Web Dynpro ABAP Page Builder

Applies to:
SAP NetWeaver 7.0 Enhancement Package 3, SAP NetWeaver 7.3 Enhancement Package 1

Summary
Using Web Dynpro ABAP Page Builder you can easily create pages consisting of gadgets (in this case called CHIPS). With Page Builder you provide your users with a well-structured overview of their daily work and an entry point to all transactions and applications they need for their daily work. Your users can easily adapt these pages to their needs.

Note: This article is a condensed version of the official documentation on Creating Mashups with the Page Builder

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Creating Mashups with the Page Builder

The Web Dynpro ABAP Page Builder is a framework that enables administrators to put together Web Dynpro applications with no, or hardly any, programming required.

Typically, you use the Page Builder to design initial pages that enable users to access their main tasks and that provide the option to adapt the page, for instance by adding CHIPS to it in which their favorite Web pages are embedded.

The figure below shows a page with examples of how CHIPS are presented to the end user:

![Page Builder Page](image)

**Procedure**

- You use the runtime authoring environment of the Page Builder to select CHIPS — comparable with a gadget — from a CHIP catalog and to arrange them on a Page in a flexible layout. In a CHIP you can call, for example, an enhanced Web Dynpro component, display Web pages or lists of links to different applications. For more information, see [Creating Pages with the Page Builder](#) [Page 10]

- As well as designing your own pages, with the Page builder you can define the content of side panels (technically also defined as pages). A side panel can be created as an enhancement of a Web Dynpro application or you can use the side panel of the SAP NetWeaver Business Client (NWBC). For more information, see [Implementing Side Panels](#) [Page 45]

- A selection of NetWeaver CHIPS is available in the CHIP catalog, which you can configure for many application cases. You can also create your own CHIPS, these are known as Web Dynpro CHIPS. For more information, see [Creating Web Dynpro CHIPS](#) [Page 55]
Page Builder Concepts

Page Builder pages are based on application configurations of Web Dynpro component WDA_CHIP_PAGE. CHIPs, from one or more CHIP providers, are available in the CHIP catalog, and these CHIPs can then be added to a page.

Pages

A page you create with the Page Builder is based on a special application configuration of Web Dynpro component WDR_CHIP_PAGE, called the page configuration.

Page Configuration

The information about a page configuration is stored client-wide.

Information includes the names and positions of the CHIPs presented on a page, and also the CHIP catalog available to the user for adding CHIPs to the page content.

The page configuration is made of the following technical configurations:

- An application configuration of application WDR_CHIP_PAGE
- A component configuration of component WDR_CHIP_PAGE
- A component configuration of component WDR_CHIP_CATALOG

Configuration Layer

There are three different configuration layers based on the Web Dynpro ABAP configuration framework:

- Personalization
Personalization is the top layer. Users can change the layout of the page, and add or remove CHIPs. Personalization options can be changed in customizing and in the configuration.

- **Customizing and Configuration**

Customizing and configuration are the two layers below personalization. In these layers you can use all the Page Builder functions, and create pages in the runtime authoring environment of the Page Builder. You can adapt the page and the individual CHIPs to the requirements of your users. The differences between customizing and configuration lie more in the scope of the adaptations rather than in their functions. In customizing changes apply to a specific client whereas the changes an administrator makes in the configuration apply system-wide.

**Delta Handling in the Page Builder**

The effect changes have on the respective layers above differs between the Page Builder and Web Dynpro ABAP configuration framework. Delta handling in the Web Dynpro ABAP configuration framework is deactivated.

With Page Builder the following rules apply for delta handling of the configuration:

- If a specific layer is created for the first time, the lower layers inherit the data. This means, for example, that when a page is opened in personalization, and a customizing already exists for this page, it will be displayed.
- Not only are delta changes saved, each layer is saved separately too. This is why changes in the lower layers are not visible in existing configurations of higher layers.
- Delta handling of configurations in Page Builder result in:
  - Personalization that is no longer current is deleted if data has been changed in a lower layer (customizing/configuration).
  - If customizing is no longer current, the end user is notified but can continue working.

**CHIPs**

A CHIP (Collaborative Human Interface Part) is an encapsulated, stateful piece of software used to provide functions in collaboration with other CHIPs in a Page Builder page or side panel. All available CHIPs are registered in a library (CHIP catalog). The CHIP model describes capabilities of a CHIP (such as wiring) and is not based on a specific UI technology. Technically, CHIPs are Web Dynpro ABAP components that implement a certain WD component interface.

**Ports**

Each port can be viewed as a plug of a CHIP where data is present. The parameters and cardinality of the port describe the structure of the data. Communication between CHIPs is implemented through special interfaces called ports. A CHIP has outports to expose its internal status, and inports to receive information from other CHIPs. The description of these ports is part of the CHIP definition. Ports are described with interface **IF_CHIP_PORT_DESCRIPTION**. Each port has a name that describes it uniquely. This means that a CHIP can have an inport and an outport with the same name, and that different CHIPs can have ports with the same name. Ports have a cardinality that is either **array** or **single**.

A port has a collection of parameters that are identified uniquely by their name. Inport parameters can be defined as mandatory or optional.

**Wiring**

You can use **Wiring** to connect CHIPs so that they can interact with each other. Wiring between two CHIPs is implemented using an **outport** of the sending CHIP and an **inport** of the receiving CHIP. When the data at an
outport changes, the CHIP passes the new data to the runtime — that is, it fires an outport event. The runtime ascertains that data is present at an inport (from the wiring definition and from the data present at the relevant outports). When the data at an inport changes, the runtime sends an event to the relevant CHIP. This CHIP's event handler may adjust its internal state and possibly fire outport events from one or more of its outports.

**Tags**

Tags can be assigned to the ports and port parameters of a CHIP.

Basically, a tag is a string. If the same tag is available in an application and in a CHIP, they are connected to each other over wiring, and data can be transferred from the application to the side panel.

The Tagging Framework is provided for exchanging data between a Web Dynpro application and CHIPS. Tags and their namespaces are managed in the tagging framework.

In addition, there are tags in the Page Builder that are classified as CHIP attributes or CHIP contracts.

- **CHIP Attributes** define special properties of a port or a parameter, for example, visibility in the various adaptation layers.
- **CHIP Contracts** specifies how a CHIP, and in particular its inports and outports, can be used. CHIP contracts are mainly used to define the configuration dialog of a CHIP.

**CHIP Catalog**

A CHIP catalog is a collection of CHIPS. Users can select individual CHIPS from the catalog UI and add them to a page. The selection of CHIPS available in the catalog is defined in CHIP providers.

**CHIP Providers**

A CHIP provider defines a collection of CHIPS displayed in the catalog. CHIPS from different CHIP providers can be displayed in the same CHIP catalog.

There are various CHIP providers:

- Predefined CHIP providers from table CHIP_PROVIDER
- With CHIP provider pages all the CHIPS contained in a page can be added to the CHIP catalog. The CHIPS contained in CHIP provider pages are added with their current configuration to the CHIP catalog.
- Role menu entries from PFCG
Structure

CHIP Catalog Categories

The CHIPS in the CHIP catalog are sorted by category into different folders.

CHIP Parameters for Categorization and Filtering

CHIP parameters are implemented in field/value format. CHIPS can be filtered in the catalog using these parameters. They can also be used to categorize CHIPS in the catalog.

Catalog UI

There are two views of the catalog:

- **CHIP catalog in the side panel**

  This catalog is available only in configuration and customizing. You can use this catalog to create and configure *IFrame CHIPS* for additional functions.
• **CHIP Catalog in Popup**
  This CHIP catalog is intended for the user, but can also be used in customizing and configuration. From this catalog you can go directly from configuration and customizing to the configuration of a CHIP.

**Authorizations**

There are various authorization objects relevant for the Web Dynpro ABAP Page Builder:

- **S_PB_PAGE** is required for creating and maintaining Page Builder pages in the runtime authoring environment.
- **S_PB_CHIP** is required for creating and maintaining link CHIPS and IFrame CHIPS.
- **S_DEVELOP** is required for creating and maintaining Web Dynpro CHIPS in the ABAP Workbench.

