



Field Definer

Planon Software Suite

Version: L104

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About this Document

Intended Audience

This document is intended for *Planon Software Suite* users.

Contacting us

If you have any comments or questions regarding this document, please send them to: support@planonsoftware.com.

Document Conventions

Bold

Names of menus, options, tabs, fields and buttons are displayed in bold type.

Italic text

Application names are displayed in italics.

CAPITALS

Names of keys are displayed in upper case.

Special symbols

	Text preceded by this symbol references additional information or a tip.
	Text preceded by this symbol is intended to alert users about consequences if they carry out a particular action in Planon.

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About Field definer

Field definer is used for the maintenance of business objects, fields, display types, actions, links, statuses, and status transitions. In addition, you can use it to create user-defined business objects and user-defined statuses.

You make settings that apply to the whole application and to all users. For example, field types and names are the same for all users and are therefore defined here.

Field definer enables you to change a field name or field type (such as text field, date field or pick list field). You can also set attributes for a field, for example to indicate whether it is mandatory to complete the field and whether the value specified should be unique.



The Planon software is highly configurable and features free definable functionality and free fields to extend functionality and cater to the needs of the customer. Please note that the Planon software is **not** meant to capture and store sensitive personal data. In addition, free definable fields are **not** meant to capture and store sensitive personal data (as defined within the context of privacy and data protection laws).

General business object settings


You can make the main business object settings on the **General** tab of the **Business objects** level. You can:

- authorize the business object (see [Enabling authorization for a business object](#))
- specify the number of elements to be displayed in the elements list (see [Specifying the maximum number of records shown](#))
- change the business object's icon (see [Changing the icon of business objects](#))
- Specify if you want to use a reference date for a free business object (see [Enabling the use of a reference date for free business objects](#))
- change the translation of the business object
- view if the selected business object is a system or user-defined business object

Setting a business object under construction

You can only edit a business object if its status is set to **Under construction**.

Procedure

1. At the Business objects selection level, select the business object that you want to edit.
2. On the Status transitions action panel, click Under construction. A business object that is Under construction is indicated by the  icon. You can now edit the business object's settings.



If you change the status of a business object to **Under construction**, all users working with it at that moment in Planon ProCenter, are unable to save this business object. An error message is displayed. If this message is displayed, the users must cancel their changes and select the **Refresh list** option from the **View** menu before they can continue with their work.

3. Once you are done with your edits, click Completed on the Status transitions action panel. Your changes will become effective when the business object is set to the Completed status.

Specifying the maximum number of records shown

The **Max. no. of records shown** option enables you to specify the maximum number of records that will be displayed in the elements list (including elements lists in dialog boxes). This way, you can limit the number of records displayed in the elements list, which speeds up the application if the number of records for a specific business object becomes very large.

Procedure

1. Select the business object for which you want to specify the maximum number of records to be displayed.
2. Set the business object to Under construction. See Setting a business object under construction.
3. On the General tab, go to Max. no. of records shown and select the check box.
4. Enter a number. This is the maximum number of records that will be displayed in the elements list.
5. Click Save.
6. Set the business object to Completed.



The **Ignore 'Max. no. of records shown'** setting in **User groups**, can be set to **Yes** on each user group, allowing for more tweaking of this generic setting. Note, however, that when pagination is switched on, this method does not apply to regular lists and trees.

Result of this setting for end users

If the number of records to be displayed exceeds the maximum you specified, end users will see an empty elements list displaying the message: **Set a filter to reduce the number of values.**

If required, end users can apply a filter to restrict the number of records that can be displayed in the element list.

Changing the icon of business objects

You can select an icon for every business object.

To change a business object's icon, proceed as follows:

1. At the Business objects selection level, select the business object whose icon you want to change.
2. Set the business object to Under construction. See Setting a business object under construction.
3. On the General tab, open the Icon field. The icons list is displayed. The icons are displayed in alphabetical order.
4. Select an icon from this list and click OK.
5. Click Save.

6. Set the business object to Completed.

Enabling authorization for a business object

Authorization is switched on in the **Authorization** TSI. Subsequently you can enable authorization for a business object in Field definer .

Procedure

1. At the Business objects selection level, select the business object that you want to authorize.
2. Set the business object to Under construction. See Setting a business object under construction.
3. On the General tab, set the Is authorized? field to Yes.
4. Click Save.
5. Set the business object to Completed.

You have now enabled authorization for this business object.



For detailed information on authorizing business objects and on configuring authorization, refer to the *Authorization* documentation.

Switching authorization on or off is subject to security logging. For more information about this topic, see *Administrator's Guide > Security logging*.

Enabling the use of a reference date for free business objects

For all free business objects, you can specify if you want to use a reference date. By default, the use of a reference date is disabled.

Procedure

1. At the Business objects selection level, select the free business object for which you want to use a reference date.
2. Set the business object to Under construction. See Setting a business object under construction.
3. On the General tab, set the Reference date activated (if configurable)? field to Yes.
4. Click Save.
5. Set the business object to Completed.

You have now enabled the use of a reference date for this business object.



The **Reference date activated (if configurable)?** setting can only be configured for free business objects. For all other business objects - including those where the use of a

reference date is by default enabled by Planon, such as the **Space** business object - this setting always has the value **No**. You cannot modify this setting.



For more information on free business objects, refer to the *Open Module* part of the documentation.

User-defined business objects

You can create your own business objects, called *user-defined business objects*. Planon ProCenter will handle these business objects just like any other business object. For any user-defined business object, it is possible to define user-defined statuses (see [Creating user statuses](#)).

You can create user-defined business objects based on various system business objects, such as - just to name a few:

- Contracts
- Assets
- Orders
- Personnel



'Orders' is the only business object for which Planon ProCenter will always use user-defined objects. For other business objects, Planon ProCenter can use either system business objects or user-defined business objects.

An icon indicates whether user-defined business objects can be created and whether a business object is a system business object or a user-defined business object.

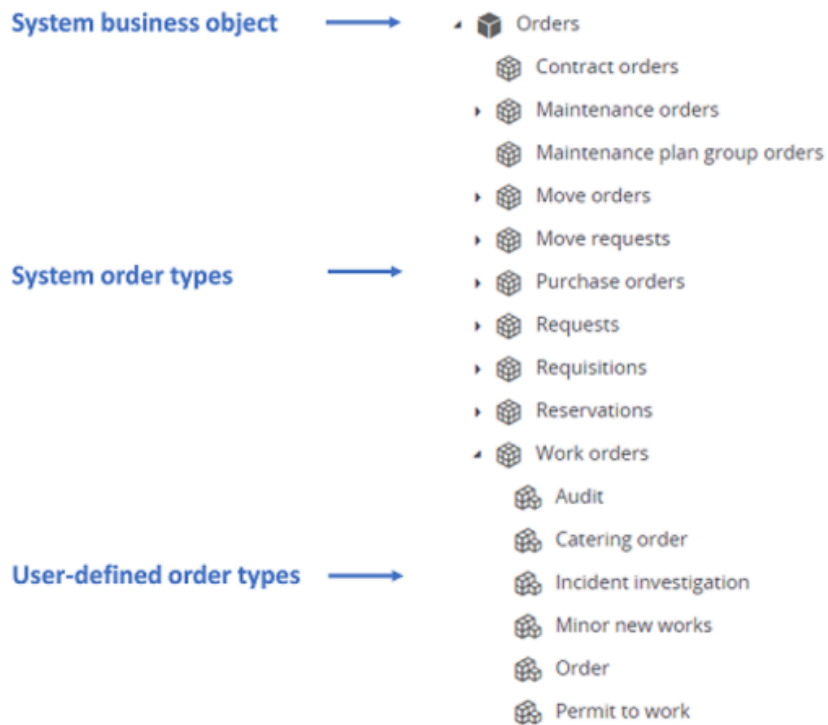
System business object for which you cannot create user-defined business objects

System business object for which you can create user-defined business objects

User-defined business object

The Orders business object

The **Orders** business object has a three-level hierarchy. If you want to change the field definitions for one of the **Orders** business objects, you will need to set the highest level (**Orders**) to **Under construction**.



A user-defined order type (for example **Permit to work**) is always based on a related system order type (for example **Work Orders**). A system order type can include one or more user-defined order types.

i The **Orders** selection level in the Work Orders TSI can only display user-defined business objects.

Creating user-defined business objects

When creating a new user-defined business object, you complete the following steps:

Step 1

Make sure that at least one status has been specified for the system business object the user-defined type will be based upon. If this is not the case, first create a status for the system business object. See [Creating user statuses](#).

Step 2

Create the user-defined business object. (Refer to the [Procedure](#) later in this section).

Step 3

If required, specify user statuses and status transitions for the user-defined business object you have created. See [Creating user statuses](#) and [Defining user status transitions](#).

Step 4

Before the user-defined business object can be used, you have to add it to the TSI in which you want to use it. See [Adding user-defined business object to a TSI](#).

The following example will be used to illustrate the procedure:

Example

You want to create a user-defined business object called 'Complaint'. This user-defined business object is based on the system business object Request (sub-type of Orders).

Procedure

1. Go to the Business objects selection level, select the Orders business object - this is the highest level in the tree - and set its status to Under construction.
2. Within the Orders tree, select the system business object Requests.
3. From the System business objects action panel, click Add User-defined.
4. Fill in the name and description for the new business object and save these settings.



To ensure the best compatibility with other Planon functionality, BO names should only use the following characters: [a-z]-[A-Z]-[0-9] or underscore. We also strongly advise against using spaces!

Now you can enter the translated name for the business object. This is the name end users will see. For more information on the other settings you can make on this tab, see [Making General Business Object Settings](#).

5. In the Default status field, select a default status for the new business object.
6. Go to the Details > Status transitions.
7. From the action panel, select Add user status transition to specify an initial status for the user-defined business object.

Note that you should leave the **From status** field empty; in the **To status** field, select the default status you selected in step 6 of this procedure.

If required, specify user-defined statuses and status transitions. See [Creating user statuses](#) and [Defining user status transitions](#).

If you do not want to use statuses and status transitions, continue with Step 10 and 11.

8. Go to the Business objects selection level and set the status of the Orders business object to Completed.
9. Add the business object you have created to the TSI in which you want to use it. See [Adding user-defined business object to a TSI](#).

Creating user statuses


You can create user-defined statuses and status transitions for all user-defined business objects. This is also possible if the system business object does not have statuses by default.

Example:

You have created a user-defined business object, called **Complaint** (see [Creating user-defined business objects](#)). You require an extra status for it: **Complaint withdrawn**. This status is based on the system status **Canceled**.

Procedure


1. On the Business objects selection level, select the Orders business object - this is the highest level in the tree - and set it to Under construction.
2. Within the Orders tree, select the required system business object, in this example Requests.
3. Go to Details > Statuses.
4. Select the system status on which you want to base the new user-defined status. In this example this is the Canceled status.

 If the business object is a subtype of the **Orders** business object, a user-defined status should always be related to a system status.

5. Click the Add user status action.


Planon now creates a new status.

6. Complete the Code and System name fields.

 As a best practice, do not use spaces when specifying the **System name** and statuses, instead use underscores.

7. In the Icon field, select the required icon.
8. Click Save.
9. Enter the translated name for the status. This is the name end users will see.

You have now created a user-defined status. Next step is to define the possible status transitions for the user-defined business object. For more information on defining status transitions, see [Defining user status transitions](#).

 For more information on the **Print form** and **Mail merge report** fields, refer to [Enabling automatic form printing](#).

Enabling automatic form printing

If your organization uses Reports , various forms can be created for orders, such as job tickets, request confirmations, internal or external order forms and quotations. These forms are available for end users in the **Forms** dialog box in Work Orders and Reservations . End users can open the **Forms** dialog box manually or the Planon administrator can configure that the **Forms** window is displayed automatically if an order reaches a particular status.



For more information on creating template forms, see the Reports documentation.
For more information on using forms, see the Work Orders documentation.

Example

You want the **Forms** dialog box to be opened automatically if a requisition reaches the **Requisition confirmed** status. To achieve this, proceed as follows:

Procedure

1. In Work Orders , open the **Forms** dialog box and link a template form to the correct order type (in this example: Requisition). Make sure that the correct user status is selected in the **User status** field (in this example: the **Requisition confirmed** status).
2. In Field definer , go to the **Business objects** selection level and set the **Orders** business object **Under construction**.
3. Select the required order type, in this example **Requisitions**.
4. Go to **Details > Statuses**.
5. Select the status for which you want to have the form automatically printed (in this example: **Requisition confirmed**).
6. Set the **Print form** option to **Yes**.
7. In the **Mail merge report** field, select the correct template form (in this example: **Confirmation**) from the pick list listing all template forms that correspond to the current status.
8. Click **Save**.
9. Go to the **Business Objects** selection level and put the **Orders** business object back to **Completed**.

In Work Orders , the **Forms** dialog box will now be opened automatically if a requisition is set to the **Requisition confirmed** status.

Defining user status transitions

After you have created the required user statuses ([Creating user statuses](#)), you can define status transitions for the business object.

Example:

You require the status transition **Complaint reported** > **Complaint withdrawn** for the user-defined business object **Complaint**.

Procedure

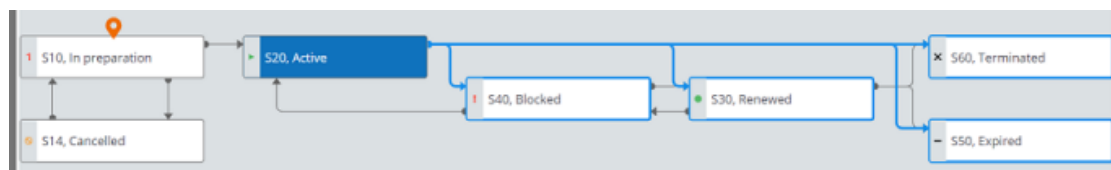
1. Make sure that the business object concerned - in this example the Orders - is Under construction.
2. Select the user-defined business object, in this example: Complaint.
3. Go to Details > Status transitions.
4. From the Status transitions action panel, select Add user status transition.
5. For each status transition, select a From and a To status.
Initial status transitions, of which there can be several, go from 'nothing' to a specific target status.



If there are several initial status transitions available for a business object and if authorization permits it, end users will be able to switch between initial statuses on adding a new business object. This is only possible until they click **Save**; after that the initial status is final and read-only.

Configuring status transitions

End users can view statuses and status transitions of a business object in a flow diagram. If they click **Show flow diagram** on the action panel, the flow diagram is displayed.



In many cases, the standard flow diagram will suffice. In more complex cases, you may want to adjust the configuration.

You can adjust the configuration of a flow diagram by using the [Status flow diagram](#).

Status flow diagram

In Field definer , you can arrange status transition and build a status flow by using the status flow diagram.

The status flow diagram is a graphical component that enables you to (re)arrange statuses and status transitions of a business object in order to provide a clear workflow to the end user.

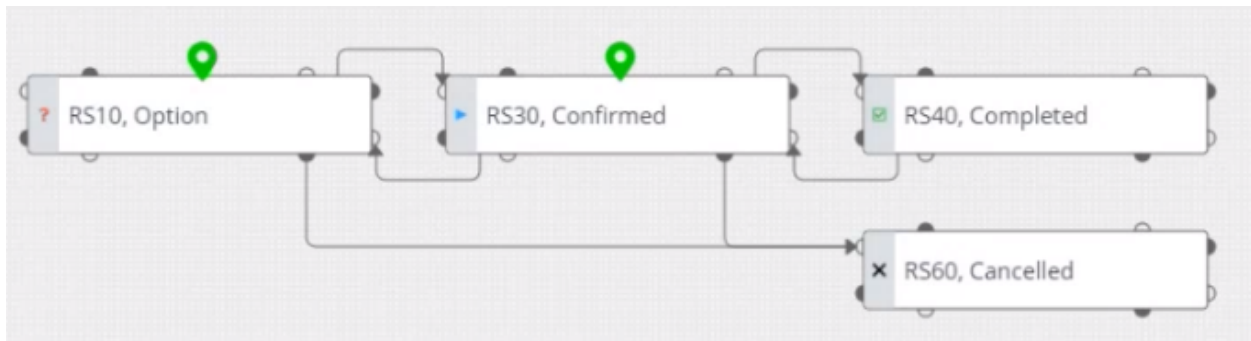
The tool provides a graphical view of the status flow and allows you to reposition the statuses and transitions as required.

The status flow diagram is available for all user defined business objects for which you can define status transitions.

Status transition

A status transition refers to the change or movement of an entity from one status to another.

In the status flow diagram, you can add and reposition statuses to the canvas. The links between the statuses represent the transitions, often triggered by specific events or actions.



The combination of all available status transitions for a business object is called a status flow.

Canvas

The center panel of the **Status flow diagram** is the canvas.

 The status flow is editable only if the BO is set under construction.

On the canvas you can:

- Rearrange statuses.
- Rearrange transitions
- Identify the initial status(es). An initial status of a BO is marked by the





icon. A status flow can have one or more initial statuses.

