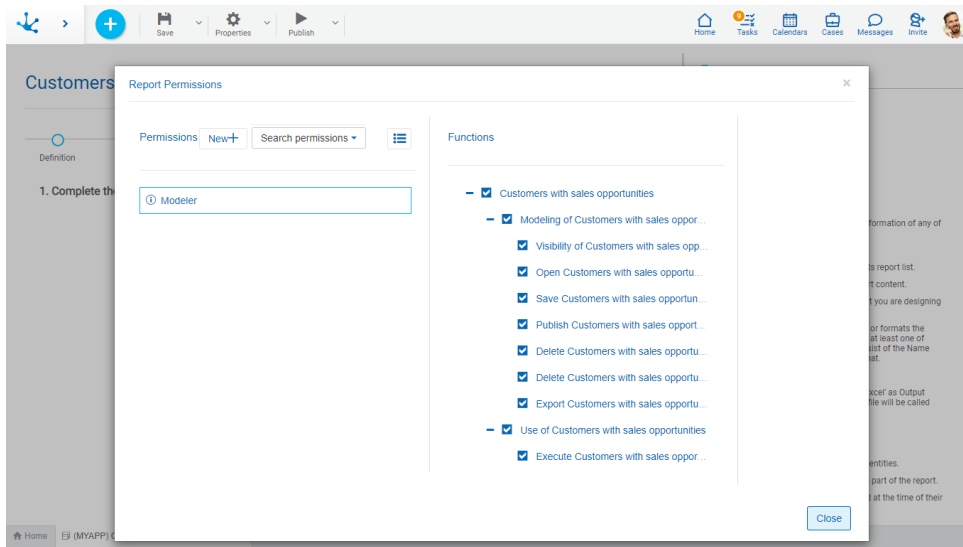
Allows to assign the [security functions](#) for use and modeling of the object to the existing permissions or to new permissions that the user creates, without having to go to the [permission](#) settings option from the menu.


Sections

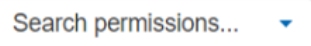
- **Permissions:** Permissions to which object functions are assigned.
- **Security Functions:** Represents the total set of security functions, modeling and use of the object. Those that are marked are the ones included in the selected permission.


By default, all security functions for a new object are assigned to the permission [Modeler](#).


Users who are assigned the permissions have access to the functions included in it.



 Opens a panel to create a new permission and once created, the security functions included in it must be selected .

 Allows to select a permission from a list and enables the input of characters to filter the values in the list.

 Opens the wizard to select a permission and once chosen, the necessary object security functions must be checked.

To unrelate a permission from the object, hover the cursor over the permission and press the icon . If there are functions selected for that permission, they must be unchecked in order to delete it.

Modeling Security Functions

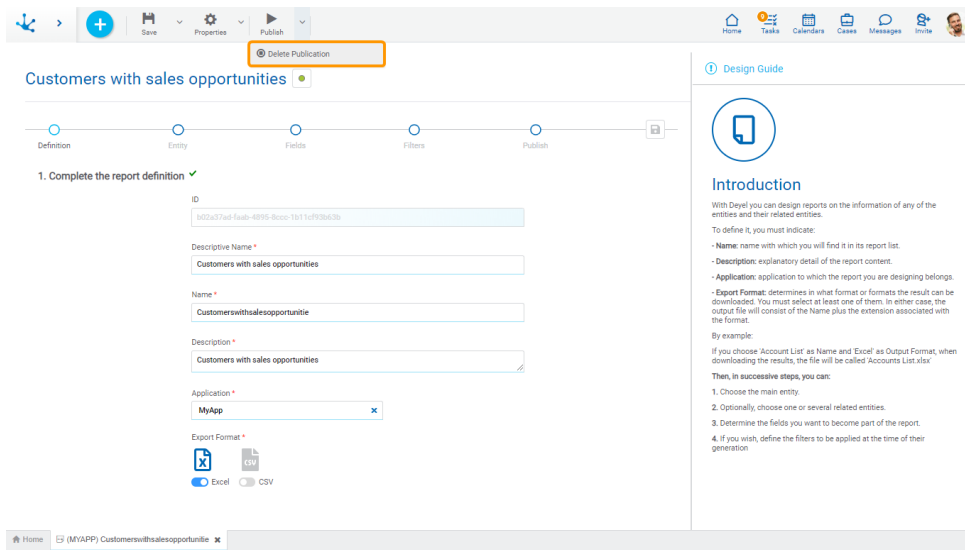
- Visibility: Allows to display the object in the Deyel modeler grid.
- Open: Allows to open the object from the Deyel modeler.
- Save: Enables the operation of saving modifications made to the object.
- Publish: Enables the operation of publishing the object leaving its state as "Published".
- Delete publication: Enables the operation of deleting the object publication leaving its state as "Draft".
- Delete draft definition: Enables the operation of deleting the object.
- Export: Enables the operation to export the object from the tools submenu of the expanded menu.

Use Security Functions

- Execute: Allows to execute the object from the portal.

3.7.12.1.1.3. Publish Submenu

This submenu can be opened by pressing the icon immediately to the right of the icon corresponding to "Publish".

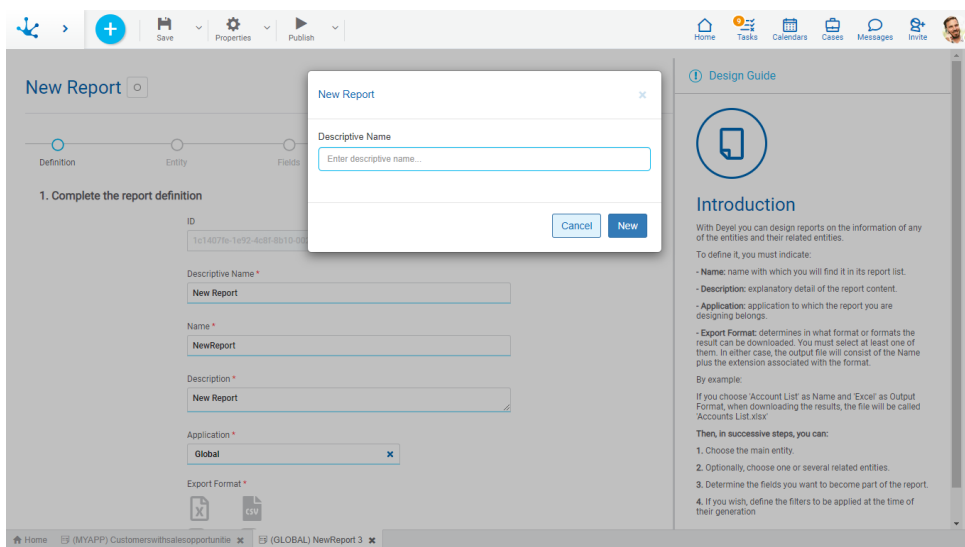


Delete publication

This icon allows to remove the report from use by turning it back to the [state](#) "Draft".

3.7.12.1.2. Modeling Wizard

The reports modeler uses a wizard that guides the user by indicating the necessary steps for modeling. First, enter the report name, then complete the necessary steps for modeling and finally publish it.



In each step of the wizard, useful information for each step of the modeling is displayed in the right panel, indicating how the requested fields should be completed.

The set of wizard steps is displayed by a bar where each step is represented by a circle. Once each step has been completed, a checkmark appears to the right of the description, indicating that it was completed successfully.

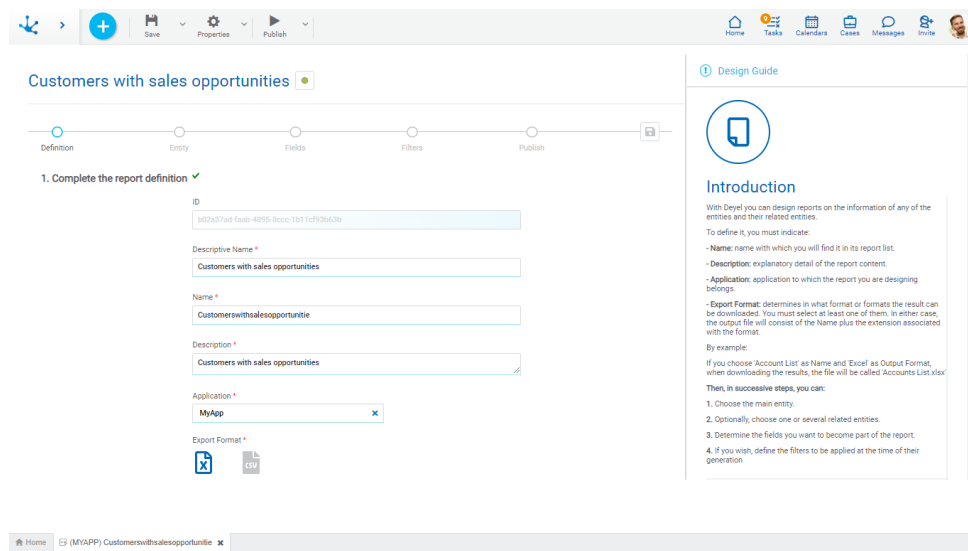
It is possible to advance to the next step by pressing the next circle only if the previous steps have been completed, it is also possible to go back to the previous ones.

3.7.12.1.2.1. Definition

In addition to the descriptive name that is entered at the time of report creation, the required [properties](#) must be entered, in addition to its output format.

Output Format

Determines the format(s) in which the report result can be downloaded. They can be Excel or CSV and at least one of them must be selected.



An asterisk "" on the label indicates that the property is required.*

3.7.12.1.2.2. Entity

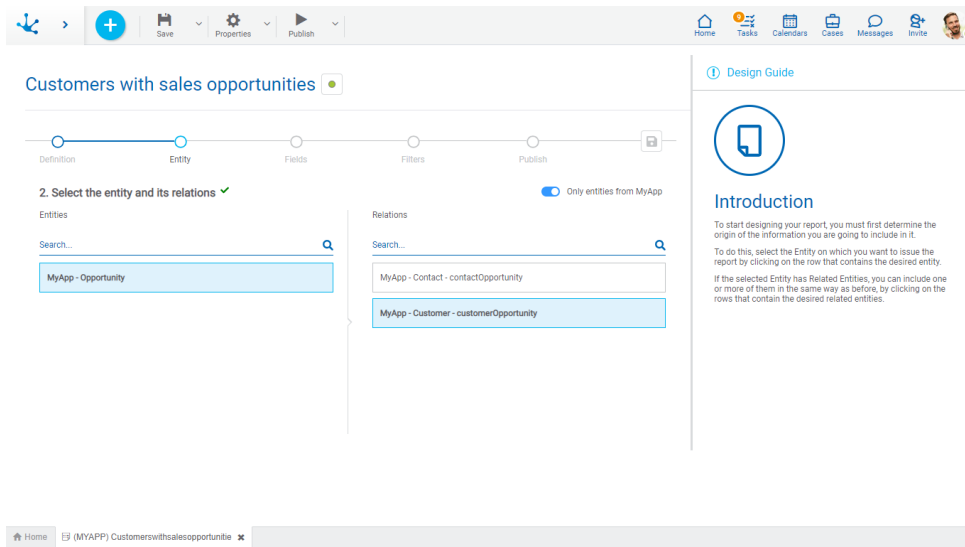
To start designing a report, the origin of the information included in it must first be determined. For this, select the [entity](#) for which the report is generated, by clicking on the row that contains it. If the selected entity has related entities, they are displayed on the right. One or more entities can be included within the same report, by clicking on the rows of the desired related entities.

For each related entity, the name of the field that establishes the relation is displayed on the same line.

To delete a selection, click on the line.

Only entities from <report application>

If this property is checked, only the entities of the application to which the report belongs are displayed.

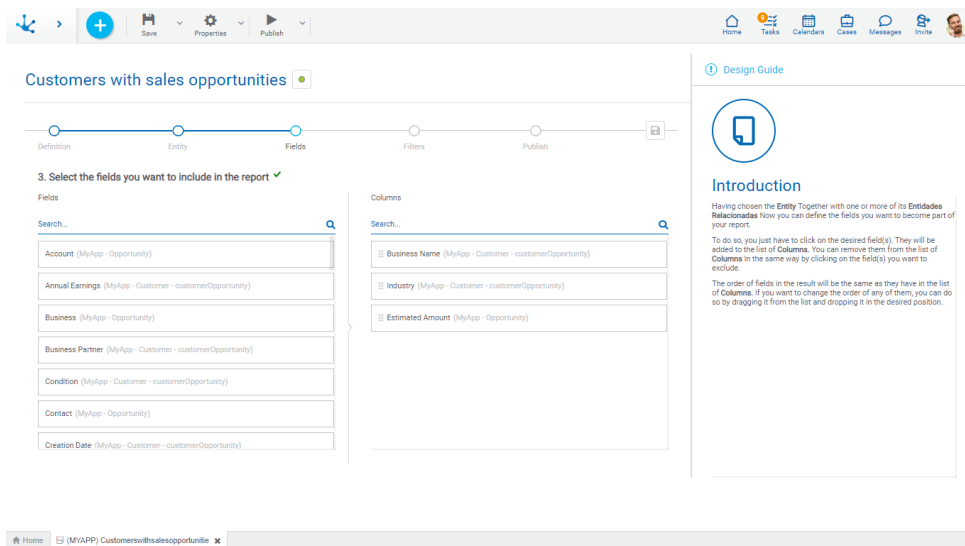


3.7.12.1.2.3. Fields

Once the main entity has been selected along with those related to it, the fields that become report columns must be defined. The fields of all the entities chosen for the report are available on the left to be selected.

By clicking on the desired field(s), they go to the columns area of the report. While clicking on the column(s) that are to be excluded from the report, they go to the fields area.

The order of fields in the report corresponds to the order in which they are seen in the columns area. If the order of any of them has to be changed, just drag it to the chosen position.



3.7.12.1.2.4. Filters

The fields of all the entities chosen for the report are available in the left area to be selected as filters, as in the previous step. For each selected field, conditions can be defined to filter the information shown in the report.

By clicking on the desired field(s), they go to the report columns area so that the conditions available for each field can be added.

For each filter, it is possible to indicate if it is visible at the time the user [generates the report](#). Its editability by the user can also be configured in order to change the filter values.

The defined criteria can be easily updated by clicking on the filter line or deleted from the list by pressing the "X" icon.

Depending on the type of field, filter conditions are different and operators can be entered. Once the filter criteria have been defined, the "Add" button should be pressed so as to define the filter.

Customers with sales opportunities

4. Filters to narrow the report results ✓

Fields

Search...

Business Name (MyApp - Customer - customerOpportunity)

Account (MyApp - Opportunity)

Annual Earnings (MyApp - Customer - customerOpportunity)

Business (MyApp - Opportunity)

Business Partner (MyApp - Customer - customerOpportunity)

Condition (MyApp - Customer - customerOpportunity)

Columns

Search...

Estimated Closing (MyApp - Opportunity)

From

To

Equal

2022

1

Visible Editable Add

Design Guide

Introduction

If you want to restrict the information your report will contain, you can add filters that will be applied when generated.

It is very simple to do:

1. Click on any of the entity fields. The field automatically moves to the right column so that you can define it.
2. Define the criteria you want to apply to the field.
3. Indicate if this filter will be visible and/or editable when generating the report.
4. Press Add.

The defined criteria can be easily modified by clicking on it, in the same way as when you added it.

Filter Conditions

Numeric Fields

The value entered should be numeric.

Search criteria:

- Greater than
- Greater equal to
- Less than
- Less equal to
- Between
- With Data
- No Data

Alphanumeric Fields

Enter a text to search for.

Search criteria:

- Contains

- Equal to
- Starts with
- Does not start with
- No Data
- With Data

Date Fields

A calendar opens to select the date and it can be filtered using different search criteria.

Options:

- From
- Until
- Equal

DateTime Field

A calendar opens to select the date and time, it can be filtered using different search criteria.

- From
- Until
- Equal
- Range

Value Lists Fields

The list values are displayed.


Search criteria:

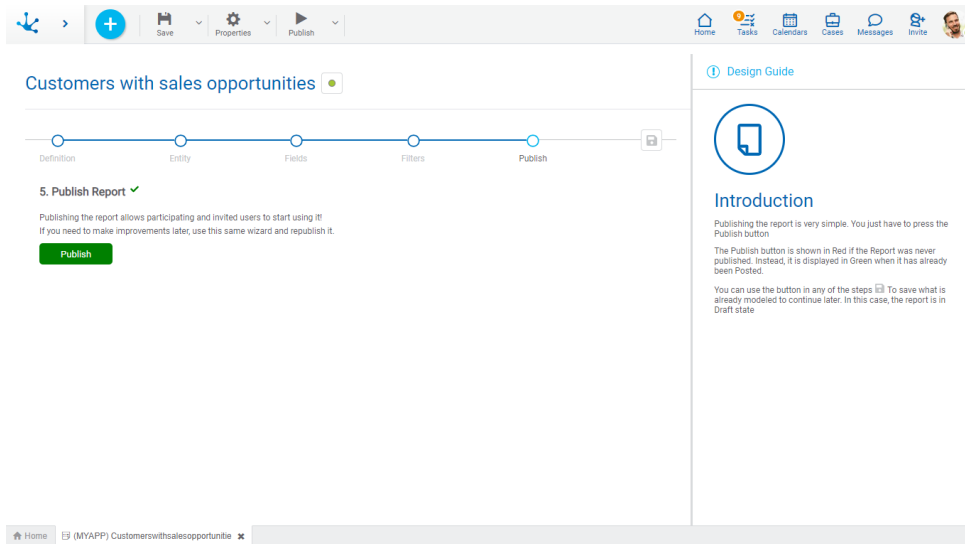
- Included
- Not Included
- With Data
- No Data

3.7.12.1.2.5. Publish

Publishing a report allows users who have been assigned permissions to start using them.


The button to publish the form turns from red to green once the first publication has been made.

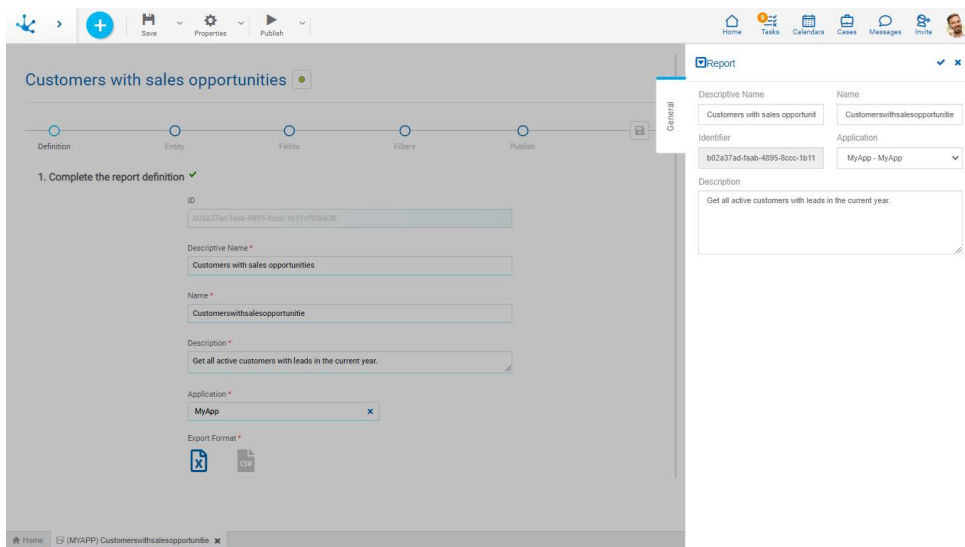
The icon  can be used at any step in order to save what has been modeled without making a publication. In this case, the report remains in [state](#) "Draft".



3.7.12.1.3. Report Properties

Report properties can be entered both at the time of their creation and when updating an existing one.

To enter the report properties panel, use the icon  which is in the [top toolbar](#).



General Tab

Properties

Descriptive Name

It is the report name being displayed.

Name

It is the report name. No blanks or special characters allowed. It is unique and required.


Identifier


It is the report internal name. It is generated automatically.

Application

Allows to define the application to which the object belongs. If no application is reported, the object is assigned to the application "Global".

Actions

The icon  is used to confirm the modifications made in the properties panel.

The icon  is used to close the properties panel, if it was not previously saved, changes are discarded.

3.7.13. Export and Import

The modeler user can export their objects for different purposes.

- To move objects between environments, importing those objects into the target environment
- To make backup copies.

Exporting an object generates a compressed file containing the definition of the object and its selected related objects.

Export and import operations have different considerations depending on whether the objects have state or not.

- With state: when imported into the target environment, they have no impact until they are published.
- Without state: when imported into the target environment, they have an immediate impact.

Before moving objects from one environment to another, it is advisable to configure the target environment correctly in terms of organizational units, users, roles, and adapters.

Steps to Move Objects between Environments


Step 1: Import objects

- Applications and permissions are imported first.
- The order in which other objects are imported is indistinct.


Step 2: Publish objects


- It is recommended to publish objects that have no relation to other objects, first.
- First, rules, value list and indicators, followed by forms, dashboards and processes.

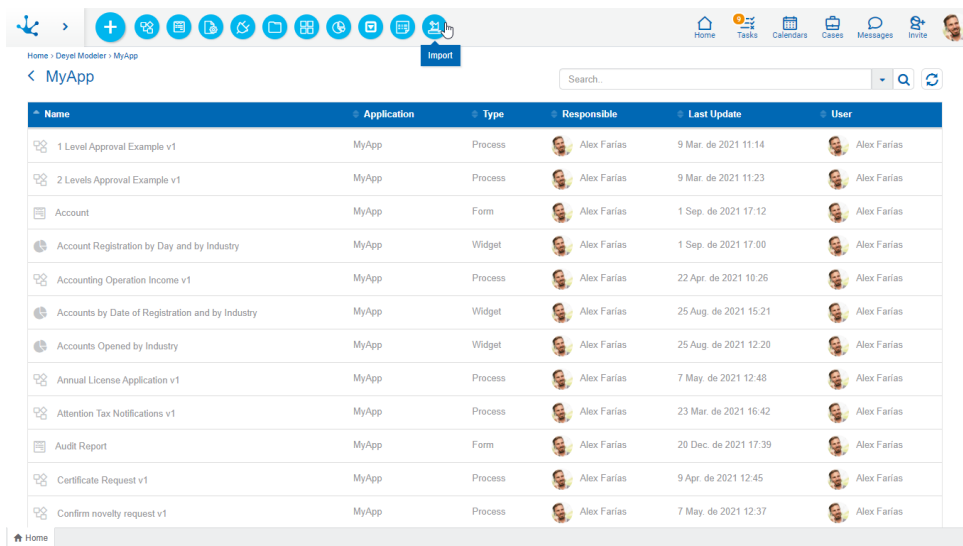
Export

Objects are exported from the icon  in the top toolbar of each object modeler or from the [modeler's grid](#), with the exception of application, role and permission, which are exported only in the latter way.

Import

All the objects are imported from the [context menu](#)  of the modeler.

- From the icon .
- From the expanded menu using the "Import" option



The screenshot shows the 'MyApp' interface with a table of imported objects. The table has columns for Name, Application, Type, Responsible, Last Update, and User. The data is as follows:

Name	Application	Type	Responsible	Last Update	User
1 Level Approval Example v1	MyApp	Process	Alex Farias	9 Mar. de 2021 11:14	Alex Farias
2 Levels Approval Example v1	MyApp	Process	Alex Farias	9 Mar. de 2021 11:23	Alex Farias
Account	MyApp	Form	Alex Farias	1 Sep. de 2021 17:12	Alex Farias
Account Registration by Day and by Industry	MyApp	Widget	Alex Farias	1 Sep. de 2021 17:00	Alex Farias
Accounting Operation Income v1	MyApp	Process	Alex Farias	22 Apr. de 2021 10:26	Alex Farias
Accounts by Date of Registration and by Industry	MyApp	Widget	Alex Farias	25 Aug. de 2021 15:21	Alex Farias
Accounts Opened by Industry	MyApp	Widget	Alex Farias	25 Aug. de 2021 12:20	Alex Farias
Annual License Application v1	MyApp	Process	Alex Farias	7 May. de 2021 12:48	Alex Farias
Attention Tax Notifications v1	MyApp	Process	Alex Farias	23 Mar. de 2021 16:42	Alex Farias
Audit Report	MyApp	Form	Alex Farias	20 Dec. de 2021 17:39	Alex Farias
Certificate Request v1	MyApp	Process	Alex Farias	9 Apr. de 2021 12:45	Alex Farias
Confirm novelty request v1	MyApp	Process	Alex Farias	7 May. de 2021 12:37	Alex Farias

Import Panel

When import starts, a panel with information about the object being imported is opened.

Description

It is the description entered when exporting the object. This text can be modified upon import and is displayed in the description column of the [imports record](#).

Imported Objects

By expanding this container, the related objects are displayed in a hierarchical order. They were included when the main object was exported. Check marks can be removed from objects that you do not want to import.

Application

It corresponds to the application in which each object is imported.

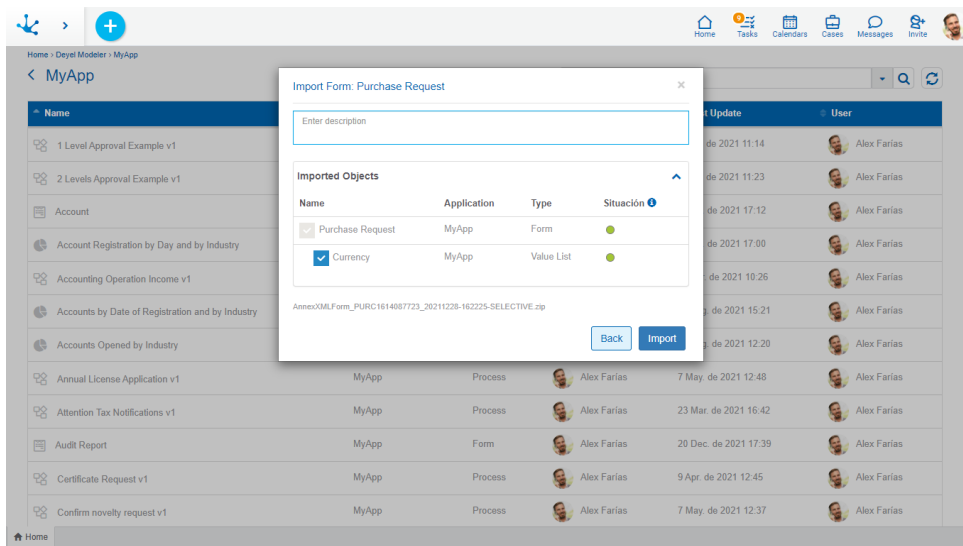
Type

The types of objects being imported are detailed.

Status before import

- In the case of objects with state, it indicates the state of the object in the environment in which it is being imported:
 - : Modified
 - : Published
 - : Draft
- For objects without state, it indicates if there is an object in the environment in which it is being imported or not:
 - ☑ : There is
 - ☐ : There is not

By pressing the "Import" button, the selected objects become imported into the target environment and the panel displays information on the operation result.



By pressing the icon of the **i** column **Status**, the explanation of its content is displayed.

If the selected objects do not meet any of the conditions to import, the import is totally ineffective, that is, all or none of the objects are imported.

If exported objects imported in versions prior to 7.0, only the allowed related objects are displayed.

Status after import

- For objects with state:
 - If they were in the target environment with published ● or modified state ●, after importing they change into modified state ●
 - If they were in the target environment with draft state ○ or did not exist, after importing they remain with draft state ○
- For objects without state:
 - If they were in the target environment ☑, the import updates them directly ☑
 - If they did not previously exist ☐, the import creates them ☑

Conditions for Import

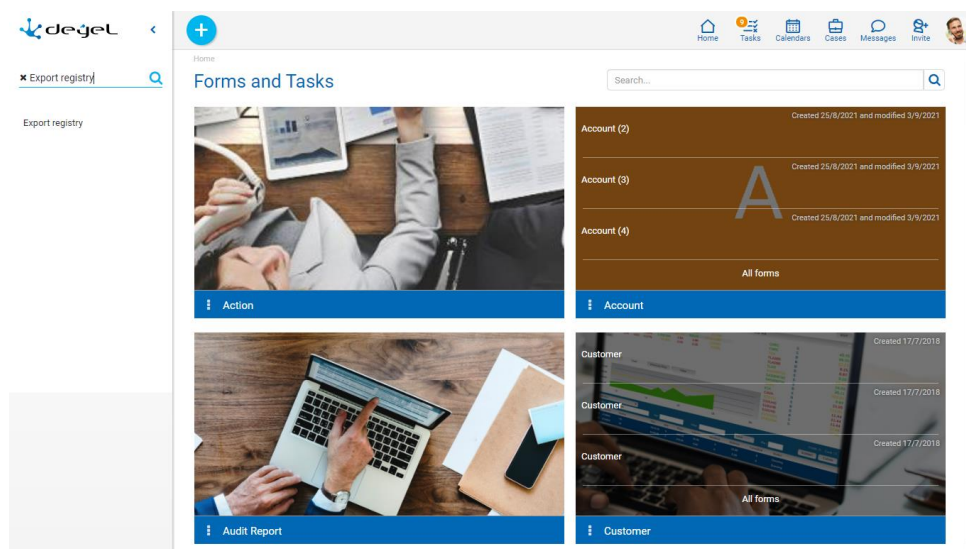
When importing objects, the same conditions apply as when performing the save operation for each object.

Additionally, the following conditions are verified depending on the object:

- Processes
In a process with cases already started, it cannot be imported if activities or gates have been deleted.
- Rules
There should be an adapter.
- Roles
There should be a role application, actors and a coordinating user.
- Permissions
The permission application should be in the target environment. It may happen that some of the security functions contained in the permission do not exist in the target environment. In these cases, a warning is issued in the log file and the import is allowed. The imported permission is left without referencing these non-existent functions.

3.7.13.1. Export Registry

Deyel allows IT modeler users to show the executed exports. Thus, to [enable registration of exported objects](#), the property should be selected in the environment. To show, use the menu quick search, entering "Export Registry".



Properties

Number

It is a consecutive number that uniquely identifies the export record.

Identifier

It is an identification of the record that results from the concatenation of the following data:

- Date and time of the export execution.
- Server name.

Date and Time

Date and time when the object was exported.

Server Name

URL of the environment where the export was executed.

Server IP Address

IP address of the computer where the Deyel environment is installed and where the object is exported from.

Customer IP Address

IP address of the user's computer that exports the object.

User

Code of the user that executed the export.

Selective

Indicates the selected export method. This selective option allows the user that exports to choose the objects that are included and that they cannot be updated when performing the import.

File

File generated on export.

Description

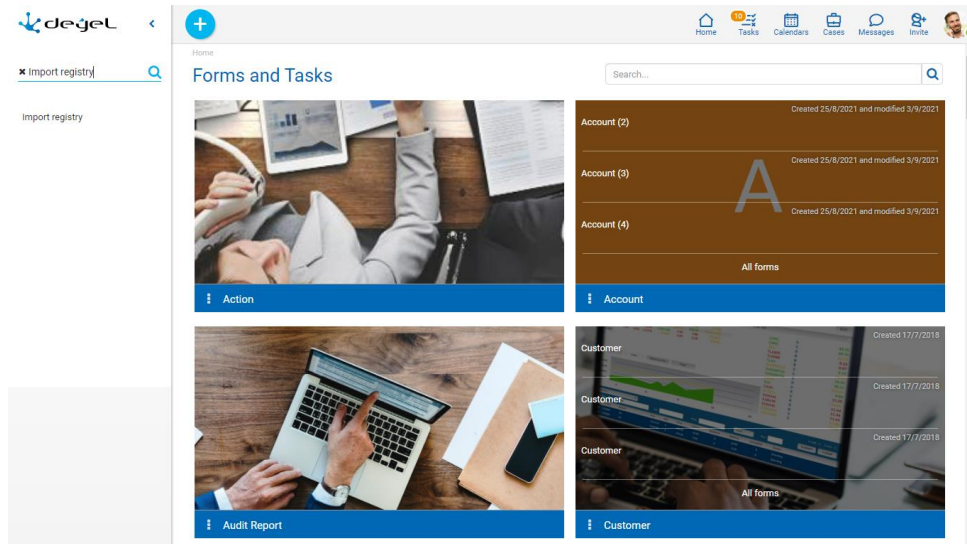
If the user entered remarks when exporting the object, they are displayed in this field.

Root Object and Included Objects

The root object is the main object of the export. Whereas all the objects included in the export file are those related to the main object, which were indicated when exporting.

3.7.13.2. Import Registry

Deyel allows IT modeler users to show the executed imports. Thus, to [enable registration of imported objects](#), the property should be selected in the environment. To show, use the menu quick search, entering "Import Registry".



Properties

Number

It is a consecutive number that uniquely identifies the import record.

Import Identifier

It is an identification of the record that results from the concatenation of the following data:

- Date and time of import execution.
- Server name.

Date and Time

Date and time when the object was imported.

Server Name

URL of the environment where the import was executed.

Server IP Address

IP address of the computer where the Deyel environment is installed and where the object is imported from.

Customer IP Address

IP address of the user's computer that imports the object.

User

Code of the user that executed the import.

Selective

Indicates the selected export method. This selective option allows the user that exports to choose the objects that are included and that they cannot be updated when performing the import.

Validated

Determines whether export is performed with a "hash" check.

Log File

In case an error occurs when importing, it defines the file where that error is recorded along with "stack trace".

File

File used in import.

Description

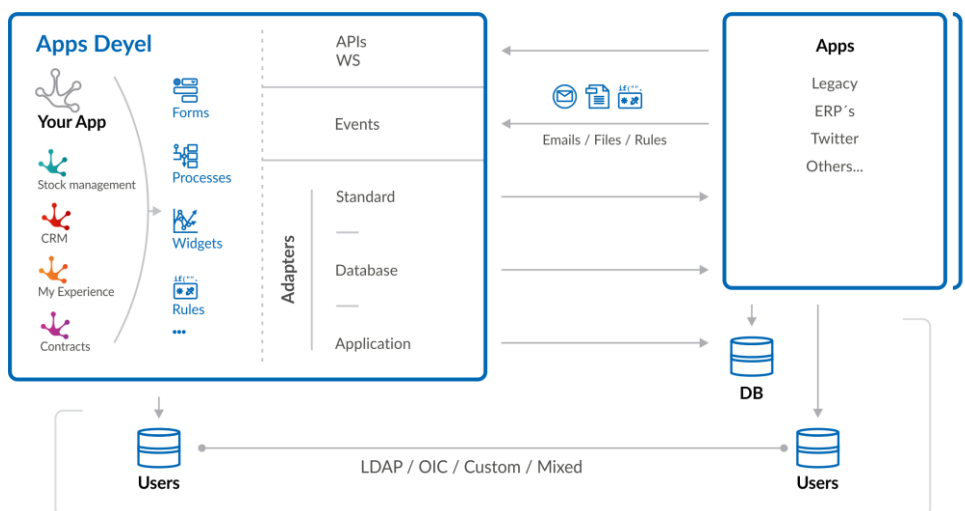
If the user entered [remarks](#) when importing, they are displayed in this field.

3.8. Integration

Applications developed with **Deyel** can interact with other applications, by using different tools and services of the platform.

On the one hand, **Deyel** allows to integrate its applications with external applications and existing data sources, that is, Legacy systems, databases, Twitter or other external applications, making use of adapters based on web services, Java and JDBC.

It also has a web services API based on the Richardson maturity model design guides, level 3, which allows any external application to **Deyel** to interact with applications developed with **Deyel**, or with solutions, such as CRM, Contracts or Stock Management, among others. It also allows the use of emails, rules, files and other events.



Applications developed with **Deyel** have their own user directory and if necessary they can be integrated through LDAP, OIC, in a personalized and mixed way, that is, allowing groups of users with different authentications.

Integration Facilities

Applications can be integrated using different platform tools and services.

Integration with External Applications

Applications developed with **Deyel** can be integrated with other applications by different means, either consulting or updating their information.

- Rules based on [standard adapters](#)

This integration is done using advanced rules that use the SDK facilities of Deyel and adapters that allow access to web services from external providers.

- Rules based on [database adapters](#) that use the Java JDBC protocol

This integration is done using adapters provided by **Deyel** for the most popular database engines on the market.

- Rules based on [application adapters](#)

This integration is done using adapters that allow defining access to applications on the market that expose services.

Integration from External Applications

Other applications can be integrated with applications developed with **Deyel**, mainly using [Deyel Rest API](#). There are also other means that can be very useful, depending on the characteristics of the applications to be integrated.

- Use of web services API

Through the use of [Deyel Rest API](#) other applications can interact with applications developed with **Deyel**, having access to forms and cases through web services.

- Other media

Integration can be done by using emails, rules and files.

Authentication Schemas

The authentication procedure ensures that any use of **Deyel** and the use of its solutions are performed by "someone" or "something" that can be identified as a user, within the user registry.

Deyel uses different [authentication schemas](#) to respond to this request.

Using the Integration

Integration rules can be used from the different objects of the applications developed with **Deyel**.

- Rules in forms and processes

Advanced adapter-based rules can be used using [embedded rules](#).

- Automatic actions of process activities

Advanced adapter-based rules can be used in the modeling of [automatic actions](#) of process activities.

- Scheduled tasks and events

Advanced adapter-based rules can also be used in the modeling of [events](#) and [scheduled tasks](#).

3.8.1. Deyel Rest API

Deyel Rest API allows developers and external applications to programmatically interact with **Deyel** in a simple way, achieving fast integration at low coding cost.

The layout is modeled as a hierarchy where each node is either a single resource or a collection resource. By convention, the former is called "resource" and the latter is called "collection".

Resources are known as API nouns.

A collection contains a list of resources of the same type.

Example: The users collection contains a list of users where each user is a resource.

According to the REST architecture these resources can be used with a small number of methods.

Methods are known as API verbs.

With the HTTP protocol, resource names map naturally to URLs, while methods map via the HTTP protocol:

- [GET method](#)
- [POST method](#)
- [PUT / PATCH method](#)
- [DELETE method](#)

The examples that are explained in each of the methods that are implemented on a project in Postman and the collection can be [opened from here](#).

To use the endpoints included in the collection, it is necessary to replace the value "myenvironment" in the variables of the collection with the value corresponding to the environment to be used.

Security

The [Rest API security of Deyel](#) is implemented using the standard [OAuth 2.0](#), which allows access to the provided resources, using a single Bearer type access token.

To start using Deyel Rest API, it is first necessary to obtain the access token, which is used in methods that access and interact with resources.

3.8.1.1. GET method

The GET method uses the URL path to determine the collection or resource to get with, optionally, additional parameters that determine the set of results to get for the request.

- It uses the HTTP GET verb.
- There is no request body, that is, the configuration does not declare a "body" clause.
- The displayed resource or resources are contained in the response body.
- Each resource contained in the response body contains hypermedia links ([HATEOAS](#)), which allows the API consumer to dynamically navigate to related resources.

In all the examples the "Account (CRM_ACCOUNT)" form of the CRM application is used.

Example: Get all "Account" form instances.

```
GET /forms/CRM_ACCOUNT/instances/
```

Optional Parameters

If the request returns a collection of resources, the GET method URL may contain optional parameters that allow customizing the results obtained by that request.

None or several of these parameters may be included in each request, separated by the "&" sign. The general syntax is:

```
GET /collection-name?parameter=value[&parameter=value]
```

search

Through this parameter, the response content can be filtered using RHS notation. This notation is:

```
fieldName=operator:value
```

One or several filters separated by "," may be included within this parameter.

The "fieldName" value is that of the Identifier property of the resource on which the request is being made.

The possible values for "operator" are:

Value	Description
eq	Equal
neq	Not equal
like	Contains
sw	Starts with

Value	Description
nsw	Does not start with
ew	Ends with
new	Does not end with
gt	Greater than
gte	Greater than equal to
lt	Less than
lte	Less than equal to
in	Included in
nin	Not included in

Example 1: Search all "Account" form instances that have "JPerez" value in the field corresponding to the seller.

```
GET /forms/CRM_ACCOUNT/instances?search=cdInstanceOwner=eq:JPerez
```

Example 2: Search all "Account" form instances that have "JPerez" value in the field corresponding to the seller and the value of the field corresponding to the company name that starts with the "Acme" value.

```
GET /forms/CRM_ACCOUNT/instances?search=cdInstanceOwner=eq:JPerez,dsCompany=sw:Acme
```

sort

This parameter allows sorting the response content according to the needs of the API consumer. The syntax is:

[+/-]fieldName

One or several sorting criteria separated by "," may be included within this parameter.

Prefixes "+" or "-" indicate whether it is an ascending or descending sorting. If omitted, the sorting is assumed to be ascending.

Example 1: Get the "Account" form instances in ascending sorting by the number of employees in the account.

```
GET /forms/CRM_ACCOUNT/instances?sort=qtEmployee
```

Example 2: Get the "Account" form instances in ascending sorting by the company name and within it, in descending sorting by the number of employees in the account.

```
GET /forms/CRM_ACCOUNT/instances?sort=dsCompany,-qtEmployee
```

per-page

The response to a request is paginated. It means that the API returns a page of the results obtained by the request.

The size of these pages can be determined using this parameter, that is, the maximum amount of resources that the request response contains. The syntax is:

```
per-page=20
```

This parameter, like the rest of them, is optional. If omitted, the API takes the following configurable property value [Number of lines per page when searching for forms](#).

Example: Define the page size with value 20.

```
GET /forms/CRM_ACCOUNT/instances?per-page=20
```

page-number

In combination with the per-page parameter, this parameter allows to determine the subset of results corresponding to a request that are included in the response. The syntax is:

```
page-number=3
```

As this parameter is also optional, if omitted, the default value is 1.

Example 1: Return page 2 with pages having 10 resources, that is, resources from 11 to 20.

```
GET /forms/CRM_ACCOUNT/instances?page-number=2
```

Example 2: Return page 2 with pages having 30 resources, that is, resources from 31 to 60.

```
GET /forms/CRM_ACCOUNT/instances?per-page=30&page-number=2
```

HATEOAS

Each resource contained in the response to a given request includes hypermedia links (Hypermedia as the Engine of Application State) that allow the API consumer to dynamically navigate to resources and methods related to the resource being accessed.

In all cases, the response for each resource includes a list of the type:

- rel: HTTP verb to be invoked to access the related resource or method.
- label: Description of the related resource or method.
- href: URL of the related resource or method.

Example: Make a request to get data from instance 93 of the "Account" form.

```
GET /forms/CRM_ACCOUNT/instances/93
```

The response to this request includes, in addition to properties of the requested form, the information to execute the methods of related resources.

```
{
  "idForm": 93,
  "cdStatus": "1",
  "phone": null,
  "cdUserLastUpdate": "JPEREZ",
  "dtLastUpdate": "1575059822000",
  "email": null,
  "dsIndustry": "6",
  "cdUserStore": "JPEREZ",
  "dtStore": "1540846918000",
  "dsOwner": "Perez, Juan",
  "dtOpening": "1540782000000",
  "dsHolding": null,
  "links": [
    {
      "rel": "PUT",
      "label": "Edit",
      "href":
        "http://miAmbiente/v1.0/forms/CRM_ACCOUNT/instances/93"
    },
    {
      "rel": "PATCH",
      "label": "Partial Edit",
      "href":
        "http://miAmbiente/v1.0/forms/CRM_ACCOUNT/instances/93"
    },
    {
      "rel": "DELETE",
```

```

        "label": "Remove",
        "href":
            "http://miAmbiente/v1.0/forms/CRM_ACCOUNT/instances/93"
    }
]
}

```

This information dynamically allows:

- Editing instance 93 of the form
`PUT /forms/CRM_ACCOUNT/instances/93`
- Updating instance 93 of the form
`PATCH /forms/CRM_ACCOUNT/instances/93`
- Deleting instance 93 of the form
`DELETE /forms/CRM_ACCOUNT/instances/93`

3.8.1.2. POST method

The POST method is used to create a new resource to a collection.

- It uses the HTTP POST verb.
- The url only contains the name of the collection in which a new resource is created.
- The values of the new resource attributes are specified in the request body, that is, the configuration declares a "body" clause.
- The response body contains the information of the resource identifier created in the form:
 - name: Name of the resource identifier attribute (idObjectName).
 - value: Value of the resource identifier attribute (idObjectValue).
 - dtLastUpdate: Resource creation date.

Example: Create an "Account" form instance.

```
POST /forms/CRM_ACCOUNT/instances
```

The request body ("body" clause) contains:

```

{
    "cbIsPartner": false,
    "cdInstanceOwner": "JPerez",
    "cdStatus": "Active",
    "cdType": "1",
    "dsCompany": "Tenaris",
    "dsDescription": "",
    "dsHolding": "TECHINT",
    "dsIndustry": "4",
    "dsOwner": "Juan Perez",
}

```

```

"dsSource": "Referred",
"dtOpening": "1540782000000",
"emails": "",
"flLogo": null,
"idPartnerCompany": null,
"nuIdentifNumber": "30-00000000-5",
"qtAnualRev": "1500000000",
"qtEmployee": 1000,
"qtScore": 90,
"lsAddress": [
  {
    "lsAddress/dsAddress": "Della Paolera 333",
    "lsAddress/dsCity": "buenos aires",
    "lsAddress/dsCountry": "argentina",
    "lsAddress/dsState": "buenos aires",
    "lsAddress/tpAddress": "1"
  }
],
"lsFiles": [
  {
    "lsFiles/dsFile": null,
    "_nuSequence": 0
  }
],
"webSiteLine": [
  {
    "webSiteLine/dsWebsite": "www.tenaris.com",
    "webSiteLine/tpWebsite": "1"
  }
],
"phoneLine": [
  {
    "phoneLine/tpPhone": "1",
    "phoneLine/nrPhone": "01137489236"
  }
],
"eMailLine": [
  {
    "eMailLine/tpEmail": "1",
    "eMailLine/dsEmail": "info@tenaris.com"
  }
]
]
}

```

3.8.1.3. PUT/PATCH Method

PUT and PATCH methods are used to update a resource. The difference between them is that the PUT method impacts all the attributes of the resource and the PATCH method impacts one or more of those attributes.

- They use the HTTP PUT and PATCH verbs respectively.
- The url contains the collection name and id of the resource to be updated.
- The new values of the resource attributes are specified in the request body, that is, the configuration declares a "body" clause.
In the PUT method, all the values for all resource attributes must be specified. On the other hand, in the PATCH method, only the values of the attributes that are to be updated must be specified.
- There is no response body.
- The modification date (dtLastUpdate) obtained with a query (GET) to the corresponding instance prior to making the modification must be specified.

Example: Instance update with Id = 93 from the "Account" form.

```
PUT /forms/CRM_ACCOUNT/instances/93
```

The request body ("body" clause) contains:

```
{
  "cbIsPartner": false,
  "cdInstanceOwner": "JPerez",
  "cdStatus": "Active",
  "cdType": "1",
  "dsCompany": "Tenaris",
  "dsDescription": "",
  "dsHolding": "TECHINT",
  "dsIndustry": "4",
  "dsOwner": "Juan Perez",
  "dsSource": "Referred",
  "dtLastUpdate": "1575059822000",
  "dtOpening": "1540782000000",
  "emails": "",
  "flLogo": null,
  "idPartnerCompany": null,
  "nuIdentifNumber": "30-00000000-5",
  "qtAnualRev": "1500000000",
  "qtEmployee": 1000,
  "qtScore": 90,
  "lsAddress": [
    {
      "lsAddress/dsAddress": "Della Paolera 333",
      "lsAddress/dsCity": "buenos aires",
      "lsAddress/dsCountry": "argentina",
    }
  ]
}
```

```

    "lsAddress/dsState": "buenos aires",
    "lsAddress/tpAddress": "1"
  }
],
"lsFiles": [
  {
    "lsFiles/dsFile": null,
    "_nuSequence": 0
  }
],
"webSiteLine": [
  {
    "webSiteLine/dsWebsite": "www.tenaris.com",
    "webSiteLine/tpWebsite": "1"
  }
],
"phoneLine": [
  {
    "phoneLine/tpPhone": "1",
    "phoneLine/nrPhone": "01137489236"
  }
],
"eMailLine": [
  {
    "eMailLine/tpEmail": "1",
    "eMailLine/dsEmail": "info@tenaris.com"
  }
]
]
}

```

PATCH /forms/CRMACCOUNT/instances/93

The request body ("body" clause) contains:

```

{
  "dsDescription": "Steel company",
  "dsHolding": "TECHINT Co",
  "dsIndustry": "4" ,
  "dtLastUpdate": "1687549970000"
}

```

3.8.1.4. DELETE method

The DELETE method is used to delete a resource contained within the operation url.

- It uses the HTTP DELETE verb.
- The url contains the collection name and id of the resource to be deleted.
- There is no request body.
- There is no response body.

Example: Deletion of instance with Id = 93 from the "Account" form.

```
DELETE /forms/CRM_ACCOUNT/instances/93
```

3.8.1.5. Return Codes

All methods are implemented in such a way that the response contains not only the information returned by the request in the corresponding cases, but the return code that indicates the result, successful or not, of the operation performed.

If the result of the operation is not successful, in addition to the corresponding return code, a collection is returned with all the errors of **Deyel** that have occurred.

Although each method implements its own return codes for its operation, all possible HTTP return codes are described in the following table.

HTTP response code	Description
200	"OK" success code, for GET or HEAD request.
201	"Created" success code, for POST request.
202	"Updated" success code, for PUT request.
204	"No Content" success code, for DELETE request.
400	The request couldn't be understood, usually because the JSON or XML body contains an error.
401	The session ID or OAuth token used has expired or is invalid. The response body contains the message and errorCode.
403	The request has been refused. Verify that the logged-in user has appropriate permissions. If the error code is REQUEST_LIMIT_EXCEEDED, you've exceeded API request limits in your org.

HTTP response code	Description
404	The requested resource couldn't be found. Check the URI for errors, and verify that there are no sharing issues.
405	The method specified in the Request-Line isn't allowed for the resource specified in the URI.
415	The entity in the request is in a format that's not supported by the specified method.
500	An error has occurred within Deyel Platform, so the request could not be completed. Contact Deyel Customer Support.
503	Service unavailable. Contact Deyel Customer Support.

3.8.1.6. Data Type

Data types available in **Deyel** are detailed, with its equivalent representation in the JSON schemas used by the API.

	Data type	Type in JSON	Example
Text	Alphanumeric (length)	String	"value"
	Alphanumeric Uppercase (length)		
	Large Alphanumeric		
	Enriched Text		

	Data type	Type in JSON	Example
Integer	Number	Number	10
	Large Integer	String	"10"
	Decimal		"10.5"
Time	Time	String (milliseconds from epoch)	"946748150000"
	Local time		
Date	Date	String (milliseconds from epoch)	"1606499064998"
	Date and Time		
	Local Date		
	Date and Local Time		
Image	Image in Database	String	"&cdRepositorio=IDB&dsFilename=2.....p g&dsOriginalFilename=photo.jpg"
File	File in Database	String	"&cdRepositorio=IDB&dsFilename=2.....p g&dsOriginalFilename=photo.jpg"
Check	Check	Boolean	true / false

3.8.1.7. Swagger Reference Guide

Within the documentation tools available on the market, **Deyel** uses [Swagger](#), a collaborative platform that has established itself as a benchmark.

All endpoints available in the API are documented in the reference guide, along with the definition and explanation of their parameters, request schemas and data structure of each of them.

This is an interactive documentation that allows to explore and test API calls from a browser, showing parameters, headers, request schemas, and response body, as well as the duration of the request and the URL command that can be used to send the same request from the command line.

3.8.1.8. Security

Deyel implements the [OAuth 2.0](#) standard to interact with its Rest API using a Bearer access token.

It is important to understand the concepts of authentication and authorization.

Authentication is defined as the process to verify who is connecting, that is, it refers to identification.

For example, when a user logs into an application by entering a username and password, the application authenticates that user. That is, the application verifies that the entered password matches the one associated with the user. As long as the password matches, the user can access the application. But if it doesn't match, the user is not allowed to log in because their ID could not be confirmed.

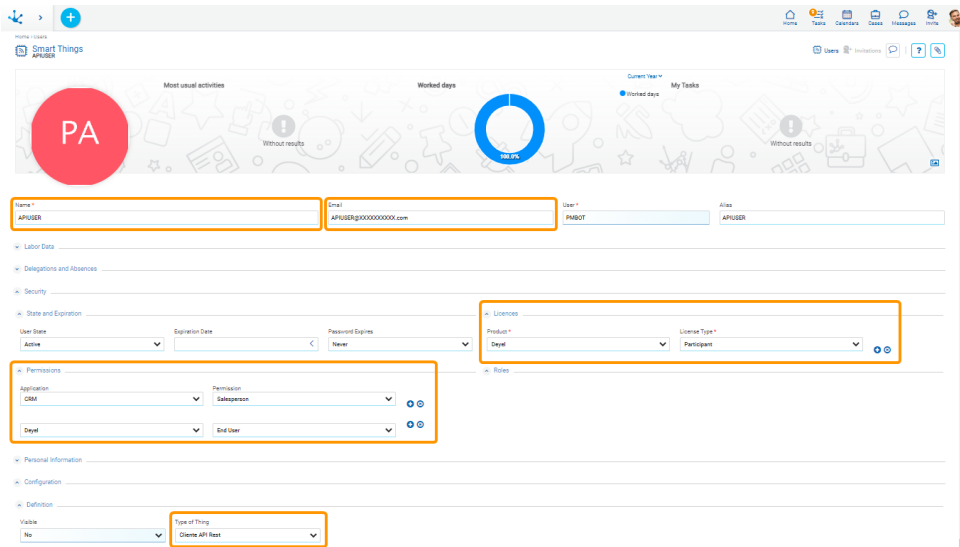
Authorization is defined as the process that verifies what the user has access to.

For example, in an application that offers different functionalities for free users and fee-paying users, free users are authorized to access only a limited set of functionalities until they pay the subscription and become users with better functionalities.

Registration of External Applications

In **Deyel**, applications that try to connect from an external environment are represented by a thing type user "[Rest API Client](#)". This means that in order to consume the resources exposed in Deyel Rest API, it is necessary to send the credentials of that user in order to authenticate and generate the corresponding access token, which must then be used for consumption by the different endpoints.

To configure a [smart thing type](#) user, it should be created from the "Configuration" option of the **Deyel** menu. A smart thing type user must be defined, configuring its properties to indicate name, user, type and permissions for each application.



The smart thing type user properties should be completed with the suggested values.

Name	APIUSER
User	APIUSER
Email	Email address where the user receives the password.
Type	Rest API Client
Product Type of License	CRM Participant
Product Type of License	Deyel Participant
Application Permission	CRM Salesperson
Application Permission	Deyel End User

Access Token Request Endpoint

To request the new access tokens and to access the different endpoints, it is necessary to first access the endpoint:

`https://<ambiente>/oauth/token`

To request the access token, the following configuration should be used:

- POST verb.
- Add parameters using the format:
"application/x-www-form-urlencoded".
- Access credentials ("client_id" and "client_secret") must be sent in "Basic xxxxxx" format where the xxxxxx represent Base64 encoded values.
- The parameters to be sent vary depending on the [authorization flow](#), but the "grant_type" parameter must always be sent.

Deyel has an [OAuth 2.0](#) module that is implemented internally and serves to perform user authorization and generates as a result a JWT token used to authorize.

Expiration and Renewal of Tokens

The generated access tokens are valid for 1 day, while the refresh tokens last for 14 days, users are asked to identify themselves again at the end of the period.

Information Stored in Tokens

The generated access token registers claims in the JWT body (payload): user code, organizational unit of the user and user permissions.

3.8.1.8.1. OAuth 2.0

OAuth 2.0 is an authorization protocol. It allows a third-party application to have access to an HTTP service, either on behalf of a resource owner, by arranging an approval interaction between the resource owner and the HTTP service, or by allowing the third-party application to have access on its own name.

OAuth 2.0 focuses on:

- Providing authorization flows to limit access to a service. Authorization flows are intended to be used by web applications, desktop applications, mobile phones, and room (bedroom, living room, etc) devices.
- Providing scopes to specify what access is requested by the application and what is authorized to be accessed by the owner of the accessed resource.

Authorization Flow (Flow Grant Types)

OAuth flows (grant types) refer to how an application obtains an access token that allows it to access resources exposed through an API. The standard uses these flows to solve all business scenarios that may arise in the consumption of APIs based on three variables:

- The type of consuming application.
- Its degree of confidence.
- How the resource owner interacts in the process.

Authorization Flows Available in Deyel

In **Deyel**, the following authorization flows are available:

- **Client Credentials**
This flow is used to consume the objects exposed in the Rest API. The client can request an access token using only their client credentials when requesting access to protected resources under their control.
- **Resource Owner Password**
Like the previous flow, it is used to consume the objects exposed in the Rest API. The flow is suitable for clients capable of obtaining the resource owner's credentials (username and password, typically via an interactive form) and working on their behalf with their protected resources.
- **Refresh Token**
It is used to refresh access tokens. This means that those access tokens that expire or become invalid should be exchanged for a new one using this flow. It is used in authorizations with the Resource Owner Password flow.

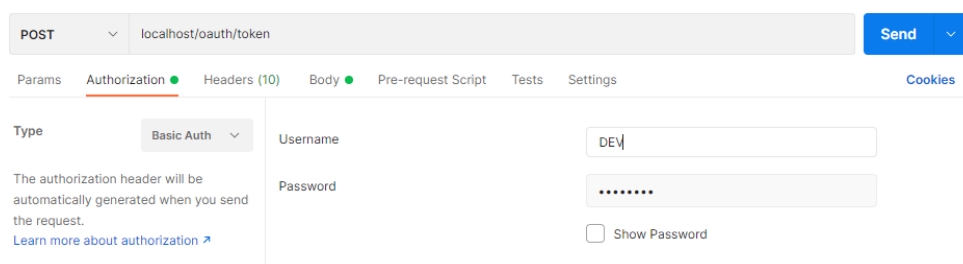
3.8.1.8.1.1. Client Credentials

To make calls, the following configuration should be used:

- POST verb.
- Add parameters using the format: "application/x-www-form-urlencoded".
 - Access credentials ("client_id" and "client_secret") must be sent in "Basic xxxxxx" format where the xxxxxx represent Base64 encoded values.
 - Specify the "grant_type" parameter with "client_credentials" value.

Example of Use in Postman

- Specification of authorization with "Rest API thing" user keys.