**Authorization object S_PB_PAGE**

**S_PB_PAGE** is required to check activities that are performed in the runtime authoring environment of the Page Builder. The various activities are listed in the table below:

<table>
<thead>
<tr>
<th>Activity</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Display page</td>
<td>Displays a page in the Page Builder</td>
</tr>
<tr>
<td>Save page</td>
<td>Saves a layout configuration</td>
</tr>
<tr>
<td>Change wiring</td>
<td>Changes an existing wiring</td>
</tr>
<tr>
<td>Display wiring</td>
<td>Displays details of a wiring</td>
</tr>
<tr>
<td>Remove wiring</td>
<td>Deletes an existing wiring</td>
</tr>
<tr>
<td>Drag &amp; drops a CHIP from the CHIP catalog on to canvas</td>
<td>Drag &amp; drops a CHIP from the CHIP catalog on to the canvas</td>
</tr>
<tr>
<td>Drag &amp; drop CHIP within the canvas</td>
<td>Moves a CHIP within a container or between containers</td>
</tr>
<tr>
<td>Rename CHIP</td>
<td>Personalizes the title of the CHIP</td>
</tr>
<tr>
<td>Remove CHIP from the canvas</td>
<td>Deletes a CHIP from the page</td>
</tr>
</tbody>
</table>

The table below shows what users with this authorization can do:

<table>
<thead>
<tr>
<th>Activity</th>
<th>ACTVT key</th>
</tr>
</thead>
<tbody>
<tr>
<td>Display page</td>
<td>Display</td>
</tr>
<tr>
<td>Change</td>
<td>Change</td>
</tr>
<tr>
<td>Delete</td>
<td>Delete</td>
</tr>
<tr>
<td>Wiring</td>
<td>Display</td>
</tr>
<tr>
<td>Change</td>
<td>Change</td>
</tr>
<tr>
<td>Delete</td>
<td>Delete</td>
</tr>
<tr>
<td>Drops CHIP from CHIP catalog on to the canvas</td>
<td>Change</td>
</tr>
<tr>
<td>Drags and drops a CHIP within the canvas</td>
<td>Change</td>
</tr>
<tr>
<td>Rename CHIPS</td>
<td>Change</td>
</tr>
<tr>
<td>Remove CHIPS from the canvas</td>
<td>Delete</td>
</tr>
</tbody>
</table>

**Authorization object S_PB_CHIP for CHIPS**

This CHIP authorization is required for creating IFrame and link CHIPS.

The table below shows what users with this authorization can do:
<table>
<thead>
<tr>
<th>Activity</th>
<th>ACTVT key</th>
</tr>
</thead>
<tbody>
<tr>
<td>Display a specific CHIP in the CHIP catalog</td>
<td>Display</td>
</tr>
<tr>
<td>Execute CHIP at runtime</td>
<td>Execute</td>
</tr>
<tr>
<td>Create CHIPS</td>
<td>Create</td>
</tr>
<tr>
<td>Change CHIP</td>
<td>Change</td>
</tr>
<tr>
<td>Delete CHIP</td>
<td>Delete</td>
</tr>
</tbody>
</table>

**Activity**

<table>
<thead>
<tr>
<th>Activity</th>
<th>ACTVT key</th>
</tr>
</thead>
<tbody>
<tr>
<td>Display a specific CHIP in the CHIP catalog</td>
<td>Display</td>
</tr>
<tr>
<td>Execute CHIP at runtime</td>
<td>Execute</td>
</tr>
<tr>
<td>Create CHIPS</td>
<td>Create</td>
</tr>
<tr>
<td>Change CHIP</td>
<td>Change</td>
</tr>
<tr>
<td>Delete CHIP</td>
<td>Delete</td>
</tr>
</tbody>
</table>

**Adaptation Levels**

The authorizations for the Page Builder can be set for each different adaptation level:

<table>
<thead>
<tr>
<th>Level</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personalization</td>
<td>1</td>
</tr>
<tr>
<td>Customizing</td>
<td>4</td>
</tr>
<tr>
<td>Configuration</td>
<td>5</td>
</tr>
</tbody>
</table>

**More Information**

SAP delivers various example roles to help you create authorization profiles:

- **SAP_PAGEBUILDER_ADMIN**
  This role has all the authorizations required to maintain Page Builder layouts and CHIPS at the various adaptation levels.

- **SAP_PAGEBUILDER_DISPLAY**
  This role has all the authorizations required to display pages and CHIPS at all adaptation levels.

- **SAP_PAGEBUILDER_ENDUSER**
  This role has all the authorizations required for users to personalize pages.

- **SAP_PAGEBUILDER_ENDUSER_EXAMPLE**
  This role has authorizations required for users to personalize pages. Users can also maintain IFrame CHIPS.
Creating Pages with the Page Builder

The runtime authoring environment of the Page Builder enables you to create a container-based layout, assign CHIPs to this layout, and define wiring connections between CHIPs. It is based on, but considerably enhances, the generic configuration already available in Web Dynpro ABAP.

The Page Builder has been implemented as application WDR_CHIP_PAGE of Web Dynpro component WDR_CHIP_PAGE. The pages that you create with the Page Builder are page configurations of this Web Dynpro application. A page configuration is defined by an application configuration with a component configuration and a CHIP catalog configuration. If you do not want to define your own CHIP catalog configuration, the standard CHIP catalog will be used.

Authorization

To create pages in the Page Builder, you need authorization S_PB_PAGE.

Procedure

1. In the first step you create a page configuration.  
   For more information, see Creating Page Configurations [Page 11]

2. To design the page, call the runtime authoring environment.  
   For more information, see Calling the Page Builder [Page 12]

3. The layout of a page consists of containers that you can arrange in columns and rows and merge across multiple columns.  
   For more information, see Defining the Page Layout [Page 13]

4. In these containers you arrange the CHIPs that you have selected from the CHIP catalog.  
   For more information, see Adding CHIPs [Page 14]

5. To exchange data between CHIPs, they can be linked together using wiring. For more information, see Configuring Connections Between CHIPs (Wiring) [Page 36]

6. You can assign your own CHIP catalog to a page.  
   For more information, see Adapting the CHIP Catalog [Page 36]

7. You can integrate entries from the role menu in PFCG if the user is assigned to the relevant role. Then you can, for example, display transactions in a CHIP.  
   For more information, see Integrating Pages into the SAP NetWeaver Business Client [Page 43]

Creating Page Configurations

A Page Builder page is based on a page configuration. This is a special form of the application configuration.

Prerequisites

Since the authoring environment of the Page Builder is based on the Web Dynpro configuration framework, you should already be familiar with it.
Procedure

1. You are in the ABAP Workbench (SE80). To create an application configuration, display Web Dynpro component WDR_CHIP_PAGE, select application WDR_CHIP_PAGE, and from the context menu choose Create/Change Configuration.
2. Specify a unique configuration ID, for example, MY_CHIP_APP_CONF.

   **Note:** The ID must not contain any lower-case letters.

3. Choose New and specify the required transport package. The application configuration appears.
4. You can select your own configurations for various components:
   - WDR_CHIP_PAGE
     Select a component configuration of component WDR_CHIP_PAGE, or create a new one.
   
   **Note:** You have to explicitly assign a component configuration.

   - WDR_CHIP_CATALOG
     Here you can assign your own CHIP catalog to your page. If you do not specify one, the standard CHIP catalog is used.

5. Select the line of the component that you want to change, and choose Assign Configuration Name.
6. Under Application Parameters you can set the Web Dynpro application parameters for your page.
7. After you have saved your configuration, it will appear in application wdr_chip_page, under node Application Configurations.

More Information

If you want to integrate your page into NWBC, you can also use existing page configurations as a template for your page.

Calling the Page Builder

The runtime authoring environment of the Page Builder is implemented as a separate Web Dynpro component with the name WDR_CHIP_PAGE. To edit a page in the Page Builder, you need a page configuration.

Procedure

1. Select your application configuration MY_CHIP_APP_CONF, and choose Test from the context menu. The Page Builder is started with the URL parameter of your application, for example: sap-wd-configId=MY_CHIP_APP_CONF.
2. Depending on the required validity area, you can edit the page in the configuration mode or customizing mode.

   Choose (Adapt Page), and then either:

   - **Configuration.** Parameter sap-config-mode=config is added to the URL in the address bar.
   - **Customizing**
     Parameter sap-config-mode=x is added to the URL in the address bar.
You are in the runtime authoring environment of the Page Builder, as illustrated below:

![Runtime Authoring Environment of the Page Builder](image)

**Defining the Page Layout**

To design the layout of your page, you can add more columns and rows, and merge containers across several columns.

**Procedure**

**Setting the Page Title and Unit of Column Width**

In *Page Settings* in the toolbar you can change the title of the page and select the unit for column widths (pixel or percentage). End users can also make these settings in personalization.

**Defining the Page Layout**

You can define the page layout from the toolbar of a container:

1. To insert rows or columns, choose *Insert*, and then select the column or row until you have built up the required number of rows and columns.

2. If you want to stretch a container across multiple columns, choose *Merge*, and then select the required direction. You can reset the container stretch to fewer columns or to one column. To do this, choose *Split Container*. 
Result

(Layout Example)
Adding CHIPS

To add CHIPS to the containers, you select them from the CHIP catalog.

