



FirstSpirit™

Unlock Your Content

SAP Business Package for FirstSpirit™ FirstSpirit™ Version 5.0

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e-Spirit AG
Barcelonaweg 14
44269 Dortmund | Germany

T +49 231 . 477 77-0
F +49 231 . 477 77-499

info@e-spirit.com
www.e-spirit.com

e-Spirit

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1 Introduction

The "Business Package for FirstSpirit™" documentation describes the license-dependent FirstSpirit module for the integration of FirstSpirit navigation structures and content (taking into account the role concept) in the SAP Enterprise Portal (SAP EP). With the "Business Package for FirstSpirit™" FirstSpirit offers efficient, personalised and general, multi-application provision of content for the SAP Enterprise Portal.



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1.1 Overview of the functions

Integration in the SAP Enterprise Portal supports the following aspects:

- **Provision of editorial content (incl. editing option):** Import of (multilingual) editorial content from FirstSpirit into the SAP Enterprise Portal. The content can be displayed in the portal depending on a specific role (see permission). References within the portal pages enable direct editing of the content to be realised. FirstSpirit JavaClient and WebClient are optionally available for this purpose and enable fast and convenient changes to the content.
- **Provision of (main) navigation:** Import a navigation structure from FirstSpirit into the SAP Enterprise Portal. Entry points in the FirstSpirit project can be selected, which are displayed as the starting points of the navigation in the portal. The required navigation entry points are displayed in the portal with all the lower-level navigation entries. Unwanted menus can of course be hidden at any time using the relevant FirstSpirit function (see Chapter 3.2.2.1). The navigation entries are also displayed or hidden in the portal depending on the user's role (see Chapter 3.2.2).
- **Role-dependent (sub-area) navigation:** Apart from the main navigation, role-dependent sub-area navigations (sub-navigations) can also be created. These navigations are duplicated sub-areas of the main navigation which can be inserted (again) in another place



within the main navigation. This is useful, for example, when working with deeply nested navigation structures. Frequently used sub-navigation structures (role-specific) are inserted into a higher level within the main navigation and can therefore be more easily reached. For example, users of the "Dortmund Editors" receive direct access to the "Dortmund Location" via a sub-navigation, without having to first navigate through the individual sub-menus of the main navigation (see Chapter 3.2.3 and Chapter 3.2.4).

The screenshot displays a portal interface with a top navigation bar containing tabs for "Collaboration Demo (FS)", "Start page", "Other pages", "Portal Demo-Project", and "First Immobila SAP (PCD)". Below this is a secondary bar with "MyContact", "Company", and "Portal". The main content area is titled "Directions" and is split into two panels. The left panel, "Main Navigation", shows a hierarchical tree structure under "Company":

- Company
 - level_4_a
 - level_5_a
 - level_5_b
 - level_1_a
 - level_2_a
 - level_3_a
 - level_4_a (highlighted as "entry point (sub navigation)")
 - level_5_a
 - level_5_b
 - level_4_b
 - level_4_c
 - level_2_b
 - level_1_b
 - level_1_a

 The right panel shows a map of Dortmund with a red location marker. Below the map, the text reads:

Getting here:
 Headquarter Dortmund
 Barcelonaweg 14
 44 269 Dortmund
 tel: +49 (0) 231 - 28 66 130
 fax: +49 (0) 231 - 28 66 159

Figure 1-1: Example of sub-navigation

- **Personalised access to content:** Display of the content can be controlled through permissions, on the basis of role definition. This way read access to FirstSpirit content (in the portal) can be allowed or prevented for specific "roles". The permissions are defined on the basis of the portal roles definition using a convenient graphic editor in FirstSpirit. (For further information on permission assignment in FirstSpirit, see Documentation for Editors, Chap. 13.3 and Documentation for Administrators, Chap. 12).
- **Search:** Complete indexing of all FirstSpirit content is available to enable editorial content to be easily found. Analogous to the navigation, specific search entry points can also be defined in FirstSpirit for the search and are used as starting points for searching in the SAP



Enterprise Portal. The required entry point with all lower-level content is taken into account. Apart from these structural entry points (from the FirstSpirit Site Store), Media Store folders can also be defined as search entry points. This search sitemap is made available by FirstSpirit as an xml file (fs-portal.search-#.xml) and is integrated in the SAP KM through the portal-side part of the business package. Indexing and search within the SAP Enterprise Portal is carried out via TREX¹. This means, apart from the editorial content (the Page Store), the indexing also takes into account the content of integrated media objects (e.g. Pdf files, etc.). The search results are displayed in the portal or are hidden depending on the user's role. Therefore, the user only receives the search results for which they have the necessary permission.

- **Single Sign-On (SSO):** For the integration of FirstSpirit in the SAP Enterprise Portal, SSO means that the login information of the current user is copied from the SAP portal and takes the place of the login and password (in the FirstSpirit editing environment). This way the editing environment or WebEdit can be started from any page and the user logged in to the portal is authenticated on the FirstSpirit server without renewed login dialog.
- **Integration of other SAP portal applications:** Other SAP applications can also be linked through FirstSpirit. Here a differentiation is made between a simple link, i.e. a jump from a FirstSpirit portal page to another SAP application and the insertion of the SAP application on a FirstSpirit portal page. The individual applications are positioned on the portal page using so-called portlets or iViews. This enables different content from different applications (e.g. FirstSpirit content, charts from other SAP applications) can be positioned and displayed within a portal page. This is realised in FirstSpirit through special page templates, which mix "normal" editorial sections and special portlet/iView section templates. The sections can be created in different content areas, which are transferred into the correct layout container in the SAP Enterprise Portal. These "mixed" portal pages ("mixed pages") can be generated by editors like conventional FirstSpirit content in the Page Store (see Chapter 3.3 page 34).

The content is published (deployed) using the customary generation and deployment functions of FirstSpirit. The generated content (editorial content, navigation, permissions, etc.) are imported into the portal as xml files. The files are then activated in the SAP Enterprise Portal by special portal scripts (through a webservice) and are then available to the (authorised) users in the portal.

¹ TREX – for further information see:

http://help.sap.com/saphelp_nw2004s/helpdata/de/40/83505303bd5616e1000000a114cbd/frameset.htm



Provided a valid license exists for the module, a project component can be installed via the FirstSpirit Server and Project configuration. This component is used to configure the portal integration and to create the corresponding page and section templates and the necessary scripts for the portal functions. The templates are used as an illustration and must be adjusted in the specific project use.

1.2 Topics of this documentation

Chapter 2: Describes installation of the Business Package for FirstSpirit™ module on the FirstSpirit server and subsequent installation of the project component through the FirstSpirit Server and Project configuration (from page 10).

Chapter 3: To configure a portal project, settings must be made in the portal component (through the Server and Project configuration) and within the FirstSpirit project. The necessary steps are graphically explained using screenshots and examples (from page 13).

Chapter 4: Describes deinstallation of the project component through the FirstSpirit Server and Project configuration. The deinstallation should be carried out in the reverse order to the installation to ensure all components and configuration entries are removed (from page 46).



1.3 Portal integration concept

The required FirstSpirit projects must be made "portal-compatible". To do this, the portal component must first be installed on the FirstSpirit server and then within the project (see Chapter 2). After installation, sub-areas from the (project) navigation can be designated for the portal, transferred in the deployment process and integrated in the portal navigation.

1.3.1 Function and architecture


Definition of entry points: Special portal scripts are used to mark areas in the FirstSpirit Site Store as so-called "entry points", which are displayed in the portal as starting points of the navigation (or for a search). Depending on this entry point's type it is:

- A navigation entry point:
All navigation structures below the entry point are transferred from the FirstSpirit Site Store into the navigation of the SAP Enterprise Portal (see Chapter 3.2.2).
- A sub-navigation entry point:
Central navigation entries can be defined as independent sub-navigations and inserted (in any required position) in the main navigation. This option is only possible for navigation structures which are located below a navigation entry point (see Chapter 3.2.3 and Chapter 3.2.4)
- A search entry point:
Analogous to the navigation, specific search entry points can also be defined in FirstSpirit for the search, which are used as starting points for searching in the SAP Enterprise Portal. In addition to these structural entry points (from the FirstSpirit Site Store), Media Store folders can also be defined as search entry points (see Chapter 3.2.5).

Generating the xml files: Special xml files are generated for the defined entry points and are integrated in the SAP KM through the part of the Business Package on the portal side. The files then have to be activated in the portal (see Chapter 3.1.2.2 page 18).

Activate the xml files via a webservice: The xml files are activated in the SAP Enterprise Portal via a webservice. This activation is controlled by a script analogous to generation of the portal files (see Chapter 3.1.2.4 page 19).



 A suitable client ("Content Creator Client") must be installed on the FirstSpirit server to activate the content in the portal (see Figure 1-2 "Portal Stub")².

Integrating other portal applications: Special page and section templates, which are created in the project on installation of the portal component, enable other portal applications to be integrated (see Chapter 3.3 page 34).

The SAP Business Package for FirstSpirit™ consists of several components whose interaction is shown in the following diagram.

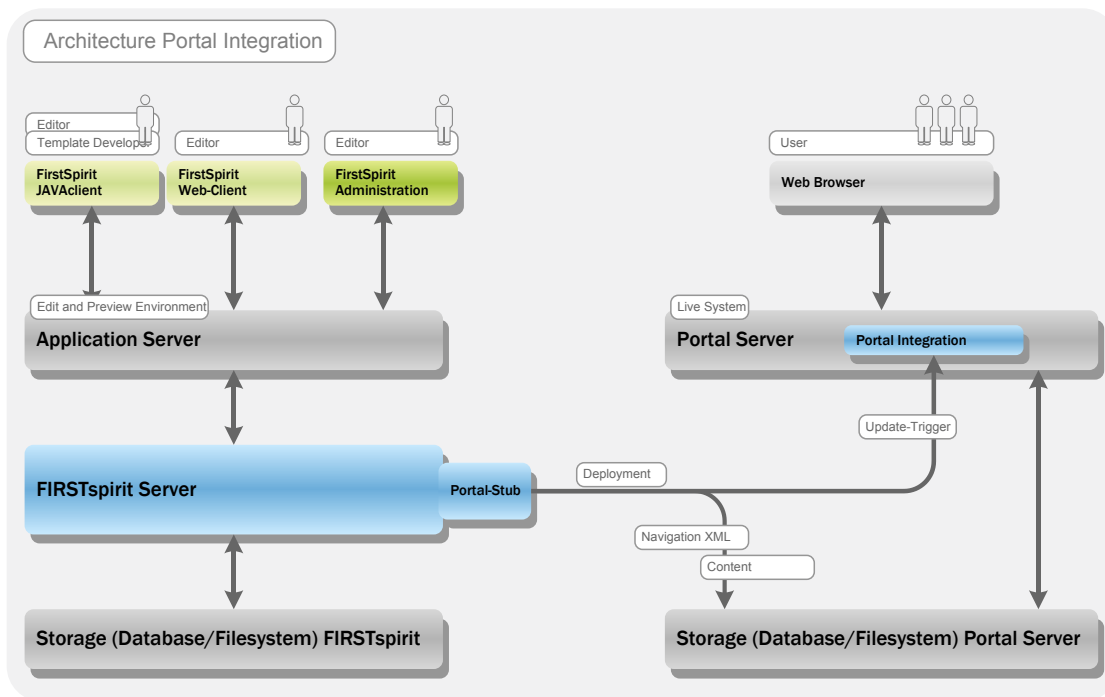


Figure 1-2: Portal integration architecture

² For details of installation, see documentation: "HLP SAP EP BP for FIRSTspirit - Installation and Update.pdf"



1.3.2 FirstSpirit and portal-side aspects of the module

The Business Package for FirstSpirit™ module consists of two components. The first component contains the portal side sub-area of the module³, which is developed and maintained by the company HLP. This sub-area is responsible for integration of the content in the portal. The second component, the FirstSpirit side sub-area of the module, is responsible for creating the portal content.