- At the top of the canvas zoom in, zoom out and fit-to-screen buttons are available.

Adding statuses and transitions


You can add an existing status to the status flow of a user-defined business object and add transitions to it. You can also rearrange and remove transitions.

1. On the Business objects step, select a base business object for which user-defined business objects (UDBOs) are configured.
2. Put the base business object under construction, by clicking on the lock icon.
3. Select the user-defined business object for which you want to add a status.
4. Go to **Details > Status transitions**.

Here, on the right, you can either select the data panel view () or the status chart view (). The status chart allows you to visually model the status flow.

5. Click **Add a status** on the top.


The available status list for the selected UDBO appears.

 If the required status is not available in the list, you must first create it (see [Defining user status transitions](#)).

6. Click the status that you want to add, it will directly be added to the canvas (on the top, highlighted in blue).
 - If you move away to another step or TSI, the status will be gone from the canvas.
 - If you refresh the status list, the status will disappear.
7. Drag the status to the preferred position.
8. Add transition(s), to and from, as required.

You can do so by holding the cursor and dragging the transition arrow to the destination port of another status.

A transition is created.

9. After making necessary changes, set the business object to Completed by clicking on the unlock icon.
 - To remove a transition, select it and click the  icon that appears. The transition is removed.
 - Click Auto-align to distribute the status transitions equally - this will undo all the changes made to the layout.
 - You can zoom in or zoom out and make the canvas fit to screen.

- If you select a status in the canvas, the corresponding status transition(s) in the elements list is/are also highlighted.

(Re)arranging the status flow

Status flow displays a graphical view of the existing status transitions of a selected business object and allows you to rearrange the statuses and transitions to create a better workflow.

You can rearrange the statuses and transitions as required.

Procedure

1. On the Business objects step, select a business object and put it under construction.
2. Select the user-defined business object whose status flow you want to edit.

The available status flow diagram is displayed on the canvas.

3. To rearrange statuses, click and hold a status and reposition it.

The transition lines are rerouted automatically.

4. To rearrange transitions, click on a transition.

The transition arrow is highlighted.

5. Click on a port and drag the transition to the required source or destination port.

You can only change a source port to another source port and a destination port to another destination port.

6. Rearrange the transitions, until the workflow is correct.
7. When you are done, set the business object to **Completed**.

The changes you made to the status flow are now available to end users.

Adding a user-defined business object to a TSI

Before a user-defined business object can be used, you must create a layout for it and assign it to the TSI in which you want to use it. This is explained in the following procedure, using the Work Orders TSI as an example.

Procedure

1. In Field definer , select the user-defined business object you just created and click Jump to Layouts in the action panel.

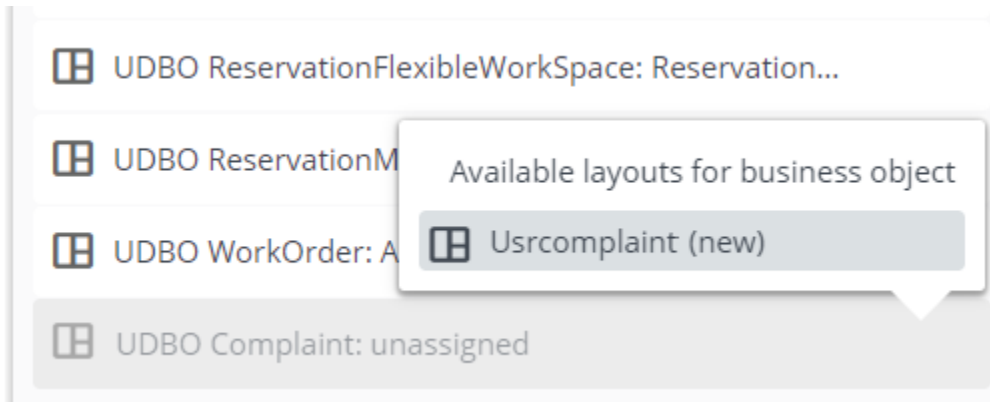
2.

In Layouts , click  to add a new layout for your business object.

3. Configure the layout as desired. For more information, see [Layouts](#).
4. Go to [TSIs](#).
5. Select the [Work Orders](#) TSI and set it Under construction.
6. Go to [Orders > Orders](#).

As you can see, the new layout you just created is still unassigned and grayed out in the list.

7. Select the layout (Complaint in this example) and right-click to assign it to the TSI.



8. Set the TSI's status to Completed.
9. Select Refresh all.

The new user-defined business object is now ready for use.



For more information on configuring TSIs, see [TSIs](#).

Allowing end users to change the type of business object

The **Change type** functionality enables end users to change the type of a business object:

- From a user-defined business object to another user-defined business object
- From a system business object to a user-defined business object. It is not possible to change a user-defined business object to a system business object.

The reasons for using the **Change type** functionality is best illustrated with an example:

An organization uses two user-defined types of the **Properties** system business object: **Complex** and **Wing**.

Head office Beverly road has been specified as a wing, but it should be a complex. With the **Change type** option, end users can easily change this.

After selecting the **Change type** option, a dialog box opens where end users can select the correct type.

To make the **Change type** functionality available to end users, you must configure settings in Field definer and Layouts .

Precondition

You can only use the **Change type** functionality:

- For business objects for which it is possible to create user-defined business objects.
- If the action is available on the action panel (see [Settings in Field definer](#)).
- If both business objects have the same **Default status** (see [Settings in Layouts](#)).

Settings in Field definer

Make the following settings in Field definer :

1. Specify at least one status for the system business object for which you are going to create user-defined types.
See [Creating user statuses](#).
2. Create user-defined business objects.
For example: Complex and Wing, based on the Properties system business object. See [Creating user-defined business objects](#).

Note

Make sure that you specify the same default status for both user-defined business objects in the **Default status** field.

3. Specify a status transition for each of the user-defined business objects (Wing and Complex) you have created. See [Defining user status transitions](#). For the user status transitions you create, the From status field should be left empty. In the To status field, select the user-defined status you have created in step 1.
4. Set the status of the system business object (Properties) back to Completed.

Settings in Layouts

In Layouts , the **Change type** action should be made available for the user-defined business objects concerned.

Procedure

1. Go to [Layouts](#) .
2. Select the appropriate layout and set its status to Under construction.
3. Check if the Change type action is already available on the layout. If not, add it.

The **Change type** action will now be available for the end user working with this layout.



For more information, refer to the [Layouts](#) part of the user documentation.

Making field settings

- On Details > Fields you can:
 - set field attributes (see [Setting field attributes](#))
 - modify the field type for some fields (see [Modifying the field type](#))
 - modify the translation of a field name
- On Details > Actions you can enter or modify the translations for the actions of a business object.
- On Details > Links you can enter or modify the translations of business object links, but you can also add multiple-selection lists to the selected business object here (see [Linking Multiple-Selection Lists to Business Objects](#)).
- On Details > Statuses you can create user-defined statuses (see [Creating user statuses](#)).
- On Details > Display types you can maintain display types of a business object (see [Configuring Display Types](#)).

Setting field attributes

For most business objects, you can set various field attributes for individual fields. You can for example, enable the **Mandatory** attribute to enforce the completion of a field. Some business objects, such as standard orders have field attributes that cannot be changed.

Usually field attributes can be enabled or disabled independently. For some fields, however, a particular attribute cannot be modified. For example, for some fields the **Mandatory** attribute cannot be disabled because Planon ProCenter requires the field to be completed. Some field attributes cannot be enabled in combination. For example, the **Unique** and **Inherit** attributes can never be selected simultaneously for a field. For information on all the field attributes, see [Overview of field attributes](#).

Warning

The field attributes **Mandatory**, **In selection**, **Read-only** and **Default value** can also be set in Layouts . Regarding the interaction between Field definer and Layouts , please note the following: if the **In Use** option of a field was set to **No** in Field definer , this field will not be available on the **Fields** tab in Layouts .

In Layouts , you can see the field attributes as they have been specified in Field definer . If you have specified a field attribute in Field definer - for example you have set the **Department** field of the **Personnel** business object to **Mandatory** – this field has the same attribute in Layouts . You cannot change this field attribute in Layouts .

Tip

For more information, refer to the Layouts user documentation.

[Overview of field attributes](#)
[Linking a picklist to a free field](#)
[Using the 'Derived from field' and 'Derived field' attributes](#)
[Defining default values](#)
[Defining a default time](#)
[Using macros to specify a default value](#)

Overview of field attributes

Attributes	Description
System field	<p>This attribute is set by Planon. You cannot change this setting. The following applies to system fields:</p> <ul style="list-style-type: none">• System fields cannot be disabled in Authorization.• System fields are always read-only for the end user and automatically populated by Planon ProCenter .• You can enable history on system fields present in the database (except for calculated system fields).
Planon field type	<p>The field type specified by Planon; this field attribute is read-only and cannot be changed.</p>
Planon input length	<p>Maximum field length specified by Planon; this field attribute is read-only and cannot be changed. A field cannot accommodate more characters than the specified maximum length.</p>
Number of decimal places	<p>This attribute indicates the number of decimal places (field value accuracy) that will be applied to a number. By default, number of decimal places is set to 2. The maximum limit for the number of decimal places is 6. The number of decimal places can be changed only for Currency type fields with configurable precision. For all other decimal field types, the number of decimal places is fixed.</p> <div style="border: 1px solid black; padding: 5px;"><p>Note The changes are permanent and irreversible</p></div>
In use	<p>This attribute makes it possible to show or hide a field in the data panel. It is advisable to hide a field that is not used within your organization.</p> <div style="border: 1px solid black; padding: 5px;"><p>Note If you set a (free) field to In use, then it is useful to explain in the Comments field why this field has been configured. This simplifies future maintenance. Use the CTRL + D keys to add a date-time stamp.</p></div>
Field type	<p>Shows the field type. For some free fields you can modify the field type. If the field type cannot be modified, this field is grayed out. For more information on modifying a field type, refer to Modifying the field type.</p>
Picklist - code, descriptive	<p>This field is used in combination with the Field type field. If the field type is Picklists code descriptive, you should also enter a value in the Picklist - code, descriptive field. If a field has this attribute, a picklist is available from which end users can make a choice. For each choice in the picklist a description and a code are available. End users can either select an option from the picklist or type the corresponding code in the field. For more information about how to link a picklist to a free field, see Linking a picklist to a free field.</p>
Picklist - descriptive	<p>This field is used in combination with the Field type field. If the field type is Picklists descriptive, you should also enter a value in the Picklist - descriptive field. By selecting this attribute for a field, a picklist is made</p>

Attributes

Description

available for the field from which the end users can make a choice. For each choice in the picklist a description is available. Configured picklists of either type (descriptive, or code/descriptive) can be linked to free fields in Field definer .

Tip

Picklists can be created and maintained in Supporting data . In Planon ProCenter , both the configuration and the use of two types of picklists can be subjected to authorization. For more information on authorizing picklists, refer to the *Authorization* documentation.

For more information about how to link a picklist to a free field, see [Linking a picklist to a free field](#).

Enforced

If the **Enforced** option is disabled, the end user can either select an option from the picklist or type a value that is not in the picklist. To improve standard data input, it is usually preferable to enable this option. End users are then forced to choose a value from the picklist.

Person type

End users can choose a person from a picklist containing (a number of) the persons registered in Personnel . By using the **Person type** field, you can specify the person type that is shown in this picklist. If you leave this field empty, end users will see the persons of all person types. For example, you have set the person type of the **To be approved by** field in **Orders** business object to **Authorizer**. For end users working with Work Orders , the picklist of the **To be approved by** field will only show the persons of the **Authorizer** person type.

Note the **Enforced** option of the **To be approved by** field is set to **No**, and if end users open the picklist of the **To be approved by** field in Work Orders :

- End users can, by selecting the **Person type**, have only the persons displayed of the person type specified in the **Person type** field.
- End users can, by deselecting the **Person type**, have persons shown of all person types.

Address type

End users can choose an address from a picklist containing (a number of) the addresses registered in Addresses . By using the **Address type** field in Field definer you can specify the address type that is shown in this picklist. If you leave this field empty, end users will see the addresses of all address types.

You have set the **Address type** of the **Assigned by** field in Work Orders business object to **Authority**. For end users working with Work Orders , the picklist of the **Assigned by** field will only show the addresses of the **Authority** address type.

Note in Field definer the **Enforced** option of the **Assigned by** field is set to **No**, and end users open the picklist of the **Assigned by** field

Attributes

Description

- End users can, by selecting the **Address type**, have only the addresses displayed of the type specified in the **Address type** field in Field definer (Authority).
- End users can, by deselecting the **Address type**, have the addresses shown of all address types.

Inherit

This attribute can be applied to fields of hierarchical business objects, for example, the **Property** and **Orders** business objects. If the **Inherit** attribute is enabled for a field of a hierarchical business object and end users add subs to the main business object, this field will derive (inherit) field data from the same field at the main level.

Warning

Inherited data will overwrite all data that is automatically specified as a result of selections made on previous selection levels.

For **Orders**, **Assets** and **Contracts**, the **Inherit** attribute can also be applied to existing subs. For these business objects, if end users change a field at the main level while the **Inherit** attribute is enabled for the same field in any of the subs, then the user will be prompted whether they want to overwrite this field's data at all sublevels or leave these fields unchanged.

Example: In **Reservations**, there is a main reservation with two suborders: a catering order and a requisition. The **Inherit** field attribute has been enabled for the **Internal tradesperson** field in both the suborders. If at the main level another internal tradesperson is selected, the user will be asked if this new data should overwrite the data in the **Internal tradesperson** fields in the suborders.

Display type

This attribute enables to select the display types for which a specific field should be visible. Using a display type you can specify the data that should be visible for a particular business object. For more information on display types, refer to [Configuring display types](#).

History

You can specify for each field whether modifications to the field should be logged. This is the field's history. You can view any modifications to the field concerned using this history function.

Note This attribute is only available to business objects for which a **History** business object is available.

In selection

This attribute determines if end users are allowed to create a filter for the field. As a result, the field will become available in all relevant filters.

Warning

If you want to enable the **In selection** field attribute for a field of a hierarchical business object, make sure that you enable this attribute at the highest hierarchical level. The **In selection** field attribute is not

Attributes

Description

available for a user-defined business object.

Simple selection

If you enable the **Simple selection** attribute for a field, the field will become available as search criterion in all relevant search bars, including those in dialog boxes.

Note You can also activate **In selection** and **Simple selection** attributes for specific *multiple reference* fields. The setting is available on multiple reference fields of the following business objects:

- Properties - Linked customers field, Linked service agreements field
- Customers - Linked properties field
- Service Agreement services - Linked contract lines field, Linked service agreements field
- Contract lines - Linked properties field, Linked service levels field, Linked services field
- Service agreements - Linked service agreement services, Linked assets, Linked properties, Linked spaces fields
- Service levels - Linked contract lines field
- User groups - Users field
- Users: User group details field

In selection for personal filter only

The number of characters in a field can adversely affect the application's performance when used in filters. For this reason, you can use **Comment** fields exceeding 2000 characters in personal filters only. When this is true, the **In selection for personal filter only** field is automatically set to **Yes** to indicate this limitation. If it remains **No**, this limitation is not set and it can be used in filters.

Note The **In selection for personal filter only** field is available only for fields of type **String**.

Mandatory

This attribute determines whether it is compulsory to fill in a field. All mandatory fields must be completed when adding a new element.

Unique

If this attribute is selected, the value in the corresponding field may not be identical to the value in the same field for a different element. An example for a unique field is the **Code** field, because each element has its own unique code. For more information, see **Apply "Planon Unique" to related user-defined business objects?**.

Note The attributes **Unique** and **Inherit** can never be selected at the same time for a field.

Apply "Planon Unique" to related user-defined business objects?

With the exception of the **Orders** business object, this attribute is only available for a base business object (i.e. one at the highest hierarchical level) that allows user-defined business objects to be added to it at lower levels in the hierarchy. Setting this attribute to **Yes** causes the value in the corresponding field to be unique for all user-defined business objects that are based on the selected base business object. For example, you created four user-defined business objects based on the **Assets** business object.

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Description

If you set **Apply "Planon Unique" to related user-defined business objects?** to **Yes** for the **Code** field in the **Assets** business object, then users will be forced to uniquely name values in the **Code** field for all elements in all four user-defined business objects. If you set the **Apply "Planon Unique" to related user-defined business objects?** attribute to **Yes**, the **Unique** attribute is automatically set to **Yes**.

Derived from field

The **Derived from field** attribute can be used to link a free field of a business object to a field of another business object. To make this work, this free field must either be of the **Derived** or the **Derive and restore** field type and values must be entered in both the **Derived from field** and **Derived field** fields. For an example of how the **Derived field** and **Derived from field** work, see [Using the 'Derived from field' and 'Derived field' attributes](#).

Derived field

This attribute can be used to link a business object's free field, of the **Derived** or **Derive and restore** field type, to a business object and one of its derived fields. The **Derived field** attribute represents a field of a referencing business object. For example: the **Fax** field from the Personnel business object.

