TSIs

Planon Software Suite
Version: L104

Planon

Building Connections

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 TSIs

TSI stands for Task-Specific Interface, which is a configuration module that allows you to customize the user interface so that users have the required functionality to perform their tasks and activities.

For example, a receptionist who must register visitors of a specific building does not need all the selection levels, fields, and actions of the standard Personnel TSI.

For this user group, you can create a TSI that offers only the functionality needed to register visitors of a specific building. The remaining functionality is not available for this user group. What remains is a simple and clear interface that enables end users to do their work easily and efficiently.

By copying and editing standard TSIs, you can configure and further customize the user interface. For each user group, you can configure a TSI that is specific to their tasks and activities.

Layouts

In Layouts , you can determine the way that your business objects appear on the screen.

> 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 personal sensitive data (as defined within the context of privacy and data protection laws).

In Layouts , you can add or delete fields, tabs, bars, actions, links, status transitions, change the order of these elements on the screen and in some cases provide a name or translation(s).

You can perform these actions in the following Layouts panels:
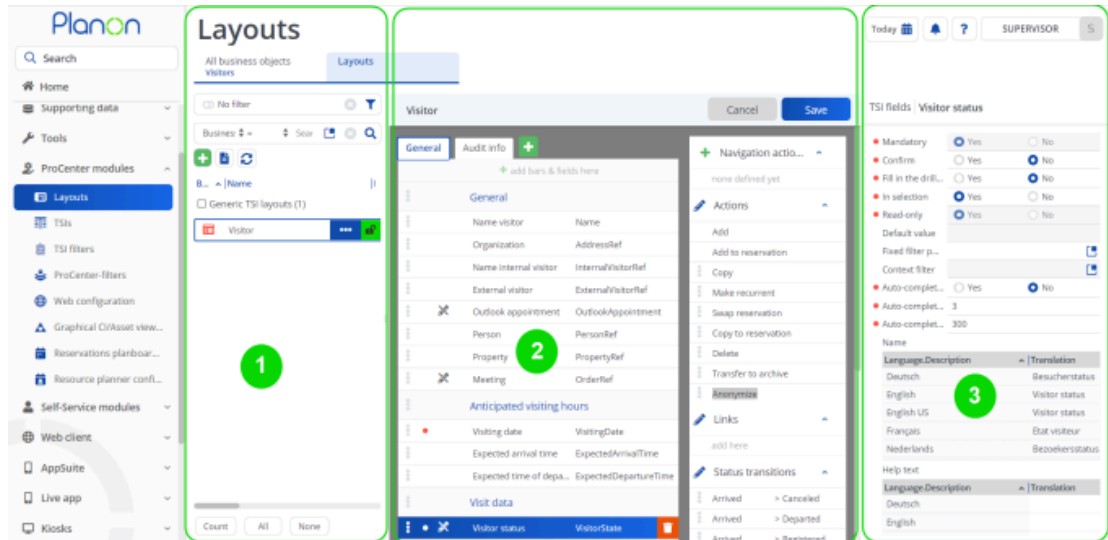
1	**Elements panel**, Displays the layouts that are available for the business object that is selected on the **All business objects** level.
2	**Layout panel**. Displays a mock-up of the layout and actions as they will appear on the screen.
3	**Details panel**. Displays details of the elements that can be configured on the **Layout panel**.

> ℹ️ Before configuring the layout, remember to set the business object **Under construction** by clicking the padlock icon to the right.

TSI filters

In **TSI Filters** you can add, copy or delete TSI filters for business objects.

By creating filters you can restrict or fine-tune data that is shown to end users so that they can easily focus on the data that is relevant to them.

For example: you could create a filter that only shows today's visitors, or a filter that only displays the properties in a specific region or city.

Concepts

The following topics describe the concepts that are key to understanding the functionality.

TSIs

TSI stands for Task-Specific Interface, an interface that is configured for a specific role or purpose.

Planon ProCenter has a large number of predefined, 'standard' TSIs. Most of these TSIs can be customized to suit your requirements. You can also create and customize new TSIs that are based on these 'standard' TSIs.

TSI selection levels and selection steps

All TSIs are based on a standard TSI. A standard TSI is composed of a number of fixed selection levels and steps. The Personnel TSI, for example, consists of the **Properties**, **Components**, **People**, **Visitors** and **Keys & keysets** selection levels.

A TSI that is based on a standard TSI, cannot deviate from this standard and is composed of the same selection levels and steps. The order of the selection levels is also fixed. You can, however, disable selection levels, thus making them invisible to end users.

TSI layout

For each selection level, you can customize the layout of the data section by:

- adding, deleting, or moving tabs.
- adding or deleting fields.
- adding or deleting bars.
- moving fields to another tab.
- defining (navigation) actions, status transitions and links.

Step actions

In many TSIs, you will find actions on a selection step; these are called step actions.

End users can use step actions to change / update the display of data on the selection step. Some actions are generic to all steps, such as **Refresh list**, **Show list**, **Show archived items** and some are specific to steps, such as **Generate QR code**.

Step actions are available at various locations on the user interface:

- Action panel, for example **Generate clustered orders**, **Area calculation**.

- Data panel, such as **CAD integrator**, **BIM viewer**.

- Elements list, such as **Show related orders**, **Financial year active**.

- Search bar, such as **Search by stock item code**, **Search flexible workspaces**.

- Graphical planner, such as **Filter on desk configuration**, **Show completed orders**.

- Chart (element list filter), such as **Highlight resources suitable for job**.

- Chart (planner filter), such as **Show critical path**.

- Menu, such as **CAD Integrator menu**.

By default, all actions are available to all users. You can, however, remove irrelevant actions from the layout.

For more information on configuration, see Linked step actions.

Pop-ups

As the word suggest, a pop-up is a dialog that appears on the screen typically when clicking an icon.

Planon ProCenter has two types of pop-ups: information pop-ups and reference pop-ups. Pop-ups are configured in Layouts . Most pop-ups are of the information type.

- An information pop-up is a read-only dialog box that appears

  whenever a (i) button is clicked in a field that refers to another business object. The dialog box typically displays further fields and settings associated with the field.