FirstSpirit Server and Project configuration application is used to link with the SAP Enterprise Portal (see Chapter 3.1 page 13). The entry points are defined and configured using the FirstSpirit editing system.

Depending on the entry set in FirstSpirit, the portal side sub-area organises the content from FirstSpirit into different SAP worksets. First, all pages generated with FirstSpirit, which were created as a menu entry, are generated as iView (type: URL-iView). The worksets are automatically integrated in the portal with the relevant role. This means the individual content (menu items) are only displayed to the user if they have been designated "viewable" for a specific role.

1.3.3 Single sign-on concept

The term Single Sign-On (SSO) stands for the option of authentication for a number of applications with a single login instead of having to perform this login procedure for each individual application.

For the integration of FirstSpirit in the SAP Enterprise Portal, SSO means that the login information of the current user is copied from the SAP portal and takes the place of the login and password. This way the editing environment or WebEdit can be started from any page and the user logged in to the portal is authenticated on the FirstSpirit server without renewed login dialog.

This is realised technically with the help of the SAP LogonTicket. This is provided by the SAP portal and contains all the necessary information such as the user name, login time and expiry date of the ticket. The FirstSpirit server can accept and verify this ticket using a special login configuration.

For details of configuration, see Chapter 3.1.3 (from page 20) and Chapter 3.2.1 (from page 24).

³ For further information, see documentation: HLP SAP EP BP for FIRSTspirit - Configuration.pdf



2 Installation

2.1 Installing the module on the FirstSpirit server

2.1.1 Installing the module

The FirstSpirit Portal module must first be installed within the application for Server and Project configuration. To this end, the "Modules" menu entry is selected in the Server Properties area. Click the "Install" button to open a file selection dialog. The fsm file (fs-portal.fsm) to be installed can be selected here. The successfully installed file is then displayed in the "Server Properties" dialog:

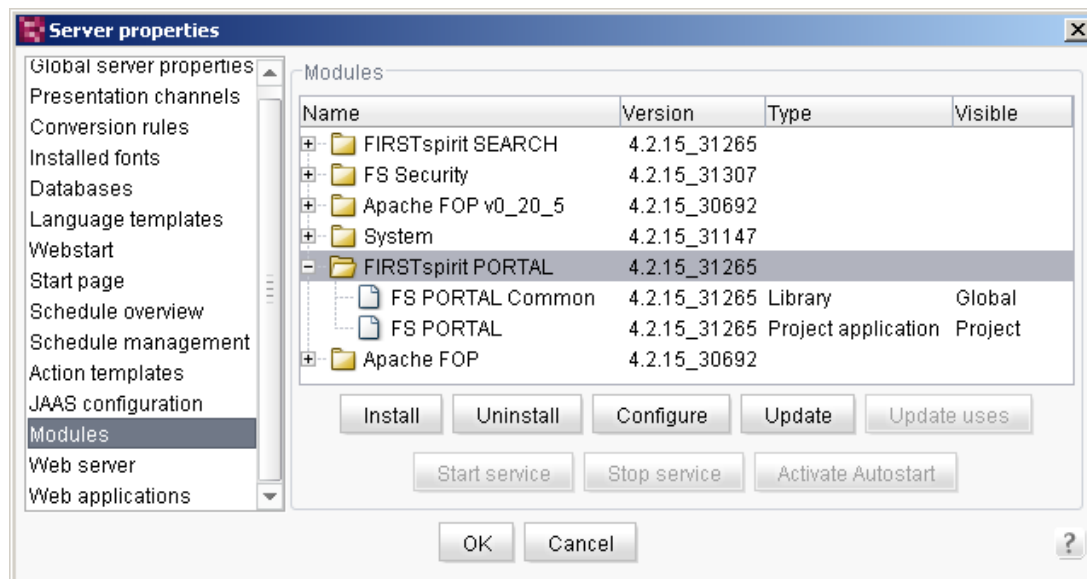


Figure 2-1: Installing the module on the FirstSpirit server

The "FS PORTAL" project application and a global "FS PORTAL Common" library which contains the classes are part of the FirstSpirit Portal module and, following installation on the FirstSpirit server, are available within the clients, in scripts and other modules.

The project application is "visible" for the "Project" area. It is therefore a "local project" component. After installation it can be added to the required projects through their project properties (see Chapter 2.2 page 12).

For further information on this dialog, see "FirstSpirit Manual for Administrators".



2.1.2 Generating the KeyStore file

The SAP signature must be installed in the FirstSpirit server via a keystore file to enable logging-in in the FirstSpirit JavaClient or WebClient with SAP LogonTickets.

This requires the following steps to be completed:

1. In the SAP EP: Select the `SAPLogonTicketKeypair-cer` in the System Administration / System Configuration / Keystore Administration area and download `verify.der`.
2. Unpack the file: Depending on the portal version, the downloaded `verify.zip` file may be of the type `gzip` and contain the `verify.der` file with file type `zip`. Both files must then be unpacked separately with the respective decompression software.
3. The following invocation of the `keytool` (to be found in `%JAVA_HOME%/bin`) generates the keystore file, which then has to be copied into the FirstSpirit configuration directory:

```
keytool -import -alias Portal -file verify.der -keystore portal.jks
```



If several portal servers are operated, this procedure must be carried out for each individual portal server. Here it must be noted that a separate alias name must be assigned for each portal server.



The server times of the portal server and the server times of the FirstSpirit server must be the same to obtain valid SAP Logon tickets. Differences can result in expired tickets.

For information on configuring the authentication, see Chapter 3.1.3 page 20.



2.2 Installing the portal component in the project

The project component must now be installed in the required project. To do this, open the "Project Components" menu entry within the project properties.

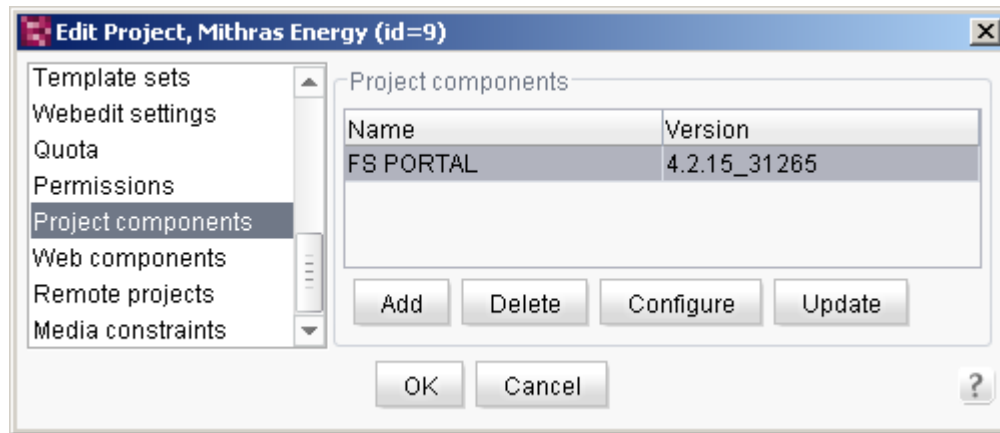


Figure 2-2: Installing the project component in the project

Add: Click the button to open the "Add" dialog. The list displays all project components installed on the server (see Chapter 2.1.1 page 10).

Following successful installation the component has extended the project to include the following elements:

- **Page and section templates:** A "Portal" folder with special templates has been created in the page and section templates of the project.
- **Context menu scripts:** The "scripts" area in the Template Store has been extended to contain a "Portal" folder which in turn contains a range of context menu scripts. These are used to designate selected folders in the Site Store and to add necessary portal information.
- **Action templates:** Two server-side scripts have been added to the action templates which are used to generate and activate the portal navigations.

After the portal component has been added to the project, both the component and the project must be configured (see Chapter 3 page 13).

For further information on this dialog, see "FirstSpirit Manual for Administrators".



3 Configuration

To configure a portal project, settings have to be made in the portal component (through the Server and Project configuration) and in the project (through FirstSpirit JavaClient) (see Chapter 3.1 and Chapter 3.2)⁴.

3.1 Via Server and Project configuration

3.1.1 Configuring the project component

The portal component is configured in the Server and Project configuration. The configuration dialog (see Figure 2-2) can be opened in the "Project Components" area, within the project properties of the respective portal project, by clicking the "Configure" button (cf. Figure 3-1).



All settings are valid for the whole project and must be separately configured for each portal project.



A project may only be deployed in precisely one portal server.

⁴ For information on configuring the HLP component, see: HLP SAP EP BP for FIRSTspirit - Configuration.pdf



Project settings	
PCD folder title	FirstSpirit_Portal_Demo
PCD folder name	firstspirit_portal_demo
Link type	Navigation Connector
Presentation channel	html (HTML)
Media extensions	doc, pdf
Identifier type	Numeric IDs
UID identifier prefix	
Language optimization	<input checked="" type="checkbox"/> Optimized xml format
Prefix settings	
URL prefix search-xml	ch:50000/FirstSpirit/WEB/fsportaldemo
URL prefix navigation-xml	ch:50000/FirstSpirit/WEB/fsportaldemo
URL prefix internal link	http://launch:50000
Prefix for SAP KMC	/documents
Portal settings	
Portal host	http://launch:50000
Portal web-application	/FirstSpirit/WEB/fsportaldemo
Keywords variable	kw
Namespace of keywords variable	ns_kw
Activation service settings	
URL prefix activation web-service	ch:50000/FirstSpirit/WEB/fsportaldemo
Path to activation web-service client	/ContentCreatorClient-2.0/runClient.bat

Figure 3-1: Configuring the project component

Project settings:

PCD folder title/name: The values specified here determine the name and title of the node in the SAP EP.