If the field type is **Derived** or **Derive and restore**, you should also enter values in both **Derived from field** and **Derived field** in Field definer . For more information, see [Using the 'Derived from field' and 'Derived field' attributes](#).

Default value

With a default value, the field will be populated automatically. This will save time for the end users as they need not complete this field manually. You can link a default value to most fields. The principle of default value is best explained in the following example:

In Field definer , the Planon administrator has specified a default value for the **Country** field of the **Properties** business object . So, if the end user adds a property, the country will be populated automatically with the value specified in Field definer . For more information on defining default values, see [Defining default values](#).

Default time

The **Default time** field allows you to set a default time or use a macro to set a default time for the date-time fields of a business object (BO). If you specify a default time for a date-time field, the time is automatically added in the field if you enter only a date, and then tab out of the field. For example, if you enter 20:00 in the **Default time** field for a date-time field, 20:00 is added automatically in the field if you do not enter a time. Similarly, if you enter &ENDOFDAY in the **Default time** field for a date-time field, 23:59 is added automatically in the field if you do not enter a time.

You can set a default time or use a macro to set a default time in the following field types:

- Neutral date-time


- Property date-time
- Transaction date-time
- Free string, if the field type is changed to **Neutral time macro**

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Description

Note You must change the field type of a free string field to **Neutral time macro** and specify a macro in the **Default value** field. If you do not change the field type, it will display the text of the macro. For more information on modifying a field type, refer to [Modifying the field type](#). For details on available macros, see *Fundamentals*. For the procedure on defining a default time, see [Defining a default time](#). For information on using a macros, see [Using macros to specify a default value](#).

Linking a picklist to a free field

A picklist is typically the list displayed when you click the  button along a field. Using the picklist end users can choose a value for the field. In order to enable the picklist, you must select the **Picklists - descriptive** or **Picklist - code, descriptive** field attribute. Configured picklists of either type (descriptive, or code/descriptive) can be linked to free fields in Field definer .

Follow the procedure given below to link a picklist to a free field.

Procedure

1. In Field definer , select the business object in which you want to use the picklist and change its status to Under construction.
2. Go to Details > Fields.
3. Select the free field you want to use the picklist for and make sure the **In Use** attribute is set to **Yes**.
4. Change the Field type attribute for this field to either CodesCodeName (picklist code descriptive) or CodesName (picklist descriptive).
5. One of the fields Picklist code descriptive or Picklist descriptive will now be enabled. In this field, select the picklist you want to link.
6. Set the Enforced attribute to Yes if you want to force the user to select an option from the picklist. If this attribute is set to No, the user is allowed to enter any value in the field. For more information on setting field attributes, see Setting field attributes.
7. Complete the business object by setting its status back to Completed.
8. Go to Layouts and add the field in which you want to use the picklist to the layout.
Verify that the free field is visible and not read-only.
9. Click Save on top of the Layout panel to save your changes.
10. Set the business object to Completed.

Tip

For more information on Layouts, refer to the [Layout](#) documentation.

Using the 'Derived from field' and 'Derived field' attributes

The **Derived from field** attribute can be used to link a free field of the **Move lines** business object to a field of another business object. Refer to the following example on using the **Derived from field** and **Derived field** attributes.

Example

In **Moves** , you want to add some extra information to the **Move lines - personnel** business object, for example two fields containing the current and the future fax number of the person that is going to move. This fax number data is available in **Personnel** .

Procedure

1. Go to **Field definer** and select the **Move lines** business object.
2. Set the business object to **Under construction**.
3. At **Details > Fields**, select one of the unused free fields of **Move lines** set it to **In use** and select the **Derived field** type in the **Field type** field.
4. Select a reference to a business object from the dialog box in **Derived from field**, for example **PersonRef**.
5. Select a relevant field of this business object from the dialog box in **Derived field**. For example **FreeString 23**, representing a person's fax number.
6. Give the free field of the move line a relevant name, for example **Current fax number**.
7. Repeat steps 3-5, only this time, select another unused free field of the **Move lines** business object and select the **Derive and restore field** type in the **Field type** field.
8. Give the free field a relevant name, for example **New fax number**.
9. Set the **Move lines** business object back to **Completed**.
10. In **Layouts** , make sure that the configured free fields are visible on the relevant **Move lines** layout.

Tip

For more information on adding fields to a layout, see the **Layouts and TSIs** documentation.

Now that the move is implemented in **Moves** , the **New fax number** field is automatically populated in the move line when a person is selected. It is also used to update the **Fax** field in **Personnel** .

For general information on adding field types to free fields, see [Modifying the field type](#).

Defining default values

These are the types of default values.

- Default values set in Field definer . These defaults apply to the whole application and to all users. Authorization settings are ignored.
- Defaults values set in Layouts . These defaults only apply to the layout concerned. Authorization settings are taken into account.

Layout defaults may be defined next to Field definer defaults and therefore can differ from the Field definer defaults. In case both a layout and Field definer default is defined, the layout default overwrites the Field definer default.

Note It is not possible to define default values for field types such as document and file references, images, calculated fields etc.

Tip

For more information on configuring layouts and defining defaults in Layouts , see the Layouts user documentation.

Procedure

1. Go to Field definer > Business objects and select the relevant business object. Set its status to Under construction.
2. Go to Details > Fields.
3. Select the field for which you want to define a default value.
4. Enter the required value in the Default value field.
5. Save your settings.
6. Set the business object's status back to Completed.

Warning

If you changed the field type of a free field in Field definer , the default value of that field will be deleted. However, the default value in any related layout will not be deleted. The layout defaults have to be deleted manually.

Defining a default time

You can define a default time for a date-time field to have the time automatically added in the field when you only enter the date and then tab out of the field.

Procedure

1. Go to Field definer > Business objects.
2. Select the business object for which you want to define a default time.
3. Set the status of the selected business object to Under construction. If the selected business object is hierarchical, select the user-defined business object type.

For example, Orders > Work orders > UsrOrder.

4. Go to Details > Fields.
5. Select the date-time field for which you want to define a default time, for example, End date-time.
6. Enter the required value in the Default time field.
7. Click Save.
8. Set the business object's status back to Completed.

Using macros to specify a default value

For some fields, you can also use macros to specify a default value, for example for dates. Be sure to use a macro that is appropriate for the field type. For example, if you use the **&startofday** macro in a string field, this macro will not give a date but it will just display the text of the macro ('&startofday').

You can use the **&CODEGEN** macro in the **Default value** field to automatically generate codes (with max. length of 10 characters) for business objects such as properties, persons and addresses.

The **&CODEGEN** macro can consist of the following elements:



Note For more information on defining masks, see [Masks](#).

Code for all property sets or per property set

If you want Planon ProCenter to generate a code regardless of the property set, add the **T** (true) parameter to the macro. If you want to generate a code per property set, use **F** (false). This way, codes can be duplicated across multiple property sets.

Initial sequence number

The initial sequence number you want Planon ProCenter to use, can be specified. If you do not specify an initial sequence number, Planon ProCenter will start numbering from 1.

Example

In Field definer , the macro **&CODEGEN(OBJ####,F,100)** is specified as a default value for the **Property code** field. The first code generated will be OBJ0100. Each time a new property is added, the code's sequence number is automatically incremented. So the next code that is generated will be OBJ0101 etc. The code is incremented per property set.

Tip

For details on the other available macros, see [Relative filters using macros](#).

Field types

For some free fields you can modify the field type. Depending on the category, there are different available field types you can choose from. There are four different categories of free fields:

- Free fields (**FreeString**): for a list of the available free string field types, see [Free string fields](#).

Tip

- If you configure a free string field as **URL** field, please note that lengthy location URLs do not work. You can shorten the URL using a URL shortener.
- Alternatively, you can change the field type to a **Relative URL**.

- Free reference fields (**FreeInteger**): for this field type a reference to another business object can be selected.
- Free date-time fields (**FreeDateTime**)
- Free numerical fields (**FreeDecimal**)

Using a Relative URL

When using a Free field as a Relative URL field, you only need to enter the part of a URL that follows the *base* or *root* URL specified in the **Externally accessible URL** field in [System Settings](#). Consequently, when configured as a **Relative URL** field, the Free field is relative to the **Externally accessible URL**.

Externally accessible URL	Relative URL	Result
https://customer.planon.cloud	/case/BP/PUB001	https://customer.planon.cloud/case/BP/PUB001

Note• Using Relative URLs is very useful when moving environments in a [DTAP street](#) - this way, Self-Service forms will remain working and can be tested.

- The result of the two fields combined is limited to a length of 2000 characters.

Modifying the field type
Reconfiguring Free date-time fields

Modifying the field type

For some free fields you can modify the field type. If the field type cannot be modified, the **Field type** field is grayed out.

Warning

When modifying the field type, all field information that was entered previously will be lost. Make sure to check beforehand if the field contains any information that should not be deleted.

Procedure

1. Go to **Field definer** > Business objects.
2. Select the relevant business object and set its status to Under construction.
3. Go to Details > Fields.
4. Select the field for which you want to change the type and ensure its In use attribute is set to Yes.
5. Go to the Field type field and click on the picklist button.

A dialog box is displayed containing the possible field types.

6. Select the required field type.
7. Save your settings.
8. Set the business object's status back to Completed.

Reconfiguring Free date-time fields

When used on a layout, Free date-time fields typically display a date and time stamp.

You can, however, reconfigure this type of field to display only a date.

Procedure

1. Go to Field definer , select a business object and set it **Under construction**.
2. Go to Details > Fields, select a Free date-time field.
3. Set it to In use and change its **Field type** to **DateNeutral**.
4. Go back to **Business objects** level and set the business object to **Completed**.

You can use this field on a layout and in the date-picker window that will be available for this field, you can now select a date (only).

In the database, this field will be added with 00:00 as a 'dummy' value for the time.

Automatic updating of field attributes

Planon ProCenter includes several business objects that are more complex than other business objects, because of their close similarity and association with a 'standard' business object. A good example is the **Orders** business object, which is very similar to and closely associated with the **Standard orders** business object.

With regard to the field attributes of standard business objects, an automatic updating principle applies: if you modify one or more field attributes of a leading business object like **Base assets**, the system automatically updates the field attributes of its associated **Base standard assets** business object. Refer to the following table to see which business object updates the field attributes of which standard business object.

Leading business objects	Associated standard business objects
Orders	Standard orders
Base assets	Base standard assets
Base service plans	Contract service plans
Base activity definitions	Contract activity definitions
Building elements	Standard building elements
Standard activity definitions	Survey activity definitions
Asset components	Standard asset components

Refer to the following procedure for an example:

Procedure

1. In Field definer , at the Business Objects selection level, select the relevant business object and set it Under construction.

In this example Base assets is selected.

2. Refresh the list and note that Base standard assets is also Under construction
3. Drill down to Details > Fields.
4. Select a field of Base assets whose field attributes you want to change, for example Free field 1.
5. Select Yes in the In use field.
6. Change the relevant field attribute. For example, in the Field type field, select a field type, like Person.
7. Click Save.
8. At Business Objects, set Base assets to Completed.
9. Refresh the list and note that Base standard assets is also Completed.
10. Select the Base standard assets business object and drill down to Details > Fields.

The field attributes of **Free field 1** have been changed to the **Person** field type.



Not all field attributes of associated business objects are subject to automatic updating!
The automatically updated field attributes are:

- In use
- Picklist - code, descriptive
- Picklist – descriptive
- Field type
- Person type
- Address type
- In selection
- Simple selection
- Translations

User-configurable system names of free fields

In Planon, a field or object is uniquely known and called by its technical label, the system name.

Most business objects have a set of free fields that are available for a specific user configuration. Some customers have software customizations using free fields built on top of the Planon application, so-called tailor-made solutions (TMS).

These customizations call the system name of the fields used. In order to be able to share TMS across customers without having to rework the code, these customizations now also work when calling the system name "alias".

In addition, rather than the technical label, these meaningful names will be more intuitive when used in Planon Connect for Analytics.

Changing system names of free fields

In Planon, a field or object is uniquely known and called by its technical label, the system name. These names now have an "alias" that can be changed as required.

Procedure

1. Select the business object for which you want to change the system name (of free fields) and set it to Under construction.
2. Go to Details > Fields and select the free field whose system name alias you want to change.
3. Set the In use field to Yes.

Notice that the field User-defined system name is now editable.

4. Enter a meaningful (alphanumeric) name and click Save.

The meaningful name you have entered is now prefixed with the acronym Usr.

5. Set the business object's status back to Completed.

Multiple-selection lists

'Regular' picklists, as described in [Setting field attributes](#), allow end users to select only one item in the list. In some cases, you may want end users to be able to select multiple items from a list. For more information on how to configure this, see [Linking a multiple-selection list to a business object](#) and [Making a multiple-selection list available](#).



You can link any picklist as a multiple-selection list to a business object.



Since multiple-selection lists are linked to business objects via free fields, it is impossible to create multiple-selection lists for business objects that do not have free fields. It is also not possible to create multiple-selection lists for the following business objects: **Address types**, **Person types** and **Cities**.

Examples of multiple-selection lists

- You may want to link personal credentials such as certificates, diplomas and (driving) licenses to people in the Personnel TSI. You can therefore create a multiple-selection list that includes several of the most valued certificates in your organization.
- For the sake of the catering department, dietary wishes of visitors may need to be registered. Visitors may have multiple dietary requirements. In Field definer , you can link a list of dietary choices to the **Visitors** business object, listing choices such as sugar-free, low sodium, lactose-free, vegetarian, vegan and so on.

Linking a multiple-selection list to a business object

Prerequisite

The picklist you want to link as a multiple-selection list must already exist in Supporting data > **Pick lists**.



For more information on configuring picklists, see Supporting data .

Procedure

1. Go to **Field definer** > Business objects.
2. Select the relevant business object to which you want to link a multiple-selection list and set its status to Under construction.

In this example, we will use the Visitors business object to which you want to link a list of dietary choices.

3. Go to Details > Links.

4. On the Links action panel, click Add.
5. Complete the fields in the data panel (see User links).
 - In the **Linked business object** field, select the relevant picklist (in our example: the list of dietary choices).
 - In the **Field** field, select a free field to which the multiple-selection list is to be linked. Only free fields that are not **In use** are displayed
6. Click Save.
7. Set the business object's status back to Completed

You have now linked a multiple-selection list to the Visitors business object. To make the list available for use, see [Making a multiple-selection list available for use](#).

Making a multiple-selection list available

After you have [linked a multiple-selection list to a business object](#), you need to make it available to end users.

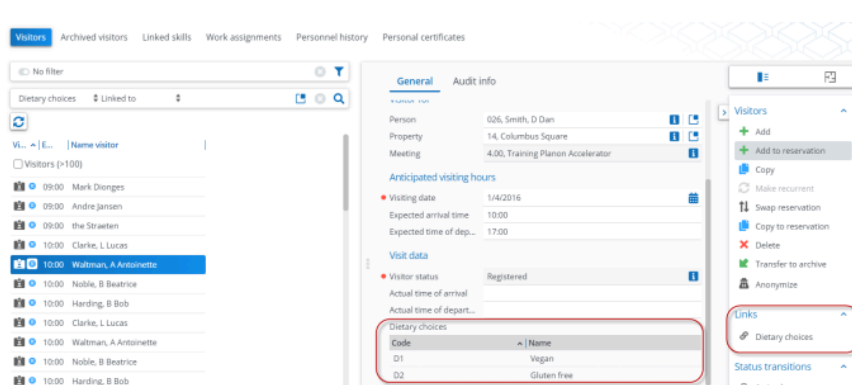
Procedure

1. Go to **Field definer** > Business objects.
2. Select the business object to which you have linked a multiple-selection list (Visitors in our example).
3. Click Jump to Layouts in the action panel.
The relevant layout (Visitor in our example) is now opened.
4. Set the layout to Under construction.
5. Click the Links area in the Layout panel once to show the links that are available.
6. Select the relevant link to the multiple-selection list (in our example: the list of dietary choices) and move it to the right position in the Links area of the Layout panel.
7. In the Layout panel, click in the area where you can add fields.
8. Select the multiple-selection free field in the Unused fields section and move it to the right position on the Fields tab.
9. Click Save and set the layout's status back to Completed.

The multiple-selection list is now available for end users via the Links action panel of the relevant layout. The multiple-selection free field is now visible for end users working with this layout.



The multiple-selection free field in the data panel will be *read only*. End users can only change the field's contents through the link in the **Links** action panel.



For more information on configuring layouts, refer to the [Layouts](#) part of the documentation.

Using a multiple-selection list for filtering

After [linking a multiple-selection list to a business object](#) and [making it available](#) on the business object's layout, end users can use the items of the multiple-selection list as filter criteria in the search bar.



For more information on filtering, see [Fundamentals > Searching/filtering](#).

Procedure

1. Start a TSI with the layout in which you have made the multiple-selection list available.
2. In the search bar, select the free field to which the multiple-selection list is linked. You can filter using either the **Linked to** or **Is empty** filter options. The filter results are displayed in the elements list.