- A reference pop-up is a dialog box that appears whenever a button is clicked in a field that refers to another business object. The dialog box allows you to select other business objects from the currently selected business object. An example of a reference pop-up is the **Property** dialog box that end users can open from the **Property** field. In this dialog box, users can easily find and select the required property using search options.

TSI filters

TSI filters are set and managed by the application manager. There are three kinds of TSI filters:

- **Selection step filters**

  Selection step filters are fixed filters that are linked to a particular selection level or selection step in a TSI. End users cannot activate or deactivate these filters themselves.

- **User filters**

  User filters are predefined filters that end users can activate or deactivate from the filter bar.

- **Fixed filters**

  Fixed filters are predefined filters that are applied to reference fields in a business object. By using a fixed filter, you can limit the data displayed to the end user in a reference pop-up. End users will be unaware of a fixed filter being applied.

Navigation groups

Navigation groups are used to make TSIs available per user group (users). A launch group can be linked to various user groups.

> ℹ️ For details on launch groups, see *Navigation Panel*.

The process to create a user-defined TSI is summarized as shown in this image.

SDI definition

A ready to use import definition for onboarding data, which comes with a template (Excel) that is based on a Planon layout. You can generate an SDI definition in TSIs or in Layouts .

You can download the template of the data onboarding definition and add data in Excel. Subsequently, this file can be uploaded and imported into Planon by using **Data onboarding** or **SDI Configuration**.

Data sheet

The template file that is completed with data that you want to import into Planon. This file must comply with the field properties of the template. When completed, you can upload the data sheet in **Data onboarding** or in **SDI Configuration**.

> ℹ️ Do not edit the header, this information is required for the import.

Configuring TSIs

This section provides information on how to configure and customize TSIs.

When configuring a TSI, you complete the following steps:

1. Set the TSI **Under construction**.
2. Make the required changes (configure selection levels, selection steps, customize a selection level's layout, define navigation actions, link TSI filters, etc).
3. Make the TSI available to end users.

After making the necessary changes to your environment's TSIs, you can transfer these to another environment by using **Configuration Transfer**.

> For more information on exporting/importing TSIs, see *Configuration transfer*.

Preparing TSIs for modification

When preparing a TSI for modification. You can either:

- Modify an existing TSI
- Add a new TSI based on an existing TSI
- Copy an existing TSI and modify it
- Delete a TSI

Procedure

1. Depending on what you want to do, proceed as follows:

a. Modifying a TSI: In the elements list, select the TSI that you want to configure and click the padlock icon to its right to set it Under construction: . When you do so, the padlock icon changes and its color becomes red to indicate that work on this TSI is in progress: .

b. Adding a TSI: Click Add () at the top of the elements list to add new TSIs, based on the standard TSIs.

Before being able to save the new TSI, you must at least Add () one level and step (or more).

See also: Configuring selection levels and selection steps.

c.
Copying a TSI: Click Copy in the TSI's context menu ( ).

> ℹ️ TSIs that are created through the **Add** or **Copy** option, automatically get the **Under construction** status and can be modified directly.

d. Deleting a TSI: Click Delete in the TSI's context menu to delete a TSI that is not used. However, if you have deleted the last instance of a TSI and you upgrade to a newer version of Planon ProCenter , the TSI you deleted will be recreated. This is because there always has to be at least one instance of each TSI.
If you have deleted all instances of a TSI, Planon ProCenter will always recreate the standard Planon-defined instance of this TSI after upgrade.

> ℹ️ When you are modifying a TSI and you set it to **Under construction**, end users can continue working with the 'current' version of the TSI. However, if end users log on again, the TSI will no longer be available. Your changes to the TSI will be available after the TSI's status is set to **Completed** and end users have logged on again.

2. You can now start configuring the TSI's selection levels and steps.

For details, see Configuring selection levels and selection steps.

Configuring selection levels and selection steps

Each selection level and selection step can be configured individually.
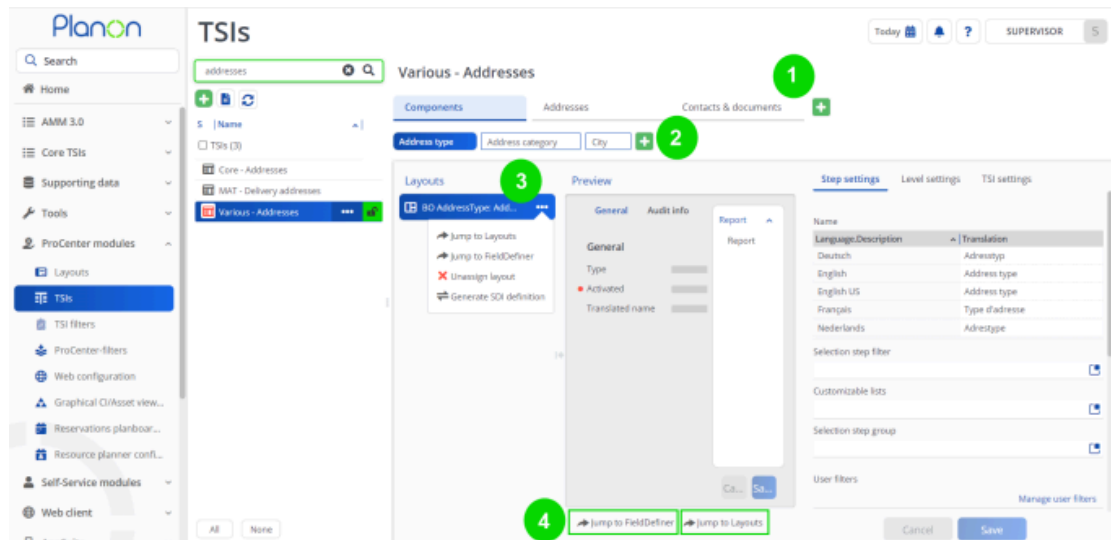
1	Change, add or delete selection levels.
2	Change, add or delete selection step.
3	Open the context menu and select the available actions.