Link type: Different types of link generation are available. Portal links can either be delivered through the Navigation Connector or can be generated as PCD links (for further information, see 3.3.4 page 43).

Presentation channel: Name of the output channel of the portal pages. This information is required for correct URL generation as the navigation only points to one output channel.

Media extensions: File extensions of the media which are to be included in the search (full



text indexing). Several file extensions can be specified as a comma-separated list. If no value is entered the search is automatically carried out through all media.



(Complete) indexing is only possible for document types supported by the TREX search engine.

Identifier type: Using this parameter you can define how elements in links and XML files will be referenced. Numeric IDs or alphanumeric UIDs (Unique Identifier) can be defined.

This setting is relevant in the case of project exports and imports for example. During project imports the ID space, i.e. all project elements will receive new IDs. If the numeric Identifier type is used this can lead to problems with the identification FirstSpirit objects in the portal.

If alphanumeric UIDs are selected instead an UID identifier prefix must be defined additionally to allow a unique assignment of the FirstSpirit objects.

UID identifier prefix: Specification of a prefix which is globally unique (only if the Identifier type “alphanumeric UIDs” is used). Since UIDs are only unique for one project, but globally unique IDs are required for the portal, a UID identifier prefix must be defined additionally if the alphanumeric Identifier type UID is selected. The portal IDs are then generated from UID identifier prefix *and* UID, e.g. `myPrefix_standardpage`

Language optimization: If multi-lingual projects contain lots of content which is only in one or a few languages, individual pages in the editorial languages can be excluded from the generation by using this option, e.g. in which they have no content. They then do not appear in the XML file either for navigation or for the search. In addition, duplicate or multiple entries for language-independent media can be suppressed in the XML file for the search. As a result the file size is reduced, thereby saving resources for the generation and subsequent reading out of the files.

In the Client, the pages to be excluded from the generation can now be marked in the Page Store using the "Page completely translated into this language" checkbox. All pages are generated in the master language, regardless of whether the "Page completely translated into this language" checkbox has been activated for a page or not.

In addition, if the "Language optimization" option is activated, language-independent media only appear once in the XML file for the search; namely only in the master language.

This option is deactivated by default.



Prefix settings:

URL prefix: These parameters are required for the generation of absolute URLs and must be agreed with the portal administrator.

Portal settings:

Portal host: Protocol, server name and port of the portal server.

Portal web-application: Name of the web application within the portal server.

Namespace of the keywords variable: Name and namespace of the variables which contain the keywords of a document in the portal.

Activation service settings:

URL prefix activation web-service: URL of the updating webservice on the portal server.

Path to activation web-service client: Local path on the FirstSpirit server to the Content Creator Client.

3.1.2 Configuring the schedule entry

Actions for the generation, deployment and activation of the information necessary for the portal must be entered in the project's Schedule Management. While the deployment is carried out by the conventional means of FirstSpirit, the portal files are generated and activated by two scripts. The scripts were added to the project as action templates during installation of the portal component (cf. Chapter 2.2 page 12).

A specific order of actions must be adhered to for the Schedule Management (see Figure 3-2):



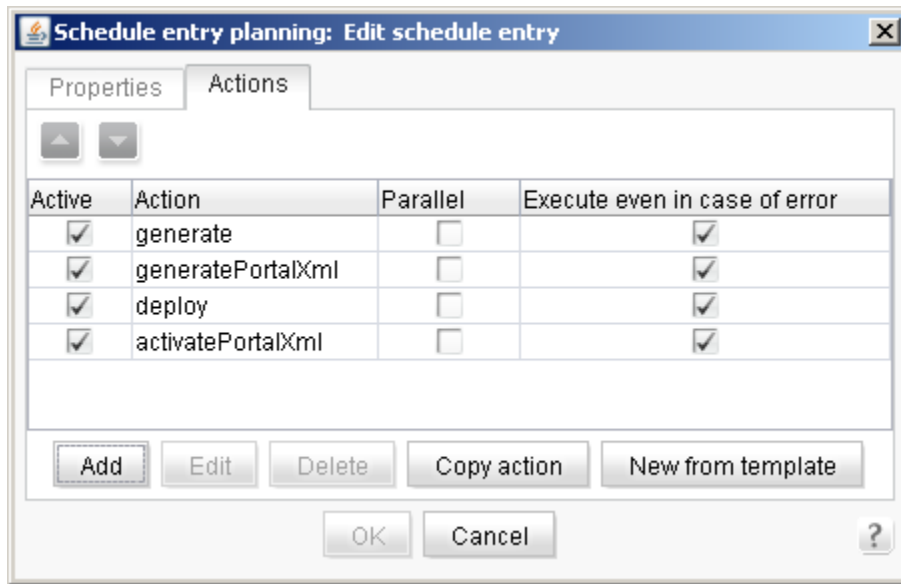


Figure 3-2: Order of the actions

- Generate the content (see Chapter 3.1.2.1 page 17).
- Generate the portal files (see Chapter 3.1.2.2 page 18).
- Deploy the content (see Chapter 3.1.2.3 page 18).
- Activate the portal files (see Chapter 3.1.2.4 page 19).

The portal entry points can then be defined through the script properties (see Chapter 3.1.2.5 page 19).



All settings are valid for the whole project and must be separately configured for each portal project.

3.1.2.1 Generate the content ("Generate")

The content is generated analogous to conventional generation in FirstSpirit. To this end, the "Generate" activity is first selected using the "Add" button.

For further information, see FirstSpirit Manual for Administrators Chap. 7.5.9.



3.1.2.2 Generate the portal files ("GeneratePortalXml")

In the next step the portal files are generated. This generation is controlled by the "GeneratePortalXml" script, which is created as action template during installation (cf. Chapter 2.2 page 12).

Click the button to open the dialog:

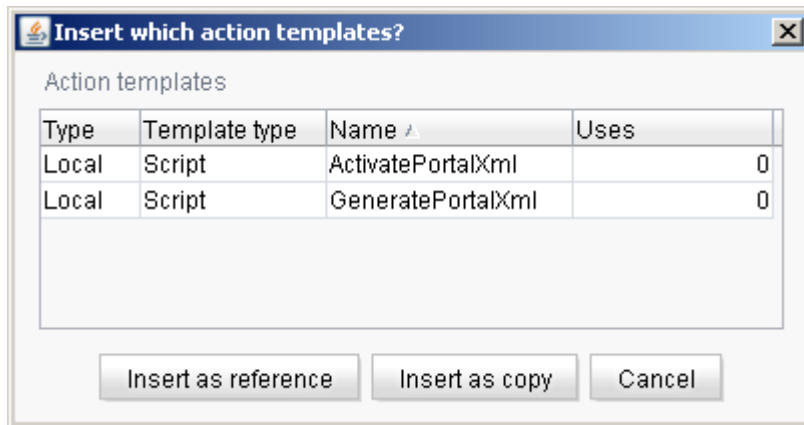


Figure 3-3: Action templates for portal integration

The "GeneratePortalXml" action template for generating the portal files is selected.

Click the button to add the action to the schedule as a copy (of the action template). Copies of an action template can be changed (unlike references). The change is necessary to add the portal entry points later (see Chapter 3.1.2.5 page 19).

For further information, see FirstSpirit Manual for Administrators Chap. 7.5.8.

3.1.2.3 Deployment on the portal server ("Deployment")

The content is deployed analogous to conventional deployment in FirstSpirit. To this end, the "Deployment" activity is first selected using the "Add" button.

For further information, see FirstSpirit Manual for Administrators Chap. 7.5.9.



3.1.2.4 Activate the portal files ("ActivatePortalXml")

The portal xml files must then be activated in the portal. This activation is controlled by a script, analogous to generation of the portal files.

New from template

Click the button to reopen the dialog for selecting an action template (cf. Figure 3-3). The "ActivatePortalXml" action template for activating the portal files is selected.

Insert as copy

Click the button to add the action to the schedule as a copy (of the action template).

For further information, see FirstSpirit Manual for Administrators Chap. 7.5.8.

The portal entry points can then be defined through the script properties (see Chapter 3.1.2.5 page 19).

3.1.2.5 Defining portal entry points

If the "GeneratePortalXml" action has been selected in the Schedule Entry Planning (see Figure 3-2), click the "Edit" button (or double-click the action) to open the following dialog:

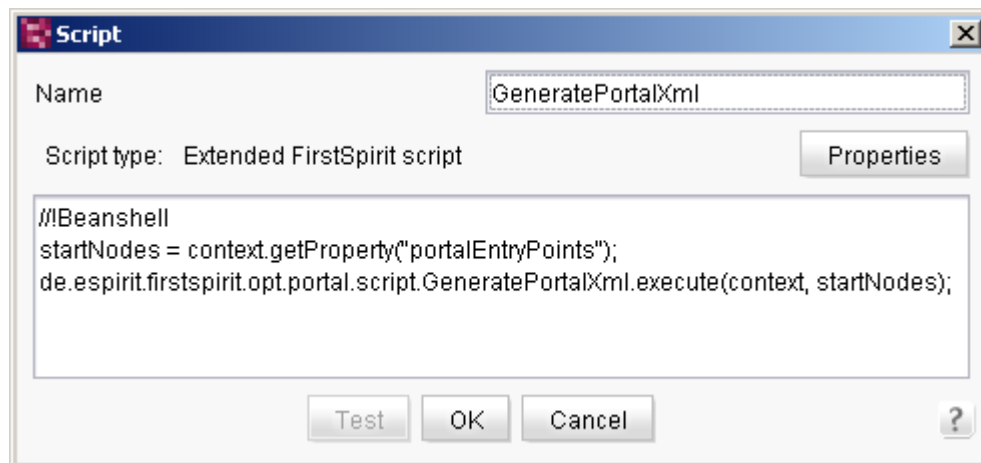


Figure 3-4: Configuring script properties

The name or content of the script can be changed here. Properties can be added to the extended "GeneratePortalXml" and "ActivatePortalXml" scripts.

Properties

Click the button to open the dialog for configuring the script properties.