The screenshot shows the Postman interface for a POST request to localhost/oauth/token. The 'Authorization' tab is selected, and the 'Basic Auth' type is chosen. The 'Username' field contains 'DEV' and the 'Password' field contains a masked password '.....'. There is a 'Show Password' checkbox which is currently unchecked. A note states: 'The authorization header will be automatically generated when you send the request. Learn more about authorization >'. The 'Send' button is visible in the top right corner.

- Specification of grant_type and parameter sending format.

POST `{{token_uri}}/token` Send

Params Authorization Headers (10) **Body** Pre-request Script Tests Settings Cookies

none
 form-data
 x-www-form-urlencoded
 raw
 binary
 GraphQL

KEY	VALUE	DESCRIPTION	...	Bulk Edit
<input checked="" type="checkbox"/> grant_type	client_credentials			
Key	Value	Description		

Successful response of access token request:

```
{
  "access_token": "eyJraWQiOiJrMSI-
sImFsZyI6ImlJTMjU2In0.eyJpc3MiOiJlZlJlYXNzaW9uXCI6ImV4cCI6MTY1NDI2MTQ5MCwiY2R-
PcmdVbml0IjoiMDAwMDAwMDAwMSIsImdyYW50X3R5cGUiOiJjbGllbnRfY3JlZGVudG1-
hbHMiLCJwZXJ-
taXNzaW9ucyI6IntcImR0VmFsaWRpdHlcIjpcIkp1biAyLCAyMDIyLCAxMDowND01MCB-
BTVwiLFwibHNQZXJ-
taXNzaW9uc1wiOlt7XCJpZEFwcGxpY2F0aW9uXCI6XCJERlFTFwiLFwiY2RQZXJtaXN-
zaW9uXCI6XCJVU1VBUklPRklOUxcInl0IjoiImNvbXBhbnkiOiJDU1Q1LCJlYXNjaXN-
pZGRl-
biI6IjIwMjAyMTAwNDUwLjg2NjAuODAxMjc1NzQ3NDc1NzUxOSIsIm1kRGF0YUJh-
c2VTZXNzaW9uIjoiREVZRUxCTlQqMjAyMjA2MDI0NTA0ODY2MC44MDUyNzU3NDc0-
NzU3NTE5IiwianRpIjoiREVZRUxCTlQ1fQ.M8EHKfMwJQsdJbg4VQkPcvlJxoRyG-
XO6h4eVWymtkyvcCxN658hCqg81uu2yM5rEVMpUqOhNWKAoJdcvOvCMpAi21oYttkVlQ-
xSdE-
NUVNu4fmhDavQshstzvqGrY3qu9gaxdCfcLjwf62bEf9227TpvDgbZyFP8jYLbA81gwo-
1y6Q2NOaIE_ypChMB4LRm-bhEx5epdL1lMsE3JuwjMQ0tN2j-
EehA1dDPB3AY8461wTGOPULF66B81iGmnOvexvoeS0vZQU3cMXwpxy-yQ8ulJRI dj-
BprxmKfWk3_MyD7SgkyqQwVSjiXDgfbJoFkCTPYHprZVDE362yBYW",
  "token_type": "Bearer",
  "expires_in": 86400
}
```

Failed response of access token request:

```
{
  "error_description": "Invalid client_id",
  "error": "Invalid_request"
}
```

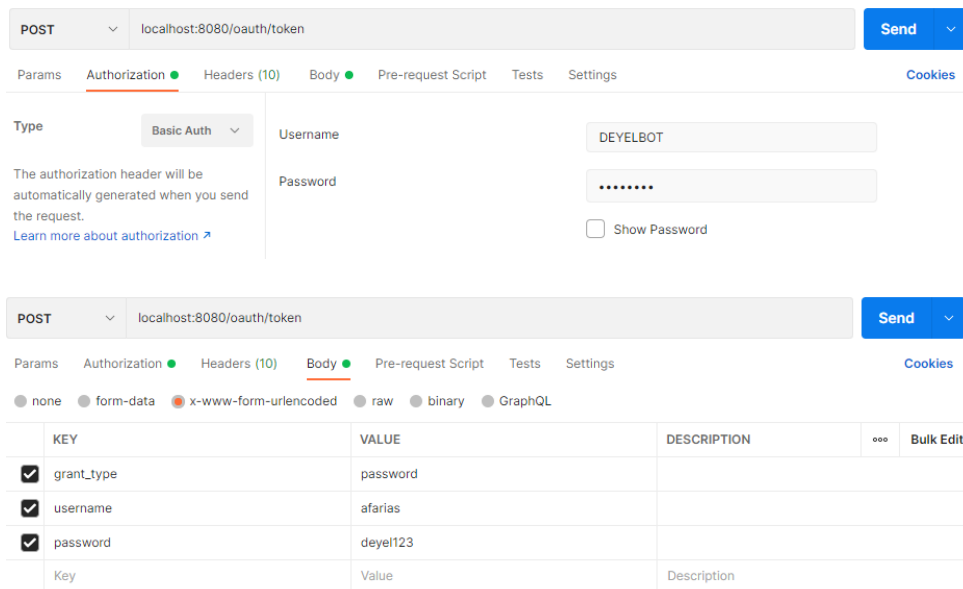

3.8.1.8.1.2. Resource Owner Password Credentials

To make calls, the following configuration should be used:

- POST verb.
- Add parameters using the format: "application/x-www-form-urlencoded".
- Access credentials ("client_id" and "client_secret") must be sent in "Basic xxxxxx" format where the xxxxxx represent Base64 encoded values.
- Specify the "grant_type" parameter with "password" value.
- Specify the "username" parameter with the value of the resource owner's username.
- Specify the "password" parameter with the value of the resource owner's password.

Usage Example in Postman

The following is an example of an access token request from Postman.



The screenshot shows two views of a Postman request configuration. The top view shows the 'Authorization' tab with 'Basic Auth' selected. The 'Username' field contains 'DEVELBOT' and the 'Password' field is masked with dots. A 'Show Password' checkbox is present and unchecked. The bottom view shows the 'Body' tab with 'x-www-form-urlencoded' selected. It displays a table of parameters:

KEY	VALUE	DESCRIPTION	...	Bulk Edit
<input checked="" type="checkbox"/> grant_type	password			
<input checked="" type="checkbox"/> username	afarias			
<input checked="" type="checkbox"/> password	deyel123			
Key	Value	Description		

The client makes the following HTTP request:

```
POST /oauth/token HTTP/1.1
Host: localhost:8080
Authorization: Basic REVZRUXCT1Q6Qk9UREVZRUwzMTIh
Content-Type: application/x-www-form-urlencoded
Content-Length: 54
grant_type=password&username=afarias&password=deyel123
```

If the access token request is valid and authorized, the authorization server issues an access token and a refresh token. If the client request failed authentication or is invalid, the authorization server returns an error response, such as for submitting a non-existent user.

Successful access token response:

```
{
  "access_token": "eyJraWQiOiJrMSI-
sImFsZyI6IlJTMjU2I...ezCK4IWR7YU1NlMAuCFKE7mJw",
  "refresh_token": "eyJraWQiOiJrMSI-
sImFsZyI6IlJTMjU2I...cLmqernCGkQ",
  "token_type": "Bearer",
  "expires_in": 86400
}
```

Failed answer:

```
{
  "error_description": "Invalid client_id",
  "error": "Invalid_request"
}
```

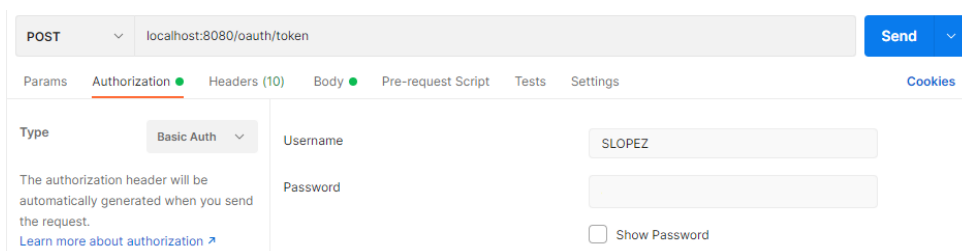
3.8.1.8.1.3. Refresh Token

In the event that a refresh token or access token is denied by an HTTP 401 code, the access token request endpoint must be invoked with the following configuration:

- POST verb.
- Add parameters using the format: "application/x-www-form-urlencoded".
- The "client_id" access credential must be sent in "Basic xxxxxx" format where the xxxxxx represent Base64 encoded values.
- Specify the "grant_type" parameter with "refresh_token" value.
- Specify the "refresh_token" parameter with the value of the refresh token obtained when authenticating with **Deyel**.

Usage Example in Postman

- Authorization specification with user code.



- Specification of "grant_type", parameter sending format and refresh token value.

POST localhost:8080/oauth/token Send

Params Authorization Headers (10) **Body** Pre-request Script Tests Settings Cookies

none
 form-data
 x-www-form-urlencoded
 raw
 binary
 GraphQL

KEY	VALUE	DESCRIPTION	...	Bulk Edit
<input checked="" type="checkbox"/> grant_type	refresh_token			
<input checked="" type="checkbox"/> refresh_token	eyJ...AIMUhtD7kJMi_EAchsm7yguu4K2iOjTZFjBwC Hd57bwc...			
Key	Value	Description		

As a response, a new access token and the same refresh_token value are obtained.

Example of successful access token request:

```
{
  "access_token":
  "eyJ.AIMUhtD7kJMi_EAchsm7yguu4K2iOjTZFjBwC Hd57bwcTeghfhw_aIYJhGOD
  CDwyIrkpmF-
  tOOeW2VPG_9UGn2kRmEgLOAjqYJWXrVyjhs877k_cITkcvclAQnCh5TEkmhmE7IKgW1a
  K53XSP_M4xIOx Cugq4Qvi-2cWI152BWhLRkICgJ4Q",
  "refresh_token": "eyJraWQiO...4a4xGrq_6137hbsI53AgcPpbDAL6qC1-
  YfvuzOKYxtwqhieCQSf1Y9DnTDDVa-
  0Yy5lxeCfVGt1ra8pxLmhkzz_iaqobqXprZIEjKY9FJIhC0paMTV_w06YSgUh5XI0p3
  YayrLTjik1YayrLTjik1YayrLT3",
  "token_type": "Bearer",
  "expires_in": 86400
}
```

Example of failed access token request:

```
{
  "errors": [
    {
      "message": "Unauthorized",
      "attribute-name": ""
    },
    {
      "message": "Invalid refresh token.",
      "attribute-name": "refresh_token"
    }
  ]
}
```

3.9. Business Social Network - Tedis

Tedis is a business social network integrated to **Deyel**, aimed at improving communication and collaboration within the organization. It offers great potential when it comes to relating work teams, processes and cases with an agile, fast and highly intuitive messaging.

Through [chats](#), users can exchange messages freely, receiving instant notifications and thus speeding up the exchange of information.

Associate [comments](#) to objects allows users to register comments in a group chat that is associated with the different objects of **Deyel**.

Comments associated with cases allow users to register comments on a particular case, leaving this information as part of the case and available to other interested users. The participation of multiple users that incorporate and share their comments constitutes a powerful tool that promotes collaboration and makes processes more efficient. This mechanism allows, for example, to inquire other users without the need to deliver the case to them so that they can intervene formally.

Comments related to the definition of processes enable a direct communication channel among the case participants and those users responsible for such processes, in order to improve their definition.

Form-related comments allow users to interact, collaborate, and discuss forms instances. In addition, conversations of cases associated with forms can be shown, in order to keep track of forms, learn about user interactions and also provide advice or opinions on their use.

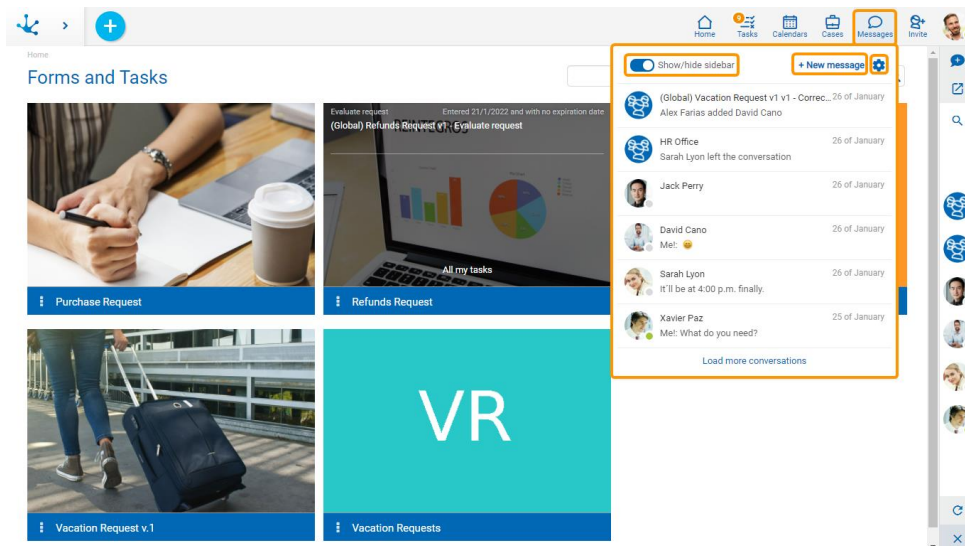
Through subscriptions, each user may choose to receive news about comments related to the object of interest. This allows quick tracking of new comments without having to show a particular case or form.

By using [commands](#), it is possible to start the execution of a process from a chat window, with the possibility of executing it entirely from a chat window using actionable messages. To do this, all you have to do is define a process with a start event by command, and then associate the process command with one or more system bots. Actionable messages allow interaction with the process, showing the associated form fields in an instant message, so that the activities of a process can be executed from a chat window.

In case of losing connection with Tedis, the social networking goes offline and the messaging functions become available again when the connection is restored.

3.9.1. Chats

By pressing the icon corresponding to the messages on the [top toolbar](#), the message panel opens. The number above this icon indicates the user's total number of unread messages.



Message Panel

Show/Hide Sidebar

This option allows to show or hide the [chat sidebar](#), which contains conversations and users. Initially this bar is active.

User Preferences

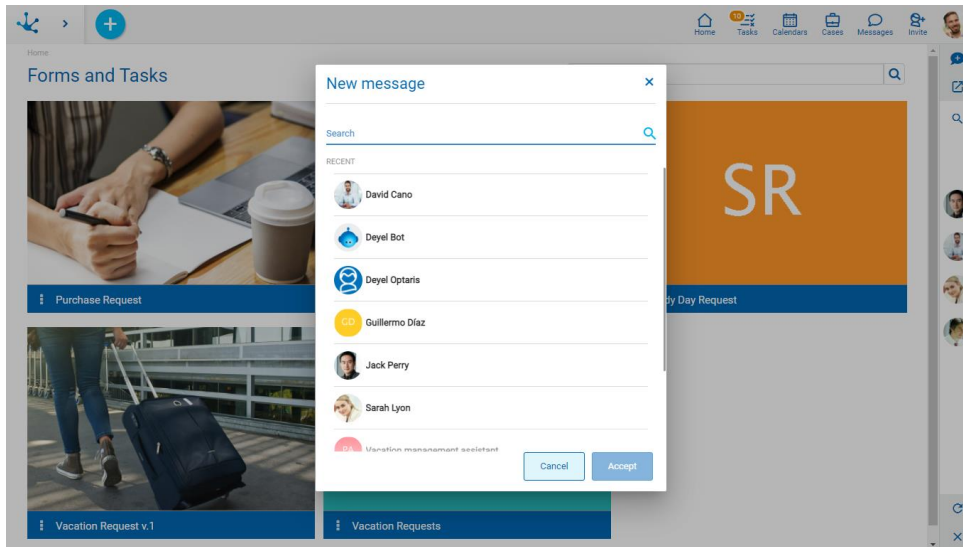
It allows to configure the [conversation notifications](#).

Recent Conversations

In the final part of the message panel, the last user's conversations are displayed, starting with the most recent ones. Through the "Load more conversations" option, previous conversations can be incorporated.

New Message

It opens a window to select the recipient of a new message, using a wizard.



Select the number of desired recipients, in this case a group chat is generated. Selecting more than one recipient enables entering a title for the new group chat, which is required.

Pressing the "Accept" button opens the [chat window](#), to allow sending messages.

Another option to open a new message is to do it from the full screen feature.

Guest User Permission

In **Deyel** there is a permission called "[Guest user in Tedis](#)", which determines the actions that a guest user can perform in the business social network.

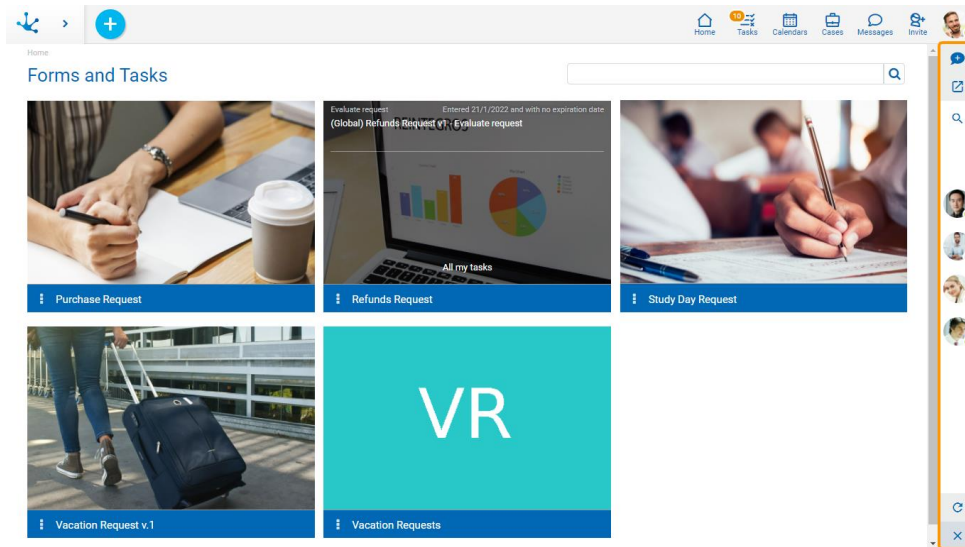
A guest user can only reply to messages from chats with previous messages from other users. The following actions are limited:

- See the list of users.
- Create new chats.
- Add and remove users in group chats.
- Modify the title of a group chat.

In case the guest user deletes the chat history, it cannot be accessed until they receive a new message.

3.9.1.1. Chat Bar

The chat bar contains users icons and the chats in which the user participates. The bar can be displayed expanded.

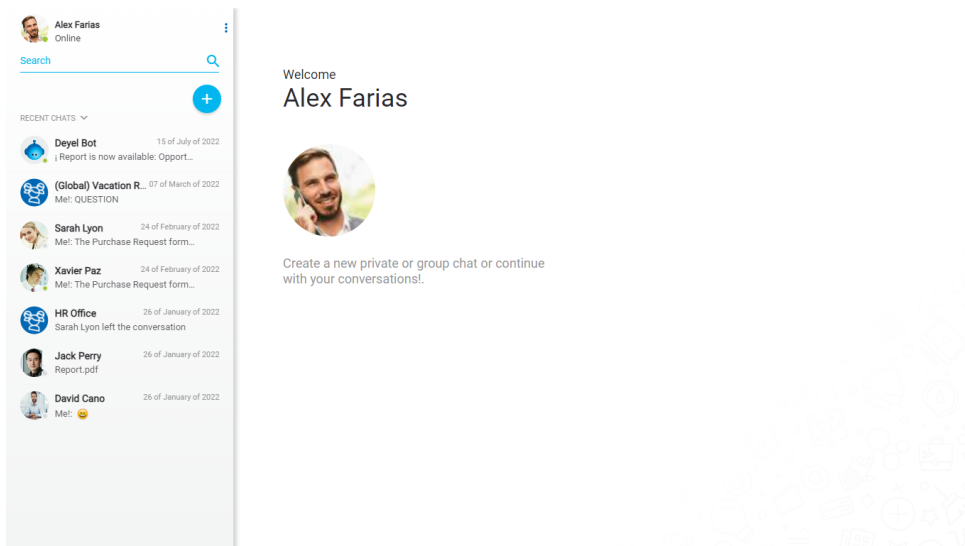


New Message


It allows to open a window to select the recipient to send a [new message](#), by using a wizard.

Full Screen

It allows switching to the full screen Tedis interface, in a new browser tab. It has the same functionalities as the [chat window](#).

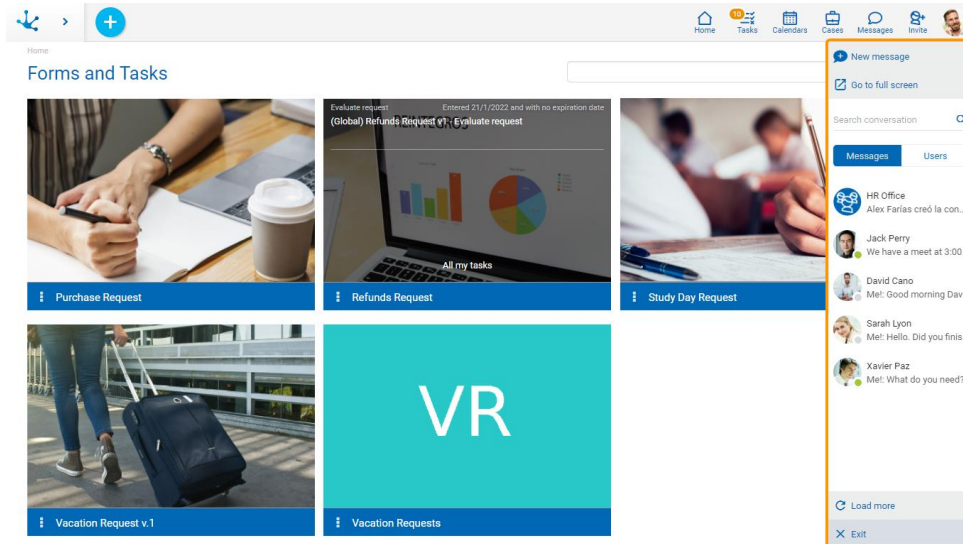


Expanded Bar

The chat bar can be displayed using the search icon , enabling tabs for messages and users. The bar returns to its original state when the cursor is moved away from it.

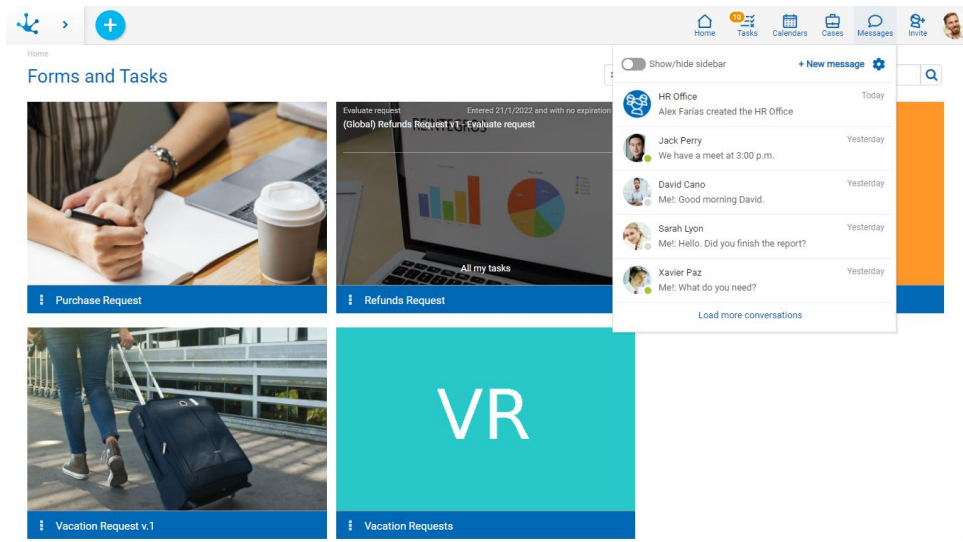
Messages

In this tab, users conversations can be displayed in chronological order, with the most recent ones at the top.



Users

This tab displays the users of **Deyel**, first those that are connected and then those that are not. In both groups, in ascending alphabetical order.



Connection State

Both in the messages tab and in the users tab, the connection state is displayed next to the user's name. The possible connection states are:

- Connected
- Not available
- Absent
- Disconnected

The connection state can be modified from the [user profile](#).

Search Users/Chats

In the users tab, the icon allows users to be searched by first and last name, while in the messages tab, search can be done by message content or by the name of a group conversation.

The result of users or conversations is filtered as text is entered in the search line.

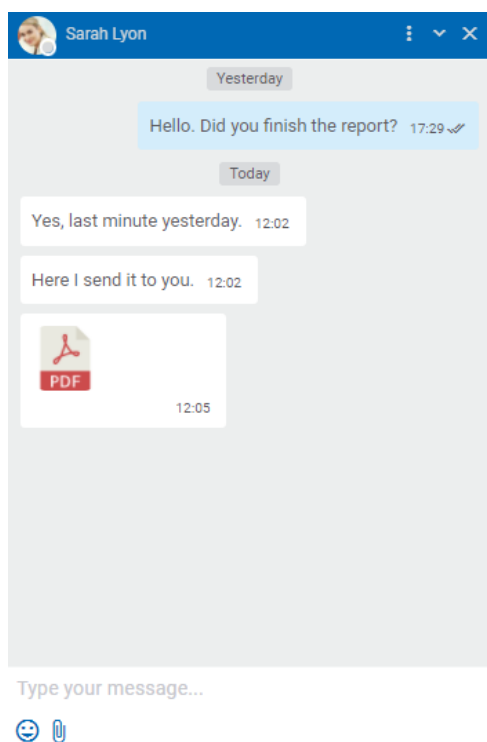
Load more Conversations

In the users tab, the icon allows to add users to the bar, while in the messages tab it allows to add previous conversations.

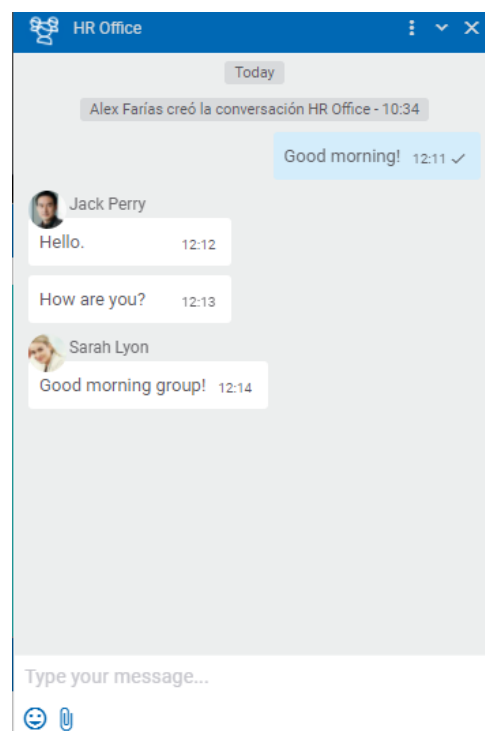
3.9.1.2. Chat Window

Users can exchange messages within a chat window. A separate window opens for each user's conversation. Conversations can be private or group.

Private Chat






Group Chat




Messages States


Each sent message has a state icon to its right that indicates whether it has been sent or already read.

Possible states are:

-  Sending: the message has not been sent yet.
-  Sent: The message has been sent and was received by the recipient.
-  Read: the message has been read by the recipient.

In the case of group chats, state  will only appear once everyone in the group has read the message. Hovering over the state of the message allows to get information about who has already read the message.

Menu

Access by pressing the icon  located in the top bar of the chat window.

Actions



Remove history

Deletes all messages in the conversation for the user. For a group chat, once its history is deleted, it cannot be accessed until a new message is received.



Add user

For a private chat, this option allows to add users to the conversation, thus creating a new group chat. The window for adding new users to a conversation is similar to the one used to create a [new message](#), only one line is required to be added so as to give the group a title. For group chats, just add users to the chat. Any participant in the group can add new participants.

Group chats have some additional actions.



Show participants

It allows to see users participating in the conversation, indicating the connection state. Selecting a user's image opens that user's private chat window.



Update title

Opens a window for modifying the title of the conversation.



Remove user

It allows to remove one or more participants from a group chat by using a selection wizard. Only the creator of the chat can remove participants.



Leave conversation

It allows users to disassociate themselves from a group chat, not being able to access the conversation or its messages again.



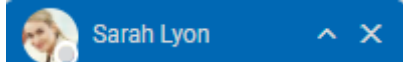
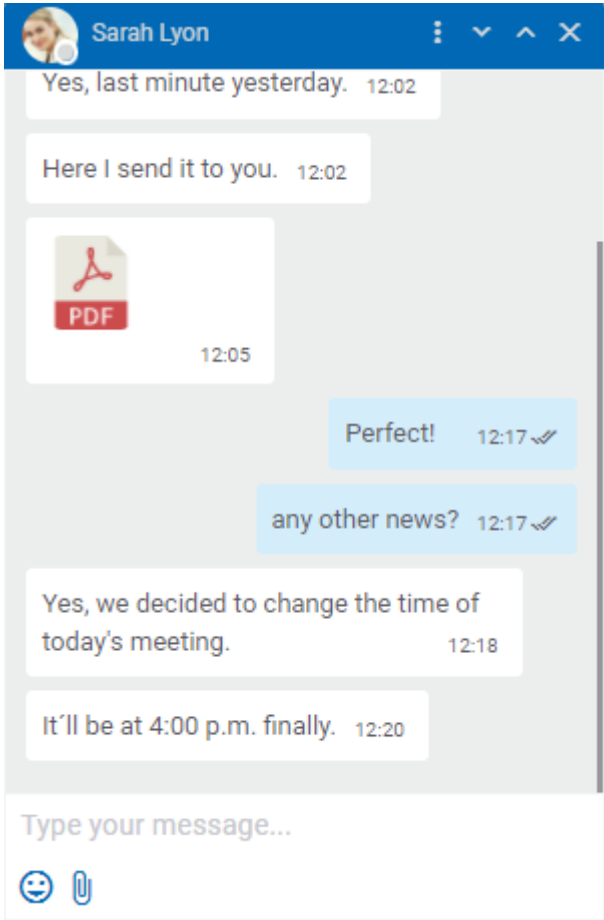
Go to full screen

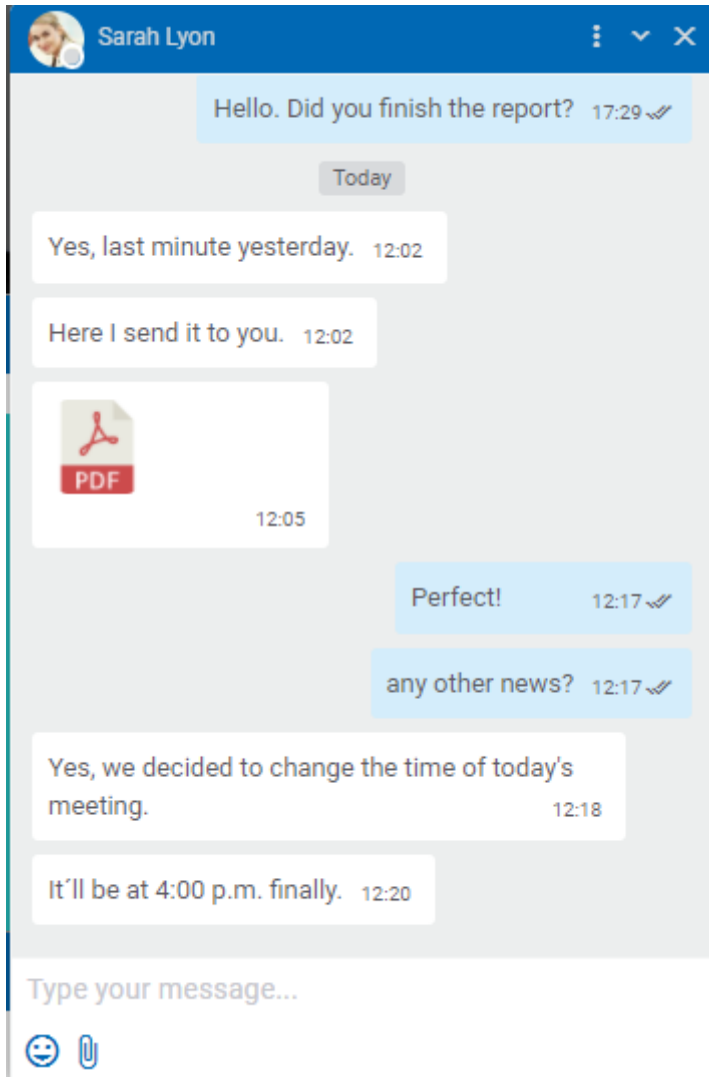
It allows to pass the conversation to [full screen](#), in a new browser tab.

Reduce and Expand

The chat window can be displayed maximized, reduced or minimized.







▼ It allows to reduce or minimize the chat window showing only the information of the top chat bar, depending on the current size.

▲ For minimized windows, pressing this icon expands the window displaying messages again, while for reduced windows it maximizes them.

✕ Close

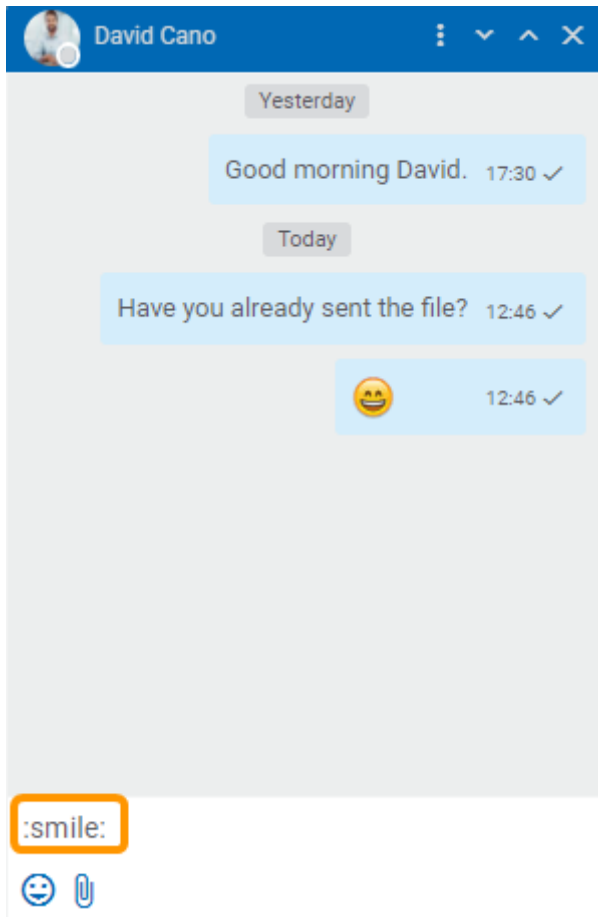
It allows to close the chat window, removing it from the set of open conversations.

Other Facilities

At the bottom of the chat window there are icons that facilitate collaboration among users.

Emoticons


It allows to include emoticons in messages, either by pressing the corresponding icon and selecting the emoticon from a palette, or by writing its code.

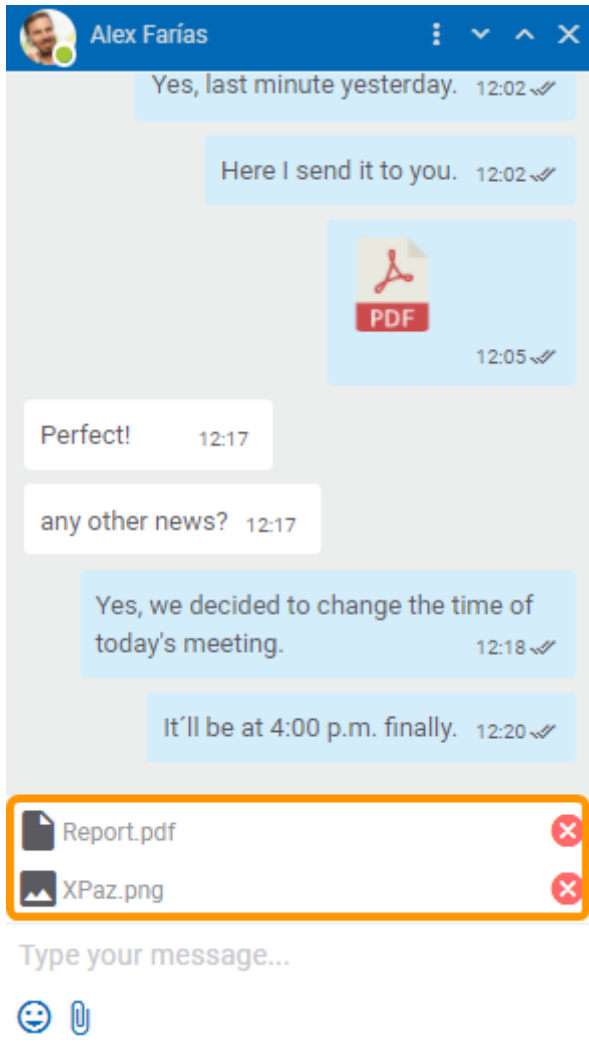


Attach Files

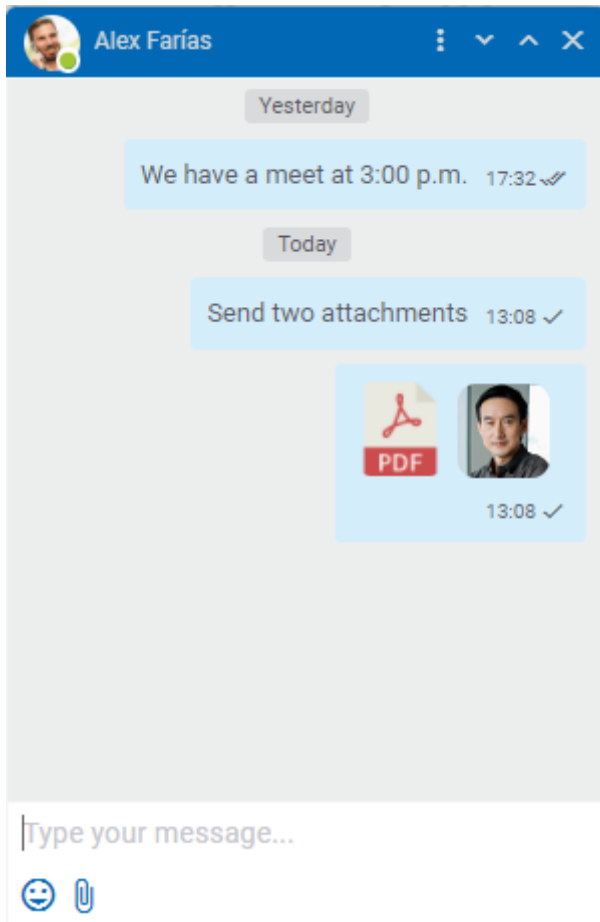
It allows to associate one or more attachments to the conversation. To do this, you should press the corresponding icon and select the files to send. It is also possible to drag files from a local directory to the chat window, if the chat window is expanded.

Once the files have been attached, they are displayed associated with the message. A maximum of 6 files per message can be attached, they must have extensions other than .exe and .msi.

A message with attachments can be sent with or without text. Pressing the icon  located to the right of each file allows its removal from the set to be sent.



Once a file is sent, an icon identifying its type is displayed. If an image file is sent, a preview of it is included.



If due to some error a file could not be attached, an icon is displayed to the right of it to try again.

The maximum size in MB for an attachment depends on the value of the variable [Maximum size for attachments](#) defined for the environment.

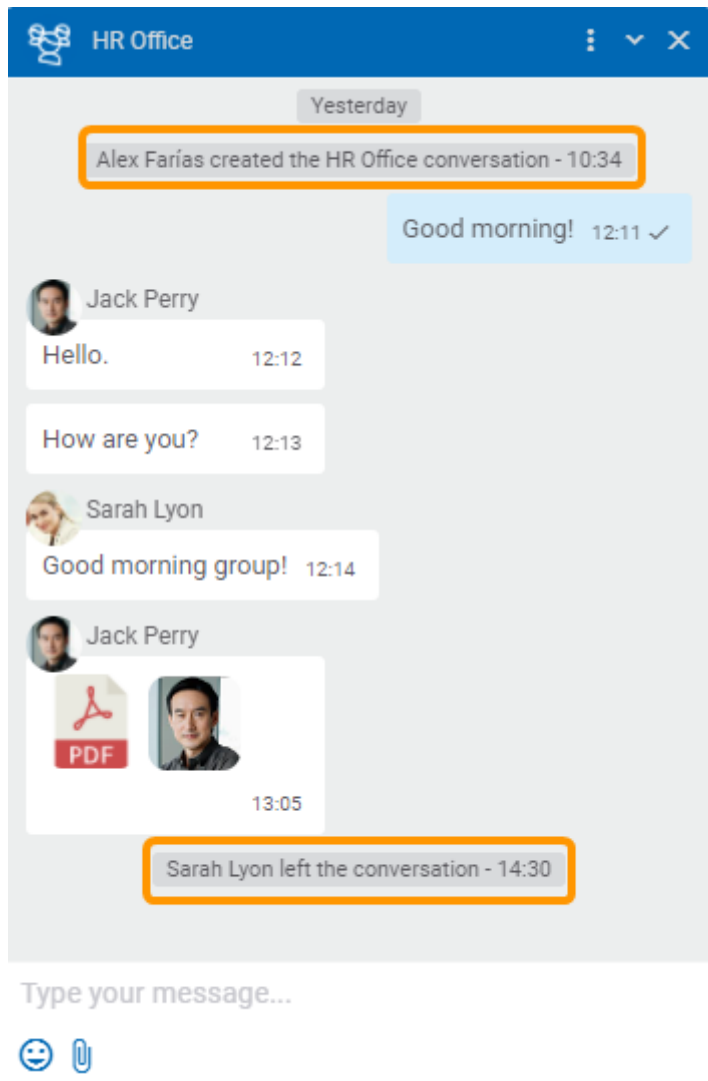
Copying and pasting files to a Tedis conversation is allowed [full screen](#).

<> Commands


It allows the execution of [commands](#) previously defined.

3.9.1.2.1. Events

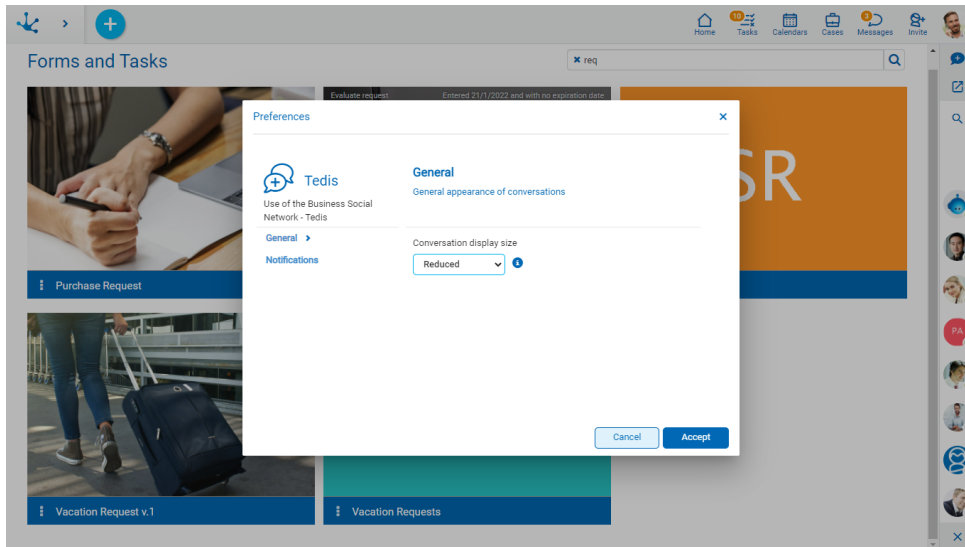
Events are a special type of messages that are generated in case of an occurrence. These events are generated automatically when something happens that must be reported to the members of a chat, such as reporting that a user has left a conversation.



3.9.1.3. User Preferences

Deyel allows to modify user preferences when using Tedis business social network. The preferences window is opened by pressing the icon  in the [chat](#) panel.

Preferences for the use of Tedis can also be defined when configuring the [environment](#).



Conversations display size

Allows the user to define the initial size of chat windows, they can be seen in reduced or expanded form, this last value being the default.

New message notifications

Allows the user to enable or disable notifications when receiving a new message. These notifications are enabled by default.

Enabling these notifications allows the user to receive a notification at the bottom right of the screen every time they receive a new message.

Connected user notifications

Allows the user to enable or disable notifications when a user connects to **Deyel**. These notifications are enabled by default.

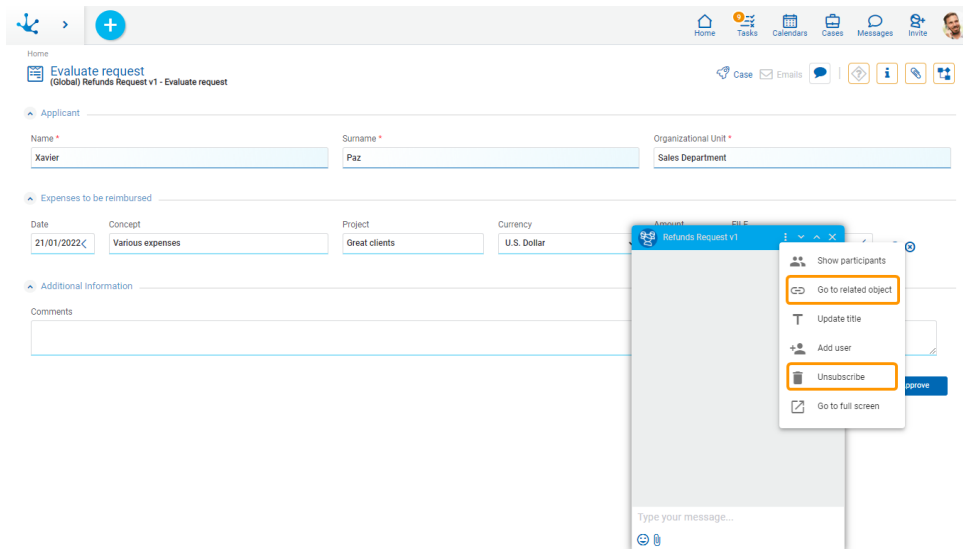
Enabling these notifications allows the user to receive a notification at the bottom right of the screen every time a user connects to **Deyel**.

3.9.2. Comments Associated with Objects

When a user is running a case or updating a form instance, they may need to make a query to other users. This communication and exchange of additional information usually takes place without using applications, for example through phone calls, emails, etc. **Deyel** suggests to use a chat during the execution of processes cases and during the use of forms instances, in order to associate comments with the application.

These conversations have an additional behavior to the [group conversations](#).

- Go to related object
It allows the user to show directly the object related to the conversation.
- Subscribe / Unsubscribe
A user that can show an object may participate in the comments on it. Those users that wish to be informed about any news added to the comments, can use the subscription function.
A user that has subscribed to the comments of a case or form is notified every time a new message is entered in such chat. Besides, other users can be added to the chat so that they can also participate and be notified of new comments. A subscribed user may also leave the chat if they no longer want to receive notifications.

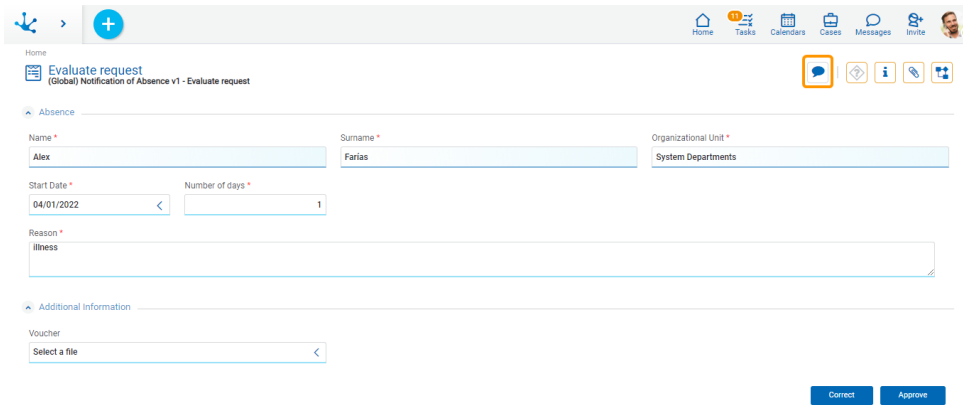


Comments Associated with Cases

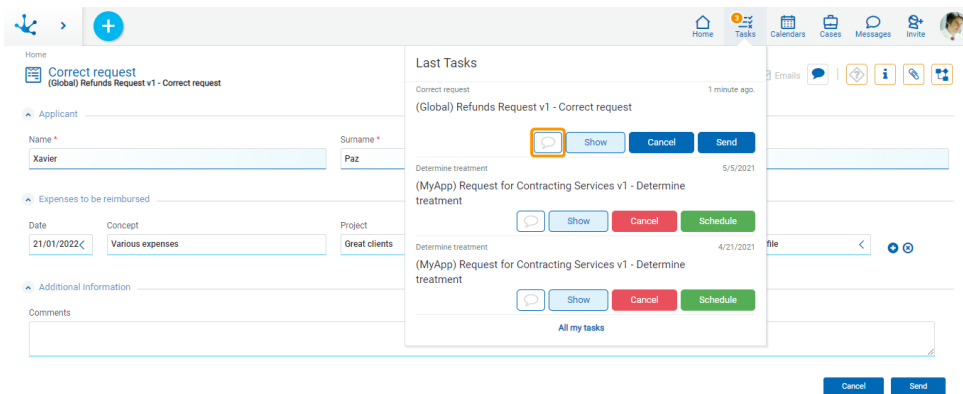
Having a case-specific conversation simplifies process modeling, as countless situations can be solved through user interaction rather than process modeling, as well as feeding the case with information used for decision making.

How to access comments associated with a case:

- Show of the case, selecting the "Case" option.



- From the last tasks panel.



- From the tasks grid.

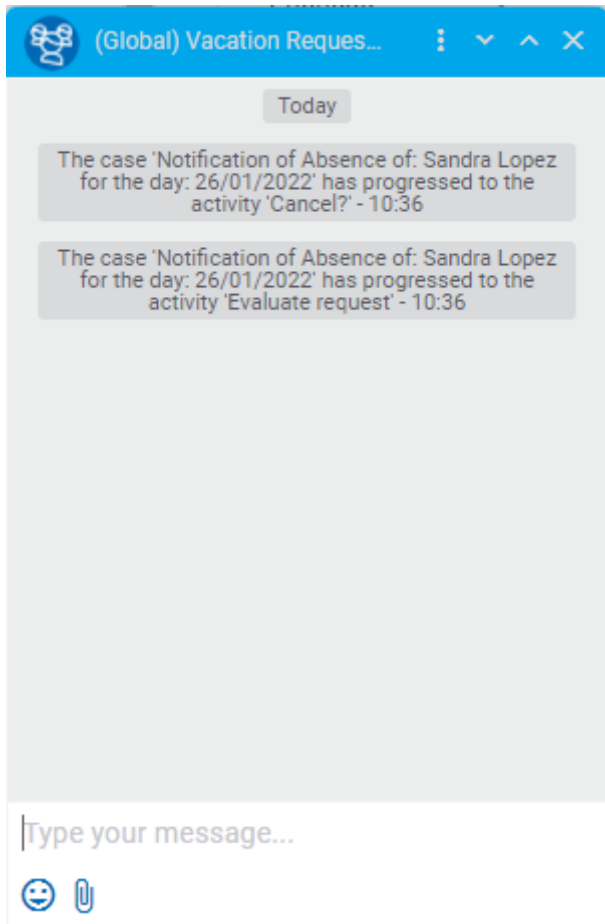
Case	Process	Description	Activity	Start Date	Responsible User	Expiration Date	Priority
50	Consolidated Weekly Reimbursements	(MyApp) Consolidated Weekly Reimbursements v1 - Check Consolidated	Check Consolidated	26/10/2021 16:06	Alex Farias		↓
49	Consolidated Weekly Reimbursements	(MyApp) Consolidated Weekly Reimbursements v1 - Check Consolidated	Check Consolidated	19/10/2021 16:06	Alex Farias		↓
36	Refund with possible payment suspension	(MyApp) Refund with possible payment suspension v1 - Evaluate request	Evaluate request	18/10/2021 14:49	Alex Farias		↓
25	Refunds with Budget Control	(Global) Refunds with Budget Control v1 - Evaluate application	Evaluate application	18/10/2021 14:49	Alex Farias		↓
18	Refund of reported pending expenses	(MyApp) Refund of reported pending expenses v1 - Check availability	Check availability	18/10/2021 14:49	Alex Farias		↓
26	Refunds with Budget Control	(Global) Refunds with Budget Control v1 - Evaluate application	Evaluate application	18/10/2021 14:49	Alex Farias		↓
35	Refund with possible payment suspension	(MyApp) Refund with possible payment suspension v1 - Correct request	Correct request	18/10/2021 14:48	Alex Farias		↓
37	Refund with possible payment suspension	(MyApp) Refund with possible payment suspension v1 - Correct request	Correct request	18/10/2021 14:48	Alex Farias		↓

- From the cases grid

Case	Process	Status	Description	Chat	Activity	Activity Start	Responsible User	Completion	Expiration Date
10	Refunds Request	●	(Global) Refunds Request v1	🗨️	Request approved				15/02/2022
9	Notification of Absence	●	(Global) Notification of Absence v1	🗨️	Request approved				15/02/2022
8	Vacation Request v1	●	(Global) Vacation Request v1 v1	🗨️	Request approved				26/01/2022
6	Refunds Request	●	(Global) Refunds Request v1	🗨️	Request approved				21/01/2022
5	Refunds Request	●	(Global) Refunds Request v1	🗨️	Request approved				20/01/2022
2	Refunds Request	●	(Global) Refunds Request v1	🗨️	Request approved				06/01/2022
39	Refund of reported pending expenses	●	(MyApp) Refund of reported pending expenses v1	🗨️					27/01/2022
38	Refund of reported pending expenses	●	(MyApp) Refund of reported pending expenses v1	🗨️					31/08/2021
37	Refund with possible payment suspension	●	(MyApp) Refund with possible payment suspension v1 - Correct request	🗨️	Correct request	18/10/2021	Alex Farias		
36	Refund with possible payment suspension	●	(MyApp) Refund with possible payment suspension v1 - Evaluate request	🗨️	Evaluate request	18/10/2021	Alex Farias		
35	Refund with possible payment suspension	●	(MyApp) Refund with possible payment suspension v1 - Correct request	🗨️	Correct request	18/10/2021	Alex Farias		

Events Generation

As the case progresses within the activities, events are generated informing of such progress.



Comments Associated with Cases

Within the continuous process improvement cycle, it is important for the responsible user or the [owner](#) of the process to be in contact with its users. For this, there is an exclusive chat for each process where its users can record messages related to modeling, thus allowing the modeling responsible users to receive these comments.

Comments Associated with Forms

Deyel allows to create conversations associated with forms instances, so that users who use them can interact and collaborate on specific topics of the form. Users who have [permissions](#) on the form may subscribe to the conversation.

How to access comments associated with a form instance:

- Show of the form instance.

Home > My form

Home Tasks Calendars Cases Messages Invite

My form

Contenedor Gráfico

Identificador: 1 Full name: Xavier Paz Request date: 20/01/2022

Request: Request.docx Description:

Delete Update

- From the grid of form instances.

Home

My form 3 Search

Identificador	Full name	Request date	Description
3	Jack Perry	12/01/2022	
2	Sarah Lyon	04/01/2022	
1	Xavier Paz	20/01/2022	

3

3.9.3. Bots and Comands

A command is a specific instruction defined for a user or for a “Chatbot” type thing, which allows to start the execution of a specific business [process](#). To do this, the start of process should have been modeled with a [start event by command](#).

A [chatbot](#) or bot is a special type of user that is used for the execution of commands through a chat window.

3.9.3.1. Actionable Messages

An actionable message is an instant message from a chat, which in addition to text contains fields of a form associated with the process, where the user can enter information to execute an activity.

Actionable message fields have validations specified both in the modeling of the form and in the process activity in which it is located.

If the logic gateways of the process define buttons, these are shown in the chat window.

There is an additional button that is displayed in actionable messages, which allows to [show the case](#) being executed.

3.10. BAM and Process Analysis

[Phase 7: BAM](#)

Deyel has a set of predefined reports that allow analyzing the operation of processes and their tasks, both historically (Analysis) and in real time (BAM). The information in these reports is updated through the scheduled system tasks.

Through these reports, it is possible to observe and understand the operation of processes and detect possible improvements.

Predefined reports summarize the behavior of processes and their tasks. They allow identifying what was done on time, behind schedule, deviations against maximum and expected durations, trends, participants performance, bottlenecks, etc.

The behavioral information is displayed in the form of a grid and through charts, always having the reference of the expected trend curves to contrast against reality. In this way, behavior can be graphically monitored. In all cases, the information can be drilled down, to reach the process level, task, executor, date range, case, etc.

Although the reports are predefined, multiple views of the information can be generated, when analyzing it by applying search criteria, such as time, priorities, participants, initiators, cases states and tasks, among others.

In the case of real time analysis, in addition to identifying the cases and tasks that are on time and behind schedule, those that are at risk are identified, providing tools to proceed on what is actually happening in the organization.

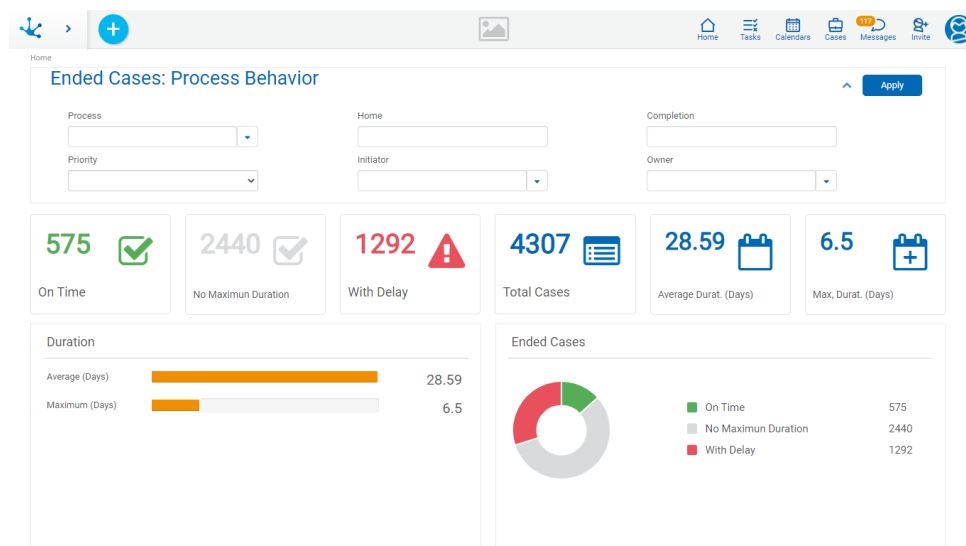
In addition to the predefined reports, user-defined reports can be incorporated based on existing or supplement them with specific characteristics of the organization. Reports are accessed through the different menu options that are displayed by pressing "BAM and Analysis".