4   Navigate to Field definer or Layouts where you can add fields and configure the TSI's layout.

⚠️ If a business object has been set to **Under construction** in **Field definer** , you cannot edit its layout here.

Under **Layouts** you can perform the various actions available in the context menu. If you delete a layout, it will not disappear, but it will be grayed out. In this way, you can always add the layout later.

Preview shows a mock display of the current layout. From here, you can navigate to the required TSI to further configure the fields and layout.

Context menu

In the data panel's **Layout** section you can perform a number of actions.

The actions are available in context menu that appears when you click ••• for a layout. You can:

- Delete a specific layout or Unassign a generic layout
- Navigate to Field definer to add/remove fields
- Navigate to Layouts to configure a layout.

ℹ️ When the linked layout is a specific layout, navigating to Layouts opens a conversion dialog to first convert the specific layout to a generic layout. Subsequently, you will proceed to Layouts .

- Generate an SDI definition (to import data)
- Convert a specific layout to a generic layout

Generating an SDI definition

In Layouts and in TSIs you can generate an SDI definition by running the **Data onboarding definition** wizard.

By running the **Data onboarding** wizard, a definition and a corresponding template (Excel) will be generated, which can be downloaded in **Data onboarding**.

ℹ️ • This topic describes the procedure for Layouts . A similar procedure is also possible from TSIs .
• If for a business object you are allowed to create user-defined business objects, then you can only generate an SDI definition on the user-defined business objects.
If this is not possible for the business object, then you can generate an SDI definition on the system business object.

1. Go to Layouts and select the (user-defined) business object whose layout you want to export.
2. Go to Layouts level, select the layout in the elements panel and click …
    > Generate SDI definition.

The Data onboarding definition wizard appears. Depending on the selected business object, this wizard has either 4 or 6 steps.

> ℹ You can browse through the wizard by clicking the selection steps in the left panel (instead of clicking **Next** or **Previous**). Use CTRL+Shift or CTRL+click to select multiple items.

a. Data onboarding definition: fill in a Code and a Name and click Next.
b. Select fields: from the **Selected** panel, deselect the fields that need not be filled in. By default, all the layout fields are listed in the **Selected** panel. The deselected fields will not be added to the template nor to the data onboarding definition. Click Next to continue.
c. Part of ID: select the fields to be used for identification and click **Next**.
d. Part of ID for references: per business object that is referred to (additional tabs in the wizard), select the fields to be used for identification. If no field is selected, often the **Code** or **Code group** field will be used for identification. Click **Next** to continue. In the template, there is a thick black line on the outside borders combining the fields you selected to identify the references.
e. Select links: select the links (M-to-N or Multiple Select Free Fields) to be imported and click **Next**.
f. Select part of ID for M-to-N links: for the selected links, select the fields to be used for identification.

3. Click Complete.

   Your SDI definition is created. You can download the Template(s) and share it for filling out the data.

> ℹ Go to SDI configuration to download your template.

4. Click Close.

Configuring TSI details

In the TSI's **Details panel** you can configure TSI specific settings.

The settings are spread over these areas.

TSI settings

On TSI settings, you can view and modify a number of fields and settings.

Field	Description
Description	Enter or modify the TSI name.

| Field	Description
Translation	Provide translations for the TSI name for the languages available for your environment.
TSI help URL	Provide a direct link to the WebHelp for your TSI. See also Specifying TSI Specific Webhelp.
System info	Displays various system data fields.
Where used?	Displays in which navigation group(s) the TSI is used.

Specifying TSI Specific Webhelp

The current Planon WebHelp combines all TSI documentation in a single WebHelp.

To be able to display the WebHelp from the *Planon ProCenter* application, the WebHelp source needs to be deployed at a specific location and this location needs to be specified in **System Settings** > **General**. Typically this contains the WebHelp URL as in the above link.

Tip	For more information on deploying the WebHelp and configuring *Planon ProCenter* to display the WebHelp in a stand-alone fashion, refer to the *Installation Guide > Configuring the Help center*.

When opening the WebHelp, the complete folder structure appears as shown in this image.
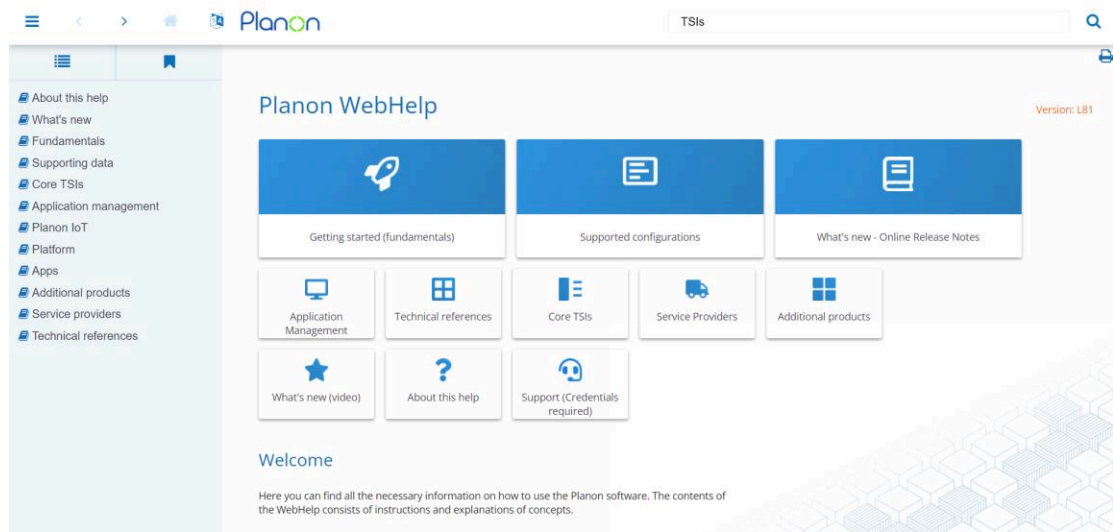
The advantage is that customers will be able to view documentation on all available features by pressing **ALT+F1** or by clicking the **Help** button in Planon ProCenter .