- **Linked to**

Specify the filter criteria you want to apply. The items of the multiple-selection list are available as filter criteria.

- **Is empty**

By selecting the **Is empty** filter option, the filter results contain all elements for which the multiple-selection field was not filled.

Display types

Using a display type you can specify the data fields that should be visible for a particular business object. You can specify display types for the following business objects:

- Orders
- Properties
- Personnel
- Contracts
- Item groups
- Assets

The concept of a display type can best be illustrated by an example.

Example

Properties may be divided into various types, such as a complex of buildings, individual buildings and grounds. The data you want to register on office buildings may vary from the data to be registered on grounds. By specifying the **Property type** field for a property, you can decide the type of property concerned. The type of data to be registered depends on the choice made.

Configuring display types

Procedure

1. Go to Field definer > Business objects.
2. Select the relevant business object. This has to be a business object that uses display types (see Display types).
3. Set the business object's status to Under construction.
4. Go to Details > Display types. Here you can enter the appropriate names for the display types.
5. Go to Details > Fields.
6. Select the field you want to be available for particular display types only.
7. Open the Display type picklist in the Display type field.
8. In the Display type picklist, select the display types for which end users should see the selected field.
9. If required, repeat steps 6, 7 and 8 for other fields.
10. Set the business object's status back to Completed if you have finished configuring the display types.

Configuring database indexes

In a Planon Cloud environment, performance can be improved by creating custom indexes on the database. With the support of Planon, you can create database indexes in Field definer . This saves you the trouble of involving a database specialist to manually add them to the database.

Procedure

1. Go to Field definer > Business objects.
2. Select the business object to which you want to add indexes.
3. Go to Details > Custom indexes.



The **Custom indexes** step is available only in a Cloud environment.

4. On the action panel, click **Add** and complete the fields.

For a description of these fields, refer to [Custom indexes fields](#).

5. Click **Save**.

A custom database index is created for the business object.

Extensions

The Planon ProCenter software can be customized, in the sense that licensees are allowed to add customized TSIs and business rules to the Planon application. A fully customized TSI can be created in the **Open Module**.



For more information on the **Open Module**, refer to the *Open Module* user documentation.

Customized pieces of business logic (rules and GUI actions) can be built and subsequently added to Planon ProCenter . See [Adding extensions](#).

You can apply extensions to all Planon TSIs. In practice, it comes down to being allowed to program specific business rules in Java, which are subsequently registered as extensions in the Planon ProCenter application.

Extensions are always triggered directly or indirectly by user actions (such as selecting, adding, updating, changing a status etc.). In Planon ProCenter , business rules often (though not always) manifest themselves in the form of dialog boxes that contain an error message, warning or confirmation. User authorization is not taken into account when business rules are executed.



Business rules in extensions can never overrule or change existing Planon ProCenter business rules.



For more information on building your own extensions, refer to the *Solution Extensions* documentation or your Planon consultant.

Adding extensions

The process of adding extensions to Planon ProCenter involves five steps:

1. Create extensions in your preferred Java development environment;
2. After compilation of the class file(s), extend the API library (Application Programming Interface library) that is provided by Planon, with these files. It comes down to placing them in a directory that can be accessed by the application server.
3. Register your new extension(s) in Business processes > SX Configuration.
4. Link the newly registered extension to a relevant business object in Field definer (see [Linking extensions to a business object](#)).
5. Test whether your extension works by provoking the business rule (warning, error, confirmation) in a relevant TSI, that is a TSI (or TSIs) for which the extension was created.



For more information on the first two steps: refer to your Java documentation and the *Solution Extensions* part of the documentation. For the third step: refer to the Supporting data part of the documentation.

Linking extensions to a business object

Preconditions:

- You have created and registered your extension (see [Adding extensions](#)).
- You have configured the intended business object so that any required actions, statuses and status transitions are available and compatible with the new business rule. For example: if a specific warning should appear before a certain status transition is applied, it is necessary that this status transition is available for the intended business object in Field definer and is made visible through Layouts .



For more information on creating user-defined business objects, together with statuses and actions, see [User-defined business objects](#). For more information on making actions and statuses available in a TSI, refer to the Layouts part of the documentation.

In the following procedure, a specific case serves to illustrate how you can link extensions to a business object.

Case:

By default, Planon ProCenter does not check whether a budget has been specified for a work order when an end user sets his work order from **Reported** to **Accepted**. The work order can be saved even though no budget has been selected in the **Budget** field. Suppose an organization would like to see that the selection of a budget is enforced by Planon ProCenter . They have programmed an extension that produces an error message if a user tries to change the status of the work order to **Accepted** while no budget has been selected.

The programmed extension has been made available on the application server and has been registered. Subsequently, it can be linked to a business object in Field definer :

Procedure

1. Go to Field definer > Business objects.
2. Select the relevant business object, in this example the Orders business object.
3. Set the business object's status to Under construction.
4. Select the relevant business object and go to Details > Extensions.

If you select the base level (in this example: Orders), the extension will apply to all lower levels. If you select a system level (in this example Work orders), the extension will apply to that system level and the underlying user-defined levels. If you select a user-defined level, the extension will only apply to that level only. In our case, the Planon administrator chooses to apply the extension to work orders (system level).

5. On the General tab, complete the mandatory data fields.
 - **Extension:** select the relevant extension from the selection list, which includes extensions that have been registered in Business processes > SX Configuration.
 - **Parameter:** enter the possible parameters to the extended action. The parameters can be passed as a key value pair, an XML string, Java code or as an SQL query and should be parsed accordingly in the extended action class.
 - **Event type:** select the event after which the extension should take effect. An event may be any action by a user: selecting, changing, adding, deleting etc.



It is recommended to exclude messages (errors, warnings or confirmations) from extensions that you intend to link to the **AfterRead (AR)** event type. This way, you prevent messages from popping up in a needless frequency after user actions that involve reading data from the database. The **AfterRead** event type is especially intended for extensions on calculated fields, which are updated automatically after a user action.

- **Activated:** select **Yes**.
- **Sequence of execution:** enter a sequence number referring to the sequence in which the extension should take effect. In this example, only one extension is available, so **1** is entered.




The sequence is especially relevant if multiple extensions have been linked to an individual level of a hierarchical business object, such as **Orders**. By specifying a sequence number for each extension available at a certain level, you can determine the sequence in which the various extensions should take effect.

6. Click Save and change the business object's status to Completed.

Your extension is now ready to be tested.

Adding extended actions


An extended action is an action in the action panel that is not provided by default. It can either be added by Planon or by another organization. Typically, an extended action is used to run custom Java code on the client side of Planon ProCenter , or to start an external program or application. This also involves sending any relevant Planon data to the custom Java class or application.

 A prerequisite before carrying out this procedure is that the relevant extension class must already exist.

Procedure

1. Go to **Field definer** > Business objects.
2. Select the business object to which you want to add an extended action and set its status to Under construction.
3. Go to Details > Extended actions.
4. On the action panel, click Add.
5. On the General tab, complete the mandatory data fields. For a description of these fields, see Extended actions
6. Click Save.
7. Set the status of the selected business object back to Completed.

You have now added an extended action to the selected business object.

 To use the new extended action, you must first link it to the business object's layout (see [Authorization](#)).

Applying condition filters

Condition filters enable you to define the context in which certain fields should be editable/read-only, visible/invisible, and mandatory/non-mandatory based on a specific status or entered value in another field.

To be able to apply a condition filter, you must first add it to a business object as described in [Adding condition filters](#).

Adding condition filters to a business object

Complete the following steps to add a condition filter.

Procedure

1. Go to Condition filters in the navigation panel.
2. On the action panel, click Add and complete all relevant fields in the data section.

For a description of these fields, refer to [Condition filters fields](#).

3. Click Save.
4. Go to [Field definer](#) and select the business object to which you want to add a condition filter and switch its status to Under construction.
5. Go to [Details > Fields](#) step, select the field(s) to which you want to apply the condition filter.

On the General tab, there are three fields to apply the condition filter:

- **Mandatory for condition**
 - **Invisible for condition**
 - **Read-only for condition**
6. Depending on the condition required for the field, select the condition filter that you have defined on the Condition filter step in one or more of the following fields:
 - **Mandatory for condition**
 - **Invisible for condition**
 - **Read-only for condition**
 7. Set the status of the selected business object back to Completed. You have now added a condition filter to the field(s) of the selected business object.

Example

On an application form, there are the following fields:

Name, Age, Qualification, University, Insurance, Address, Coordinator

Fields Condition	University field	Insurance field	Coordinator field
Mandatory for condition	<empty>	Age > 40 years	<empty>
Invisible for condition	Qualification <= 12 grade	<empty>	<empty>
Read-only for condition	<empty>	<empty>	Status = 'In process'
Result	The University field will be hidden from the layout, if the qualification entered is equal or below grade 12.	The Insurance field will become mandatory, when the age entered is over 40 years.	The Coordinator field will become read-only, when the status of the form is changed from Initial to In process.



The condition filters can only restrict the fields. They cannot change the inherent behavior of a field. Hence, a field that is inherently read-only cannot become editable due to a condition filter. Similarly, a mandatory field cannot become non-mandatory and a field that is not on the layout cannot become visible.

Note that Planon does not support the use of a mandatory condition filter for life cycle fields.

Condition filters can be applied in ProCenter Java Client, Web Client and Self-Service.

Making settings for specific business objects

For some business objects in Planon ProCenter you can make specific settings. This section describes these per business object. Business object settings can only be made by a person with Planon administrator authorizations.

Before any settings can be made, the relevant business object must be selected in Field definer and set to **Under construction** via the action panel.

Settings for the Base Activity Definitions business object

In Field definer , at the **Business objects** selection level, several settings can be made for the **Base activity definitions** business object.

Adding additional clustering criteria for Maintenance Planner

The goal is to select additional criteria by which activities can be clustered in Maintenance Manager > Maintenance Planner. These criteria are based on the fields that belong to the **Base activity definition** business object, system fields and read-only fields excluded.

Procedure

1. Go to Field definer > Business Objects selection level, select the Base activity definitions business object.
2. On the Status transitions action panel, click Under construction.
3. On the System business objects action panel, click Business objects settings.

The Maintenance activity definition settings dialog box is displayed.

4. On the Links action panel, select Fields for clustering.
5. The Fields for clustering dialog box is displayed.
6. From the Available section, select the fields that you want to use as additional criteria for clustering in the Maintenance Planner TSI.
7. Click the right arrow button to transfer these statuses to the In use section.
8. Click OK.

9. Click Save.
10. Click Exit.
11. The Fields selected as optional clustering criteria displays the fields you have selected.
12. Return to the Business objects selection level and on the Status transitions action panel select Completed.

The selected additional criteria for clustering maintenance activities are now available in the **Maintenance Planner TSI**.

Setting a time-limit for maintenance order generation in the past

In Field definer , at the **Business objects** selection level, settings can be made for the **Maintenance activity definitions** business object.

The following setting allows end users to select a start date-time that is in the past when generating maintenance orders. You can specify the exact length of the period in the past in which maintenance order generation is still allowed.

Procedure

1. Go to the Field definer > Business Objects selection level, select the Base activity definitions business object.
2. On the Status transitions action panel, select the Under construction option.
3. On the System business objects action panel, select the Business objects settings option.
4. The Maintenance activity definition settings dialog box is displayed.
5. Under Set time-limit for maintenance order generation in the past, in the Time-limit field, enter a relevant period until which maintenance order generation in the past is allowed.
6. Example: if you enter '2 weeks', generated maintenance orders can have start date-times that are at the most two weeks earlier than the current date-time.
7. Click Save.
8. Click Exit.
9. Return to the Business objects selection level and on the Status transitions action panel select Completed.

The set time-limit is now applied to the start date-times of maintenance orders generated in the **Maintenance Planner TSI**.

Setting an asset's technical end date as start date of activity

You can set the expected technical end date of an asset as the start date of an activity definition

With this setting, the start date of activity definitions of the **Replacement** activity type can be based on the expected technical end date of their linked asset, when compiling a maintenance plan. If you do not select the expected technical end date as start date of this type of activity definition, the expected economic end date is used to determine the start date.



For more information on activity types and compiling maintenance plans, refer to the *Maintenance Manager* part of the user documentation.

Procedure

1. Go to Field definer > Business Objects selection level, select the Base activity definitions business object.
2. On the Status transitions action panel, select the Under construction option.
3. On the System business objects action panel, select the Business objects settings option.
4. The Maintenance activity definition settings dialog box is displayed.
5. If you want to base the start date of maintenance activity definitions on the expected technical end date of their linked assets, select Yes in the Expected technical end date field, in the Set expected technical end date of asset as start date of activity definition section.
6. Click Save.
7. Click Exit.
8. Return to the Business objects selection level and on the Status transitions action panel select Completed.

The set value is now applied to the start date-times of activity definitions of the Replacement activity type when compiling maintenance plans in the Maintenance Planner TSI.

Preventing order generation on non-working days

You can make calendar-based settings to prevent orders being generated on non-working days in Maintenance Planner. The calendar linked to the property is considered first when generating maintenance orders. If there is no calendar set for the property, the default company calendar is used. It is not possible to take personal calendars of tradespeople into account. The setting only determines the (planned) start date of the generated PPM orders, it will not affect the planned start date of the maintenance activities.

Procedure

1. Go to Field definer > Business Objects selection level, select the Base activity definitions business object.
2. On the Status transitions action panel, click Under construction.
3. On the System business objects action panel, click Business objects settings.

The Maintenance activity definition settings dialog box is displayed.

4. Go to the setting Generate orders on working days only?.
5. By default this field is set to No, allowing order generation on non-working days, as defined in the property / company calendar.
6. Select Yes if you want to restrict order generation to working days only.
7. Click Save and Close.
8. Return to the Business objects selection level and on the Status transitions action panel select Completed.

If you selected No, newly generated PPM orders are moved to the next possible working day, in accordance with your property / company calendar. If you selected Yes, new PPM orders can be generated on non-working days.

Preventing order generation outside contractual period

You can make settings to prevent PPM orders being generated outside the linked contractual period. Activating this setting will support you in meeting your SLAs.

Procedure

1. Go to Field definer > Business Objects selection level, select the Base activity definitions business object.
2. On the Status transitions action panel, click Under construction.
3. On the System business objects action panel, click Business objects settings.

The Maintenance activity definition settings dialog box is displayed.

4. Go to the setting Prevent order generation outside contract line period?.

By default this field is set to No, allowing order generation without the restriction of the contractual period.

5. Select Yes if you want to limit order generation to the contractual period.
6. Click Save and Close.
7. Return to the Business objects selection level and on the Status transitions action panel select Completed.

PPM orders will only be generated within the period of the linked contract line.

Specifying a maximum number of maintenance activities generated per PPM order

In Field definer , you can set a maximum number of maintenance activities that will be generated per PPM order.

In some cases you might want to restrict the number of maintenance activities generated for a single PPM order, for example if the order is shown in a Planon app. With the setting **Max. no. of maintenance activities per PPM order** you can set a limit. By default, this setting contains no value, which means that all generated maintenance activities are grouped under a single PPM order. However, if you fill in an applicable maximum, the number of maintenance activities generated for a single PPM order is restricted to that number.

Procedure

1. Go to Field definer > Business Objects selection level and select the Base activity definitions business object.
2. On the Status transitions action panel, click Under construction.
3. On the System business objects action panel, click Business objects settings.

The **Maintenance activity definition settings** dialog box appears.

4. Go to the setting Max. no. of maintenance activities per PPM order.



The default value of the setting is empty.

5. Specify an applicable number.
6. Click Save and Close.
7. Return to the Business objects selection level and on the Status transitions action panel click Completed.

Preventing activity planning outside the contractual period

Planon administrators can use the **Prevent activity definition periods outside contract line period?** setting to prevent the planning of PPM work outside a contractual period.

Maintenance planners can manually adjust the start-/ end date of an activity definition. In contract-based maintenance, this could cause problems if they adjust start and end dates to the extent that a linked contractual period (as defined in the contract line) is no longer covered. This could result in PPM orders without a contractual basis. Planon will validate all changes to the start and end dates of activity definitions against any linked contract lines. However, you can make a setting to either:

- just show a warning
- or

- actually prevent activity definitions from being planned outside their contractual period

Procedure

1. Go to Field definer > Business Objects selection level, select the Base activity definitions business object.
2. On the Status transitions action panel, click Under construction.
3. On the System business objects action panel, click Business objects settings.

The Maintenance activity definition settings dialog box is displayed.

4. Go to the setting Prevent activity definition periods outside contract line period?.
5. By default this field is set to No.

If the maintenance planner changes the period (start-/ end date) of the activity definition and lets it fall outside the period of the linked contract line (=contractual period), a warning message is shown. The maintenance planner may decide to ignore this warning and proceed.

6. Select Yes if you want to *prevent* maintenance planners from planning the start and end dates of activity definitions outside the period of the linked contract line (=contractual period).