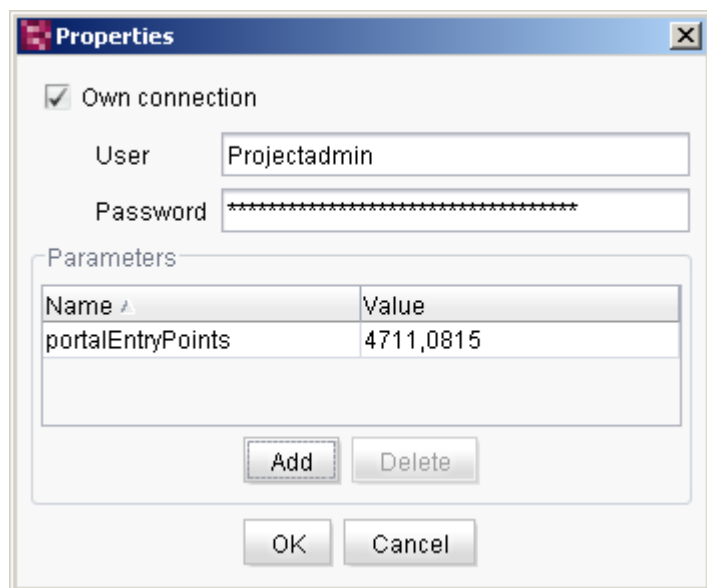


Figure 3-5: Defining portal entry points (script properties)

The `portalEntryPoints` parameter can be used to transfer the required navigation areas from the project's Site Store. The areas have to be manually selected in the project first. The node IDs, which were defined as portal entry points (see Chapter 3.2.2 page 25), are manually transferred to the script. Several node IDs can be transferred as a comma-separated list.

From FirstSpirit 5.0R3 on the desired portal entry points can be transferred also by using the unique reference name (UID).

3.1.3 Configuring authentication / Single Sign-On

Installation of the KeyStore file (see Chapter 2.1.2 page 11) forms the basis of the signature check of SAP LogonTickets. In addition, the login areas of the FirstSpirit server must be extended to include the SAP Logon module.

The configuration is performed using the Server and Project configuration. The server properties in the "JAAS Configuration" area can be used to define configuration settings for the login procedure.



 Edit configuration

The configuration file (fs-jaas.conf) can be edited by clicking the button. In the following dialog the `SSO` and `webSSO` areas have to be extended to include the following lines:

```
de.espirit.firstspirit.server.authentication.SAPLoginModule
optional
keystore="/opt/firstspirit5/conf/portal.jks"
password="SAP!Portal";
```



The `keystore` and `password` parameters must be adjusted accordingly.



All settings apply throughout the whole server.

3.1.3.1 Integrating the necessary SAP libraries

Three SAP-specific libraries⁵ must be deposited in the FirstSpirit server to enable Single Sign-On configuration to function properly.

Specifically, these are:

- `iaik_jce.jar`
- `com.sap.security.api.jar`
- `com.sap.security.core.jar`



The libraries must be integrated in the Java classpath of the FirstSpirit server. To this end, copy the JAR files into the directory `firstspirit5/shared/lib`. Then, shut down and re-start the server.

⁵ Direct questions about the libraries to <https://helpdesk.e-spirit.com/>



3.2 Configuring the project

Installation of the portal component extends the project to include scripts, page and section templates (see Chapter 2.2 page 12).

The templates are used to integrate already existing portal applications (see Chapter 3.3 page 34). The scripts can be used for the required designation of the entry points in the Site Store (see Chapter 3.2.2, 3.2.3, 3.2.4 and 3.2.5).

The structure variables for these nodes are set depending on which configuration setting was defined for the corresponding entry point.

The following structure variables are available:

- `fs_portal_entryPoint`: The value `true` selects this folder as the (navigations) starting point in the portal (as "top level menu item").
- `fs_portal_xmlFactory`: Type of XML file to be generated (navigation or sub-navigation and/or search).
- `fs_portal_anonymousRole`: ID of the anonymous role.
- `fs_portal_mediaNodes`: All media of the media folder specified here (through the reference names) are copied into the search XML (optionally, default: all media are selected). Several media folders can be transferred as a comma-separated list.
- `fs_portal_entryPointTitle`: Alternative name of the start node (optional).
- `fs_portal_entryPointParent`: Unique identifier of the parent node. Relevant for sub-navigation entry points only (optional).
- `fs_portal_entryPointRoles`: Alternative roles of the start node. Relevant for sub-navigation entry points only (optional).

Further structure variables for connecting entry points and navigations and for sorting navigation entries⁶:

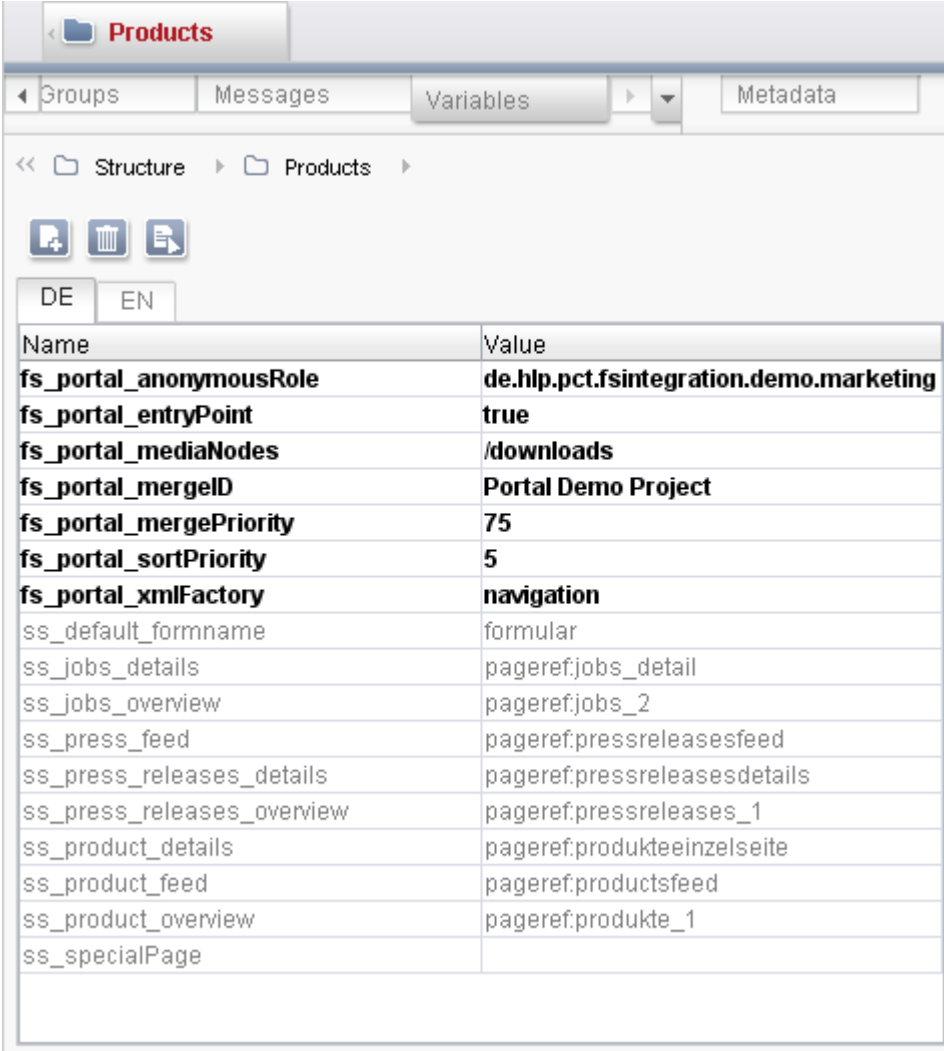
- `fs_portal_mergeID`: Merge ID of the navigation entry in the SAP portal.
- `fs_portal_mergePriority`: Priority for linking the navigation entry in the SAP portal (value from 0-100). If two worksets are merged the one with the lower `mergePriority` becomes the leading navigation entry.

⁶ For details of the concept, see documentation: "HLP SAP EP BP for FIRSTspirit - Configuration"



- `fs_portal_sortPriority`: Priority of the sorting of the navigation entry in the SAP portal (value from 0-100). If two worksets are merged, the sub-navigation entries are displayed sorted based on the sort priority. The first entry is the one with the lowest `sortPriority`, the last entry is the one with the highest `sortPriority`.
- `fs_portal_quickLink`: It is possible to generate a so-called "quick link" to an element in the FirstSpirit Site Store. the Quick Link navigation can then be used in the SAP portal for direct access to the corresponding navigation entries in the SAP portal. The name of the "Quick Link" can be defined using the `fs_portal_quickLink` parameter.

The variables are available after they have been defined in the Variables tab within the Site Store:



Name	Value
fs_portal_anonymousRole	de.hlp.pct.fsintegration.demo.marketing
fs_portal_entryPoint	true
fs_portal_mediaNodes	/downloads
fs_portal_mergeID	Portal Demo Project
fs_portal_mergePriority	75
fs_portal_sortPriority	5
fs_portal_xmlFactory	navigation
ss_default_formname	formular
ss_jobs_details	pageref:jobs_detail
ss_jobs_overview	pageref:jobs_2
ss_press_feed	pageref:pressreleasesfeed
ss_press_releases_details	pageref:pressreleasesdetails
ss_press_releases_overview	pageref:pressreleases_1
ss_product_details	pageref:produkteeinzelseite
ss_product_feed	pageref:productsfeed
ss_product_overview	pageref:produkte_1
ss_specialPage	

Figure 3-6: Display of the structure variables

The nodes defined in this way can then be recognised by the portal generation (see Chapter 3.1.2.5 page 19).



3.2.1 Logging in using Single Sign-On

After the Keystore file has been installed (see Chapter 2.1.2 page 11) and the login area of the FirstSpirit server has been extended to include the SAP Logon module (see Chapter 3.1.3 page 20), the SAP LogonTicket must be handed over to the server to enable successful Single Sign-On. For this, the `login.ticket` parameter is added on invoking the WebEdit Dispatcher or on opening the JNLP page. This requires the following call within the required area of the template (e.g. the page template):

```
$CMS_VALUE(#global.page.webeditUrl)$&login.ticket=$cookie.MYSAPSSO2
```

or:

```
$CMS_VALUE(#global.page.javaClientUrl)$&login.ticket=$cookie.MYSAPSSO2
```



3.2.2 Main navigation

Navigation structures from the FirstSpirit Site Store can be transferred into the SAP Enterprise Portal via the portal integration. At the same time, entry points can be defined in the FirstSpirit project (using a context menu script).

To define a portal entry point the context menu is opened (with a right-click) at the root node of the required sub-tree.

