



## Deep link configuration

Planon Software Suite

Version: L126

**Planon**  
Building Connections

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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](mailto: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 deep links

Deep links are hyperlinks (URLs) that direct a user to a specific piece of web content on a web page. The URL contains all the information needed to point to a particular item.

In the Planon ProCenter context, the URL will direct users to a specific Planon business object on a particular selection step in a TSI.



For information about deep link navigation from a Web Configuration > Self-Service form, see [Deep link actions in Self-Service forms](#).

## Advantages

The advantages of using deep links towards the Planon application are many. Here are just a few examples:

- Service managers can select a section of a specially configured Power BI [dashboard](#) that will direct users to a record (or set of records) in Planon ProCenter .
- Coordinators can click a link in their [email](#) that will direct them directly to a specific record in Planon ProCenter .
- Dispatchers can use a Planon link from a [third-party website](#) in order to navigate directly to a building in Planon.



Deep link navigation towards an order in the **Orders** TSI can be affected by an active **Show related orders** filter. As a result, the navigation behavior might be different from what you expect. Please note that:

- If this filter is active and the searched order is a suborder, the deep link will navigate to the main order of the searched order. The suborder can be viewed if you expand the tree. It will be highlighted, in black.
- If the filter is not active, the navigation is to the specific order (be it a main order or a suborder).

## Configuration

In the dedicated **Deep links navigation** TSI, you can configure and activate deep link navigation:

- Enable the *business objects* for which deep link access should be permitted

- Configure which *selection steps* should be used for these 'enabled' business objects
- Configure which *user groups* should have access to these enabled business objects and selection steps.

## Types of deep links

There are two types of deep links that can be used in Planon, each with their own particular configuration and use cases:

- [Deep link list](#) (unencrypted URL)
- [Deep link item](#) (encrypted URL)



- When sharing URLs via mail or chat or any other means of communication, invisible characters (zero-width space) may be added that invalidate the URL. This can be fixed by pasting the URL in a text editor. It will remove these characters.
- See [Configuring deep links](#) for information on activation and configuration.

## Supported business objects

Deep link navigation can be activated for the following Planon business objects:

### Regular business objects

- Activity definitions (base)
- Addresses
- Approvals
- Assessments (base)
- Base activity definitions
- Base assets
- BCI asset results
- Budget
- Budget modifications
- Building objects
- Building scenario

- Communication logs
- Contract actions
- Contracting parties
- Contract lines (base)
- Contract options
- Contracts
- Cost centers
- Customer quotations
- Estimates
- Financial collection
- Financial collection - base
- Financial collection line
- Financial collection notification
- Floors
- Labor hours
- Observations (base)
- Order lines
- Orders

**Purchase orders** are part of the **Orders** business object, which allows you to use deep link navigation for this business object if you already activated it for **Orders**. In that case you will be able to create navigation to Purchase order-related selection steps in a TSI. The same principle applies to system order types with their own special TSIs such as **Moves** and **Reservations**.

- Personnel
- Project controlling objects
- Projects
- Properties
- Quotations

You cannot configure deep link lists (unencrypted URLs) for **Quotations**, because there is no **Code** field available on this business object.

- Rentable unit accounting object
- Rent to / Rent from units
- Spaces
- Space usage
- Subcontractor lines
- WBS items

## Free business objects

- Free business object 1-48
  - Flat (lists)
  - Hierarchical (tree)

Free 46-48 is approval related



- Free history business objects are not supported.
- See [Configuring deep links](#) for information on activation and configuration.

## Deep link actions in Self-Service forms

In Planon's Web configuration > Self-Service forms, deep link navigation can be activated on the **Details** pages / **Overview** pages > **Actions** tabs in the following Self-Service modules:

- Publisher,
- Workflow,
- Customer quotations,
- Orders,
- Move Requests (wizard),
- Reservation (wizard).

When the deep link action is enabled on the **Actions** tab, by setting the **Is visible field** to **Yes** and clicking **Save**, end users will be able to navigate to the selected item in Planon ProCenter (web client).



A precondition is that the deep links are activated for business objects that have been configured for deep link navigation.

# Concepts

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

## Deep link item

Deep link items are encrypted URLs.

Encrypted deep links can only be configured (generated) in Planon ProCenter > **Report generator**. The expression builder functionality can be used to create URLs with an encrypted part that is based on *system code*. This means that the URL is specifically created for a particular record.