If the maintenance planner changes the period of the activity definition and makes it fall outside the linked contract line (=contractual period), a error message is shown, saying that the change is not possible.

7. Click Save and Close.
8. Return to the Business objects selection level and on the Status transitions action panel select Completed.

The selected setting is now activated.

Settings for the Budget categories business object

To configure the business object settings

Procedure

1. At the Business objects selection level, select Budget categories to configure the business object settings.
2. On the action menu, click Under construction and then click on Business object settings.
3. A dialog appears with the Generate Zero maintenance budget setting. Select Yes to generate zero budgets and click Save.

No is selected by default.

4. Click Completed on the action menu to save the settings.

Setting for the Car parks business object (time slot duration)

Car parks are added and maintained in the Supporting data > **Car parks** TSI. Once a car park is added, it can then be assigned to a visitor in the Personnel TSI. In Field definer , you can define the minimum parking duration to be used by Planon ProCenter for a car park. This is known as the Time slot duration and it can either be set to 15, 30 or 60 minutes. The default value is 60 minutes. The time slot duration is effectively the duration of the equal intervals of time used to divide up car park opening hours.

The time slot duration also determines when Planon ProCenter considers a parking space to be available. For example, if a parking space is reserved from 14:00 through to 14:15, with the time slot duration set to 15 minutes, the parking space is considered available again at 14:15. With the time slot duration set to 30 minutes, the parking space is considered available again at 14:30 and if it was set to 60 minutes, it is considered available again at 15:00.

To set the time slot duration

Procedure

1. In the launch center, click Field definer .
2. At the Business objects selection level, set the Car parks business object to Under construction.
3. On the System business objects action menu, click Business object settings.
4. The Car park settings dialog box appears.
5. You can now specify the time slot duration as either 15, 30 or 60 minutes and click Save.
6. Set the Car parks business object to Completed.

Settings for the Contracts business object

You can make several settings for the **Contracts** business object in Field definer , at the **Business objects** selection level.

Procedure

1. Go to the Field definer > Business objects selection level, set the Contracts business object to Under construction.
2. On the System business objects action panel, click Business objects settings.

3. The Contract settings dialog box appears. The settings in this dialog box will be further explained in Contract settings.

Settings for the Financial years business object

To configure the business object settings

Procedure

1. At the Business objects selection level, select Financial years to configure the business object settings.
2. On the action menu, click Under construction and then click on Business object settings.
3. A dialog appears with the Year end date set by Planon setting. Select Yes if you want Planon to determine the end date of a financial year and click Save.
No is selected by default.
4. Click Completed on the action menu to save the settings.

Setting for the Hazard Logs - Asbestos assessments business object

For the user-defined business object **Asbestos assessments** (which is a sub of the **Hazard logs** business object) you can make specific settings that determine which method is used to round *priority scores* in the **Hazard registry** TSI.

Procedure

1. Go to Business objects > Hazard logs and set it to Under construction.
2. Select the subtype Asbestos assessments.
3. On the action panel, select Business objects settings.

The Asbestos assessment - business object settings dialog box is displayed.

4. On the General tab, in the Asbestos rounding method field, select the rounding method that best suits your requirements:
 - Round up - the average value of the various related scores is rounded up to calculate the priority score.
 - Round down - the average value of the various related scores is rounded down to calculate the priority score.
 - Round to nearest - values of x.5 and higher are rounded up to calculate the priority score, lower values are rounded down.

See the examples below to see how the various rounding options work out.

5. Click OK and close the Asbestos assessment - business object settings dialog box.



For detailed information on registering the scores in the **Hazard registry** TSI, see .

Examples for the calculation of Priority scores:

Round up

Score 0.33 is rounded up to 1.

Score 1.33 is rounded up to 2.

Score 2.33 is rounded up to 3.

Score 2.67 is rounded up to 3.

Score 3.33 should be rounded up to 4, but because the maximum value is 3, it is rounded to 3.

Round down

Score 0.33 is rounded down to 0.

Score 1.33 is rounded down to 1.

Score 2.33 is rounded down to 2.

Score 2.67 is rounded down to 2.

Score 3.33 is rounded down to 3 (maximum is 3).

Round to nearest

Score 0.33 is rounded down to 0.

Score 0.50 is rounded up to 1.

Score 1.33 is rounded down to 1.

Score 1.50 is rounded up to 2.

Score 2.33 is rounded down to 2.

Score 2.67 is rounded up to 3.

Score 3.33 is rounded down to 3 (max is 3).

Score 3.5 is rounded down to 3 (max is 3).

Settings for the Invoices business object

In Field definer , on the **Business objects** selection level, select **Invoices** to configure the **Invoices** business object.

Procedure

1. On the action panel, click Under construction.
2. Click on Business object settings.

The Invoice settings window pops up. For a description of the settings, refer to [Invoice business object fields](#).

3. After configuring and saving the invoice settings, click Completed on the action panel, to activate the invoice settings.

Settings for the Knowledge Base business object

For the **Knowledge base item** business object several settings can be made in the Field definer TSI.

If you select a comment field in one or multiple of the data fields, this means that the selected knowledge base text will by default be included in the **Comment** field of a request or requisition.

Settings for the Maintenance Plans business object

You can configure whether you want to update the **Descriptions** and **Translated names** of service plans and activity definitions that are included in a maintenance plan when the plan is recompiled in the **Maintenance planner** TSI. If you select **Yes**, any changed descriptions or translated names of associated service plans and activity definitions will overwrite the ones in the maintenance plan upon recompiling. If you select **No** (default setting), the existing descriptions and translated names in the plan will remain as they are. It depends on your use case which setting is preferable.

Procedure

1. Go to Business objects > Maintenance plans and set it to Under construction.
2. On the action panel, select Business objects settings.

The Maintenance plan settings dialog box opens. The General tab displays the Update descriptions & translations on recompiling? field. By default, No is selected.

3. Select Yes if you want to enable updating for the descriptions and translated names of service plans and activity definitions.
4. Click Save and close the Maintenance plan settings dialog box.
5. Go back to Business objects > Maintenance plans and set it to Completed.

Settings for the Orders business object

For the **Orders** business object and all available subtypes (predefined and user-defined orders) several settings can be made in Field definer .

After you have selected the **Business object settings** option from the action panel, the **Order settings** dialog box will open.

In the following section, the various settings in this dialog box will be further explained.

General order settings

The common settings applicable to orders can be made on the **General** tab of **Order settings**. For a description of the available fields and their impact, refer to [General order settings fields](#).

This tab also enables you to make settings for **Rejected** order statuses. The below procedure explains how to define these statuses.

Selecting 'Rejected' statuses for an Order

It is possible to define existing (user-defined) statuses as **Rejected** status(es) on the Orders business object. This enables users to automatically move a request back to first line support when the request is rejected by second line support.

Procedure

1. Go to Business objects > Orders.
2. On the action panel, click Under construction.
3. Select the Business objects settings option.

The Order settings dialog box is displayed.

4. On the General tab, from the Links action panel, click the Rejected statuses option.

The Rejected statuses dialog box appears.

5. Select the status(es) that you want to link as rejected status(es), and move them to In use section.
6. Click OK and close the Order settings dialog box.



For more information on reassigning a rejected order, see [Reassigning rejected requests/orders](#).

Requestor information

Settings related to requestors and various order types can be made on the **Requestor information** tab of the **Orders settings** dialog box.

Requestor settings are made per system order type. The following table lists the four different requestor settings that are available for each system order type (**Request**, **Work order**, **Purchase order** and **Requisition**). The **Reservation** order type is an exception, with only two optional requestor settings. For a description of these fields, refer to [Requestor information](#).

Costs

Settings related to orders costs can be made on the **Costs** tab of the **Orders settings** dialog box.

For a description of these fields, refer to [Costs - order settings](#).

SLA settings

Settings related to SLAs can be made on the **SLA** tab of **Order settings**.

Order settings

General Requestor information Costs **SLA** Reservations Requests
Service Scheduler Requisitions Purchase orders Work assignments Status mapping
Revenues Invoices Procurement Audit info

• Only accept requests with valid SLAs Yes No

Reference to SX field 'Minutes to de...

Automatic status transition to user-defined Actual Response statuses

Actual TTR statuses

Code	Business object...	System name	System status.Name
MO20	Move orders	UsrMoveOrderPro...	Proposal
MO30	Move orders	UsrMoveOrderAssi...	Accepted
MO60	Move orders	UsrMoveOrderCan...	Cancelled
MR20	Move requests	UsrMoveRequestA...	Approved
MR30	Move requests	UsrMoveRequestPl...	Planned
MR50	Move requests	UsrMoveRequestC...	Cancelled
PM30	Maintenance orders	UsrPlannedMainte...	Accepted
PM50	Maintenance orders	UsrPlannedMainte...	Cancelled
PM60	Maintenance orders	UsrPlannedMainte...	Accepted
RQ20	Requests	UsrRequestCancell...	Cancelled
WO21	Work orders	UsrWorkOrderObt...	Proposal
WO22	Work orders	UsrWorkOrderEsti...	Proposal
WO23	Work orders	UsrWorkOrderCost...	Proposal
WO30	Work orders	UsrWorkOrderAcc...	Accepted
WO31	Work orders	UsrWorkOrderApp...	Accepted
WO32	Work orders	UsrWorkOrderAssi...	Accepted

Links

- Catering order ...
- Requisition: In ...
- Requisition: Te...
- Requisition: Ad...
- Requisition: Ca...
- Purchase Orde...
- Service Schedul...
- SLA: Actual Res...
- SLA: Actual Atte...
- SLA: Actual Fix ...
- SLA: Actual Co...
- SLA: Wait statu...
- Revenue calcul...
- Status mapping...
- Status mapping...
- Status mapping...
- Status mapping...
- Rejected status...
- Status manning...

Cancel Save

Close

For a description of the fields in SLA tab, see [SLA settings](#).

For more information on SLAs and Orders, see TSIs .

Selecting 'Wait' statuses for the SLA

It is possible to define existing (user-defined) statuses as 'Wait' status(es) on Orders business object with respect to the SLA.

Prerequisites

- The statuses must belong to business objects for which an internal or external SLA can be defined, such as, **Request**, **Move request**, **Work order** or **Move order**.

Procedure

1. Go to **Business objects > Orders**.
2. On the action menu, click **Under construction** and then click **Business objects settings**.
The **Order settings** dialog box appears.
3. On the **SLA** tab, from the **Links** action menu, click the **SLA: Wait statuses** option.
The **SLA: Wait statuses** dialog box appears.
4. Select the status(es) that you want to link as waiting status(es), and move them to the **In use** section.
5. Click **OK** and **Close** the **Order settings** dialog box.
6. Set the **Orders** Business object status to **Completed**.
You have now defined 'Wait' status(es) for the SLA.



The statuses defined in SLA settings apply to all user-defined business objects in a system business object. Note that once a status is defined as 'Wait', it cannot be used for defining any other statuses.

Defining 'Actual' KPI statuses for an SLA

The following KPI statuses can be defined on Orders using the existing (user-defined) statuses with respect to the SLA:

- Actual time to respond (TTR)
- Actual time to attend (TTA)
- Actual time to fix (TTF)
- Actual time to complete (TTC)



For more information on KPIs, see *SLA Management > KPI* (Key performance indicator).

Procedure

1. Go to **Business objects**, select the **Orders** business object.
2. On the action menu, click **Under construction** and then click **Business objects settings**.
The **Order settings** dialog box is displayed.
3. On the **SLA** tab, from the **Links** action menu, select the required KPI option: **SLA: Actual response statuses** / **SLA: Actual attendance statuses** / **SLA: Actual fix statuses** / **SLA: Actual completion statuses**.
The respective dialog box is displayed.

4. Select the status(es) that you want to link as **Actual KPI status(es)**, and move them to the **In use** section.
5. Click **OK** and **Close** the **Order settings** dialog box.
6. Set the Orders **Business objects** status to **Completed**.

You have now defined **Actual KPI status(es)** for the SLA.



A status defined as **Wait** cannot be used as **Actual KPI status**.

Reservations

Settings related to reservations can be made on the **Reservations** tab of the **Orders settings** dialog box.

For a description of these fields, see [Reservation settings](#).

You can link a user-defined work order for catering reservations. When you do this and the dates and times of a reservation is changed, this ensures that the linked catering orders are also changed. Changes made to dates and times are automatically reflected in catering orders in the **Reservation wizard**.



If you have selected a default company calendar in **System Settings** and you have linked this calendar to a reservation unit, this company calendar will overrule the **Planning** settings you have made on this tab for reservations.



Note that you can also specify a transition period per reservation unit in the **Reservations TSI**.

If a transition period is specified for a particular reservation unit in the **Reservations TSI** (the **Transition period in minutes** field contains a value in minutes, this value can also be zero), this setting will be applied and not the general setting specified in Field definer .

If no transition period is specified for a reservation unit in the **Reservations TSI** (the **Transition period in minutes** field is left empty), the transition period as specified in Field definer will be applied.



For more information on setting a transition period per space unit or per asset unit, see [Reservations](#) .

Requests

Settings related to requests can be made on the **Requests** tab of the **Orders settings** dialog box.

For a description of these fields, see [Requests settings](#).

Service Scheduler

Settings related to the **Service Scheduler** TSI can be made on the **Service Scheduler** tab of the **Orders settings** dialog box. Note that these settings concern the (user-defined statuses) of work orders (including any user-defined work order types).

On this **Service Scheduler** tab you can select the work order status(es) after which a new work order should be generated for an activity in the **Service Scheduler** TSI. If a work order - generated from within the **Service Scheduler** TSI to the Work Orders TSI - reaches one of the selected statuses, for example the **Administratively completed** status, a new work order will be generated, to replenish the specified number of outstanding work orders.



For more information on working with the **Service Scheduler** TSI, see the *Service Scheduler* part of the Planon ProCenter user documentation.

To select work order statuses for the Services Scheduler TSI

Use the following procedure to select statuses for work orders that are generated from within the **Service Scheduler** TSI.

Procedure

1. In Field definer > Business Objects , select the Orders business object.
2. In the Status transitions action menu, select the Under construction option.
3. In the System business objects action menu, select the Business objects settings option.
4. The Order settings dialog box is displayed.
5. Select the Service Scheduler tab.
6. From the Links action menu, select the Service Scheduler order statuses option.
7. The Service Scheduler order statuses dialog box is displayed.
8. From the Available section, select the work order status(es) after which new work orders should be generated from within the Service Scheduler TSI.
9. Click the right arrow button to transfer these statuses to the In use section.
10. Click OK.
11. You return to the Service Scheduler tab in the Order settings dialog box.
12. Click Exit.
13. Return to the Business objects selection level and select the Completed option from the Status transitions action menu.

You have now made status settings for work orders that are generated from within the **Service Scheduler** TSI.

Requisitions

Settings related to the user defined states of a requisition can be made on the **Requisitions** tab of **Orders settings**.



If no statuses are selected on this tab, no automatic status transitions can take place for requisitions.

To set user defined automatic status transitions for requisitions, on the **Links** menu, select the type of (user defined) status transition you want to assign to the requisitions. For example, **Requisition: Tech. completed statuses**.

In the dialog box that is displayed, move the available transition to **In use** and click **OK**. You have now made automatic status transition settings for Requisitions wherever they are used in the application.

Use the similar procedure to set user defined automatic status transitions for **Administratively completed / Canceled statuses** on Requisitions.

The settings are used in the following scenarios.

- If a requisition line is set to in progress, the (accepted) requisition is set to the status defined as **In Progress** status in **Order settings**.
- If all requisition lines are completed and/or canceled (and at least 1 line is completed), the requisition is set to the status defined as **Tech. completed** status in **Order settings**.
- If all requisition lines are canceled, the requisition is set to the status defined as **Canceled** status in **Order settings**.
- If a requisition is present under a Planned Maintenance order and the Planned Maintenance order is set to technically completed, the requisition is set to the status defined as **Tech. completed** status in **Order settings**.
- If a requisition is present under a Planned Maintenance order and the Planned Maintenance order is set to administratively completed, then the requisition is set to the status defined as **Administratively completed** status in **Order settings**.

Purchase orders

On the **Purchase orders** tab of **Orders settings**, you can:

- Make settings for automatic status transitions of purchase orders.
- Link specific countries to the **Round down VAT - country list**. The default way to round VAT/tax is half up, but by linking specific countries to this list, the VAT/tax for purchase order lines will be rounded down, if the country of the external tradesperson on the order is included in this list of countries.

Procedure

1. Go to Business objects > Orders.
2. On the action panel, click Under construction and then click Business objects settings.

The Order settings dialog box appears.

3. Click the Purchase Orders tab.
4. To make automatic status transition settings:
 1. On the **Links** action panel, click the **Purchase Order: Tech. completed statuses** option. The **Purchase Order: Tech. completed statuses** dialog box appears.
 2. Select the status(es) from the **Available** section and move them to the **In use** section. This status will be automatically assigned to the purchase order when the selected type of (user-defined) status transition is reached.
 3. Click **OK**.