From the options menu of a CHIP you can go to the configuration dialog where you can maintain various properties. The options displayed in the options menu and in the configuration dialog can be different in the various adaptation layers. This means that entries displayed for users may be different to those displayed for administrators.

SAP provides various CHIPS, known as NetWeaver CHIPS, that can be adapted for special purposes. These CHIPS have enhanced configuration dialogs. Read the relevant sections in NetWeaver CHIPS.

Procedure

1. You are in the runtime authoring environment of the Page Builder in the configuration or customizing mode. To open the CHIP catalog, choose CHIP Catalog in the toolbar.

   **Note:** The CHIP catalog can also be opened in a container by choosing Add in a dialog box.

2. Select a CHIP, and move it with drag & drop to a container until the dashed drop area becomes visible.
(Drag & Drop a CHIP into a Container)

- You can place more than one CHIP in a container. CHIPS are then arranged one beneath the other.
- You can also move CHIPS with drag & drop within a container, or from one container to another.

3. You can change the standard settings in the options menu of the CHIP:

- **Change Title**
  Here you can change title of a CHIP. In particular, when you use NetWeaver CHIPS you should always change the title to avoid any misunderstandings.

- **Open in New Window**
  you can open a CHIP in a new window. This option is not available for CHIPS that display link lists.

- **Remove**
  Here you can remove the CHIP from your page.

- **Display Connection**
  Here you can display existing connections and create new ones.
  For more information, see Configuring Connections Between CHIPS (Wiring) [Page 36]

- **Hide Related CHIPS**
  Displays CHIPS whose ports match the port of the current CHIP.

- **Where-Used List**
  Lists the pages on which this CHIP is used.

4. You can expand or collapse the CHIP with the **Collapse/Expand** button. The setting you specify here is the initial setting for the user.
NetWeaver CHIPS

SAP provides special CHIPS customized for central application cases.

Features

CHIPS for Displaying Links and for Navigation

A set of link lists is available: The favorites list is a list, put together by the user, of links to CHIPS from the current CHIP catalog. With the launchpad link list, saved searches, and the POWL link list you can integrate special link lists that are already available in the system. The PFCG link list and the PFCG favorites list enables you to put together link lists from the menu in PFCG.

<table>
<thead>
<tr>
<th>Favorites List</th>
<th>Displays links to CHIPS from the current CHIP catalog</th>
</tr>
</thead>
<tbody>
<tr>
<td>POWL Link List</td>
<td>Displays links to various queries of a POWL application</td>
</tr>
<tr>
<td>Launchpad Link List</td>
<td>Displays links to launchpad applications</td>
</tr>
<tr>
<td>Saved Searches</td>
<td>Displays links to saved searches of launchpad applications</td>
</tr>
<tr>
<td>PFCG Link List and PFCG Favorites List</td>
<td>Displays links to applications listed in the PFCG</td>
</tr>
<tr>
<td>Quick Access</td>
<td>Direct object-based navigation with passing of parameters</td>
</tr>
</tbody>
</table>

CHIPS for Displaying Contents

<table>
<thead>
<tr>
<th>CHIP Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>POWL CHIPS</td>
<td>Displays a POWL application with the option of selecting from active queries.</td>
</tr>
<tr>
<td>Web CHIPS</td>
<td>Displays Web pages with the option to pass parameters</td>
</tr>
<tr>
<td>Display Area (Work Area)</td>
<td>Container to display CHIPS linked to from a link in another CHIP</td>
</tr>
<tr>
<td>Text CHIPS</td>
<td>CHIP for displaying formatted text from the documentation maintenance transaction</td>
</tr>
<tr>
<td>Help Center CHIPS</td>
<td>This CHIP is used to embed the Help Center in the side panel. To use this CHIP, read: <a href="#">Utilizing the Help Center for SAP Business Suite Applications</a></td>
</tr>
<tr>
<td>IFrame CHIPS</td>
<td>Displays Web pages</td>
</tr>
</tbody>
</table>

Support CHIPS

<table>
<thead>
<tr>
<th>CHIP Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>NWBC Context</td>
<td>Displays information about the NWBC environment</td>
</tr>
<tr>
<td>NWBC Data Context</td>
<td>Displays information about the data context in the NWBC side panel</td>
</tr>
</tbody>
</table>

CHIPS for Displaying Applications

You can show menu options from role maintenance (transaction PFCG) in a separate catalog folder, and use this to provide users with CHIPS with various embedded applications. For example, you can embed transactions, BSP applications, or Web Dynpro applications into a page.

For more information: [Enhancing the CHIP Catalog with Entries from the Role Menu](#)
Favorites List

Administrators can use a favorites list to provide users with a CHIP that displays a list of CHIPS as links.

If the user clicks on one of these links, the CHIP opens in a new window or in a predefined container, called a Display Area. This setting applies to all the links in a favorites list. With SHIFT + mouse click the user can force a new window to be opened.

Users can add new favorites from the CHIP catalog, or remove favorites, by opening the context menu and choosing Add. If you enable drag & drop, users can change the order of the favorites, move favorites to another favorites list, and display favorites in a container of their choice.

Example

A favorites list could look like:

(Examples of the Display of a Favorites List)

Settings

You can make the following settings from the option menu of the CHIP:

Edit Favorites List

Here you can select CHIPS from the CHIP catalog, which are initially displayed in the favorites list.

CHIP Settings

- Drag & Drop Enabled
  This indicator enables users to move links to a chosen container and display the CHIP there.

- Display CHIP in New Window
  The default setting is to display a linked-to CHIP in a new window.

Note: If you want to display links in a new window, all the links in the favorites list must be remote-enabled. IFrame-CHIPS and CHIPS from role maintenance are remote-enabled by default. For Web Dynpro CHIPS the indicator for Remote-Enabled CHIP must be set as described in Creating Web Dynpro CHIPS [Page 57].
If you remove the indicator, the CHIP will be displayed within the page. In this case you need a display area.
More information: Display Area (Work Area) [Page 32]

- **Name of the CHIP Display Area**
  Enter the name of the display area where you want to display the CHIPs.

  **Note:** If the display area that you specify here does not exist, or is embedded in a page that the user cannot access, the user cannot navigate to the application in question.

- **Number of Lines**
  Specifies the number of displayed lines. If more links than can be displayed are available, a further link Display All/Display Fewer is embedded, which enables the user to toggle between viewing a restricted number of links and all links.

**Launchpad Link List**

The launchpad list displays the links of a launchpad. A launchpad itself is a list of navigation targets that is defined by a role, instance, and ID of the folder.

**Prerequisites**

Launchpads are available in your system.

**Example**

```
<table>
<thead>
<tr>
<th>Actual Line Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>This report shows the line items for actual costs for the cost center selected.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Commitment Line Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>This report shows the line items for commitments for the cost center selected.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Plan/Actual Variances</th>
</tr>
</thead>
<tbody>
<tr>
<td>This report displays the variances between the planned costs and the actual</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Target/Actual Variances</th>
</tr>
</thead>
<tbody>
<tr>
<td>This report displays the variances between the target costs and actual costs on your cost centers.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Planning Report</th>
</tr>
</thead>
<tbody>
<tr>
<td>This report displays all planning data relating to the cost center(s) selected.</td>
</tr>
</tbody>
</table>
```

(Display Example of a Launchpad Link List)

**Settings**

**Defining Links**

- **Role**
  Refers to the role of the Launchpad
• **Instance**
  Specifies the instance of the Launchpad

• **Folder ID**
  Specifies the folder ID of the launchpad

You can search for launchpads using the role and/or the instance, and then select the launchpad you want.

**Adapting the Launchpad**

• **Available Applications/Displayed Applications**
  Here you can remove links from the selected launchpad, and add them again.

• **Display Descriptions**
  Here you decide whether the descriptions of the links are displayed. This setting can also be made by users.

• **Number of visible elements**
  Enter the number of links you want to be displayed. If more links are available than can be displayed, a further link *Display All/Display Fewer* is embedded, which enables the user to toggle between viewing a restricted number of links and all links. Users can also make this setting themselves.

• **Separator bar**
  At the end of the list of *Displayed Applications* there is a separator bar, which you can move to group the links together where you want.

**PFCG Link List and PFCG Favorites List**

There are two CHIPs that enable you to create link lists from entries in the PFCG role menu.

• As an administrator you can use the **PFCG Link List** to restrict the selection of the links to be displayed to precisely one folder in the PFCG menu. The folder is found in the current role at runtime, and the contents read dynamically. You specify this folder in the PFCG alias. You can restrict the entries further with the application type. The PFCG link list cannot be changed by the user.

• The **PFCG Favorites List** enables the user to put together a list of favorites — again from menu entries from the PFCG — either for the current role or for all roles the user is assigned to.