3.10.1. Process Analysis - Process Behavior

 [Phase 7: BAM > Process analysis](#)

In this report, the behavior of processes is quickly displayed, indicating the cases that were completed on time, those behind schedule and the real average duration compared to the maximum duration.

The information can be displayed by applying the search filters shown in the upper section of the report.

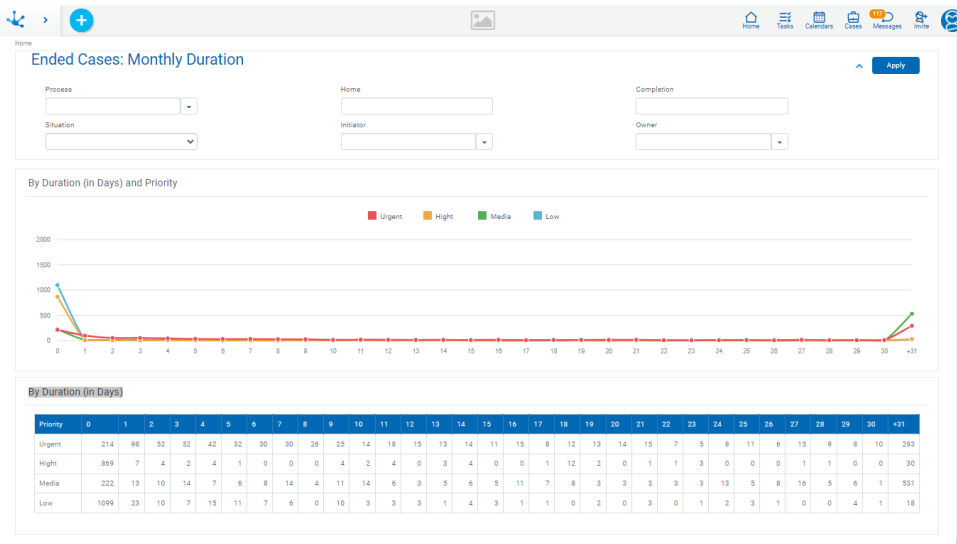


3.10.2. Process Analysis - Monthly Duration

 [Phase 7: BAM > Process analysis](#)

The report on distribution of cases by duration must show a chart similar to a Gaussian bell, where the center of the bell is the average duration, provided that the behavior of the processes is adequate. To analyze behavior in detail, drill down on the values of the grid in order to reach the cases that make up each value.

The information can be displayed by applying the search filters shown in the upper section of the report.



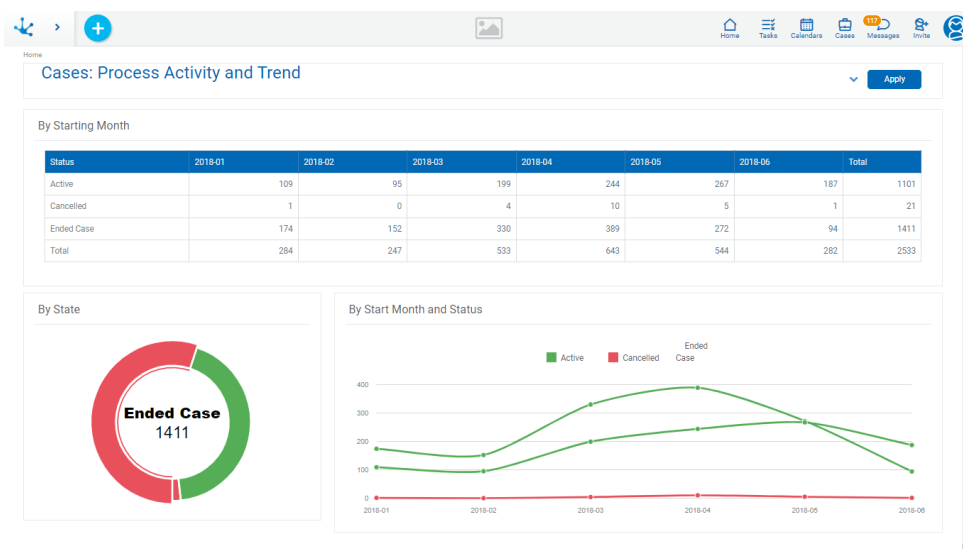
3.10.3. Process Analysis - Process Activity

Phase 7: BAM > Process analysis

In this report, the activity carried out by the processes is displayed, showing the values of cases initiated by periods, how many were completed, how many remain in execution, and the cases suspended and canceled.

If the information on process activity for the last months is analyzed, it should be observed that as months go by, the cases in execution tend to increase, and the cases already completed tend to decrease. In other words, during the first months, a greater number of completed cases should be observed, while during the last months, there are more cases in execution. Any anomaly, that is to say that the chart shows a different trend, can be investigated by drilling down on the values.

The information can be displayed by applying the search filters shown in the upper section of the report.

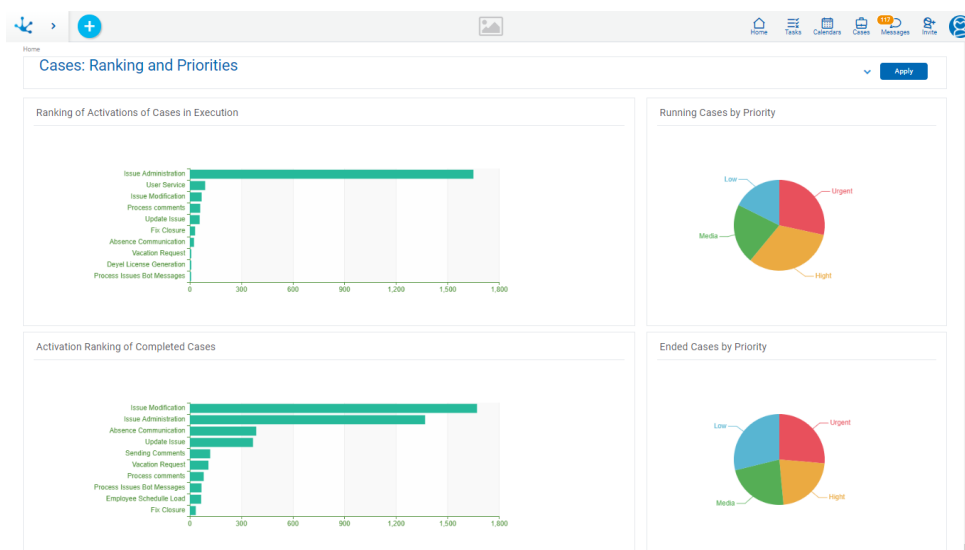


3.10.4. Process Analysis - Activation Ranking

 [Phase 7: BAM > Process analysis](#)

This report shows a ranking of processes, through the number of cases initiated for each one, also considering their execution priority.

The information can be displayed by applying the search filters shown in the upper section of the report.



3.10.5. Process Analysis - Case Details

 [Phase 7: BAM > Process analysis](#)

In this report, cases with their actual, maximum and expected duration can be displayed, together with comparisons of duration with maximum duration and duration with expected duration.

The information can be displayed by applying the search filters shown in the upper section of the report.

Case	Duration in Days	Maximum Duration in Days	Deviation Duration vs Maximum Duration	Expected Duration in Days	Deviation Duration vs Expected Duration
Day License Application - Status:	630,49	2,00	31425 %	1,00	62949 %
JULIO MECA 2-day License Application - Status: AUTHORIZED	25,49	2,00	1174 %	1,00	2449 %
2-day JPAZ License Application - Status: AUTHORIZED	2,04	2,00	2 %	1,00	104 %

3.10.6. Activity Analysis - Activity Behavior

[Phase 7: Activity BAM - Activity analysis](#)

In this report, the behavior of a process completed activities can be analyzed (including or not all its versions). The amount of activities on time and behind schedule is detailed for each of them. Additionally, the average duration, the maximum duration and the deviation between both of them is mentioned.

The information can be displayed by applying the search filters shown in the upper section of the report.

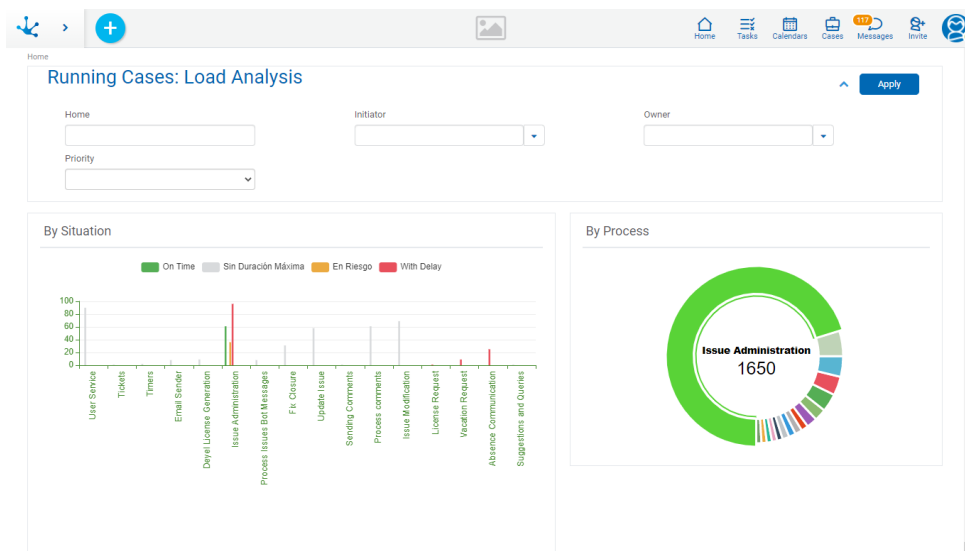
Activity	On Time	No Duration Maximum	With Delay	Total	Durat. Average in Days	Durat. Maximum in Days	Duration Deviation vs Durat. Maximum
Enter schedule file	0	66	0	66	0	0	0 %
View Results	0	66	0	66	0,24	0	0 %
Finalize	0	66	0	66	0	0	0 %
Process File	0	0	66	66	1,11	0	0 %
End Case	0	0	66	66	0	0	0 %

3.10.7. Process BAM - Load Analysis

[Phase 7: BAM > Process monitoring](#)

In this report, the current workload can be analyzed, considering the distribution of cases by process. For each process, it also shows how many cases are on time, how many at risk and how many are behind schedule.

The information can be displayed by applying the search filters shown in the upper section of the report.



3.10.8. Process BAM - Work in Progress

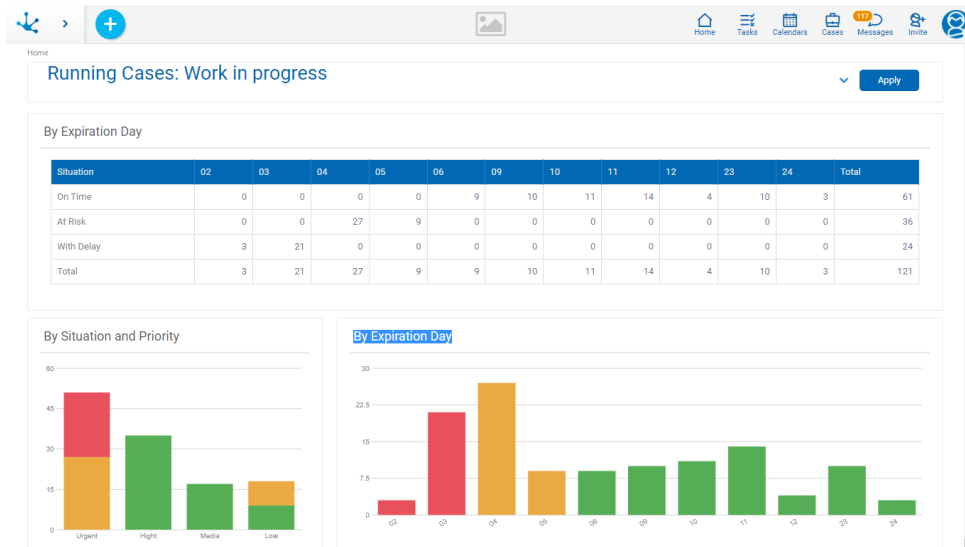
[Phase 7 > Process monitoring](#)

This report shows the status of the cases that are in execution, together with their distribution according to their expected due date in periods of time.

Regarding the status of the cases, it is graphically displayed how many are on time, how many at risk and how many are behind schedule.

Regarding the distribution of cases according to due date, the chart indicates how many are scheduled to expire in the time period indicated, and it may or may not count those that are behind schedule. If those behind schedule are counted, they are shown in the first period considered in the chart.

The information can be displayed by applying the search filters shown in the upper section of the report.

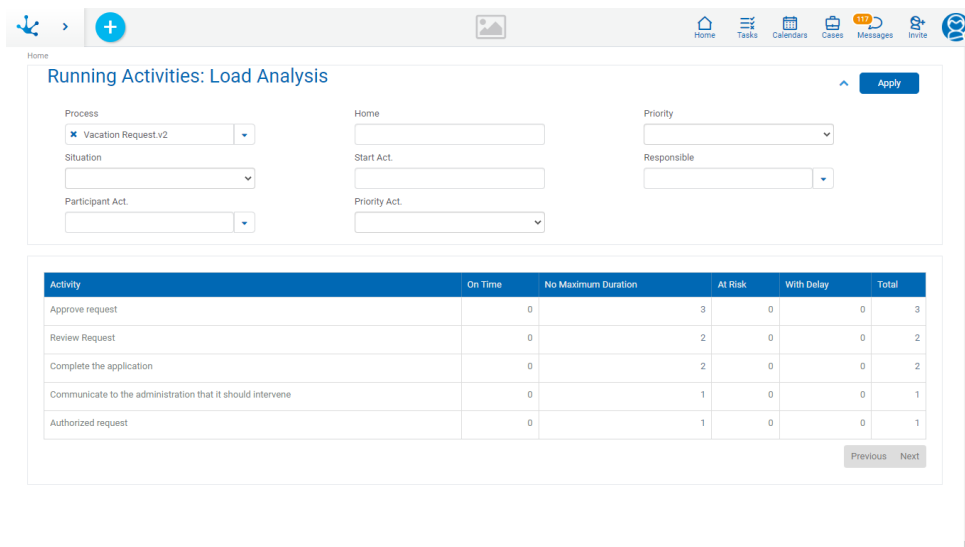


3.10.9. Activity BAM - Load Analysis

[Phase 7 > Activity monitoring](#)

In this report, the behavior of activities in progress of a process can be analyzed (including or not all its versions). The amount on time, at risk and behind schedule is detailed for each activity.

The information can be displayed by applying the search filters shown in the upper section of the report.



3.10.10. Activity BAM - Work in progress

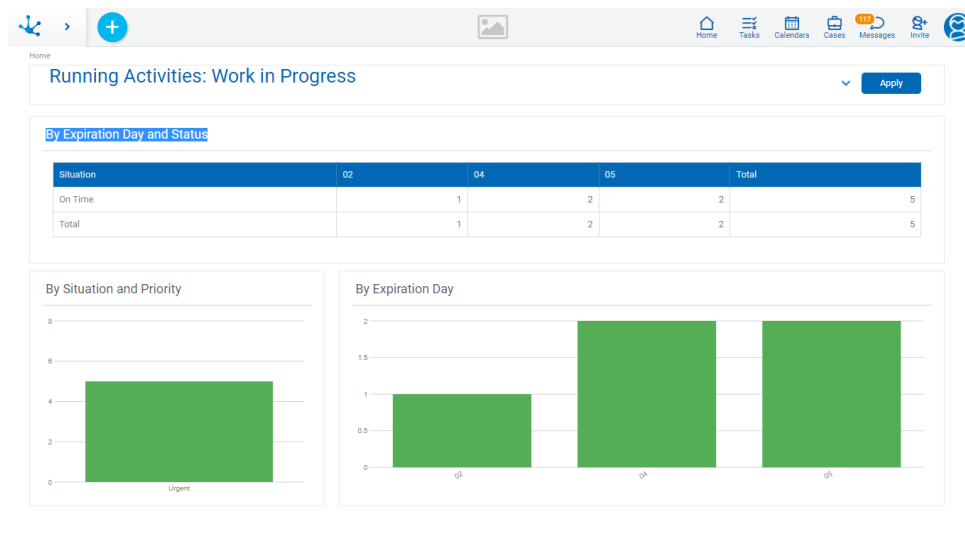
[Phase 7 > Activity monitoring](#)

This report shows the status of the activities that are in execution, together with their distribution according to their expected due date in periods of time.

Regarding the status of the activities, it is graphically displayed how many are on time, how many at risk and how many are behind schedule.

Regarding the distribution of activities according to due date, the chart indicates how many are scheduled to expire in the time period indicated, and it may or may not count those that are behind schedule. If those behind schedule are counted, they are shown in the first period considered in the chart.

The information can be displayed by applying the search filters shown in the upper section of the report.



3.11. Configuration

[Phase 8: Configuration](#)

Configuration of **Deyel** is realized through the different menu options which are displayed by pressing "Configuration".

[Organization](#)

Allows to manage the organizational structure, defining the hierarchical relations between the different areas.

[Security](#)

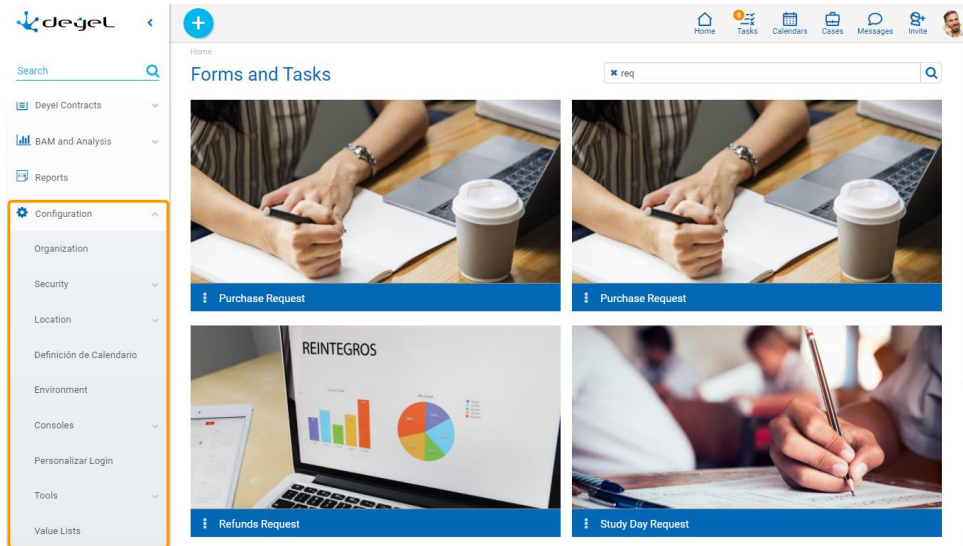
Allows to define and administer the security scheme of **Deyel** through users, job positions, roles, agents, permissions and security functions.

[Environment](#)

Allows to define the preference settings for the use of **Deyel** through properties, that adapt the product operation to the specific requirements of the company.

[List of Values](#)

Allows to visualize the names on the lists of values of different applications and manage its values.



3.11.1. Organization

[Phase 8: Configuration > Organization](#)

The organizational structure of Deyel defines the areas or the offices from the company and the relation of hierarchy between them.

Such areas or offices correspond to the organizational units that can be defined such as owner, initiator and participant when [modeling a process](#).

When defining the [users](#) the organizational unit in which each one belongs must be indicated.

An asterisk "" on the label indicates that the property is required.*

Properties

Descriptive Name

Complete name of the organizational unit. This text is the one visualized in the organizational structure and as a grid column.

Name

It is an abbreviated or reduced name. It is used when referring to the unit in an error message or when there is the need to abbreviate the descriptive name. No blank spaces admitted. This name must be unique.

Code

Identification code of the organizational unit. This property is visible if the environment property [Organizational unit coding type](#) takes values "Manual" or "Semi Automatic", while it is not visible if the value is "Automatic".

Administrator

Optionally an user that performs as coordinator or head of the unit can be indicated.

Superior Organizational Unit

Allows to identify the superior organizational unit inside the hierarchical structure.

Description

Property where the use of the organizational unit can be detailed so as to extend what is expressed in the [Descriptive Name](#).

Email

Email associated to the organizational unit.

Work Calendar

Allows to select the work calendar associated to the organizational unit. If a calendar is not defined for the organizational unit, **Deyel** uses the one of the closest higher-level unit with a defined calendar. The root unit of all the hierarchy has defined a calendar by default.

In the query of an organizational unit, when hovering over this property, a legend is displayed informing if the calendar is defined in the unit or in one of its superior units, or if it uses the default calendar.

Private Data Access - Permissions for the Unit Administrator

For the unit administrator, the access permits to the private data of their work teams are established.

[Show](#)

Can the unit administrator see the private data of their subordinates? (Yes/No)

[Modify](#)

Can the unit administrator modify the private data of their subordinates? (Yes/No)

[Delete](#)

Can the unit administrator delete the private data of their subordinates? (Yes/No)

Private Data Access - Permissions Unit Users

For a user that is part of the unit which establishes the access permits to private data of their colleagues.

[Show](#)

Can a unit user see the private data of their colleagues? (Yes/No)

[Modify](#)

Can a unit user modify the private data of their colleagues? (Yes/No)

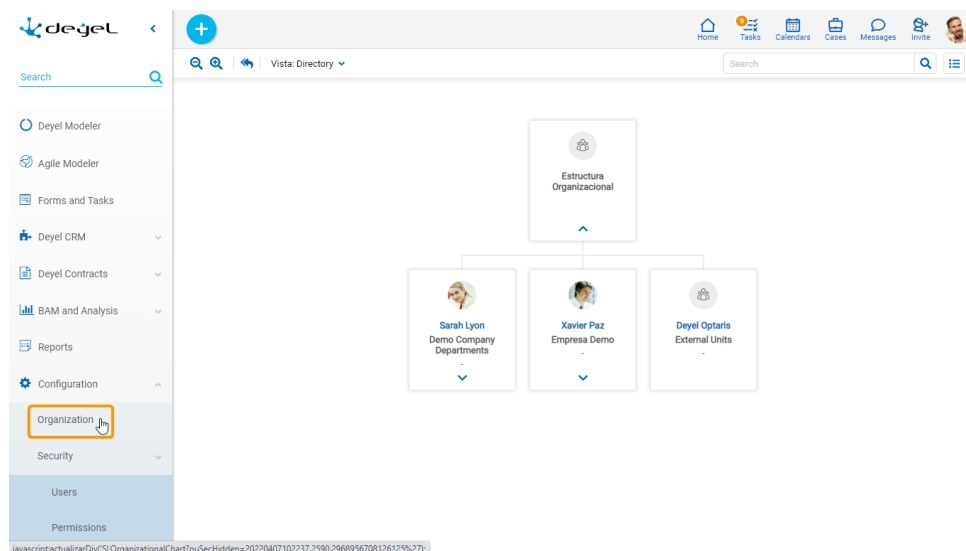
[Delete](#)

Can a unit user delete the private data of their colleagues? (Yes/No)

3.11.1.1. Organizational Structure

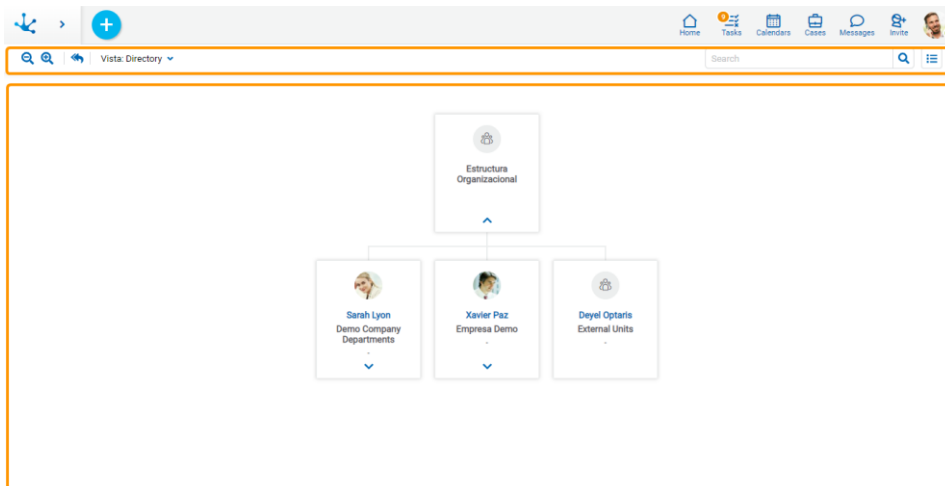
The Deyel menu can be accessed, to create and administer the organizational units.

- From the "Configuration" option, selecting "Organization".
- From the [search](#) facility.



Sections

- [Top Bar](#)
- [Grid](#)



3.11.1.1.1. Top Bar

From the top bar different options related to the content and presentation of the organization chart can be selected.

Zoom Out

Decreases the display size of the diagram.

Zoom In

Increases the display zoom of the diagram.

Return to Initial State

The selected view is returned to the initial display, the search is cleared and the expanded units are closed.

View

A panel to select the view is displayed.

View: Directory ▾


Directory

Structure

Search



Fast Search

When entering a text in the bar and pressing the icon  or “enter” key, all the organizational units that contain in the [Descriptive Name](#) the entered text, are displayed in the list.

The chosen unit is highlighted with a blue border and with its dependent units expanded.



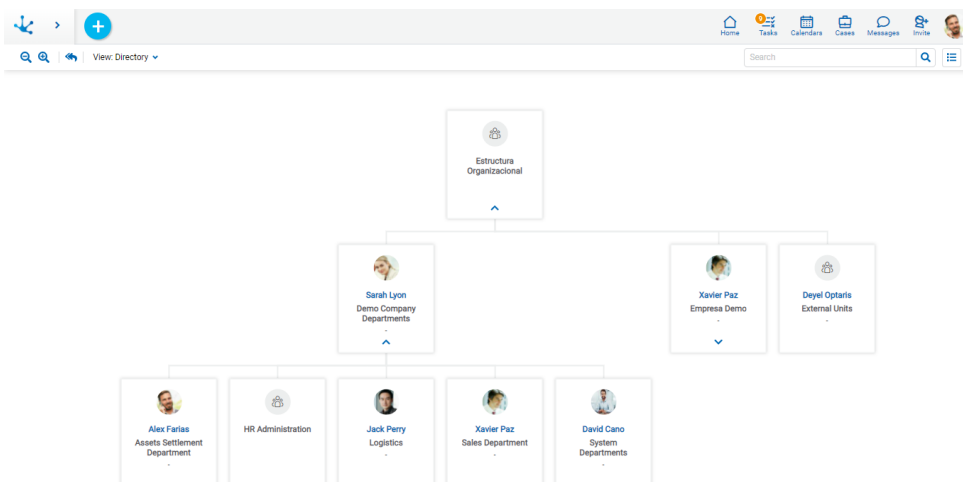
Change to Grid Mode

Allows to change the display to grid mode.

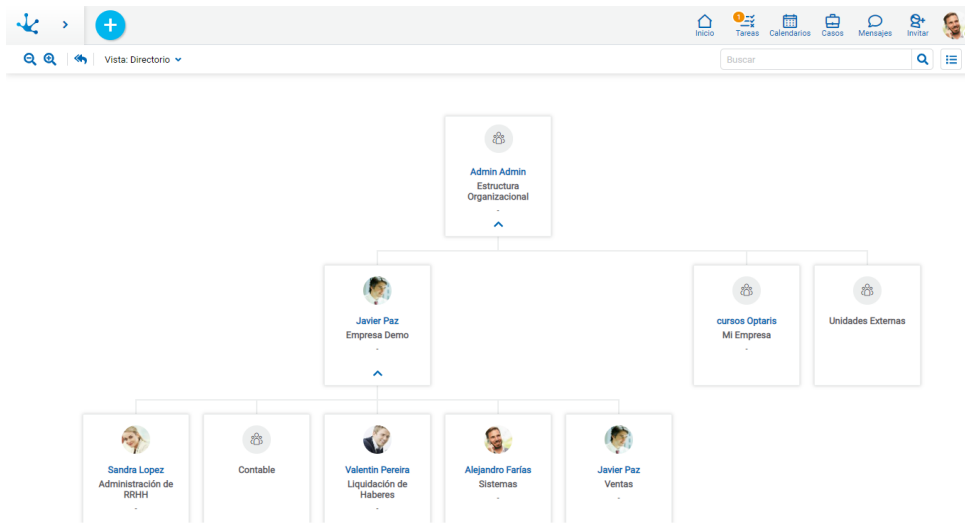
3.11.1.1.2. Organization Chart


The organizational units are displayed hierarchically. In the superior panel the “Structure” and “Directory” view types can be selected. The location within the structure depends on the definitions made in the [Superior Organizational Unit](#) property of each unit.


In the “Structure” view, each unit is identified by its [Descriptive Name](#).





In the “Directory” view, the name and surname of the administrator of each unit, with their profile image, are also included.



 Allows to display the superior level of the structure, when an element is selected as a search result.

 Allows to display the direct dependent units.

 Allows to hide the direct dependent units.


 Allows to access the detailed query of the organizational unit properties.

The organizational chart image can be enlarged or reduced using the mouse wheel. The organizational chart can be moved by clicking and dragging it.

3.11.1.2. Grid

The grid of organizational units allows to visualize them with standard presentation of [results grids](#), with facilities of:

- Sorting
- Search Bar and Filters
- Download Data
- Operations

The icon  allows to change the display to grid mode.



Descriptive Name	Name	Administrator	Superior Organizational Unit
Logistics	Logistics	Jack Perry	Demo Company Departments
HR Administration	HRAdministration		Demo Company Departments
Assets Settlement Department	AssetsSettlementDepartment	Alex Farias	Demo Company Departments
System Departments	SystemDepartments	David Cano	Demo Company Departments
Sales Department	SalesDepartment	Xavier Paz	Demo Company Departments
Demo Company Departments	DemoCompany	Sarah Lyon	Estructura Organizacional
System	System	Alex Farias	Empresa Demo
Liquidation of Assets	LiquidationofAssets	Valentine Pearson	Empresa Demo
Administración de RRHH	AdministracionDeRrhh	Sarah Lyon	Empresa Demo
Sales	Sales	Xavier Paz	Empresa Demo
External Units	ExternalUnits	Deyel Optaris	Estructura Organizacional
Empresa Demo	EmpresaDemo	Xavier Paz	Estructura Organizacional

The following properties of the organizational units are visualized as grid columns:

- Descriptive Name
- Name
- Administrator
- Superior Organizational Unit


Filters can be applied by the following properties:

- Descriptive Name
- Name
- Administrator
- Superior Organizational Unit

It is possible to make operations on each grid row of the organizational units. By clicking on the row a query of the selected unit can be made and through the icons  and  it can be modified or deleted respectively.




3.11.1.3. Operations

Both from the organizational chart and from the grid operations can be done on each organizational unit.

Hovering the cursor over each element of the [organization chart](#) displays the icon  that allows to show the properties of the selected unit. While hovering it over each of the lines of the grid icons corresponding to the operations available for each unit are displayed.

Create

The operation "Create" can be done from the [context menu](#) in different ways.

- Hover over the icon  and select the icon on its right , corresponding to the option "Organizational Units".
- Click on the icon  and select the option "Organizational Units" on the vertical panel displayed.

Opens properties panel of the new organizational unit with all the properties as editable. The creation is done by pressing any of the buttons available and the user receives a message indicating that data have been saved.

Code

Depends on property configuration [Organizational unit coding type](#), if the value is "Manual" the code is mandatory, if it is "Semi Automatic" the code is optional and if it is "Automatic" the code is not visible.

Buttons

- Accept: Confirms the creation of a new organizational unit.
- Accept and Create: Confirms the creation of an organizational unit and opens a new panel to create another one.

Show

Opens the properties panel of the selected organizational unit, where properties are not editable. Depending on the [security permissions](#) of the user, buttons available to operate with that organizational unit are enabled.

Buttons

- Update
- Delete

Update

Opens properties panel of the selected organizational unit, with those properties that can be modified as editable. The update is done by pressing the button "Accept" and the user receives a message indicating that data have been saved.

Administrator

When the unit has an administrator defined and the unit has been modeled as owner or participant in a process that is in use, this property can be modified entering a new administrator but cannot be defined with no value.

Delete

Opens the properties panel of the selected organizational unit, where properties are not editable. The deletion is done by pressing the button "Accept" and the user receives a message indicating that data have been deleted.

*There should be no user belonging to the unit.
The unit should not be actor in any role.
The unit should not be owner nor participant in any process that is in states "Published" or "Modified".*

3.11.2. Security

 [Phase 8: Configuration > Security](#)

Deyel uses a security scheme based on in two concepts:

- **Authentication** of the users, that allows to control who uses the product.
- **Authorization** for the specific functions that each user can use.

3.11.2.1. Authentication

Deyel keeps a register of all the users that are enabled to use the product, collecting their identifying data (user code, alias, email address) their personal and labor data, their state, etc.

The procedure of authentication ensures that all use of **Deyel** and its solutions are made by "someone" or "something" that can be identified as a user, inside the user register.

Also, to ensure that "someone" or "something" is who they say they are, their user or alias and their password must be informed.

Deyel uses different authentication methods but in each context only one of them should be used.

The mechanism of authentication to be used is defined in the [configuration](#) of the **Deyel** execution environment.

[Native Authentication](#)

This is the predetermined method of authentication. **Deyel** verifies that the user exists in its register and verifies the password, which is stored encrypted in its database.

[LDAP Authentication](#)

When an organization uses directory services to register its users, **Deyel** can be configured to delegate in LDAP the authentication process.

[Federated Authentication IDM](#)

Deyel implements this type of authentication by integrating with an external Identity Manager and delegating user authentication to it.

[Federated Authentication](#)

Deyel implements this type of authentication integrating with Google. When an organization uses Google accounts for their users, the authentication process can be delegated to Google.

[Custom Authentication](#)

This kind of authentication delegates on an [advanced rule](#) the users authentication.

[Mixed Authentication](#)

Allows an organization to use simultaneously different types of authentication.

[Azure AD Authentication](#)

Deyel implements this type of authentication integrating with Microsoft Azure Active Directory. When an organization uses Microsoft accounts for their users, the authentication process can be delegated to Azure Active Directory.

[Multiple Factor Authentication](#)

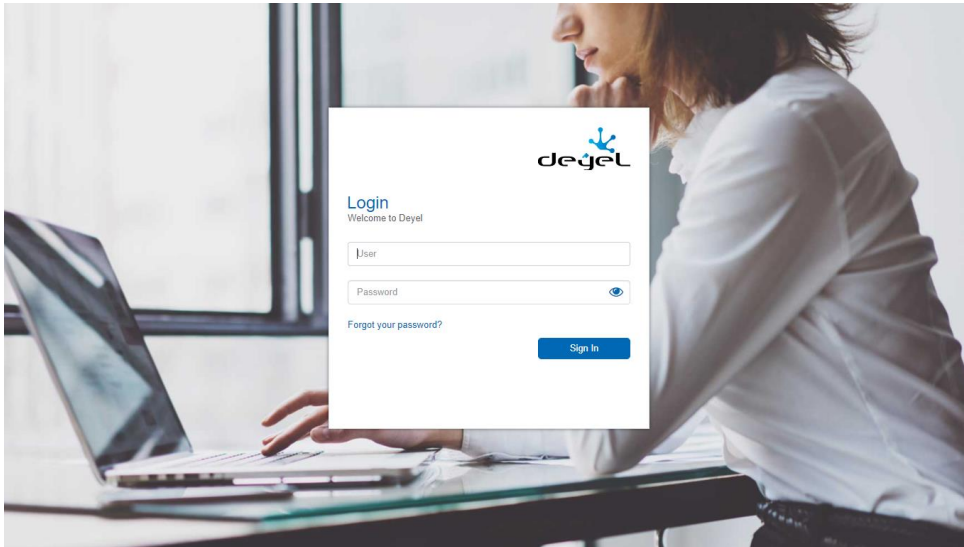
Deyel allows the use of a second authentication factor called 2FA for the native and personalized authentication methods.

3.11.2.1.1. Native Authentication

This is the predetermined mechanism of authentication.



The user enters the user code or alias and the password on the user portal access page.



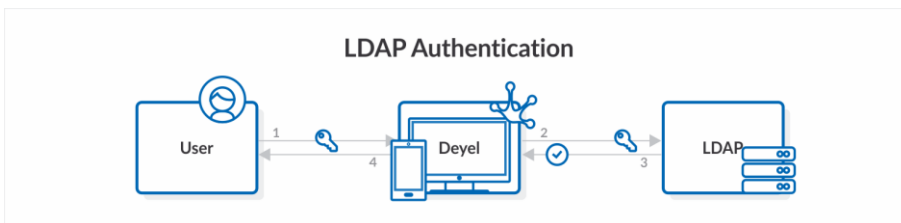
Deyel verifies that a user exists in its register, with the user code or alias informed and verifies the password. Access keys persist in **Deyel** database encrypted with SHA3.

If the user or the password are incorrect, the access to the product is denied.

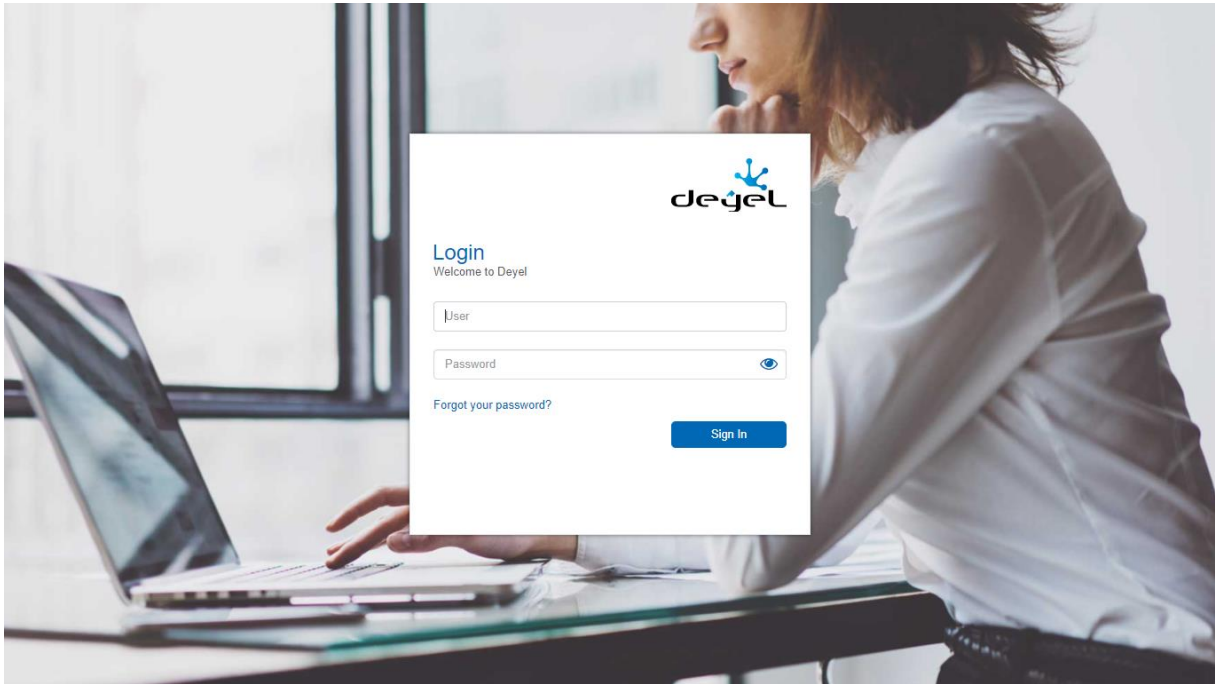
For this method, it is possible to optionally use a second authentication factor called 2FA, which is based on TOTP (Time-based One-Time Password algorithm) one-time keys.

3.11.2.1.2. LDAP Authentication

When an organization uses directory services to register its users, **Deyel** can be configured to delegate the authentication process to LDAP.



The user enters the user code or alias and the password on the user portal access page.



Deyel verifies that a user exists in its register, with the user code or alias entered and delegates the authentication to LDAP. If the user is registered in **Deyel** and LDAP reports a correct authentication, then the access is allowed.

IMPORTANT

Before activating LDAP authentication it must be ensured that a registered user exists in Deyel and can authenticate correctly in LDAP.

If none of the users meet these conditions, it is not possible to enter the portal.

Deyel verifies that the administrator that is configuring the environment can authenticate correctly in LDAP.

When LDAP is used as one of the Mixed authentication methods, this last verification is not done.

When Deyel can not establish communication with LDAP server, an administrator is allowed to enter the portal by using Native authentication.

In these cases, the user does not have all administration options available, but can only access to the environment configuration, to reconfigure the mechanism of authentication.

With this mechanism of authentication the option "Forgot your Password" is not available.

If the user does not remember their password, they must observe the procedures that the organization determines to solve the problem.

In the configuration of the execution environment of **Deyel**, different aspects of the [integration with LDAP](#) can be configured.

[LDAP - Server Connection](#)

Configuration of access to LDAP server. All properties are required to activate LDAP authentication.

[LDAP - User Search](#)

Configuration of users search in LDAP Directory. Establishes the search subtree, LDAP attributes which are considered search keys and additional user selection filters.

[LDAP - Attribute Synchronization](#)

Configuration of **Deyel** user properties that are synchronized with LDAP attributes

Attribute Synchronization

Deyel allows certain properties of the users can be recovered from attributes of LDAP directory, avoiding that these properties can be modified in **Deyel**.

When **Deyel** connects correctly and determines that the user exists in LDAP, it is marked as a "Synchronized User". This indicates that some of their attributes have been obtained from LDAP and can not be modified in **Deyel**. In the same way, **Deyel** automatically removes the "Synchronized User" mark when it determines that the user does not exist in LDAP. This way its attributes can be modified in **Deyel**.

There are different moments in which these attributes synchronization is done.

Login

When the user authenticates correctly against LDAP, attributes are synchronized. If **Deyel** detects an error that does not enable to do this synchronization, a register of this is left in the logs console and log in to the portal is not allowed.

User Creation

When a user is created, by informing the user code or the alias, the existence in LDAP is verified. If the user exists in LDAP, attributes are obtained and remain protected. They can not be modified in **Deyel**. If the values recovered from LDAP are incorrect or the user does not exist in LDAP, creating the user in **Deyel** is not allowed.

User Modification

When a user is modified, **Deyel** syncs again the attributes before showing the information on the screen. If **Deyel** detects an error that does not enable to do this synchronization, a register of this is left in the logs console and the synchronization is not done. Then, there is access to the user information, but the synchronized properties can not be modified from **Deyel**.

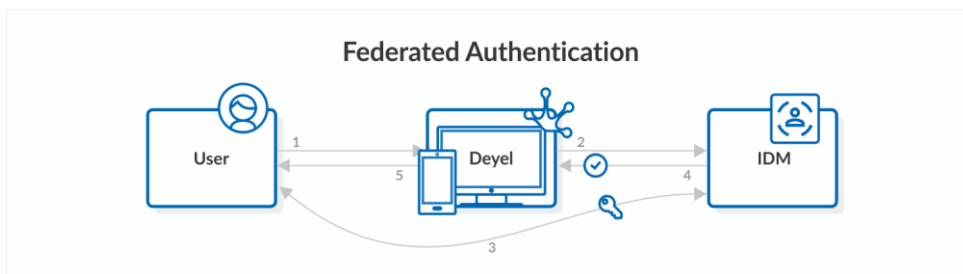
Query and Deletion of Users

When these operations are executed, an attributes synchronization is also done before showing the user information on the screen. If **Deyel** detects an error that does not enable to do this synchronization, a register of this is left in the logs console and the synchronization is not done.

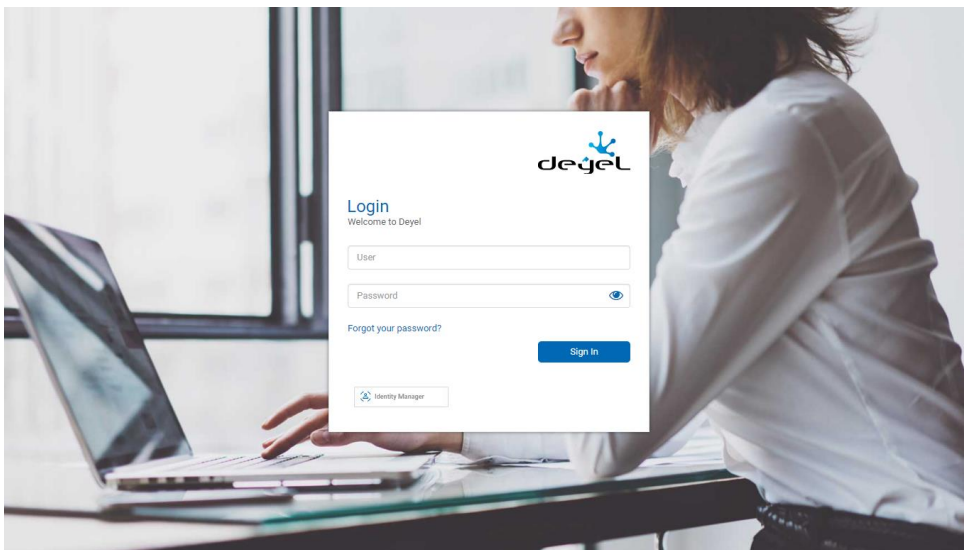
3.11.2.1.3. Federated Authentication IDM

An organization can use the services of an Identity Manager to do the authentication of its users. This way a single access mechanism is granted to the applications, preventing users from having to remember multiple access credentials.

Within **Deyel** use of this type of authentication can be made.



The access page to the user portal presents a button that allows to redirect users to the login configured in the [IDMAuthorizationCode adapter](#) to enter their credentials.



Pressing the "Identity Manager" button takes the user to the login panel where they enter their credentials.

When the user logs in, the Identity Manager informs **Deyel** that the user has been successfully authenticated and it gives back a token needed for the subsequent execution of a business rule that is configured in the mentioned adapter.

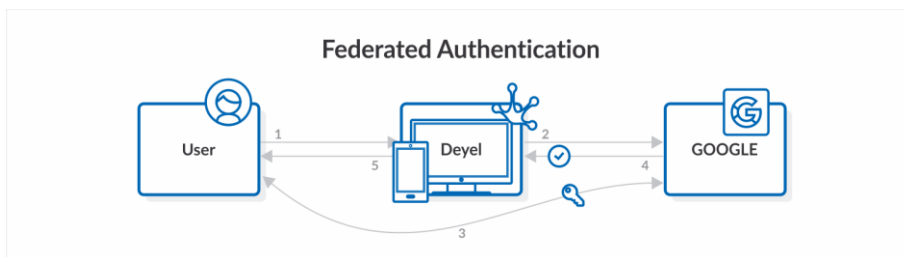
Deyel invokes such business rule to which the previously obtained token is passed as a parameter. Then, **Deyel** verifies that a user exists in their register, whose user name or alias coincides with the one obtained through the rule.

Only when the user is successfully authenticated and is registered in **Deyel** the product is allowed to be used.

3.11.2.1.4. Federated Authentication

An organization can use the services of an identity provider (IDP) to do the authentication of its users. In this way it grants a single access mechanism to the applications, avoiding users having to remember multiple login credentials.

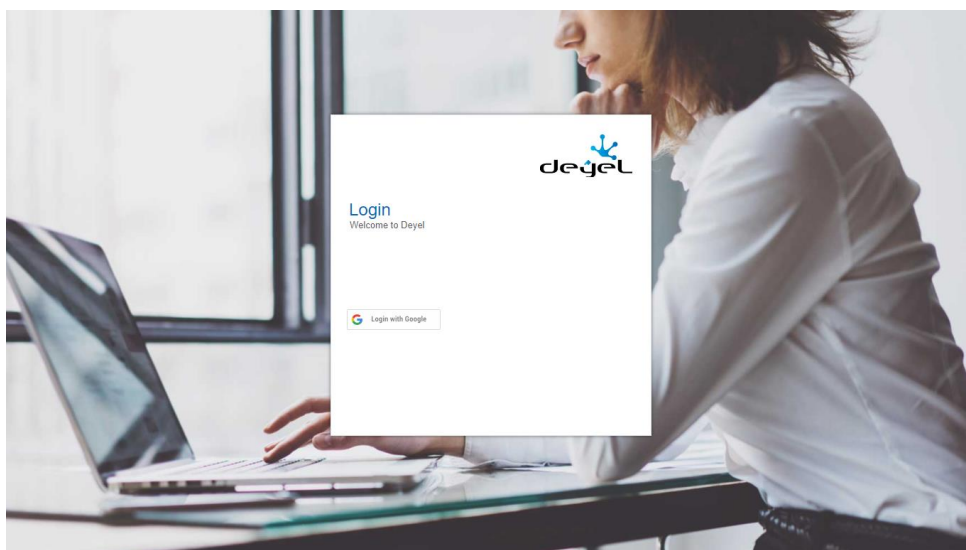
Deyel implements this type of authentication integrating with Google. When an organization uses Google accounts for its users, the authentication process can be delegated to Google.



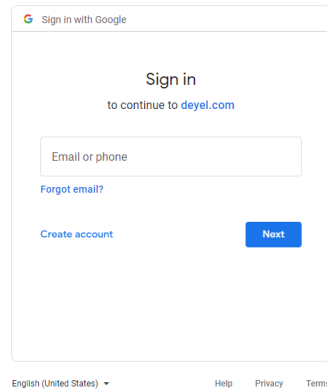
In the access page to the user portal there is a button that allows to redirect users to Google login in order to enter their credentials.

When users enter their account, Google informs **Deyel** that they have been successfully authenticated and the access code is never informed to **Deyel**.

Deyel only verifies that a user exists in its register, whose email account is the Google account entered. Users can use the product only when they are correctly authenticated to Google and they are defined in **Deyel**.



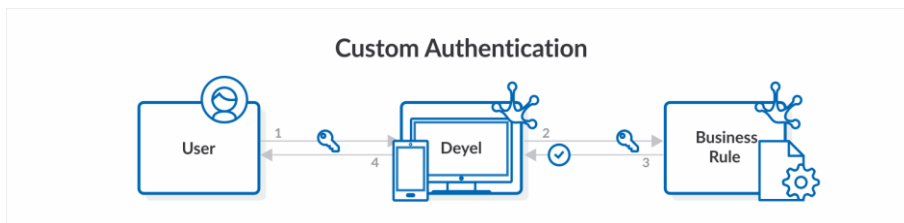
By pressing the button “Enter with Google” the users go to the login panel where they enter their credentials.



When users enter their account, Google informs **Deyel** that they have been successfully authenticated. **Deyel** verifies that the users are defined and their emails are the Google accounts they entered.

3.11.2.1.5. Custom Authentication

This kind of authentication uses [an advanced rule](#) to authenticate users.



The user informs their user code or their alias and password, in the access page to the user portal. **Deyel** invokes this advanced rule, passing the data entered by the user. The advanced rule implements the authentication logic and returns if it is correct or not.

When **Deyel** receives that the authentication is correct, it is verified that the user exists in **Deyel** and allows entry. Passwords do not persist in **Deyel**.

For this method, it is possible to optionally use a second authentication factor called 2FA, which is based on TOTP (Time-based One-Time Password algorithm) one-time keys.

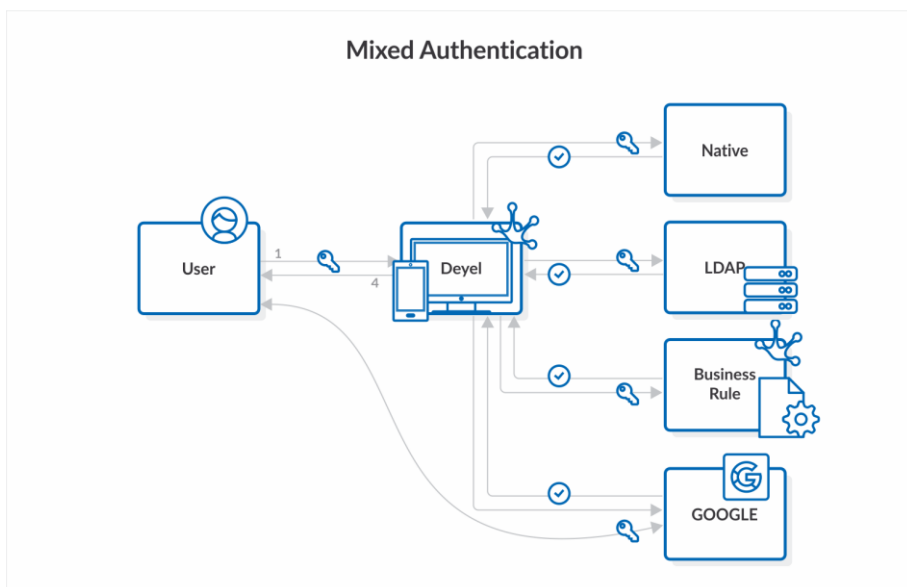
3.11.2.1.6. Mixed Authentication

The mixed authentication allows to combine multiple schemes of authentication, in a predetermined order.

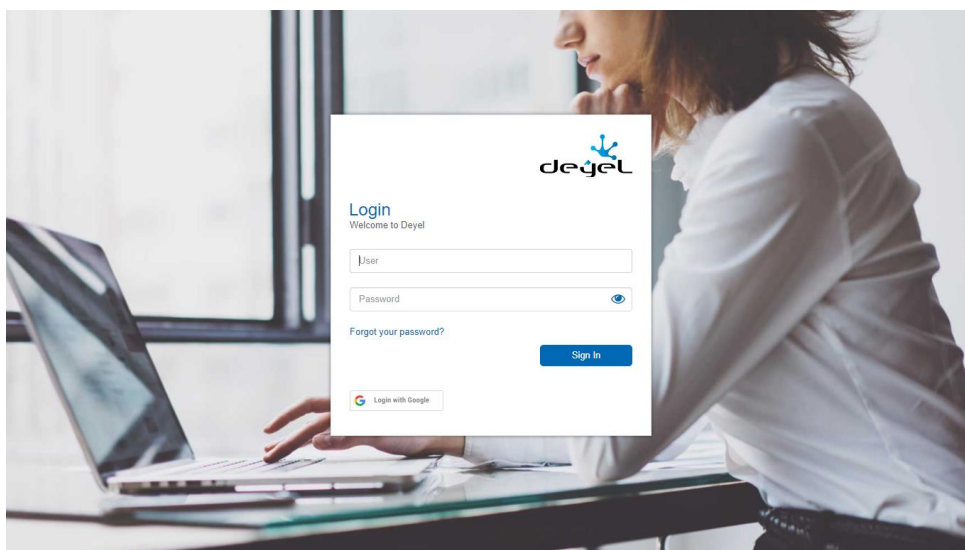
Let's consider for example an organization that delegates in LDAP the authentication of its internal users, but needs to use additionally the native authentication and the federated authentication (Google), to authenticate other groups of external users, which are not registered in the directory services.

This situation is solved by using the mixed authentication, indicating in the environment configuration which are the [supported authentication methods](#) and in what order should they be applied:

- First Method of Mixed Authentication = LDAP
- Second Method of Mixed Authentication = Native
- Third Method of Mixed Authentication = Google



The access page to the portal allows to use the different alternatives.



If the user presses the button "Enter with Google", they are redirected to the Google login. The user can use the product only when they are correctly authenticated in Google and registered in **Deyel**.

If the user informs their user code or their alias and password, then **Deyel** tries to authenticate them first in LDAP and then by Native authentication.

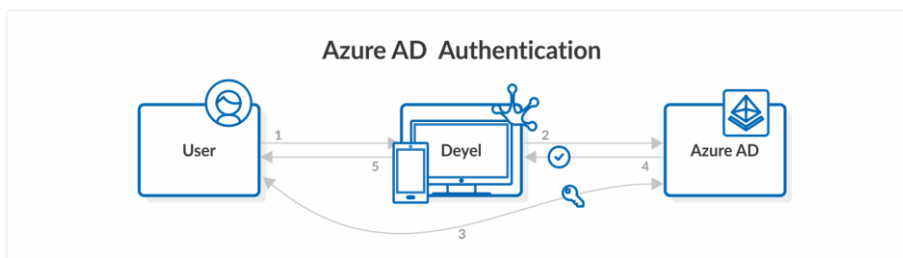
When a mechanism authenticates correctly, **Deyel** allows the login of the user if it exists.

If a mechanism fails, it continues with the next one and if every configured mechanism fails, the user receives an authentication error and the product can not be used.

3.11.2.1.7. Autenticación Azure AD

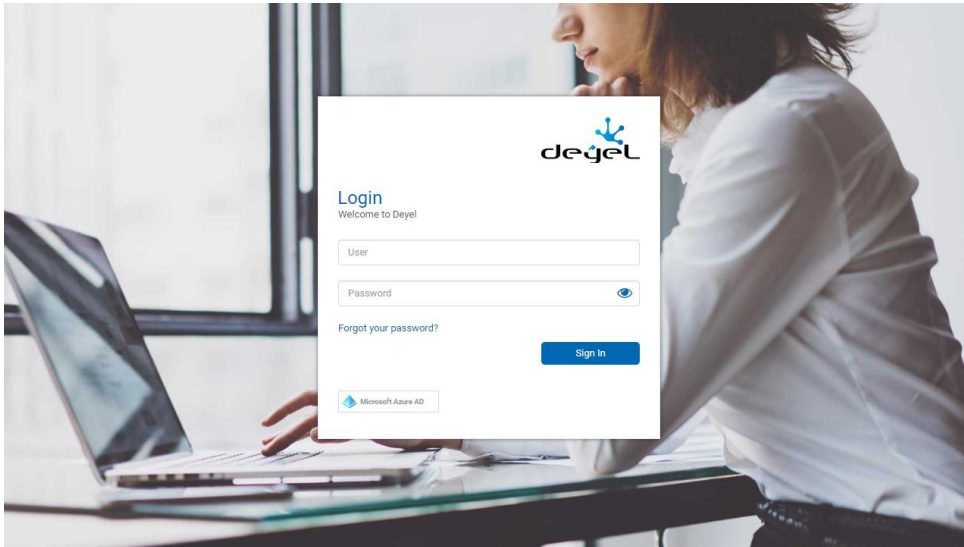
An organization can use the services of an Identity Manager to do the authentication of its users. This way a single access mechanism is granted to the applications, preventing users from having to remember multiple access credentials.