When all purchase order lines are completed and/or canceled (and at least one line is completed), the purchase order will be set to the status as defined as **Technically completed**. If all purchase order lines are canceled, the status of the purchase order is not set automatically.

5. To link countries to the **Round down VAT - country list**:
 1. On the **Links** action panel, click the **Purchase orders: round down VAT - countries** option. The **Purchase orders: round down VAT - countries** dialog box appears.
 2. Select the required countries.
 3. Click **OK**.
6. Close the Order settings dialog box.
7. Set the Orders business object status to Completed.

Resource PlannerStatus mapping

On the **Resource PlannerStatus mapping** tab of the **Orders settings** dialog box, you can make settings to map user-defined order statuses against the statuses used in the **Resource planner**, **PMFS** and **Demand & Supply** solutions.

Procedure

1. Go to Business objects and select the Orders business object.
2. On the action panel, click Under construction, followed by clicking Business objects settings.

The Order settings dialog box is displayed.

3. Go to the Status mapping tab.
4. On the Links action panel, select the relevant action to map specific user-defined statuses to the Resource Planner, PMFS and Demand & Supply solutions:

- Resource Planner: Planned statuses > Status mapping: Planned statuses
- Resource Planner: Assigned statuses > Status mapping: Assigned statuses
- Resource Planner: On hold statuses > Status mapping: On hold statuses
- Resource Planner: Temporary fix statuses > Status mapping: Temporary fix statuses
- **Status mapping: In progress statuses**
- **Status mapping: Completed statuses**

The respective dialog box is displayed.

5. Select the user-defined status(es) you want to link and move them to the In use section.
6. Click OK.
7. Close the Order settings dialog box.
8. Set the Orders business object status to Completed.

You have now mapped Planon ProCenter status(es) to order types used in Resource planner, PMFS and Demand & Supply.

i If you use Planon AppSuite- Field Services in combination with Resource Planner and / or Materials Management (Purchase Management, Products and Stock), make sure that the configuration of the following statuses is aligned in the various solutions: **Assigned, On hold** and **Temporary fix**. The status mapping for orders is done on the **Orders** business object, in Planon ProCenter Field definer > Business Object settings. Further status configuration for PMFS is done in Planon ProCenter in **PMFS app settings**, as explained below.

- i**
- See Action and reason configuration (MM and PMFS) for information on configuring PMFS actions and reasons and linking them to Order statuses.
 - See SLA Management in PMFS, for information on specific configuration for SLA compliance.

Work assignments (license check setting)

With regard to **Work assignments**, the following business object settings are available on the **Orders** business object:

- **Activate 'Multiple Work Assignments'?** - set this field to **Yes** to allow multiple work assignments on an order. Once activated, this setting cannot be reversed!
- **Status behavior when setting orders to Assigned**

With 'Multiple Work Assignments' activated, you can make settings to enable automatic status updates when an associated work assignment is **Assigned**.

Procedure

1. Go to Business objects and select the Orders business object.

2. On the action panel, click Under construction, followed by clicking Business objects settings.

The Order settings dialog box is displayed.

3. Go to the Work assignments tab.
4. In the Activate 'Multiple Work Assignments'? field, select Yes and click Save.



- Activating this setting cannot be undone!
- You can only activate this setting if you have the appropriate Work assignments license (*Resource Planner Pro*).

5. In the dialog that is displayed select Proceed if you are absolutely sure that you are ready to activate the license check for multiple work assignments.
6. Click Close.
7. Set the Orders business object status to Completed.

You have now activated multiple work assignments. If a valid license is in place, users can use multiple work assignments on orders in ProCenter (Work orders and Resource planner TSIs), in Planon AppSuite and in the PMFS Live app .

8. Following the activation, you now have these options in the **Status behavior when setting orders to Assigned** field:
 - NOWA, **Do not update order status automatically** - select this option to prevent automatic updates of the order status when an associated work assignment is **Assigned** to a tradesperson.
 - FWA, **Update on first assigned key work assignment** - select this option to enable automatic order status updates to **Assigned** when the first associated 'key' work assignment is assigned to a tradesperson.
 - LWA, **Update on last assigned key work assignment** - select this option to enable automatic order status updates to **Assigned** when the last associated 'key' work assignment is assigned to a tradesperson.

The status updates are performed according to the [status mapping](#) configured in your environment.

Settings for the Observations business object

You can make settings for the **Observations** business object. The settings are relevant if you want to:

- make settings for a decision model for observations;
- register a priority calculator for observations (a Planon system calculator, like the **Priority calculator** or a 'custom' calculator created with Planon as a Platform).

Procedure

1. Go to Business objects > Observations (base) and set it to Under construction.
2. Select Business objects settings.

The Observation settings dialog box is displayed.

If you want to automate **decisions** on observations, scoring and follow-up actions you can make several settings for the decision model on the **General** tab.

Fill in the following three fields: **Business object definition** (select a user-defined business object for the business event), **Attribute definition set** and **Decision model**. See [Decision model for observations](#) for more information.

3. To automate the *calculation* of **Observation priorities**, go to the **Priority calculator** tab.
4. In the **Classname** field, either:
 - select the Planon *system* calculator **DefaultPriorityCalculator**.



For more information, see [Observation priority](#).

- or, if applicable, select a calculator from a *custom* app, created with **Planon as a Platform** (PaaP).
5. Click OK.
 6. In the **Observation settings** dialog, click **Save** and **Close**.

Settings for the Price announcement letters business object

You can make several settings for the **Price announcement letters** business object in Field definer , at the **Business objects** selection level.

Procedure

1. Go to the Field definer > Business objects selection level, set the Price announcement letters business object to Under construction.
2. On the System business objects action panel, click Business objects settings.
3. The Price announcement letters settings dialog box appears. The settings in this dialog box will be further explained in Price announcement letters business object - settings.

Settings for the SLA search priorities business object

In Field definer , on the **Business objects** selection level, settings can be made for the **SLA search priorities** business object. After you have selected the **Business object settings** option on the action panel, the **SLA search priorities settings** dialog box appears. The options in this dialog box allow you to specify if subelements of the hierarchical elements **Property**, **Department**, **Asset**, **Asset group** and **Order group** are to be included when searching for SLAs.



Note that enabling hierarchical searching will slow down your system. If you want to improve performance, define a more limited scope by specifying more details.

Settings for the Spaces business object (create space usage)

In Field definer , you can activate the automatic creation of space usage upon adding a space.

Procedure

1. In Field definer , go to the Business objects selection level and select the **Spaces** business object.
2. Set the Spaces business object to Under construction.
3. On the action panel, select **Business object settings**.
4. In the **Space settings** dialog, set the field **Add space usage automatically** to **Yes**.
5. Select **Close**.
6. Set the Spaces business object to Completed.

Every time a new space record is added in Planon, a corresponding space usage record is also created.

Settings for the Standard orders business object

You can specify the user-defined business objects that are displayed when adding a standard order in the **Standard orders** TSI.

Procedure

1. Go to Business objects > Standard orders and set it to Under construction.
2. Select Business objects settings.

The Standard order settings dialog box is displayed.

3. The General tab displays the business objects that are currently in use. To edit the list, click Link user business object.

The Link user business object dialog box appears.

4. By default, all the user business object are in use. So, select the business object(s) that you do not want to use, and move them to Available.
5. Click OK and close the Standard order settings dialog box.

The user-defined business objects specified here are displayed when adding a new standard order. For more information, see [Adding a standard order](#) (Supporting data).

Settings for the User sessions business object

In the **User Sessions** TSI, the field **Last activity's timestamp** records when a user last saved or accessed an element in Planon ProCenter. This field is disabled by default. Use the below procedure to enable or disable the **Last activity's timestamp** field.

To enable or disable the last activity's timestamp field

Procedure

1. Go to the Field definer > Business objects selection level, set the User sessions business object to Under construction.
2. On the System business objects action menu, click Business objects settings.
3. The User sessions dialog box appears.
4. You can now enable or disable the Log last activity time stamp field as required using the Yes or No buttons.
5. Set the User sessions business object to Completed.

Settings for the Work assignments business object

The following business object setting is available in Field definer with regard to work assignments: **Allowed order types for envelopes**

To make the work assignments associated with an order available on the PMFS Live app , it is necessary that the system creates so-called 'envelopes'. These envelopes will carry the work assignment information between app and back-office and prevent information loss in off-line situations. The **Allowed order types for envelopes** setting gives control over which order types can be used for this purpose.

Procedure

1. Go to Business objects > Work assignments and set the business object to Under construction.
2. On the action panel, select Business objects settings.

The Work assignment settings dialog box opens. The PMFS Live settings tab displays the PMFS Live order types for envelopes setting.

3. On the Links panel, click Link order types.
4. In the Link order types dialog, at Available, select the order types you want to use for the PMFS Live app and move them to In use.
5. Click OK and Close.
6. At Business objects > Work assignments, set the business object to Completed.

The envelope functionality is now activated for the selected order types. These can be used in the PMFS Live app configuration.

User-translatable list values

Planon ProCenter is a multi-language application, since customers can use the software in various languages or provide their own customized descriptions of field names in Field definer .

A limited number of business objects also support *multi-language customization of list values* (records in the elements list).

Example

In the following example, **Order groups** is used.

The screenshot displays two panels. The left panel shows a tree view of 'Order groups' with '01.03, Building Fabric' selected. The right panel shows the configuration details for 'Code group 01.03'. The 'Description' is 'Building Fabric'. The 'Translated name' is also 'Building Fabric'. Below this, there is a table for 'Language definition.Description | Translation' with the following data:

Language definition	Description	Translation
Deutsch	Bausubstanz	Bausubstanz
English	Building Fabric	Building Fabric
English US	Building Fabric	Building Fabric
Français	Éléments de bâtiment	Éléments de bâtiment
Nederlands	Gebouwelementen	Gebouwelementen

The second panel shows the same configuration in French, with 'Code de groupe 01.03', 'Description: Building Fabric', and 'Nom traduct:'. The table for 'Definition de langue>Description | Traduction' has the following data:

Definition de langue	Description	Traduction
Deutsch	Bausubstanz	Bausubstanz
English	Building Fabric	Building Fabric
English US	Building Fabric	Building Fabric
Français	Éléments de bâtiment	Éléments de bâtiment
Nederlands	Gebouwelementen	Gebouwelementen

For more information on how to configure this, see [Making list values multi-language](#). The translated list values will overrule the default translation.

This 'multi-language feature' for list values can be applied to the following business objects (in alphabetical order):

- Activity definitions - expected costs
- Addresses
- Assets
- Asset classifications
- Asset groups
- Answer options
- Base questions
- Catalog item groups
- Certificates
- Contract activity definitions - expected costs
- Contract groups

- Contract line groups
- Contracts
- Cost centers
- Departments
- Floors
- Free attributes (spaces)
- Facilities (reservation units)
- Item groups
- Inventory item groups
- Impact
- Maintenance libraries
- Maintenance plans
- Maintenance plan groups
- Meter classifications
- Meter definitions
- Meters
- Order groups
- Personal certificates
- Pick lists for free fields
- Priorities
- Properties
- Purchase information records
- Purchase item groups
- Questionnaires
- Services (Service level agreement services)
- Skills
- Spaces
- Space categories
- Space standards
- Space types
- Space usage
- Standard assets
- Standard cost categories
- Standard orders

- Survey activity definitions - expected costs
- Tariff groups (spaces)
- Technical classifications
- Trades
- Workspaces
- Workspace types
- Zones

Making list values multi-language

Procedure


1. In Field definer , select the business object for which you want to change the default translation.

 In this procedure, **Order groups** is used as an example.

2. On the action panel, set the status to Under construction.
3. In the data panel, set the Is user-translatable field to Yes and switch the status to Completed again.
4. Go to Layouts and select Order groups from the list of business objects.
5. Go to Layouts.
6. Select the OrderGroup layout.
7. Set the status to Under construction by clicking the padlock icon.
8. Click a random field on the General tab, to make the Unused fields section available on the right side of your screen.
9. From the Unused fields section, select the Translated name field (LangFieldDetail), and click OK.
10. Drag the field to an appropriate position on the layout.
11. Set the status to Completed again by clicking the opened padlock icon.

You have now completed making order group records translatable.

12. Go to Work Orders > Components.
13. Expand the list of available order groups and click an order group whose name you want to translate.
14. Under Translated name, all available languages are listed. Enter the new translated name for the relevant languages and click OK.

 The new name is visible immediately throughout the application where this business object is used.

15. Go to Work Orders > Orders and select an order. The pop-up that is available for the Order group field now displays the new name.
16. Any user who logs on, will see the name in the language that is linked to this person.
17. To change the values for picklist items (code/descriptive), you must select Configured picklists (code/descriptive) (CodesCodeName) in Field definer and set the Is user translatable field to Yes.

Notes on translatable list values

- If a customized translation is not provided, the default translation is shown.
- When exporting a language, these user-defined translations will not appear in the language file.
- When a language is added later, all user translations will have to be provided for that language manually.
- Reports will display the customized translation.
- Customers that only use a single language are not affected.

Data filtering

- It is not possible to use the translated descriptions in an authorization filter.



Filtering may not always give proper results as a result of this feature. Therefore, an error message will appear when creating a filter on business objects for which the user-translatable field is set to **Yes**. Customers who already have authorizations or filters and who start using this feature are recommended to check their settings and not to use filters (TSI Selection step filters, TSI group filters, authorization filters) linked to the translatable **Description** field.



For more information on export/import of business objects, refer to *Configuration Transfer*.

Country-City structure


Planon has implemented a proper hierarchical Country-City structure.

Using this structure is mandatory and this is handled as an improved feature (System Settings).

This new structure has many advantages:

	Old	New
Translatable names	✗	✓
Country code	✗	✓
Available across property sets	✗	✓
Uniquely identifiable	✗	✓
Proper reference field	✗	✓
Reflecting name changes in references	✗	✓
Resolves issues in reporting and data migration	✗	✓
...	✗	✓

Moving to this new structure requires preparation, implementation and data migration, as explained in the following sections.

 There is a great reference available on the [Customer portal](#) Downloads > Live > Documentation > 5. User guides > Application management there is a document that will help in identifying and finding the elements in the Planon application that will need to be amended: *Checklist Country-City.pdf*

Using the Country2 field

A **Countries** business object (Country2) has been introduced that will replace the Country picklist (LAND).

 The existing picklist for Country (LAND) should no longer be used and will be phased out - see [Use new improved reference field for Country](#).

In addition, a new field has been introduced, which is a proper reference to the **Countries** business object: Country2 (translated as: **Country**). So, there are now two Country fields (Country and Country2).

- For existing customers, this means that they should switch to using this new field ([Improved feature](#)).

- New customers are recommended to use the Country2 field from the start.

One of the advantages of having the Country2 business object - as opposed to the picklist - is that its entries can be translated (as country names are not the same in different languages).

Using the Country2 field

The **Country2** field is a proper reference field that derives its value from the **Countries** business object.

This means that if a country is deleted from the **Countries** business object, the reference value will automatically be empty (which is not the case with the **Country** field).

Preparing the Country-City structure

By having a proper Country-City structure, the business objects behave hierarchically, which means that if you navigate from Countries to Cities, you only get to see the cities of the selected country. This structure must first be configured:

Procedure

1. Go to **TSIs**, select **Cities** and set it **Under construction**.
2. Add a new level and step: **Countries**.
 - Add the **Country** level (with the + button) before **Cities** so that you can navigate from Country > City.
 - Select the **Country** level and add the **Country** step (with the + button)

You can now proceed to add the Country2 field to the layout. You can either use Country2 as a proper reference field, or as a Free reference field - as described in the following sections.

Using Country2 as a proper field

Procedure

1. Go to **Layouts** and select the business object on which you have a City/Country field and set it **Under construction**.
2. On the **Layouts** step, drag the **Country2** field to the correct position on the grid.
3. Set the business object to **Completed**.
The **Country2** field is now available for use.

Using Country2 as a Free reference field

Procedure

1. In **Field definer**, select the business object for which you have a free City/Country field.
2. Set the business object **Under construction** and set a Free reference (FreeInteger) field **In use** and select **Country2** as **Field type**.

3. Set the business object to **Completed**.
4. In Layouts, add the Free reference field to the layout.
You will now be able to use this reference field as a proper reference to the translatable **Countries** business object.

Making the Countries business object translatable (optional)

An additional advantage of the Country2 business object is that you can enable it to be translated so that the proper translations will be shown in various languages.

Procedure

1. Go to **Field definer** , select the **Country2** business object and set it **Under construction**.
2. Set the field **Is user-translatable?** to **Yes**.
3. Set the business object back to **Completed**.
4. Go to **TSIs**, select **Cities** and set it **Under construction**.
5. On the action panel, click **Jump to Layouts**.
6. Add the field **LangFieldDetail** to the layout.
7. Set the TSI back to **Completed**.

The **Countries** business object is now translatable.

If you go to Supporting data > Cities and select a country from the elements list, you will now be able to add translated names for the different languages in your system.



Also check the video on [Making 'Countries' translatable](#) on our Planon Software channel.