For the procedure on how to generate deep link items with the Report generator's expression builder see [Generating deep link items \(encrypted URLs\)](#).

Also take note of the below information in advance.

### Configuration details for the expression builder

There are two mandatory *parameters* that must be provided in the expression builder function, and one optional:

- **System name** of the business object (mandatory)
- **System code** of the business object (mandatory)
- **Code of the Deep link navigation definition** (optional)

All values must relate to the same business object. The format of the function with parameters is as follows:

**GenerateURL(<BOSystemName>,<BOSyscode>,<DeepLinkNavigationCode>)**

When generating or previewing the report, the function will take these values and provide an encrypted URL in a particular format:

**<PlanonEnvironmentURL>?dllItem=<EncryptedValues>**

Example:

`https://customer-prod.cloud.com/home/demo/demo_webclient?  
dllItem=AUPTQ2ATQGUKULFDM34DNFNEV72Y4K374TME6FNOHRGOETAEWD`

 For the <Planon environmentURL>, the value from the **Externally accessible URL** setting in the **System settings > General** TSI is used.

## Deep link list

Deep link lists are unencrypted URLs.

Deep link lists are typically used to direct external parties to a specific selection step in Planon ProCenter . These unencrypted links include a 'filter', so the selection step to which users are directed only includes records that match the filter criteria. The unencrypted **deep link list** method allows you to determine more freely how a URL is specified, as opposed to the encrypted [Deep link item](#).

## Deep link navigation definition

The deep link navigation definition includes the settings you make for a deep link.

In the deep link definition you can set some important criteria for deep links. The definition includes:

- the *business object* for which the creation of deep links is permitted
- the *TSI selection step* to which the deep links direct the users (from the linked user groups)
- the *priority* that should be taken into account if the user belongs to more than one user group: they will navigate to the selection step that contains business object records with the lowest priority number.
- links to *user groups* who are permitted to navigate with the deep links



Planon authorization settings take precedence over the user group settings in the definition.

## Cipher key pair

Before you can generate [deep link items](#) (encrypted URLs), you first need to generate a **cipher key pair**. The cipher key pair consists of a private key and a public key. These keys are used for decryption/encryption of the deep link item.

See [Generating cipher key pairs](#) for more information.

## Look-up values in deep link filtering

A look-up value is a field value that is used to find a record in the Planon database. This usually happen via the record's code.

In reference fields, like the **Property** field for example, the look-up value is the property code. If you type this code in the field, the record is looked up and retrieved from the database. In a Planon Accelerator database, typing 14 in an empty **Property** field, will retrieve the record 14, *Columbus Square*.

When configuring deep link filtering for [deep link lists](#), you can use look-up values to direct users to specific records in Planon. In most cases, the look-up values that you must specify are the *codes*.

However, there are a few exceptions: records of more complex business objects may have the **Code group** field value as their look-up value, for example **Departments**, **Asset**

**groups** or **Order groups**. See [Creating deep link lists \(unencrypted URLs\)](#) for more information on the actual deep link list configuration.



Codes are not necessarily unique as look-up values. For example: in the database, multiple spaces can have code 2.21, referring to different rooms in different buildings. In that case, a deep link including that space code will direct users to a list of all spaces with code 2.21, from which they can select.

# Working with...

This section describes the various functions available.

## Configuring deep links

In the **Deep link navigation** TSI you can configure and activate the deep link feature for a business object, starting with creating a [deep link navigation definition](#).

Use the following procedure to configure a deep link navigation definition for a business object.

### Procedure

1. Go to System settings > General and specify your Planon environment's base URL in the **Externally accessible URL** field. This URL is required to be able to generate deep links.

Go to [Creating deep link lists \(unencrypted URLs\)](#), to see how this base URL is used in an unencrypted deep link.

2. On the navigation panel, go to the Deep link navigation TSI
3. At the Business objects selection level, select the business object for which you want to activate deep links.
4. On the action panel, select Under construction.
5. Set the Deep link access allowed? field to Yes and click Save.
6. On the action panel, select Completed.
7. Go to the Navigation links selection level.
8. On the action panel, click Add.
9. On the data panel enter the data for the deep link definition.

See [Deep link definition - fields](#) for information on these fields.