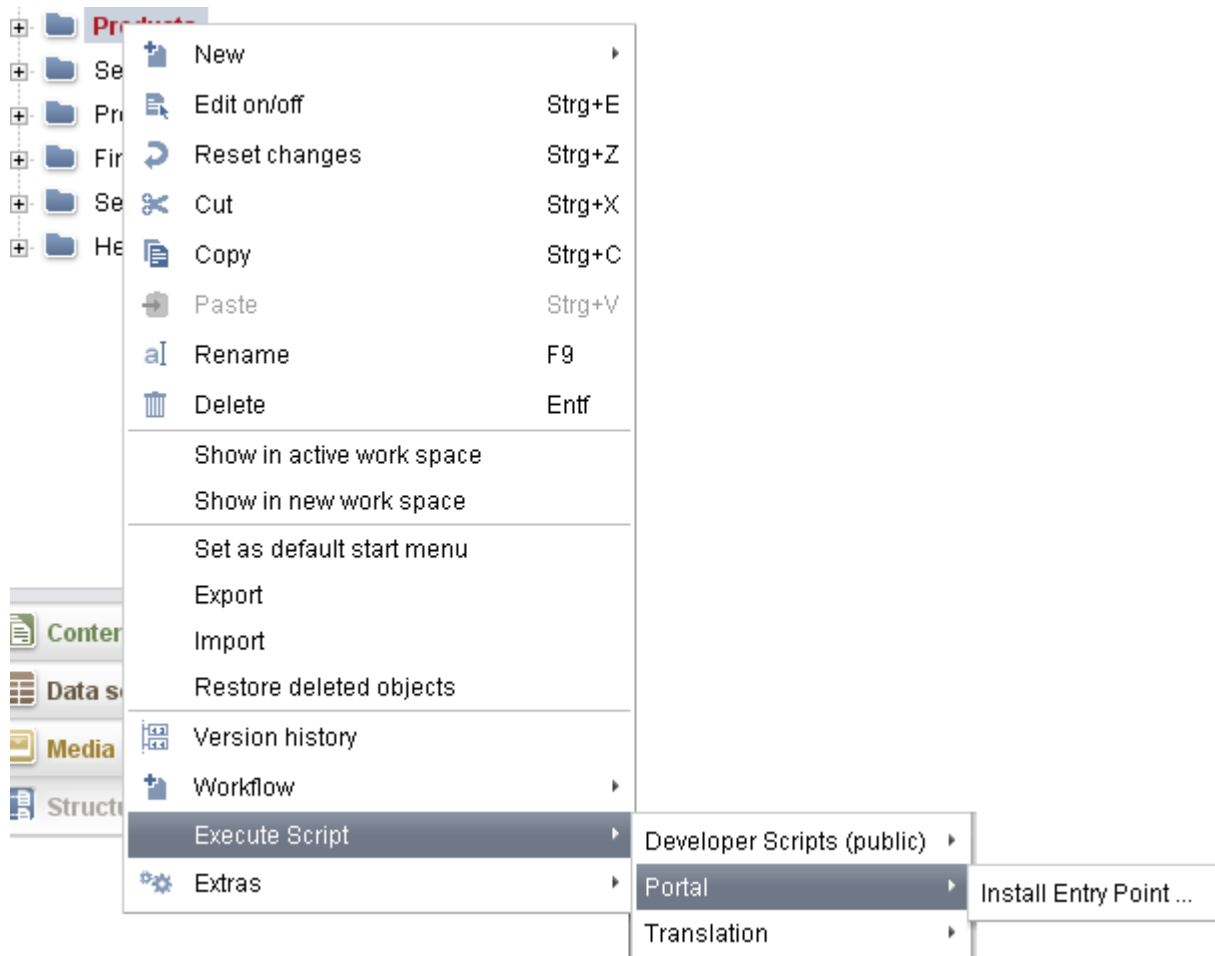


Figure 3-7: Context menu for Install Portal EntryPoint



By executing the script the root of this sub-tree is designated as the portal entry point. A dialog opens for configuring the entry point:

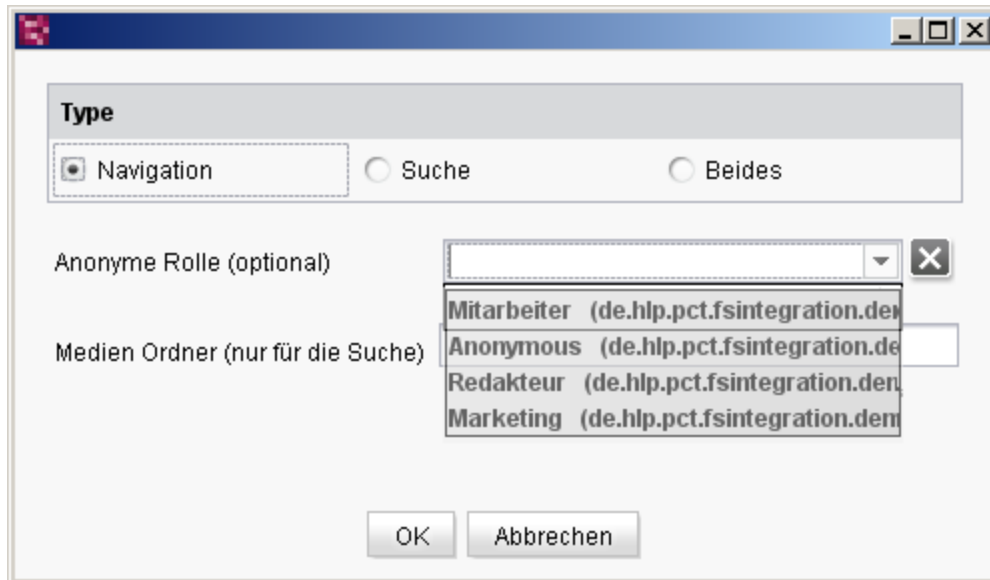


Figure 3-8: Configuring the portal entry point

Type: Portal integration differentiates between two types of portal entry points:

- **Navigation:** If this entry is activated the node is designated as an entry point for the main navigation (in the portal). The required entry point, with all the lower-level navigation entries, is displayed in the portal as the navigation starting point.
- **Search:** If this entry is activated the node is designated as an entry point for the search (in the portal).
- **Both:** If the last option is selected the entry point is designated both as an entry point for the search and as an entry point for the navigation.

Anonymous role (optional): If a portal supports anonymous access to portal pages the entry point must take this into account. The combobox can be used to select a role for anonymous access in the portal. If no selection is made the content defined for anonymous users through the entry point is not displayed in the portal (see Chapter 3.2.6 page 32).

Media folder (for search only): This field is only relevant if it is a "Search" type entry point. If the area has been designated for the search, it is possible to restrict it here to a folder from the Media Store (via a unique reference name (UID)). If no restriction is specified the search is always carried out through the whole Media Store.



3.2.2.1 Hide lower-level navigation structures

If individual, lower-level navigation structures are not to be displayed in the portal, although they are located below a portal entry point, they can be hidden using the corresponding FirstSpirit function. To do this, the checkboxes for the "Display in the Navigation Menu?" and "Display Navigation Menu in Overview (SiteMap)?" options must be disabled in the right-hand side of the window (within the "Names" tab) (see Figure 3-9). The hidden entries are then not taken into account, neither for the navigation nor for the search in the portal.



The hiding of the navigation structures must be carried out for all editing languages.

DE EN

Menu name:

Keywords:

Comment:

Display in navigation menu?

Display navigation menu in sitemap?

Figure 3-9: Hide navigation entries


Additionally the option "Language optimization" can be used to exclude pages in individual editorial languages from the generation of the navigation (see Chapter 3.1.1 page 13).

3.2.3 Sub-navigation

Apart from the main navigation, role-dependent sub-navigations can also be created. These navigations are duplicated sub-areas of the main navigation which can be inserted (again) in another place within the main navigation. This is useful, for example, when working with deeply nested navigation structures. Frequently used sub-navigation structures (role-specific) are inserted in a higher level within the main navigation and can therefore be more easily reached (see Figure 1-1).



The sub-trees for a sub-navigation are designated analogous to the main navigation (see Chapter 3.2.2). To define a portal sub-navigation point, the context menu is opened (with a right-click) at the root node of the required sub-tree (see Figure 3-10).

 *As sub-navigations only affect navigation structures located below a navigation portal entry point, the following context menu is also inserted in these areas only.*

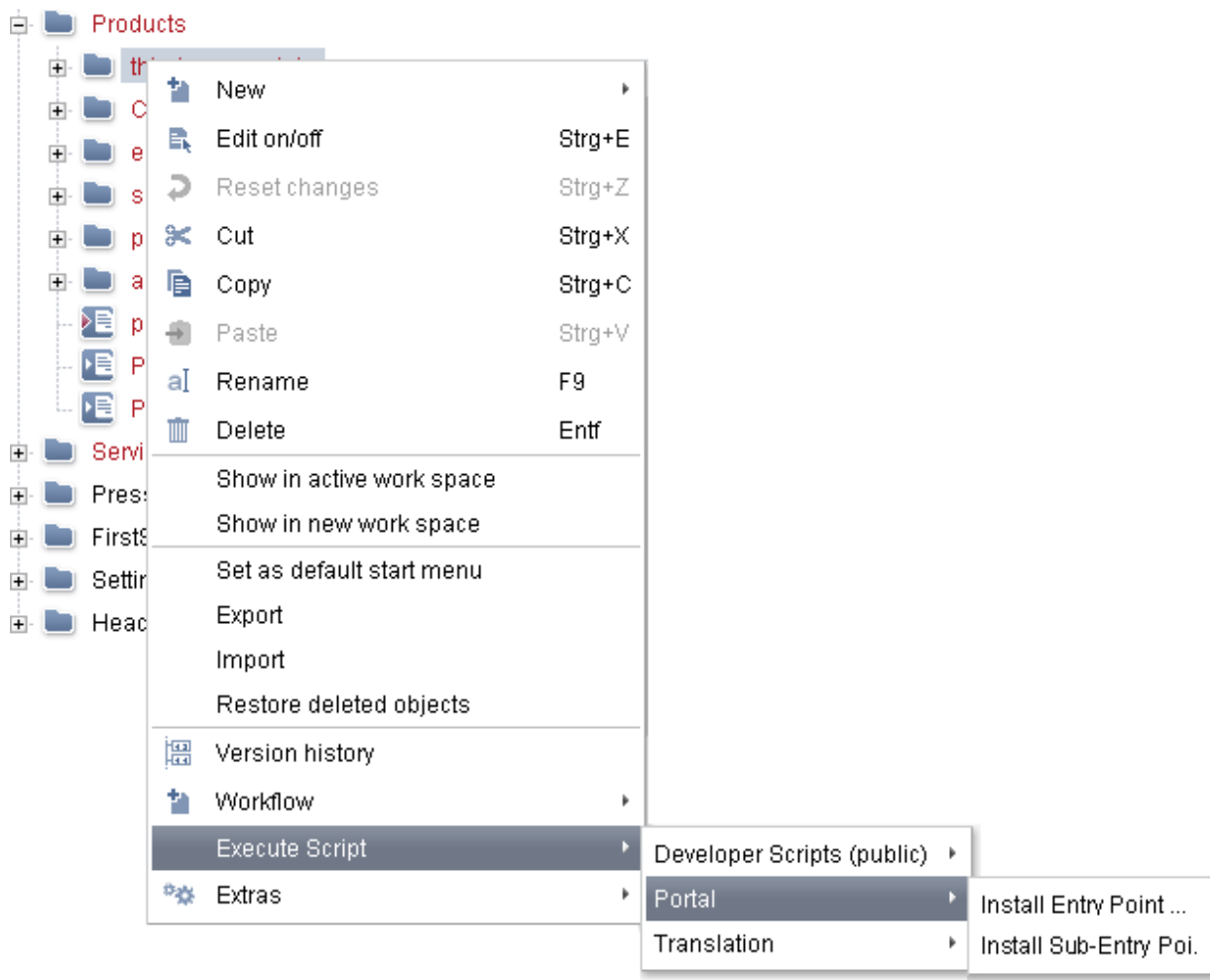


Figure 3-10: Context menu for Install Sub-EntryPoint

By executing the "Install Sub-EntryPoint" script, the root of this sub-tree is designated as the entry point for the sub-navigation. A dialog opens for configuring the entry point:



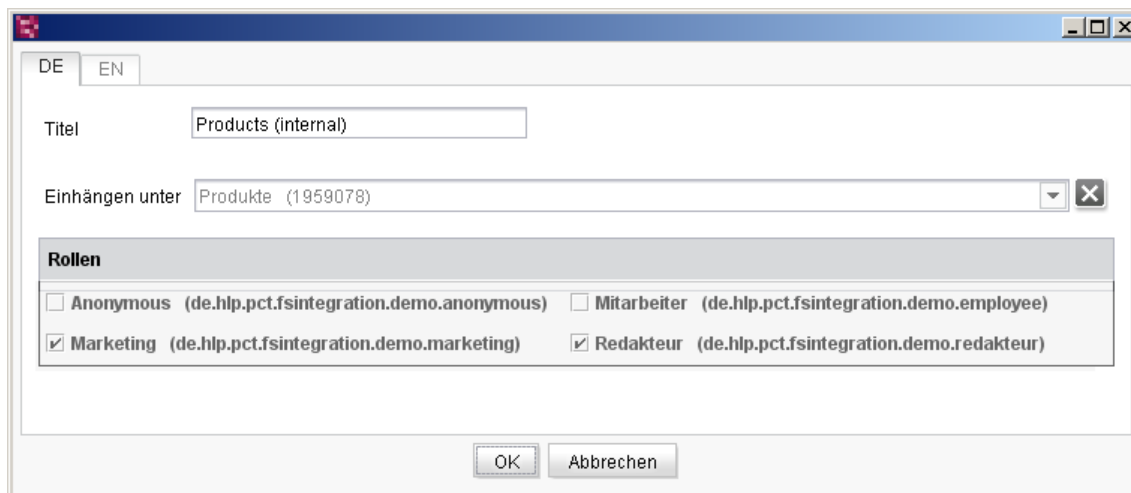


Figure 3-11: Configuring the entry point for the sub-navigation

Title: Title of the sub-navigation. A language-dependent name can be assigned to each navigation entry. The language switchover is carried out using the tab in the top part of the window. The specified title overwrites the previously assigned title of the navigation menu (from the Site Store).

Insert under: The combobox is used to define the position in the navigation in which the entry is to be inserted.

Roles: All roles available in the portal are displayed in this area. Selecting a checkbox defines that the sub-navigation for this role is displayed in the portal. The sub-navigation for disabled roles is not displayed in the portal.


3.2.4 PCD object generation – set as workset only

The Business Package can be used to create PCD⁷ navigation structures without automatically inserting them in the portal navigation. This is only possible if the link type "PCD Navigation" was selected within the configuration of the project component (see Chapter 3.3.4 page 43).

Analogous to the creation of a sub-navigation (see Chapter 3.2.3 page 27), these navigation structures are created by a script. To define a PCD sub-navigation point, the context menu is opened (with a right-click) at the root node of the required sub-tree (see Figure 3-12).

⁷ PCD – Portal Content Directory



 As sub-navigations only affect navigation structures located below a navigation portal entry point, the following context menu is also inserted in these areas only.

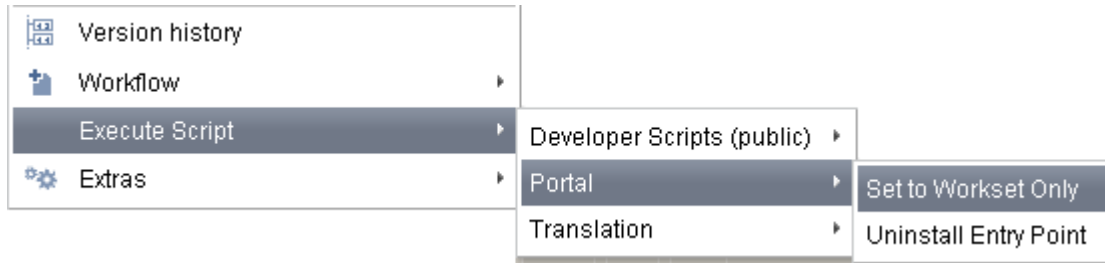


Figure 3-12: "Set as Workset only" context menu

By executing the "Set as Workset only" script the whole area is created as an independent navigation structure in the PCD.

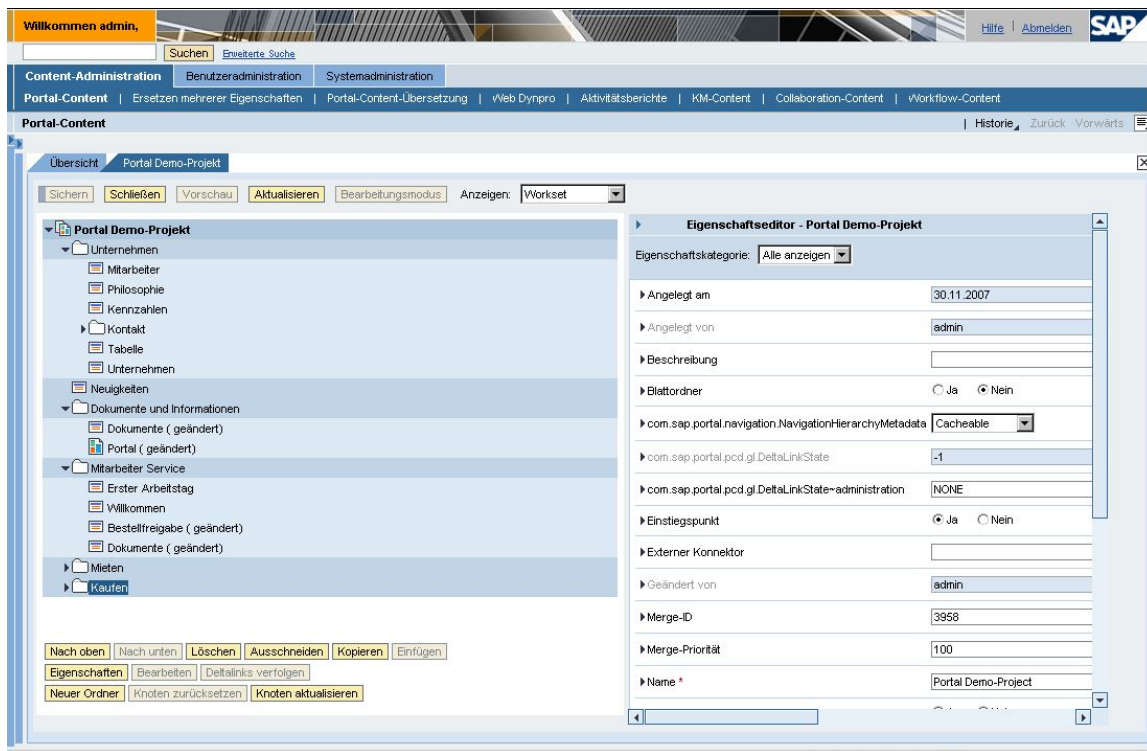


Figure 3-13: PCD objects

Unlike e.g. main navigation or sub-navigation, this area is not automatically integrated in the portal navigation. However, it can be manually inserted (by the portal administrator) in any locations within the portal navigation (e.g. via delta links).



3.2.5 Search

Complete indexing of all FirstSpirit content is available in the SAP Enterprise Portal to enable editorial content to be easily found. Analogous to the navigation, specific search entry points can also be defined for the search in FirstSpirit, which are used as starting points for searching in the portal. The required entry points with all lower-level contents are taken into account.

The entry points for the search are designated analogous to the main navigation (see Chapter 3.2.2). To define a search entry point the context menu is opened (with a right-click) at the root node of the required sub-tree (see Figure 3-7).

In the following dialog, instead of a navigation entry point, a search entry point is now defined (see Figure 3-14) (for description, see Chapter 3.2.2).

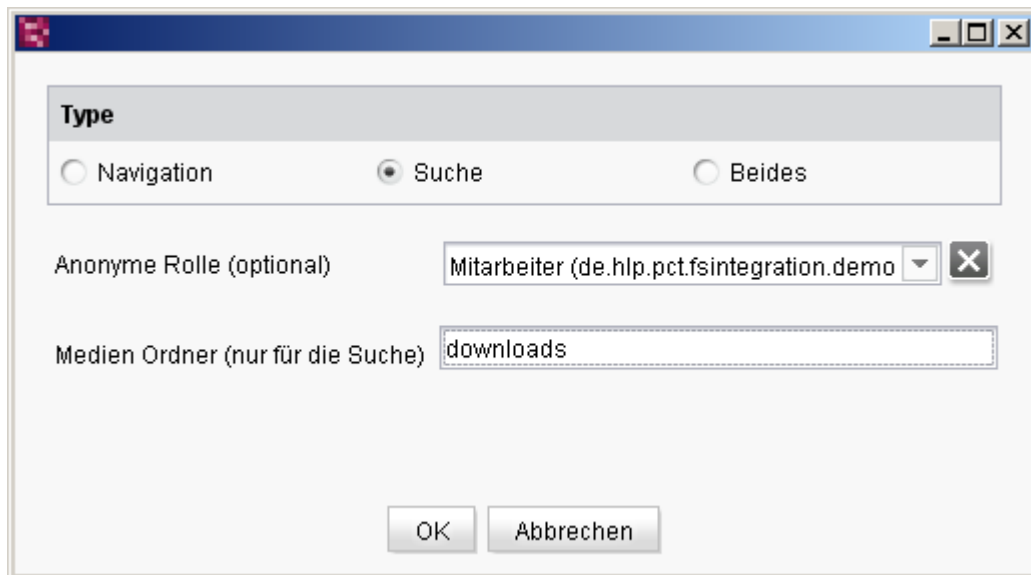


Figure 3-14: Configuring a portal search entry point

In addition to these structural entry points (from the FirstSpirit Site Store), Media Store folders can be defined as search entry points (see Figure 3-14). At the same time, the selected media folder is also copied into the search sitemap (xml file) and is taken into account during the search within the SAP Enterprise Portal. The content of the media objects located below the folder are also searched. This means, apart from the editorial content (the Page Store), the indexing also takes into account the content of integrated media objects (e.g. Pdf files, etc.).