Populating the Country-City structure

Using the CityReference field

A **Cities** business objects (PLAATS) is now enabled to use a CityReference field.

CityReference is a proper reference to the **Cities** business object: CityReference (translated as: **City**).

So, there are now two City fields:

- database name PLAATS - old
- database name FK_City - new



The old City field (PLAATS) will be phased out - see [Use new improved reference field for City](#).

- For existing customers, this means that they should switch to using this new field ([Improved feature](#)).

- New customers are recommended to use the CityReference field from the start.

The following procedures describes how to make the **Cities** business object translatable and also describes how to use the CityReference field as a proper field and as a Free field reference.

Using the CityReference field

The **CityReference** field is a proper reference field that derives its value from the **Cities** business object. This means that if a city is deleted from the **Cities** business object, the reference value will automatically be empty (which is not the case with the **City** field).

Using CityReference as a proper field

Procedure

1. Go to **Layouts** and select the business object on which you have a City/Country field and set it **Under construction**.
2. On the **Layouts** step, drag the **CityReference** field to the correct position on the grid.
3. Set the business object to **Completed**.
The CityReference field is now available.

Using CityReference as a Free reference field

Procedure

1. In **Field definer** , select the business object for which you want have a new **City** field.
2. Set the business object **Under construction** and add the Free reference (FreeInteger) field and select **CityRef** as **Field type**.
3. Set the business object to **Completed**.
4. Go to **Layouts** and add the Free reference field to the layout.
You will now be able to use this reference field as a proper reference to the translatable **Cities** business object.

Making the Cities business object translatable (optional)

Procedure

1. Go to **Field definer** , select the **Cities** business object and set it **Under construction**.
2. Set the field **Is user-translatable?** to **Yes**.
3. Set the business object to **Completed**.
4. On the action panel, click **Jump to Layouts**.
5. Set the layout **Under construction**.
6. Add the field **LangFieldDetail** to the layout.
7. Set the layout back to **Completed** and log off/on.

The Cities business object is now translatable. If you go to Supporting data > Cities and select a city from the elements list, you will now be able to add translated names for the different languages in your system.


 Also check the video on [Making 'Cities' translatable](#) on our Planon Software channel.

Populating the Country-City structure

Populating the Country-City structure

Countries and Cities are now proper business objects in the Planon application.

Moving to this new structure requires some preparation and data migration as explained in this topic.

-  • For this procedure it is expected that the new Country-City structure has already been implemented. See [Using the Country2 field](#) and [Using the CityReference field](#).
- The data in the LAND picklist has to move to the new Country2 business object. The data in the City business object will just be reused.

The following steps will explain how to gather data and migrate this data to the new structure by using Data onboarding (you could also use Enterprise talk).

To break down the steps, this is what we will be doing:

- Export the country/city data (steps 1-3)
- Create templates and data onboarding definitions (steps 4-6)
- Fill out the templates (step 7)
- Import the country/city data (steps 8-9)

 To view a video of this procedure, see our [Video Channel](#).

Procedure

1. Go to Picklists and create a user report to export the picklist items for LAND

The LAND picklist contains the country data. In your report you only need to include the Description field.

2. Save the report as XLS (data only).
3. Do the same for BO Cities

In your report include the City and Country field.

You now have the required data.

4. Go to Layouts > Cities and generate an SDI definition.

For Select fields, include Country* and City (or, to make the data more unique, also include District, Municipality or Region).

5. Go to Layouts > Country2 and generate an SDI definition.

For Select fields, include Code and Name.

6. Go to SDI configuration, activate the definitions and download the templates.
7. Fill out the templates by using the data exported earlier.

For the City template, insert the country code in the Country* column. For the Country template, insert the country code in the Code column.

8. Go to Data onboarding and upload and validate the data sheets.
9. When validation has been completed, click Run.

Do this for both definitions. You must migrate data for all layouts affected by the new Country-city structure. Subsequently, you can remove the old fields, test all layouts and reports and, finally, activate the [improved feature](#)

[Using the Country2 field](#)

[Using the CityReference field](#)

History

In Field definer , the functional application manager or a user with similar authorization can enable an automatic **History** option for individual fields of a history aware business object. It is possible to indicate per individual field whether a history should be registered. Once this option is enabled, any modification to the field's value will be saved automatically in a log file. The results of any field changes can be viewed on the **History** selection steps. To enable automatic history, see [Enabling automatic history](#).

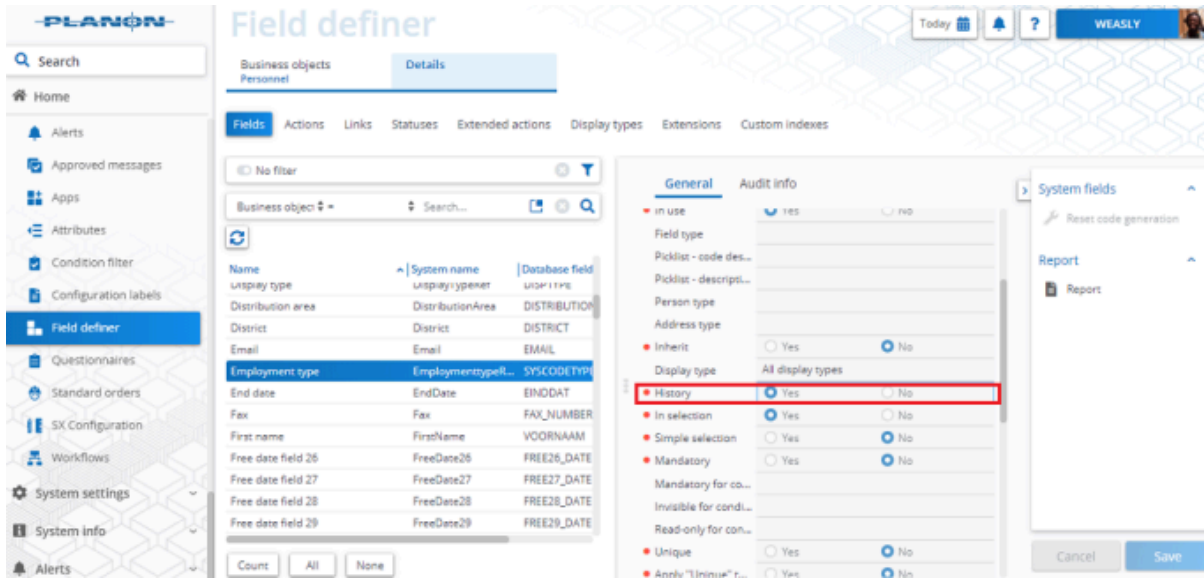
For an overview of business objects for which you can log a history of changes, see [History aware business objects](#).

Enabling automatic history

In Field definer , the functional application manager or a user with similar authorization can enable an automatic **History** option for the individual fields of a history aware business object.

Procedure

1. Select the business object for which you want to configure history.
2. On the action panel, set the status to Under construction.
3. Go to Details > Fields.
4. Select the field for which you want to enable automatic history logging (Employment type in this example).
5. In the data panel, set the History attribute to **Yes** to enable the automatic history.



6. Click Save.

Automatic **History** logging is enabled for the field.

You will be able to see the tracked history on dedicated steps in the relevant TSI. However, a **History** step is not automatically displayed in the relevant TSI(s). The Planon administrator must add the 'History' step to the level that comes immediately after the level of the business object to which it belongs.

History aware business objects

You can keep a history of changes for the following business objects:

- Accounting standard settings
- Activity definitions
- Answer lines
- Answer options
- Approvals
- Asbestos scores
- Assessments
- Assets
- Asset activity definitions
- Asset service plans
- Base questions
- Budgets
- Budget modifications

- Business events
- Cashflow
- Cashflow assignments
- Contracts
- Contract actions
- Contract lines
- Contract activity definitions
- Contract options
- Contract service plans
- Contractual terms
- Cost settlement
- Cost settlement profiles
- Costs of base activity definitions
- Costs of survey activity definitions
- Departments
- Discount rates
- Discount rate groups
- ERP systems
- Estimates
- Exchange rates
- Expected costs of contract activity definitions
- Financial reporting entities
- Financial years
- Follow-up actions
- Forecasts
- Funds
- Fund modifications
- Hazards
- Hazard logs
- CSP lines
- Property valuation details
- Invoices
- Item groups
- Ledger accounts

- Location assignments
- Maintenance activities
- Maintenance checklist items
- Move lines
- Objective definitions
- Objective lines
- Observations
- Observation groups
- Operating companies
- Orders
- Order hours
- Order lines
- Parcel
- Password
- Personnel
- Products
- Projects
- Properties
- Property details
- Purchase information
- Purchase order lines
- Purchase order suggestions
- Questionnaires
- Rent from / Rent to units
- Requisition lines
- Service plans
- SLA services
- Spaces
- Space dimensions
- Space usage
- Special tariff lines
- Standard activity definitions
- Standard assets
- Standard observations

- Standard orders
- Standard service plans
- Stock items
- Strategic property details
- Subcontractor lines
- Survey activity definitions
- Topic scores
- Usage with rating
- WBS items
- Work assignments


Field Descriptions

Masks

Use...	In order to...
#	<p>Specify the number of characters the sequence number should consist of. The sequence number is automatically incremented every time a code is generated. You can also specify an initial sequence number. Refer to Initial sequence number.</p> <p>Example</p> <p>##### results in the following code: 000001.</p>
YY	<p>Have the last two digits of the current year precede the sequence number.</p> <p>Example</p> <p>YY##### with the initial sequence number 77 will result in the years 2005 and 2006 in the following codes: 0500077 and 0600077.</p>
random character	<p>Add one or more random characters to the sequence number. These characters should always precede the sequence number. All characters are allowed except the comma, because the comma is used as a separator for macro parameters.</p> <p>Example</p> <p>OBJ##### with the initial sequence number 3 will result in the following code: OBJ000003.</p>

Free string fields


Field type	Description
Code descriptive	If the field type is Code descriptive , you should also enter a value in the Pick list / code, descriptive field.
Descriptive	If the field type is Descriptive , you should also enter a value in the Pick list / descriptive field.

 If you configure a free string field as **URL** field, please note that lengthy location URLs do not work. You can shorten the URL using a URL shortener.

- Alternatively, you can change the field type to a **Relative URL**.

Field type	Description
Date	Dates for which the format to be used depends on the Windows settings. A date may be chosen from a calendar. Note that this field type does not display a time.
Derived	This field type is only available for free fields of the Move lines business object. A free field of this type derives its field value directly from the field value specified in Derived field (which is a field of the business object given by the Derived from field attribute). So, if a free field is of this type, you must enter values in both the Derived from field and Derived field fields in FieldDefiner .
Derive and restore	This field type is very similar to the Derived field type. It is only available for free fields of the Move lines business object. The difference with the Derived field type is that a free field of this type will update the field from which it was derived, after a move line is completed. For an example, refer to the example in Derived from field .
Free business object 1 - 30	The Free business object <1-30 field type enables you to make a reference to a free business object. For more information on free business objects and how to use them, refer to the Open Module part of the Planon ProCenter user documentation.

User links


Field	Description
System name	Enter a unique system name for the multiple-selection list. This name is also used as the name of the link that you add to the Links action menu in TSIs where the multiple-selection list is to be made available.
	 The link names will become Java methods, when used in the web services. If the link names have white spaces and special characters like # ^ & ! (+ ? < >, there may be trouble while compiling web services. Instead of white spaces, you can use underscore (_).
Type	Indicates whether the link is a system link or a user-defined link.

Field	Description
Business object	Displays the name of the business object that is currently Under construction .
Linked business object	If the link type is user defined, use this field to click a pick list (business object) to link to the business object that is currently under construction.
Field	Click a free field to which the multiple-selection list is to be linked. (Note: only free fields that are not 'In use' are displayed.) The selected free field can no longer be modified by users and it will remain invisible in the Planon ProCenter user interface.
Translated name	Allows you to enter description for the link, in the respective Planon ProCenter supported languages. However, the description is displayed in the language the application is set to. The translated name of the link is displayed in the Links action menu of the concerned Business object's TSI.

Extended actions


Field	Description
BO definition	Specify the business object in which the extended action must be applied.
Web Client class name	Specify the fully qualified class name for the extended action class.
System name	Specify the system name of the extended action.
Code	Enter a code for the extended action.
Icon	Select an icon from the list that will be displayed for the extended action.
Description	Enter a description for the extended action.
Parameter	Enter the possible parameters to the extended action. The parameters can be passed as a key value pair, an XML string, Java code or as an SQL query and should be parsed accordingly in the extended action class.

Custom indexes fields

Field	Description
Code	Enter a code for the index.
Name	Specify a name for the index.
Business object field definition 1	Select a field definition for a first field of the business object.
	 Creating indexes is only allowed on free fields.
Business object field definition 2	Select a field definition for a second field of the business object.
Active?	Select Yes or No to set the index in Active or inactive status. The index is set to Active status by default.
Description	Enter a description for the index.

Condition filters fields

Field	Description
Code	Enter a code for the condition filter.
Business object	This field is automatically populated with the selected business object name.
Filter	Create a filter with relevant criteria. By using AND / OR operators, you can extend your condition filter.

 For more information on creating a filter, see [Fundamentals](#).

General order setting fields

Adopt status transitions from

Suborder

If you enable this setting by selecting **Yes**, a main request can adopt the status from the last completed or canceled suborder.

Adopting the status from suborder to main order only applies to main orders of the type **Requests** and only in the following cases.

1. if the last suborder of a request is **Administratively completed** or **Canceled**; the back-office can now administratively complete the main request by simply clicking **Yes** in the **Question** dialog.
2. if a suborder moves from its **Initial** status; the main request will move from the **Reported** to the **In Progress** status.

Main order

If you enable this setting by selecting **Yes**, suborder(s) will adopt either the **Administratively completed** or the **Canceled** status from the main order.

Inheritance from a main order to suborder(s) is applied to all order types, if:

1. an order is moved to **Canceled**; the suborders are also canceled (after confirmation).
2. an order is moved to **Completed**; the unfinished suborders are also moved to **Completed** (after confirmation).
3. an order is moved to **Tech. completed**; the unfinished suborders are also moved to **Tech. completed**.

Order lines

Delete empty order lines automatically

If you select **Yes** in this field, order lines of standard orders whose quantity is 0 or unspecified, will automatically be deleted.

Generate 'Additional costs' order lines?

If you select **No** in this field, no order lines will be created from the **Expected costs** when generating planned maintenance orders (PPM orders) if the expected costs are of the type **Additional costs**.

Generate 'Labor hour costs' order lines?

If you select **No** in this field, no order lines will be created from the **Expected costs** when generating planned maintenance orders (PPM orders) if the expected costs are of the type **Labor costs**.

Generate 'Material costs' order lines?

If you select **No** in this field, no order lines will be created from the **Expected costs** when generating planned maintenance orders (PPM orders) if the expected costs are of the type **Material costs**.

Logs

Complete activity logs

If you enable this setting by selecting **Yes**, the related contract activity logs get the **Completed** status, as soon as a contract order gets the **Administratively completed** status. This status transition is always carried out irrespective of authorization.

Check for double requests /requisitions

Check automatically

This setting specifies whether an automatic check for double entry of requests/requisitions should be carried out.

Period


This setting specifies the period that is used to check if double entries of either requests or requisitions are present. Planon ProCenter will check for double requests/requisitions within the specified period, for example 2 hours. You can specify a period in minutes, hours, days, weeks, months or years in the pop-up.

Applying default addresses/persons

Default addresses/ persons priority


Allows you to define priority for retrieving the default internal/external coordinator/tradesperson field values for an order.

Depending on the option you select, **Trade/ Order group** or **Order group/Trade**, the default values of the internal/external coordinator/tradesperson fields of an order are retrieved accordingly.

 For more information, see [Working with defaults](#).

Prevent inheriting 'External tradesperson' from 'Offering contract party'?

This setting applies when an order is linked to a contract line. By default this field is set to **No**, which means that the offering party's address from the contract is copied to the **External tradesperson** field on the order. If you do not want to have the offering contract party's address copied automatically to the order, you must set this field to **Yes**.

 This setting is especially relevant for Service Provider organizations, where the external tradesperson's address is not necessarily the same as the offering contract party's address.

Related records (orders, assets, requests)

Include archived records	Select Yes if you want the archived status of a related record to be displayed in the Related records field of an order in the Work Orders TSI. This setting also applies to the Related assets field in Work Orders .
--------------------------	---

Communication logs

Inherit communication logs from main order	Select Yes if you want the communication logs of the main order also to be displayed under the suborder communication logs.
--	--



This feature only works for the Planon ProCenter client (not for other Planon clients)

- You can make it possible to filter the communication logs that are displayed on the suborder level, by creating user-defined business objects (UDBOs) for role/type based communication logs. By configuring these, you can avoid displaying irrelevant communication logs on the suborder level. For example, if you create 'customer communication logs' and 'financial documents', you can show these to 'customers' and hide them from function profiles such as 'field engineer'.