Deyel implements this type of authentication integrating with Microsoft. When an organization uses these type of accounts for their users, the authentication process can be delegated to Microsoft Azure AD.

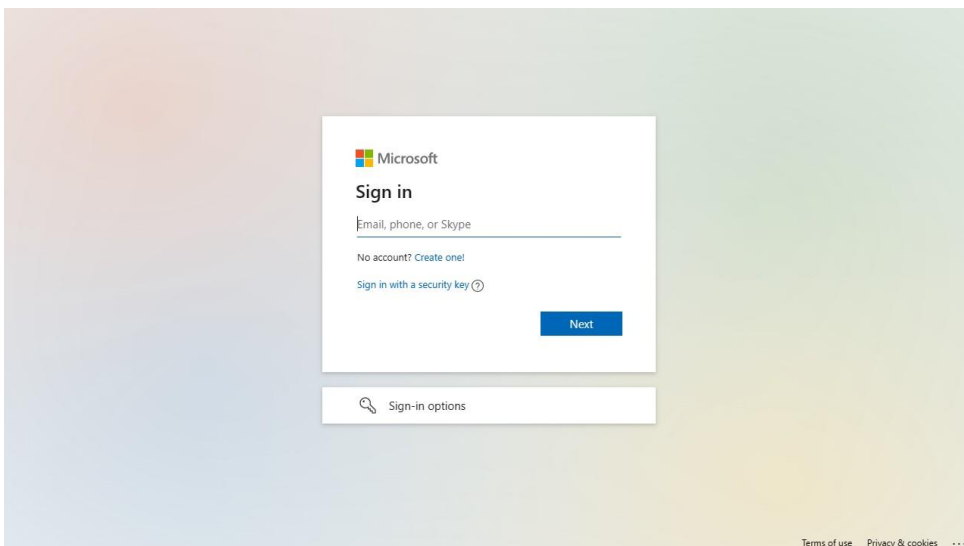


When users login, Microsoft informs **Deyel** that the user has been successfully authenticated and the access key is never informed to **Deyel**.

Deyel only verifies that a user exists in its register, whose email account is the Microsoft entered account. Users can use the product only when they are correctly authenticated in Microsoft and registered in **Deyel**.



Pressing the “Microsoft Azure AD” button opens the login panel where users enter their credentials.

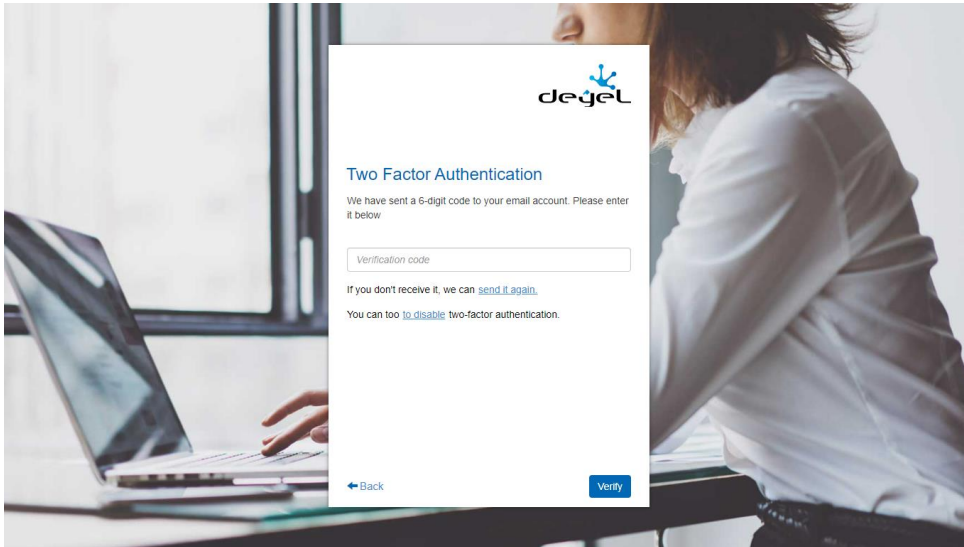


3.11.2.1.8. Multiple Factor Authentication

For the native and custom authentication methods, it is possible to use a second authentication factor called 2FA, based on the input of TOTP keys (Time-based One-Time Password algorithm).

When the user successfully authenticates with his username and password, he manages to pass the first authentication factor. Immediately, if that user has activated the double authentication factor, they must overcome it by entering one of these TOTP keys.

The Administrator from **Deyel** can enable or disable the use of the environment variable [2FA](#) in the installation and each user can configure how to use [such variable](#) to access the portal.



When the user configures:

- using Google authenticator can enter the verification code that the authenticator generates. It is shown as the first alternative to avoid sending emails to the user.
- the verification codes to be sent to their institutional mailbox, they receive a new code in it.
- an alternative account to receive the verification codes, receive a code to the account recovery email.
- that wants to use the recovery code and the code entered is correct, the 2FA is validated and access is allowed.

By pressing the “disable” option to deactivate two-step verification, the user is asked to confirm the operation. Once confirmed, the following message is received:



And the administrator receives a request to disable the use of 2FA for that user, which is done by accessing the user's profile and modifying its configuration. These are manual user management procedures that can take time, so the applicant is prompted to try to identify themselves later.

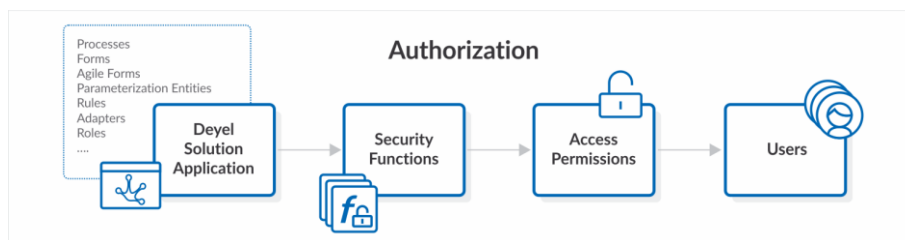
3.11.2.2. Authorization

The concept of authorization implies to verify which specific [security functions](#) each user can execute, preventing unauthorized actions to be carried out.

In the users profile they have predefined the [access permissions](#) and a user can only execute a security function, only if it is contained within their access permissions.

Modelers use **Deyel** to develop the applications the organizations needs and each application is modeled as a set of processes, business entities based on forms, rules, adapters, and roles, among other objects related to each other, with the objective of solving a determined requirement.

The design methodologies focused on the user contemplate the definition of the characters, to represent user groups that use the application similarly. Modelers can identify the characters in each application and determine which security functions they need to use. From this the access permissions assigned to the users are defined.

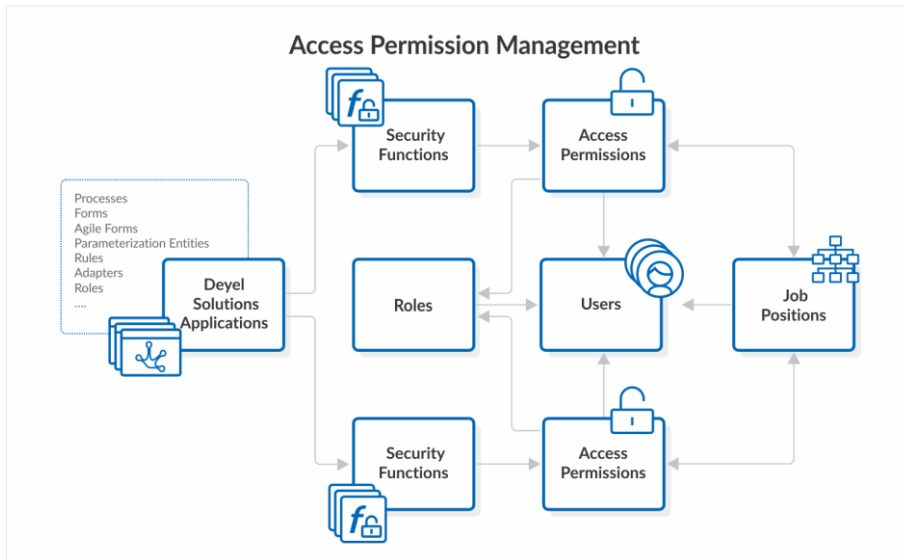


Access Permissions Management

Access permissions of each user need to adjust dynamically. The appearance of new applications, new features or changes on the user work assignments, imply that the access permissions that the user has assigned must be redefined.

The security administrator can add or remove access permissions to each of the users individually.

In organizations with great number of users or applications, this task can be complex. The concepts of [roles](#) and [job positions](#) allow to simplify it, assigning permissions to multiple users and not individually.



Predefined Access Permissions

Deyel and its solutions have a set of [predefined access permissions](#), designed so that the different characters can use the feature they require.

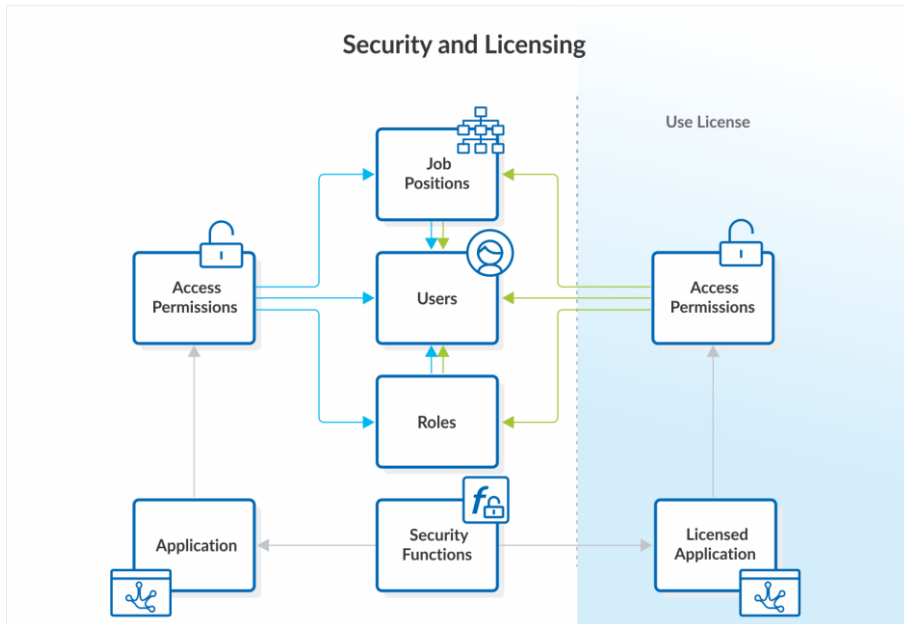
For example, **Deyel** has access permissions defined for end users, for business modelers, for IT modelers and for security administrators, among others. In the same way, **CRM** has access permissions designed for sellers and sales managers.

Predefined access permissions cannot be modified, in case of needing it a copy of them can be made.

3.11.2.3. Security and Licensing

[▶ Phase 8: Configuration > Licensing](#)

The licensing scheme uses different concepts and affects the operation of the security scheme.



Licensed Application

A licensed application is the one that requires a use license to be used.

Use License

A use license is generated by the manufacturer and distributed in an XML file digitally signed. Each **Deyel** environment must import the corresponding use license.

A use license determines:

- The name of the company for whom the license is defined.
- Its identification.
- The platform or modality (Cloud, On Premise).
- The license type (Subscription, Perpetual, MyWay).
- The environment (Development, Test, Production, Trial).
- The validity period, with its issuance and renewal dates.
- The licensed applications can be used in the environment and for each one, the number of user licenses available.

User License

Each of the licensed applications defines different types of user licenses. The use license defines for each licensed application, the maximum quantity of user licenses of each type, that can be assigned in the environment.

In the case of **Deyel** the user license types are the following:

- Participant

A participant user uses **Deyel** to participate in the defined processes, as well as using forms, calendars, chats, etc. either initiating a case or performing some subsequent activity inside that same case.

- Agile Modeler

An agile modeler is a business user that uses **Deyel** platform to define their web forms from pre-defined templates or doing its complete design. They can adequate them to the business needs, by adding a process or defining access permissions and its visibility, to finally publish them for its use.

- Deyel Modeler

A Deyel modeler is an IT user that uses **Deyel** platform to design and build their object models for the development of applications of low code. Uses tools of graphic processes modeling and forms to build, document and implement the process and business entities of the organization. This type of modeler also defines the roles and agents, and can implement more complex business logic using assistants that allows them to incorporate Java components.

They can implement the integration with other applications or basis of external data, behavior or more complex validations in the forms, using the advanced edition of the scripting. Uses tools to export and import their models and information of the environment.

In the case of solutions as CRM, Stock Management or Contracts, the user license types are the following:

- Participant

A participant user can use the solution according to the access permissions they have assigned.

- Administrator

An administrator of the solution is a user that uses **Deyel** platform to extend the solution.

Example:

- Enable the use of **Deyel**, considering up to 100 users of participant type, up to 50 of agile modeler type and up to 10 of Deyel modelers type.
- Enable the CRM use considering up to 100 participant users.

Access Permissions - Required User License

The access permissions of a licensed application establish what type of user license is required. In the case of **Deyel** there exist predefined permissions that require a license of Deyel modeler type, others require a license of an agile modeler and others only require a license of participant type.

Assignment of User Licenses and Access Permissions

On the profile of each user, it is indicated:

- The licensed applications that can be used and the type of user license that they are assigned to use them.
- The assigned access permissions.

When access permissions of a licensed application are assigned, it is controlled that:

- The licensed application can be used by the user.
- The type of user license is compatible with the required one by the access permission.

To authorize the execution of a security function, it is verified if it is in any of the access permissions assigned to the user.

The corresponding permissions to a licensed application, are ignored when:

- *The use license does not enable the use of such licensed application.*
- *The use license does not enable the user license type required by the security permission.*
- *The user does not have the user license type required by the security permission.*

MyWay Use License

All **Deyel** solutions have a licensing modality that allows them to be fully customized. Installing a "MyWay" type of license allows to transform the solutions available in the environment into non-licensed applications, so they can be modified as any other own application.

The solutions with use license from this type cannot be automatically updated when the version of **Deyel** is updated, but the adaptations made in the environment are strictly respected.

When a "MyWay" type of license is installed:

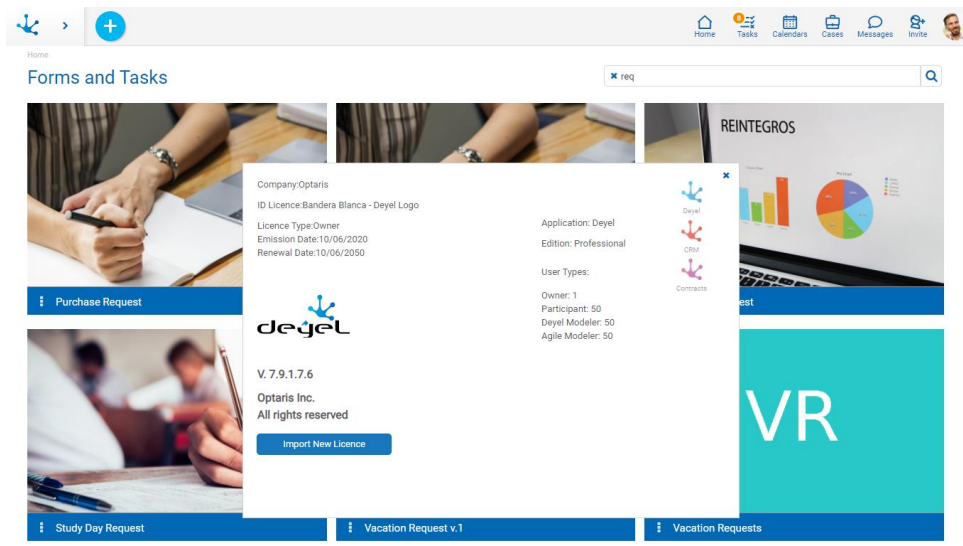
- All the solutions that the environment has licensed adopt the "MyWay" modality.
- Any user that has the "Global.Modeler" permission can model objects of the environment solutions to adapt them freely.
- Once this license type has been installed, the environment must remain in this licensing modality.

3.11.2.3.1. Showing Use License

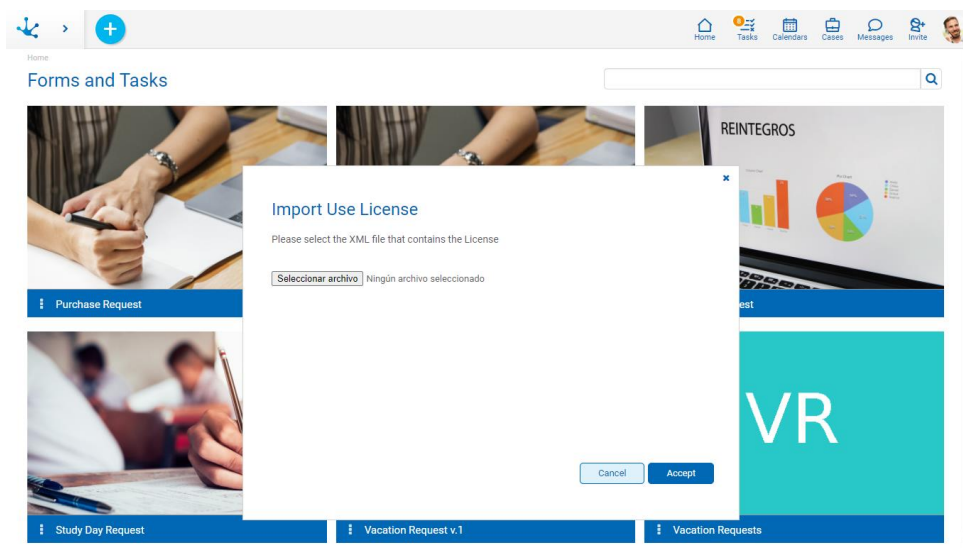
The information contained in the current use license can be shown from the functionality "[About](#)" on the top toolbar of the users portal.

About Deyel

When opening this panel the information about the use license can be seen.



When the user has access permission “Administrator”, they can import a new use license. Date and time when the user imported the current license are informed under the button "Import". When pressing this button, a window which allows to upgrade the use license of the environment is displayed.



The XML file that contains the use license must be selected before pressing the button “Accept”.

Deyel verifies the digital signature of the XML file to ensure its integrity and verifies that the new license has been generated in the environment and that it has the correct validity.

After importing the use license, a button that allows to restore the previous license is temporarily enabled. This option allows to restore situations where the use license was improperly imported.

3.11.2.3.2. Licensing Controls

Deyel controls the environment licensing and sends out alerts when users enter it.

Non-existent License

If the use license is not detected, a panel is opened to initially load the license.

Invalid License

The use license exists but the validity of the digital signature is not verified, then the license is invalid and the user is notified when entering the portal.

User Level Licensing

It is verified that the connected user has user licenses granted and are compatible with the use license. If the user has not user licenses assigned, they receive a message informing them of the situation.

Number of Licensed Users

For every licensed application it is controlled that the number of user licenses assigned do not exceed what is defined in the use license. This control is performed for each type of user license.

Expired Licenses

The use license has a specified renewal date. It is considered that the license expires the day after such date.

3.11.2.4. Users

Nominated User

Every person using **Deyel** or any of its applications based on this platform are called nominated users. As such, they have a code that uniquely identifies them, an access key which allows them to authenticate and initiate the work session and a user profile, that collects their personal information, working information, their preferences, additional data, etc.

There is a type of user that does not represent a person, called "Smart Thing". It is about devices, virtual or physical, that have the capacity of communicating with other devices, reacting to events and executing specific functions. Smart things can participate of the business processes, as initiators of such or as responsible users of executing activities, so as to optimize the execution of such processes. For example, the execution of daily tasks or calculus tasks can be delegated to them.

Each of the users has access [permissions](#) assigned that define which are the specific functionalities the user can execute.

Anonymous User

The anonymous user is a type of user that can use an application without needing to authenticate or log in.

This type of user can execute any functionality from an application as long as such functionality is contained within the "[Anonymous](#)" permission.

Smart Thing

Chatbots

Among the users of type "Smart Thing" there exists a specific type that is the [chatbot](#).

A chatbot can communicate with other users using Tedis, interpreting specific messages. Each chatbot can define a process to model the way in which it responds to each of the messages received. The answer can be simple, for example responding with a predefined sentence, or it can be more complex and shoot the execution of a business process.

Chatbots are defined to interact with users through the messages, delegating this way the execution of tasks. Human users can use the chatbots as their assistants, so that they automate the actions the user wants and reply to their messages.

Rest API Client

Other users of type "Smart Thing" is the Rest API Client.

A Rest API client is used so that the external applications can be integrated with a **Deyel** environment. To consume the resources exposed in [Deyel Rest API](#) it is necessary to send the credentials of such user to do the authentication and generation of the corresponding access token.

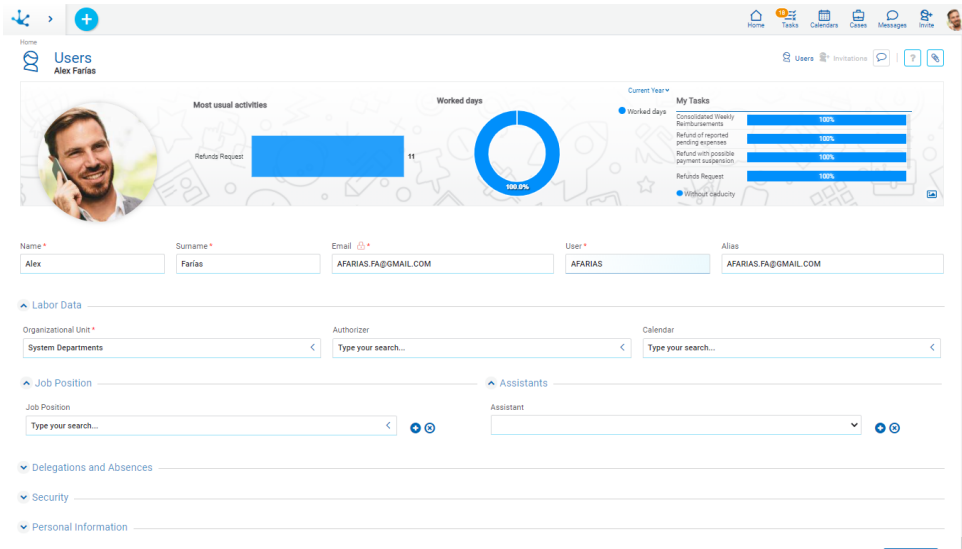
Properties

For each user a profile is kept with the following information:

- [User Identification](#)
- [Labor Data](#)
- [Delegations and Absences](#)
- [Security](#)
- [Personal Information](#)
- [Configuration](#)

For users of type "Smart Thing", this group of properties must be defined.

- [Invitations](#)



An asterisk on the label indicates that the property is required.*

User Identification

Profile Image

Each user can upload to their profile an image from a file. In case of not informing it, an image with the user's initials is automatically generated.

User

Code that uniquely identifies the user.

Alias

The value entered in this property works as an alternative code for the user. For example, email address can be used or any other coding that uniquely identifies the user. **Deyel** checks that there are not two users with the same alias.


When entering the portal, the user can enter either his code or his alias to authenticate.

Behavior Indicators

Information about usual tasks, days worked and the last tasks of the user are graphically displayed.

- With the indicator "Most usual activities" a ranking of the most executed activities is displayed.
- With the indicator "Worked days", it is seen how was their workplace attendance. When clicking on this indicator, the profile form is displayed so that absences and licenses with their type and period covered are expanded.
- With "My tasks" a summary of the assigned tasks is displayed, together with their state regarding their due date. By clicking on these tasks, the grid of the task with its cases can be displayed.

Cover Image


It can be personalized selecting an image to use as background from the icon .

Name - Surname

These properties may not be informed for smart things.

Email

The value entered in this field works as an alternative code for the user. **Deyel** checks that there are not two users with the same email.

If a user shows their profile the icon  is displayed to the right of the **Email** property. When pressing it a field that allows entering the password of the email address is displayed. This configuration is necessary so that the user can do the [email sending](#) when using forms.

Labor Data

Organizational Unit

Indicates the organizational unit in which the user works.

Authorizer

Indicates the one in charge of authorizing or approving the processes started by the user.

It is an optional property, that makes reference to another user belonging to the same organizational unit or to a different one.

This property can be recovered from the business processes so as to set the participant responsible to those activities that require an authorization, by using an agent [Authorizer](#).

Calendar

Identifies the calendar that establishes the dates and working hours of the user.

This property can be defined for each user individually.

When the user has not a special calendar defined, then the current calendar at the level of the organizational unit to which they belong is considered. If there is no definition of a calendar in such unit, it is sought at the higher levels of the organizational structure, until detecting the calendar to apply.

The root organizational unit of all the hierarchy has a predetermined calendar defined.

Job Position

Optionally the job positions which correspond to the users can be indicated.

Position

Defines the [job position](#) occupied by the user.

Assistants

Optionally the chatbots can be selected to work as assistants of the user.

Assistant

A user can define one or more chatbots as their assistants.

Each time the user receives a message, each of their assistants verify if they recognize that message as a command they can execute.

Each chatbot exposes the commands they can execute and defines which participants can invoke their execution.

On the other hand, those who communicate with this user can see the commands they can use by pressing the command icon on the chat window.

Delegations and Absences

Delegates

The list of delegated users is indicated and the period during which the delegations of tasks in effect. When the user is inactive or absent then those current delegates can:

- Do the tasks assigned to the user.
- Initiate the processes authorized for the user.

Delegate of

Informs the list of users that have delegated tasks in the user and the corresponding period. This list is dynamic and is completed at the moment of opening the user profile.

Absences

Each element of the list indicates the type of absence and the corresponding period. During these periods of absence the mechanisms of tasks districts are activated.

Absences can be indicated considering a start and end time.

Security

State and Expiration

User State

Indicates if the user is active or not.

An inactive user cannot enter the environment as their account is deactivated.

Expiration Date

The user account is automatically deactivated when the date entered in this property is reached. This automatic deactivation does not use the [tasks delegations](#) scheme.

This property can be used when the [authentication](#) of users is performed by **Deyel**.

Failed Accesses

Displays the number of failed accesses due to incorrect password.

It is incremented every time user authentication fails due to an incorrect password and returns to zero when the user authenticates successfully.

When the user exceeds the [Maximum number of failed accesses](#) their account is locked.

Lockout Date

Displays the date and time when the user's account is locked.

It is used to control the [Maximum lockout time](#) of the user's account.

Licenses

Each environment of **Deyel** has [use licenses](#) that enable the use of licensed applications during a period of time and by a certain number of users.

In this section the list of licensed application the user can use is indicated and which type of user license they have assigned to do this.

Product

Indicates the licensed application the user can use.

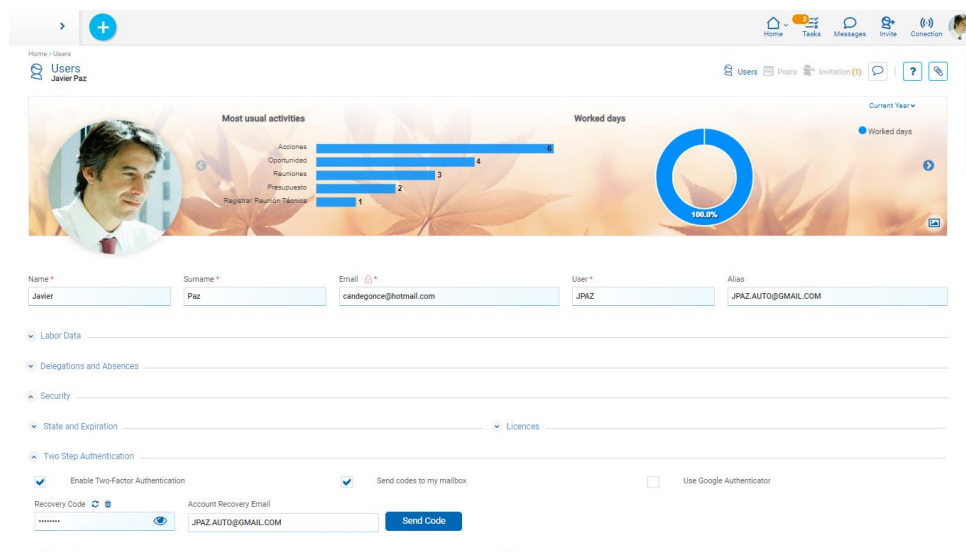
License Type

Indicates the type of user license that is assigned to the user to use the product.

Two Step Authentication

When the use of [double authentication factor](#) is enabled in the environment, this section is visualized.

If the [Two Step Authentication](#) configurable property is set to "Optional", the user can decide whether to use 2FA to authenticate. On the other hand, if the value is "Mandatory", the user must configure the use of 2FA. When the user is authenticated for the first time, **Deyel** sends a first TOTP code by email and in turn generates an account recovery code.



For security, to prevent improper access to this information by an unauthorized person, the user is required to confirm his identity by entering his password correctly to display this information.

Enable Two Step Authentication

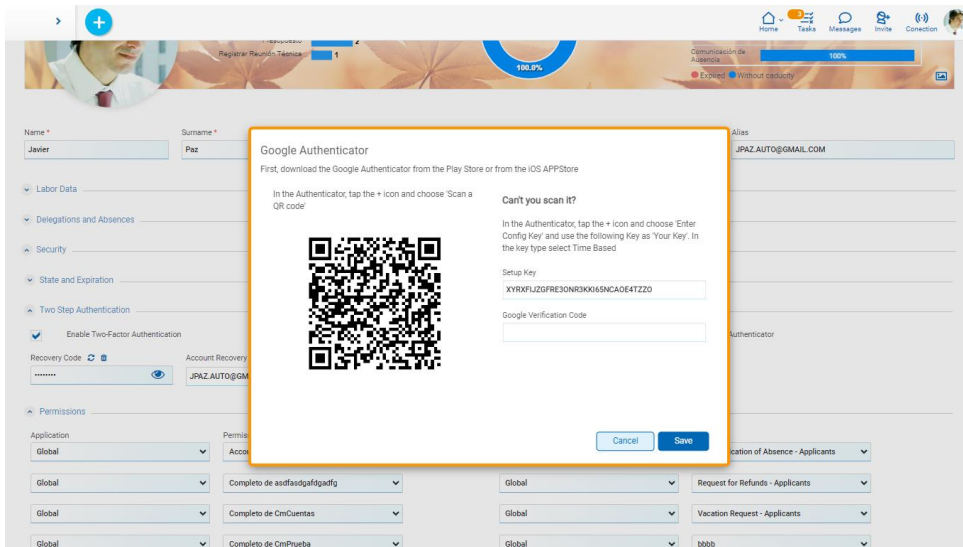
The user can enable or disable the use of 2FA. If it is enabled, it indicates how they want to receive the TOTP codes, being able to choose any of the following options:

Send Codes to my Mailbox

If this option is selected **Deyel** sends the access codes to the user's email account, which has been reported in the profile.

Use Google Authenticator

If the use of the Google authenticator is selected, a panel is displayed that tells the user how to configure such application.



A QR code can be scanned or enter a key that is generated by **Deyel**.


The user must follow the indicated steps and to confirm that they have correctly installed and configured the authenticator, they are asked to enter a TOTP code generated by that application. Only when the code is verified correctly it is possible to save the use configuration of the authenticator.

When the authenticator has been configured and is in use, a configuration icon is displayed next to the field. By clicking, the same panel that allows to configure the use of the application on the same or another device is accessed.


The security administrator cannot access a user's 2FA settings. They can only disable 2FA to contemplate particular situations but not re-enable it, only the user himself can do it.

Recovery Code

When the user cannot complete their two-step authentication because they do not receive their TOPT verification codes, it is necessary to offer a mechanism that allows them to overcome this inconvenience, using a recovery code.

When the user activates 2FA, a recovery code is generated. that can be consulted only by the user himself. To visualize the value, the icon  must be used.

The icon  allows to generate a new recovery code, the previous one is no longer valid.

The icon  allows to remove the recovery code, indicating that this mechanism is not going to be used.

On the home page, when the user needs to pass 2FA, they can request access with this recovery code. If the correct code is reported, the 2FA is validated and the user can enter.

Account Recovery Email

When the user does not receive the TOTP verification codes and also does not remember his recovery code, another mechanism is provided for him to receive the access codes.

The user can optionally register an alternative email address, which must be different from their institutional account.

To verify that the user has access to the email account, an email is sent to that address, containing a TOPT validation code that must be entered in an attached field.

When accept is pressed and there was some change in the recovery email, it is verified that the code is valid. Otherwise, it is not allowed to register the indicated email account.

Permissions

The access permissions the user has assigned are listed. Each element from the list indicates the name of the permission and the application they belong to.

In the first positions the permissions the user inherits for belonging to an organizational unit, to a role or to a job position are displayed. These elements are displayed protected and it is not possible to delete them from the list. Hovering over each of these elements, it is displayed from which object the permission is inherited.

Following the inherited permissions, the permissions assigned directly to the user are shown. When creating or modifying the user the elements from the list can be added or deleted.

First the application is selected and then the permission of such application to be assigned to the user is selected.

When permissions from a licensed application are assigned, this one must be able to be used by the user. If the application is not available in the use license of the environment, the permission is protected and it is possible to delete it from the permissions list, but not modify the element.

The permission "Account Manager" can only be assigned to a unique user.

*In On-Premise installations of **Deyel**, this permission can be assigned or removed from a user by the security administrator.*

*In Cloud installations, the site of **Deyel** must be used to change the user defined as "Account Manager".*

In every installation there exists a set of [predefined permissions](#) that can be assigned to the users.

Roles

The [roles](#) the user performs are listed. The list is dynamically conformed when accessing the user profile, recovering the roles where the user or their organizational unit are actors. Each element indicates the role name and the application it belongs to.

In the first positions the roles the user inherits for belonging to a unit are displayed and then the roles where the user is an actor.

Personal Information

The user profile includes the following properties:

Nationality
Birth Date
Identification Type and ID number
Phone Number / Extension

Addresses

The user can have multiple addresses, with the following properties for each of them:

Country
State
City
Postal Code
Street
Number
Department

Social Networks


The user profile includes information about the identity of the user in the different social networks (LinkedIn, Twitter, Facebook, YouTube and Skype).

In the case of Twitter, when publishing the [corresponding adapter](#) "Sign in with Twitter" option is enabled.

If the user has their Twitter session opened in the browser, they can grant permission to **Deyel** to publish tweets directly on behalf of the user. If not logged in, the user is redirected to the Twitter site to log in first.

When the authorization process is finished, from the user profile the authorized account is displayed, below their image.

Users can unlink their Twitter account in different ways:

- From their profile, clicking on the icon  visualized to the right of the [Twitter](#) property.
- From Twitter, the authorization for **Deyel** to publish tweets on behalf of the user is removed.

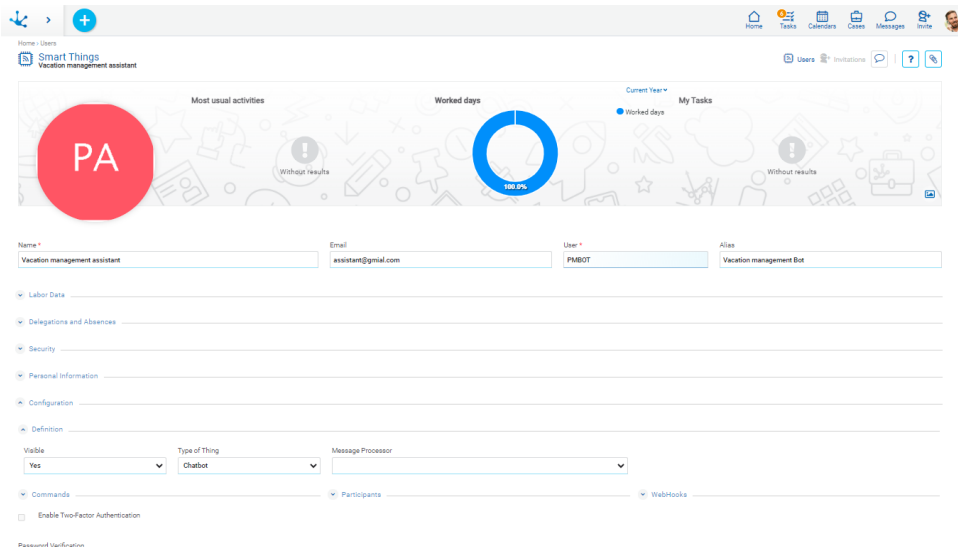
Additional Information

Remarks

Allows to load complementary data of the user.

Configuration

This section is only available for users of type "Smart Thing".



Definition

Visible

Indicates if the chatbot is visible in the users list of the business social network Tedis. When a chatbot is not visible, it can work as an assistant, but it is not possible to send it messages directly in a chat. For "Rest API Client" type this parameter cannot be modified.

Thing Type

Indicates the smart thing type that represents the user. It can take "Chatbot" or "Rest API Client" values.

Message Processor

This property is exclusive for "Chatbot" smart thing type. The business process that implements the processing of the messages the chatbot receives can be defined. Each time a chatbot receives a message, it starts a case of this process to generate the corresponding response.

Commands

This section is exclusive for "Chatbot" smart thing type and defines the list of [commands](#) the chatbot can interpret and respond to.

Executing a command implies executing the business process that implements it.

Participants

This section is exclusive for "Chatbot" smart thing type and defines the participants that can use the chatbot as an assistant.

If an organizational unit is selected, then any user from that unit can use the chatbot.

WebHooks

This section is exclusive for "Chatbot" smart thing type. Webhooks are interfaces that allow to integrate applications, that is, they allow to connect and exchange data between applications.

A chatbot can use multiple webhooks, each of them defines the URL used to contact other application, sending it data in JSON format.

When a chatbot receives a message, it forwards it to each of its webhooks.

Invitations

In the upper right section the user relationship with the invitations that they have done is displayed and it is allowed to [show](#) those invitations.

System User

To make internal operations automatically, **Deyel** uses a predefined user called SYSTEM USER (SYSUSER).

This user is displayed in the user grid, it is not possible to modify or deactivate it and it does not require user licenses.

The initial load of the use license or its subsequent update or the execution of scheduled tasks, among others, are operations whose execution is made using this user and so it remains registered in the audit trails.

It is not possible for someone to enter the user portal authenticating as the system user. **Deyel** uses it only for the doing and registration of internal tasks.

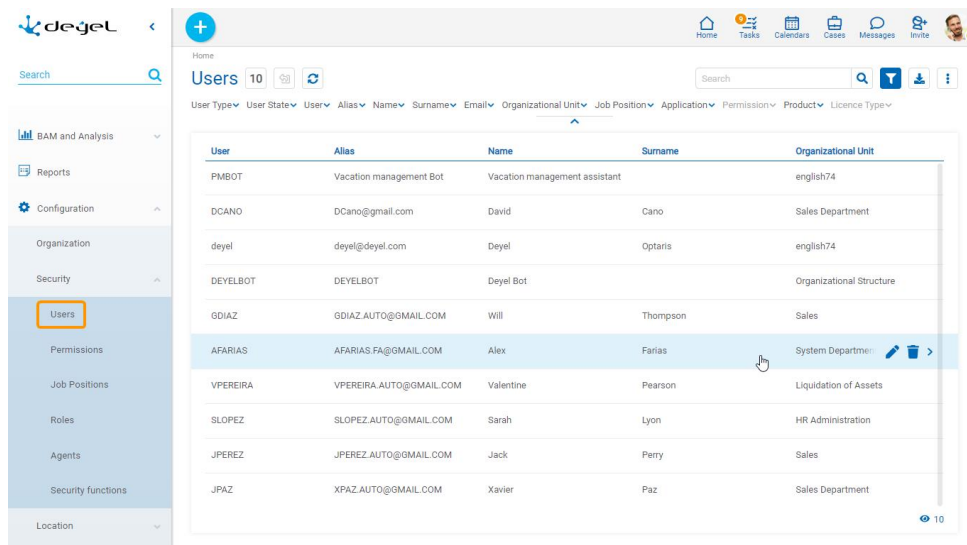
3.11.2.4.1. Grid

To do the creation and administration of users, the grid can be accessed from **Deyel** menu.

- From the option "Configuration", selecting "Security" and then "Users".
- From the [search](#) facility.

The users are visualized as a grid with the standard presentation of [results grids](#), with facilities of:

- Sorting
- Search Bar and Filters
- Download Data
- Operations



The screenshot shows the Deyel user management interface. The top navigation bar includes the Deyel logo, a search bar, and various utility icons. The left sidebar contains a menu with options like 'BAM and Analysis', 'Reports', 'Configuration', 'Organization', 'Security', 'Users', 'Permissions', 'Job Positions', 'Roles', 'Agents', 'Security functions', and 'Location'. The 'Users' option is highlighted. The main content area displays a table of users with columns for User, Alias, Name, Surname, and Organizational Unit. The table contains several rows of user data, including 'PMBOT', 'DCANO', 'deyel', 'DEYELBOT', 'GDIAZ', 'AFARIAS', 'VPEREIRA', 'SLOPEZ', 'JPerez', and 'JPAZ'. The 'AFARIAS' row is highlighted in blue, and a mouse cursor is visible over it. The table also includes a search bar and various filter and action icons.



User	Alias	Name	Surname	Organizational Unit
PMBOT	Vacation management Bot	Vacation management assistant		english74
DCANO	DCano@gmail.com	David	Cano	Sales Department
deyel	deyel@deyel.com	Deyel	Optaris	english74
DEYELBOT	DEYELBOT	Deyel Bot		Organizational Structure
GDIAZ	GDIAZ.AUTO@GMAIL.COM	Will	Thompson	Sales
AFARIAS	AFARIAS.FA@GMAIL.COM	Alex	Farias	System Department
VPEREIRA	VPEREIRA.AUTO@GMAIL.COM	Valentine	Pearson	Liquidation of Assets
SLOPEZ	SLOPEZ.AUTO@GMAIL.COM	Sarah	Lyon	HR Administration
JPerez	JPerez.AUTO@GMAIL.COM	Jack	Perry	Sales
JPAZ	XPAZ.AUTO@GMAIL.COM	Xavier	Paz	Sales Department

The following properties of the users are visualized as grid columns:

- User
- Alias
- Name
- Surname
- Organizational Unit

Filters can be applied by the following properties:





- User Type
- User State
- User
- Alias
- Name
- Surname
- Email
- Organizational Unit
- Job Position
- Application
- Permission
- Product
- License Type

It is possible to perform [operations](#) on each line of the users grid. By clicking on the line the display of the selected user is done, while by means of the icons  and  its modification or elimination is done, respectively.

3.11.2.4.2. Operations

It is possible to do operations on each user, depending on the [security permissions](#) that the connected user has defined. When hovering over each of the lines of the [grid](#) the icons with available operations are visualized.

The exception is the operation "Create" that can be executed from the [context menu](#) in different ways.

- Hover the cursor over the icon  and select one of the icon on its right  or  corresponding to the option "Users" or "Smart Things".
- Click on the icon  and select the option "Users" or "Smart Thing" on the vertical panel displayed.

Create

Opens properties panel of the new user or smart thing with all properties as editable. The creation is done by pressing any of the buttons available and the user receives a message indicating that data have been saved.

Deyel can do [users authentication against LDAP directory](#), in this case some of the user properties can be disabled, as such information can be recovered from LDAP directory.

Buttons

- Accept: Confirms the creation of a new user or smart thing.
- Accept and Create: Confirms the creation of a user or smart thing and opens a new panel to create another one.

Considerations

When creating users some considerations are applied to [entered properties](#).

Name - Surname

These properties are not informed for user type "Smart Thing".

Email

There cannot be more than one user with the same email. This property is optional for user type "Smart Thing".

User

The user code is made up automatically based on the name and surname. It is made up of the first initial of the name followed by a maximum of nine letters of the surname. It can be modified by the security administrator. There cannot be more than one user with the same code.

Alias

Takes the same value the property [Email](#) does. It can be modified by the security administrator. There cannot be more than one user with the same alias.

Profile Image

The profile image is entered by the users themselves. It is not a property that the security administrator can define when creating the user. **Deyel** assigns by default an image with the user's initials.

Labor Data

Organizational Unit.

The organizational unit "My Company" is proposed by default. It can be modified by the security administrator.

Security

State and Expiration

Due Date

It must be greater than or equal to the current date.

User Licenses

In the properties [Product](#) and [License Type](#) the first product available in the use license is initially proposed. The security administrator can change this proposed value.

*The list of applications only includes licensed applications available in the use license.
When creating a new user, **Deyel** verifies that the amount of enabled users in the use license is not exceeded.*

Permission

Considering the values entered for the properties [Product](#) and [License Type](#), the initial permission is proposed by **Deyel**.

Type of Use License	Initially Proposed Permission
Deyel - Participant	Deyel.EndUser
Deyel - Agile Modeler	Deyel.AgileModeler
Deyel - Deyel Modeler	Deyel.DeyelModeler
CRM - Administrator	CRM.Administrator
CRM - Participant	CRM.Seller
Contracts - Administrator	Contracts.Administrator
Contracts - Participant	Contracts.Seller

The security administrator can change the permission initially proposed.

*The list of applications only includes licensed applications if they are available in the use license.
The list of license types only shows the ones available in the use license.*

When permissions of a licensed application are assigned, it is verified that:

- The licensed application is in the list of applications the user can use.
- The type of the user license is compatible with the one required by the access permission.

The permission "Account Manager" can only be assigned to a unique user.

Show

Opens the properties panel of the selected user, where properties are not editable. Depending on the [security permissions](#), buttons available to operate with that user are enabled.

- [Update](#)
- [Delete](#)

Update

Opens properties panel of the selected user, with those properties that can be modified as editable. The update is done by pressing the button "Accept" and the user receives a message indicating that data have been saved.

Deyel can do [users authentication against LDAP directory](#), in this case some of the user properties can be disabled, as such information can be recovered from LDAP directory.

Considerations

Users can update their profile, modifying [properties](#) like their profile image, their delegated users and inform absences, among others. However some properties can only be modified by the security administrator, who has permission to execute the security function "Deyel - Modify users data".

Name - Surname

These properties are not informed for user type "Smart Thing".

Email

There cannot be more than one user with the same email. This property is optional for user type "Smart Thing".

Alias

There cannot be more than one user with the same alias.

Profile Image

The profile image is entered by the user themselves. It is not a property that the security administrator can define when modifying the user.

Delegations and Absences

Delegates

When a user is modified:

- Delegations occurred in the past, cannot be modified nor deleted.
- Current delegations, that is the ones that have the current date within the period, can be modified but the date must be kept within the period.
- Future delegations can be freely deleted or modified.

Absences

This list can be administrated by the users themselves or by the administrator user. Each element contains the absence type and its period.

Only the absences occurred during the last year are visualized, however the administrator user can see all of the absences.

When a user is modified:

- The absences occurred in the past can be modified or deleted only by the security administrator.

- Current absences, that is the ones that have the current date within the period, can be modified but the date must be kept within the period. The security administrator can delete or modify current absences.
- Future absences can be freely deleted or modified.

Security

State and Expiration

Due Date.

It must be greater than or equal to the current date.

User Licenses

Elements from the list of licensed applications can be added or deleted when modifying a user.

If an element is created or modified, only licensed applications available in the use license can be selected.

Those elements from the list that make reference to applications not available in the environment are displayed protected, it is possible to delete them from the list but it is not possible to modify them.

Deyel verifies that the amount of enabled users in the use license are not exceeded.

Permissions

Elements from the list can be added or deleted when modifying the user.

The [Application](#) must be selected first and then the [Permission](#) for such application.

When permissions of a licensed application are assigned, it is verified that:

- If the application is not available in the environment at the moment of the modification, the permission is seen as protected and it is possible to delete it from the permissions list, but not modify it.
- If the application is available in the environment at the moment of the modification, it is verified:
 - The licensed application is one of the products the user can use.
 - The type of user license is compatible with the one required by the security permission.

The permission "Account Manager" can only be assigned to a unique user.

Delete


Opens the properties panel of the selected user or smart thing, where their properties are not editable. The deletion is done by pressing the button "Accept" and the user receives a message indicating that data have been deleted.

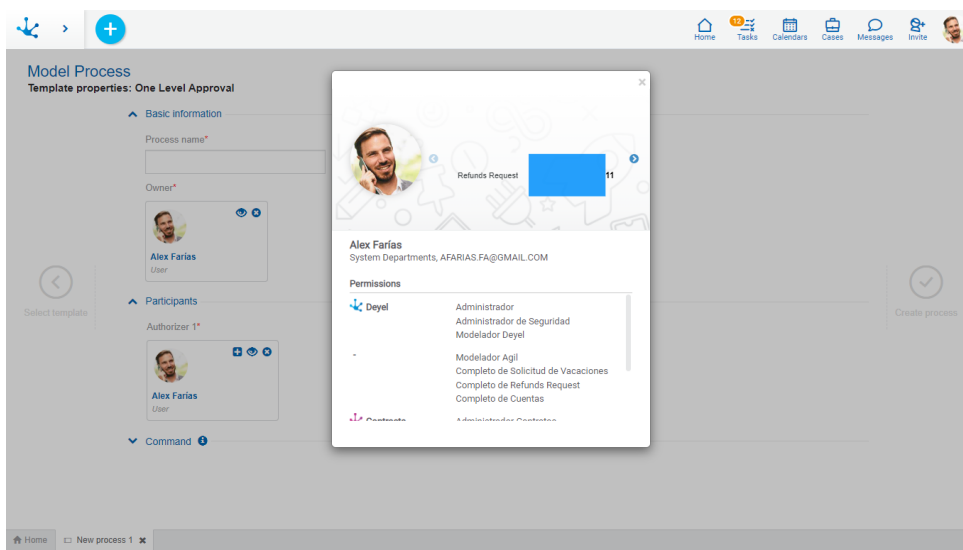
Considerations

When deleting users some verifications are made.

- The administrator of an organizational unit cannot be deleted.
- A coordinator or actor of a role cannot be deleted.
- A user with permission "Account Manager" cannot be deleted.
- Responsible or participant users of a process in use cannot be deleted.
- A logged in user cannot delete its own profile.



3.11.2.4.3. Show User Profile

From the different modelers, as well as from execution of processes and forms the query of the user profile can be made by pressing the icon  and an informative panel is displayed.



Panel Elements

Some of the properties which were defined for the [user](#) are displayed, such as [Name](#), [Surname](#), [Organizational Unit](#), [Email](#) and [Permissions](#). These last are seen within a container where the scroll bar can be used.

At the top of the panel behavior indicators are seen, the icon  allows to advance to the following indicator and the icon  allows to return to the previous indicator.

3.11.2.5. Permissions

An access permission is an object that groups security functions.

Each user has assigned one or more security permissions that indicate which functionality they can execute within each application. This way, the operations that a user can execute are determined by the access permissions that they have been assigned.

An asterisk "" on the label indicates that the property is required.*

Properties

Descriptive Name

Complete name of the permission. This text is the one visualized on the permissions grid.

Name

It is an abbreviated or reduced name. It is used when referring to the permission in an error message or in any mention that needs to abbreviate the descriptive name. This property does not admit blank spaces.

Application

Defines the application the permission belongs to, through the selection from a list of available applications. The permission is made up of security functions of such application.

The [licensed applications](#) are included in such list only if the [use license](#) in the environment allows their use.

Access permissions of a licensed application, can only be assigned to users that have user license of such application. When a permission is created or modified, **Deyel** verifies that the authorized security functions are compatible with the license type required by the permission. For example, a permission that requires only a participant license cannot authorize functionalities that are typical of an agile modeler or a **Deyel** modeler.

When a permission belongs to a not licensed application, it can include functionalities of **Deyel** or of a solution, but they can be executed by a participant user.

*Any permission can contain security functions of **Deyel** application.
Any permissions of **Deyel** application can contain global security functions.*

Description


Details the information about the permission, extending what is expressed in the property [Descriptive Name](#). Allows to enter a description of the facilities that the permission grants, without analyzing in detail the list of authorized functions.


Functions

Panel in which the set of [security functions](#) defined by the permission are authorized. They are visualized with the defined hierarchical structure.

Search

On top of the panel the bar of search of functions is visualized, from where filters can be applied to the function names.

The icon  allows to delete the defined selection criteria and all lines on the panel are displayed again without highlighting.

 Expands the hierarchical structure of security functions.

 Reduces the hierarchical structure of security functions only to higher level ones.

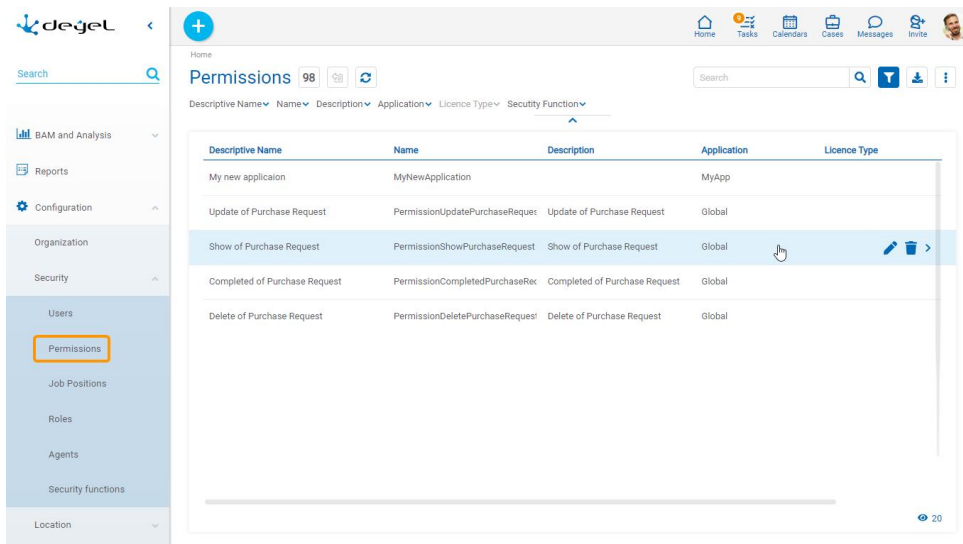
3.11.2.5.1. Grid

For creating and managing permissions, it is possible to access the grid from the menu of **Deyel**.

- From the option "Configuration", selecting "Security" and then "Permissions".
- From the [search facility](#).

Permissions are visualized as a grid with the standard presentation of [results grids](#), with facilities of:

- Sorting
- Search Bar and Filters
- Data Download
- Operations



The screenshot shows the Deyel user interface. On the left is a navigation menu with 'Permissions' highlighted. The main area displays a table of permissions. The table has the following data:



Descriptive Name	Name	Description	Application	Licence Type
My new application	MyNewApplication		MyApp	
Update of Purchase Request	PermissionUpdatePurchaseRequest	Update of Purchase Request	Global	
Show of Purchase Request	PermissionShowPurchaseRequest	Show of Purchase Request	Global	
Completed of Purchase Request	PermissionCompletedPurchaseRequest	Completed of Purchase Request	Global	
Delete of Purchase Request	PermissionDeletePurchaseRequest	Delete of Purchase Request	Global	

The following properties of permissions are visualized as grid columns:

- Descriptive Name
- Name
- Description
- Application
- License Type

Filters can be applied by the following properties:




- Descriptive Name
- Name
- Description
- Application
- License Type
- Security Function

It is possible to perform [operations](#) on each line of the permissions grid. By clicking on the line the display of the selected permissions is done, while by means of the icons  and  its modification or elimination is done, respectively.

3.11.2.5.2. Operations

It is possible to perform operations on each permission, depending on the [security permissions](#) that the connected user has defined. When hovering over each of the lines of the [grid](#) the icons with available operations are visualized.

The exception is the operation "Create" that can be executed from the [context menu](#) in different ways.

- Hover over the icon  and select the icon on its right , corresponding to the option "Permissions".
- Click on the icon  and select the option "Permissions" on the vertical panel displayed.

Create

Opens properties panel of the new permission with all properties as editable. The creation is done by pressing any of the buttons available and the user receives a message indicating that data have been saved.

Functions

In the panel in which the set of [security functions](#) authorized through the permission is defined, functions included in the panel can be selected.

Buttons

- Accept: Confirms the creation of a new permission.
- Accept and Create: Confirms the creation of a permission and opens a new panel to create another one.

Show

Opens the properties panel of the selected permission, where properties are not editable. Depending on the [security permissions](#) of the user, buttons available to operate with that permission are enabled.

Buttons

- Update
- Copy
- Delete

Update

Opens properties panel of the selected permission, with those properties that can be modified as editable. The update is done by pressing the button "Accept" and the user receives a message indicating that data have been saved.

Copy

Opens a panel with the same properties of the selected permission, with its properties as editable. The necessary modifications must be done and when pressing the button "Accept", the user receives a message indicating that data have been saved. When the permission corresponds to a [licensed application](#), it can only be copied if its license is valid.

Descriptive Name

This property takes the value of the origin permission, adding a suffix indicating the number of copy generated. However this value can be modified.

Name

This property takes the value of the origin permission, adding by default a suffix indicating the number of copy generated. However this value can be modified.

Delete

Opens the properties panel of the selected permission, where the properties are not editable. The deletion is done by pressing the button "Accept" and the user receives a message indicating that data have been deleted.

The permission cannot be deleted if there are users or roles who have it assigned..

The permission "Account Manager" is a protected permission and it cannot be deleted.

3.11.2.5.3. Predefined Permissions

In **Deyel** there are predefined security permissions with different characteristics.

*This predefined permissions are protected by **Deyel** and cannot be modified, imported or deleted.*

Deyel

End User

- Accesses the user portal, where they find the tools which allow them to initiate cases, show the state of the cases they have initiated, show their to-do list and execute them, use messages, etc.
- Uses forms to administrate business entities, being able to show or modify each entity according to the access right they have on the entity.