If a customer would like to directly view the documentation for a specific TSI only, some further configuration is required.

1. Open the Planon WebHelp.

Note	Instead of configuring the Planon WebHelp here, you can also link a help system that you created and maintain yourself!

2. Select the TSI for which you want to create TSI Help. Expand the TSI folder until the first page appears in your browser.
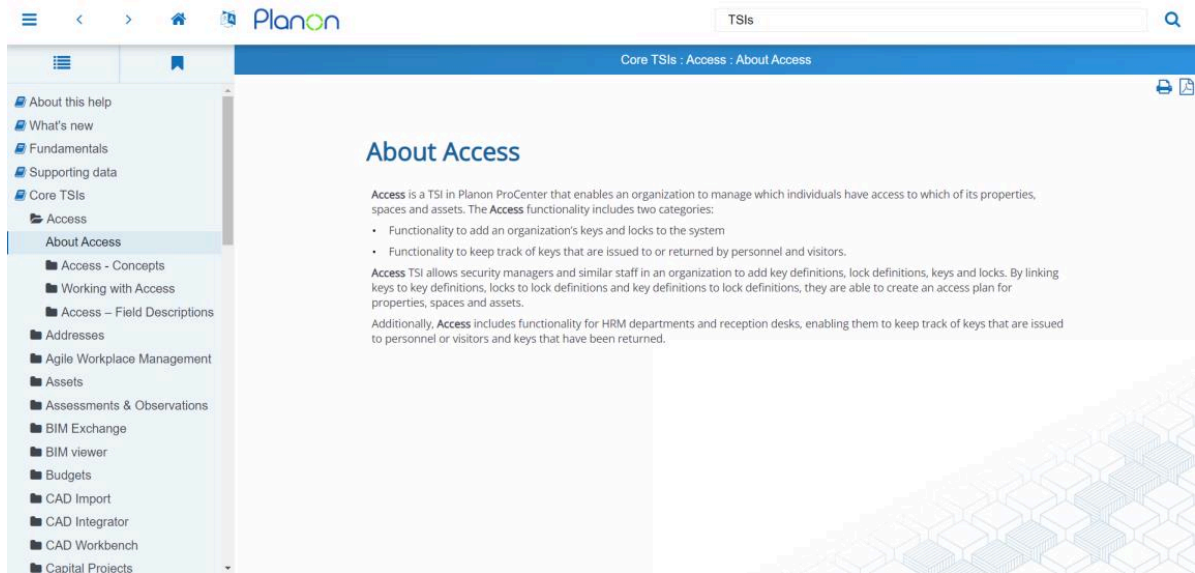
3. Select and copy the **Address (URL)** displayed.

    In this example, Access is being used.

4. Go to TSIs and select the appropriate TSI from the list and set the TSI to *Under construction*.

5. Go to **TSI settings** and paste this URL in the TSI Help URL field

6. Click **Save** to save your settings.
7. Set the TSI's status back to **Completed**.
8. Log out and log in again to refresh.

   Repeat this for all modules for which you want to create a module-specific Help.

   If you click the **Help** button, a menu appears. Here you can click **TSI help**, which will take you to the relevant page in the WebHelp.
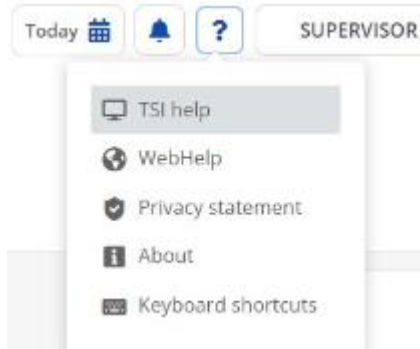
TSI Level settings

Fields	Description
Name	Enter or modify the (translated) name of the level.
System info	Displays various system data fields.

TSI step settings

Selecting lists

By setting the **Show Data** field to **No** and then by setting a filter for the required business object, you can determine the lists being loaded in the data panel.

> ℹ When you select **No** in the **Show Data field**, the BO list will be empty by default until the user clicks on the refresh list or sets a user filter. This will improve the performance of the application regarding the wait time while retrieving records during the initial load.

Selection step groups

A selection step group is a selection group that contains a list of further selection options from which end users can choose. It allows you to quickly filter data in the elements panel.

For example, the **Addresses** selection step group at the **Components** level of Work Orders contains the selection options:

- **External tradespeople**
- **External coordinators**
- **Externally assigned by**
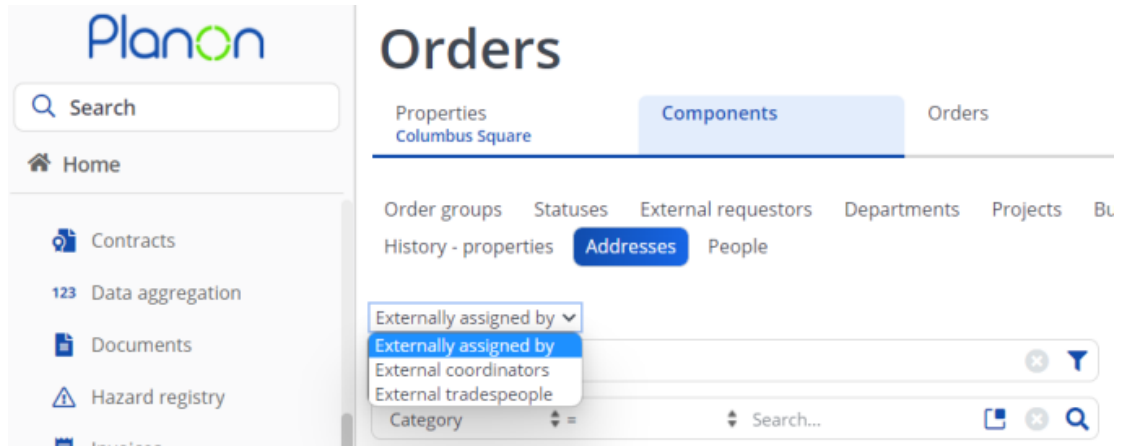
Selection step groups can be configured and maintained on the **TSI selection level**.