10. On the action panel, click Link user groups.
11. In the dialog, at Available, select the user group(s) you want to give access to deep link navigation for this business object and move them to In use.
12. Click Save.

**the deep link navigation is now activated for the selected business object, linked user group(s) and selected TSI selection step.**

13. *Optional:* go to the Fixed filters for deep links step to add a relevant fixed filter that can be applied within a configured Deep link list.

14. On the action panel, click Add.
15. Enter a code and a name for the deep link fixed filter.

 The code of the fixed filter that you enter here should be used when adding a fixed filter parameter to the deep link list URL.

16. In the Filter field, select relevant Filter criteria for the fixed filter that you may want to apply in a deep link list.
17. Click Save and proceed with Creating deep link lists (unencrypted URLs).

Good to know: if you want to generate **encrypted URLs** ([Deep link items](#)) proceed with [Generating cipher key pairs](#) and [Generating deep link items \(encrypted URLs\)](#).

## Generating cipher key pairs

In order to generate deep link items (encrypted URLs) you must first generate a [cipher key pair](#). This cipher key pair is required to activate the encryption / decryption mechanism of the deep link item.

Take the following steps to generate cipher key pairs:

### Procedure

1. Go to the System settings > Security TSI.
2. Select the Key pairs tab.
3. On the action panel, click Generate cipher key pair.

 Be aware that if you choose to generate the cipher key pair again at some future date, a new key pair will be created. This means that all existing encrypted links using the old key pair will become invalid and the encrypted deep links will have to be generated again.

The cipher key pair fields are populated. To create deep link items (encrypted URLs), proceed with [Configuring deep links](#) and [Generating deep link items \(encrypted URLs\)](#).

## Creating deep link lists (unencrypted URLs)

If you want to create unencrypted URLs, you can [manually create a deep link list](#).

Deep link lists can be used by external parties to get access to records of a specific business object on a selection step in Planon ProCenter . The URL of a **Deep link list** contains a 'filter' part, which gives access to the records that match the filter criteria.

**Precondition:** before you can create deep link lists, you must enable the deep link functionality for the relevant business object(s). See: [Configuring deep links](#).

### Procedure

To manually configure a **Deep link list** you must follow a *predefined format*. Within that format, you can enter the relevant business object, field (currently, only Code and Order number are supported) and a field value. It is also possible to include a reference to the Planon Web Client in the URL (reference to a different Planon environment).

## Procedure

1. To create an unencrypted URL, apply the following format:

```
<PlanonEnvironmentURL>/?  
dList_BO=<BOSystemName>&dList_NavCode=<DeepLinkNavigationCode>  
&dList_FixedFilterCode=<DeepLinkFixedFilterCode>  
&dList_Filter=<ParameterFieldSystemName1>:  
(<ParameterFieldValue1>,  
<ParameterFieldValue2>),<ParameterFieldSystemName2>:  
(<ParameterFieldValue3>)
```



Some parts of the URL formatting are mandatory and some optional. See the following step to find out which parts are required and which are optional.

2. Specify the following information in the URL:

- Exactly 1 system business object, for example *BaseOrder*.
- *Optional*: Exactly 1 *navigation definition* code (the value from the **Code** field on the **Deep link navigation** step in the **Deep link navigation TSI**).
- *Optional*: Exactly 1 *fixed filter* code (the value from the **Code** field on the **Fixed filters for deep links** step in the **Deep link navigation TSI**).
- Maximum of 3 *filters* (system field names), comma separated.



- A maximum of 3 system field names can be specified as filters to create a valid URL. These must be comma separated.
- The corresponding filter values must be contained within brackets.
- To create a valid URL, only the following field types are supported as filters: *String* fields, *Reference* fields and *Picklist* fields (Descriptive and Code-descriptive).
- If no *Fixed filter code* or *Navigation definition code* is specified as parameter, a system field name is mandatory as *Filter*.
- The following characters are not supported as part of a parameter: & + % # [ ] /(),

- Maximum of 20 filter values (field values) and a minimum of 1, for each filter (system field name).



The values must be comma separated. Each value you enter in the URL should be the look-up value for that field (in most cases this will be the code). See [Look-up values in deep link filtering](#).