Agile Modeler

- Includes the feature of the end user.
- Uses forms modeling wizard to build, document and implement the forms, processes and business entities of the organization.
- Defines roles and parameterization entities.
- Define business rules to include logic in their processes.
- Uses tools to export and import their models and information of the environment.

Deyel Modeler

- Includes the feature of the end user.
- Uses tools of graphical forms modeling and processes modeling to build, document and implement the process and business entities of the organization.
- Defines roles, agents, and parameterization entities.
- Implements more complex business logic using wizards that allow them to incorporate Java components.
- Implements the integration with other applications or external data bases.
- Implements behavior or more complex validations in forms, using the advanced edition of scripting.
- Uses tools to export and import their models and information of the environment.

Tester

- Includes the feature of the end user.
- Has tools that allow them to define and maintain the test plans of the different processes, record individual test cases and define random scenarios.
- Uses tools to automate the execution of test plans and monitor the results.

BAM

- User of BAM module of **Deyel**.

Guest in Tedis

- Includes the feature of the end user.

- It is used to limit the use of this collaborative platform. for example, a guest user can participate in conversations, but not initiate them.

Security Administrator

- Includes the feature of the end user.
- It has tools that allow them to administrate the organizational structure, the users and the roles they play.
- It can define functions and security permissions and assign them to the users and roles.

Administrator

- Includes the feature of the end user.
- Uses tools to configure:
 - The properties of the installation (DB connection, integration with mail server, etc.).
 - The use and upgrade of cache memories.
 - The parameterization entities of **Deyel**.
 - Holiday calendars and special dates
 - Glossaries
- Uses habitually the following functions:
 - Monitoring and reboot of scheduled tasks.
 - Events console and logs.
 - System log download.
 - Execution of tuning tools, such as case debugging.
 - Tools to export and import information of the environment.

Environment Configuration

- It only allows entry to the environment configuration.

Global

Account Manager

Allows to identify the user that performs as "Account Manager".

This is a protected security permission, that cannot be removed from the installation or modified.

Only a user can have this security permission assigned. This is controlled in the creation and in the modification of users.

In On-Premise installations, this permission can be assigned or removed from a user by the security administrator.

*In Cloud installations, the site of **Deyel** must be used to change the user that performs as "Account Manager".*

Besides, this permission cannot be assigned to roles or job positions.

Modeler

Groups all [modeling](#) and [usage](#) security functions of the objects, giving agility to the assignment of permissions particularly at the moment of creating objects. Every object created has its security functions assigned to this permission.

Anonymous

This permission defines a set of functionalities that are authorized for every user.

The [anonymous user](#) has this permission assigned and every nominated user inherit the security functions from this permission implicitly

CRM

Seller

- Includes the features of **Deyel** end users, without access to agile forms.
- Includes access permissions for CRM sellers.

Sales Manager

- Includes the features of **Deyel** end users.
- Includes access permissions for CRM sales managers.

Administrator

- Includes the feature of the end user of **Deyel**.
- Includes access permissions for administration functions of Security and of CRM.

3.11.2.6. Job Positions

 [Phase 8: Configuration > Roles and job positions](#)

A job position defines in **Deyel** the activities that a user or group of users develop within the organization.

Each job position can have assigned a set of [security permissions](#), that are inherited by the users who occupy that position, which allows to simplify assigning permissions to users.

This concept is used to associate users to the job position they occupy and know which are their skills. From a job position it can be visualized the relation with the users in the upper right section, with the number of users that are associated to the job position consulted. If you click on the name of the relation "Users", a grid with the users associated to the job position is visualized if the number is greater than 1, or the properties panel of the user in case that such number is 1.

An asterisk "" on the label indicates that the property is required.*

Properties

Descriptive Name

Complete name of the job position. This text is the one visualized on the grid of job positions.

Name

It is an abbreviated or reduced name. It is used when referring to the job position in an error message or in any mention that needs to abbreviate the descriptive name. This property does not admit blank spaces.

Description

Details the information about the job position, extending the property [Descriptive Name](#). Allows to include a detailed description of the tasks that the user occupying that job position does.

Assigned permits

Security permissions can be added to the job position.

Application

Allows to define the application list that can be used by the users who have the job position assigned within their profile.

Permits

Allows to define a predefined [security permission](#) for each application entered in the property [Application](#).

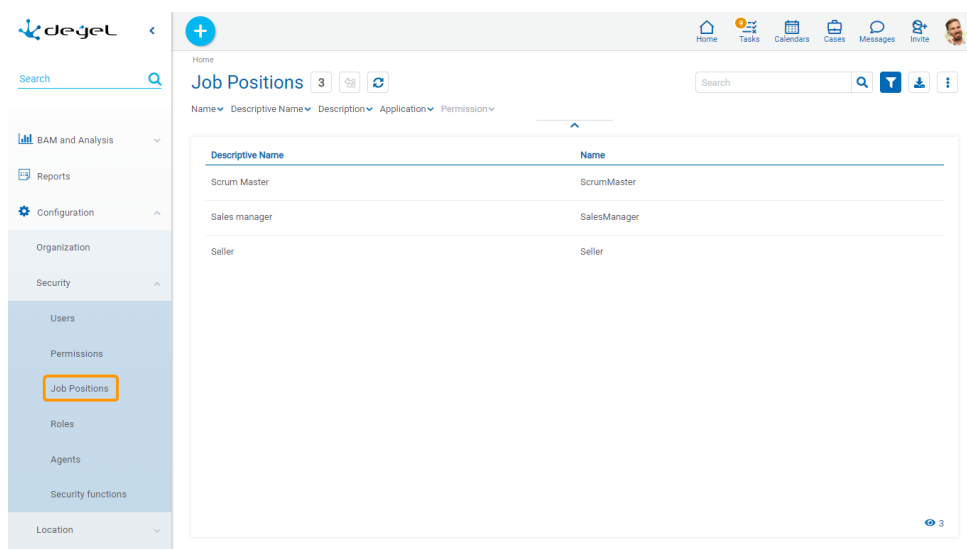
3.11.2.6.1. Grid

For creating and managing job positions, it is possible to access the grid from the menu of **Deyel**.

- From the option "Configuration", selecting "Security" and then "Job Positions".
- From the [search facility](#).

Job positions are visualized as a grid with the standard presentation of [results grids](#), with facilities of:

- Sorting
- Search Bar and Filters
- Data Download
- Operations





The following properties of job positions are visualized as grid columns:

- Name
- Descriptive Name

Filters can be applied by the following properties:




- Name
- Descriptive Name
- Description
- Application
- Permission

It is possible to perform [operations](#) on each line of the job positions grid. By clicking on the line the display of the selected job position is done, while by means of the icons  and  its modification or elimination is done, respectively.

3.11.2.6.2. Operations

It is possible to perform operations on each job position, depending on the [security permissions](#) that the connected user has defined. When hovering over each of the lines of the [grid](#) the icons with available operations are visualized.

The exception is the operation "Create" that can be executed from the [context menu](#) in different ways.

- Hover the cursor over the icon  and select the icon on its right  corresponding to the option "Job Position".
- Click on the icon  and select the option "Job Position" on the vertical panel displayed.

Create

Opens properties panel of the new job position, where properties are editable. The creation is done by pressing any of the buttons available and the user receives a message indicating that data have been saved.

Buttons

- Accept: Confirms the creation of a new job position.
- Accept and Create Confirms the creation of a job position and opens a new panel to create another one.

Show

Opens the properties panel of the selected job position, where properties are not editable. Depending on the [security permissions](#) of the user, buttons available to operate with that job position are enabled.

Buttons

- Update
- Delete

Update

Opens properties panel of the selected job position, with those properties that can be modified as editable. The update is done by pressing the button "Accept" and the user receives a message indicating that data have been saved.

Delete

Opens the properties panel of the selected job position, where its properties are not editable. The deletion is done by pressing the button "Accept" and the user receives a message indicating that data have been deleted.

3.11.2.7. Roles



[Phase 8: Configuration > Roles and job positions](#)

While the organizational structure of **Deyel** defines the areas or offices of the company, the hierarchical relations between them and the actors that make it up, the roles allow to define groups of actors that have activities and common responsibilities, but are cross or parallel to the organizational structure.

The actors of a role can be users, organizational units or users that belong to these units. Each role can have defined a set of [security permissions](#), that are assigned to the users comprising such role or to the users whose organizational unit integrates the role.

In the modeling of business processes, this concept is used to define that an activity can be executed by any of the members of the role. In agile forms, roles can be used to define who can do operations on form instances.

An [organizational unit](#) and a [user](#) can belong to multiple roles.

The screenshot shows a web-based configuration form for a role. At the top, there's a navigation bar with icons for Home, Tasks, Calendar, Cases, Messages, and Profile. The main form is titled 'Roles' and is for 'Accounts - Consult'. It has several input fields: 'Descriptive Name*' (required) with the value 'Accounts - Consult', 'Name*' (required) with 'AccountsConsult', and 'Application*' (required) with a dropdown set to 'Global'. There's a 'Description' field containing 'Accounts - Consult' and a 'Coordinator User' field with a search prompt 'Type your search...'. Below these are two panels: 'Included Actors' and 'Available Actors'. 'Included Actors' has a search bar and one entry 'Sales Department'. 'Available Actors' has a search bar and a list of departments: 'Sales Department', 'System Departments', 'Assets Settlement Department', and 'HR Administration'. At the bottom, there's a 'Permissions' section with a field containing '(Global) Consulta de Cuentas' and an 'Accept' button.

An asterisk "" on the label indicates that the property is required.*

Properties

Descriptive Name

Complete name of the role. This text is the one visualized on the roles grid.

Name

It is an abbreviated or reduced name. It is used when referring to the role in an error message or in any mention that needs to abbreviate the descriptive name. This property does not admit blank spaces.

Application

Defines the application the role belongs to, through the selection of a list of available applications. The [licensed applications](#) are included in such list only if the [use license](#) of the application is valid in the environment.

Description

Details the information about the role, extending the property [Descriptive Name](#). Allows to document the purpose for which the role has been generated, in which process is used, etc.

Coordinator User

A coordinator user of the role is optionally defined, doing the selection from the user search.

Current Actors

Panel in which the users and organizational units that are role actors, can be defined and visualized as a grid.

The role must have at least a current actor, that is the list of current actors cannot be empty.

On top of the panel a [search bar](#) of actors is visualized, from where filters can be applied to the user names and organizational units to reduce the grid.

It is possible to move elements from this panel from or to the panel [Available Actors](#), as detailed under the title [Transfer of Actors](#).

Available Actors

Panel from where you can select users and/or organizational units available to be defined as role actors.

On top of the panel a bar of [search of actors](#) is visualized, from where filters can be applied to the user names and organizational units to reduce the grid.

It is possible to move elements from this panel from or to the panel [Current Actors](#), as detailed under the title [Transfer of Actors](#).

Permissions

This property allows to define security permissions to the role actors, that is that actors who integrate the role or that play in units which are role actors, inherit the security permissions defined here. It is an indirect way of assigning security permissions.

It is not allowed for the permission "Account Manager" to be associated to roles.

Actors Transfer


The transfer of actors between the panels [Current Actors](#) and [Available Actors](#) is done by selecting the actors to transfer in the source panel and pressing the icon corresponding to the direction.



Transfers the selected actors in the panel of available actors to the panel of current actors.




Transfers the selected actors in the panel of current actors to the panel of available actors.

The icon  allows to select all the actors of the corresponding panel, or remove the selection.

Actors Search

The search of actors is done by clicking on the selected lines, or using the search facility of each panel of actors. If a text is entered and the key "Enter" is pressed, the panel is updated showing only the actors whose name contains the text entered. The results are highlighted in yellow.

The icon  allows to delete the defined selection criteria and all lines are displayed again on the panel.

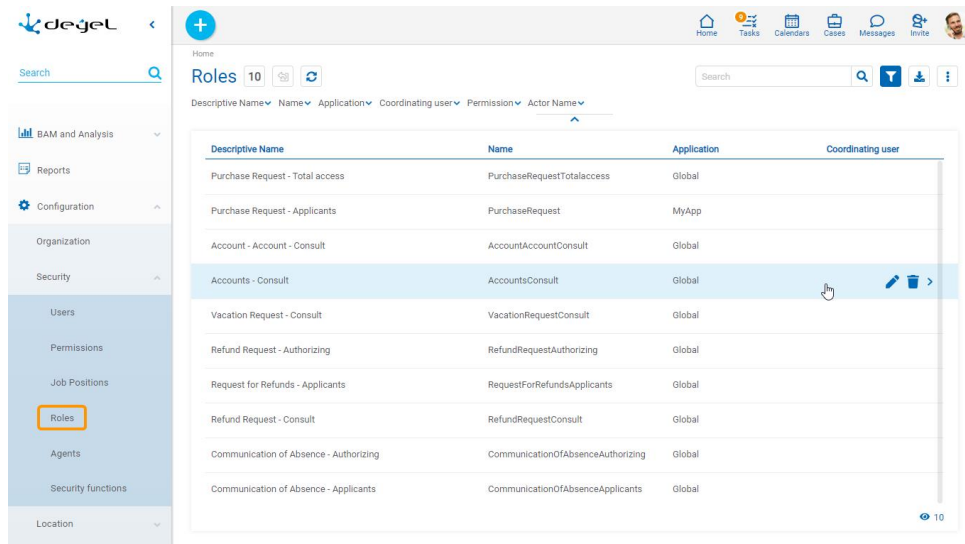
3.11.2.7.1. Grid

For creating and managing roles, it is possible to access the grid from the menu of **Deyel**.

- From the option "Configuration", selecting "Security" and then "Roles".
- From the [search facility](#).

Roles are visualized as a grid with the standard presentation of [results grids](#), with facilities of:

- Sorting
- Search Bar and Filters
- Data Download
- Operations





Descriptive Name	Name	Application	Coordinating user
Purchase Request - Total access	PurchaseRequestTotalaccess	Global	
Purchase Request - Applicants	PurchaseRequest	MyApp	
Account - Account - Consult	AccountAccountConsult	Global	
Accounts - Consult	AccountsConsult	Global	
Vacation Request - Consult	VacationRequestConsult	Global	
Refund Request - Authorizing	RefundRequestAuthorizing	Global	
Request for Refunds - Applicants	RequestForRefundsApplicants	Global	
Refund Request - Consult	RefundRequestConsult	Global	
Communication of Absence - Authorizing	CommunicationOfAbsenceAuthorizing	Global	
Communication of Absence - Applicants	CommunicationOfAbsenceApplicants	Global	

The following properties of roles are visualized as grid columns:

- Descriptive Name
- Name
- Application
- Coordinator User

Filters can be applied by the following properties:




- Descriptive Name
- Name
- Application
- Coordinator User
- Actor Name

It is possible to perform [operations](#) on each line of the roles grid. By clicking on the line the display of the selected role is done, while by means of the icons  and  its modification or elimination is done, respectively.

3.11.2.7.2. Operations

It is possible to do [operations](#) on each role, depending on the [security permissions](#) that the connected user has defined. When hovering over each of the lines of the [grid](#) the icons with available operations are visualized.

The exception is the operation "Create" that can be executed from the [context menu](#) in different ways.

- Hover the cursor over the icon  and select the icon on its right  corresponding to the option "Roles".
- Click on the icon  and select the option "Roles" on the vertical panel displayed.

Create

Opens properties panel of the new role with all properties as editable. The creation is done by pressing any of the buttons available and the user receives a message indicating that data have been saved.

Buttons

- Accept: Confirms the creation of a new role.
- Accept and Create: Confirms the creation of a role and opens a new panel to create another one.

Show

Opens properties panel of the selected role, where properties are not editable and the icons for the [transfer of actors](#) are not visualized, however the search of actors [is enabled](#). Depending on the [security permissions](#) of the user, buttons available for operating with the role that is being consulted are enabled.

Buttons

- Update
- Delete

Update

Opens properties panel of the selected role, where properties that can be modified are editable. The update is done by pressing the button "Accept" and the user receives a message indicating that data have been saved.

Application

It is not allowed to modify the role if the [application is licensed](#) and its [use license](#) is not valid.

Coordinator User

When the role is responsible or participant of a process that is in use, it is not possible to delete the definition of the coordinator, although it is possible to define a new one.

Delete

Opens properties panel of the selected role, where properties are not editable and the icons for the [transfer of actors](#) are not visualized, however the search of actors [is enabled](#). The deletion is done by pressing the button "Accept" and the user receives a message indicating that data have been deleted.

| A role cannot be deleted if it is responsible or participant of a process in use.

3.11.2.8. Agents

An agent is a type of participant that allows to dynamically determine a user, an organizational unit or a role, based on certain logic during the execution of a process.

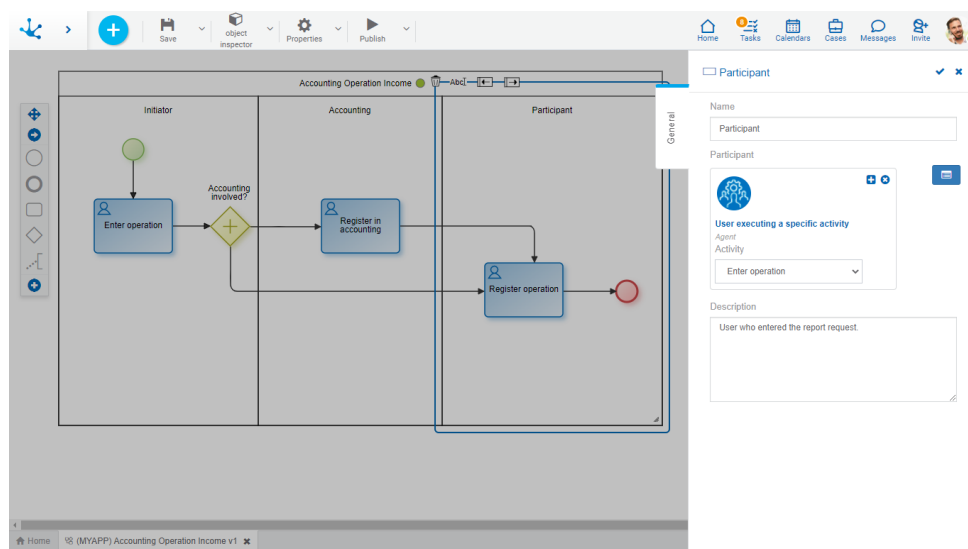
Predefined Agents

When modeling processes, a set of predefined agents can be used to establish who can execute the activities found in a lane.

User Executing a Specific Activity

This agent returns the user that executed a specific activity. This agent is used when there is the need to indicate that an activity is made by the same user that executed the activity defined.

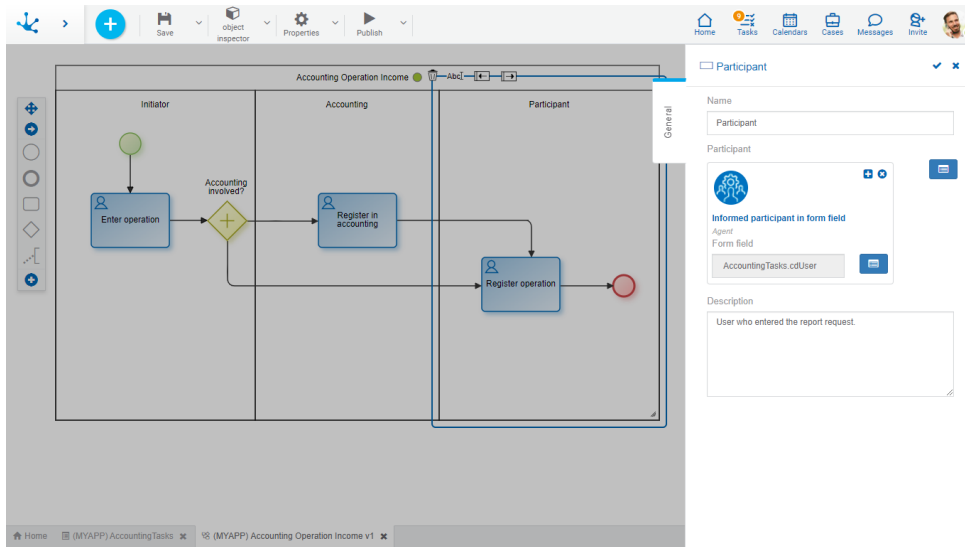
Usage Example: The activity "Register operation" is executed by the same user that executed the activity "Enter operation".



Participant Informed in Form Field

This agent returns the participant from a form field. This agent is used when there is the need to indicate that an activity is made by the user indicated in the defined field of a form related to the process.

Usage Example: The activity "Register operation" is executed by the user shown in field "cdUser" of the form "TareasContables".



Administrator of the User OU

This agent returns the user that is [administrator of the organizational unit](#) the executing user of the last activity belongs to.

Any User

This agent returns the the user that is currently logged in. If a process has this agent as the participant of the initial lane, every **Deyel** user can initiate the case.

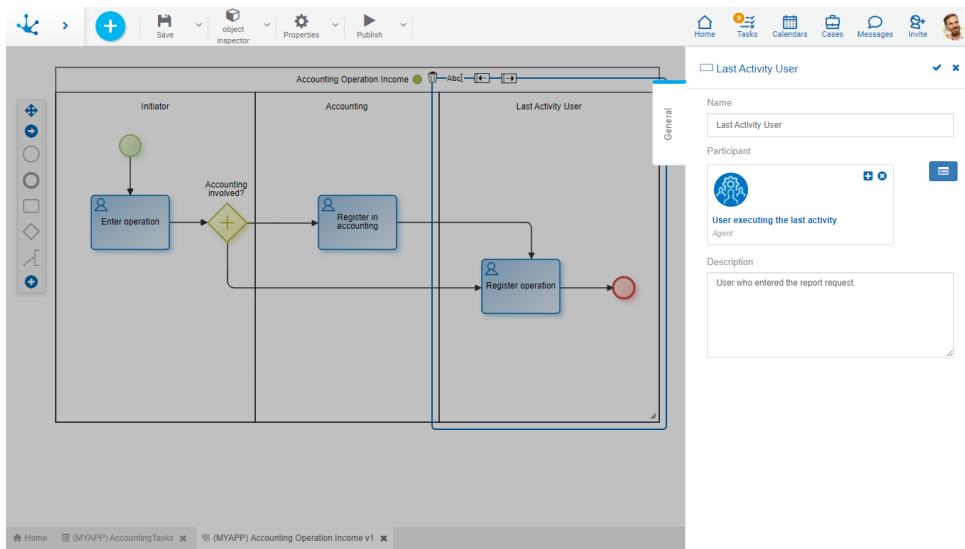
Authorizer

This agent returns the user defined as [authorizer](#) in the profile of the user that executed the last activity.

User Executing the Last Activity

This agent returns the user that initiated the execution of the last activity. This agent is used when there is the need to indicate that an activity is made by the same user that executed the activity that goes before.

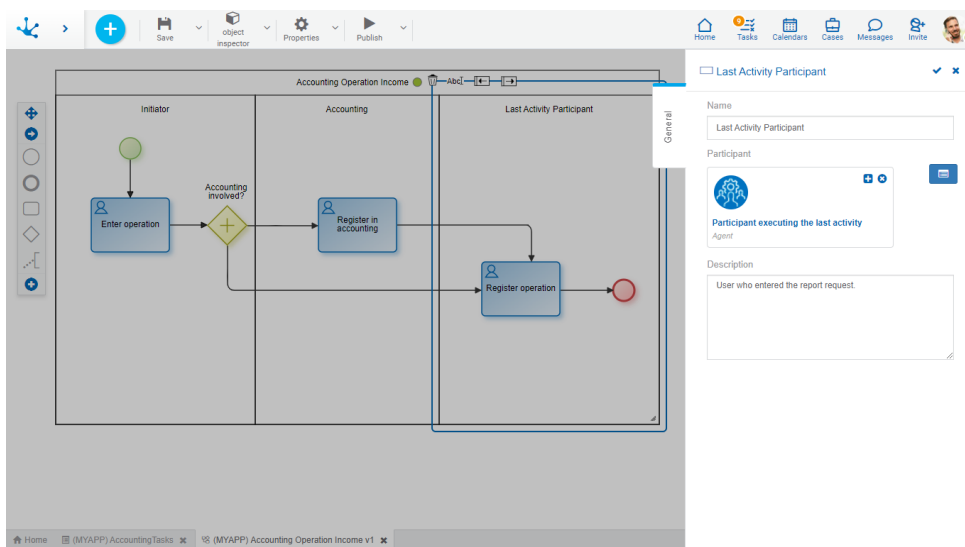
Usage Example: The activity "Register operation" is executed by the user that initiated the case or by the user that executed the task "Register in accounting", if the case involved the accounting department.



Participant Executing Last Activity

This agent returns the participant that initiated the execution of the last activity. It is used to indicate that an activity is done by the same participant..

Usage Example: The activity "Register operation" is executed by the same user that initiated the case or by the organizational unit "Accountant", if the case involved the accounting department.



Initiator

This agent returns the user that executed the first activity of the process. It cannot be used in the first lane of a process.

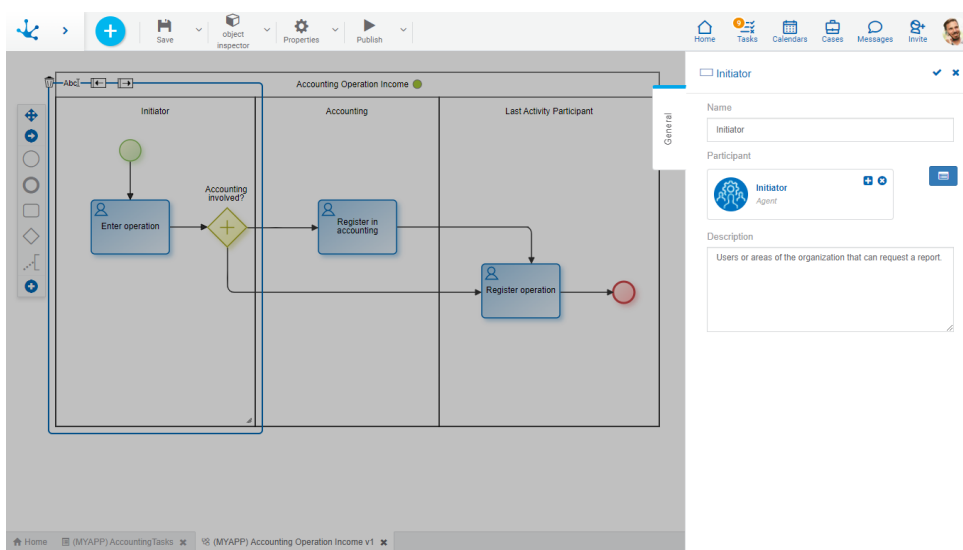
CRM User

Returns the user that is currently logged in as participant only if they have CRM Solution license. If a process has this agent as participant of the initial lane, every user with CRM license can initiate the case. It is recommended to use this agent only to define the participant of the initial lane of the process.

Initiator Restricted by Function

This agent evaluates if the current user has in their permissions the security function "Initiate Process" corresponding to the current process. This agent can only be used in the first lane of the process.

Usage Example: The activity "Register operation" must be executed by a user that has a permission permit with the security function "Start by agent Entering Accounting Operation" enabled.



3.11.2.9. Security Functions

A security function represents an operation that can be done on an object. It can be included in one or more [permissions](#) thus authorizing the users that have those permissions to do such operation.

Every operation available in **Deyel** or in its solutions has a corresponding security function defined. Besides, every object that is modeled has a set of security functions that are automatically created when saving and publishing the object.

Security functions can be shown or assigned to permissions from the option "Permissions" on the menu and particularly security functions of the modeled objects, from the object modeler as well.

Of Modeling

They authorize the execution of the modeling operations, such as save, publish, export, delete. They are generated when saving the object and their assignment to permissions has an immediate impact when saving or publishing an object.

Of Use

They authorize the execution of the operations on the instances of the objects, like create, modify, delete, show, when they are used from the portal. They are generated when the object is published. The modifications in the assignment of use functions do not have a real impact on the use of the object, until it is published.

The screenshot shows a web application interface for configuring security functions. The page title is 'Security functions' with a sub-header 'Process Refunds Request'. The form contains several input fields and dropdown menus, some marked with an asterisk to indicate they are required. The fields are: 'Descriptive Name *' (containing 'Process Refunds Request'), 'Name *' (containing 'RefundsRequest'), 'Application *' (containing 'Global'), 'Description' (containing 'Process Refunds Request'), 'Edition' (empty), 'Licence Type' (empty), 'Main Function *' (containing 'Global'), 'With sublevels' (containing 'Yes'), 'Error Audit' (containing 'No'), and 'Access Audit' (containing 'No'). An 'Update' button is located at the bottom right of the form.

An asterisk "" on the label indicates that the property is required.*

Properties

Descriptive Name

Complete name of the security function. This text is visualized on security functions grid.

Name

It is an abbreviated name. It is used when referring to the security function in an error message or in any mention that needs to abbreviate the descriptive name.

Application

Indicates the applications to which the security function belongs to, it is the same as the one his [Father Function](#).

Edition

It indicates the edition of **Deyel** or of the licensed application required for the execution of the function. Some functions are available only in the edition "Enterprise" of **Deyel** or "Professional" of the solutions.

License Type

Indicates the type of license the user needs to have assigned in order to execute the function. It is used for **Deyel** functions or licensed applications functions.

Description

Details information about the security function, extending what is expressed in the property [Descriptive Name](#).

Superior Function

Allows to identify the superior security function inside the hierarchical structure. There exists a father function for each available solution and for each modeled application.

With Sublevels

Indicates that the security function has subordinated functions.

Audits for Access

When the value "YES" is defined an entry is generated in the audit registry each time a user executes the security function. Using the Logs Console these audit trails can be recovered and evaluated the use of the different security functions.

Audits for Errors

When the value "YES" is defined an entry is generated in the audit registry each time an error occurs during the execution of the security function. Using the Logs Console these audit trails can be recovered and evaluated the occurrence of these type of errors.

3.11.2.9.1. Functional Structure

For creating and managing security functions, it is possible to access the functional structure from the menu of **Deyel**.


- From the option "Configuration", selecting "Security" and then "Security Functions".
- From the [search](#) facility.

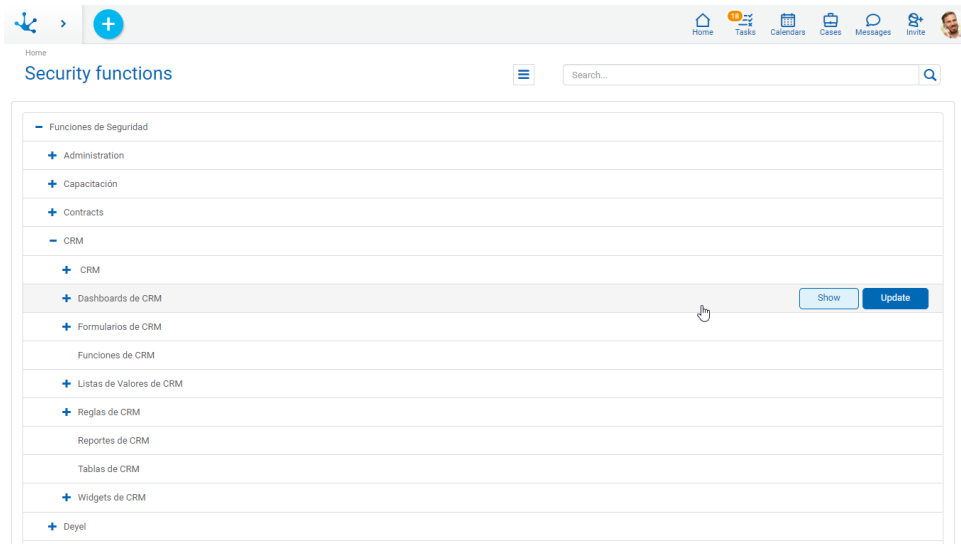
Security functions are identified from its property [Descriptive Name](#) and automatically generated when objects are modeled. They can be visualized as a hierarchical view or as an object grid.

It is possible to perform [operations](#) on each security function from hierarchical view and from the grid mode by using buttons.

Hierarchical View

Father element, which name is the name of the application, is located as sublevel of the top element "Security Functions" and security functions of the application and its objects are visualized under it. For each modeled object, its corresponding modeling security functions and of use are created.

The icon  allows to change the visualization to grid mode.

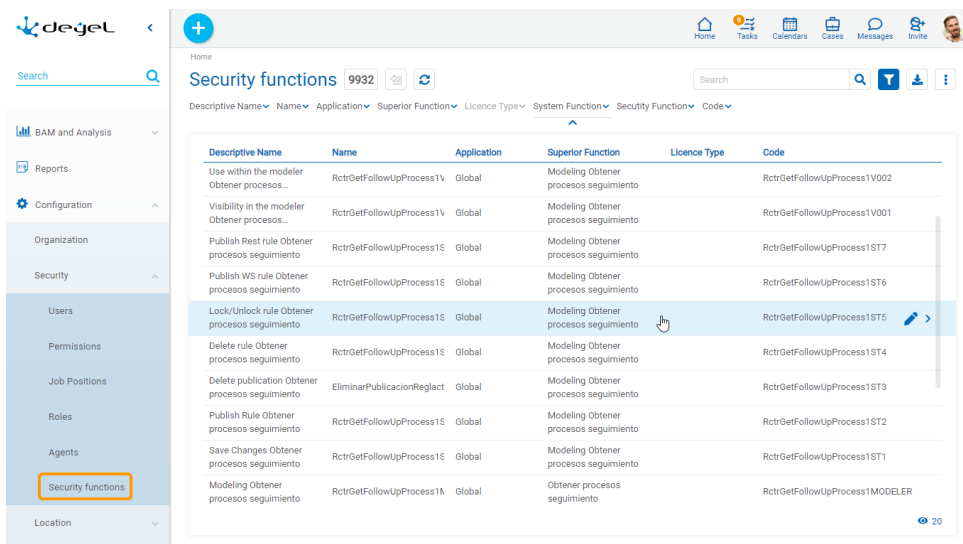


Grid

Security functions are visualized as a grid, with the standard presentation of [results grids](#), with facilities of:

- Ordering
- Search Bar and Filters
- Data Download
- Operations

The icon  allows to change the visualization to hierarchical view mode.




The following properties of security functions are visualized as grid columns:

- Descriptive Name

- Name
- Application
- Superior Function
- License Type
- Code

Filters can be applied by the following properties:

- Name
- Descriptive Name
- Application
- Superior Function
- Edition
- License Type
- System Function
- Security Function
- Code

It is possible to perform [operations](#) on each line of the security functions grid. By clicking on the line the display of the selected security function is done, while by means of the icon  the modification is done.

3.11.2.9.2. Operations

It is possible to perform operations of show and modification from hierarchical view and from grid mode, depending on the [security permissions](#) that the connected user has defined. When hovering over each of the lines the buttons or icons with available operations are visualized, depending on the visualization mode.

Show

Opens properties panel of the selected security function. Properties are visualized as not editable and depending on the [security permission](#) of the user, the button to modify that security function is enabled.

Update

Opens properties panel of the selected security function, with those properties that can be modified as editable. The update is done by pressing the button "Accept" and the user receives a message indicating that data have been saved.

When the security function belongs to a licensed application, only the attributes that define the audits for access and audits for errors can be modified.

3.11.2.10. Security in Entities



[Phase 2: Form Modeling > Advanced Tips > Entities Privacy](#)

Security in an [entity](#) is related to the access the users have to the instances of such entity, through their user interface which is named [form](#). An instance of an entity corresponds to a created form, that contains data in its fields.

Entities Classification According to the Security Level

Public

The only security that controls the access to a public entity is the one given by the [user profile](#).

Private

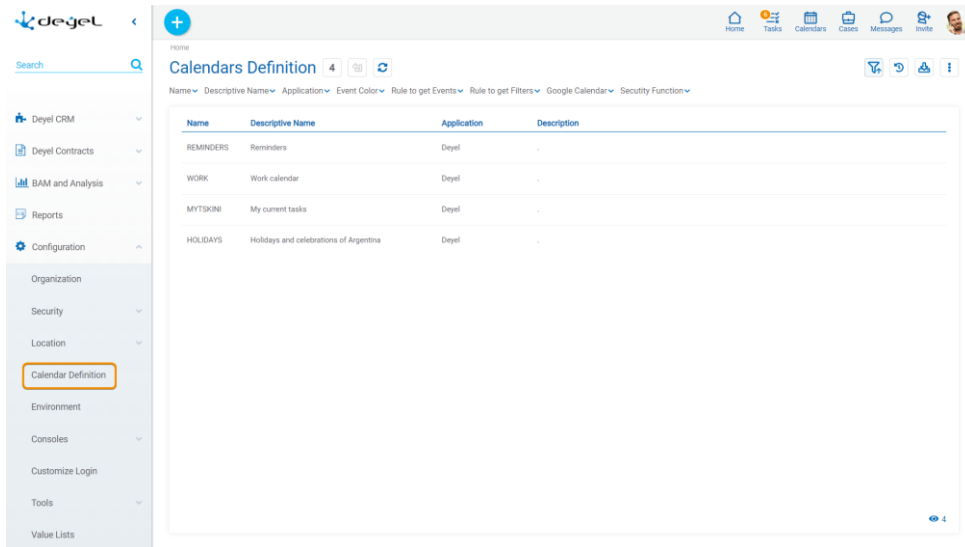
An entity is private when in addition to the security defined in the user profile, there is one additional check per entity instance.



The verification takes into account the following concepts:

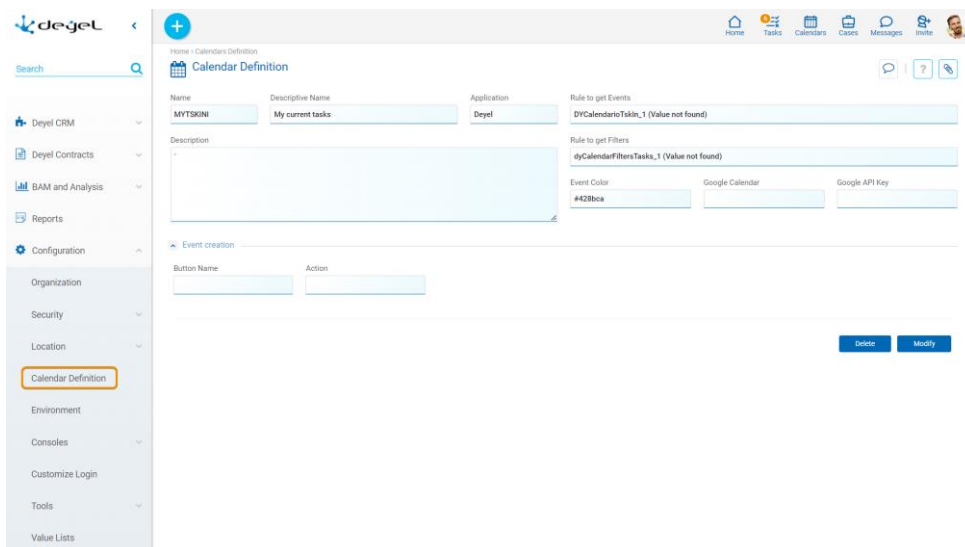
- Instance Owner
Identification of the user that has access permissions to show, modify and delete the particular instance of an entity.
- Access according to Hierarchy
The access to instance data in addition to the owner, takes into account the definition of the organizational unit which the owner user belongs to. If a user belongs to a unit that has private data access properties defined, the coordinator of such unit can have any of the accesses defined for the instances of his subordinates.
- Security to Functions
Allows a user that is not an instance owner to access these instances despite being private, through security functions assigned to a permission. The user is allowed to show, modify or delete private instances.
- Access from a Process
Allows access to the instances of a form from a case even if the user does not have the necessary security functions for the form or the form has privacy defined

3.11.3. Calendars Definition

Deyel allows to define and administer the calendars which are visualized through the "Calendars Definition" option from the menu.



Operations can be performed on each grid row. By clicking on the row, the selected calendar is consulted, while by means of the icons  and  perform an update or deletion respectively.



Properties

Name

Abbreviated or reduced name that identifies the calendar.

There cannot be more than one calendar with the same name for the same application.

Descriptive Name

Full name of the calendar, which is displayed in the calendars selection panel.

Application

Application to which the calendar belongs.

Description

It is an optional text that allows to document the purpose of the calendar.

Rule to get events

Identification of the advanced rule that is executed to retrieve the events that correspond to the calendar. This rule must be previously developed and can be selected using a wizard.

This property is optional for all calendars, except those that are not imported from Google, in which case it is required.

Rule to get filters

Identification of the advanced rule that is executed to retrieve the filters that can be applied in the retrieval of calendar events. This rule must be previously developed and can be selected using a wizard.

Event Color

Color with which the events of the selected calendar are graphically represented.

Events creation

Defines the list of actions that can be executed in the window of [creation of events](#) for the selected calendar. For each element of the list the following properties are defined:

Button Name

This is the text that is displayed on the button. The maximum number of characters is 30.

Action

It allows to select the action that is executed when the button is pressed. Depending on the action selected, different properties are enabled to be completed.

- New Case

Process

The process to start must be selected from a list of available processes.

- Create Form

Form

The form to be created must be selected from a list of available forms.

Correlation of start and end of the event with the variables of the process or form

It can be optionally set how to transfer the data entered in the properties [Start](#) and [End](#) of the window [creation of events](#), to the fields of the selected form or associated to the selected process.

Start Date

Enter the identifier of the field where the user wants to transfer the start date of the event. If the indicated field is of type "Date and Time", the value entered is transferred to the field [Start](#). If the indicated field is of type "Date", the value entered is transferred to the field [Start](#) and the time is not considered.

Start Time

Enter the identifier of the field where the user wants to transfer the start time of the event. It is validated that the indicated field is of type "Time".

End Date

Enter the identifier of the field where the user wants to transfer the end date of the event. If the indicated field is of type "Date and Time", the value entered is transferred to the field [End](#). If the indi-

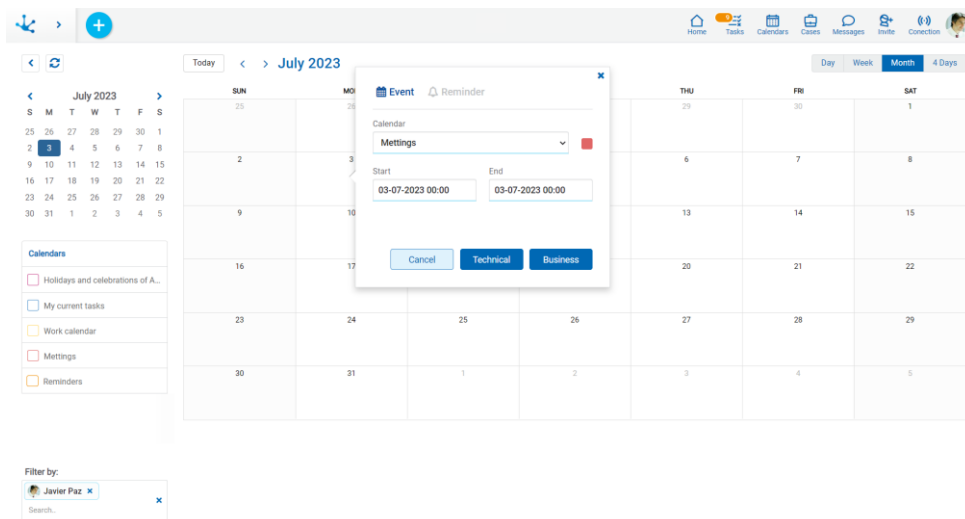
cated field is of type "Date", the value entered is transferred to the field **End** and the time is not considered.

End Time

Enter the identifier of the field where the user wants to transfer the end time of the event. It is validated that the indicated field is of type "Time".

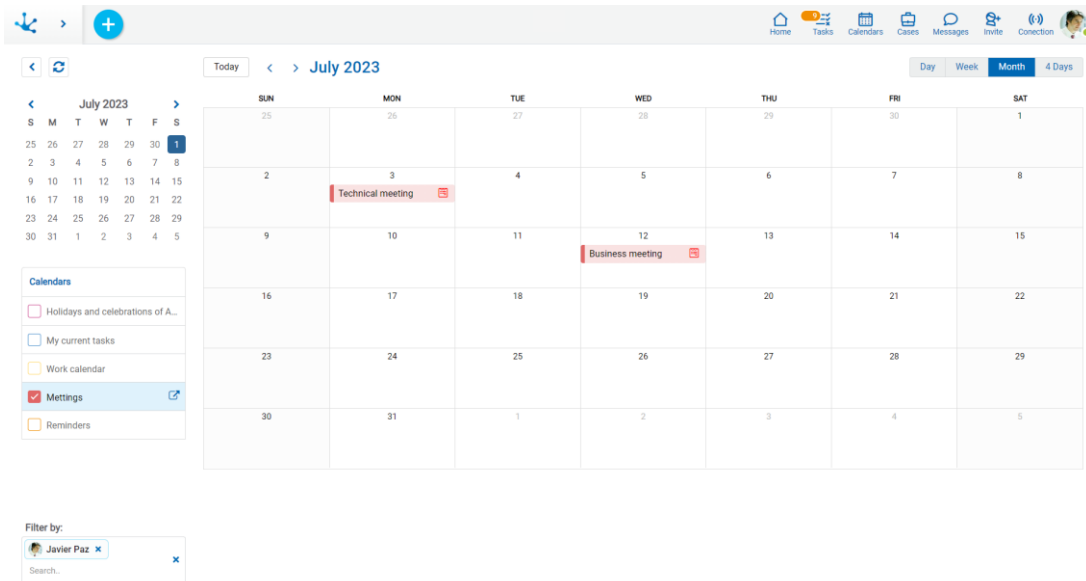
3.11.3.1. Creation of Events and Reminders

By clicking on a cell in the calendar events panel, a window is expanded which allows to [create a new event](#) or a [new reminder](#).

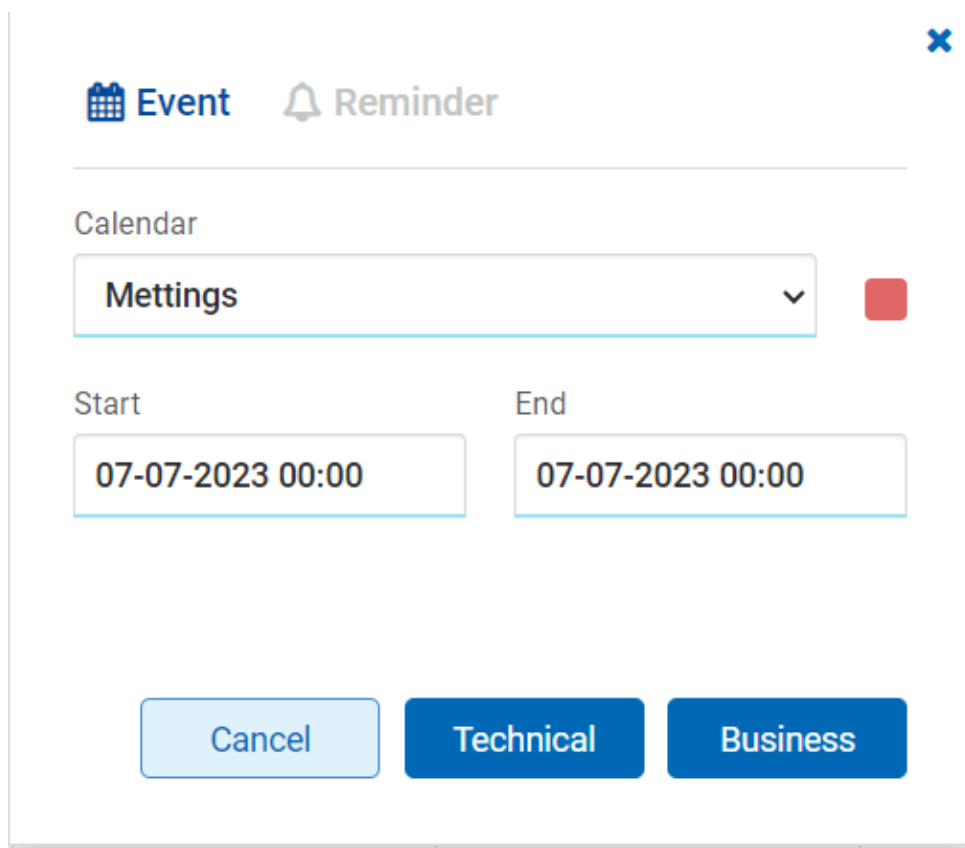


3.11.3.1.1. Creation of Events

Each user can define their own events and visualize them in the calendar.



To create a new event the calendar cell must be selected and the following window is expanded:



Calendar

The list of calendars that have some action configured to create events is displayed and that these actions are authorized to the user.

When the user selects one of the calendars from the list, its definition is accessed and the buttons for creating the event are displayed.

Only those selected in the calendar panel are displayed in the list.

Start and End

These fields determine the start and end of the event.

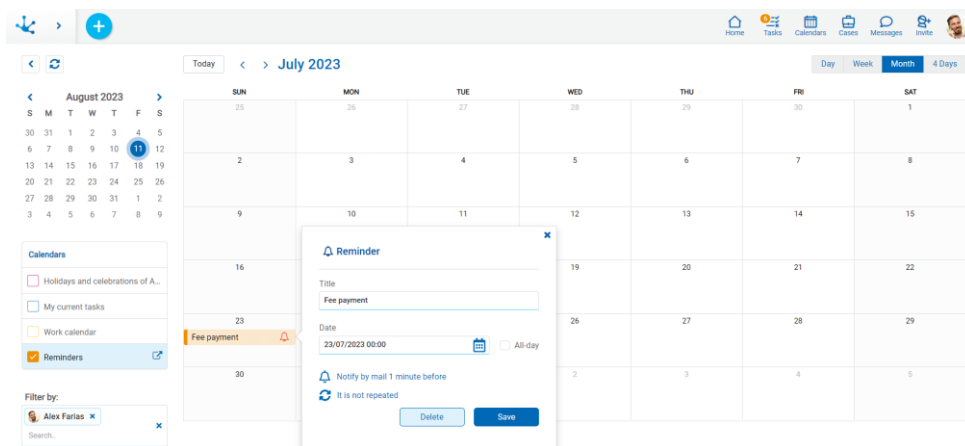
When the calendar is being displayed as "Day", "Week" or "4 Days", these fields are initialized according to the selected position of the events panel.

The date and time where the click was made is considered, on the other hand, when the display form is monthly, only the date is considered and the time is initially assumed as "00:00".

The user can change the proposed value for the "Start" and "End" fields.


3.11.3.1.2. Creation of Reminders

Each user can define their own reminders and visualize them in the calendar.



To create a new reminder the calendar cell must be selected and the following window is expanded:






Reminder


Title


Fee payment

Date

23/07/2023 00:00

All-day

 Notify by mail 1 minute before

 It is not repeated

Delete

Save

Properties

Title

Text describing the reminder.

Date and Time

Date and Time in which the reminder must be shown.

All Day

Indicates that the reminder refers to the entire day.

Notification

Optionally, it can be configured that **Deyel** notifies the user in advance of this reminder.



Opens a panel to enter the notification data.

Notification ✕

Type

Mail ✕

Notify

1 ✕

Minutes befo... ✕

Cancel Accept

Type

Indicates the type of notification.

Possible Values

- Without Notification
- Email

Notify

Allows to select the number of minutes, hours, days or weeks of anticipation with which to notify. When the notification [All Day](#) is indicated, only days or weeks can be selected in the preview period. The maximum anticipation that can be indicated is 30 days.

At the Time

When the notification [All Day](#), the time when the notification is issued can be selected. Otherwise this property remains hidden.

Repetition

Optionally, a reminder can be defined as recurring.



Opens a panel to enter the repetition data.

Repeat each

Indicates the number of times the reminder should be repeated based on the selected period. Depending on the period, different properties are enabled to be completed.

- Week
[Is repeated](#)
Allows to select the days of the week on which the reminder should be repeated.
- Month
[Day](#)
Depending on the selected cell where the repetition is being configured, it allows choosing the possible options to repeat the reminder.

Ends

Defines when the repetition of the reminder should end.

Possible Values

- Never: It is repeated indefinitely.
- The: It is repeated until the indicated deadline.
- After: Indicates that the reminder ends after a certain number of repetitions.

3.11.4. Environment

In the **Deyel** environment, a set of properties can be defined to adapt the operation of the product according to specific needs of the client.

The environment properties can be set from the menu of **Deyel**.

- From the "Configuration" option, select "Environment".
- From the [search](#) facility.

Each user may select the values for some properties using the facility "[My Preferences](#)".

Precedence for properties is as follows:

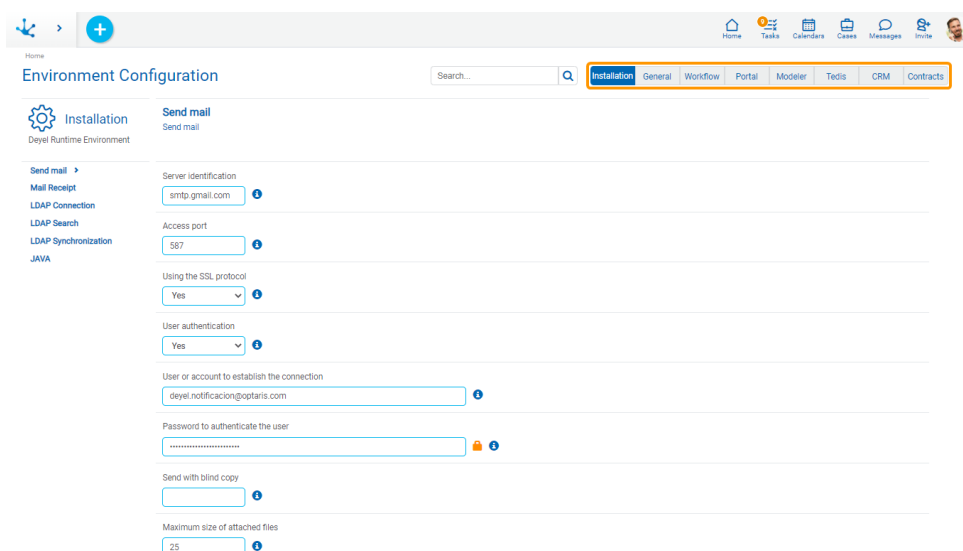
- Preferred value of the connected user.
- Value configured in the environment.
- Default value of the property.

Categories

The tabs at the top right define the groups into which the configurable properties are categorized.

- [Installation](#)
- [General](#)
- [Workflow](#)
- [Portal](#)
- [Modeler](#)
- [Tedis](#)
- [CRM](#)

Selecting each tab expands a menu for each category, containing options that group properties by theme.



The screenshot displays the "Environment Configuration" interface. At the top, there is a navigation bar with tabs for "Installation", "General", "Workflow", "Portal", "Modeler", "Tedis", "CRM", and "Contracts". The "Installation" tab is currently active. Below the navigation bar, the "Send mail" configuration section is visible. It includes the following fields and options:

- Server identification:** A text input field containing "smtp.gmail.com".
- Access port:** A text input field containing "587".
- Using the SSL protocol:** A dropdown menu set to "Yes".
- User authentication:** A dropdown menu set to "Yes".
- User or account to establish the connection:** A text input field containing "deyel.notificacion@optaris.com".
- Password to authenticate the user:** A password input field with a lock icon.
- Send with blind copy:** A checkbox that is currently unchecked.
- Maximum size of attached files:** A text input field containing "25".

Configurable Properties


For each property, its descriptive name and current value are displayed, which can be modified by the user. In some cases this value can be entered and sometimes it is selected from a list of possible values.


All properties have a default value, which can be null.


When the user updates a property value, they can press the "Undo Change" button to cancel the modification. This option to undo a change is available until the "Apply Configuration" button is pressed. This is when all the properties are stored in the repository of **Deyel** and the user is notified with a successful operation message.

When a property has a value other than the default value, the "Remove preference" button is displayed in order to change the current value to the default value.

Some properties that can be updated dynamically but in other properties the new value is applied when the environment is restarted.

Properties that require the environment to be restarted are identified by the icon .

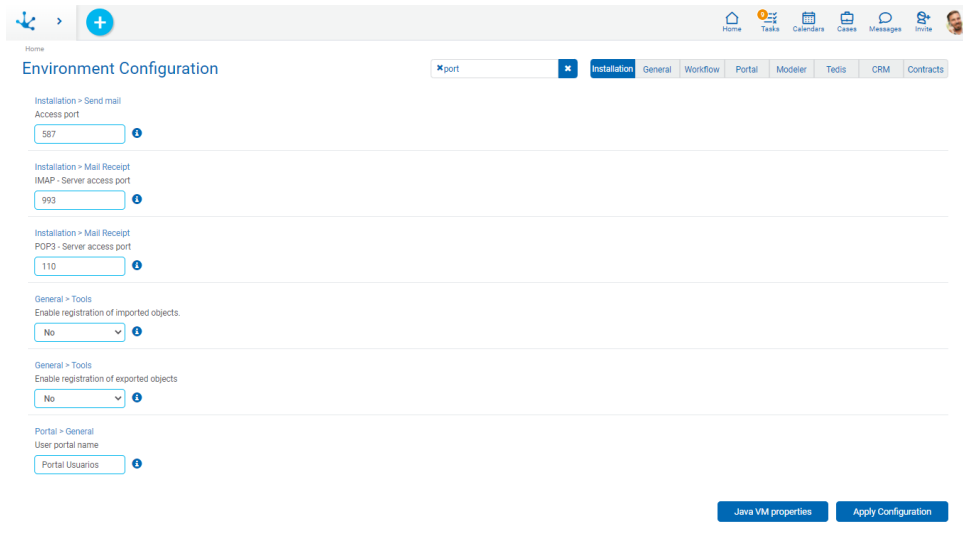
Some properties are encrypted and their content is displayed protected. They are displayed with the icon , for example user passwords.

Pressing the icon  gives access to a detailed description of the property.

Search

The search facility can be used indicating the code, name or description of the property sought, in full or in part.

A breadcrumb is displayed on each one of the properties that indicates to which category the property belongs. This breadcrumb can be used for positioning in the indicated category.



Java VM Properties

They are displayed by pressing the "Java VM Properties" button and correspond to the Java Virtual Machine of the application server in use, for example: IBM Websphere or Apache Tomcat. These properties cannot be updated and depend on the Java version that is being used, for example Java for Linux, Java for Windows, etc.