Procedure

To add or delete selection step groups

1. Set the required TSI to **Under construction**.
2. Open the dialog box in the **Selection step group** field.

> ℹ️ If the level has only one step, this field is not available.

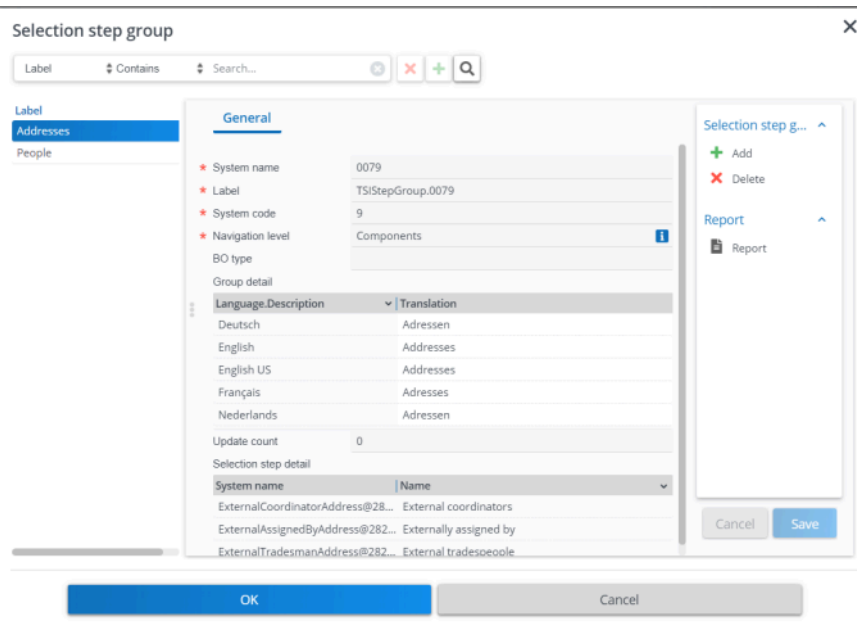The **Selection step group** dialog box appears. In this window, you can add new selection step groups or delete existing ones.

Show add actions in ...

The **Show Add actions in** option enables you to specify how **Add** actions should be displayed on the action panel. There are three options available:

Option	Description
In a list within the Action panel	The Add actions are listed in single list in the action panel.
In a separate menu within the Action panel	The Add actions are available in a separate menu within the action panel.
In a list as well as in a separate menu	The Add actions are available as a list on the action panel, as well as in a separate menu within the action panel.

Linked step actions

By default, step actions and menu items are available to all users. However, you may want to hide some menu items or step actions from some users when these are not relevant to them.

For example, the step actions **Generate QR code** or **BIM viewer** in the **Spaces & workspaces** TSI may only be required for specific users. Specific menus such as the CAD Integrator menu on the CAD Integrator tab, can be configured to only display selected menu items in the list.

The **Linked step actions** option on the **Step settings** in a TSI enables you to select which step actions or menu options should be displayed. Those that are in the **In use** section are displayed. You can hide them by moving them back to the **Available** section. This option is available for all TSIs.

> ℹ For more information on step actions and their locations, see Step actions.

> ℹ
> • Users who are authorized for the selected TSI will only see the items from the **In use** section.
> • After you have configured step actions, the users should log in again to see the configuration changes.
> • If you select a sub-menu item in the **Linked step actions** pop-up, the parent menu item is also selected automatically.
> • If a step action is removed from the element list, the element list will get its default behaviour. For example, if you remove the **Show related orders** step action from the **Orders** selection step, related orders will no longer be displayed. Re-adding the step action will not reintroduce existing user settings. Users will have to manually enable the step action again first. However, default settings are retained. For example, in **Budget categories**, the **Financial year active** step action on the element list is enabled by default. So, if this step action is removed, the financial year will not be active. When it is added again, the financial year will be activated (because the step action is enabled by default).

Adding additional views

To make additional customized views (a.k.a. linked step actions of type 'Data panel') available for a business object, at least the data view is required.

By having this feature, it will be possible to add additional (step) views via an app.

To support this, the data view has been enabled for the Properties step (except for their FREEPART_Property) of the following TSIs:

- Reservations
- Rentable units
- Work orders
- Spaces
- Inventory
- Asset pro
- Meters
- Persons
- Planned maintenance
- Free BO (**Properties** level)

Sorting actions

The order in which actions appear in the action panel is determined by assiging a sort order. To a certain extent, customers can determine the sort order of actions.

Procedure

1. Set your TSI Under construction.
2. Go to Step settings > Add actions position.

Here, you can determine the sort order by assigning a position number (in descending order). You can change the order of actions for all layouts that are used in the TSI.

Log out, and log in again. The sort order of actions will now appear as specified.

> ℹ️ The position of the **Add** and **Add sub** actions cannot be changed, these will always appear on top of the actions section of the action panel.

Customizing lists of business objects

All TSIs have default displays for the lists of business objects they contain in the elements lists.

For most TSIs, the application manager can customize the lists of business objects.

Customizing a list of business objects means that you can choose which fields of a selection step's central business object, or which fields of any other business objects that are at the first hierarchical level, should appear in the list.

> **ℹ** Be aware that using a customized list may imply that specific standard functions, such as showing / hiding columns, or filters like **Show related work orders** and **Show where documents are attached** on the **Orders** layouts, will not be available for use.

Example

In **Personnel** , the default display of the **Visitors** list includes:

- **Expected arrival time**
- **Name visitor**
- **Visitor status**

A customized list can have other, additional columns (based on the business object's fields), such as **Car park**.

Customizing lists - columns vs. hierarchy

There is a slight difference between the customization of lists with columns and hierarchical lists (tree structures). The procedure of customization is virtually the same, but the result in the list of business objects is different.
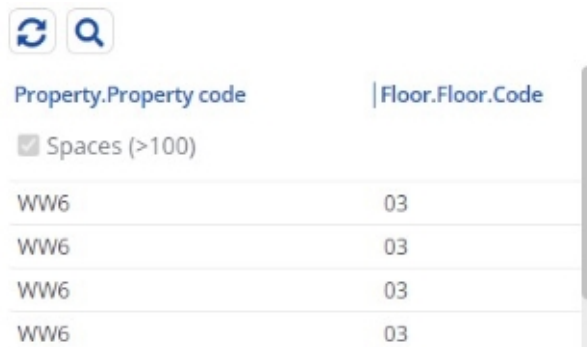
List with columns

In the **lists with columns**, the field names of selected fields will appear as column headers and the field data is displayed in the list.

