



## Micro frontends

Planon Software Suite

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**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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# Micro frontends

Micro frontends (MFEs) are small, independently developed applications that bring greater flexibility to deliver functionality by using modern web technologies.

Unlike the traditional approach, where the entire web application is built as a single unit, micro frontends allow different parts of the application to be developed and deployed as separate, self-contained modules. This empowers developers to create new user interfaces which enables users to benefit from more tailored features and improved experiences, going beyond the standard capabilities of the main Planon application.

By adopting micro frontends, it is now possible to design custom interfaces without being constrained by the standardized grid of the core application. This approach provides a framework to deliver new functionality to customers more efficiently.

Micro frontend functionality can be delivered as:

- TSI (in the navigation panel)
- Component (embedded in the application)
- Standalone (externally accessible via a URL)

## Audience

This content is intended for (technical) application managers who are familiar with micro frontend architectures and are interested in tools and strategies for effectively managing and monitoring them.

## Micro frontend manager

The Micro frontend manager TSI provides insight to application managers in managing and understanding which micro frontends are available and what their purpose is.



In future, micro frontends will be configurable.

### Micro frontend manager distinguishes between

- Micro frontend **definitions** for creating applications
- Micro frontend **user definitions** (configurable) allows you to create specific use cases for a micro frontend.

In **Micro frontend manager**, [application managers](#) can maintain, configure or delete micro frontends.

## Micro frontend manager as TSI

By making Micro frontend manager available as TSI, it will be possible to display this information in the Planon application. See also: [Adding a micro frontend as TSI](#).

 It is recommended to authorize access to the TSI for managing micro frontends.

## Micro frontend definitions

Each micro frontend comes with a micro frontend definition. For existing micro frontends, a definition will be generated during the database upgrade process.

A definition has a number of *settings* that are read-only and cannot be amended by a user. The word *settings* is italicized because you cannot actually change these.

## Settings

Field	Description
Name	Specifies a unique name.
Description	Provides a description for the micro frontend.
Contexts	
Allow as TSI	If this field is <b>Yes</b> , you can link a micro frontend as TSI to a navigation panel group.  If a micro frontend is configured as TSI or standalone, a user-defined definition <i>must</i> exist.
Allow as standalone	If this field is <b>Yes</b> , you can make the micro frontend definition available as an externally accessible URL.  If a micro frontend is configured as TSI or standalone, a user-defined definition <i>must</i> exist.
Allow as component	If this field is <b>Yes</b> , you can embed the micro frontend definition in the data panel grid.  Because this type of micro frontend can be integrated into the Planon application, its use is restricted to Planon-defined implementations. Typically, developers load this type of micro frontend programmatically, rather than through user configuration.  When a micro frontend is defined as a component, any existing user-specific configuration is disregarded. To ensure successful loading within the Planon application, the micro frontend must be uniquely identified. This requirement overrides any user definition. From a technical perspective, the micro frontend is loaded via the <code>app-shell</code> component.

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Field	Description
Global settings	
System MFE?	Indicates whether a micro frontend definition is identified as functionality that is deeply embedded in the Planon application and - for that reason - cannot be amended.
Multiple user definitions allowed?	Indicates whether it is allowed to create a user defined version for a micro frontend definition (e.g. to discern between a Public vs. Private).  When enabling multiple user definitions, the backend app remains the same (with a different configuration).
Technical details	
Required startup parameters	Lists the startup parameters - if applicable - for the micro frontend definition.
Global styles	References a micro frontend specific style sheet - if applicable.
Remote name	Technically required name, no functional impact.

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## Statuses

Micro frontends can have one of two statuses (visible when you click **Show flow diagram** in the action panel):

- Loaded
- Unloaded

By default, micro frontend definitions are *Loaded*. Users cannot change the status to *Unloaded*.

If a new version of Planon is made available that no longer contains a micro frontend definition, the existing micro frontend is set to *Unloaded*.

When the status is *Unloaded*, it becomes possible to **Delete** the micro frontend. This is the only action possible for users.

By deleting a micro frontend definition, you remove historical data that is maintained by the Planon application.

## Micro frontend user definitions

On this level you can create and configure a micro frontend user definition. A micro frontend user definition is a customization of a micro frontend definition. It is essentially the same application, but may have different configuration.

You can only add a user definition for non-system micro frontends that are allowed as **TSI** or **Standalone**. If a micro frontend is only allowed **As Component**, creating user definitions is not allowed.

### Specific URL

 This URL is intended for standalone micro frontends (MFEs). If the MFE is not available as standalone, accessing it through this URL will result in an error.

A standalone micro frontend has a specific URL, as shown in the following example:

```
<environment>/sc/mfe/shell-standalone/digital-twin-ui
```

When creating a micro frontend user definition, you can append a base URL with a public URL:

Base URL: `<environment>/sc/mfe/shell-standalone/`

Public URL: `digital-twin-ui`

### Settings

Field	Description
Name	Provide a name for the micro frontend user definition.
Public URL	Specify the public URL segment for this micro frontend (no spaces allowed).
Micro frontend definition	Select the micro frontend definition for which you are configuring another instance.

### Adding a micro frontend as TSI

Proceed as follows to add a micro frontend as TSI.

## Procedure

1. Go to **Navigation panel > User groups** and select a user group for whom you want to make the micro frontend available.
2. Go to **Navigation panels** and select the navigation group under which you want to link the micro frontend.
3. Click **Add micro frontend** and select a micro frontend definition.



You can only select the user definition if the micro frontend has **Allow as TSI** set to **Yes**.

4. In **Linked Micro frontend user definitions**, select a value for each property set where you want the micro frontend to be available.
5. Click **Save** to apply your changes. Log out / log in to start using your MFE in the navigation panel.

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