If the Option “Generate media in the generation directory” is activated, for the generation of portal files (see chapter 3.1.2.2 page 18), all media referenced in the file fs-portal.search-#.xml are automatically generated in the generation directory. (For further information, see FirstSpirit Manual for Administrators.)

The search sitemap is made available by FirstSpirit and is integrated in the SAP KM through the portal-side part of the business package. Indexing and search within the portal is carried out via TREX⁸.

The search results are displayed in the portal or are hidden depending on the user's role. Therefore, the user only receives the search results for which they have the necessary permission.

The option “Language optimization” can be used to exclude pages in individual editorial languages from the search sitemap and to prevent multiple entries for language-independent media (see Chapter 3.1.1 page 13).

3.2.6 Access to portal content via anonymous roles

The "anonymous role" is a default role within the SAP portal security concept. Each user of a portal page is assigned this role until they have authenticated themselves in the system with their login and password.

If a portal supports anonymous access to portal pages the entry point must take this role into account. This means one (or several) anonymous role(s) can be selected for each entry point defined in FirstSpirit:

- Main navigation entry points: Option for selecting an anonymous role (see Chapter 3.2.2). The defined navigation entry is displayed in the SAP Enterprise Portal for this role only.
- Sub-navigation entry points: Option for selecting several anonymous roles (see Chapter 3.2.3). The sub-navigation is displayed in the SAP Enterprise Portal for these roles only.
- Search entry points: Option for selecting an anonymous role (see Chapter 3.2.5). The defined search entry is used in the SAP Enterprise Portal for this role only.

⁸ For further information, see HLP documentation: "SAP EP Search - TREX and HTTPS"



The anonymous role is saved through a structure variable (`fs_portal_anonymousRole`) (see 3.2 page 22) and is responsible for display of the FirstSpirit content in the portal.

When the content is deployed an xml file is generated which contains the navigation of the entry point defined in the Site Store including the specified permissions (see Chapter 3.2.7 page 33). After the content has been activated the roles exist in the portal where they must be assigned to the portal users or groups (by the portal administrator). Following this assignment the FirstSpirit content is available to the user.

The content (of the entry point) is now displayed or hidden in the portal for specific users depending on the roles defined in FirstSpirit (for an entry point). For example, if the role "Employee" is selected for an "Internal" navigation entry point, following corresponding group assignment in the portal, the corresponding navigation entry is displayed in the portal for "members" only.

3.2.7 Permissions for access to portal content

Roles can be used to define access permissions for the navigation structures in the FirstSpirit editing environment. The permissions are assigned through a special input component located in the Metadata tab.

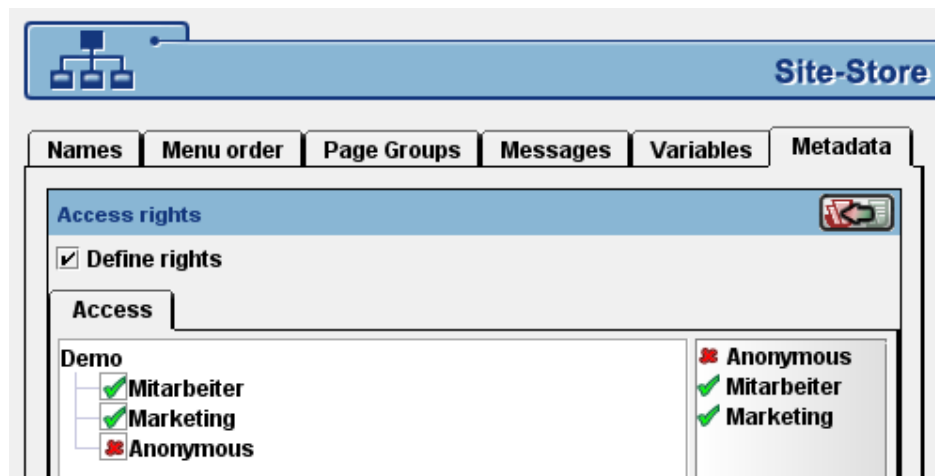


Figure 3-15: Define rights for access to content

After the content has been activated the permissions exist in the portal where they can be evaluated.





Permissions assignment (as shown in this example) is only possible if permissions assignment was configured for the project via metadata (see "FirstSpirit Documentation for Administrators" Chap. 12).



*The authorised groups of **all** levels are taken into account for the role-dependent navigation, including those which may only have been used as a structuring aid. From this, the result is that additional groups or roles and additional navigation nodes can be added in the Site Store in all projects which use this module.*

For details of permissions assignment in FirstSpirit, see documentation for editors, Chap. 13.3.

3.2.8 Protecting media on the portal

Media output can be protected on the portal by using an external web server for delivery (e.g. Tomcat) in conjunction with the FirstSpirit security module. Details on how to install and configure FirstSpirit Security can be found in chapters "2. Installation" and "3. Configuration" of the FirstSpirit Security documentation (SECU50DE_FirstSpirit_Security.pdf).

After installing and configuring the module on the FirstSpirit and web server, you can protect media by adding roles using the permissions component in FirstSpirit. These roles must correspond to the roles on the SAP portal.

3.3 Portal applications

FirstSpirit not only enables editorial content (from FirstSpirit) to be published in the SAP portal, but also enables the integration of available portal applications. Here a differentiation is made between a simple link, i.e. a jump from a FirstSpirit portal page to an already existing portal page (which was not generated in FirstSpirit), and the insertion of the portal application on a FirstSpirit portal page:

- Referencing an existing portal page:
With this option the page behind a FirstSpirit menu item is replaced by an existing portal page (with any content required).
(see Chapter 3.3.1 page 35).



- Integrating an existing portlet/iView in a page:
The content of other applications can be integrated in a FirstSpirit portal page via portlets or iViews. Instead of the editorial FirstSpirit content, the page then contains a *single* portlet or iView, in which the content of another portal application is displayed (see Chapter 3.3.2 page 38).
- Integrating FirstSpirit content and portlets/iViews in a page:
With this option the content of different applications (e.g. editorial FirstSpirit content, charts of other SAP applications, etc.) can be displayed on a FirstSpirit portal page. In this case the individual applications are positioned on the portal page via *several* portlets or iViews (see Chapter 3.3.3 page 41).

These three options are realised through special page templates (portal page) in FirstSpirit which combine "normal" editorial sections and special portlet/iView section templates with each other. A detailed description is given in the respective sub-chapters (see Chapter 3.3.1 ff.).

3.3.1 Referencing existing portal pages

References to already existing portal pages can be realised in FirstSpirit by using special page templates which include all the information necessary for the reference (e.g. the ID of the application as well as any necessary parameters). These must first be adjusted (see Chapter 3.3.1.1 page 35). The portal applications can then be integrated on the basis of the template (see Chapter 3.3.1.2 page 38).

3.3.1.1 Adjusting page templates

Referencing existing portal pages via a FirstSpirit navigation entry requires a special page template which cannot hold any sections. A prototype of this page template was added to the project during the portal component installation and is located in the portal folder of the page templates (cf. Chapter 2.2 page 12).

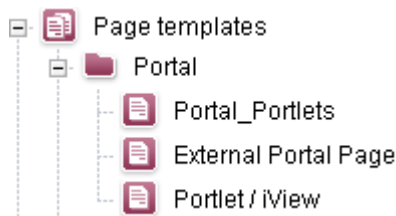


Figure 3-16: Template for referencing portal applications



This template must first be adjusted and configured with the IDs and parameters of the existing portal applications. It can be useful to create several such page templates if, e.g. there are large differences between the parameters and they do not fit in a joint configuration dialog.

The page template contains the following input components:

- **Portal designation:** The (unchangeable) input component `fs_portal_pageType` designates the page as a portal page with the value `portalpage`.
- **Portal page ID:** Selecting this option using the combobox saves the unique ID of the page to be referenced `fs_portal_targetId`.
- **Individual Portlet/iView parameter (optional):** Values for specific iView parameters can be deposited here and are individually transferred as a key/value pair. The key is the suffix of the variable name, for example:
Variable name: `fs_portal_attribute_xyz`
Key: `xyz`
- **Portal page parameter list (optional):**
Each row of the multi-row text `fs_portal_attributes` contains a parameter in the key/value format (see Figure 3-17). The key/value pairs should be transferred as "generic parameters" during the XML generation.
- **Description (optional)** Multi-row text. An informal description of the application can be deposited here which is not taken into account in the output.



Preview : Portalanwendung

Recourse values DE EN

Portal [X]

Application

Anwendung SAP KM [X]

Parameter Abc [X]

Parameter Xyz [X]

Bitte geben Sie die Parameter der Portalanwendung ein. [X]

StartURI=/documents
path=/test
state=1

Bitte geben Sie hier einen Kommentar zur Anwendung ein. [X]

comment

OK Cancel

Figure 3-17: "Portal application" page template form



3.3.1.2 Adding portal applications

If the page templates have been adjusted the following steps can now be carried out to integrate a portal application in the navigation:

1. Create a page in the Page Store.
2. Choose and configure the required portal application.
3. Add a page reference to the Site Store.

After the next generation and deployment of the portal navigation the menu item is displayed with this page reference and enables jumping to the required portal application.

3.3.2 Integrating portlets and/or iViews

The content of other applications can be integrated in a FirstSpirit page via portlets or iViews. Unlike referencing of existing portal pages (see Chapter 3.3.1 page 35), in this case existing pages (including all iViews) are not integrated here, but instead new pages are generated which contain the iViews selected by the editor.

The integration of portlets and/or iViews is realised using special section templates in FirstSpirit. These must first be adjusted (see Chapter 3.3.2.1 page 39). The portlets can then be integrated on the basis of the template (see Chapter 3.3.2.2 page 41).