Example

Customized list with columns in the Spaces & Workspaces >

Spaces:

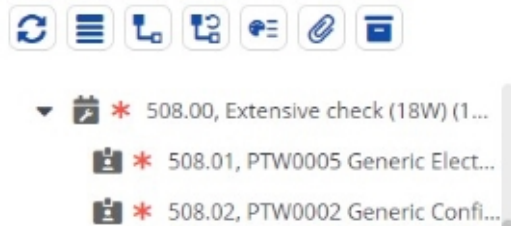| Property.Property code	Floor.Floor.Code
☑ Spaces (>100)	
WW6	03
WW6	03
WW6	03
WW6	03

Hierarchical lists

In customized **hierarchical lists**, data from the selected fields will be displayed as information on each business object in the list (the display value).

Example

Customized hierarchical list in the Work Orders >

Orders:

Creating a customized list of business objects

Customizing a list of business objects means that you can choose which fields of a selection step's central business object, or which fields of any other business objects that are at the first hierarchical level, should appear in the list.

> ℹ️ Be aware that using a customized list may imply that specific standard functions, such as showing / hiding columns, or filters like **Show related work orders** and **Show where documents are attached** on the **Orders** layouts, will not be available for use.

To create and activate lists of customized business objects, proceed as follows:

Procedure

1. In **TSIs**, set the relevant TSI **Under construction**.
2. Select the selection level and step for which you want to customize the list of business objects.
3. On the **Step settings** tab, open the **Customizable lists** dialog box.

    On the left in the dialog box, the existing customized list definitions are displayed. These definitions can be used in all selection steps that correspond with the *same business object*.
4. Click **Add** to add a new definition.
5. Enter a **Description** for your new customized list.
6. Move the required fields to **In use**.

    Use the up and down arrow buttons to adjust the field sequence in the list.
7. On the action panel, click **Generate display value**. The selected fields will be displayed automatically with their alias names in the **Values to display** field. For example: <<--F1-->>, <<--F2-->>.

    Manually adjusting the sequence
    You can manually adjust the sequence of display values and enter your own text between the display values.
    For example, in a setup where
    <<--F1-->> = property.code, (Example:14)

<<--F2-->> = property.name, (Example: Columbus Square),
then <<--F1-->>, sample text, <<--F2-->> will result in:

14, sample text, Columbus Square.

This text will also be displayed in the customizable list.
You can add paired special characters such as ( ), [ ], { }
to the display value in the customizable lists. You should
configure the customizable lists in such a way that the fields
between the symbols always contain a value.
If not, the end symbol of the pair, for example the closing
bracket, is always shown when it is the last element in the
customizable list.

> ℹ️ • If you add or delete items in the **In use** section without generating a new display value,
> the changes are carried out but the display value will not be updated unless you click
> the **Generate display value** option. It is your own responsibility to keep the display value
> updated, the system will not warn you about this.
> • For **Orders**, if you want to sort on the *first value* selected in the customizable list rather
> than sorting on the order number (which happens by default), select **Yes** in the **Overrule
> default tree view sorting?** field. Note that this setting does not effect other business
> objects in the customizable list as they are already sorted on the first column.

8. Click **Save** to save your customized list.

9. Click **OK** to link the selected customized list to the selection step of the
   selected TSI.

10. Click the padlock icon to set the TSI to **Completed**.

    You have now created and activated the customized list.

> ℹ️ If you add a life cycle aware field to a customizable list, users working with the TSI where
> this list is used can only see the correct value displayed after they activate the reference
> date, set it to a specific date and refresh the list. Otherwise, the value displayed might not
> be correct or updated.

Deleting a customized list of business objects

Procedure

1. In order to be able to delete a definition of a customized list from the
   Customizable lists dialog box, you will first have to unlink the definition
   by clearing the Customizable lists field for all relevant TSI selection
   steps.

2. Then, open the Customizable lists dialog box in this field and delete the
   definition concerned.

> ℹ️ The **Used in** section displays all TSI selection steps where this customized list is used.

Used in:

Levels.TSI.Name	Levels.Name	Name
Service Desk	Requests	Requests
Service Manager	Orders	Orders

Supported field types and system fields

Field types

A customized list can contain the following Planon field types:

- Area (Area)
- Big decimal (Bigdecimal)
- Boolean (Boolean)
- CAD Integrator symbol (CADViewerSymbol)
- Date
- Date-time (DateTime)
- Integer
- Free date (FreeDate)
- Free date-time (FreeDatetime)
- Free numerical field (Freedecimal)
- Free integer (FreeInteger)
- Free field (FreeString)
- Mark
- Mark date-time (MarkDateTime)
- Money
- String
- Time

System fields

A customized list can contain the following system fields:

- Transferred to archive? (IsArchived / SysIsArchived)
- Inserted by / User code (SysAccountRef)
- Modified by (SysChangeAccountRef)
- Modification date-time / Modified on (SysChangeDateTime / SysMutationDateTime)
- Insertion date-time (SysInsertDateTime)
- System code (Syscode)
- System type (SysSystemType)

Making a TSI available to end users

After you have finished modifying a TSI, it is ready to be used by the end user. The only thing you have to do, is make the TSI available to the end user. To do this, proceed as follows:

Procedure

1. Select the TSI that you want to make available to end users. You can do this either on the **All TSIs** or on the **TSI** selection level of TSIs .

2. From the **Status transitions** menu, select the **Completed** option.

    The TSI's status is now set to **Completed**. The **Completed** status is indicated by the ▯ symbol in front of the TSI.