Rejected statuses for re-assigned orders

Rejected statuses	Displays the status(es) selected as Rejected status(es). These status(es) are used in Service Desk to automatically move a request back to first line support when the request is rejected by second line support.
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Requestor information - order settings

Adopt field value from Requestor for [name of system order type]

Property	If you enable this setting by selecting Yes , the property linked to the requestor is automatically specified in the Property field of the main order when a requestor is selected.
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Space	If you enable this setting by selecting Yes , the space linked to the requestor is automatically specified in the Space field of the main order when a requestor is selected.
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Department	If you enable this setting by selecting Yes , the department linked to the requestor is automatically specified in the Department field of the main order when a requestor is selected.
Cost center	If you enable this setting by selecting Yes , the cost center linked to the requestor is automatically specified in the Cost center field of the main order when a requestor is selected.

Costs - order settings

Order line costs

Include costs from order lines automatically	If you enable this setting by selecting Yes , the total costs specified in the order lines are automatically included in the <i>Actual > costs</i> step at the Order details level of the Work Orders TSI.
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Reservation costs

Automatically generate reservation costs	If you enable this setting by selecting Yes , the reservation costs specified in Reservation costs window will be displayed as an order line in the <i>Actual > costs</i> step at the Reservation details level of the Reservations TSI. Note that this only applies to reservation units to which a tariff group has been linked.
--	---

Chargeable reservation days

<day>	With the Chargeable reservation days option you can specify which days can be charged on to the requestor by setting the option for the relevant day to Yes . For a non-chargeable day, no reservation costs will be charged.
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Calculation of cancellation costs

Based on working days	With this option you can specify if either calendar days or working days have to be used in the calculation of the cancellation costs. If set to Yes , working days are used, if set to No , calendar days are used.
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Threshold based on days

With this option you can specify the minimum number of days for the calculation of cancellation costs based on calendar days. If the number of days is smaller than this threshold, the calculation of the cancellation costs is always based on working days.

Remove order costs on cancellation

Remove order costs on cancellation

Allows you to set the order costs to zero on canceling an order. When you select **Yes** in the settings, a confirmation message appears at the time of canceling an order (in Work Orders), asking if you want to delete the order costs. The costs will be deleted only when you click **Yes** in the message. **No** is selected by default. When you select **No**, order costs are retained on the canceled order.

 This setting is possible only for the work orders. Reservations do not have the option of canceling order costs.


Adopt standard costs from order group

Adopt standard cost category

If this setting is enabled, the standard cost category of the order group is copied to the order.



Adopt standard cost type

If this setting is enabled, the standard cost type of the order group is copied to the order.

 The standard cost type and standard cost category from the 'Standard order' take precedence over the standard cost type and standard cost category from the **Order group**. If the respective fields are filled in on the standard order, this data will be applied. If the data is not available on the standard order, Planon checks this setting and applies it accordingly.


SLA - order settings

Setting	Description
Only accept requests with valid SLAs	If this field is set to Yes , a request can only be saved if an SLA is found.
Reference to SX field 'Minutes to deadline' (UXWaitOnCustomerStopTime)	This field is only relevant for customers using the solution extension ISM-IT-13: Recalculate requested completion date after waiting for customer (UXWaitOnCustomerStopTime): Select a field that must be used to migrate from the solution extension to regular wait statuses.

Setting	Description
	<p>This will ensure that existing orders with a wait status are processed properly.</p> <div style="border: 1px solid blue; padding: 5px; margin-bottom: 5px;">  The selected field must be set to In use and must not be read only in Field definer </div> <div style="border: 1px solid red; padding: 5px;">  The Reference to SX field can only be re-used (for example, changing the field type) after all orders that were put on hold by the solution extension have been resumed. </div>
SLA: Wait statuses	Displays the on hold status(es) selected in the link SLA: Wait statuses .
SLA: Actual respond statuses	Displays the status(es) selected in the link SLA: Actual respond statuses .
SLA: Actual attend statuses	Displays the status(es) selected in the link SLA: Actual attend statuses .
SLA: Actual fix statuses	Displays the status(es) selected in the link SLA: Actual fix statuses .
SLA: Actual complete statuses	Displays the status(es) selected in the link SLA: Actual complete statuses . For more information on the SLA settings, see SLA settings .

Reservations - order settings

General

Automatically cancel visitors?	This setting determines whether the visitors of a reservation are canceled automatically if the reservation is canceled. <div style="border: 1px solid blue; padding: 5px; margin-top: 10px;">  If this option is set to Yes, visitors are canceled if the reservation is canceled, even if the user concerned is not authorized to cancel visitors. </div>
Enable reservation periods with non-bookable hours?	With this setting you can allow reservation periods to have non-bookable hours.
Allow shortening of reservations made by Exchange?	Select Yes to enable shortening of a reservation created by <i>Exchange</i> . No is selected by default.



Enabling this setting will have consequences as the reservation will not be updated in the calendar of the attendees. So, any change in the reservation timing must be communicated.


Catering and cleaning order groups

Catering order group	Select the order group that must be used to filter out the standard catering orders.
Cleaning order group	Select the order group that must be used to filter out the standard cleaning orders.

Planning

Start time of day	Specify the start time of the working day.
End time of day	Specify the end time of the working day.
Max. reservation duration	<p>Specify the maximum duration of a reservation (in days, hours or minutes).</p> <p>In addition to this general setting, it is possible to specify a specific duration per reservation unit (space unit, asset unit or flexible workspace).</p> <p>However, the reservation unit setting cannot exceed the general setting specified here!</p>
Transition period in minutes	<p>Specify the time frame (in minutes) before and after a reservation during which the reservation unit (both space units and asset units) is not available.</p> <p>For example: a space unit needs to be cleaned after a meeting; during this time, it cannot be booked.</p> <p>The transition period you specify in this field applies to all reservation units. If a reservation is made that overlaps with another reservation - while taking the transition time into account - the system displays a message.</p>
Reservation activity – bar text	<p>Open the dialog box to select a report and click OK. The report, specified earlier, contains the information of a reservation such as Start date & time, external visitor, and so on. When selected, the report's text is displayed on the bars of the reservation units such as Space units/Asset units/ Flexible workspaces in the Graphical planner (Reservations).</p>
Order activity – bar text	<p>Open the dialog box to select a report and click OK. The report specified earlier contains the text information related to the suborders of a reservation. When selected, the report's text will be displayed</p>

on the bars of suborders in the Graphical planner (Reservations).

 For more information about reports, see: [Specifying text on the bars of the graphical planner](#)

Standard order for asset units	Select a default standard order to be used when booking an asset unit in the graphical planner.
Standard order for flexible workspace units	Select a default standard order to be used when booking a flexible workspace unit in the graphical planner.
Standard order for space units	Select a default standard order to be used when booking a space unit in the graphical planner.
Context menu item	In this reference field, you can select the actions you want to be included in the context menu of the Reservations planboard, such as Make recurrent , Add visitors , Copy and so on.
Booking utilized	
Canceling enabled?	Select Yes to enable reservation cancellation, when a No show event occurs. The cancellation is executed by a scheduled task that must be configured in the Alerts TSI and activated in the Scheduled Tasks TSI. See: Adding an action definition .
Cancel status	Click the reference field icon and select a cancel status from the dialog box to be assigned when a room reservation is canceled.
No-show time offset	The offset period you select here determines the period (calculated from the start time of the reservation) after which the scheduler will cancel reservations that have no check-in. Enter the offset period in minutes. During this offset period, the room remains Booked / Reserved (field Booking utilized? on the reservation = Yes). When this time window has passed and canceling has been enabled, the room is made available by an action definition and the reservation is canceled. See: Adding an action definition .
Catering orders	
Name	Displays all user-defined work orders that are considered to be catering orders. Use the Links panel to configure this list.

Requests - order settings

Deviating department/cost center of requestor

Check for deviating requestor data

This setting specifies whether a warning should be given in case the department or cost center of the request deviates from the requestor's department or cost center.

Contract settings

Field	Description
Combined closure?	<p>Specify if you want to (trial) close the financial commitments and accounting commitments in one go (choose Yes) or if you want to (trial) close them separately (choose No). By default, this option is set to No. For more information on this subject, see the section <i>Using the 'Combined closure' setting</i> in the <i>Lease Accounting</i> documentation.</p> <p>Note that this setting has to be manually added to the following layout: <code>Popup_ContractSetting</code></p>
Display payments / receipts as positive amounts?	<p>Specify how amounts of the type 'Pay' and 'Receive' are shown as positive (+) or negative (-) in the Financial overview in Contracts . For both types of amounts, you can specify if they should be shown as positive (+) or negative (-). If set to Yes, amounts are multiplied by 1; if set to No, amounts are multiplied by -1.</p> <p>Examples</p> <p><i>Payments:</i></p> <p>Contract line 1 = 100 dollar; Contract line 2 = 130 dollar; Contract line 3 = -80 dollar. Total amount = 150 dollar</p> <p>If the Display payments as positive amounts? option is set to Yes, the total amount is multiplied by 1. Total amount is: 150 dollar</p> <p>If the Display payments as positive amounts? option is set to No, the total amount is multiplied by -1. Total amount is: -150 dollar</p> <p><i>Receipts:</i></p> <p>Contract line 1 = 200 dollar; Contract line 2 = 70 dollar; Contract line 3 = -90 dollar. Total amount = 180 dollar</p>


Field	Description
	<p>If the Display receipts as positive amounts? option is set to Yes, the total amount is multiplied by 1. Total amount is: 180 dollar</p> <p>If the Display receipts as positive amounts? option is set to No, the total amount is multiplied by -1. Total amount is: -180 dollar</p> <p><i>Combination of payments and receipts:</i></p> <p>Contract line 1 = 100 dollar to be received; Contract line 2 = 70 dollar to be paid</p> <p>If the Display receipts as positive amounts? and Display payments as positive amounts? options are both set to Yes, the total amount is 170 dollar.</p> <p>If the Display receipts as positive amounts? is set to Yes and the Display payments as positive amounts? option is set to No, the total amount is 30 dollar.</p> <p>If the Display receipts as positive amounts? is set to No and the Display payments as positive amounts? option is set to Yes, the total amount is -30 dollar.</p> <p>If the Display receipts as positive amounts? is set to No and the Display payments as positive amounts? option is set to No, the total amount is -170 dollar.</p>
Cash flow calculation - years	Specify the number of years in advance for which Planon should calculate and show financial commitments on the Financial commitments selection step in Contracts . The value specified here is always relative to current year. E.g. with a value of 10 (years) the cash flow will be calculated for the years 2019 (=current year) up to and including 2029.
Suppress modification records during In Preparation status?	For contracts in the In preparation status and contract lines in the Inactive status, you can choose whether or not Planon creates modification records in Contract life Cycle or Contract line life cycle . By default, Planon does not create modification records for changes made during the In Preparation and Inactive statuses. If you want to keep track of changes made to contracts in the In preparation status and contract lines in the Inactive status, in Field definer , set the Suppress modification records during In Preparation status? option to No . For each change made to a contract or contract line, Planon now creates a record in the respective life cycle level or step.
Log history of contracts with 'In preparation' status?	For non-life cycle fields of contracts in the In preparation status and contract lines in the Inactive status, you can choose whether or not Planon maintains history. By default, Planon does not maintain history of changes made during the In Preparation and Inactive statuses. If you want to keep track of changes made to contracts in the In

Field	Description
Display English quarters in financial overview?	<p>preparation status and contract lines in the Inactive status, in Field definer , set the Log history - In preparation status? option to Yes. For each change made to a contract or contract line, Planon now creates a history record.</p> <p>This option allows you to display English quarters in the Financial overview in Contracts . No is selected by default.</p> <p>English quarters differ from the modern quarters. These quarters start on different dates and have a different duration compared to modern quarters. English quarter starts on 25 Dec.</p>
Display Scottish quarters in financial overview?	<p>This option allows you to display Scottish quarters in the Financial overview in Contracts . No is selected by default.</p> <p>Traditionally, Scottish quarter days are termed as Rent Days by commercial properties. These are the days when contracts and leases begin/end and accounts settled. Scottish quarter starts on 28 Feb.</p>
Display Old Scottish quarters in financial overview?	<p>This option allows you to display Old Scottish quarters in the Financial overview in Contracts . No is selected by default.</p> <p>Old Scottish quarters differ from the modern quarters. These quarters start on different dates and have a different duration compared to modern quarters. Old Scottish quarters start on February 2, May 15, August 1 and November 11.</p>
Display Irish quarters in financial overview?	<p>This option allows you to display Irish quarters in the Financial overview in Contracts . No is selected by default.</p> <p>Irish quarters differ from the modern quarters. These quarters start on different dates and have a different duration compared to modern quarters. Irish quarters start on August 1, November 1, February 1, May 1.</p>
Restrict deletion of contracts?	<p>This option allows restricting the deletion of:</p> <ul style="list-style-type: none"> <li data-bbox="678 1476 1276 1686">• Contracts in the Active status <p>If set to Yes, you can only delete contracts in the In preparation status. If No is selected, the restriction is removed and you can delete contracts in both the In preparation and Active statuses.</p> <li data-bbox="678 1707 1195 1881">• Lease accounting contract lines that have already been closed (after financial closure / accounting closure) <p>If set to Yes, you can only delete lease accounting contract lines that are still</p>

Field	Description
Update budgets on basis of budget definition?	<p data-bbox="724 247 1263 411">in preparation (status Inactive). If No is selected, the restriction is removed and you can delete accounting contract lines that have already been closed (after financial closure / accounting closure).</p> <p data-bbox="646 443 1351 594">This option allows you to determine how update budgets are updated. No is selected by default, which means that budgets are updated per contract line. If you want to update the budget by creating journal entries, you must set this option to Yes, in advance.</p> <p data-bbox="646 615 1312 674">Once the financial year is Open and journal entries have been created, you can no longer change this setting.</p>
Display Financial overview based on closure date?	<p data-bbox="646 709 1351 894">This option enables you to display the total commitments and supplements on the financial overview of a contract, based on the closure/start /end date. Selecting Yes will display the financial overview based on the closure date. Selecting No will display the financial commitments based on start/end date.</p> <p data-bbox="646 915 1351 1003">The display financial overview based on closure date option is not applicable to Overview including payments on Financial overview.</p>
Take retrospective payments into account?	<p data-bbox="646 1045 1351 1230">Setting this option to Yes ensures that the retrospective payments are included for accounting calculations in the original period, if a contract is entered or changed retrospectively. Default setting is No. For more information, see the Lease accounting documentation, the section <i>Amount changes in a financially closed period</i>.</p>
Execute background action sequentially?	<p data-bbox="646 1272 1351 1675">Closing contracts via Action on selection as a background action can potentially cause a hiccup because - in specific situations - contracts try to update the same related data in the database simultaneously. This causes a conflict. To avoid this, you can run contract actions sequentially in the background by setting Execute background action sequentially? to Yes. All (trial) closures and status transitions are supported. After switching this setting, the actions are processed sequentially and no longer in parallel. The time to complete will increase for the sequential run, but it will prevent hiccups. The logging of this run is registered on the step Sequential contract background actions.</p> <p data-bbox="646 1696 1351 1759">For more information on background actions for contracts, see Using background actions.</p>
Address type	<p data-bbox="646 1791 1351 1881">Use the Address type setting to preselect the address types for which Planon should automatically create a contracting party when a new address is registered. When</p>

Field	Description
	<p>an address is registered based on the preselected address types, Planon will always generate a contracting party. If you do not configure a preselection of address types, Planon will prompt you to confirm whether a contract party should be created.</p>

Invoices business object - settings

Field	Description
Secure documents	<p>Yes allows you to create invoice letters as Communication logs for invoices.</p> <p>No allows you to save invoice letters at a pre-defined location for Invoices in System Settings > File locations.</p>
	<div style="border: 1px solid black; padding: 5px;"> <p> To know more about creating secure documents in communication logs, please refer to <i>Fundamentals of Planon ProCenter</i> .</p> </div>
Max. days after today	Specify the number of days, after the current day, within which the invoice date should be set.
Max. days before today	Specify the number of days, before the current day, within which the invoice date should be set.
Maximum invoices to be printed	Specify the maximum number of invoice letters to be sent to the printer at once. By default, this value is set to 50. The maximum value that can be set is 100.
Move due date X days after invoice date	While creating invoice letters, an invoice date is specified. If you are in-time with sending out your invoice letters, the invoice date will be earlier than the due date of the invoice. However, if the invoice date is past the due date of the invoice, in Planon ProCenter , the due date of the invoice will be set to the invoice date. To change the due date of your invoice to a future date, enter a value in this field. The due date of the invoice is then automatically incremented based on the value specified in this field.
Communication log	Set a user-defined communication log for invoices.

Price announcement letters business object - settings

Field	Description
Use secure documents?	By setting Use secure documents? to Yes , you can store price announcement letters at a secure location. If set to No , price announcement letters are stored at a location defined for price announcement letters in System Settings > File locations .
Communication log	Set a user-defined communication log for price announcement letters.

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