The **PFCG Favorites List** is initially empty. The selection of links that can be added to the list is defined in the configuration. In personalization the user can add entries by choosing *Adapt Favorites* from the options menu of the PFCG Favorites List, and change the displayed link text.

**Note:** Changes made by a user are overwritten if you change the **PFCG Favorites List** in the configuration or customizing mode.

If the user clicks on one of the links, the application opens in the same window. With **SHIFT + mouse click** the user can open the application in a new window. To force an application to always open in a new window, in PFCG for the relevant menu entry choose **Further Node Details** under **Start Application In Application Window**.

**Example**

The example below shows a PFCG link list with descriptions:
(Display Example of a PFCG Link List)

**Shared Configuration Options**

Entry in options menu: **Configure CHIP → Define Link List** or **Configure CHIP → Define Favorites List**

- **Application Type**
  You can filter the role menu entries that are assigned to the respective application type in PFCG. To do this, select the type you want:
  - Type: Create
  - Type: Report
  - Type: Search
  - Type: Create, Report, and Search. This puts all the role menu entries together in the PFCG for which one of these application types has been defined.
    More information: [Specifying the Application Type of a Role Menu Entry][Page 22]
  - You can reset the filter by choosing **All**.

- **Display Descriptions**
  You set this indicator if you want to display descriptions, as shown in the above figure. Users can make this setting themselves in the PFCG favorites list.

- **Display IDs**
  This indicator should only be set temporarily in the configuration or customizing mode to enable you as the administrator to display application IDs.

**Additional Configuration Options for the PFCG Link List**

- **PFCG Alias**
  Here you select the PFCG alias of the folder whose entries you want to display as links in the PFCG link list. The alias for the folder must first have been set in the PFCG.
  More information: [Defining a PFCG Alias for an Application][Page 22]

**Additional Configuration Options for the PFCG Favorites List**

- **Role**
  Here you can choose between the current role and all roles the user is assigned to.

- **Number of Visible Entries**
  Enter the number of links you want to be displayed. If more links than can be displayed are available,
a further link Display All/Display Fewer is embedded, which enables the user to toggle between viewing a restricted number of links and all links. Users can also make this setting themselves.

**Specifying the Application Type of a Role Menu Entry**

In PFCG link lists and PFCG favorites lists role menu entries for users can be filtered by specific criteria. All entries assigned to an application type are automatically put in the link list provided the link list is restricted to this application type. You can specify the following types:

- **Type: Create**
  Identifies all entries of transactions that create new business objects.

- **Type: Report**
  Identifies entries that refer to reports.

- **Type: Search**
  Identifies entries of transactions that execute queries.

If you want to filter by other criteria, put the required applications in the same menu node and in the configuration assign a PFCG alias to this node. See also: [Defining a PFCG Alias for an Application](#) [Page 22]

**Procedure**

1. You are in transaction PFCG on the Menu tab. Select the menu entry you want, and choose (Further Node Details).
2. Under Application Type select a category and save it.

**Defining a PFCG Alias for an Application**

To restrict the display of links in a PFCG link list to a specific folder in the role menu, you can define an alias for this folder. You can then access these aliases from the F4 help in the configuration dialog of the PFCG link list.

To enable roles and pages to be maintained in different clients, you can also enter these aliases manually, without your entries being checked. The entries are then evaluated at runtime in the context of the current role.

**Procedure**

1. You are in transaction PFCG on the Menu tab. Select the folder you want and choose (Further Node Details).
2. In field Alias for Application enter an alias in the following format:

   `{PBA=<alias>}`.

   *PBA* identifies the alias for the application in the Page Builder.
Use a namespace for the alias to avoid using the same names.

An alias could look like: `{PBA=/SAP/ERP/MATERIAL}`

POWL CHIPs

With the POWL CHIP you can display a POWL application that you define with an application ID. You can display the complete POWL application or you can hide the *Active Queries* area.

Prerequisites

The POWL application you want to display must be available in your system.

Settings

Defining POWL

- **Application ID** (mandatory)
  Specifies the ID of the POWL application. Use the input help to select the required application. This setting is not visible to the user.

- **Query ID**

  Determines the ID of the query to be displayed first.

  The input help displays all the queries independently of the selected application ID. Make sure that you only select queries that are valid for the displayed POWL application. Invalid queries are ignored.

  This setting is not visible to the user.

- **Layout**

  Specifies the layout in which the POWL application is displayed.

  - **Register**
    Hides the group with the active queries. The user selects the required query from a range of registers.

  (Example Display with Layout = Register)
- **Link Matrix** (default)  
The group of *Active Queries* is displayed as a link, grouped in categories.

![Link Matrix Example Display](example-display.png)

- **Dropdown**  
The group of *Active Queries* is displayed with dropdown boxes from which the user can select a query.

![Dropdown Example Display](example-display.png)

This setting can also be made by users.

To display the group of *Active Queries* only, and to display the POWL application in another place, select a **POWL Link List** [Page 23].

**More information**

[SAP Personal Object Worklist Library (POWL)](POWL)
POWL Link List

A POWL link list displays POWL application queries as links. It is the same view that is also displayed in the POWL application in the top area under Active Queries. If the user calls one of these queries, the POWL application opens on a page defined as the OBN target for this POWL. If the user presses `SHIFT + mouse click`, the POWL application is opened in a new window.

**Prerequisites**

The POWL application that you want to link to must be available on the local system.

**Settings**

**Defining Links**

- **POWL Applications ID**
  Specifies the ID of the POWL application. Use the input help to select the required application.

- **Configuration ID**
  Specifies the navigation destination where the POWL application is displayed once the user has selected a link.
  - If you have one navigation destination for all POWL link lists, choose `POWL_COLLECTOR_DEFAULT_CONFIG`. You can also define one navigation destination for this default configuration.
    More information: [Defining a Navigation Destination for the POWL Link List](Page 25)
  - If you use multiple POWL lists and want to display these in different navigation destinations, you need a separate configuration of Web Dynpro component `POWL_COLLECTOR`. You then select the ID of this configuration here.
    More information: [Managing Multiple Navigation Destinations for POWL Link Lists](Page 26)

- **Enable Personalization**
  If you want to enable the user to hide and show links, set the indicator for Enable Personalization. In the CHIP option menu the user then has the entry, *Personalize POWL*, and can add and remove links.

**Defining a Navigation Target for the POWL Link List**

The POWL link list displays POWL queries as links. When the user selects one of these links, the relevant POWL application should be displayed in a specified place. To do this, you need an OBN target, which you can define in the role menu.

**Procedure**

1. You are in transaction `PFCG` on the Menu tab. Choose Insert Node, then Web Dynpro Application.
2. Select POWL as the Web Dynpro application and assign a name, for example, *POWL Display Area*.
3. Choose ![Other Node Details](Page 25), and set the Visibility to Invisible, because the POWL application should not be displayed initially, nor should it be visible in the NWBC navigation structure.
4. Create a new method under Object-Based Navigation.
   - If you want to use the default configuration, assign the following values:
     - **Object type**: POWL
     - **Method**: DISPLAY
   - If you want to use your own configurations, you can assign any values you want. These are required for the configuration of Web Dynpro component `POWL_COLLECTOR`.
Note: For the description use the exact values that you entered for the object type and method, because once you have created the configurations you only have access to the descriptions.

Managing Navigation Targets for POWL Link Lists

If you want to use multiple POWL link lists with different navigation targets on your pages, you have to create a separate configuration of `POWL_COLLECTOR`, in order to assign the POWL applications to the respective target.

Procedure

1. You are in transaction SE80, and have selected Web Dynpro component `POWL_COLLECTOR` in the Explorer. Create a component configuration for this component, for example, `MY_COLLECTOR`.


3. Enter the following values:
   - **Application**: Name of the POWL application
   - **BO System**: Leave this field blank. The display of POWL applications on other systems is not supported.
   - **BO Name**: Enter the exact name here that you want to define in PFCG as the Object Type for the OBN navigation.
   - **BO Procedure**: Enter the exact name here that you want to define in PFCG as the Method for the OBN navigation.

4. Repeat steps 2 and 3 for all POWL applications that you want to display.

Result

In the configuration of the POWL link list you can enter `MY_COLLECTOR` as the Configuration ID, and the POWL applications are opened in the defined navigation target.
Text CHIPS

Text CHIPS enable formatted texts from documentation maintenance (transaction SE61) to be displayed. Formats valid are specified by `FormattedTextView`. Links are not supported.

Example of a Page with Your Own CHIP Catalog

If you open the CHIP catalog on this page, you can see that this contains only one folder with a few CHIPS.

This is implemented using a CHIP Provider Page (SAP_TEST_PROVIDERPAGE_SAMPLE), which has been assiged to this page as a CHIP catalog.