3. Test the URL by pasting it in a browser.

**Depending on the uniqueness of the parameters used, you will see one or more records displayed.**

4. If the URL is valid, you can distribute it to the relevant users, for example via email.

**Basic example including a Web Client reference:**

`https://customer-prod.cloud.com/home/BP/WebClient?  
dlList_BO=BaseOrder&dlList_Filter=OrderNumber:151.00`

**Basic example excluding the Web Client reference:**

`https://customer-prod.cloud.com/?  
dlList_BO=BaseOrder&dlList_Filter=OrderNumber:151.00`

**Basic example including navigation code & fixed filter code, including Web Client reference:**

`https://customer-prod.cloud.com/home/BP/WebClient?  
dlList_BO=BaseOrder&dlList_NavCode=NavCode001  
&dlList_FixedFilterCode=FF001&dlList_Filter=OrderNumber:  
(151.00,152.00),PropertyRef:(14)`

## Generating deep link items (encrypted URLs)

You generate deep link items (encrypted URLs) in Planon ProCenter > **Report generator**.

**Preconditions for creating encrypted URLs:**

- you have generated a *Cipher key pair* in the **Security** TSI.
- you have activated and configured deep link navigation for the relevant business object(s).

In this example we generate an encrypted deep link for the **BaseOrders** business object and the **Orders** selection step in the **Core - Orders** TSI. Proceed by generating deep links in **Reports**, using the following procedure.



- If you include deep links in a report without generating cipher key pairs first and then generating the report, this might lead to an excessive number of errors in the error log.
- If you do not require an encrypted URL, follow the procedure in [Creating deep link lists \(unencrypted URLs\)](#) to generate unencrypted URLs.

### Procedure

1. In Core - Orders, select the Orders selection step
2. On the action panel, click Report.
3. In the Reporting dialog's action panel, click Add to add a new user report.
4. Under Settings, fill in the relevant fields, such as Type, Name and Title.
5. At the right of the Selected fields section, click the Add expression button.
6. Under Functions, scroll down and select generateDeepLinkItemURL.
7. Click the Add button at the bottom of this panel.

**Under Expression, the expression is now partly displayed:**

```
generateDeepLinkItemURL(,,)
```

8. Fill in the part between brackets by typing the system name of the relevant base business object name. It must be entered before the first comma and between double quotes.

**You can find the system name of the business object in the Deep link navigation TSI > Business objects selection level.**

9. Find the field name of the system code after the comma by double-clicking the System code field in the Available fields section.



the system code must relate to the base business object you enter.

10. *Optional:* you can enter a navigation code if you want to direct users to a specific selection step, and override the configured priority. However, if you do not want to use a navigation code, just leave the space between the "" empty. In that case the automatic detection of the correct TSI is applied.

**You can find the Code of the navigation definition by going to the Deep link navigation TSI > Deep link navigation selection level and selecting the relevant definition. Enter double quotes around the business object name and navigation definition code, and single quotes around the system code field. See the example:**

```
generateDeepLinkItemURL("BaseOrder",BaseOrder.Syscode,"ISM_001")
```

11. Click Check to verify if the expression's format is valid.
12. At Available fields, add the Code field to the report definition, so you can check in the report which URL is generated for which personnel record.

13. Adjust the report layout as required, for example by widening or narrowing column width.

**The width should be sufficient to display URLs as single lines, otherwise they are not clickable.**



For more information on the Expression builder and user-defined reports in general see [Working with expressions](#). For special functions such as including deep link items in mail merge reports, see [Special functions](#).

14. Click Preview & print.

**The report displays a URL per order record.**

15. Click Save.

**The URLs from the report can now be shared with the relevant user groups via email or other communications. The users in the linked user groups can access the records via the URLs.**

# Field descriptions

The following section(s) describe(s) the fields, their purpose and meaning.

## Deep link definition - fields

Field	Description
Code	Enter a unique code to identify the deep link navigation definition.
Name	Enter a name for the deep link navigation definition.
Business object definition	Displays the business object for which you want to enable deep links.
TSI step	Select the selection step to which the deep link should direct the user.
<p> For the <b>Orders</b> business object, additional TSIs can be selected, like the <b>Purchasing</b> TSIs.</p>	
Priority	If you create multiple deep link definitions that point to the same business object, you can prioritize the deep link definition by entering a sequence number. The lowest number gets the highest priority.
Linked user group	Displays the user group(s) that you have linked to the <b>Deep link navigation definition</b> via the <b>Link</b> action on the action panel.

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