3. Link the TSI to a launch group and user group, if it is not linked yet.

    If you have created a new TSI, you always have to link it to a launch group and user group. To do this, use Navigation Panel , through which you can configure the navigation panel for each user group by specifying the available launch groups and launch items.

> ⓘ For more information, see *Navigation panels*.

TSI filters

TSI filters are set and managed by the application manager. There are three kinds of TSI filters:

- **Selection step filters**

  Selection step filters are fixed filters that are linked to a particular selection level or selection step in a TSI. End users cannot activate or deactivate these filters themselves.

- **User filters**

  User filters are predefined filters that end users can activate or deactivate from the filter bar.

- **Fixed filters**

  Fixed filters are predefined filters that are applied to reference fields in a business object. By using a fixed filter, you can limit the data displayed to the end user in a reference pop-up. End users will be unaware of a fixed filter being applied.

Creating a TSI selection step filter

Procedure

1. Go to the Business objects selection level and select the business object for which you want to create a filter.

2.
   Go to Filters > Selection step filters.

3. On the action panel, click Add.

4. Enter a unique code for the filter.

5. On the Filter field, click on the pick list button. The Select filter criteria dialog box appears. You can filter by adding AND/OR filters.

> ℹ️ See Adding an AND/OR filter.

6. Select the required criteria. You can also set a filter on one or more fields.

7. Click OK. The filter is created.

8. Click Save to save the filter.

To apply the filter, you have to link it to the relevant TSI selection level. See Linking a TSI selection step filter.

Linking a TSI selection step filter

TSI filters can be defined in TSI Filters . For information on creating TSI filters, see TSI Filters.

A TSI selection step filter enables you to restrict the data that is shown to end users on a selection level or step.

The following procedure describes how you can link the filter to a selection step.

Procedure

1. Go to **TSIs**.
2. Select the required TSI and prepare it for modification.

   For details on how to do this, see Preparing TSIs for modification.
3. Select the selection level or selection step to which you want to link the **Selection step filter**.
4. Click the pick list button in the **Selection step filter** field.

   The **Selection step filter** pick list is displayed.
5. Select the filter you want to link to the active selection level/step.
6. Click **OK** to confirm.
7. Click **Save**.

   The selected filter is now linked to the selection level. This means that end users working with this TSI will only see the items meeting the filter criteria. End users cannot deactivate this filter!
   In TSI Filters > Selection step filters, the selection step filter you have just linked will now be visible to indicate as to where it is used.
   For details on disabling levels and steps, see Selecting lists and Configuring selection levels and selection steps.

> **ℹ** A selection step filter in a TSI is always applied, even if the user skips the selection level/ step on drilling down. Only if the selection level/step is disabled (the **Active** option is set to **No**) in the TSI, will the filter not be applied.

Creating a TSI user filter

You can add user filters in **TSI filters**, but also directly when configuring TSIs.

Procedure

1. Set your TSI Under construction and selet the required selection level.

2. On Step Settings, click Manage user filters.

The User filters dialog box appears.

3. Click Add and select the select the business object for which you want
    to create a filter.

**For example, if you want to create a filter to only display the properties of Manchester on
the Properties selection level, you have to select the Properties business object.**

4. In the Filter field, click on the pick list button.

    The Select filter criteria dialog box appears.

5. Select the required criteria. You can also set a filter on one or more
    fields. You can filter by adding AND/OR filters.

    For example: if you only want the properties in Manchester
    to be visible on the **Properties** selection level, you should
    set a filter on the **Location** field. For this field, choose the **=**
    parameter and select Manchester from the **Location** pick list.

6. Click OK and save the filter.

**To apply the filter, you have to link it to the relevant TSI selection level. For more
information on linking the user filter, see Linking a TSI user filter.**

Linking a TSI user filter

Procedure

1. Set your TSI to **Under construction**.
2. Select the selection level/step to which you want to link the user filter.

    For example, if you want to link a filter that only shows the
    properties in Columbus campus in the Work Orders TSI,
    select the **Properties** selection level of the Work Orders TSI.

3. Under **User filters**, set the value of the required filter to **Yes**.

    User filters shows filters that are available.
    This image shows how you can activate user filter in the
    Work Orders TSI.
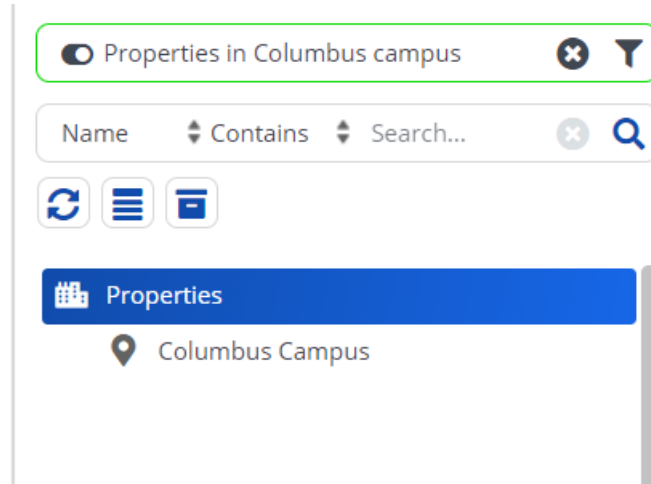
Linking TSI user filters to TSI selection steps

In TSIs , TSI user filters can be linked to a selection level or selection step. For details on linking TSI user filters, see Linking TSI filters.

If a TSI user filter has been linked to a selection level or step, this is indicated on the **Filters** level of TSI Filters .

If you want to make the TSI user filter also available in selection levels or steps of other TSIs, proceed as follows:

Procedure

1. Go to TSI Filters .
2. On the **Business objects** selection level, select the relevant business object.
3. Go to the **Filters** level > **User filters** step.

    Here you can see the filters that have already been defined for this business object.
4. Select the user filter you want to link to other selection steps.
5. From the **Links** menu, select the **Group filter** option.