To convert this, the following steps are necessary:

1. You create a page where you insert all the CHIPS you want to be made available in a folder of the CHIP catalog.
2. You can define this page as a CHIP Provider.
3. You create a CHIP catalog configuration (based on component WDR_CHIP_CATALOG), and define this page there as a folder of your CHIP catalog, and if you want further pages too.
4. The last step is to assign this CHIP catalog to your page.

The CHIPS are configured Web CHIPS that point to different Web pages, which offer you help with developing Web Dynpro applications and creating pages with the Page Builder.

More Information

You can find step-by-step descriptions on the SAP Help Portal in the Page Builder documentation in section: Adapting the CHIP Catalog.

(Example of a Text CHIP Display)

Settings

Entry in options menu: Define Document

- **Document class**
  Here you can define the ID of the document class, for example, TX for General Text.

- **Documentation Object**
  Here you can define the name of the document.

Example

You can find an example of a text CHIP in the system. To do this, call (under application configurations of WDR_CHIP_PAGE) page configuration WDR_DEMO_CONSUME_PP_SAMPLE. The CHIP with the title *Introduction* links to the general text TX_WDR_DEMO_INTRO_CPP.

More Information

To find out about the formats possible, see *Converting SAPscript Texts into Formatted Texts* in the documentation for `FormattedTextView`.
Web CHIPS

A Web CHIP is used to display Web pages. You define these in a URL and, if required, specify parameters too.

Settings
Define URL

A full URL, such as: http://www.sap.com

Define URL Parameters

Here you define the parameters and their tags. If you have created a parameter, a new entry Set URL Parameter is added to the options menu of the Web CHIP. Here you can set the value of this parameter.

- Name
  Parameter name

- Display Name
  Name of the parameter displayed in the configuration dialog.

- Tags
  You can assign tags to a parameter.
  For more information: Tagging [Page 49]

- Mandatory
  Set this indicator if parameters have to be passed to display the Web page correctly.

Set Size

- CHIP Height
  Here you can define the height of the CHIP in pixels. Enter the height in digits, including the unit, for example, 200px.

- Stretch Height
  If you set this indicator, the height of the CHIP is automatically adjusted to fill any empty space on the page or in the line.

Saved Searches

This CHIP displays a list of searches that were made and saved by the underlying Search UIBB of the Floorplan Manager. Each search is displayed as a separate link. If the user selects the link, the application in question opens and the search is executed.

By default this search is executed on your local system. But it can be extended to multiple systems. See also: Adding Systems to the Saved Searches CHIP

Quick Access

Quick Access enables you to configure navigation to OBN targets by passing parameters. You define in a Quick Access the navigation to one or more OBN targets using objects. If the user selects an action from a pushbutton, the OBN target is displayed at the position that you defined as the navigation target in the role menu of the PFCG. If you want to display the application within your page, use the display area.
All SAP GUI applications, Web Dynpro applications, and other Web applications are supported as navigation targets.

An object is identified by its object key and consists of the following parts:

- A title that you define in the display name of the object key.
- One or more input fields with labels.
- A button with which you can trigger one or more actions.

The figure below shows a Quick Access with two objects:

![Example of a Quick Access](image)

**Settings**

**Set**

- **Name of the CHIP Display Area**
  Specifies the display area for the applications. Depending on where the application is to be displayed, proceed as follows:
  - If you want to navigate to the target defined in the PFCG role menu, leave this field empty.
  - If you want to navigate to the display area, enter the name of the display area here.

  For more information: [Display Area (Work Area)](Page 32)

  **Note**: If the display area that you specify here does not exist, or is embedded in a page that the user cannot access, the user cannot navigate to the application in question.

- **Group Objects**
  Set this indicator if only one object is always to be displayed in Quick Access and the user selects the object for display from a dropdown box.
  The graphic below shows the example above if grouping is activated.

![Example of a Quick Access with Grouping](image)
Defining Objects

- **Object Key**
  Define a unique key in order to assign input fields and actions to this object.

- **Display Name**
  Enter the title of the object here.

Define Input Fields

- **Object Key**
  Use the object key that you specified under Define Objects for the object.

- **Field Key**
  Assign a unique key for the input field.

- **Display Name**
  Specify the label for the input field.

- **Data Element**
  Specify the data element of the input field.

- **Suggest Values**
  Set the indicator if you want to activate ValueSuggest. For more information: Proposals for Input Fields

- **Deactivate Value Help**
  Set this indicator to deactivate input help.

- **Target Parameter**
  Enter the name of the parameter that is to be passed to application defined as the OBN target.

Define Actions

If you define one action for an object, a button is shown in the Quick Access. If you define several actions, a button menu is shown from which the user can select an action.

- **Object Key**
  Use the object key that you specified under Define Objects for the object.

- **Action Key**
  Enter a unique key for the action.

- **Display Name**
  Enter the name that you want to use as the button text.

- **OBN System**
  Required if you want to navigate on the SAP NetWeaver portal. Leave this field empty for navigation in NWBC.

- **OBN Object**
  Enter the Object Type of the object-based navigation of the required role menu entry.

- **OBN Procedure**
  Enter the Method of the object-based navigation of the required role menu entry.
• **OK Code**
  If you want to use OK Codes in the application that is navigated to, enter the value here.

For more information about OBN, see: [Defining OBN Targets](#)

**POWL CHIPS**

With the POWL CHIP you can display a POWL application that you define with an application ID. You can display the complete POWL application or you can hide the **Active Queries** area.

**Prerequisites**

The POWL application you want to display must be available in your system.

**Settings**

**Defining POWL**

• **Application ID** (mandatory)
  Specifies the ID of the POWL application. Use the input help to select the required application. This setting is not visible to the user.

• **Query ID**
  Determines the ID of the query to be displayed first.

  The input help displays all the queries independently of the selected application ID. Make sure that you only select queries that are valid for the displayed POWL application. Invalid queries are ignored.

  This setting is not visible to the user.

• **Layout**
  Specifies the layout in which the POWL application is displayed.

  o **Register**
    Hides the group with the active queries. The user selects the required query from a range of registers.

  ![Example Display with Layout = Register](image)

  o **Link Matrix** (default)
    The group of **Active Queries** is displayed as a link, grouped in categories.
The group of Active Queries is displayed with dropdown boxes from which the user can select a query.

This setting can also be made by users.

To display the group of Active Queries only, and to display the POWL application in another place, select a POWL Link List.

Display Area (Work Area)

When a user clicks on a link in one of the link list or favorites CHIPs, the application opens in a new window or in a specified position in the navigation menu. If you want to display the navigation target directly on your page, use the Display Area. Then this area will be used to display the target of all the links of the respective CHIP.
Settings

- **Name**
  Enter a unique name for the display area. This name enables the CHIP to be identified as the navigation target by the favorites list or quick access CHIP as well as in the program code.

- **Web Dynpro ABAP: CHIP ID of the initial CHIP**
  You can specify a CHIP that remains displayed in the display area until another CHIP is called.

Procedure

The favorites list and the quick access CHIP provide a configuration dialog in which you can define the display area. With other CHIPS you define the display area in the program code.

**Defining the Display Area as the Target for a Favorites List or Quick Access**

1. Insert a *Display Area* into your page and choose *Settings* from the option menu.
2. Enter a unique name, for example, *MY_TARGET*.
3. If you want to display an initial CHIP in the display area, in field *Name of Initial CHIP* select the CHIP you want.
4. 
   - For the favorites list, choose *Configure CHIP → CHIP Settings* from the options menu.
   - For the quick access CHIP, choose *Set* from the options menu.
5. Enter the name of the display area in which you want to display the links; in this example, *MY_TARGET*.
6. In the favorites list deselect the indicator for *Display in New Window*, and choose *Apply*. 
Defining the Display Area in Program Code

If you want to implement your own CHIPs, call method `set_navigation_target`, and specify the name of the display area as the `navigation_target`

```
wd_this->wd_cpifc_tagged_link_src()->set_navigation_target(chip_name = iv_chip_name
navigation_target = 'MY_TARGET' ).
```

NWBC Context

You use the test CHIP *NWBC Context* for support purposes if you want to display your page in NWBC. The CHIP shows you information about your environment.

Displayed Data

- **NWBC Shell**
  Indicates whether you are using the *NWBC for Desktop* or the *NWBC for HTML*

- **Canvas Window**
  Specifies the NWBC window where the page is

- **Role Name**
  Name of the role in which the page was started

- **Role ID**
  ID of the role in which the page was started

- **Runtime Version**
  Runtime version of NWBC in which the page is running

NWBC Data Context

With the CHIP NWBC data context you can display various information about the data context for support purposes. You can check which information from the application in the context area is available in the side panel.