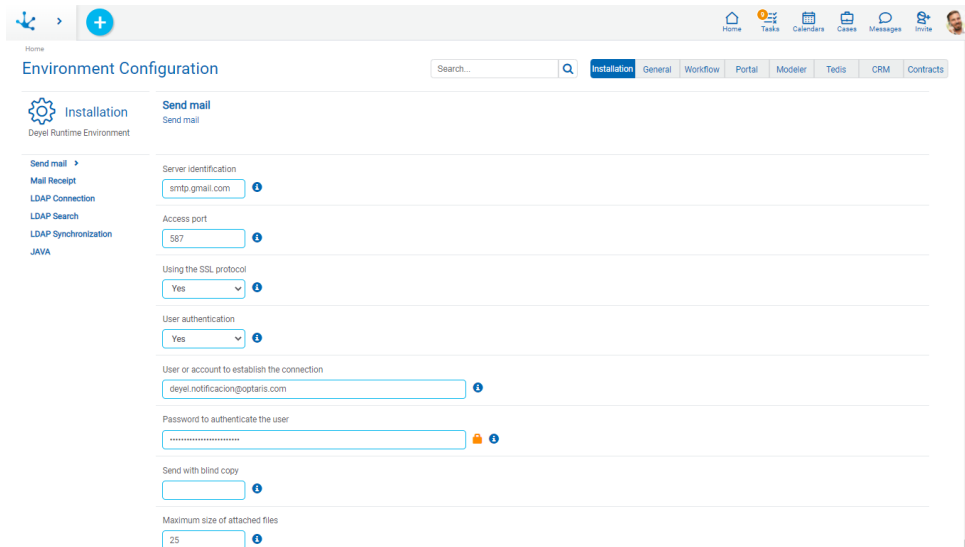
3.11.4.1. Installation

It allows configuring the execution environment properties of **Deyel**.

These are properties that establish how the product is installed and how it integrates with other software components, for example, with the email server or with an LDAP server.

Options

- [Sending Mail](#)
- [Receiving Mail](#)
- [LDAP Connection](#)
- [LDAP Search](#)
- [LDAP Synchronization](#)
- [Java](#)



3.11.4.1.1. Sending mail

Access to mail server and account used to send emails.

IMPORTANT.
 If the **SendMailServer** property is not informed, **Deyel** does not send notifications by mail.
 When the property is informed, **Deyel** tries to connect to the mail server and authenticate using the indicated username and password.
 In this way, the administrator is assured that when configuring, access to the mail server works correctly.

Configurable Properties

Server identification

Indicates the name or IP address of the mail server used for sending Emails. For example, your.domain.com

Name	ServerSendMail
Code	MAIL_SERVER
Configuration Levels	
• Installation	✓
• Application	—
• Organizational Unit	—
• User	—

Dynamic	<input checked="" type="checkbox"/>
Encrypted	<input type="checkbox"/>
Default Value	your.domain.com

Access Port

Indicates the access port to the mail server. For example, 25.

Name	PortSendMail
Code	MAIL_SERVER_PORT
Configuration Levels	
• Installation	<input checked="" type="checkbox"/>
• Application	<input type="checkbox"/>
• Organizational Unit	<input type="checkbox"/>
• User	<input type="checkbox"/>
Dynamic	<input checked="" type="checkbox"/>
Encrypted	<input type="checkbox"/>
Default Value	25

Using the SSL protocol

Determines if you use SSL for sending emails (enable for Gmail or similar accounts).

Name	SSLEmail
Code	SMTP_USES_SSL
Configuration Levels	
• Installation	<input checked="" type="checkbox"/>
• Application	<input type="checkbox"/>
• Organizational Unit	<input type="checkbox"/>
• User	<input type="checkbox"/>
Dynamic	<input checked="" type="checkbox"/>
Encrypted	<input type="checkbox"/>
Possible Values	<ul style="list-style-type: none"> • Yes • No (Predetermined)

User authentication

Indicates whether the mail server requires user authentication.

Name	AuthenticationSendMail
Code	MAIL_SERVER_AUTHENTICATE
Configuration Levels	
• Installation	✓
• Application	—
• Organizational Unit	—
• User	—
Dynamic	✓
Encrypted	—
Possible Values	<ul style="list-style-type: none">• Yes (Predetermined)• No

User or account to establish the connection

User or account with which the mail is sent.

Name	UserSendMail
Code	MAIL_SERVER_USER
Configuration Levels	
• Installation	✓
• Application	—
• Organizational Unit	—
• User	—
Dynamic	✓
Encrypted	—
Default Value	your@user.com

Password to authenticate the user

Password used to authenticate the user.

Name	PasswordSendMail
Code	MAIL_SERVER_PASSWORD
Configuration Levels	
• Installation	✓
• Application	—
• Organizational Unit	—
• User	—
Dynamic	✓
Encrypted	✓
Default Value	

Send with blind copy

Enter the email addresses (separated by ';') to which a blind copy of each email sent by **Deyel** should be sent.

Emails sent to deliver portal access keys to users are excluded.

Name	SendWithBlindCopy
Code	BCC_ADDRESSES_FOR_OUTGOING_MAIL
Configuration Levels	
• Installation	✓
• Application	—
• Organizational Unit	—
• User	—
Dynamic	✓
Encrypted	—
Default Value	

Maximum size of attached files

Sets the maximum size in MB of the attached files in an email. If multiple files are attached, their total size cannot exceed this value. The maximum value allowed for this property is 50MB.

Name	MaximumSizeOfAttachedFiles
Code	EMAIL_ATTACHMENT_SIZE_LIMIT
Configuration Levels	
• Installation	<input checked="" type="checkbox"/>
• Application	<input type="checkbox"/>
• Organizational Unit	<input type="checkbox"/>
• User	<input type="checkbox"/>
Dynamic	<input checked="" type="checkbox"/>
Encrypted	<input type="checkbox"/>
Default Value	25 Mb

Sending emails

When email sending is enabled, **Deyel** records every email in a mailing list. The scheduled task of sending emails is responsible for connecting to the server and sending each of the emails registered in the list. When sending is disabled, **Deyel** does not update the list and therefore no new emails are sent.

This property is intended to be used in development environments in which sending emails is not necessary.

Name	SendingEmails
Code	EMAIL_SENDING
Configuration Levels	
• Installation	<input checked="" type="checkbox"/>
• Application	<input type="checkbox"/>
• Organizational Unit	<input type="checkbox"/>
• User	<input type="checkbox"/>
Dynamic	<input checked="" type="checkbox"/>
Encrypted	<input type="checkbox"/>
Default Value	<ul style="list-style-type: none"> • Yes (Predetermined) • No

3.11.4.1.2. Receiving Mail

Access to mail server and account used to receive emails.

Configurable Properties

Protocol used by the incoming mail monitor to connect to the server

Name	MailReceptionProtocol
Code	MAIL_SERVER_MONITOR_PROTOCOL
Configuration Levels	
• Installation	✓
• Application	—
• Organizational Unit	—
• User	—
Dynamic	✓
Encrypted	—
Possible Values	<ul style="list-style-type: none">• IMAP (Predetermined)• POP3

IMAP - Server Identification

Name	IMAPServerReceptionMail
Code	MAIL_SERVER_IMAP
Configuration Levels	
• Installation	✓
• Application	—
• Organizational Unit	—
• User	—
Dynamic	✓
Encrypted	—
Default Value	your.domain.com

IMAP - Server access port

Name	IMAPPortReceptionMail
Code	MAIL_SERVER_PORT_IMAP
Configuration Levels	
• Installation	<input checked="" type="checkbox"/>
• Application	<input type="checkbox"/>
• Organizational Unit	<input type="checkbox"/>
• User	<input type="checkbox"/>
Dynamic	<input checked="" type="checkbox"/>
Encrypted	<input type="checkbox"/>
Default Value	993

IMAP - Account username

Name	IMAPUserReceptionMail
Code	MAIL_SERVER_USER_IMAP
Configuration Levels	
• Installation	<input checked="" type="checkbox"/>
• Application	<input type="checkbox"/>
• Organizational Unit	<input type="checkbox"/>
• User	<input type="checkbox"/>
Dynamic	<input checked="" type="checkbox"/>
Encrypted	<input type="checkbox"/>
Default Value	

IMAP - Account User Password

Name	IMAPPasswordReceptionMail
Code	MAIL_SERVER_PASSWORD_IMAP
Configuration Levels	
• Installation	<input checked="" type="checkbox"/>
• Application	<input type="checkbox"/>
• Organizational Unit	<input type="checkbox"/>

• User	—
Dynamic	✓
Encrypted	✓
Default Value	

POP3 - Server Identification

Incoming POP3 mail server identification

Name	POP3ServerReceptionMail
Code	MAIL_SERVER_POP3
Configuration Levels	
• Installation	✓
• Application	—
• Organizational Unit	—
• User	—
Dynamic	✓
Encrypted	—
Default Value	pop.your.domain.com

POP3 - Server access port

Name	POP3PortReceptionMail
Code	MAIL_SERVER_PORT_POP3
Configuration Levels	
• Installation	✓
• Application	—
• Organizational Unit	—
• User	—
Dynamic	✓
Encrypted	—
Possible Values	<ul style="list-style-type: none"> • Yes • No (Predetermined)

POP3 - Password to authenticate the user

Name	POP3
Code	MAIL_SERVER_PASSWORD_POP3
Configuration Levels	
• Installation	✓
• Application	—
• Organizational Unit	—
• User	—
Dynamic	✓
Encrypted	✓
Default Value	

POP3 - User or account to establish connection

Name	POP3UserReceptionEmail
Code	MAIL_SERVER_USER_POP3
Configuration Levels	
• Installation	✓
• Application	—
• Organizational Unit	—
• User	—
Dynamic	✓
Encrypted	—
Default Value	

POP3 - Use of SSL protocol for user authentication

It determines if it uses SSL for the reception of mails (enable for accounts type Gmail or similar).

Name	POP3SSLProtocol
Code	POP3_SSL_PROTOCOL
Configuration Levels	

• Installation	✓
• Application	—
• Organizational Unit	—
• User	—
Dynamic	✓
Encrypted	—
Default Value	

3.11.4.1.3. LDAP Connection

Configuration of access to LDAP server. All properties are required to be able to activate the [LDAP authentication](#).

Configurable Properties

URL to connect to the LDAP server

It is required in order to enable LDAP authentication.

Example: ldap: // localhost: 389 /

Name	LDAPUrl
Code	LDAP_PROVIDER_URL
Configuration Levels	
• Installation	✓
• Application	—
• Organizational Unit	—
• User	—
Dynamic	✓
Encrypted	—
Default Value	

User to connect to LDAP

Identification of the user with which Deyel accesses LDAP to make the queries.

The distinguished name (DN) of that user is indicated. Example: cn

Name	LDAPUser
------	----------

Code	LDAP_USER
Configuration Levels	
• Installation	✓
• Application	—
• Organizational Unit	—
• User	—
Dynamic	✓
Encrypted	—
Default Value	

Password for connection to LDAP

Name	LDAPPassword
Code	LDAP_PASSWORD
Configuration Levels	
• Installation	✓
• Application	—
• Organizational Unit	—
• User	—
Dynamic	✓
Encrypted	—
Default Value	

3.11.4.1.4. LDAP Search

Configuration of user search within the LDAP directory.

Sets the search subtree, the LDAP attributes that are considered search keys, and additional user selection filters.

Configurable Properties

LDAP directory root node

Sets the root node of the LDAP tree considered by **Deyel** for user search. Example: ou

Name	LDAPDirectoryRoot
------	-------------------

Code	LDAP_ROOT_DIR
Configuration Levels	
• Installation	✓
• Application	—
• Organizational Unit	—
• User	—
Dynamic	✓
Encrypted	—
Default Value	

User search filter

Deyel uses the user code and/or alias as default search fields.

This property allows to establish additional conditions to the search criteria.

To enter a condition in which operators and user attributes participate.

The value must be indicated according to the LDAP standard. For example: (objectClass=inetOrgPerson)

Name	LDAPUserFilter
Code	LDAP_USER_FILTER
Configuration Levels	
• Installation	✓
• Application	—
• Organizational Unit	—
• User	—
Dynamic	✓
Encrypted	—
Default Value	

User code

Indicates the LDAP attribute whose value is mapped to the **Deyel** user code.

The informed attribute must uniquely identify the user within the LDAP directory.

If this property is not informed, then the user code must be entered in **Deyel**.

Name	LDAPUsercode
------	--------------

Code	LDAP_USER_FIELD_cdUsuario
Configuration Levels	
• Installation	✓
• Application	—
• Organizational Unit	—
• User	—
Dynamic	✓
Encrypted	—
Default Value	

User aliases

Indicates the LDAP attribute whose value is mapped to the **Deyel** user alias. The informed attribute must uniquely identify the user within the LDAP directory. There cannot be two users with the same alias. If this property is not informed, then the user alias can be entered in **Deyel**.

Name	LDAPAliasUser
Code	LDAP_USER_FIELD_dsAlias
Configuration Levels	
• Installation	✓
• Application	—
• Organizational Unit	—
• User	—
Dynamic	✓
Encrypted	—
Default Value	

3.11.4.1.5. LDAP Synchronization

Configuring properties of **Deyel** users that are [synchronized with attributes of](#) LDAP.

Configurable Properties

Surname

Indicates the LDAP attribute whose value is mapped to the **Deyel** user last name.

If not informed, then the user last name must be entered in **Deyel**.

Name	LDAPSurnameUser
Code	LDAP_USER_FIELD_dsApellido
Configuration Levels	
• Installation	✓
• Application	—
• Organizational Unit	—
• User	—
Dynamic	✓
Encrypted	—
Default Value	sn

Name

Indicates the LDAP attribute whose value is mapped to the **Deyel** user name.
If not informed, then the user name must be entered in **Deyel**.

Name	LDAPUsername
Code	LDAP_USER_FIELD_dsNombre
Configuration Levels	
• Installation	✓
• Application	—
• Organizational Unit	—
• User	—
Dynamic	✓
Encrypted	—
Default Value	givenName

E-mail

Indicates the LDAP attribute whose value is mapped to the **Deyel** user email.
There cannot be two users with the same email.
If this property is not informed, then the user email can be entered in **Deyel**.

Name	LDAPEmailUser
------	---------------

Code	LDAP_USER_FIELD_dsEmail
Configuration Levels	
• Installation	✓
• Application	—
• Organizational Unit	—
• User	—
Dynamic	✓
Encrypted	—
Default Value	email

Condition

Indicates the LDAP attribute whose value is mapped to the **Deyel** user state.
If not informed, then the user state can be entered in **Deyel**.

Name	LDAPUserState
Code	LDAP_USER_FIELD_dsActivo
Configuration Levels	
• Installation	✓
• Application	—
• Organizational Unit	—
• User	—
Dynamic	✓
Encrypted	—
Default Value	

Telephone

Indicates the LDAP attribute whose value is mapped to the **Deyel** user phone.
If not informed, then the user phone can be entered in **Deyel**.

Name	LDAPPhone
Code	LDAP_USER_FIELD_dsTelefono
Configuration Levels	
• Installation	✓

• Application	—
• Organizational Unit	—
• User	—
Dynamic	✓
Encrypted	—
Default Value	

Organizational Unit

Indicates the LDAP attribute whose value is mapped to the **Deyel** user organizational unit. The value must be an existing unit code in **Deyel**. If not informed, then the user unit must be entered in **Deyel**.

Name	LDAPUnitUser
Code	LDAP_USER_FIELD_cd_oRG_Unit
Configuration Levels	
• Installation	✓
• Application	—
• Organizational Unit	—
• User	—
Dynamic	✓
Encrypted	—
Default Value	

3.11.4.1.6. JAVA

Java virtual machine used by **Deyel** to compile advanced rules.

Configurable Properties

JDK Installation Directory

Used for online compilation of advanced rules.

Name	DirectoryInstalationJDK
Code	JDK_HOME
Configuration Levels	

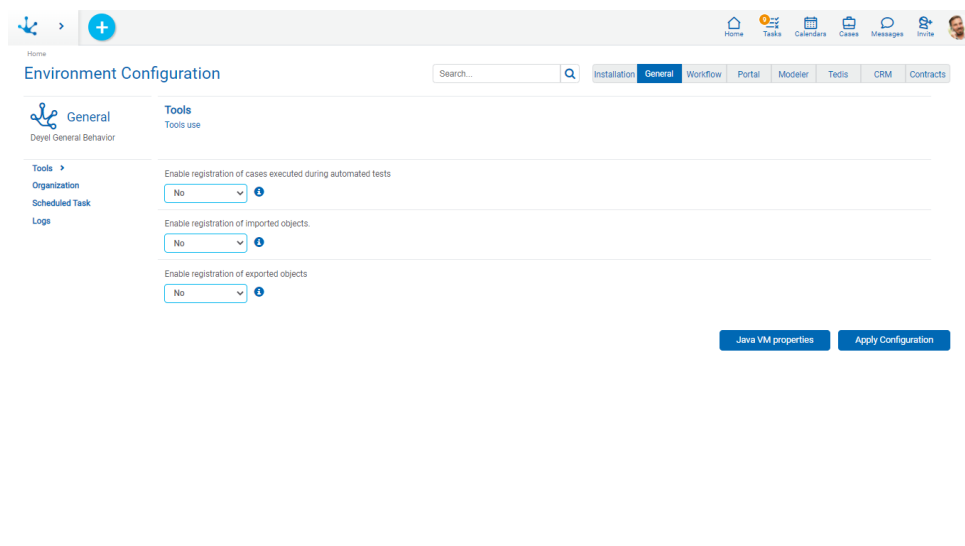
• Installation	✓
• Application	—
• Organizational Unit	—
• User	—
Dynamic	✓
Encrypted	—
Default Value	

3.11.4.2. General

It allows configuring properties that define the general behavior of **Deyel**.

Options

- [Tools](#)
- [Organization](#)
- [Scheduled Tasks](#)
- [Logs](#)
- [Content Security Policy \(CSP\)](#)
- [Control de Acceso HTTP \(CORS\)](#)



3.11.4.2.1. Tools

Configuring properties related to the use of **Deyel** tools.

Configurable Properties

Enable registration of cases executed during automated tests

When the automated test cases are executed, this property determines whether the information of each executed case should be saved in the User Case Execution (UEC) form.

Name	EnableCaseExecutionRegister
Code	ENABLE_STRESS
Configuration Levels	
• Installation	✓
• Application	—
• Organizational Unit	—
• User	—
Dynamic	✓
Encrypted	—
Default Value	<ul style="list-style-type: none"> • Yes • No (Predetermined)

Enable registration of imported objects

By enabling this property, each import operation that is carried out is recorded in the Import Registration form and can be viewed in detail.

Name	ImportRegistration
Code	REGISTER_IMPORTS
Configuration Levels	
• Installation	✓
• Application	—
• Organizational Unit	—
• User	—
Dynamic	✓
Encrypted	—
Default Value	<ul style="list-style-type: none"> • Yes • No (Predetermined)

Enable registration of exported objects

By enabling this property, each export operation that is carried out is recorded in the Export Registration form and can be viewed in detail.

Name	EnableRegisterExported Objects
Code	REGISTER_EXPORTS
Configuration Levels	
• Installation	✓
• Application	—
• Organizational Unit	—
• User	—
Dynamic	✓
Encrypted	—
Default Value	<ul style="list-style-type: none"> • Yes • No (Predetermined)

3.11.4.2.2. Organization

Configuring properties related to the administration of the organizational structure.

Configurable Properties

Organizational unit coding type

It allows to choose the way in which the code of the organizational units is generated.

Name	TypeCodingUnits
Code	AUTOMATIC_ORG_UNIT_ID
Configuration Levels	
• Installation	✓
• Application	—
• Organizational Unit	—
• User	—
Dynamic	✓
Encrypted	—
Possible Values	<ul style="list-style-type: none"> • Manual • Semi Automatic • Automatic (Default)

Possible Values

- Manual: Must be informed by the user.

- Semi Automatic: Can be informed by the user. If it is not informed it is coded automatically.
- Automatic - The code is assigned by the **Deyel**.

3.11.4.2.3. Scheduled Tasks

These properties define the automatic start of scheduled tasks and the parameters used by specific scheduled tasks of **Deyel**.

Configurable Properties

Automatic start of scheduled tasks

Defines whether when starting the execution of **Deyel** automatically starts the execution of scheduled tasks.

When No is indicated, scheduled tasks must be started manually, by accessing the scheduled tasks monitor.

Name	HomeAutomaticProgrammedTasks
Code	TASK_SCHEDULER
Configuration Levels	
• Installation	✓
• Application	—
• Organizational Unit	—
• User	—
Dynamic	✓
Encrypted	—
Possible Values	<ul style="list-style-type: none"> • Si (Predeterminado) • No

Activation period for the debugger for temporary files associated with forms and cases

Activation interval (expressed in seconds) of the debugging process for files uploaded to the repository.

This is one of the system's scheduled tasks, whose execution periodicity is defined with this property.

Name	PeriodActivationDebuggerArchives
Code	CLEAN_UPLOADED_FILES_PROCESS_PERIODICITY
Configuration Levels	

• Installation	✓
• Application	—
• Organizational Unit	—
• User	—
Dynamic	✓
Encrypted	—
Default Value	18.000 (5 hours)

Minimum backup time considered by the debugger for temporary files associated with forms and cases

Minimum time (expressed in seconds) during which a file uploaded to **Deyel** cannot be deleted. Even if the file purging process detects that the file is not related to any case or form, will not be deleted until the time indicated in this property has elapsed.

Name	MinimumTime
Code	UPLOADED_FILES_MIN_TIME
Configuration Levels	
• Installation	✓
• Application	—
• Organizational Unit	—
• User	—
Dynamic	✓
Encrypted	—
Default Value	3.600 (1 hour)

3.11.4.2.4. Logs

Configures the automatic generation and debugging of log files.

Configurable Properties

Directorio de registro de logs

Directorio en el cual se generan los archivos de log.
Si no se informa valor, se utiliza el directorio **/logs**, dentro del contexto.

Solamente se puede configurar en instalaciones On-Premise

Name	LogDirectory
Code	LOG_DIRECTORY
Configuration Levels	
• Installation	✓
• Application	—
• Organizational Unit	—
• User	—
Dynamic	—
Encrypted	—
Default Value	

Log files persistence

The generated log files are automatically deleted by the system's log purging process. This property sets the number of days that should persist, in order to delete them.

In Cloud environments, this property must assume values greater than zero and less than 30. In On-Premise environments, a value greater than 30 days can be indicated. If the value is zero, files are never deleted.

Name	LogFilesPersistence
Code	LOG_FILES_DAYS_OLD
Configuration Levels	
• Installation	✓
• Application	—
• Organizational Unit	—
• User	—
Dynamic	✓
Encrypted	—
Default Value	15

Execution log level

Indicates the type of information that **Deyel** records in the log console and in the execution console.

Name	LogLevelEnabled
Code	LOG_DATA_LEVEL
Configuration Levels	
• Installation	✓
• Application	—
• Organizational Unit	—
• User	—
Dynamic	✓
Encrypted	—
Default Value	<ul style="list-style-type: none"> • NONE • ERROR • WARNING • INFO (Predeterminado)

- NONE

No information is logged.

- ERROR

Errors are logged.

- WARNING

Errors and warnings are logged.

- INFO

Errors, warnings, and event information are logged.

Maximum execution time of business rules

Defines a time, expressed in milliseconds. When the execution of a business rule exceeds this threshold, input and output parameters are saved in a log file. If the defined value is 0, the execution time of the rules is not controlled.

Name	RulesTimeMaximumExecution
Code	LOG_LOGIC_MAX_TIME
Configuration Levels	
• Installation	✓
• Application	—
• Organizational Unit	—

• User	—
Dynamic	✓
Encrypted	—
Default Value	1000

Information persistence in the logs console

The information stored in the logs console is automatically removed by the environment log console scrubbing process. This property defines the amount of hours that the information must persist, before being deleted. If the value is zero, the information is never deleted.

Name	LogConsolePersistence
Code	LOG_DATA_OLD
Configuration Levels	
• Installation	✓
• Application	—
• Organizational Unit	—
• User	—
Dynamic	✓
Encrypted	—
Default Value	372

3.11.4.2.5. Content Security Policy

Additional security layer that helps prevent and mitigate some types of attacks, including Cross Site Scripting.

All configurable directives can be filled according to specification <https://developer.mozilla.org/en-US/docs/Web/HTTP/Headers/Content-Security-Policy/Sources#sources>

Configurable Properties

Directive default_src

The default-src directive serves as a fallback for the other CSP directives. For each missing directive, the user agent looks up the directive and uses its value.

Name	DirectiveDefault_Src
Code	DEFAULT_SRC
Configuration Levels	

• Installation	✓
• Application	—
• Organizational Unit	—
• User	—
Dynamic	✓
Encrypted	—
Default Value	

Directive style_src

The directive specifies valid sources for style sheets. If this directive is absent, the user agent will look for the default-src directive. One or more sources are allowed for the style-src directive.

Name	DirectiveStyle_Src
Code	STYLE_SRC
Configuration Levels	
• Installation	✓
• Application	—
• Organizational Unit	—
• User	—
Dynamic	✓
Encrypted	—
Default Value	

Directive font_src

The directive specifies valid sources for the loaded text fonts. If this directive is absent, the user agent will look for the default-src directive. One or more sources are allowed for the font-src directive.

Name	DirectiveFont_Src
Code	FONT_SRC
Configuration Levels	
• Installation	✓
• Application	—
• Organizational Unit	—
• User	—

Dynamic	✓
Encrypted	—
Default Value	

Directive script_src

The directive specifies valid JavaScript sources. If this directive is absent, the user agent will look for the default-src directive. One or more sources are allowed for the script-src directive.

Name	DirectiveScript_Src
Code	SCRIPT_SRC
Configuration Levels	
• Installation	✓
• Application	—
• Organizational Unit	—
• User	—
Dynamic	✓
Encrypted	—
Default Value	

Directive img_src

The directive specifies valid image sources. If this directive is absent, the user agent will look for the default-src directive. One or more sources are allowed for the img-src directive.

Name	DirectiveImg_Src
Code	IMG_SRC
Configuration Levels	
• Installation	✓
• Application	—
• Organizational Unit	—
• User	—
Dynamic	✓
Encrypted	—

Default Value	data
---------------	------

Directive `frame_src`

The directive specifies valid sources for loading nested browsing contexts using elements like `<frame>` and `<iframe>`. One or more sources are allowed for the `frame-src` directive.

Name	DirectiveFrame_Src
Code	FRAME_SRC
Configuration Levels	
• Installation	✓
• Application	—
• Organizational Unit	—
• User	—
Dynamic	✓
Encrypted	—
Default Value	

Directive `frame_ancestors_src`

The directive specifies valid sites that can embed the **Deyel** portal using `<frame>`, `<iframe>`, `<object>`, `<embed>` or `<applet>`. It differs from the `frame-src` directive as the latter specifies where iframes can be loaded from in the **Deyel** portal. One or more sources are allowed for the `frame-ancestor-src` directive.

Name	DirectiveFrame_ancestors_Src
Code	FRAME_ANCESTORS_SRC
Configuration Levels	
• Installation	✓
• Application	—
• Organizational Unit	—
• User	—
Dynamic	✓
Encrypted	—
Default Value	

Directive `form_action_src`

The directive determines the URLs that can be used from **Deyel** as destination in the <form> tags of HTML. One or more sources are allowed for the form-action-src directive.

Name	DirectiveForm_action_Src
Code	FORM_ACTION_SRC
Configuration Levels	
• Installation	✓
• Application	—
• Organizational Unit	—
• User	—
Dynamic	✓
Encrypted	—
Default Value	*.google.com

Directive connect_src

The directive determines the URLs that can be loaded via script interfaces. The APIs not allowed in the directive are: <a> ping, fetch(), XMLHttpRequest, WebSocket, EventSource and Navigator.sendBeacon(). If this directive is absent, the user agent will look for the default-src directive. One or more sources are allowed for the connect-src directive.

Name	DirectiveConnect_Src
Code	CONNECT_SRC
Configuration Levels	
• Installation	✓
• Application	—
• Organizational Unit	—
• User	—
Dynamic	✓
Encrypted	—
Default Value	https://www.cloudflare.com/cdn-cgi/trace data

3.11.4.2.6. HTTP Access Control

Mechanism based on HTTP headers that allows loading resources in browsers from a domain, HTTP schema or port of origin other than the one owned by **Deyel**.

The configurable directive can be filled according to the following specification

<https://developer.mozilla.org/en-US/docs/Web/HTTP/CORS>

Configurable Property

Access_Control_Allow-Origin Directive

The directive indicates which origin can access the resource. Only one origin can be specified.

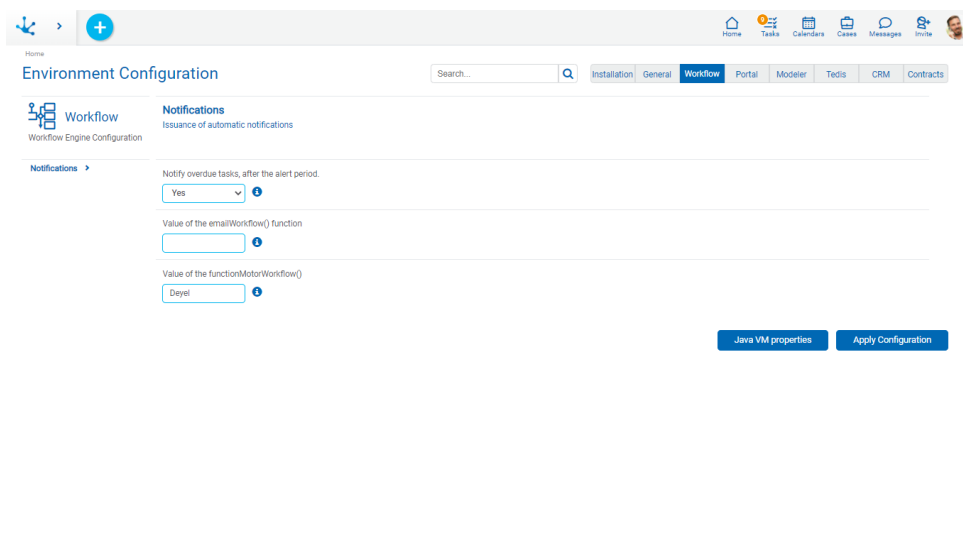
Name	Access_Control_Allow-Origin
Code	ACCESS_CONTROL_ALLOW_ORIGIN
Configuration Levels	
• Installation	✓
• Application	—
• Organizational Unit	—
• User	—
Dynamic	✓
Encrypted	—
Default Value	

3.11.4.3. Workflow

It allows configuring the properties related to the workflow engine.

Options

- [Notifications](#)



The screenshot shows the 'Environment Configuration' page for the 'Workflow' engine. The 'Notifications' section is active, showing the following configuration options:

- Notify overdue tasks, after the alert period: Yes
- Value of the emailWorkflow() function: (empty text box)
- Value of the functionMotorWorkflow(): Deyel

Buttons for 'Java VM properties' and 'Apply Configuration' are visible at the bottom right of the configuration area.

3.11.4.3.1. Notifications

Configuring automatic notifications sent by the workflow engine.

Configurable Properties

Notify overdue tasks, after the alert period.

Indicates if an email should be sent for overdue or expired alerts. When the scheduled task for sending alerts runs because it detects an overdue task whose warning period has expired and which has not been previously processed, it sends an email only if this property is activated.

Name	NotificationAutomaticActionsCancelled
Code	ADDRESSES_FOR_CANCELED_ACTIVITY
Configuration Levels	
• Installation	<input checked="" type="checkbox"/>
• Application	<input type="checkbox"/>
• Organizational Unit	<input type="checkbox"/>
• User	<input type="checkbox"/>
Dynamic	<input checked="" type="checkbox"/>
Encrypted	<input type="checkbox"/>
Default Value	

Value of the emailWorkflow() function

When defining automated email actions or alerts, the emailWorkflow() function can be used to model the notification sender. When the mail is received, the modeled value is displayed as sender, instead of displaying the actual sender, which is the one configured in the UserSendEMail property. It may happen that some mail servers, such as Google for example, do not allow displaying a different value from the actual sender.

Name	EmailWorkflow
Code	WORKFLOW_MAIL
Configuration Levels	
• Installation	<input checked="" type="checkbox"/>
• Application	<input type="checkbox"/>
• Organizational Unit	<input type="checkbox"/>
• User	<input type="checkbox"/>

Dynamic	✓
Encrypted	—
Default Value	deyel@deyel.com

Value of the functionMotorWorkflow()

The functionWorkflowMotorName() returns an alphanumeric value indicating the name of the Workflow engine. It is commonly used in notification modeling. The default value is Deyel Workflow Engine, but a different value can be set if necessary.

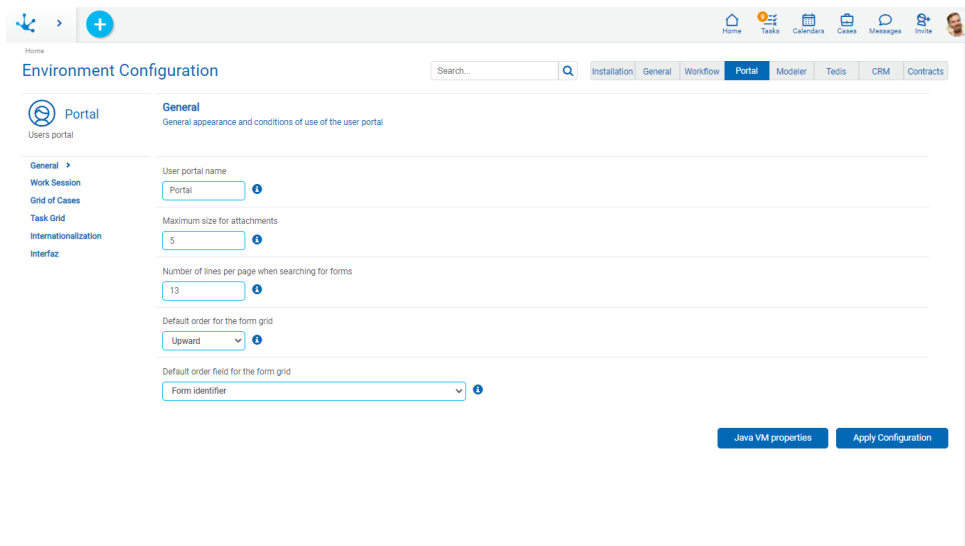
Name	workflowEngineName
Code	WORKFLOW_NAME
Configuration Levels	
• Installation	✓
• Application	—
• Organizational Unit	—
• User	—
Dynamic	✓
Encrypted	—
Default Value	Deyel Workflow Engine

3.11.4.4. Portal

It allows configuring properties that define the general appearance and behavior of the user portal.

Options

- [General](#)
- [Work Session](#)
- [Cases Grid](#)
- [Tasks Grid](#)
- [Internationalization](#)



3.11.4.4.1. General

General appearance and use conditions of the user portal.

Configurable Properties

User portal name

Text displayed in the browser tabs, preceding the user data. For example, **Deyel** or Deyel Portal. It allows to quickly identify the browser tabs that are accessing the portal.

Name	PortalName
Code	SYSTEM_NAME
Configuration Levels	
• Installation	✓
• Application	—
• Organizational Unit	—
• User	—
Dynamic	✓
Encrypted	—
Default Value	Portal

Maximum file size stored in database

When the user attaches files to the system, either as form fields or as documents attached to a case, their size is controlled not to exceed the limit established in this property. A number is indicated, expressed in MB, which must be between 0 and 20.

Name	UploadDocumentsMaximumSize
Code	MAX_UPLOAD_SIZE
Configuration Levels	
• Installation	✓
• Application	—
• Organizational Unit	—
• User	—
Dynamic	✓
Encrypted	—
Default Value	5

Number of lines per page in form search

Sets the number of lines per page when form instances are shown.

Name	SearchFormsQuantityLinesPerPage
Code	DEFAULT_PAGE_SIZE
Configuration Levels	
• Installation	✓
• Application	—
• Organizational Unit	—
• User	—
Dynamic	✓
Encrypted	—
Default Value	13

Default order for forms grid

Allows to define the default order for the forms grid.

Name	OrderForms
Code	BROWSE_FORM_ORDER

Configuration Levels	
• Installation	✓
• Application	—
• Organizational Unit	—
• User	—
Dynamic	✓
Encrypted	—
Possible Values	<ul style="list-style-type: none"> • Apward • Descending (Default)

Default order field for the forms grid

Allows to define the field used for the default order of the forms grid.

Name	FieldOrderForms
Code	BROWSE_FORMS_ORDER_FIELD
Configuration Levels	
• Installation	✓
• Application	—
• Organizational Unit	—
• User	—
Dynamic	✓
Encrypted	—
Possible Values	<ul style="list-style-type: none"> • Creation Date (Default). • Last modification. • Form identifier.

Connection monitor

Activate the connection monitor. This property is configured from the [user preferences](#).

Name	ConnectionMonitor
Code	CONNECTION_MONITOR
Configuration Levels	
• Installation	✓

• Application	—
• Organizational Unit	—
• User	—
Dynamic	✓
Encrypted	—
Possible Values	<ul style="list-style-type: none"> • Yes • No (Predetermined)

Maximum file size stored in AWS S3

When the user uploads files to Amazon S3 repository, either as form fields, in Tedis conversations, or as documents attached to a case or form, the size of the file should be checked not to exceed the limit established in this property.

A number expressed in MB is indicated. The maximum value is 5000MB.

Name	MaximumUploadSizeForFilesInAmazonS3
Code	MAX_UPLOAD_SIZE_AS3
Configuration Levels	
• Installation	✓
• Application	—
• Organizational Unit	—
• User	—
Dynamic	✓
Encrypted	—
Default Value	500

Expiration time for Amazon S3 pre-signed URL

When the user uploads or downloads files from the Amazon S3 repository, pre-signed links are generated with an expiration time set in this property.

A number expressed in seconds is indicated. The maximum value is 21600.(6 hours).

Name	ExpirationTimeForAmazonS3PreSignedUrl
Code	PRESIGNED_EXPIRATION_AS3
Configuration Levels	

• Installation	✓
• Application	—
• Organizational Unit	—
• User	—
Dynamic	✓
Encrypted	—
Default Value	10

Maximum file size to process in the environment

When files from the Amazon S3 repository are processed within the server, either to be used in a rule or downloaded from the file download endpoint, the size of the files should be checked not to exceed the limit set in this property.

A number expressed in MB is indicated. The maximum value is 25.

Name	MaximumFileSizeInAmazonS3ToBeProcessedInTheEnvironment
Code	MAX_PROGRAMATIC_SIZE_AS3
Configuration Levels	
• Installation	✓
• Application	—
• Organizational Unit	—
• User	—
Dynamic	✓
Encrypted	—
Default Value	10

3.11.4.4.2. Work Session

Work session characteristics.

Configurable Properties

Authentication type

Defines the [authentication method](#) used by **Deyel**.

Name	AuthenticationType
------	--------------------

Code	TP_AUTHENTICATION_LOGIN
Configuration Levels	
• Installation	✓
• Application	—
• Organizational Unit	—
• User	—
Dynamic	✓
Encrypted	—
Possible Values	<ul style="list-style-type: none"> • Native (Predetermined) • LDAP • Google • Personalized • Federated IDM • Mixed • Azure AD

Maximum inactivity time

Maximum inactivity time, expressed in minutes, to keep the user session active in the browser. If that time is exceeded, the session expires and the user has to access the portal again. The value -1 must be indicated so that the session does not expire.

Name	MaximumIdleTime
Code	MAX_SESSION_INACTIVITY_TIME
Configuration Levels	
• Installation	✓
• Application	—
• Organizational Unit	—
• User	—
Dynamic	✓
Encrypted	—
Possible Values	<p>-1 (Default), indicates that sessions do not expire due to inactivity.</p> <p>It may contain numeric values that represent a number of minutes.</p>

Allow multiple user sessions with the same browser

When this property is enabled, it is possible to maintain multiple work sessions, with different users, within the same browser.

Name	AllowMultipleSessions
Code	ALLOW_MULTISESSION
Configuration Levels	
• Installation	✓
• Application	—
• Organizational Unit	—
• User	—
Dynamic	✓
Encrypted	—
Possible Values	<ul style="list-style-type: none">• Yes• No (Predetermined)

Mixed authentication method

These properties are used to configure the mixed authentication mechanism. They establish which authentication methods are enabled and the order in which they should be used.

There are 3 properties that work in a similar way:

- First mixed authentication method
- Second mixed authentication method
- Third mixed authentication method

Name	AuthenticationMixta1 AuthenticationMixta2 AuthenticationMixta3
Code	AUTHENTICATION_MIXTA_1 AUTHENTICATION_MIXTA_2 AUTHENTICATION_MIXTA_3
Configuration Levels	
• Installation	✓
• Application	—
• Organizational Unit	—
• User	—

Dynamic	✓
Encrypted	—
Possible Values	<ul style="list-style-type: none"> • Native • LDAP • Google • Personalized • Federated IDM • Azure AD

When configuring the use of mixed authentication, the following should be validated:

- At least one of these properties is indicated.
- There are no repetitions in the established values.
- If any property assumes the value:

"IDM Federated", the adapter "IDMAuthorizationCode" is validated as published.

"LDAP", all LDAP related properties are validated.

- [LDAP - Server Connection](#)
- [LDAP - User Search](#)
- [LDAP - Attribute Synchronization](#)

"Google", all Google related properties are validated.

"Customized", all properties related to custom authentication are validated.

"Azure AD", the "Azure AD" adapter is validated as published.

Configuration can only be applied when all validations are correct.

Google authentication - OAuth credentials - Client identification

To use Google's authentication services, **Deyel** must present credentials that identify it as an OAuth 2.0 client.

This property sets the Client ID, which is part of those credentials.

It can only be configured in On-Premise environments

Name	GoogleClientID
Code	GOOGLE_CLIENT_ID
Configuration Levels	

• Installation	✓
• Application	—
• Organizational Unit	—
• User	—
Dynamic	✓
Encrypted	✓
Default Value	

Google authentication - OAuth credentials - Client Secret

To use Google's authentication services, **Deyel** must present credentials that identify it as an OAuth 2.0 client.

This property sets the Client Secret, which is part of those credentials.

It can only be configured in On-Premise environments

Name	GoogleClientSecret
Code	GOOGLE_CLIENT_SECRET
Configuration Levels	
• Installation	✓
• Application	—
• Organizational Unit	—
• User	—
Dynamic	✓
Encrypted	✓
Default Value	

Custom authentication

Name of the rule defined to run Custom authentication.

Name	CustomAuthentication
Code	CUSTOM_AUTHENTICATION
Configuration Levels	

• Installation	✓
• Application	—
• Organizational Unit	—
• User	—
Dynamic	✓
Encrypted	—
Default Value	

The existence of the rule is validated by configuring the type of custom or mixed authentication that contains it.

If the rule exists, it is validated to have the required input and output parameters.

Authorized domains to send user invitations

The email addresses to which invitations are sent must belong to one of the domains reported in this property. Several domains can be indicated, separated by semicolons. For example: 'mycompany.com ; optis.com'. If no value is reported, then invitations can be sent to any email address.

Name	AuthorizedDomains
Code	AUTHORIZED_DOMAINS
Configuration Levels	
• Installation	✓
• Application	—
• Organizational Unit	—
• User	—
Dynamic	✓
Encrypted	—
Possible Value	They must be valid domain names. They can be separated by semicolons.

Require password change

When a user uses 'Forgot your password' and logs in for the first time with the assigned password, **Deyel** may require a password change depending on the value of this property:

- Not Required - Deyel allows the user to continue using the assigned password.

- Optional - The password change screen is presented prompting the user to update it. You can do so or indicate that you keep the assigned password.
- Required - The user is forced to change the password in order to continue.

Name	RequireChangePassword
Code	PASSWORD_CHANGE
Configuration Levels	
• Installation	✓
• Application	—
• Organizational Unit	—
• User	—
Dynamic	✓
Encrypted	✓
Possible Values	<ul style="list-style-type: none"> • Not Required (Default) • Optional • Required

Maximum duration of user session

Maximum duration of user session, expressed in minutes. If that time is exceeded, the session expires and the user has to log in again. By indicating the value -1 the sessions do not expire.

Name	MaximumSessionDuration
Code	MAX_SESSION_EXPIRATION_TIME
Configuration Levels	
• Installation	✓
• Application	—
• Organizational Unit	—
• User	—
Dynamic	✓
Encrypted	—
Possible Values	<p>-1 (Default), indicates that sessions do not expire for a maximum time.</p> <p>It may contain numeric values that represent a number of minutes.</p>

Maximum number of simultaneous sessions per user

Allows to limit the number of simultaneous sessions that a user can have active. Indicating the value -1 the number of sessions is unlimited.

Name	NumberOfSimultaneousSessions
Code	MAX_SESSIONS_BY_USER
Configuration Levels	
• Installation	✓
• Application	—
• Organizational Unit	—
• User	—
Dynamic	✓
Encrypted	—
Possible Values	-1 (Default), indicates that the number of simultaneous sessions is unlimited.

Maximum number of failed logins

Sets the maximum allowable number of failed authentications due to incorrect passwords. When the user exceeds this number of consecutive failed attempts, their account becomes inactive. If the value -1 is set, there is no limitation on the number of failed logins.

This control only applies when using the [native authentication](#) mechanism, in which **Deyel** is responsible for verifying the user's password.

Name	MaximumAmountOfFailedAccesses
Code	INVALID_PASS_ATTEMPTS
Configuration Levels	
• Installation	✓
• Application	—
• Organizational Unit	—
• User	—
Dynamic	✓
Encrypted	—
Possible Values	-1 (Default), indicates that there is no limitation on the number of failed logins.

Maximum user locked time

The account locking by number of failed logins is set for a maximum period of time, indicated in minutes, in this property. After that time, the user will be able to access again, if they enter correctly with their password.

If -1 is indicated then the account remains locked indefinitely until one of the planned unlocking mechanisms is executed:

- The security administrator activates the account again.
- The user receives an email with a link that allows them to activate their account again.

Name	MaximumUserLockoutTime
Code	MAX_USER_BLOQUED_TIME
Configuration Levels	
• Installation	✓
• Application	—
• Organizational Unit	—
• User	—
Dynamic	✓
Encrypted	—
Possible Values	-1 (Default), indicates that the account remains blocked.

Password history

When the user registers their password, **Deyel** verifies that it is different from the previous N.

The number N, defined in this property, can assume values between 0 and 100.

If 0 is indicated, then **Deyel** does not compare the new password with the previous ones. Repetitions are allowed.

Name	PasswordHistory
Code	PASSWORD_HISTORY
Configuration Levels	
• Installation	✓
• Application	—
• Organizational Unit	—
• User	—

Dynamic	<input checked="" type="checkbox"/>
Encrypted	<input type="checkbox"/>
Possible Values	<ul style="list-style-type: none"> - 0 (Default), indicates that password repetition is not enforced. - N between 1 and 100.

This mechanism is applied when access passwords are managed by **Deyel**, using [native authentication](#).

When the user enters a new key password, **Deyel** verifies the following:

- If N=0, the new password is not compared with the previous ones.
- If N=1, the new password cannot be the same as the current one.
- If N>1, the new password cannot be the same as the current one, and neither can it be the same as the previous N-1 passwords.

For example, if N=3, the new password must be different from the current one and the 2 previous ones recorded in history.

When the password is invalid, the user receives a message "You have used that password previously. You must report a different one."

To implement this control, **Deyel** keeps a history of all passwords used by the user. Values are kept in chronological order and encrypted in the database and are not accessible by the user.

Two step authentication

When using [native or custom authentication](#), it is possible to enable two-step authentication. This property sets the desired behavior.

Name	TwoFactorAuthentication
Code	2FA
Configuration Levels	
• Installation	<input checked="" type="checkbox"/>
• Application	<input type="checkbox"/>
• Organizational Unit	<input type="checkbox"/>
• User	<input type="checkbox"/>
Dynamic	<input checked="" type="checkbox"/>
Encrypted	<input type="checkbox"/>
Possible Values	<ul style="list-style-type: none"> • Optional (Default) • Required • Not Enabled

Password expiration time

Indicates the number of consecutive days that must pass for a password to expire. If the value -1 is specified, then passwords do not expire.

Name	PasswordExpirationTime
Code	PASSWORD_EXPIRATION_TIME
Configuration Levels	
• Installation	✓
• Application	—
• Organizational Unit	—
• User	—
Dynamic	✓
Encrypted	—
Possible Values	-1 (Default), indicates that passwords do not expire. It may contain numeric values that represent a number of days.

This control is applied when using the [native authentication](#), where passwords are managed by **Deyel**.

Each time the user sets a new password, the time at which this operation is performed is recorded and the expiration time can be calculated.

For example, if the value 1 is reported, passwords that were set on that day expire the day after.

Password expiration notification

Indicates the number of days in advance that users must be notified of the expiration of their password.

- If the value -1 is indicated, then no notification is issued.
- If a value other than -1 is specified, then it is checked to be less than the property [Password expiration time](#).

The scheduled task must be active Notify Password Expiration.

Name	PasswordExpirationNotification
Code	PASSWORD_EXPIRATION_ALERT_TIME

Configuration Levels	
• Installation	✓
• Application	—
• Organizational Unit	—
• User	—
Dynamic	✓
Encrypted	—
Possible Values	-1 (Default), indicates that no notification is issued. It may contain numeric values that represent a number of days.

3.11.4.4.3. Cases Grid

Set of properties that allow defining the columns that are initially displayed in the cases grid.

All of them have the following general characteristics.

Configuration Levels	
• Installation	✓
• Application	—
• Organizational Unit	—
• User	✓
Dynamic	✓
Encrypted	—
Possible Value	<ul style="list-style-type: none"> • Yes (Predetermined) • No

Configurable Properties

Process name

Name	GridCaseProcess
Code	SHOW_PROCESS_CASES

Case description

Name	GridCaseDescription
Code	SHOW_DESCRIPTION_CASES

Chat

Visualizar acceso a la conversación asociada al caso.

Name	GridCaseChat
Code	SHOW_CHAT_CASES

Name of the current activity

Name	GridCaseActivity
Code	SHOW_ACTIVITY_CASES

Case start date

Name	GridCaseHome
Code	SHOW_BEGIN_CASES

Responsible for current activity

Name	GridCaseResponsible
Code	SHOW_RESPONSIBLE_CASES

Expiration of the current activity

Name	GridCaseExpiration
Code	SHOW_EXPIRED_CASES

Case priority

Name	GridCasePriority
------	------------------

Code	SHOW_PRIORITY_CASES
------	---------------------

Case completion

Fecha de finalización del caso.

Name	GridCaseEnd
Code	SHOW_ENDED_CASES

Start of current activity

Name	GridCaseHomeActivity
Code	SHOW_BEGINACT_CASES

Case status

Name	GridCaseState
Code	SHOW_STATE_CASES

Case identification

Name	GridCaseCase
Code	SHOW_CASE_CASES

3.11.4.4.4. Tasks Grid

Set of properties that allow defining the columns that are initially displayed in the tasks grid.

All of them have the following general characteristics.

Configuration Levels	
• Installation	✓
• Application	—
• Organizational Unit	—
• User	✓
Dynamic	✓

Encrypted	—
Possible Value	<ul style="list-style-type: none"> • Yes (Predetermined) • No

Configurable Properties

Case identification

Name	GridTasksCase
Code	SHOW_CASE_TODO LIST

Process name

Name	GridTasksProcess
Code	SHOW_PROCESS_TODO LIST

Case description

Name	GridTasksDescriptionCase
Code	SHOW_DESCRIPTION_TODO LIST

Chat

Visualizar acceso a la conversación asociada al caso.

Name	GridTasksChat
Code	SHOW_CHAT_TODO LIST

Name of the homework

Name	GridTasksName
Code	SHOW_ACTIVITY_TODO LIST

Task start

Name	GridTasksHome
------	---------------

Code	SHOW_BEGIN_TODOLIST
------	---------------------

Responsible for the task

Name	GridTasksResponsible
Code	SHOW_RESPONSIBLE_TODOLIST

Task due

Name	GridTasksExpiration
Code	SHOW_EXPIRED_TODOLIST

Task priority

Name	GridTasksPriority
Code	SHOW_PRIORITY_TODOLIST

3.11.4.4.5. Internationalization

Properties that allow configuring the language and numeric fields or date formats that are most appropriate for you.

Configurable Properties

Deyel language

Sets the language used by the Deyel platform tools. For example, user portal, modelers, etc.

Name	BTRB.Locale
Code	BTRB.Locale
Configuration Levels	
• Installation	✓
• Application	—
• Organizational Unit	✓
• User	✓
Dynamic	✓

Encrypted	—
Possible Values	<ul style="list-style-type: none"> • Spanish (Default) • English • Portuguese

Date display

Indicates the date display mask. For example, mmddyyyy or mm/dd/yyyy.

Name	DateDisplayMask
Code	DATE_VIEW_MASK
Configuration Levels	
• Installation	✓
• Application	—
• Organizational Unit	✓
• User	✓
Dynamic	✓
Encrypted	—
Possible Values	<ul style="list-style-type: none"> • DD/MM/YYYY (Default) • DDMMYYYY • DD-MM-YYYY • DD MM YYYY • MMDDYYYY • MM/DD/YYYY • MM-DD-YYYY • MM DD YYYY

Time display

Indicates the time display mask. For example, HHMM or HH:MM.

Name	Time Display Mask
Code	Hour_View_Mask
Configuration Levels	
• Installation	✓
• Application	—

• Organizational Unit	✓
• User	✓
Dynamic	✓
Encrypted	—
Possible Values	<ul style="list-style-type: none"> • HH:MM (Default) • HHMM

Decimal symbol - Editing numeric values

Indicates the symbol that separates the integer part from the decimal part for output format. For example: 10.99.

This property must be informed so that the numerical values can be displayed correctly.

The value of the field can be entered without typing the integer part separator, but if a separator is typed, it must be the one specified in this property.

Name	DecimalSymbolEditing
Code	DECIMAL_CHARACTER_SEPARATOR_IN
Configuration Levels	
• Installation	✓
• Application	✓
• Organizational Unit	—
• User	✓
Dynamic	✓
Encrypted	—
Possible Values	, (Predetermined) .

Thousands symbol - Editing numeric values

Indicates the symbol that separates groups of thousands (1,000, 1,000,000, etc.) for input format. For example: 999,999.

The field value can be entered without typing a thousands separator, but if a separator is typed, must be the one specified in this property.

Name	ThousandsSymbolEditing
Code	THOUSANDS_CHARACTER_SEPARATOR_IN
Configuration Levels	

• Installation	✓
• Application	✓
• Organizational Unit	—
• User	✓
Dynamic	✓
Encrypted	—
Possible Values	, .(Predetermined)

Decimal symbol - Display of numerical values

Indicates the symbol that separates the integer part from the decimal part for output format. For example: 10.99.

This property must be reported so that the numeric values can be displayed correctly.

Name	DecimalSymbolDisplay
Code	DECIMAL_CHARACTER_SEPARATOR_OUT
Configuration Levels	
• Installation	✓
• Application	✓
• Organizational Unit	—
• User	✓
Dynamic	✓
Encrypted	—
Possible Values	, (Predetermined) .

Thousands symbol - Display of numerical values

Indicates the symbol that separates groups of thousands (1,000, 1,000,000, etc.) for output format. For example: 999,999.

This property must be informed so that the numerical values can be displayed correctly.

Name	ThousandsSymbolDisplay
Code	THOUSANDS_CHARACTER_SEPARATOR_OUT

Configuration Levels	
• Installation	✓
• Application	✓
• Organizational Unit	—
• User	✓
Dynamic	✓
Encrypted	—
Possible Values	, (Predetermined)

3.11.4.4.6. Interface

Set of properties that allow to configure the user interface.

Configurable Properties

Theme

Defines the theme used by the users portal.

Name	Theme
Code	THEME_DIR
Configuration Levels	
• Installation	✓
• Application	✓
• Organizational Unit	—
• User	—
Dynamic	✓
Encrypted	—
Possible Values	<ul style="list-style-type: none"> • Red • Green • Blue • White (Default) • White y Green • White y Brown • Blue y Light Blue

Show tour modal

Show tour modal on login.

Name	ShowModalTour
Code	MODAL_TOUR_ENABLED
Configuration Levels	
• Installation	✓
• Application	—
• Organizational Unit	—
• User	✓
Dynamic	✓
Encrypted	—
Possible Values	<ul style="list-style-type: none">• Yes (Default)• No

Menu initial state

Initial state of the menu when the user enters the portal.

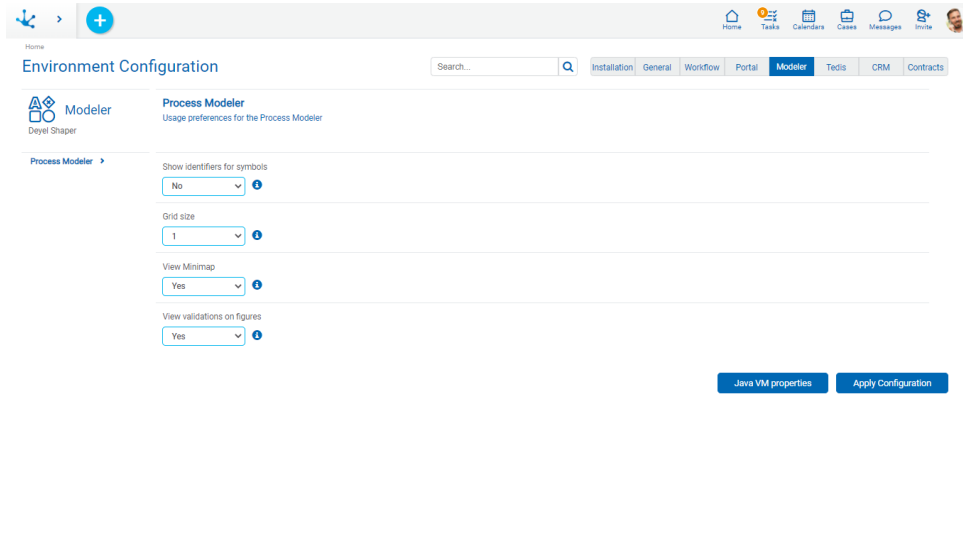
Name	estadoInicialMenu
Code	INITIAL_MENU_STATUS
Configuration Levels	
• Installation	✓
• Application	—
• Organizational Unit	—
• User	✓
Dynamic	—
Encrypted	—
Possible Values	<ul style="list-style-type: none">• Expanded• Collapsed (Default)

3.11.4.5. Modeler

It allows configuring properties related to the modelers of **Deyel**.