The following dialog box is displayed. Here you can select the selection levels or steps to which you want to link the filter.
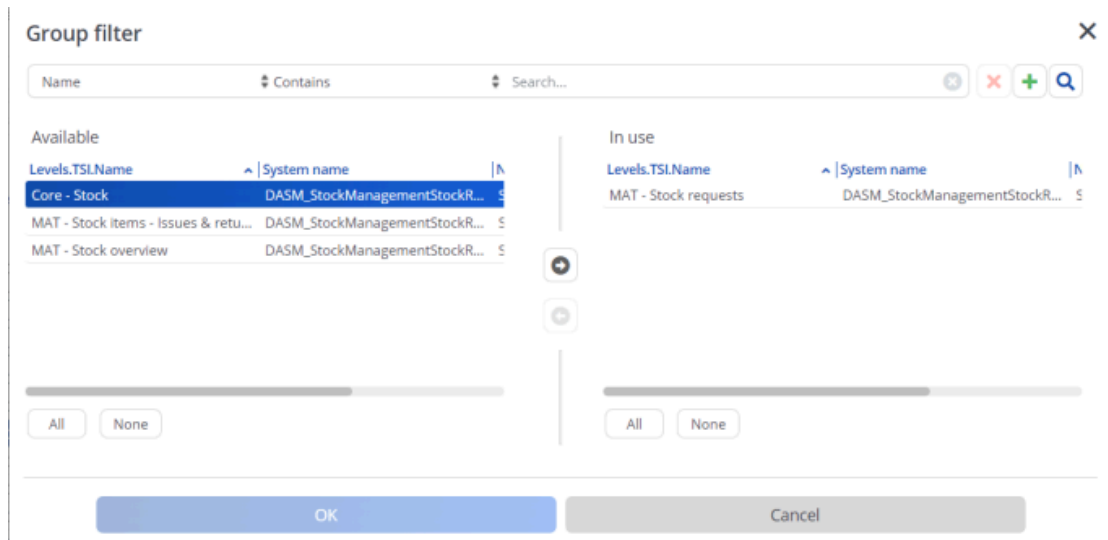
The available TSI selection steps are shown in the **Available** section. The TSI selection steps to which the filter has already been linked are shown the **In Use** section. Use the arrow buttons to connect or disconnect selection steps.

Linking a TSI user filter to a user group

It is possible to link a user filter to a user group.

When a user filter is linked to one or more user groups, users that belong to those user groups will be able to see and use the filter in the TSI step(s) to which the filter is linked.

> ℹ️ It is assumed those users also have access to the TSI and the step in question.

When no user group is linked to the filter, all users with access to the step will see the filter and be able to use it.

P r o c e d u r e

1. In TSI filters, select a business object for which you want to create a user filter.

Alternatively, start directly with User filters and select or add a filter here.

2. Go to User filters and select or add a filter here.
3. Click User group filter under Links to link the filter to a specific user group.

Users belonging to that group will be able to see and use the filter.

The linked user group will be displayed in the data panel.

> ℹ️ You can also perform this action directly from TSIs , see Creating a TSI user filter.

Creating a fixed filter

You can create a fixed filter if you want to limit the data displayed to the end user in a reference pop-up.

Procedure

1.
   Go to TSI filters > Filters > Fixed pop-up filters.

2. On the action panel, click Add.

3. Enter a unique code for the filter.

4. On the Filter field, click on the pick list button. The Select filter criteria dialog box appears.

5. Select the required criteria. You can also set a filter on one or more fields.

6. Click OK and save the filter.

The filter you created here, can be selected in Layouts > Fixed filter field, to link it to a business object's layout. For more information on the Fixed filter field, see Field attributes (Layouts).

Troubleshooting

The following sections help you to address problems you may encounter while working with TSIs .

TSI and pop-up conversion

During an upgrade, all configurable TSIs will be converted to the latest version. The converted TSIs will receive their own new version number.

> After an upgrade, new items that were added to a TSI, such as selection levels, selection steps etc, are not visible by default. You should make these items visible in TSIs .
> It could also happen that a TSI has been modified to such an extent that some existing items are no longer visible after upgrade. In this case, check if you can make these missing items visible again in TSIs .

Although Planon will do their utmost to prevent failures, it may happen that, for some unforeseen reason, the conversion of one or more TSIs fails. In that case, the previous version(s) of the TSI(s) concerned will remain unchanged. This means that new functionality will not be available in the non-converted TSI(s), nor will TSI version number(s) be updated.

TSIs whose conversion has succeeded will be put into use. 'New', converted TSIs can be used alongside non-converted 'old' ones. The only difference is that non-converted TSIs cannot be modified, whereas converted TSIs can.

Should you try to modify a non-converted TSI, by putting it **under construction**, you will receive a message providing two choices:

- To remove the non-converted TSI;
- To cancel your action.

  After you have canceled the action you will still be able to work with your old, non-converted TSI. When a new upgrade is attempted, the TSI can be converted and its version updated.

> If you do not want to wait for new TSI functionality until the next upgrade, you could consider to create and configure a completely new TSI that will contain all new functionality. After you have configured your new TSI, you can delete the old one.

Pop-ups whose conversion has failed cannot be modified either. If you try to save a non-converted pop-up in Layouts , you will receive a warning. The pop-up will not be saved. The next time a conversion is attempted, the pop-up can be converted and its version updated.

When a conversion failure occurs, contact the Planon service desk. Your application manager will be able to find which conversions have failed in the conversion log file.

For details on conversion, see Planon ProCenter's technical documentation.

System report

The following section describes the system report that is available for TSIs .

On both levels in TSIs , a **TSI layout fields** system report is available providing an overview per TSI of all levels and steps, the layout and business object used and its tabs, bars and fields.

For more information, see TSI layout fields report.

TSI layout fields report

TSIs features a system report that enables you to report on the fields configured on a TSI's layout.

The **TSI Layout fields** system report is available from the elements panel.

1. Click the **Report** icon (   ) to open the Reporting functionality.
2. Click the **System reports** tab. Here you can Preview & print the report or modify its settings by clicking **Edit report settings**. Here, you can specify a title and subtitle for your report.
3. Click **Save as** if you want to save your report.

Field	Description
Title	Enter a text that will replace the default report title.
Subtitle	Enter a text that will be placed beneath the title.

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