Available Data

- The *Namespaces* table contains the namespaces for your tags. The namespaces can come from different repositories.
- In the *Values* table at the bottom you can display the tags with arguments and current value of the respective namespace.

IFrame CHIPs

The IFrame CHIP is used to display Web pages. You can pass parameters and define tags. Unlike the Web CHIP, which provides a configuration dialog, you configure the IFrame CHIP using a component configuration of the underlying Web Dynpro component.

To create IFrame CHIPs you need authorization `S_PB_CHIP`
Prerequisites

You are in the runtime authoring environment of the Page Builder, and have opened the CHIP catalog, as described in Adding CHIPS [Page 14].

Procedure

Creating IFrame CHIPS

1. Choose folder IFrame CHIPS, open the context menu, and choose Create.... The Editor for Web Dynpro ABAP Component Configuration is opened.

2. Enter a Configuration ID, for example: IFRAME_CHIP_TEST and choose Create. After you have selected the package you want, go to tab Component-Defined of component configuration IFRAME_CHIP_TEST.

3. Select the Header line in table Configuration Context.

4. Enter the values for the attributes.
   - **Address**
     Enter the URL of the required Web page, for example: http://www.sap.com
   - **CHIP: Icon**
     Enter the name or path of the icon. This icon will then be used in the CHIP catalog and in the CHIP tray.
     
     **Note**: Select only small icons, for example, from the Icons category to ensure they are displayed properly.

   - **CHIP: Title**
     Enter a name for the IFrame CHIP. This text will then be used as the title in the CHIP catalog and in the CHIP tray.

   - **CHIP: Description**
     Enter a description for the IFrame CHIP. This description can be displayed later in the CHIP catalog in the properties of the CHIP, and can be helpful when selecting the CHIP.

   - **Height**
     Enter a value for the CHIP height in pixels.

5. The indicator Final is not relevant for configuring CHIPS.

6. To enable parameters to be passed, select the Context line, and choose New -> Inports. Enter a name, title, and description of the inport. If you require more parameters, repeat this step.

Setting Tags for IFrame CHIP

1. Select line Context, choose New -> Inports and define the name of the inport.

2. Now select line inports, choose New -> paramInfo, and enter the required data for the parameters.

3. Select line paramInfo, choose New -> inportParamTags, and enter the required tag. You can define more tags in the same way.

Result

After you have saved the IFrame CHIP it will be available in the CHIP catalog. If it is not visible, open the context menu and choose Refresh.
Setting Up Connections Between CHIPs (Wiring)

Provided wiring is offered for the Web Dynpro CHIP in question you use it to connect CHIPs with each other so that they can interact. Wiring between two CHIPs is implemented using an outport of the sending CHIP and an inport of the receiving CHIP. The connection can only be established if the parameters to be passed are the same type.

Procedure

1. Select the target CHIP. From the option menu of the tray choose Display Connection, then Show Details.
2. For each inport select a source from the drop-down list, that is, the source CHIP you want to use.
3. The system suggests the appropriate outport and outport parameter (which may be a single field or a structure). If these are not correct, select the correct ones from the drop-down lists.
4. Choose Apply.

Result

The target is wired to the source (but not the other way around). For instance, if you change the lead selection of the source CHIP, the target CHIP reflects this change.

Example

In the system you can find an example page with two CHIPs that are connected through wiring. Under the application configurations of WDR_CHP_PAGE open page configuration WDR_DEMO_WIRING_SAMPLES for testing.

Adapting the CHIP Catalog

The standard CHIP catalog displays all the available CHIPs. In most cases you will want to provide users with a CHIP catalog that contains a selection of CHIPs relevant for the users and their roles.

You can influence the appearance of the catalog, the selection of CHIPs in the catalog and how they are arranged. The changes that you make take affect on both catalog views (side panel and popup).

Procedure

1. You create a configuration of the Web Dynpro component WDR_CHIP_CATALOG. For more information: Creating a Configuration for Your Own CHIP Catalog [Page 37]
2. You can adapt the appearance of the catalog. For more information: Adapting the Display of the CHIP Catalog [Page 37]
3. The CHIPs are displayed in a folder structure. You can either use predefined categories to arrange the CHIPs in, or you can define your own category. For more information: Determining the Category for Sorting Folders in the CHIP Catalog [Page 38]
4. You can specify which CHIPs are displayed in the catalog. You select CHIPs either from the given providers, or you define your own CHIP provider pages. For more information: Specifying CHIP Providers [Page 39]
5. Assign the CHIP catalog to your page. For more information: Assigning a CHIP Catalog to a Page [Page 42]
Creating/Changing the CHIP Catalog Configuration

To define your own CHIP catalog, you need a component configuration of component `WDR_CHIP_CATALOG`. You can then assign this to your page.

**Procedure**

**Creating a Catalog Configuration**

1. In SE80 go to Web Dynpro component `WDR_CHIP_CATALOG`, open the context menu of node `Component Configurations`, and choose `Create`. If not already assigned, enter `WDR_CHIP_CATALOG` as the component name.
2. Enter a `Configuration ID`, for example: `MY_CHIP_CAT`, and choose `New`. This takes you to the component configuration for your CHIP catalog.
3. Save.

**Creating a Catalog Configuration**

Once you have assigned a catalog configuration to your page, in the configuration or customizing mode you can go from the popup catalog directly into the catalog configuration.

4. To open the popup catalog, choose `Add` in a container on your page.
5. Choose `Change Catalog Configuration`. This takes you to the component configuration of the relevant catalog.

**Adapting the Display of the CHIP Catalog**

You can change various elements of the CHIP catalog. These changes will only affect the CHIP catalog in the side panel.

**Procedure**

1. In the component configuration of your CHIP catalog select the `Appearance` row in table `Configuration Context`.
2. You can make the following settings:
   - **Details Visible**
     Specifies whether the details of the selected CHIP are displayed under the catalog.
   - **Number of Lines**
     Specifies the number of visible entries. If there are more entries than the number specified here, a scrollbar is shown.
   - **Toolbar Visible**
     Specifies whether the toolbar is displayed.
   - **Categories visible**
     Specifies whether the CHIPS in the given categorization are displayed as a flat list. To ensure the CHIPS are displayed correctly in the popup catalog, this property must not be deactivated.
   - **Context Menu Active**
     Specifies whether the context menu is displayed.
Display Field Name
Specifies that initially CHIPs and folders are displayed with their technical names.

Display Related CHIPs
Specifies whether the entry Show Related CHIPs is visible in the context menu.

Mode
- Toolbar with Search Entry
  Displays the toolbar with an input field to search or filter CHIPs.
- Toolbar for Related CHIPs
  You use this toolbar temporarily for internal purposes to search for related CHIPs.

3. To hide the favorites, select row Selection and set the indicator for Hide Favorites.

Determining the Category for Sorting in the CHIP Catalog

You use categories to determine the folder structure in which the CHIPs are displayed. You can use predefined categories, or a category based on your own CHIP parameters.

Procedure

You have opened the component configuration of your catalog.

Using Predefined Categories

1. Select table row Categorization
2. To select the criterion that the folder structure will be based on, enter one the following values as the parameter name:
   - DEVCLASS
     Sorts the CHIPs by their development package.
   - WD_COMPONENT_NAME
     Groups the folders by the Web Dynpro components that the CHIPs are based on.
   - PAGE_CONFIG
     Required for sorting by CHIP provider pages.
   - AUTHOR
     For internal purposes you can also sort CHIPs by the person who last edited them.
3. Leave the parameter type unchanged as Standard.

Using Your Own Categories

To use your own categories, you need a new CHIP parameter for all the CHIPs you want to filter by your own defined category. If you have created this parameter for your CHIPs, you can use it directly as a category.

In this case you use the custom parameter type for the categorization.

To implement your own parameter, you need a help class in the Web Dynpro component of the CHIP. In this class implement interface IF_CHIP_DEFINITION_MODIFIER. In method MODIFY you can add and remove CHIP parameters and custom parameters.
Note: Changes made to the help class do not invalidate the cache of the CHIP catalog. So if you have made changes in the CHIP definition modifier class, always save the CHIP definition in SE80.

You can find an example in Web Dynpro component WDR_TEST_CHIP_DEF_MOD and the CHIP with the same name in help class CL_TEST_CHIP_DEV_MOD_ASS:

```plaintext
method if_chip_definition_modifier~modify.
data l_parameter type chip_definition_parameter.
clear l_parameter.
  l_parameter-name = 'param_a'.
  l_parameter-value = 'value_a'.
insert l_parameter into table custom_parameters.
clear l_parameter.
  l_parameter-name = 'param_b'.
  l_parameter-value = 'value_b'.
insert l_parameter into table custom_parameters.
delete custom_parameters where name = 'param_a'.
endmethod.
```

In the component configuration of the CHIP catalog when you are setting up the categorization assign param_a as the parameter name and custom as the parameter type. In the catalog, CHIP WDR_TEST_CHIP_DEF_MOD appears in a folder with the name value_a.