Options

- [Processes Modeler](#)
- [Applications Modeler](#)



3.11.4.5.1. Processes Modeler

Usage preferences for the process modeler.

Configurable Properties

Show identifiers for symbols

Activating this property, its unique identifier is displayed along with the name of each symbol.

Name	ShowIdentifiers
Code	SHOW_IDS
Configuration Levels	
• Installation	✓
• Application	—
• Organizational Unit	—
• User	✓
Dynamic	✓
Encrypted	—
Possible Values	• Yes

	<ul style="list-style-type: none"> • No (Predetermined)
--	--

Grid size

Number of pixels used to move symbols on the diagram.

Name	GridSize
Code	GRID_SIZE
Configuration Levels	
• Installation	✓
• Application	—
• Organizational Unit	—
• User	✓
Dynamic	✓
Encrypted	—
Possible Values	<ul style="list-style-type: none"> • 1 (Predetermined) • 10 • 20

View Minimap

View the minimap in the lower right of the modeling area.

Name	ViewMinimap
Code	SHOW_MINIMAP
Configuration Levels	
• Installation	✓
• Application	—
• Organizational Unit	—
• User	✓
Dynamic	✓
Encrypted	—
Possible Values	<ul style="list-style-type: none"> • Yes (Predetermined) • No

View validations on figures

Displays the exclamation point on the figures that have validation errors.

Name	ValidationsOnFigures
Code	INLINE_VALIDATIONS
Configuration Levels	
• Installation	✓
• Application	—
• Organizational Unit	—
• User	✓
Dynamic	✓
Encrypted	—
Possible Values	<ul style="list-style-type: none"> • Yes (Predetermined) • No

3.11.4.5.2. Applications Modeler

Usage preferences for the applications modeler.

Configurable Properties

Building Environment

Allows to update the path to the environment that executes the build service of a mobile application.

Name	BuildingEnvironment
Code	APPBUILDER_ENV
Configuration Levels	
• Installation	✓
• Application	—
• Organizational Unit	—
• User	—
Dynamic	✓
Encrypted	—
Possible Value	<ul style="list-style-type: none"> • https://appbuilder.deyel.com/ • https://appbuilderdev.deyel.com/

Add KeyStore

Allows to update the Android KeyStore file defined in base64 format.

It is a binary file that contains cryptographic keys, such as private keys and digital certificates, that are used to sign and authenticate Android applications before they are distributed.

Name	AddKeystore
Code	KEYSTORE
Configuration Levels	
• Installation	✓
• Application	—
• Organizational Unit	—
• User	—
Dynamic	✓
Encrypted	—
Possible Value	File in user-defined Base64 format.

KeyStore Password

Allows to update the password in order to sign the application within the KeyStore.

It is the password used to access and unlock the keys stored within the keystore file.

Name	KeystorePassword
Code	KEYSTORE_PASSWORD
Configuration Levels	
• Installation	✓
• Application	—
• Organizational Unit	—
• User	—
Dynamic	✓
Encrypted	—
Possible Value	User-defined text.

KeyStore Alias

Allows to update the alias associated with the KeyStore.

It is the alias assigned to a private key and its corresponding certificate within the keystore file.

Name	KeystoreAlias
Code	KEYSTORE_ALIAS
Configuration Levels	
• Installation	✓
• Application	—
• Organizational Unit	—
• User	—
Dynamic	✓
Encrypted	—
Possible Value	User-defined text.

Store Password

Allows to update the password that enables the use of the KeyStore file.
It is the password used to protect the keystore file.

Name	StorePassword
Code	STORE_PASSWORD
Configuration Levels	
• Installation	✓
• Application	—
• Organizational Unit	—
• User	—
Dynamic	✓
Encrypted	—
Possible Value	User-defined text.

Apple ID

Allows to update the Apple identifier associated with the developer account.

Name	AppleID
Code	APPLE_ID

Configuration Levels	
• Installation	✓
• Application	—
• Organizational Unit	—
• User	—
Dynamic	✓
Encrypted	—
Possible Value	File in user-defined Base64 format.

Apple Team Identifier

Allows to update the team identifier associated with the Apple developer account.

Name	AppleTeam
Code	APPLE_TEAM
Configuration Levels	
• Installation	✓
• Application	—
• Organizational Unit	—
• User	—
Dynamic	✓
Encrypted	—
Possible Value	User-defined text.

Password for Apple Services

Allows to update the password to use Apple services.

Name	AppleServicesPassword
Code	APPLE_SERVICES_PASSWORD
Configuration Levels	
• Installation	✓
• Application	—
• Organizational Unit	—

• User	—
Dynamic	✓
Encrypted	—
Possible Value	User-defined text.

Apple Certificate

Allows to update the Apple certificate file with p12 extension in base64 format.

Name	AppleCertificate
Code	CERTIFICATE
Configuration Levels	
• Installation	✓
• Application	—
• Organizational Unit	—
• User	—
Dynamic	✓
Encrypted	—
Possible Value	File in user-defined Base64 format.

Certificate Password

Allows to update the password associated with the Apple certificate.

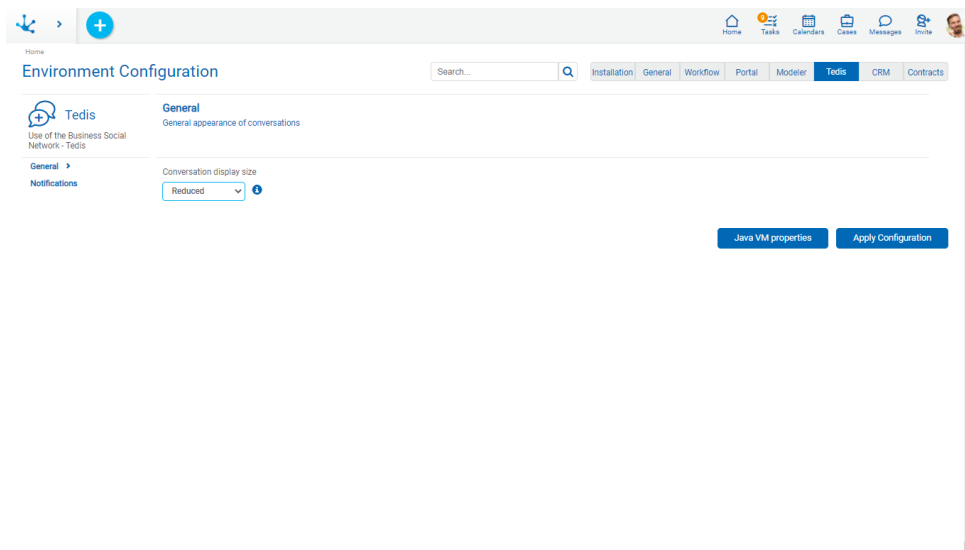
Name	CertificatePassword
Code	CERTIFICATE_PASSWORD
Configuration Levels	
• Installation	✓
• Application	—
• Organizational Unit	—
• User	—
Dynamic	✓
Encrypted	—
Possible Value	User-defined text.

3.11.4.6. Tedis

It allows configuring properties that define the appearance and behavior of Tedis Business Social Networking.

Options

- [General](#)
- [Notifications](#)



3.11.4.6.1. General

General appearance of conversations in Tedis.

Configurable Properties

Conversation display size

Initial size of conversations. Each of them can be initially displayed in a reduced or expanded window.

Name	SizeConversations
Code	INITIAL_CONV_SIZE
Configuration Levels	
• Installation	✓
• Application	—
• Organizational Unit	—
• User	—

Dynamic	✓
Encrypted	—
Possible Values	<ul style="list-style-type: none"> • Reduced (Default) • Expanded

3.11.4.6.2. Notifications

Sending automatic notifications from Tedis.

Configurable Properties

Notification of new messages

Receive a notification when a new message is received.

Name	NotificationNewMessages
Code	ALERT_ON_NEW_MESSAGE
Configuration Levels	
• Installation	✓
• Application	—
• Organizational Unit	—
• User	✓
Dynamic	✓
Encrypted	—
Possible Values	<ul style="list-style-type: none"> • Yes (Predetermined) • No

Notification of connected users

Receive a notification when a user connects to the portal.

Name	NotificationUsersConnected
Code	ALERT_USER_ONLINE
Configuration Levels	
• Installation	✓
• Application	—

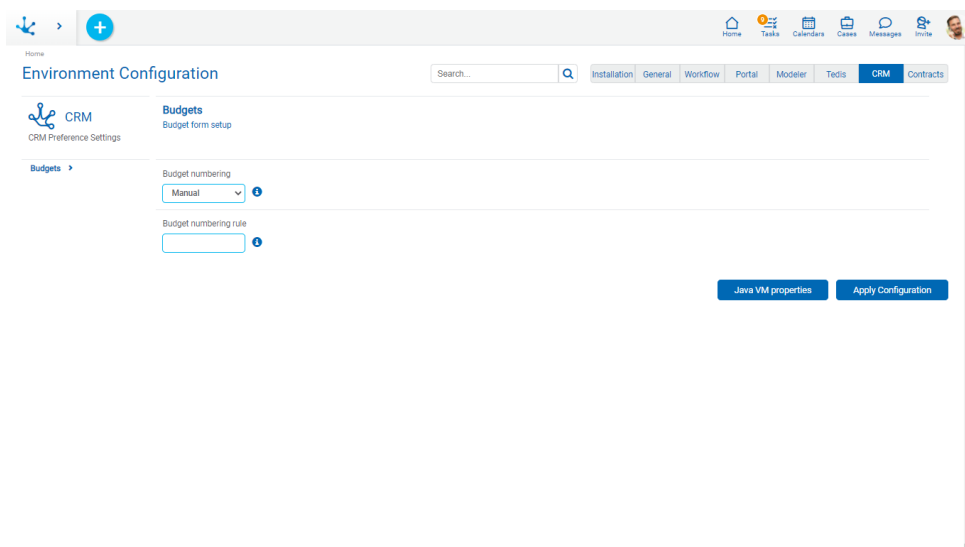
• Organizational Unit	—
• User	✓
Dynamic	✓
Encrypted	—
Possible Values	<ul style="list-style-type: none"> • Yes (Predetermined) • No

3.11.4.7. CRM

It allows configuring properties that define specific behaviors and use preferences of the CRM solution.

Options

- [Budgets](#)



3.11.4.7.1. Budgets

Configuring the CRM Quote form.

Configurable Properties

Budget numbering

It allows to choose the way in which the budget numbering is generated.

Name	NumberingQuote
------	----------------

Code	QUOTE_NUMBER
Configuration Levels	
• Installation	✓
• Application	—
• Organizational Unit	—
• User	✓
Dynamic	—
Encrypted	—
Possible Values	<ul style="list-style-type: none"> • Manual (Default) • Automatic • Rule

Possible Values

- Manual
Must be informed by the user.
- Automatic
Numbering is auto-increment
- Rule
Numbering is obtained from the rule entered in the Budget numbering rule property.

3.11.5. Application Execution Console

This console allows to review the execution of the applications modeled with **Deyel** by recording the actions performed when executing the modeled objects.

To carry out the analysis, different levels of registration can be defined, which allow knowing the behavior of the applications according to the needs of the modeler user. For example, in development environments everything that has been executed can be known, while in productive environments it is necessary to focus on performance improvements or check if there are errors.

For each action, the executions register a start and an end event, indicating in each one the date and time of completion, the type and object involved, the executing user and additional information about each action, among other things.

The end events also indicate whether the execution ended correctly, with warnings or with an error, with the details in each case.

Starting an execution can generate executions on other objects. For these cases, the start and end events of these executions are presented nested within the start and end events of the initial execution.

The console incorporates indicators that provide an overview of how many executions were performed, how many users participated, whether there were warnings for slow executions or errors for a given time range.

To deepen the analysis, the execution event grid that has different search criteria can be used, where the user can filter by applications, by object type, by user, by IP address, as well as by the content of the modeled embedded rules. So that the user can have complete detail of how, when and who executed their applications.

To configure and use the console, the following steps must be performed:


- Configure the [register level](#) that determines what is going to be saved.
- Execute the objects to register the [actions](#) of the defined register level.
- Make the [records loading](#) in the records grid.
- Analyze the indicators and check the details of the records from the [records grid](#).

It is accessed from the "Configuration" option of the main menu and within the "Consoles" submenu, in the "Execution Console" option.

The screenshot shows the 'Consola de ejecución' interface. At the top, there are date filters for '21/09/2023 14:11' and '25/10/2023 11:53'. Below the filters, there are five indicator widgets: 'Ejecuciones' (4,301), 'Advertencias' (188), 'Errores' (3), 'Usuarios' (8), and 'Tiempo promedio (msseg)' (252,29). Below the indicators, there is a table titled 'Ejecuciones realizadas' with 8602 records. The table has columns for Fecha y Hora, Tipo de Objeto, Acción, Evento, Objeto, Instancia, Detalle, Usuario, Duración (msseg), Nivel, and # Ejecución.

Fecha y Hora	Tipo de Objeto	Acción	Evento	Objeto	Instancia	Detalle	Usuario	Duración (msseg)	Nivel	# Ejecución
21/09/2023 14:11	Formulario	search	Inicio	Cuenta	-	-	Alejandro Farías		1	529f93c2-4448-4c3a-8d7a-#158a1789333
21/09/2023 14:11	Formulario	search	Finaliza	Cuenta	-	-	Alejandro Farías	8	1	529f93c2-4448-4c3a-8d7a-#158a1789333
21/09/2023 14:11	Formulario	read	Inicio	Cuenta	1	-	Alejandro Farías		1	01f9892ca-3265-4680-9c23-#e073e0338ef
21/09/2023 14:11	Formulario	read	Finaliza	Cuenta	1	-	Alejandro Farías	347	1	01f9892ca-3265-4680-9c23-#e073e0338ef
21/09/2023 14:11	Formulario	read	Inicio	Cuenta	2	-	Alejandro Farías		1	891c2149-9a44-4819-85cd-#e0573a690c7
21/09/2023 14:11	Formulario	read	Finaliza	Cuenta	2	-	Alejandro Farías	326	1	891c2149-9a44-4819-85cd-#e0573a690c7
21/09/2023 14:11	Formulario	search	Inicio	Oportunidad	-	-	Alejandro Farías		1	553c319f-af24-4287-af9c-#8a6a0c820e8
21/09/2023 14:11	Formulario	search	Finaliza	Oportunidad	-	-	Alejandro Farías	7	1	553c319f-af24-4287-af9c-#8a6a0c820e8
21/09/2023 14:11	Formulario	search	Inicio	Contacto	-	-	Alejandro Farías		1	0586776a-6391-4a71-#e028-c187588176d5

When entering the console, the widgets and the grid are displayed with the records loaded on the dates indicated at the top.

These dates can be modified by entering the desired range and clicking on the icon  the widgets and the grid are updated.

The values of the widgets and the grid records include the executions made within the period indicated in the dates and times entered.


The dates and times included in the analyzed period have as default value, the time period from the oldest execution to the last one loaded into the console.

In the case that there are periods that are not loaded in the console, a message is displayed indicating which periods are missing.

The dates and times of the executions are shown in UTC-3.

Widgets

The widgets provide an overview of the executions made for the indicated time period.

They can be hidden clicking on the icon  and then to view them again the same icon is used.

Executions

Indicates the total number of execution end events recorded for all levels.

Warning

Indicates the total of executions with end events that exceed the maximum expected duration. The duration time is defined in the environment property [Maximum time](#).

Errors

Indicates the total number of executions with end events that have an error; these errors can be ERROR or CRITICAL level.


Users

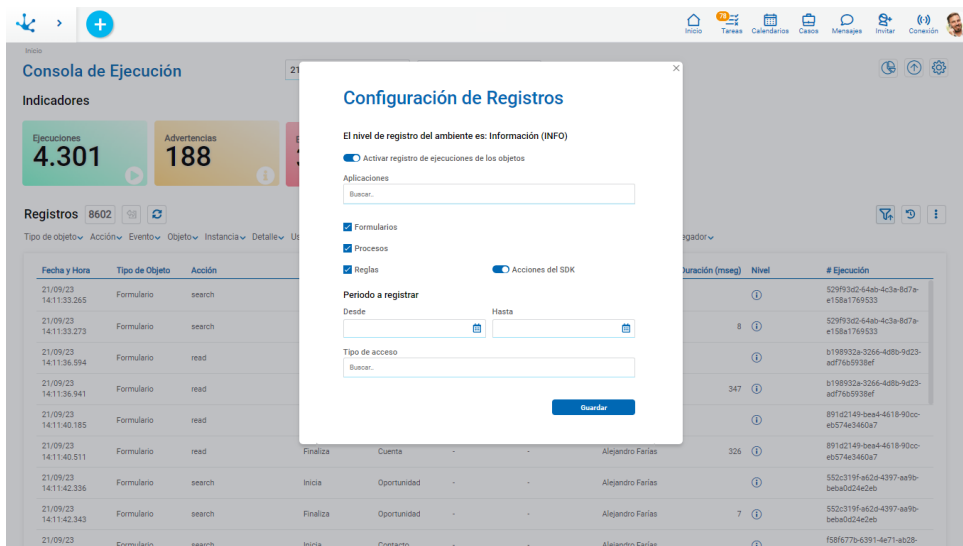
Indicates the number of users that performed the executions.

Average time

Indicates the average time of all the executions.

3.11.5.1. Register Level

Clicking the icon  opens a panel where the register level is configured and when the configuration is saved, the executions of the selected objects and applications will begin to be recorded, becoming available to upload to the console.



The screenshot shows the 'Configuración de Registros' (Registration Configuration) dialog box. The current environment registration level is 'Información (INFO)'. There are checkboxes for 'Activar registro de ejecuciones de los objetos' (checked), 'Formularios', 'Procesos', and 'Reglas'. There is also a checkbox for 'Acciones del SDK'. Below these are fields for 'Período a registrar' (Desde and Hasta) and a search field for 'Tipo de acceso'. A 'Guardar' (Save) button is at the bottom.

Configuration Criteria

By entering the configuration panel, a message is displayed indicating the register level that the environment has active.

This level is configured in the environment property [Execution log level](#) and can take the values "Info", "Warning", "Error" or "Critic".

Activate the register of object executions

Only if the environment register level is Information (INFO), the register of executions of objects and applications can be activated.

If the "Warning" or "Error" level is defined in the environment, all records with the configured level are available to load into the console.

Applications

By default all applications are registered. One or more applications can be selected.

Forms, Processes, Rules

The different objects to register depending on the active application(s) can be selected.

SDK Actions

If the rule registry is activated, the details of all the [Deyel SDK methods](#) can be included, recording for each rule executed the SDK methods used in the rule.

From, To

The dates are optional, if they are entered, only the executions in this time range are recorded.

Access type

More than one access type can be selected.

Possible values:


- WEB
- REST
- DEYEL
- SDK

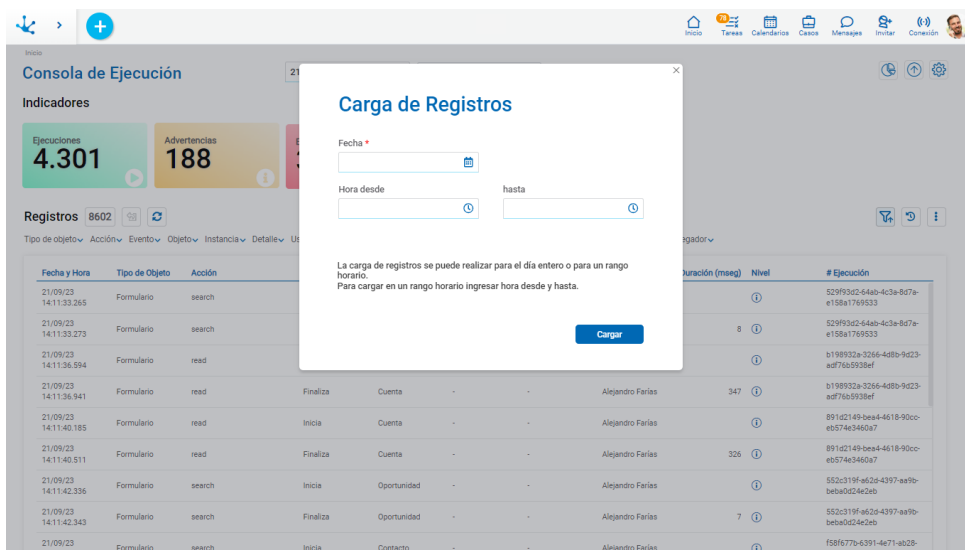
Configuration Recommendations

Depending on the type of environment being used, there are different levels of detail that are recommended to be configured.

- In the development environment, the register level with all objects enabled is used to register all the details of the executions. With such detail, failures in the executions can be detected, analyzing the errors that occurred and the performance of the executions can be evaluated.
- In the test environment, the register level with all objects enabled is used to register all the details of the executions during the test period and then disable it. The results of user tests are analyzed to proactively detect errors and performance improvements.
- In the production environment, it is recommended to configure executions at "Warning" level, this way errors can be detected and performance analyzed. If necessary for a specific situation, the level of detail of the executions for certain objects or applications can be raised for a certain time.

3.11.5.2. Records Loading

Clicking the icon  opens a panel that allows entering the date to load the records into the grid.



Filters

Date

It is required to select the date for which the execution records will be loaded.

Time from, to

The time range of the selected date can be entered, for which the execution records will be loaded.

Loading Execution

By pressing the "Load" button, the execution records are loaded into the records grid, this update may eventually take a few seconds depending on the volume of information generated.

When the records are finished loading, Deyel Bot sends a message to the user's chat to notify the completion.

The oldest date available for loading records depends on the value defined in the environment property "[Log files persistence](#)". After this time the records to load to the console, as well as the console data, are deleted.

3.11.5.3. Records Grid

The records are displayed chronologically in ascending order. The user can change the initial sorting and also set different search criteria.

The screenshot shows the 'Consola de ejecución' interface. At the top, there are date filters for '21/09/2023 14:11' and '25/10/2023 11:53'. Below this, a row of indicators displays: Ejecuciones (4.301), Advertencias (188), Errores (3), Usarios (8), and Tiempo promedio (ms) (252,29). The main section is titled 'Ejecuciones realizadas' and contains a table with the following columns: Fecha y Hora, Tipo de Objeto, Acción, Evento, Objeto, Instancia, Detalle, Usuario, Duración (ms), Nivel, and # Ejecución.

Fecha y Hora	Tipo de Objeto	Acción	Evento	Objeto	Instancia	Detalle	Usuario	Duración (ms)	Nivel	# Ejecución
21/09/2023 14:11	Formulario	search	Inicio	Cuenta	-	-	Alejandro Farias	-	1	529f932c-444d-4c3a-8d7e-a125a1791923
21/09/2023 14:11	Formulario	search	Finaliza	Cuenta	-	-	Alejandro Farias	8	1	529f932c-444d-4c3a-8d7e-a125a1791923
21/09/2023 14:11	Formulario	read	Inicio	Cuenta	1	-	Alejandro Farias	-	1	919992ca-3266-488b-9d23-a87369238af
21/09/2023 14:11	Formulario	read	Finaliza	Cuenta	1	-	Alejandro Farias	347	1	919992ca-3266-488b-9d23-a87369238af
21/09/2023 14:11	Formulario	read	Inicio	Cuenta	2	-	Alejandro Farias	-	1	891d2149-8a44-4819-9d0c-a8373a3802a7
21/09/2023 14:11	Formulario	read	Finaliza	Cuenta	2	-	Alejandro Farias	326	1	891d2149-8a44-4819-9d0c-a8373a3802a7
21/09/2023 14:11	Formulario	search	Inicio	Oportunidad	-	-	Alejandro Farias	-	1	552c319f-a624-43d7-aaf0-9a8a0524c246
21/09/2023 14:11	Formulario	search	Finaliza	Oportunidad	-	-	Alejandro Farias	7	1	552c319f-a624-43d7-aaf0-9a8a0524c246
21/09/2023 14:11	Formulario	search	Inicio	Contacto	-	-	Alejandro Farias	-	1	528b776d-a071-4c71-a02b-c1876891754d

Columns

Date and Time

Indicates the date and time when the action event of the modeled object is executed.

Object Type

The object types can be: "Form", "Process" and "Advanced rule".

Action

The [action defined for each object type](#).

Event

Determines when each action starts and ends (START / END). A record is displayed with "Start" and another with "End".

Object

It is the name of the object that made the action.

Instance

Depending on the action performed, the object identifier is displayed, for example in processes it is the case number.

Detail

Includes the [descriptive messages depending on the action performed](#), in different situations.

The descriptive message is logged for failed completion events. It can be the result of a validation or an unexpected error, in the latter case its stack is displayed.

User

It is the user that performs the action.

Duration

It is the duration in milliseconds of the action executed. Values are only displayed when the event is "Ends".

Level

Displays the type of level of the actions executed.

Possible Values:

- INFO: shows all information actions.
- WARNING: shows actions that took longer than expected.
- ERROR and CRITIC: show actions with errors.

Application

It is the name of the application of the object to which it belongs.

Access Type

It is the type of access that the user uses. This type of access can be from: Web portal (WEB), Rest API (REST), SDK or internal workflow calls (DEYEL).

IP Client

It is the IP with which the user accesses **Deyel** from the Web browser

Execution

It is a unique identifier automatically generated for each execution performed by the user and for each of the actions that may have been triggered by such execution. All actions and events generated by the action requested by the user are identified by the same value in this column.

Browser

It is the name of the browser used by the user.

3.11.5.4. Actions by Objects

The actions performed by modeled objects in an application are grouped by the type of object.

Form

Action	Description	D e t a i l
new	Show the form to create an instance from the web portal or the mobile application.	-
create	Create a form instance from the web portal, the mobile application, Rest or SDK.	-
read	Show a form instance from the web portal, the mobile application, Rest or SDK.	-
update	Modify a form instance from the web portal, the mobile application, Rest	-

Action	Description	Detail
	or SDK.	
delete	Delete a form instance from the web portal, the mobile application, Rest or SDK.	-
search	Search of forms instances from the web portal, the mobile application, Rest or SDK.	In the start and end event the search fi

Action	Description	Detail
		I t e r u s e d i s d i s p l a y e d .
executeEmbed- dedRule	Execute an embedded rule modeled in the form or in the process (pro- cess activities, gateway or flows).	E m b e d d e d r u l e s d e t a i

Action	Description	Detail
validation	Execute the validation rules of a form.	.
autocomplete	Execute a call from a form field to resolve autocomplete functionality.	
filterField	Execute a call from a form field to solve a filtered field.	
<Deyel SDK para Java>	If it is a Deyel SDK execution performed from an advanced rule, the operation of the Service Class that is executed.	

Example of creating a form instance with embedded calculation and validation rules

The following image of the console shows the sequence of events generated when the user clicks on an "OK" button to create an instance of the "Purchase Request" form.

Fecha y Hora	Tipo de Objeto	Acción	Evento	Objeto	Instancia	Detalle	Usuario	Duración (mseg)	Nivel	# Ejecución
31/10/2023 15:43	Formulario	create	Inicia	Solicitud de compras	-	-	Valentin Pereira		①	75e892a8-8329-41ca-8778-577aed130b06
31/10/2023 15:43	Formulario	executeEmbeddedRule	Inicia	Solicitud de compras	-	Origin: lineas/total(0)...	Valentin Pereira		①	75e892a8-8329-41ca-8778-577aed130b06
31/10/2023 15:43	Formulario	executeEmbeddedRule	Finaliza	Solicitud de compras	-	Origin: lineas/total(0)...	Valentin Pereira	11	①	75e892a8-8329-41ca-8778-577aed130b06
31/10/2023 15:43	Formulario	executeEmbeddedRule	Inicia	Solicitud de compras	-	Origin: totaEstimado...	Valentin Pereira		①	75e892a8-8329-41ca-8778-577aed130b06
31/10/2023 15:43	Formulario	executeEmbeddedRule	Finaliza	Solicitud de compras	-	Origin: totaEstimado...	Valentin Pereira	10	①	75e892a8-8329-41ca-8778-577aed130b06
31/10/2023 15:43	Formulario	executeEmbeddedRule	Inicia	Solicitud de compras	-	Origin: lineas/cantidad...	Valentin Pereira		①	75e892a8-8329-41ca-8778-577aed130b06
31/10/2023 15:43	Formulario	executeEmbeddedRule	Finaliza	Solicitud de compras	-	Origin: lineas/cantidad...	Valentin Pereira	7	①	75e892a8-8329-41ca-8778-577aed130b06
31/10/2023 15:43	Formulario	create	Finaliza	Solicitud de compras	1	-	Valentin Pereira	597	①	75e892a8-8329-41ca-8778-577aed130b06

The form creation has two embedded calculation rules and one embedded validation rule. The registration of events is initiated by the user Valentin Pereira with the "create" action for the "Purchase Request" form. As part of the creation, the 3 embedded rules are executed, they are registered in the order of execution with their start and end events.

The first embedded rule that is executed is a calculation rule and corresponds to the "total" field of the "lines" container of multiple occurrences, for its first occurrence identified with "(0)". This rule multiplies the "quantity" field by the "unitPrice" field.

In the column of grid detail it is visualized:

Origin: lines/total(0), CALC, Expression: lines.quantity * lines.UnitPrice

Next, the embedded calculation rule for the "estimatedTotal" field is executed, which adds the "total" field of the lines.

In the column of grid detail it is visualized:

Origin: "totalEstimated", Type: CALC, Expression: sum(lines.total)

Finally, the embedded validation rule is executed, which evaluates that if the "unitPrice" field of the multiple occurrence container is entered, it is required to enter the corresponding "quantity" field.

In the column of grid detail it is visualized:

Origin: lines/quantity(0), COND, Expression: IF (AND (lines.unitPrice > 0, lines.quantity <= 0), "If you enter the the price you must enter the quantity")

The execution ends with the end event of the "create" action of the form instance. All execution records are grouped under the same "#Execution" identifier value.

In the following image the cursor is positioned on the line corresponding to the first embedded calculation rule.

Fecha y Hora	Tipo de Objeto	Acción	Evento	Objeto	Instancia	Detalle	Usuario	Duración (mseg)	Nivel	# Ejecución
31/10/23 15:43:14.684	Formulario	create	Inicia	Solicitud de compras	-	-	Valentin Pereira			75e892a8-8329-41ca-87fb-5f7aed130606
31/10/23 15:43:14.807	Formulario	executeEmbeddedRule	Inicia	Solicitud de compras	-	Origin: lines/total(0),...	Valentin Pereira			75e892a8-8329-41ca-87fb-5f7aed130606
31/10/23 15:43:14.818	Formulario	executeEmbeddedRule	Finaliza	Solicitud de compras	-	Origin: lines/total(0), CALC Expression: lines.cantidad * lines.precioUnitario	Valentin Pereira	11		75e892a8-8329-41ca-87fb-5f7aed130606 Consultar
31/10/23 15:43:14.823	Formulario	executeEmbeddedRule	Inicia	Solicitud de compras	-	Origin: lines/cantidad...	Valentin Pereira			75e892a8-8329-41ca-87fb-5f7aed130606
31/10/23 15:43:14.833	Formulario	executeEmbeddedRule	Finaliza	Solicitud de compras	-	Origin: lines/cantidad...	Valentin Pereira	10		75e892a8-8329-41ca-87fb-5f7aed130606
31/10/23 15:43:14.838	Formulario	executeEmbeddedRule	Inicia	Solicitud de compras	-	Origin: lines/cantidad...	Valentin Pereira			75e892a8-8329-41ca-87fb-5f7aed130606
31/10/23 15:43:14.845	Formulario	executeEmbeddedRule	Finaliza	Solicitud de compras	-	Origin: lines/cantidad...	Valentin Pereira	7		75e892a8-8329-41ca-87fb-5f7aed130606
31/10/23 15:43:15.280	Formulario	create	Finaliza	Solicitud de compras	1	-	Valentin Pereira	597		75e892a8-8329-41ca-87fb-5f7aed130606

Next, the cursor is positioned on the line corresponding to the second embedded calculation rule.

Fecha y Hora	Tipo de Objeto	Acción	Evento	Objeto	Instancia	Detalle	Usuario	Duración (mseg)	Nivel	# Ejecución
31/10/23 15:43:14.684	Formulario	create	Inicia	Solicitud de compras	-	-	Valentin Pereira		1	75e892a8-8329-41ca-87fb-5f7aed130b06
31/10/23 15:43:14.807	Formulario	executeEmbeddedRule	Inicia	Solicitud de compras	-	Origen: lineas/total(0)...	Valentin Pereira		1	75e892a8-8329-41ca-87fb-5f7aed130b06
31/10/23 15:43:14.818	Formulario	executeEmbeddedRule	Finaliza	Solicitud de compras	-	Origen: lineas/total(0)...	Valentin Pereira	11	1	75e892a8-8329-41ca-87fb-5f7aed130b06
31/10/23 15:43:14.823	Formulario	executeEmbeddedRule	Inicia	Solicitud de compras	-	Origen: total/Estimado...	Valentin Pereira		1	75e892a8-8329-41ca-87fb-5f7aed130b06
31/10/23 15:43:14.833	Formulario	executeEmbeddedRule	Finaliza	Solicitud de compras	-	Origen: total/Estimado, Type: CALC, Expression: sumatoria(lineas.total)/mases/comaso...	Valentin Pereira	10	1	75e892a8-8329-41ca-87fb-5f7aed130b06
31/10/23 15:43:14.838	Formulario	executeEmbeddedRule	Inicia	Solicitud de compras	-	-	Valentin Pereira		1	75e892a8-8329-41ca-87fb-5f7aed130b06
31/10/23 15:43:14.845	Formulario	executeEmbeddedRule	Finaliza	Solicitud de compras	-	-	Valentin Pereira	7	1	75e892a8-8329-41ca-87fb-5f7aed130b06
31/10/23 15:43:15.280	Formulario	create	Finaliza	Solicitud de compras	1	-	Valentin Pereira	597	1	75e892a8-8329-41ca-87fb-5f7aed130b06

Finally, the cursor is positioned on the line corresponding to the embedded validation rule.

Fecha y Hora	Tipo de Objeto	Acción	Evento	Objeto	Instancia	Detalle	Usuario	Duración (mseg)	Nivel	# Ejecución
31/10/23 15:43:14.684	Formulario	create	Inicia	Solicitud de compras	-	-	Valentin Pereira		1	75e892a8-8329-41ca-87fb-5f7aed130b06
31/10/23 15:43:14.807	Formulario	executeEmbeddedRule	Inicia	Solicitud de compras	-	Origen: lineas/total(0)...	Valentin Pereira		1	75e892a8-8329-41ca-87fb-5f7aed130b06
31/10/23 15:43:14.818	Formulario	executeEmbeddedRule	Finaliza	Solicitud de compras	-	Origen: lineas/total(0)...	Valentin Pereira	11	1	75e892a8-8329-41ca-87fb-5f7aed130b06
31/10/23 15:43:14.823	Formulario	executeEmbeddedRule	Inicia	Solicitud de compras	-	Origen: lineas/cantidad(0) COND, Expression: SI (Vlineas.precioUnitario > 0) lineas cantidad <= 0; Si ingresa precio debe ingresar cantidad)'	Valentin Pereira		1	75e892a8-8329-41ca-87fb-5f7aed130b06
31/10/23 15:43:14.845	Formulario	executeEmbeddedRule	Finaliza	Solicitud de compras	-	SI (Vlineas.precioUnitario > 0) lineas cantidad <= 0; Si ingresa precio debe ingresar cantidad)'	Valentin Pereira	7	1	75e892a8-8329-41ca-87fb-5f7aed130b06
31/10/23 15:43:15.280	Formulario	create	Finaliza	Solicitud de compras	1	-	Valentin Pereira	597	1	75e892a8-8329-41ca-87fb-5f7aed130b06

Processes

Action	Description	Detail
new	Show the first activity.	-
showActivity	Show activity with or without data (for case creation) from the web portal, mobile app, Rest or SDK.	Activity

Action	Description	Detail
		t y n a m e .
executeActivity	Execute a case activity from the web portal, mobile app, Rest, or SDK.	A c t i v i t y n a m e .
executeEmbeddedRule	Execute an embedded rule modeled in activities, in logic gateways or in process flows.	E m b e d d e d r u l e s d e t a

Action	Description	Detail
		i l .
executeGateway	Execute a logic gateway of the case.	G a t e w a y n a m e .
executeAutomaticAction	Execute an automatic action, in the execution of a case activity (at the beginning or at the end of the activity).	V a l u e s o f t h e i n p u t p a r a m e t

Action	Description	Detail
		e r s f o r m e s s a g e s e n d i n g o r m a i l s e n d i n g .
showCase	Show a case from the web portal, the mobile application, Rest or SDK.	-
showTasksList	Show tasks list.	S e a

Action	Description	Detail
		r c h f i l t e r s u s e d i n t h e t a s k l i s t .
getLastTask	Reading the last 3 tasks.	-
<Deyel SDK para Java>	If it is a Deyel SDK execution performed from an advanced rule, the operation of the Service Class that is executed.	

Example of execution of the “Evaluate request” activity with a gateway that evaluates whether it is approved or not

When the request is approved, an advanced rule is executed that updates the product stock using the “update” method of the Deyel SDK of the forms.

The example displays the sequence of events generated when the user clicks the “Approve” button to finish the “Evaluate request” activity.

The execution grid is shown filtering by the identifier “#Execution” to display the 20 events included in the execution of the activity.

Fecha y Hora	Tipo de Objeto	Acción	Evento	Objeto	Instancia	Detalle	Usuario	Duración (mseg)	Nivel	# Ejecución
01/11/23 20:07:46.441	Formulario	update	Inicia	Solicitud de compras	7	-	Valentin Pereira	-	1	e7233b9d-f899-4f15-a1c2-cae53016ca5c
01/11/23 20:07:46.790	Formulario	executeEmbeddedRule	Inicia	Solicitud de compras	7	Origin: lineas/total(0),...	Valentin Pereira	-	1	e7233b9d-f899-4f15-a1c2-cae53016ca5c
01/11/23 20:07:46.793	Formulario	executeEmbeddedRule	Finaliza	Solicitud de compras	7	Origin: lineas/total(0),...	Valentin Pereira	3	1	e7233b9d-f899-4f15-a1c2-cae53016ca5c
01/11/23 20:07:46.810	Formulario	executeEmbeddedRule	Inicia	Solicitud de compras	7	Origin: totalEstimado,...	Valentin Pereira	-	1	e7233b9d-f899-4f15-a1c2-cae53016ca5c
01/11/23 20:07:46.843	Formulario	executeEmbeddedRule	Finaliza	Solicitud de compras	7	Origin: totalEstimado,...	Valentin Pereira	33	1	e7233b9d-f899-4f15-a1c2-cae53016ca5c
01/11/23 20:07:46.882	Formulario	executeEmbeddedRule	Inicia	Solicitud de compras	7	Origin: lineas/cantidad,...	Valentin Pereira	-	1	e7233b9d-f899-4f15-a1c2-cae53016ca5c
01/11/23 20:07:46.885	Formulario	executeEmbeddedRule	Finaliza	Solicitud de compras	7	Origin: lineas/cantidad,...	Valentin Pereira	3	1	e7233b9d-f899-4f15-a1c2-cae53016ca5c
01/11/23 20:07:47.076	Proceso	executeActivity	Inicia	0483f9f3b3ce46dc1	10	Name: Evaluar solicitud	Valentin Pereira	-	1	e7233b9d-f899-4f15-a1c2-cae53016ca5c
01/11/23 20:07:47.362	Proceso	executeAutomaticAction	Inicia	-	10	-	Valentin Pereira	-	1	e7233b9d-f899-4f15-a1c2-cae53016ca5c

Fecha y Hora	Tipo de Objeto	Acción	Evento	Objeto	Instancia	Detalle	Usuario	Duración (mseg)	Nivel	# Ejecución
01/11/23 20:07:47.362	Proceso	executeAutomaticAction	Inicia	-	10	-	Valentin Pereira	-	1	e7233b9d-f899-4f15-a1c2-cae53016ca5c
01/11/23 20:07:47.367	Regla Avanzada	execute	Inicia	actualizar Stock	-	-	Valentin Pereira	-	1	e7233b9d-f899-4f15-a1c2-cae53016ca5c
01/11/23 20:07:47.374	Formulario	read	Inicia	Productos	11	-	Valentin Pereira	-	1	e7233b9d-f899-4f15-a1c2-cae53016ca5c
01/11/23 20:07:47.393	Formulario	read	Finaliza	Productos	11	-	Valentin Pereira	19	1	e7233b9d-f899-4f15-a1c2-cae53016ca5c
01/11/23 20:07:47.393	Formulario	update	Inicia	Productos	11	-	Valentin Pereira	-	1	e7233b9d-f899-4f15-a1c2-cae53016ca5c
01/11/23 20:07:47.410	Formulario	update	Finaliza	Productos	11	-	Valentin Pereira	17	1	e7233b9d-f899-4f15-a1c2-cae53016ca5c
01/11/23 20:07:47.425	Regla Avanzada	execute	Finaliza	actualizar Stock	-	-	Valentin Pereira	58	1	e7233b9d-f899-4f15-a1c2-cae53016ca5c
01/11/23 20:07:47.465	Proceso	executeAutomaticAction	Finaliza	-	10	-	Valentin Pereira	103	1	e7233b9d-f899-4f15-a1c2-cae53016ca5c
01/11/23 20:07:47.748	Proceso	executeGateway	Inicia	0483f9f3b3ce46dc1	10	Name: Aprobar?	Valentin Pereira	-	1	e7233b9d-f899-4f15-a1c2-cae53016ca5c

Fecha y Hora	Tipo de Objeto	Acción	Evento	Objeto	Instancia	Detalle	Usuario	Duración (mseg)	Nivel	# Ejecución
01/11/23 20:07:47.393	Formulario	read	Finaliza	Productos	- 11	-	Valentín Pereira	19	1	e7233b9d-f899-4f15-a1c2-cae53016ca5c
01/11/23 20:07:47.393	Formulario	update	Inicia	Productos	- 11	-	Valentín Pereira	1	1	e7233b9d-f899-4f15-a1c2-cae53016ca5c
01/11/23 20:07:47.410	Formulario	update	Finaliza	Productos	- 11	-	Valentín Pereira	17	1	e7233b9d-f899-4f15-a1c2-cae53016ca5c
01/11/23 20:07:47.425	Regla Avanzada	execute	Finaliza	actualizar Stock	-	-	Valentín Pereira	58	1	e7233b9d-f899-4f15-a1c2-cae53016ca5c
01/11/23 20:07:47.465	Proceso	executeAutomaticAction	Finaliza	-	- 10	-	Valentín Pereira	103	1	e7233b9d-f899-4f15-a1c2-cae53016ca5c
01/11/23 20:07:47.748	Proceso	executeGateway	Inicia	b483f93b3ce46d01	- 10	Name: Aprobar?	Valentín Pereira	1	1	e7233b9d-f899-4f15-a1c2-cae53016ca5c
01/11/23 20:07:48.926	Proceso	executeGateway	Finaliza	b483f93b3ce46d01	- 10	Name: Aprobar?	Valentín Pereira	1178	1	e7233b9d-f899-4f15-a1c2-cae53016ca5c
01/11/23 20:07:48.926	Proceso	executeActivity	Finaliza	b483f93b3ce46d01	- 10	Name: Evaluar solicitud	Valentín Pereira	1850	1	e7233b9d-f899-4f15-a1c2-cae53016ca5c
01/11/23 20:07:48.960	Formulario	update	Finaliza	Solicitud de compra	- 7	-	Valentín Pereira	2519	2	e7233b9d-f899-4f15-a1c2-cae53016ca5c

The execution begins with the update of the form that corresponds to the execution of the activity “Evaluate request”.

As part of the update of the form, 3 embedded rules are executed, of which 2 are calculation and one validation, as detailed in the [previous example corresponding to the form](#).

Next, the execution of the activity begins with an automatic action that contains an advanced rule that uses Deyel SDK to read and modify the “Products” form. This is detailed in the next [example corresponding to advanced rules](#).

The gateway evaluates whether the request is approved or not and then the execution of the condition and the activity is completed. Finally, the execution ends with a warning because the default value of 1 second for its duration is exceeded.

Advanced Rules

Action	Description	Detail
execute	Execute advanced rules on forms, processes (process activity actions or flows), scheduled tasks, SDKs, or Rest API invocations.	In the star

Action	Description	Detail
		t e v e n t t h e i n p u t p a r a m e t e r s a r e d i s p l a y e d . I n

Action	Description	Detail
		t h e e n d e v e n t t h e o u t p u t p a r a m e t e r s a r e d i s p l

Action	Description	Detail
		ayed

Example of executing an advanced rule with Deyel SDK actions, modeled as an automatic action of the "Evaluate request" activity

The example includes the events that are executed in the "Evaluate request" activity, which initiates an automatic action that executes the advanced rule "update stock".

In the advanced rule, an instance of the "Products" form is read by executing a "read" action and then the stock of the read product is updated by executing an "update" action.

In the following image, the "Instance" and "Application" columns were hidden in the grid so that the "Access Type" column could be displayed, without performing the horizontal scroll.

Fecha y Hora	Tipo de Objeto	Acción	Evento	Objeto	Detalle	Usuario	Duración (mseg)	Nivel	# Ejecución	Tipo de Acceso
01/11/23 20:07:47.076	Proceso	executeActivity	Inicia	b483f9303ce456c 1	Name: Evaluar solicitud	Valentin Pereira		1	e723399d-899-4f15-a1c2- cae53016ca5c	WEB
01/11/23 20:07:47.362	Proceso	executeAutomaticAction	Inicia	-	-	Valentin Pereira		1	e723399d-899-4f15-a1c2- cae53016ca5c	DEVEL
01/11/23 20:07:47.367	Regla Avanzada	execute	Inicia	actualizar Stock	-	Valentin Pereira		1	e723399d-899-4f15-a1c2- cae53016ca5c	DEVEL
01/11/23 20:07:47.374	Formulario	read	Inicia	Productos	-	Valentin Pereira		1	e723399d-899-4f15-a1c2- cae53016ca5c	SDK
01/11/23 20:07:47.393	Formulario	read	Finaliza	Productos	-	Valentin Pereira	19	1	e723399d-899-4f15-a1c2- cae53016ca5c	SDK
01/11/23 20:07:47.393	Formulario	update	Inicia	Productos	-	Valentin Pereira		1	e723399d-899-4f15-a1c2- cae53016ca5c	SDK
01/11/23 20:07:47.410	Formulario	update	Finaliza	Productos	-	Valentin Pereira	17	1	e723399d-899-4f15-a1c2- cae53016ca5c	SDK
01/11/23 20:07:47.425	Regla Avanzada	execute	Finaliza	actualizar Stock	-	Valentin Pereira	58	1	e723399d-899-4f15-a1c2- cae53016ca5c	DEVEL
01/11/23 20:07:47.845	Proceso	executeAutomaticAction	Finaliza	-	-	Valentin Pereira	103	1	e723399d-899-4f15-a1c2- cae53016ca5c	DEVEL

In the "Access Type" column it is seen that the activity is initiated from the user portal, following **Deyel** starts the automatic action and from Deyel SDK the "read" and "update" methods of the "Products" form are executed.

3.11.5.5. Embedded Rules Detail

The properties of the detail are described below.

Origin

The value can be a form field, a conditional flow, or page elements.

Type:

It is the embedded rule type.

Possible values:

- OBLIGATORY: for the requirement of a form field.
- EDITION: for the edition of a form field.
- COND: for the validation of a form field.
- CALC: for a calculation rule of a form field.
- RULE_RELATION: for a relation to an advanced rule in a form field.
- VALUE_LIST_RELATION: for a relation to a value list in a form field.
- ENTITY_RELATION: for a relation to an entity in a form field.

Expression

The modeled rule expression is displayed.

Examples

Several examples of embedded rules are included below

Requirement

The project field is required if the newProject field and task are empty.

```
{ Origin: "project", Type: "OBLIGATORY", Expression:
"Y(ISBLANK(newProject), ISBLANK(task))" }
```

Validation

The from field must be less than the date function().

```
{ Origin: "dtBegin", Type: "COND", Expression: "IF(from > date(), "Must be
before or equal to today")" }
```

The hours field must be greater than 0 if the totalHours field is less than or equal to 0.

```
{ Origin: "hours", Type: "COND", Expression: "IF(totalHours <=0, "Must in-
form the number of hours")" }
```

If the Develop button is pressed, the assignedProgrammerCd field should be loaded.

```
{ Origin: "assignedProgrammerCd", Type: "COND", Expression:
"IF(AND(lastButtonPressed()=="Develop", ISBLANK(assignedProgrammerCd)),
"Must enter a Programmer")" }
```

It is evaluated with an embedded rule if the owner is not white and with an advanced rule called ContainsCrmPermissions it is evaluated if it does not have a CRM license.

```
{ Origin: "", Type: "COND", Expression:
"IF(AND(NO(ISBLANK(owner)),NO(containsCrmPermissions( owner))), "The owner
does not have CRM application permissions")" }
```

Calculation

Example of a calculation rule with an advanced rule. The autUser field obtains the authorizer by calling the following rule:

```
{ Origin: "autUser", Type: "CALC", Expression: "getAuthorizingUser(requestingUser)" }
```

10 days are added to the dateMondayWeek field.

```
{ Origin: "dateMondayWeek", Type: "CALC", Expression: "addDays(startDate,10)" }
```

The totalEstimated field has the sum of the iterative lines.total.

```
{ Origin: "totalEstimated", Type: "CALC", Expression: "sum(rows.total)" }
```

Calculation in an iterative field of the form

Performs the calculation for the first occurrence of the iterative of the rows/total field where it multiplies the rows.amount field by rows.unitPrice.

```
{ Origin: "rows/total (0)", Type: "CALC", Expression: "rows.amount * rows.unitPrice" }
```

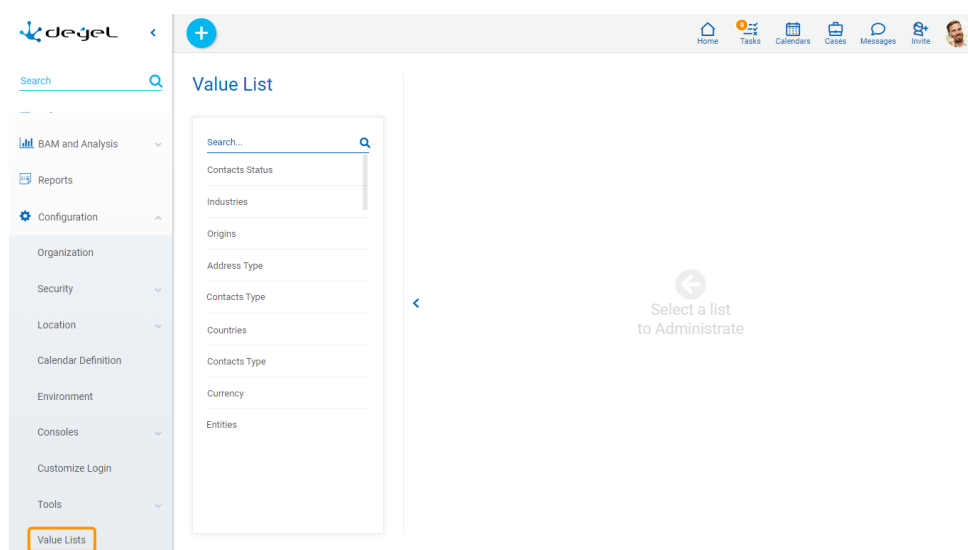
Performs the calculation for the second occurrence of the iterative of the rows/total field where it multiplies the rows.amount field by rows.unitPrice.


```
{ Origin: "rows/total(1)", Type: "CALC", Expression: "rows.amount * rows.unitPrice" }
```

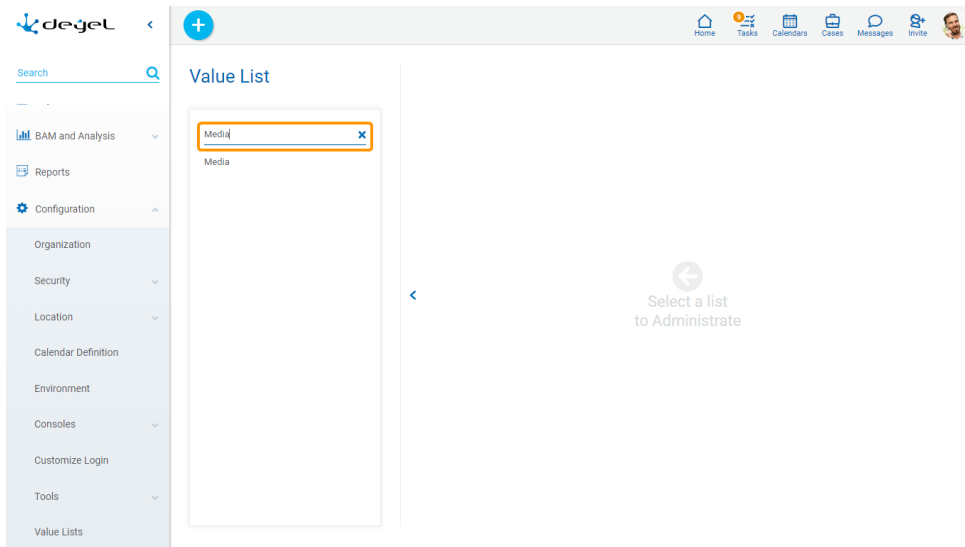
3.11.6. Value Lists

The "Value Lists" option of the menu allows application users to administrate the lists values, if they have the corresponding [permissions](#) assigned.

The names of the value lists in the different applications are displayed.



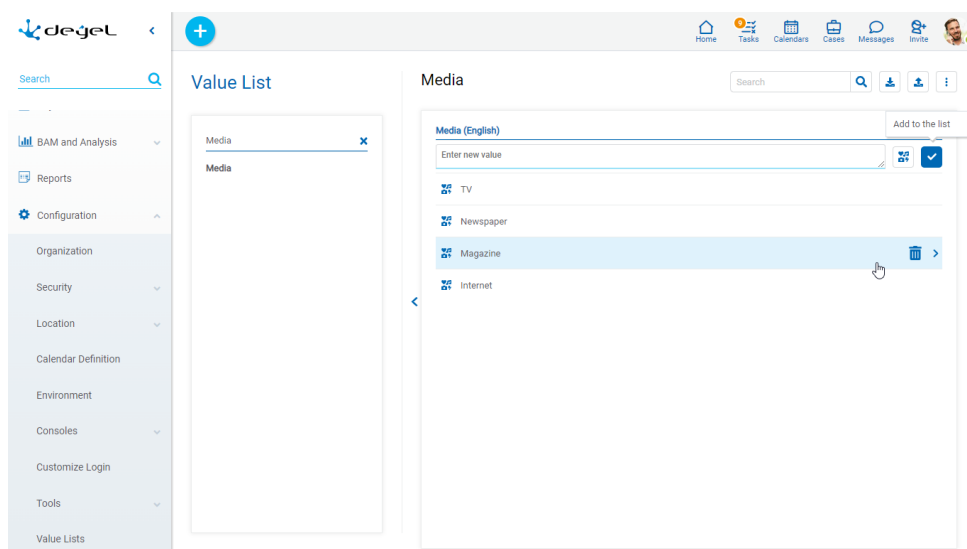
 Allows to filter values from the list based on the characters entered. If a list is very long it helps users to easily visualize the desired values.



When selecting a value list, the values of the selected list are displayed in the right panel, thus making it possible to search, enter, delete and restore their values.

These updates are reflected in the value lists used:

- In the execution of forms from the user portal.
- In the forms modeler.
- In the value lists modeler.



It allows to export the value list in an Excel file. This file contains the following columns:

- CODE: Internal code of the list values.

- VALUE: Contains the list values if the [Internationalize](#) property is not active.
- ORDER
- DELETED: Indicates if it has low logic.
- FILTER_CODE: Contains the code that establishes the correspondence between the value of the list being downloaded and the list that [filters](#) it.

If the [Icons](#) property is active, values are reported in the following columns:

- ICON_COLOR
- ICON

If the [Internationalize](#) property is active, values are reported in the following columns:

- VALUE SP-AR: Contains the values of the list in Spanish.
- VALUE EN-US: Contains the values of the list in English.
- VALUE PT-BR: Contains the values of the list in Portuguese.



It allows to import a value list from an Excel file. A panel opens where the location and name of the same is selected.




It enables an option that allows displaying the internal code of the list values. If the [Internationalize](#) property is active, this enables the available languages for which the translation of the values can be entered.



Conditions for Export and Import

- The download file format must be respected.
- New values must have a blank Code column.
- Blank rows must be ignored.
- Partial downloading and uploading of values is not allowed.



Operations on Values

- Allows adding each entered value to the list of values.
-  It is displayed if the list has the [Icons property](#) modeled. It allows to associate icons to the list values.
- Double click: Allows to modify a value in the list.
- Move: Allows to change the position of a value within the list by dragging the value with the mouse.

Hovering the cursor over each of the values entered, a set of icons is displayed and this allows to perform different operations.


-  Allows to delete a value from the list of values. Once deleted, it is displayed in gray and crossed out.
-  Allows to restore a previously deleted value.

Display the Selected Line

-  Hides the icons that are displayed.
-  Shows hidden icons.

Internationalization of Values

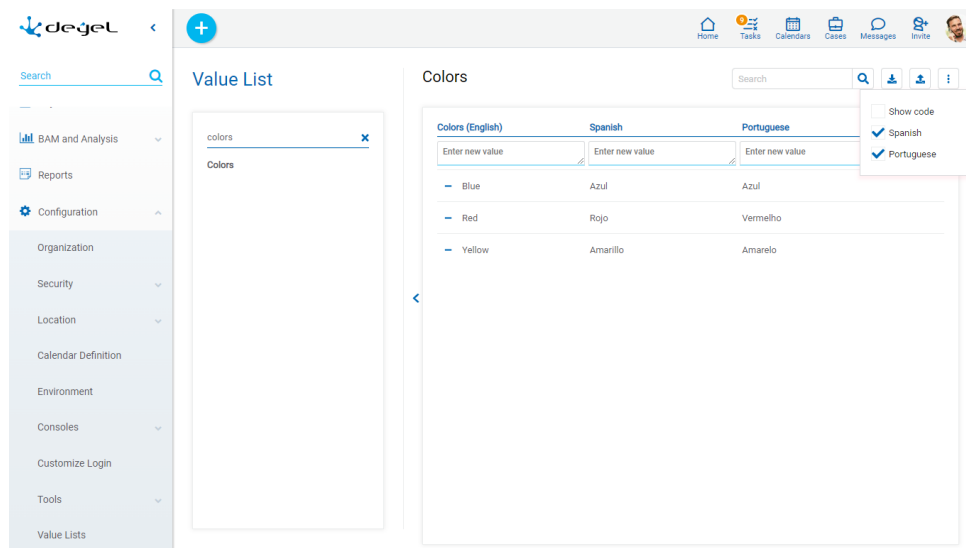
Using internationalized value lists enables to load their values in the different available languages, so that users with different language preferences configured can see list values in their own language.