3.3.2.1 Adjusting page and section templates

Analogous to the referencing of portal applications, portlets are integrated in the navigation using special templates. However, here a portlet is selected and configured by means of special section templates. These must be added to a special portlet page template, which can hold precisely one of these portlet/iView sections, so that they can be selected later. The prototype of these templates is located in the portal folder within the page and section templates (cf. Chapter 2.2 page 12)

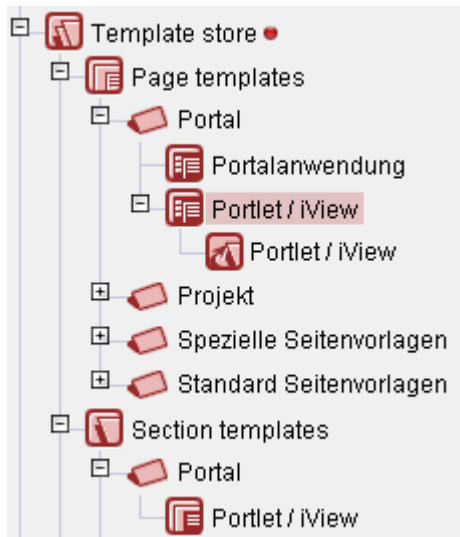


Figure 3-18: Template for integration of portlets/iViews

These templates must first be adjusted and configured with the portlet IDs and parameters of the portal applications. It can be useful to create several such section templates if, e.g. there are large differences between the parameters and they do not fit in a joint configuration dialog.

The page template contains the following input components (3.3.1.1):

- **Portal designation:** The (unchangeable) input component `fs_portal_pageType` designates the page as a portlet page with the value `portlet`.



The section template contains the following input components:

Figure 3-19: "Portlet/iView" section template form

- **Portlet/iView ID:** Selecting this option using the combobox saves the unique ID of the application to be integrated `fs_portal_targetId`.
- **Individual Portlet/iView parameter (optional):** Values for specific iView parameters can be deposited here and are individually transferred as a key/value pair. The key is the suffix of the variable name, for example:
 Variable name: `fs_portal_attribute_xyz`
 Key: `xyz`
- **Portal page parameter list (optional):**
 Each row of the multi-row text `fs_portal_attributes` contains a parameter in the key/value format. The key/value pairs should be transferred as "generic parameters" during the XML generation.
- **Description (optional)** Multi-row text. An informal description of the application can be deposited here which is not taken into account in the output.



3.3.2.2 Adding portlets

If the section templates have been adjusted the following steps can now be carried out to integrate a portlet in the navigation:

1. Create a page using the page template for portlets from the portal folder.
2. Add precisely one suitable section template from the portal folder.
3. Choose and configure the required portlet.
4. Add a page reference to the Site Store.

After the next generation and deployment of the portal navigation, this page reference is displayed and refers to a page which displays the configured portlet in the content area.

3.3.3 Integrating FirstSpirit content and portlets/iViews

With this option the content of different applications (e.g. editorial FirstSpirit content, charts of other SAP applications, etc.) can be displayed on a FirstSpirit portal page. In this case the individual applications are positioned on the portal page via *several* portlets or iViews.

This is realised in FirstSpirit through special page templates, which mix "normal" editorial sections and special portlet/iView section templates. The sections can be created in different content areas, which are transferred into the correct layout container in the portal. These "mixed" portal pages ("mixed pages") can be generated by editors like conventional FirstSpirit content in the Page Store.



3.3.3.1 Display in the SAP portal

The "mixed" portal pages described are logically modelled within the SAP portal as a portal page which contains several iViews and/or portlets.

An iView or Portlet for pure editorial content (from FirstSpirit) is a special URL iView. As a parameter, this URL-iView requires one URL each for a specific physical HTML/JSP file generated by FirstSpirit. As FirstSpirit does not generate an individual file for each section, the same file is always referenced (as a URL) for the different sections of a portal page. But the URL is assigned a parameter, which provides information on which section is to be displayed (by way of its ID). Then, within the page generated by FirstSpirit, template logic (in JSP or Java Script) must be used to ensure that the page only contains the respective relevant section when invoked in the portal.

An invocation of the type:

```
http://portalserver/FIRSTspiritWeb/project_1/de/page1.jsp&sectionID=123
```

must result in output of the section with the ID "123" only in the JSP/HTML page (dynamically at the runtime).

3.3.3.2 Content areas and layout containers

The SAP portal supports the principle of layout containers. An individual portal page has a specific layout template which in turn has one or several layout containers. For example, the layout template "Two-Column Template" contains the layout containers "Left-Hand Column" and "Right-Hand Column".

This correlates with the assignment of page templates and content areas (body areas) within FirstSpirit. The correlation can therefore take place as follows:

- Portal Layout Template = FirstSpirit Page Template
- Portal Layout Container = FirstSpirit Content Area (Body Area)

This means, the matching portal layout template (deposited in the FirstSpirit template) must be transferred for a FirstSpirit page. Further, the matching portal layout container must be specified for each FirstSpirit section.



3.3.4 Generating portal links

Conventional links, such as those generated by FirstSpirit, can only be used in the portal area to a limited extent. As these links can only be used to navigate within the content area, they do not have any effect on the portal navigation, which means the correlation between the displayed content and the selected navigation item is lost. In addition, special pages for portal applications or portlets (see Chapter 3.3.1, 3.3.2 and 3.3.3) can only be jumped to using special links.

Therefore, special portal links are required within the portal environment. In general a differentiation is made between two different types of portal links:

- Portal links via the navigation connector: Here the FirstSpirit navigation structures are managed internally (i.e. within the portal-side Business Package) and are not viewable (as PCD objects) within the portal administration area. This version of the portal links can be used, for example, to realise role-specific sub-navigation in the portal (see Chapter 3.2.3 page 27).
- Links via PCD⁹: Apart from delivery via the navigation connector another, far more convenient type of link generation exists in the portal. Unlike the first option, all FirstSpirit navigation structures are created in the portal as PCD objects. All menu levels, page references, etc. are viewable in the PCD (see Figure 3-13) and can continue to be used manually by the portal administrator.

The link generation is identical for both link options. Depending on the configuration of the project component ("link type" parameter), the link is either delivered via the navigation connector or it is generated as a PCD link (cf. Chapter 3.1.1 page 13).

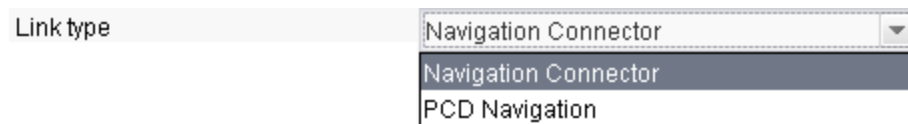


Figure 3-20: Link type configuration

The "Portal_createLink" script required for link generation is made available by the FirstSpirit Portal module. This script can be invoked from templates with the help of CMS_RENDER, and takes into account the following parameters:

⁹ PCD – Portal Content Directory



nctx: Output of the navigation context (optional, default: true). If a page which is not selected as a start page is jumped to the navigation context enables correct display of the corresponding navigation (PCD only¹⁰).

media: UID of the medium to be linked. (The parameter is only useful if used in combination with the parameter `rid=true`.)

pageRef: UID of the page reference to be linked.

Either the parameter `media` or the parameter `pageRef` must be specified, irrespective of whether a link is to refer to a page or a medium.

remote: symbolic name of the remote project configuration (remote type "Related Projects")(optional, default: no remote access).

rid: This parameter specifies whether a resource ID, i.e. a link, is to be generated in the SAP-KM. These IDs are required for so-called "Collaboration Features" (feedback, evaluations, page recommendations, etc.) (optional, default: false).

url: The absolute URL (generated by FirstSpirit). This URL if required for the link to a page which cannot be reached directly via the navigation.

subentry: If the target is located within a sub-navigation, this parameter can be used to generate a special link to the sub-navigation. Otherwise this parameter has no effect (optional, default: false).

Example of an invocation:

```
$CMS_RENDER(  
  script:"Portal_CreateLink",  
  pageRef:#global.node.getUId(),  
  url:ref(#global.node,abs:2).url,  
  subentry:"true"  
)$
```

¹⁰ PCD – Portal Content Directory





The script for link generation, "Portal_createLink", has been changed with **Version 4.2R4** and the `CreatePortalLink` class has been extended so that it directly implements the interface to avoid calling the Beanshell interpreter. Following an update of the "FirstSpirit Portal SAP EP BP" module, the call of the "Portal_createLink" script should be changed over as follows in all projects concerned:

```
#!executable-class  
de.espirit.firstspirit.opt.portal.script.CreatePortalLinkExecutor
```

The result of such an invocation may look like this:

Portal link (via navigation connector):

```
http://localhost/irj/portal/?NavigationTarget=HLPFS://22/23/31
```

Portal link (via PCD):

```
http://portal:50000/irj/portal/?NavigationTarget=ROLES://portal_content/other_vendors/every_user/de.hlp.pct.fsintegration/de.hlp.pct.fsintegration.f.demo/de.hlp.pct.fsintegration.f.roles/de.hlp.pct.fsintegration.demo.employee/de.hlp.pct.fsintegration.ws.3958/de.hlp.pct.fsintegration.rf.4000/de.hlp.pct.fsintegration.iv.3998
```



4 Deinstallation

The deinstallation should be carried out in the reverse order (to the installation) to ensure all the components and configuration entries of the portal integration are removed.

4.1 Project

First, the invocations of the "Portal_createLink" script must be removed from the templates (see Chapter 3.3.4 page 43). Otherwise, after the module has been deinstalled, generation is aborted with errors.

The special portal pages and sections should also be removed. There is no equivalent of this in an environment without portal.

The designations in the Site Store can be removed via the corresponding portal scripts:



Figure 4-1: Context menu for Uninstall Portal / Sub-EntryPoint

However, this step is not absolutely necessary as, without the portal module, the entries do not have any negative effects on the project.



*The elements from the Template Store should **not** be deleted manually. They are automatically removed as soon as the component is removed from the project.*



4.2 FirstSpirit Server

4.2.1 Removing the portal component from projects

Before deinstalling the module the portal component must be removed from all projects. All imported portal templates and scripts are automatically removed from the projects by deleting the component (via the Server and Project configuration) (see Chapter 2.2 page 12).



The delete process does not check whether the templates are still being used in the project. If this is the case, error messages subsequently appear in the relevant places.

4.2.2 Resetting JAAS configuration settings

The configuration settings for the SSO login process must be reset using the Server and Project configuration application (in the JAAS area). To do this, the rows containing the `SAPLoginModule` must be from the `SSO` and `webSSO` areas in the configuration settings (see Chapter 3.1.3 page 20).

4.2.3 Generating a KeyStore file

The keystore file should be deleted from the FirstSpirit configuration directory (see Chapter 2.1.2 page 11).

4.2.4 Deinstalling the module



Before the module can be deinstalled the uses must be removed from all projects (see Chapter 4.2.1 page 47).

For further information on deinstalling modules, see "FirstSpirit Manual for Administrators".



5 Legal notices

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