Determining CHIP Providers

CHIPs are made available in the catalog through CHIP providers.

There are various CHIP providers:

- You can use SAP CHIP providers
- You can use the role menu of the PFCG as the CHIP provider
- You can create your own CHIP providers. This is easy to do using CHIP provider pages. They make all the CHIPs contained in the page available in the CHIP catalog. The CHIPs are provided in the configuration they are contained in on the CHIP provider page. You can combine different CHIP providers in the CHIP catalog.

A CHIP provider is made available in the CHIP catalog using selection sets. This means that you can filter each CHIP provider according to different criteria, and show a specific set of CHIPs in the CHIP catalog.

Procedure

Adding a CHIP Provider to the Catalog

1. In the component configuration of your CHIP catalog select line Selection, and make the following settings:
   - **Display Std CHIPs**
     Choose FALSE if you do not want to display the standard CHIPs in the CHIP catalog. The default setting is TRUE.
   - **Display PFCG CHIPs**
     Set this indicator if you want to make applications from the role menu available as CHIPs to the user. The default setting is TRUE.

For more information: [Enhancing the CHIP Catalog with Entries from the Role Menu](Page)
Display PFCG CHIPS
Set this indicator if you want to make CHIPS contained in the page in your configuration available to the user. The default setting is FALSE.

Show Without Category
Set this indicator to display all the CHIPS contained in the CHIP catalog but not in the selected category in a separate folder called Other. The default setting is TRUE.

2. To specify the CHIP provider, in the component configuration of the CHIP catalog, choose New → Provider, and enter the following values:

- X-SAP-PAGE-CHIP-CACHE
  Then select all the CHIPS from the CHIP provider pages. Select this value if you want to make preconfigured CHIPS from CHIP provider pages available to the user. To do this, you need pages defined as CHIP providers.
  For more information:
  Creating CHIP Provider Pages [Page 41]
  Using CHIP Provider Pages as CHIP Providers [Page 41]

- X-SAP-WDY-CHIP
  This selects all Web Dynpro CHIPS

- X-SAP-IFRAME
  This selects all IFrame CHIPS

Configuring a CHIP Provider

You can now make a more restricted selection of CHIPS for this CHIP provider. Define either values from the categories - either from the standard categories or from those you have defined - or select the CHIPS by their name.

- To select CHIPS based on a category:
  1. Choose Parameter or parameterMultiVal, depending on whether you want to set one parameter value or multiple parameter values.
  2. Specify a category as a parameter, for example, WD_COMPONENT_NAME.
  3. Select line parameterMultiVal, and choose New → Values. Enter the required value, for example, the name of the Web Dynpro component whose CHIPS you want to include in the catalog. If you want to set more parameters, repeat this step.

- To determine those CHIPS based on their names that you want to display in the catalog, select line Selection, and then choose New → Name. Select a CHIP under the CHIP name, or use wildcards to select a group of CHIPS.

Adding A Further Selection

If you want to add further selection sets, select line Selection, and choose New → Selection Set. Specify the provider and the selection as described as above.
Before you create a Selection Set, you must have specified a Selection. Otherwise, all the CHIPs are always displayed.

Creating CHIP Provider Pages

A CHIP provider page is a page created with the Page Builder that is classified as a CHIP provider. This page can then be added to a CHIP catalog and the CHIPs contained in this catalog can be made available to the user. You can configure the CHIPs and then you have the option to provide preconfigured CHIPs to the user without having to copy them. These pages can be managed easier by putting them in role menus.

Procedure

Creating CHIP Provider Pages

1. Create a page and add the CHIPs you want to display in the CHIP catalog.
2. Choose Page Settings and enter a suitable title. If you want to also use the CHIP provider pages for categorizing the CHIP catalog, the titles of the pages are used as the text of the folder in the CHIP catalog.
3. Add all the required CHIPs to this page and configure it according to your requirements.
   
   Note: When you configure CHIPs, make sure you change the title to avoid any confusion with the NetWeaver CHIPs.

4. You can arrange the CHIPs in different columns for a better overview; the layout of this page does not affect how the CHIPs are displayed in the catalog.
5. Go to the component configuration of the page and set the CHIP Provider indicator in the Context.

Managing CHIP Provider Pages in the Role Menu

1. You are in transaction PFCG in the required role on the Menu tab. Create a new node of type Web Dynpro Application, as the application type select Page and then your CHIP provider page.
2. Display the node details of the page and set the indicator for Invisible. This prevents the page from being displayed in the NWBC navigation.

   Note: The benefit of this procedure is that when the automatic profile setting in PFCG is used all authorizations are collected together and assigned to the role required for displaying CHIPs of the CHIP provider page.

Using CHIP Provider Pages as CHIP Providers

You can mark a page created with the Page Builder as a CHIP provider and it to your CHIP catalog.

Procedure

1. You have opened the component configuration of your CHIP catalog, as described in Creating Configurations for CHIP Catalogs [Page 37].
2. In table Configuration Context select row Categorization and enter PAGE_CONFIG as the parameter name. Leave the Parameter Type unchanged as Standard.
3. Go to the Selection row.
Set the following indicator:

- **Display Std CHIPS**
  This indicator must be set for displaying folders based on CHIP provider pages.

- **Display PFCG CHIPS**
  Set the value here to FALSE.

You can set the other indicators, if required.

4. Choose **New → Provider**, and enter **X-SAP-PAGE-CHIP-CACHE** as the **Provider Name**.

5. Got back to **Selection** and choose **New → parameterMultiVal**. As the **Parameter Name** enter **PAGE_CONFIG**, and leave the **Parameter Type** unchanged as **Standard**.

6. Go to the **Values** row and enter name of your component configuration of your CHIP provider page as the **Parameter Value**, for example: **MY_CAT_COMP_CONFIGURATION**.

7. Repeat the last step for each further CHIP provider page if you want to add their CHIPS to your CHIP catalog.

**Example**

You can find an example catalog with CHIP provider pages in the system. To see how a catalog configuration is created with CHIP provider pages, open the component configuration **WDR_DEMO_CAT_PROVIDERPAGE** of Web Dynpro component **WDR_CHIP_CATALOG**.

**Assigning a CHIP Catalog to a Page**

If you have defined your own CHIP catalog, you can assign it to a page by specifying the component configuration of the catalog in the configuration of your page.

**Procedure**

1. Open the page configuration of the page that you want to assign your CHIP catalog to.

2. You are on the **Structure** tab. Select line **CHIP_CATALOG** and in column **Configuration** enter the name of your catalog configuration, for example, **MY_CHIP_CAT**.

3. After you have saved the configuration, the CHIP catalog is assigned to your page.

**Result**

The figure below shows the view of a CHIP catalog for which a CHIP provider page with the name **Help CHIPS** was created. This page contains configured Web CHIPS that display various pages where you can find further information about Web Dynpro ABAP.
Integrating Pages into the SAP NetWeaver Business Client

The Page Builder integration feature enables you to make pages available in the SAP NetWeaver Business Client (NWBC). Typically, you use pages as for users to access their daily tasks. For example, you can provide lists of links that navigate to the most important applications. Users can personalize these pages, for example, by inserting frequently used Web pages. You can also make menu entries from role maintenance available in the CHIP catalog, so that users can display these entries as CHIPS on their pages.

Procedure

1. To display a page in NWBC, insert it into the role menu. More information: Inserting Pages into the Role Menu [Page 43]

2. For use in NWBC, you can make existing role menu entries available in the CHIP catalog. Users can then, for example, embed their usual transactions into a page. More information: Enhancing the CHIP Catalog with Entries from the Role Menu [Page 44]

More Information

For more information, see SAP NetWeaver Business Client.

Inserting Pages into the Role Menu

Procedure

1. Start transaction PFCG, and display the role you want. Go to the Menu tab and select the node where you want to insert the page.

2. Choose Web Dynpro Application from the button Insert Node.

3. From the List of ApplicationTypes choose Application Type: Page
4. You can now do the following:
   - **Create a new page configuration**
     1. To create a new page configuration, from the button Create Configuration Objects choose Create.
     2. Proceed as described in Creating Page Configurations [Page 11].
     3. The page will be displayed in the menu hierarchy under the folder with the symbol [insert symbol].
   - **Create a new page configuration based on a template**
     1. From the Create Configuration Objects menu choose Create with Template.
     2. Choose the template you want from the F4 help, and confirm it. The configuration template is copied to a new configuration of application WDR_CHIP_PAGE. A new component configuration of WDR_CHIP_PAGE is created based on the component configuration in the template. The CHIP catalog specified in the template is referenced in the application configuration.
   - **Use an existing page configuration**
     1. From the button menu (Display Configuration) select the configuration you want:
        - Application Configuration for Page
        - Component Configuration of Page
        - Component Configuration Catalog

     An editor is opened and here you can modify the configuration, if necessary.