If the value list has the [Internationalize](#) property active, the language configured for the user is displayed in the header of the list. For each [language selected from the icon](#)  a new column is added.

The user can load the corresponding translation for each value.

Removing the check mark of a language deletes the column corresponding to that language.

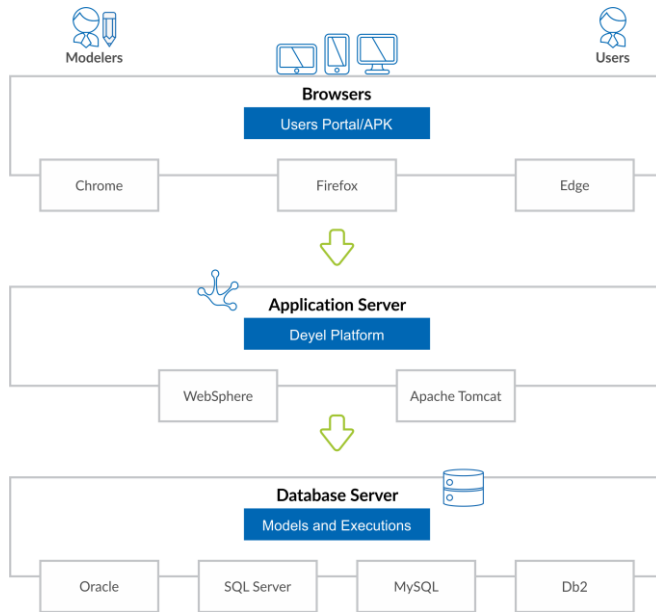
For each available language, a new column is added to the Excel file, which is used to import or export the list values.



Once the internationalization has been modeled, it is suggested to load values to the list in all the selected languages.

3.12. Requirements

The following are the software requirements for the use and installation of **Deyel**.



Workstations (Cloud and On-Premise Modality)

HARDWARE	RAM	a minimum of 4 GB
	Screen resolution	<ul style="list-style-type: none"> • End user: a minimum of 1024x768 • Modeler: a minimum of 1920x1080
SOFTWARE	Browser	<ul style="list-style-type: none"> • Chrome, a minimum of 79.0 • Edge Chromium, a minimum of 79.0 • Firefox, a minimum of 74.0 • Safari 13.1.3 and 14.1.2 (Only for User Portal)

It is advisable to keep browser versions up-to-date, since security vulnerabilities are regularly corrected.

Application Server (On-Premise Modality)

HARDWARE	RAM	a minimum of 6 GB
	HD	a minimum of 5 GB free space.
	Processor	64-bit / 2 cores / at least 2.4GHz
SOFTWARE	Web Service	<ul style="list-style-type: none"> • WebSphere 8 / WebSphere 9 • Apache Tomcat 8 / Apache Tomcat 9

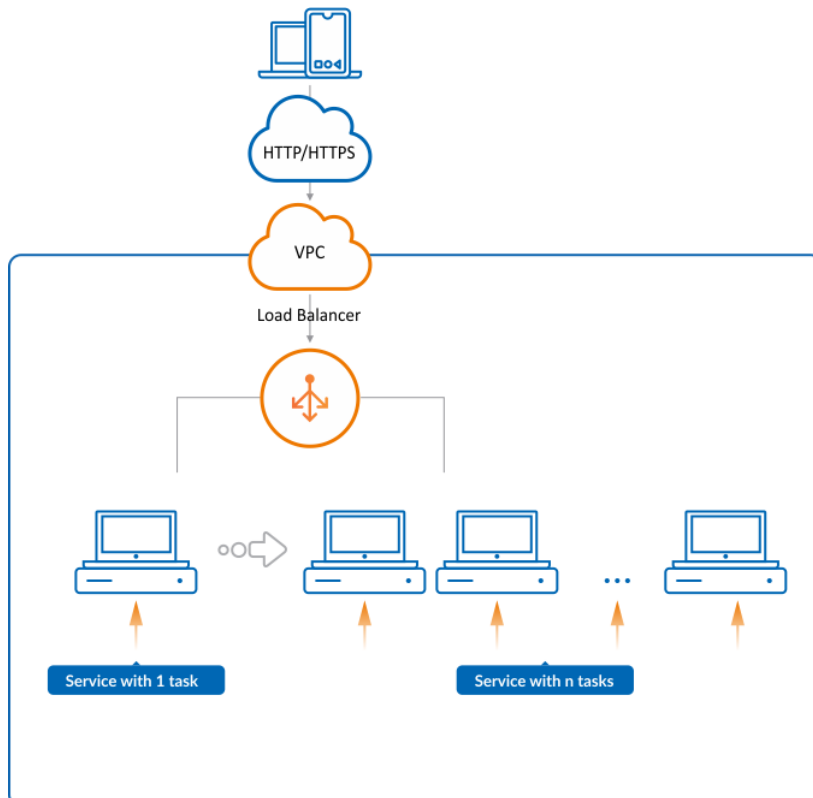
	Java	Java 11
--	------	---------

Database Server (On-Premise Modality)

HARDWARE	RAM	a minimum of 4 GB
	HD	a minimum of 10 GB free space
	Processor	64-bit / 2 cores / a minimum of 2.4GHz
SOFTWARE	Database	<ul style="list-style-type: none"> • Mysql 5.7 • DB2 9.5 or DB2 10.5 • Sql Server 2012 • Oracle 12c release 12.2

3.13. Cloud Service Operation

Deyel Cloud allows to develop, test, deploy, and execute web and mobile applications without worrying about the operational aspects of the platform technology. Modeled applications and their data are hosted directly on the cloud infrastructure provided by Deyel Cloud.



The Deyel Cloud infrastructure uses Amazon Web Services (AWS), incorporating the latest technologies and techniques into its platform to offer a reliable, secure and high-performance cloud service.

Each client accesses each of their environments in isolation. Depending on the contracted license, the development, testing, quality and production environments can be accessed.

Features of Deyel Cloud

A set of features make Deyel Cloud's infrastructure robust and secure.

Execution Portal

Each environment has an execution portal where users can access to model and execute their applications.

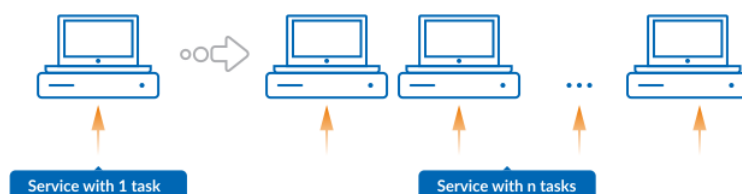
Traffic is managed by the AWS Route 53 DNS service and AWS ALB (Traffic manager), which resolves and routes the URL to the environment. Each environment is deployed as a dockerized application running on a cluster using the Elastic Container Service (ECS) service. This service accesses an Aurora Mysql database schema and a file repository in AWS S3.

Security

Infrastructure incorporates protection against DDoS attacks using AWS Shield. AWS Shield protects web applications from common web attacks that can impact availability, jeopardize security, or consume excessive resources. Incorporates the AWS Web Application Firewall (WAF). This protection is defined on the Load Balancer with a set of preconfigured rules managed by AWS WAF. AWS WAF includes controls such as protecting against OWASP (Open Web Application Security Project) top 10 security risks.

Scalability

Deyel Cloud implements a dockerized service for each environment that is executed in a cluster service with one or several tasks. The number of tasks is defined using automatic scaling, allocating more resources at times when the environment is most used.



To detect periods of high resource consumption, the CPU usage of the service is analyzed. If it exceeds the expected percentage, additional tasks for the service are automatically initiated. These new service tasks immediately increase the amount of resources, thus generating greater processing capacity. This

ensures optimal response times during periods of increased demand. When the service detects less resource use, it automatically decreases the number of tasks. Increase or decrease in the number of service tasks is carried out transparently for the user.

To implement this scaling scheme, Target Tracking Scaling Policies from the AWS ECS service are used.

Types of Deployment

Deyel incorporates different [types of deployment](#) to connect with the services of each company. The deployment types define the service access mode based on security requirements.

Backups

Deyel incorporates daily [backups](#) of all information and files uploaded in the applications.

Data Encryption

All transactional data is hosted in an AWS RDS service Aurora database and encrypted at rest using the AES-256 algorithm. Data in transit is encrypted using TLS 1.2.

Users can only interact with data via https only through the Deyel Cloud portal web user interface, of the Deyel mobile application or through the Rest api. Users must have login credentials and the appropriate authorization to access the data.

Business Continuity

A [Disaster Recovery Plan \(DRP\)](#) is incorporated to ensure business continuity.

3.13.1. Backups

All the information and all the files uploaded in the applications and modeled objects are considered as data in the environment of **Deyel** Cloud. These data can be uploaded into the environment through the applications modeling, the use of both web and mobile applications, from massive imports, through advanced rules using the SDK or from the integration API.

The uploaded data is stored in an AWS Aurora MySQL service database and in a file repository hosted on the AWS S3 service.

Retention Period

The **Deyel** Cloud service performs a daily backup of the environment data for the last 7 days and a monthly backup for the last 3 months. These backups are performed daily between 3:00 and 6:00 am UTC-3.

Additionally, a backup copy of the environment data can be requested, recovering the information at a given time within the last 24 hours.

The generated backups are stored in an AWS S3 repository that is highly available, encrypted, and data redundant in more than one availability zone. This information is encrypted using AES 256.

Download

To obtain a backup, the complete database and stored files must be downloaded. The database downloading can be done from the daily automatic backup or from a backup generated at a given moment in time.

For the files uploaded to the environment, a compressed file is generated with all the files from the previous day, in this way the files can be downloaded for each working day. If required, the complete download of all existing files can be performed.

Depending on the type of plan contracted, a longer retention period can be modified and the number of daily downloads increased.

Restore

To restore the information from the database, the operation must be done on a Mysql database as described in the first step of the [On Premise Installation](#).

3.13.2. Disaster Recovery Plan (DRP)

It is essential for a company to guarantee business continuity. To do so, it needs a robust disaster recovery plan that allows it to remain operational in the face of natural disaster or malicious attacks.

The Deyel Cloud infrastructure on AWS mainly bases its DRP strategy on the advantages offered by the AWS services on which it is mounted.

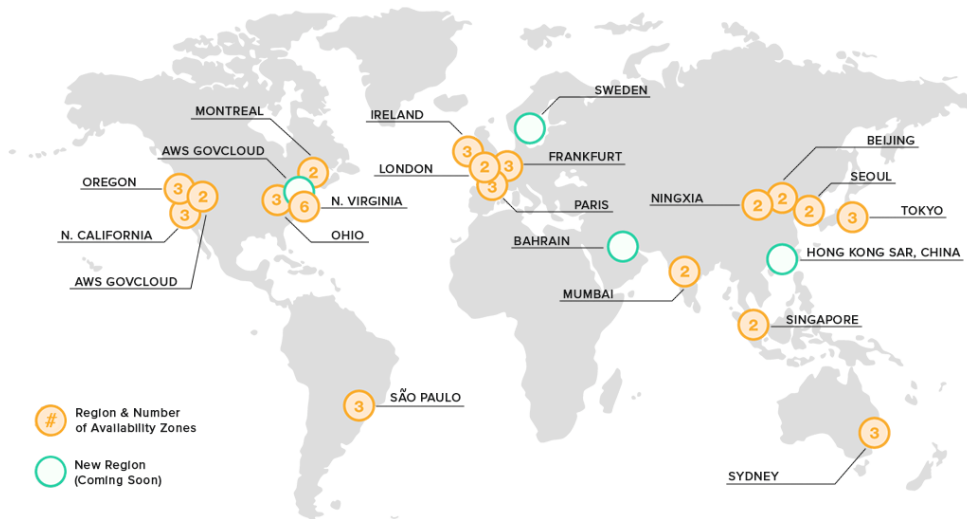
The two main axes of these advantages are the use of regions, availability zones and data centers distributed around the world, and the configuration of the services used to make use of this global infrastructure..

Use of AWS Regions, Availability Zones, and Data Centers

The Deyel Cloud infrastructure is based on AWS regions and availability zones.

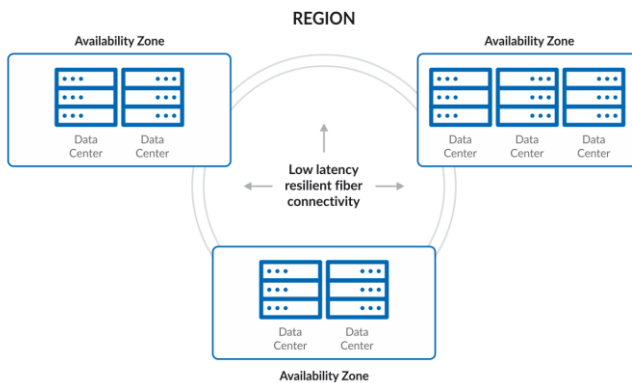
An AWS Region is a physical location in the world, which has multiple Availability Zones. These zones have one or more data centers, each with power, networks and connectivity.

These availability zones provide the ability to operate highly available, fault-tolerant, and scalable database and production applications. AWS has more than 100 availability zones and more than 30 geographic regions around the world.



<https://www.infrastructure.aws/>

Each AWS region is designed to be completely isolated from the other regions. This allows for greater fault tolerance and stability. Each availability zone is isolated, even though they are connected through low-latency links.



Each availability zone is designed as a separate fault zone, meaning that availability zones are physically separated within a typical metropolitan region and located on low-risk flood plains.

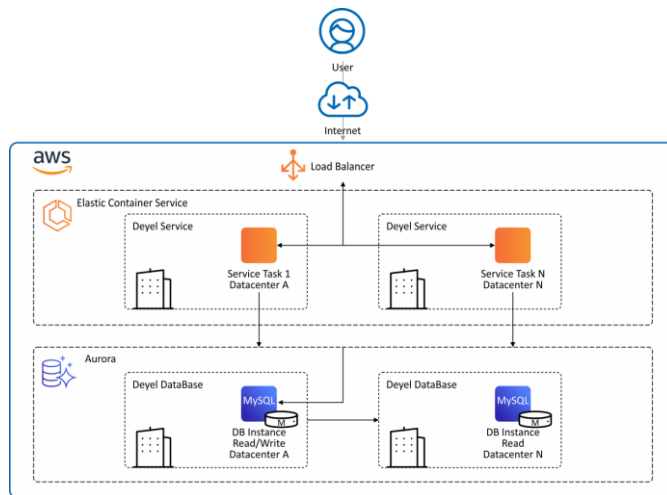
They also have uninterruptible power supplies (UPS) and onsite backups. Availability zones are connected with high-speed links (tier-1).

Configuration of AWS Services Used by Deyel Cloud to Use the Global Infrastructure

AWS services used in Deyel Cloud infrastructure are configured to use regions and availability zones.

Main Components of Deyel Cloud Infrastructure

The main components of Deyel Cloud infrastructure and how the AWS services that support them are configured are detailed below.



- **Application data**
Application data is stored in Amazon Relational Database (RDS) service Aurora clusters. These clusters are configured with read/write and read instances in different availability zones, which can be immediately swapped in the event of a failover.
To create backups, use the multiAZ option.
- **Execution of applications**
Applications are executed on AWS Elastic Container Service (ECS) clusters with EC2 instances distributed across availability zones, with autoscaling. Applications are executed on ECS services and can be multitask distributed across EC2 instances in different availability zones.
Clusters used by the Deyel Cloud infrastructure can be created in any AWS region globally in a matter of seconds.
- **Critical infrastructure files replicated among regions.**
All the files necessary for assembly and creation infrastructure and for a disaster recovery are stored with AWS S3 and Amazon ECR service, using replication among regions.
- **Infrastructure as code (IaC)**
The infrastructure and resources necessary for the execution of **Deyel** on AWS are created using the AWS CloudFormation service. Using this service complies with the good practices of standardizing infrastructure components and allows fast troubleshooting.
It provides applications resources in a safe and repeatable way, allowing you to create and recreate infrastructure and applications, without having to perform manual actions or write custom scripts.
Through this service, the Deyel Cloud infrastructure and its applications can be implemented in any AWS region globally.

RPO, RTO and failure events for Standard and Enterprise Editions

Tasks and database with their replica are in different availability zones (in one or more data centers) within a region.

Failure Event	Action	RPO	RTO
The server executing the application goes out of service. Example: hardware failure, motherboard, fonts, disks, etc.	If there are multiple application tasks, the load is shifted to the rest of the tasks. In all cases, an identical task is automatically started on another server in the same data center.	0	In the Enterprise edition the RTO is 0. In the Standard edition the RTO is less than 90 seconds.
The data center that contains the servers executing the application goes out of service. Example: catastrophe in the data center city.	If there are multiple application tasks, the load is shifted to the rest of the tasks. In all cases, an identical task is automatically started on another server in the same data center.	0	In the Enterprise edition the RTO is 0. In the Standard edition the RTO is less than 90 seconds.
The server executing the database goes out of service. Example: hardware failure, motherboard, fonts, disks, etc.	The read-only instance is automatically converted to R/W.	0	In both editions the RTO is less than 90 seconds.
The R/W database goes out of service (structure breaks, engine problems).	The read-only instance is automatically converted to R/W.	0	In both editions the RTO is less than 90 seconds.

Read Replica Instance in a Region Different from the Main One

The read replica instance in a region different from the main one is another option for higher availability and fault tolerance.

When considering catastrophes of global magnitude where an entire region may stop operating, clusters are generated through the AWS CloudFormation service in another region while maintaining use of the interregional database, achieving an active synchronization and a higher fault tolerance based on a better geographic dispersion.

The minimum essential RTO is 3 hours, although customer verification tasks are recommended before enabling the use of the platform again, which can raise the overall RTO.

As an example, to do lists for these cases are detailed.

Tasks	RTO < 8 hours
Assessing the situation, verification of the non-operating regions where the platform was operating.	2hs
Generating the platform infrastructure in the third region.	Less than 30 minutes
Configuring the new infrastructure with the operational database in this region.	Less than 30 minutes
Customer verification of the platform.	Recommended. 3hs

3.13.3. Types of Deployments

Deyel has different options to access its environments, as well as to connect with the company's services.

Each environment is accessed with the "myenvironment.deyel.com" url defined for each environment as its [standard access](#).

Deyel Cloud also allows to define an [access with own domain](#) to access with a name in the url "https://mycompany.com".

Additionally, [access with private VPN connections](#) or [access restricted by IP address](#) can be defined.

Ways to Access the Environment

An environment can be accessed in different ways, depending on whether to open an application, a page, to do administration tasks or to open the modeler.

To access applications and pages, the url of the environment and its name are used. Additionally, parameters can be sent on pages to define a specific behavior. And to perform administrative tasks or access the modeler, access is done using the global application.

Example of each access

- Access to an application
https://<environment name>.deyel.com/<application name>
- Access to a page
https://<environment name>.deyel.com/pages/<page name>?<parameter name>=<parameter value>

| If there is more than one parameter, they are concatenated by the sign "&".

- Access to the administration portal and modeler
`https://<environment name>.deyel.com/<global application name>`

3.13.3.1. Standard Access

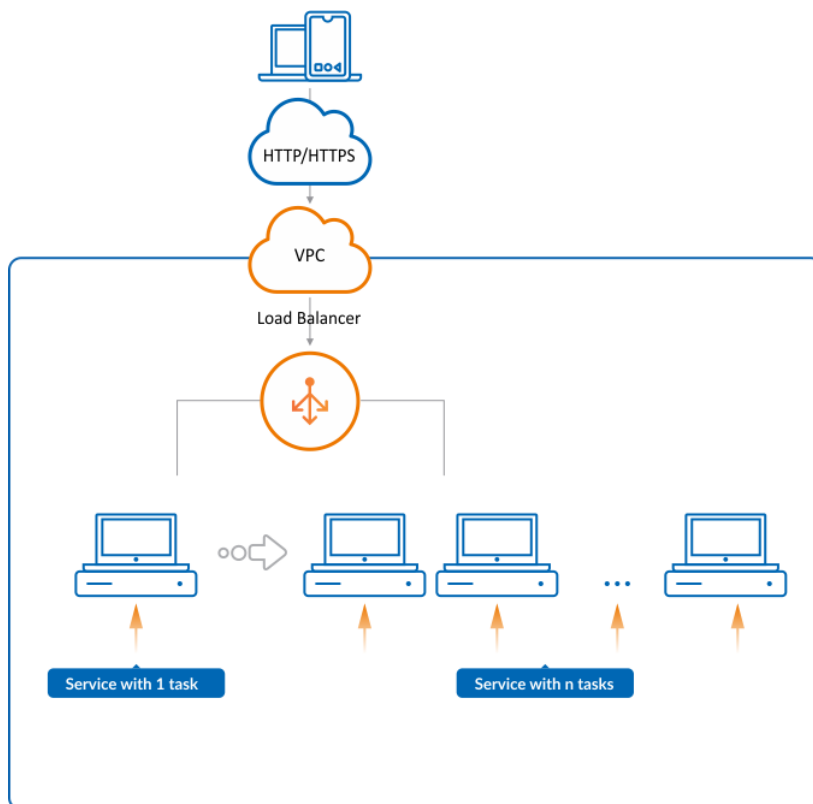
Deyel Cloud is accessed using the https protocol from any client connected to the internet using the url of its environment. If an attempt to log in with http, it is automatically redirected to https.

To access the productive environment, the url "myenvironment.deyel.com" is defined by default and for other environments, a suffix is added after the name of the environment. The suffix for development is "dev" and "test" for the test environment.

Environment URLs

The urls for each environment are:

- For the production environment: `https://myenvironment.deyel.com`
- For the test environment: `https://myenvironmenttest.deyel.com`
- For the development environment: `https://myenvironmentdev.deyel.com`



Using standard access to Deyel Cloud allows to assess the [health of the environment](#).

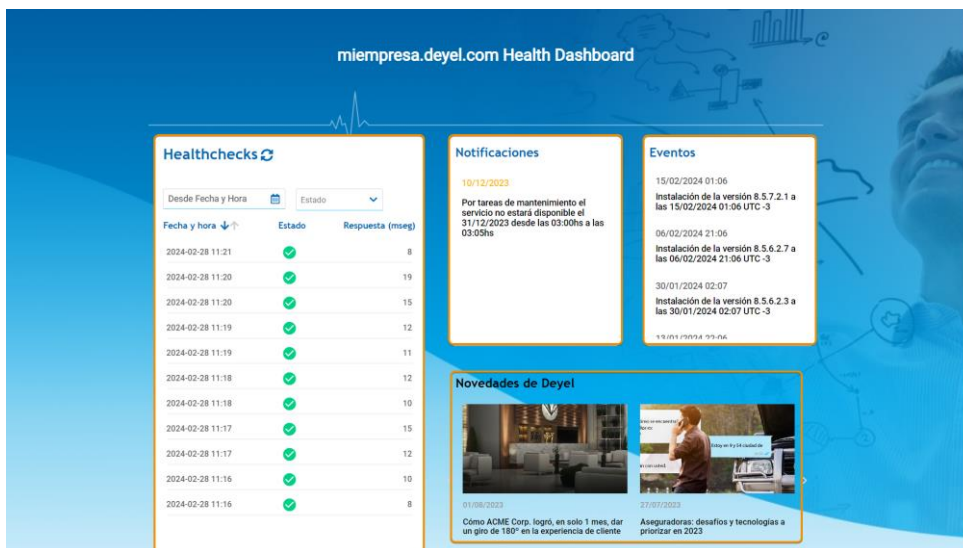
3.13.3.1.1. Health Dashboard

This administration dashboard allows monitoring the state of the environment, by checking health checks automatically performed every 30 seconds. It checks whether the results of these checks were successful and monitors the response time of the environment.

The health checks of the environment can be filtered based on the date and time of checking and by their state.

The information grouped into sections is displayed on the dashboard:

- A grid with the health checks corresponding to the last 30 days
- notifications related to the environment.
- events that occurred.
- updates from **Deyel**.



Dashboard Access

The dashboard is available for all Deyel Cloud environments and can be accessed with the following URL:

- <https://portal.deyel.com/pages/health?environment=NAME-ENVIRONMENT>

NAME-ENVIRONMENT must be replaced with the name of the environment being shown.

For example, mycompany.deyel.com is accessed as follows:


- For the production environment:
<https://portal.deyel.com/pages/health?environment=mycompany>
- For the testing environment:
<https://portal.deyel.com/pages/health?environment=mycompanytest>


- For the development environment:
<https://portal.deyel.com/pages/health?environment=mycompanydev>

Health Check Grid

The check results are displayed in this grid, they are ordered by date and time in descending order, also their state and the time it took to complete the check.

If the response time of a check is greater than 250 milliseconds, the state is considered erroneous.

As checks are carried out every 30 seconds, the icon  can be used to update the grid.

The results can be filtered by date and time of checking or by its state, and can be sorted in ascending or descending order by clicking the icon .

Notifications, Events and News

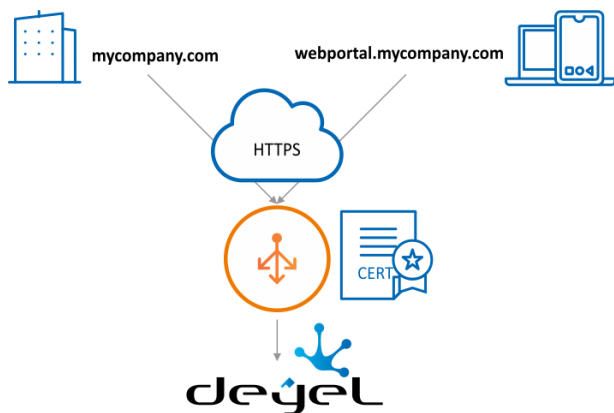
Version update or maintenance task notices are displayed in the notifications section. Version updates are performed automatically and do not affect the operation of the environment, while maintenance tasks are notified in advance as they may require downtime.

The updates made and the results of the maintenance tasks executed are displayed in the events section, while, in the news section, there are success stories of **Deyel** and information on new versions with their highlighted functionalities, among other topics.

3.13.3.2. Access with Own Domain

To access the productive environment, an own domain can be used. The access must be secure, therefore it is necessary to have an SSL certificate to perform this configuration.

Domains or subdomains can be used to access the service.

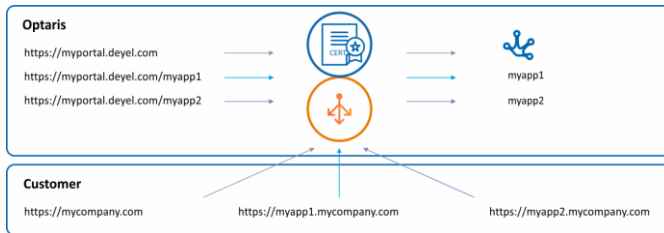


Access to Applications and Pages

Access to applications and pages is detailed below.

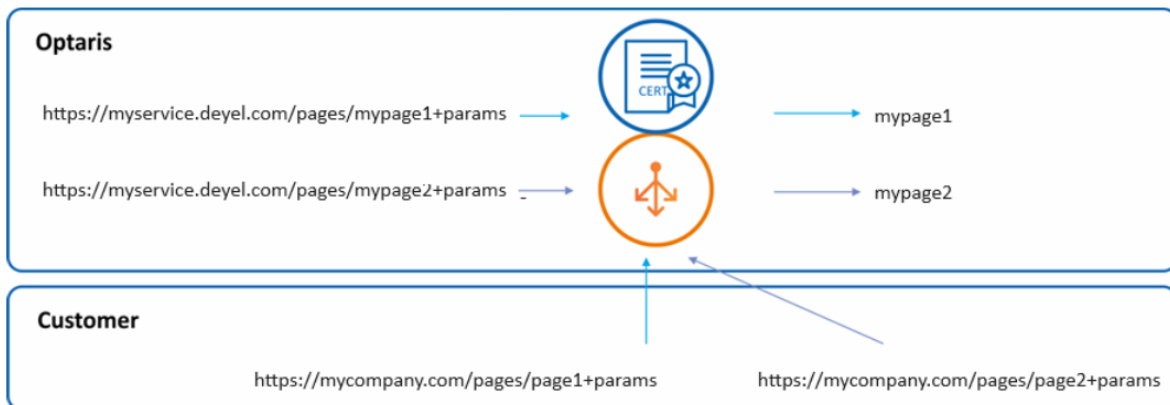
Access to Applications

To access applications, the name of the application after the domain can be used, for example "my-company.com/myapp1" or a subdomain that accesses the application can be used, for example "myapp1.mycompany.com".



Access to Pages

To access the pages, the domain name, then /pages/ with the name of the page and its parameters can be used, for example "mycompany.com/pages/mypage1?param1=value1¶m2=value2".



Configuration

Configuration to use an own domain requires tasks from the domain owner and the technical team of **Deyel**.

The tasks in charge of the domain owner are:

- Register their domain and configure its resolution to the Deyel Cloud server.
- Purchase an SSL certificate (TLS1.2) Single Domain or Wildcard type and deliver it to the technical team of **Deyel** in order to access via the https protocol.
There are two ways to configure the certificate:
 - Private certificate

The domain owner delivers "Certificate Body", "Private Key" and "Certificate Chain" as PEM-encoded.

- Public certificate

The domain owner defines a CNAME record to allow **Deyel** encrypt the connection on their behalf using AWS services.

The technical team of **Deyel** delivers a ".csv" extension file with the data to create the CNAME record (Domain Name, Record Name, Record Type, Record Value).

The tasks carried out by the technical team of **Deyel** are:

- Deliver the load balancer data to the user so that they can be configured in their domain.
- Install the SSL certificate on the Deyel Cloud server load balancer (private certificate) or provide the data to create the CNAME record (public certificate).

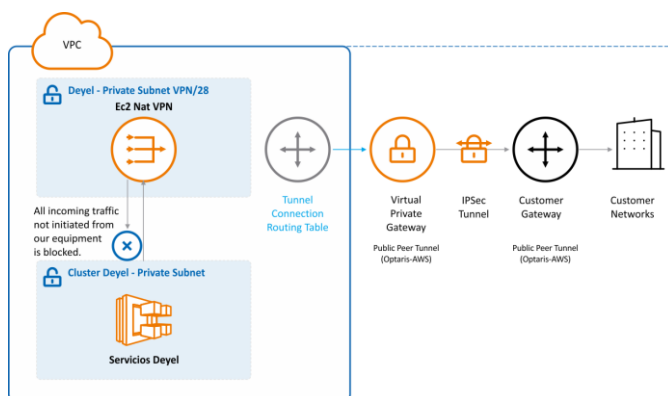
3.13.3.3. Access with Private Connections (VPN)

Deyel Cloud allows to establish "site-to-site" VPN connections to access from **Deyel** to web services located on customer's private network servers. The VPN service includes initial configuration, connectivity testing and technical support.

To use the VPN service, the customer needs a compatible VPN device located at their corporate premises, with an assigned public IP (IPv4) address and with the capabilities to be configured using the IPsec protocol.

Deyel uses the AWS Virtual Private Gateway service to establish IpSec tunnels with its customers and thus enable access to its web services, for example by performing integrations when using a Rest API.

This service enables to establish a "site-to-site" tunnel between the customer and the AWS Virtual Private Gateway service of **Deyel** with the Internet Key Exchange version 2 (IKEv2) protocol.



The configuration of this service supports different types of cryptography:

AES 256-bit encryption, SHA-2 hashing.

Diffie-Hellman groups:

Phase 1 can now use DH groups 2, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24

Phase 1 encryption algorithms AES128, AES256, AES128-GCM-16, AES256-GCM-16
Phase 1 integrity algorithms SHA-1, SHA2-256, SHA2-384, SHA2-512

Phase 2 can now use DH groups 2, 5, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24
Phase 2 encryption algorithms AES128, AES256, AES128-GCM-16, AES256-GCM-16
Phase 2 integrity algorithms SHA-1, SHA2-256, SHA2-384, SHA2-512

Customer Data

- Customer Gateway: Public customer Ip where to establish the tunnel.
- Local Customer IPv4 Network Cidr: (Destination network/IP of the customer to connect privately).
- Pre Shared Key: To establish encryption.

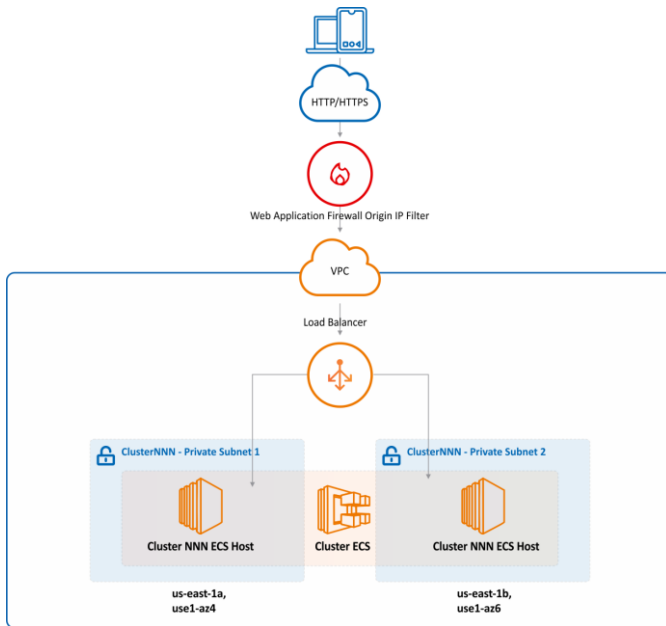
Deyel Data

- Outside IP Address: Public IP address of **Deyel** provided by AWS for "tunnel 1-2", from where the tunnel is established.
- Local IPv4 Network Cidr: Private network/private IP within the VPC where the customer receives connections privately *Network/IP of the EC2 Nat-VP.

3.13.3.4. Access Restricted by IP Addresses

Deyel Cloud offers the possibility of protecting access to its service by restricting it to only a specific IP address list. To perform this implementation, public access can be blocked using custom IP origin filters and thus control the access points allowed using the https protocol.

Once the allowed access IP addresses are configured, users attempting to connect to **Deyel** from outside of these IP addresses receive an error message, indicating that they must connect to the site through a VPN connection or from the company's corporate network.



3.14. On-Premise Installation

The following describes the steps to perform a new installation of **Deyel** or a [version update](#) in On-Premise modality.

Distribution

Deyel and its solutions are distributed through the following files:

Description	File
Web application	deyel- Version .war Docker image and docker-compose file
Initial database	<ul style="list-style-type: none"> • Oracle: deyeldb-Version.dmp • Mysql: deyeldb-Version.sql • Sql Server: deyeldb-Version.bak • DB2: deyeldb-Version.zip
License	license.xml

Version

Each version of **Deyel** has the following VRFB structure where

- V - Version
- R - Release

F - Fix
B - Buil
Example: *deyel-7.8.1.3.war*

Step 1: Create the Initial Database for Deyel

- a. Install the database engine on which you want to install **Deyel**.
- b. Create a user with permissions that can create tables, views, functions, store procedures, and triggers. The following variables must be known:
 - **host**: engine ip address.
 - **port**: engine port.
 - **user**: user with the necessary permissions
 - **password**: key of the user with the necessary permissions
- c. Restore the initial base of **Deyel** with the following commands:
 - Oracle

```
impdp user/password@host:port/deyel dumpfile=deyeldb-Version.dmp
```
 - Mysql

```
mysql -u user -p password -h host --port port --default-character-set=utf8 deyel deyeldb-Version.sql
```
 - Sql Server

```
SqlCmd -S host -U user -P password -Q "RESTORE DATABASE deyel FROM DISK='deyeldb-Version.bak' WITH REPLACE"
```
 - DB2
Unzip deyeldb file-**Version**.zip
Execute command from the folder where export files are located.

```
db2move deyeldb import -io replace_create > restore_deyel.log
```

Step 2: Install Deyel on the Application Server

- [Installation in Apache Tomcat](#)
- [Installation in Docker](#)

Step 3: Configure Database

To configure the database, it is recommended to use the environment variable `DEYEL_DB_PROPERTIES_PATH`. This variable is used to define the directory where the file with the connection data is located. If the environment variable is not defined, the file is used within the `WEB-INF/classes/ConsistEnv_es_AR.properties` context.

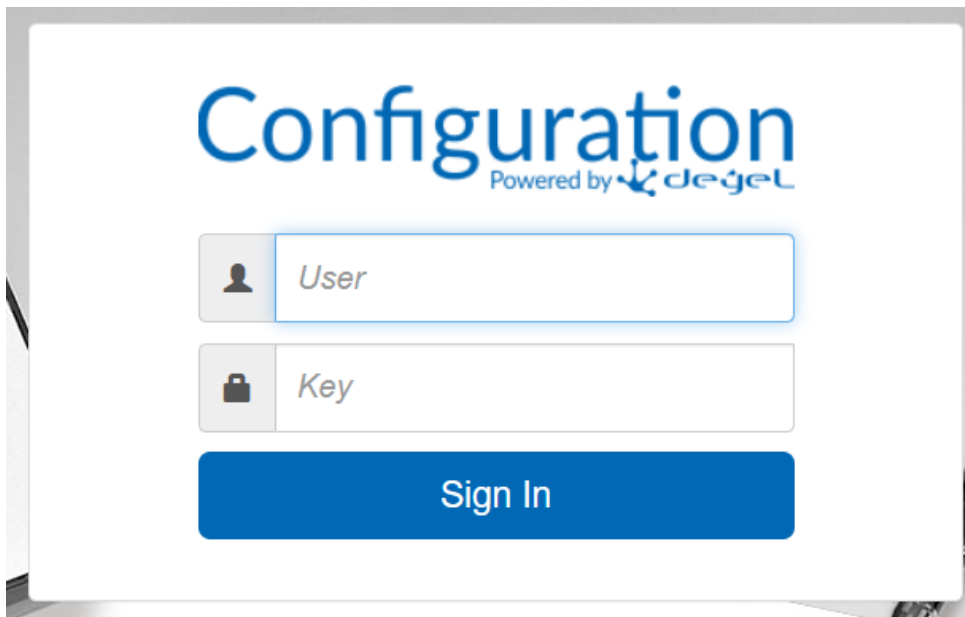
The environment variable should be created before performing the context implementation.

Instructions for Database Configuration

- a. Enter `https://server:port/deyel/Config`.

Server: is the name of the server where the installation is performed or its IP address and access port.

Example: `http://myserver:8080/deyel`



It is accessed without username and password until one is defined. It is recommended to define a username and password when first accessing.

Deyel installation

Log in as an administrator

Name

Key

Confirm Password

Data Base properties

Configuration File Path	<input style="width: 90%;" type="text"/>	?
Driver	<input style="width: 90%;" type="text" value="MYSQL"/>	
URL	<input style="width: 90%;" type="text" value="jdbc:mysql://<host>:<port>/<schema>"/>	
User	<input style="width: 90%;" type="text" value="<user>"/>	
Password	<input style="width: 90%;" type="password" value="*****"/>	
JDK HOME	<input style="width: 90%;" type="text"/>	


- b. Complete the data of [Database Properties](#) section and apply configuration. If the DE-YEL_DB_PROPERTIES_PATH environment variable was defined, in the [Configuration File Path](#) property, the directory where the file with the connection data is located is shown. If this property is not reported, this means that the file is in the context.
- c. Restart the context.

Step 4: Import License

- a. Enter `https://server:port/deyel`.
- b. Import the [use license](#).




Company: Optaris
 License ID: 6692640f-c65e-4b9c-aa6d-905cdb4acf15
 Modality: Cloud
 Licence Type: Subscription
 Environment: Test
 Emission Date: 30/08/2021
 Renewal Date: 12/01/2025

Application: Deyel
 Edition: Standard



User Types:

Participant: 100
 Agile Modeler: 50
 Deyel Modeler: 50


 Deyel

 CRM

 Contracts

V. 8.2.4.2.2
 Optaris Inc.
 All rights reserved

Import new licence

Valid license imported by: Alejandro Farías
 Date and Time: 30/08/2021 17:29:27

c. Enter **Deyel** environment with `https://server:port/deyel` using the [example user](#) "afarias" with "deyel123" key.

3.14.1. Directories Structure

Once the implementation of the file with war extension has been done, the following directory structure is defined.

Directory	Description
batch <ul style="list-style-type: none"> • log 	Directory with Java classes that allow the execution of batch processes. <ul style="list-style-type: none"> • log: Directory where the result of the execution of classes is saved.
businessRuleDeployment	Directory where files generated by business rule implementations are temporarily stored.
businessRuleXML	Directory where business rules definitions are temporarily stored.
docGenerator <ul style="list-style-type: none"> • app • staticHTML • themes • themesDefault • themesResponsive 	All files related to forms definition are stored. <ul style="list-style-type: none"> • app: Where the generated documents are located. Deprecated. • staticHTML: Basic files used to compose screens. • themes / themesDefault / themesResponsive / themesResponsiveMin: They correspond to the themes that are

Directory	Description
<ul style="list-style-type: none"> themesResponsiveMin 	used when modeling forms.
eventFiles	Temporary directory of files linked to events that occur in processes (mails, File Reader files, etc.).
export	Temporary directory where the exported files are stored.
Import	Temporary directory where the imported files are stored.
integrationDeployment	Directory to temporarily store files generated by integration rules implementations (SQL and web services).
integrationXML	Directory to temporarily store integration rules definitions (SQL and web services).
jasperReportFiles	XML files containing Jasper Report framework templates used in report printing and printing in general.
logs	Storage directory of Deyel logs. When installing, log types and the number of days they are kept can be specified.
META-INF	Information of Deyel version.
modeler version	Files with images, JavaScript, and web modeler styles.
script	JavaScript files that are used in the web portal.
Temp	Temporary directory of Deyel .
themes	Theme storage directory of Deyel .
updaters	Directory containing the files necessary to update the version of Deyel .
upload	Directory to temporarily store files uploaded to Deyel .
vendors	Directory of libraries used by Deyel .
WEB-INF	Storage directory of classes that define the operation of Deyel .
widget	Directory with templates of widgets used by the web portal.

Temporary directories (Temp, BusinessRuleDeployment, BusinessRuleXML, EventFiles, Export, Import, IntegrationDeployment, IntegrationXML, and Upload) are automatically removed every 24 hours. The 24 hours are calculated from the start time of the scheduled tasks.

3.14.2. Installation in Apache Tomcat

One of the options to install **Deyel** on an application server is under Apache Tomcat.

Apache Tomcat Configuration for Deyel

On Linux, Windows and on Dockerized Installations

The following minimum values can be defined in the `setenv.sh` file inside the Apache Tomcat bin folder:

- `XX:+UseConcMarkSweepGC`
- `Dfile.encoding=ISO-8859-1`

Use of Special Characters, Encoding and Post Size

Configure the following files with the lines indicated for each case.

Apache Tomcat 8.0

- `conf/catalina.properties`

Include the line:

```
tomcat.util.http.parser.HttpParser.requestTargetAllow=|
```

- `conf/server.xml`

```
<Connector port="8080" protocol="HTTP/1.1"
connectionTimeout="20000"
    maxHttpRequestSize="32768"
    maxPostSize="-1"
    redirectPort="8443"
    URIEncoding="UTF-8" />
```

Apache Tomcat 8.5 and higher

- `conf/server.xml`

```
<Connector port="8080" protocol="HTTP/1.1"
    connectionTimeout="20000"
    maxHttpRequestSize="32768"
    maxPostSize="-1"
    redirectPort="8443"
    URIEncoding="UTF-8"
    relaxedPathChars="[ \ ] { | }"
    relaxedQueryChars="[ \ ] { | }"
    URIEncoding="UTF-8"
    compression="on"
    compressibleMimeType="text/html,text/xml,text/plain,text/css,text/javascript,application/javascript,application/json,application/xml"
    compressionMinSize="2048"
```

```
useSendfile="off"
relaxedPathChars="[ \ ] { | }"
/>
```

The maximum required post size is disabled with the `maxPostSize=parameter"-1"` to save or publish processes.

Clickjacking protection, HSTS header force and browser content sniffing

Enable the HTTPHeader security filter from Apache Tomcat in the `conf/web.xml` file. For Tomcat 8 and higher installations it should be:

```
<filter>
  <filter-name>httpHeaderSecurity</filter-name>
  <filter-
class>org.apache.catalina.filters.HttpHeaderSecurityFilter</filter-
class>
  <async-supported>true</async-supported>
  <init-param>
    <param-name>antiClickJackingOption</param-name>
    <param-value>SAMEORIGIN</param-value>
  </init-param>
  <init-param>
    <param-name>hstsEnabled</param-name>
    <param-value>true</param-value>
  </init-param>
</filter>

<filter-mapping>
  <filter-name>httpHeaderSecurity</filter-name>
  <url-pattern>/*</url-pattern>
  <dispatcher>REQUEST</dispatcher>
</filter-mapping>
```

War file implementation

In order to implement in a context with the name "deyel", the file should be renamed with the extension war, assigning it the name "deyel.war".

Apache Tomcat has a default maximum for uploading files with a war extension of 50Mb, it should be increased to 500Mb in the `<TOMCAT>\webapps\manager\WEB-INF\web.xml` file.

```

51 </multipart-config>
52 -->
53 <multipart-config>
54 <!-- 500MB max -->
55 <max-file-size>524288000</max-file-size>
56 <max-request-size>524288000</max-request-size>
57 <file-size-threshold>0</file-size-threshold>
58 </multipart-config>
59 </servlet>
60 <servlet>
61 <servlet-name>Status</servlet-name>

```



Gestor de Aplicaciones Web de Tomcat

Mensaje: FALLO - Ya existe la aplicación en la trayectoria /

Gestor

Listar Aplicaciones Ayuda HTML de Gestor Ayuda de Gestor

Aplicaciones					
Trayectoria	Versión	Nombre a Mostrar	Ejecutándose	Sesiones	Comandos
/	Ninguno especificado	Welcome to Tomcat	true	0	<input type="button" value="Arrancar"/> <input type="button" value="Parar"/> <input type="button" value="Recargar"/> <input type="button" value="Replegar"/> <input type="button" value="Expirar sesiones"/> sin trabajar > 30 minutos
/manager	Ninguno especificado	Tomcat Manager Application	true	1	<input type="button" value="Arrancar"/> <input type="button" value="Parar"/> <input type="button" value="Recargar"/> <input type="button" value="Replegar"/> <input type="button" value="Expirar sesiones"/> sin trabajar > 30 minutos
/melody	Ninguno especificado	Archetype Created Web Application	true	0	<input type="button" value="Arrancar"/> <input type="button" value="Parar"/> <input type="button" value="Recargar"/> <input type="button" value="Replegar"/> <input type="button" value="Expirar sesiones"/> sin trabajar > 30 minutos

Desplegar

Desplegar directorio o archivo WAR localizado en servidor

Trayectoria de Contexto (opcional):

URL de archivo de Configuración XML:

URL de WAR o Directorio:

Archivo WAR a desplegar

Seleccione archivo WAR a cargar deyel-6.5.2.11.war

Diagnósticos

Revisa a ver si una aplicación web ha causado fallos de memoria al parar, recargar o replegarse.

Este chequeo de diagnóstico disparará una colección completa de basura. Utilízalo con extremo cuidado en sistemas en producción.

[Continue with installation step 3](#)

3.14.2.1. Version Update

The following describes the steps to update the version of **Deyel** on On-Premise installations.

Distribution

The version update of **Deyel** and its solutions are distributed through the following files:

Description	File
Web application	deyel- Version .war

Version

Each version of **Deyel** has the following V.R.F.B. structure where

V - Version

R - Release

F - Fix

B - Build

Example: `deyel-7.8.1.3.war`

Step 1: Do Backup of Existing Database

- Oracle
`expdp deyel/password@host:port/deyel dumpfile=deyelddb.dmp schemas=deyel`
- Mysql
`mysqldump -u root -p -h host --routines --skip-add-locks --single-transaction deyel > deyelddb.sql`
- Sql Server
`BACKUP DATABASE deyel TO DISK = 'deyelddb.bak'`
- DB2
`db2move deyelddb export -aw -sn deyel > deyel_export.log`
The export files remain in the folder where the command is executed.
A compressed file called `deyelddb.zip` should be generated with all the generated files.

Step 2: Do Backup of the Existing Context

- Compress all files in the existing context and move them out of the application server.
- Perform "undeploy" operation of the existing context on the application server.

Step 3: Install Deyel on the Application Server

- [Installation on Apache Tomcat](#)
- Installation in WAS

Step 4: Configure Database

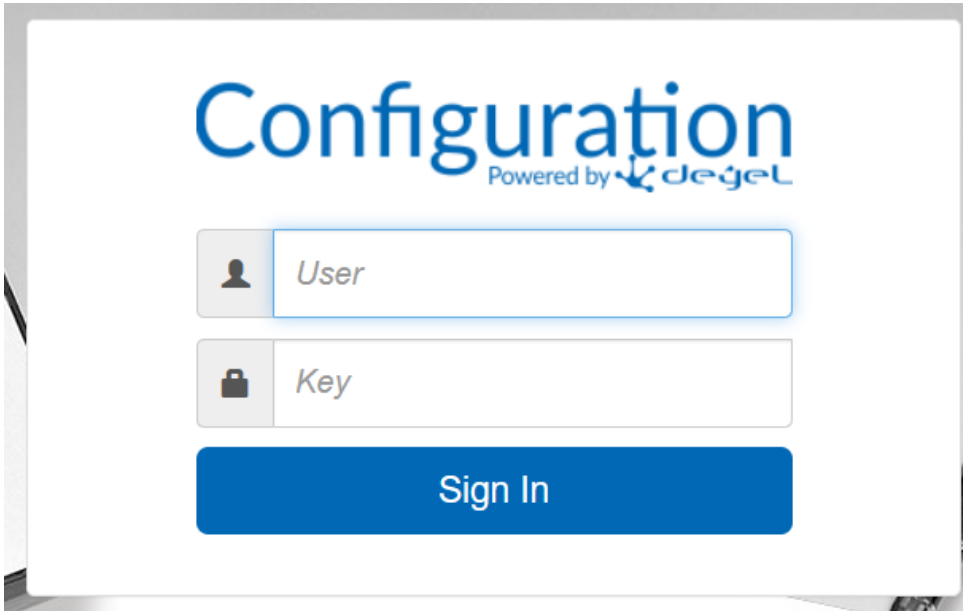
If the `DEYEL_DB_PROPERTIES_PATH` environment variable was defined with the directory where the file with connection data is located, it is not necessary to perform this step.

If the `DEYEL_DB_PROPERTIES_PATH` environment variable was not defined, the database properties configuration file is within the context. In this case, the configuration of **Deyel** should be entered so as to complete the values for the connection properties again.

Instructive

- a. Enter a `https://server:port/deyel/Config`.

Where *server*: server name where the installation is performed or its IP address and access port.
Example: `http://myteam:8080/deyel`



It is accessed without username and password until one is defined. It is recommended to define a username and password when first accessing.

Deyel installation

Log in as an administrator

Name

Key

Confirm Password

Data Base properties

Configuration File Path	<input type="text"/>	?
Driver	<input type="text" value="MYSQL"/>	
URL	<input type="text" value="jdbc:mysql://<host>:<port>/<schema>"/>	
User	<input type="text" value="<user>"/>	
Password	<input type="password" value="*****"/>	
JDK HOME	<input type="text"/>	

- b. Complete the data of the [Database Properties](#) section and apply configuration.
- c. Restart the context.

Step 5: Check if the Update is Successfully Performed

Enter a <https://server:port/deyel/Config> and check for any errors.

Deyel installation

Log in as an administrator

⊘ error updating the version: V.8.2.4.2.7 in the Updater: 905072019-7181

Name

Key

Confirm Password

Java VM properties

Show properties

Apply Configuration

If an error occurred while updating, do the following:

- Download the log of the update that fails and the complete log of the day (SystemOut*.log) to send them to the **Deyel** team.
- Restore the backed up database in step 1.
- Stop the application server and copy all the context files backed up in step 2.

3.14.3. Installation in Docker

Below are the steps to install and update the version of **Deyel** using the [docker-compose](#) file.

Initial Installation

Step 1: Download the docker-compose file

- Ask the **Deyel** team for the credentials to download the image from AWS ECR and the link to download the backup with the initial database.
- Install AWS CLI following the [installation instructions](#).
- Execute the following statements to login and download the docker image:

```
- aws configure
```

Enter the credentials to access the AWS ECR repository

```
- aws ecr get-login-password | docker login --username AWS --password-stdin 955768960522.dkr.ecr.us-east-1.amazonaws.com
```

```
- docker pull 955768960522.dkr.ecr.us-east-1.amazonaws.com/deylonpremise:<8.1.0.5.3>
```

If the suffix indicates the version to install, it must be replaced by the corresponding one.

Step 2: Set the directory to save the installation properties file

Create the folder on the server where docker runs to define the volume, for example docker compose uses the ./app-conf folder.

Step 3: Set directory to save log files

Create the folder on the server where docker runs to define the volume, for example docker compose uses the ./app-logs folder.

Step 4: Execute:

```
docker-compose up -d
```

[Continue with installation step 3](#)

Version Update

In each delivery, the docker image is delivered to carry out the installation and the docker-compose file must be modified, replacing the name of the docker image (image:) using the downloaded version.

Then the update must be carried out by executing:

```
docker-compose up -d
```

3.14.4. High Availability

A high availability installation consists of having two or more installations of **Deyel** connected to each other, sharing the same database. Each of these installations is identified as a member and they all form a cluster, which is necessary to have a high availability installation.

Each member of the cluster includes internally a software that allows a high availability operation called Hazelcast. To make these members know each other and guarantee high availability, it is necessary to carry out a certain configuration.

Steps for the Configuration of each Member

Step 1: Activate the “HAZELCAST_USE_XML” property in the shared database

This property allows the configuration of Hazelcast in XML mode to specify the different ways of connecting among members.

To activate the property, it is necessary to include it in the “property_value” table using the following sentence:

```
insert into property_value (CD_PROPERTY, CD_LEVEL, CD_LEVEL_VALUE,
DS_VALUE, CD_USER_STORE, DT_STORE, CD_USER_UPDATE, DT_LAST_UPDATE) va-
lues ('HAZELCAST_USE_XML', 'OWNER', '0', 'true', NULL, NULL, NULL, NULL);
```

Step 2: Configure the Hazelcast XML file

Within the installation of each cluster member, the XML file “hazelcast.xml” located in the path <instalacion>\WEB-INF\classes\ should be configured.

Its configuration consists of:

- Set the name of the cluster for each member to connect to, optionally the password can also be specified.

```
<hazelcast xmlns="http://www.hazelcast.com/schema/config"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:schemaLocation="http://www.hazelcast.com/schema/config
  http://www.hazelcast.com/schema/config/hazelcast-config-3.11.xsd">

  <group>
    <name>cluster</name>
    <password>cluster-pass</password>
  </group>
```

- Configure member discovery on the network. There are several ways to do this, such as multicast, TPC-IP, etc. You can choose the most convenient way for each installation, following the recommendations of the Hazelcast guide on their site

<https://docs.hazelcast.org/docs/3.11.7/manual/html-single/index.html#setting-up-clusters>

Step 3: Restart

Once configured, members should be restarted so that they can connect to each other. To verify this, the application servers log should be shown and the connection of members should be verified.

Each member is considered to be installed on a full application server.

Example: In Tomcat, the cluster can be shown in the "catalina" log, visualizing the connection of 6 members.

For more details of Hazelcast configurations, show the documentation of its site <https://docs.hazelcast.org/docs/3.11.7/manual/html-single/index.html>.

3.14.5. Amazon S3 Adapter

Integration with this adapter is available in installations with On-Premise licensing.

Having an Amazon account, the AWS S3 service can be used. This service allows to store the files in the repository and download them directly from the form that uses them.

Properties

In addition to the properties shared by [adapters](#), such as [Name](#) and [Description](#), there are also properties specific to the file repository of **Deyel** on Amazon S3.

The screenshot shows a web interface for configuring an Amazon S3 repository. The main form has the following fields:

- Name ***: Repositorio de archivos de Deyel en Amazon S3
- Description ***: Utilizado para almacenar archivos, imágenes de formularios, casos, y adjuntos en Tedis en el repositorio Amazon S3
- Access Key ***: [Text input]
- Secret Access Key ***: [Text input]
- Region ***: [Dropdown menu]
- Bucket ***: Deyel-storage-<Region>-<cluster-ecs>-<change>
- Directory ***: [Text input]
- Public Bucket ***: [Text input]

On the right, there is an **Integration Guide** section with a circular icon and a list of steps:

1. Enter the **Access Key** obtained.
2. Enter the **Secret Access Key** obtained.
3. Select the **Region** where the repository is located.
4. Configure the URL of the **Bucket** according to your S3 structure in AWS.
5. Enter the corresponding **Directory**.
6. Configure the URL of the **Public Bucket** according to your S3 structure in AWS.

Below the list, it says: "Press the Publish button to make the adapter available for use."

An asterisk "" on the label indicates that the property is required.*

Access Key

Identification key given in the user security section of the Amazon account.

Secret Access Key

Secret key associated to the [Access Key](#) property, given in the user security section of the Amazon account. They are used together when requesting access to the resources provided by the platform.

Region

AWS Region where the bucket is located.

Bucket

Bucket URL based on its S3 structure in AWS.

Directory

Name of the folder within the bucket.

Public Bucket

Public bucket URL based on its S3 structure in AWS.

3.15. Phased Learning

[Training Phases](#)

Training in **Deyel** consists of a set of phases that allow the user to model their applications and use the product to its full potential, without the need for prior knowledge.


The phases are made up of a set of self-study videos and exercise proposals to reinforce knowledge. Videos with advanced tips are also included, for more experienced users.

Training Phases

 [Introduction to Deyel](#)

 [Forms Modeling](#)

 [Portal](#)

 [Processes Modeling](#)

 [BAM](#)

 [Configuration](#)



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