     After you have saved it, the page is displayed with this symbol [insert symbol] under the node.

**Enhancing the CHIP Catalog with Entries from the Role Menu**

In SAP NetWeaver Business Client (NWBC) you can offer users the option to display CHIPs based on menu entries in PFCG. From these role menu entries you can embed various objects in a CHIP, for example:

- SAP GUI transactions or reports
- Business Server Pages
- Web Dynpro applications
- Documentation links

You can mark menu entries in PFCG as Invisible, and then they will be not displayed in NWBC and the SAP easy access menu. This means you can provide a range of optional applications in the CHIP catalog, which are then available for users to add to a CHIP page as CHlPs, according to their requirements.

**Procedure**

You can start the CHIP catalog configuration directly from the page in NWBC. To do this, in the configuration mode of the page, choose **Add CHIP** to display the CHIP catalog.

You can then go directly to the correct component configuration by choosing **(Change Catalog Configuration)**.

2. Select line **Selection** on tab page **Component-Defined**.
3. Choose **TRUE** for **Display PFCG CHIPs**. The folders from the role menu are then added to the CHIP catalog.
Implementing Side Panels

Side panels can be used to display additional information about an application in a side panel. For instance, this could be business graphics that illustrate data from a table in the application in the main window.

Procedure

1. There are essentially two different application cases for the side panel:
   - If you want to display a side panel in an application that you cannot access directly, for example, a SAP GUI application, use the side panel in SAP NetWeaver Business Client (NWBC). The page in the side panel is independent of the application running in the content area of the NWBC. You can use tags to set up a connection.
     For more information: Using Pages in the NWBC Side Panel [Page 46]
   - If you want to display a side panel in your Web Dynpro application, you have to enhance the application with a side panel. A page configuration of the Page Builder is then assigned to the side panel. The page in the side panel is then assigned to this Web Dynpro application; both share the same session. A separate editor is provided for designing the side panel, and you can use it to arrange CHIPs in an accordion layout.
     For more information: Enhancing Web Dynpro Applications with a Side Panel [Page 46]

2. In both cases you can use Tags to exchange data between the application in the main window and the CHIPs in the side panel.
   For more information: Tagging [Page 49]

Using Pages in the NWBC Side Panel

In SAP NetWeaver Business Client (NWBC) you can display in the side panel pages created with the Page Builder, and use the full range of options for exchanging data between the application in the NWBC content area and the CHIPs displayed in the side panel on your page.

Procedure

1. You create a page, as described in Creating Pages with the Page Builder [Page 10].
   Note: Since the width of the side panel is restricted, you should use a one-column layout.

2. You can integrate this page into the role menu. You can assign a side panel to individual applications or to the whole menu node in the PFCG.
   For more information: Side Panels.

3. You enable data transfer from the application in the content area to the CHIPs in the side panel.
   For more information: Implementing Tagging [Page 49]

Enhancing Web Dynpro Applications with a Side Panel

The side panel is a docking window added to the right-hand side of the main Web Dynpro application. It enables you to provide additional functions (implemented as CHIPs) for this main application — for example, graphically-rich, or third party CHIPs.

A side panel contains one or more containers arranged in an accordion. Each container in turn can contain one or more CHIPs. The CHIPs in a container are always displayed in one column in the side panel.
The user can open the side panel using the link *Additional Information* in the page header of the Web Dynpro application. The user also has the option of locking the wiring between the Web Dynpro application and the side panel.

**Prerequisites**

A suitable panel must be available.

**Procedure**

1. To be able to display a side panel in your Web Dynpro application, you have to do the following:
   For more information, see *Preparing the Web Dynpro application* [Page 47]

2. Once you go to the side panel in your application, you can decide which page you want to display in the side panel.
   For more information, see *Embedding the Side Panel* [Page 47]

**Preparing the Web Dynpro Application**

To enhance a Web Dynpro application with a side panel, only a few changes have to be made.

**Procedure**

**Add PageHeader**

To display the link that the user needs to open the side panel, you require a *PageHeader* UI element in the View where the panel is to be opened.

1. In your Web Dynpro application go to the View from where the side panel is to be opened, and add a *PageHeader* UI element with ID **PAGE_HEADER**. The name of the ID must be precisely this.

2. In this *PageHeader* add a *TransparentContainer* as a title content.

3. As the Layout for the *TransparentContainer* select *MatrixLayout* or *FlowLayout*.

**Define Action**

1. In this View create an action with the name **OPEN_SIDE_PANEL**, and save it.

2. Go to the action handler method **ONACTIONOPEN_SIDE_PANEL**, and add the following code:

   ```
   cl_wd_side_panel_api=>get_api( )->open( ).
   ```

3. Insert the following coding into method **WDDOINIT** of this view:

   ```
   cl_wd_side_panel_api=>get_api( )->init( view_controller = wd_this->wd_get_api( )
   open_action_name = 'OPEN_SIDE_PANEL' ).
   ```

**Starting the Side Panel Editor**

**Procedure**

*Calling the Runtime Authoring Environment to Create a Side Panel*

1. Create an application configuration of the Web Dynpro application **wdr_chip_page**, as described in *Calling the Page Builder*. 
2. Select this application configuration, and choose Test from the context menu.
3. Add the following parameters to the URL:
   - `page_type=SIDE_PANEL`
   - `side_panel_editor_enabled=X`
   - Depending on which configuration mode you need, add one of the parameters below.
     - If you want to create a client-independent side panel in configuration mode:
       `sap-config-mode=config`
     - If you want to create a client-dependent side panel in customizing mode:
       `sap-config-mode=X`

   The runtime authoring environment of the Page Builder is opened and displays the Side Panel Editor.

   **EXAMPLE**

   The URL then looks like:


   **NOTE**

   You can also start the Side Panel Editor directly from the Web Dynpro application that you want to enhance with a side panel.

   **Embedding the Side Panel**

   Once you have prepared your Web Dynpro application, you can select a side panel and configure it.
   To do this, you need Customizing authorization (authorization object `S_WDR_P13N`)

   For more information, see Authorization Checks for Personlization and Customizing

   **Procedure**

   1. To start the Web Dynpro application you want to enhance with a side panel in customizing mode, choose Test from the context menu of the application, and add URL parameter `sap-config-mode=X`.
   2. Click on Set Additional Information in the page header. The side panel is opened in customizing mode.

   You now have the following options:
   - You can select a side panel:
     1. Choose Use Side Panel.
     2. Use F4 help to select a side panel, and save it.
     3. With the Preview button you can check that you have selected the right side panel.
You can specify whether the side panel can be used. If you choose Do Not Use Side Panel, the link Additional Information, which the user uses to open the side panel, will not be displayed.

You can decide whether the side panel is opened when the application is started.

You can specify whether the user can change the size of the side panel, that is, whether the splitter is active or not.

With Create/Edit you can create a new side panel, or change an existing one.

- To edit an existing side panel, select the configuration name, and choose Create/Edit.
- To create a new side panel, enter the name in the Configuration Name field, and choose Create/Edit.

The side panel editor is started in the mode you have just been working in. For more information, see Creating Side Panels [Page 49]

Creating Side Panels

An adapted version of the Page Builder is provided for creating side panels: the Side Panel Editor. It displays the canvas in the side panel format as an accordion. You can add single AccordionItems as panel entries to the accordion.

Apart from this it has the same functions as the Page Builder.

Prerequisites

You have started the Side Panel Editor in the Page Builder, as described in Starting the Side Panel Editor.

Procedure

Editing the Side Panel

1. To add new entries, choose Add Panel Entry.

2. To change the name of the panel entry, enter the new name in the Panel Entry Name field, and confirm with ENTER.

3. To fill a panel entry with a CHIP, open the CHIP catalog using the link in the PageHeader, choose the CHIP you want, and drag it into the panel entry. For more information, see Adding CHIPS [Page 14]

4. To remove a panel entry, choose \(\text{Edit Container Properties}\), and then Remove Panel Entry.

Implementing Tagging

With tagging you can enable various functions:

- In SAP NetWeaver Business Client (NWBC) you can connect data from the application in the content area with data in a CHIP in the side panel. The implementation is different depending on whether a Web Dynpro application or a SAP GUI application is running in the content area.
Sending and receiving data between the content area and the side panel in NWBC is deactivated by default. To enable tagging, set the indicator for the following application parameters:

- **WDSIDEPANELREMOTEPRODUCER**
  For the Web Dynpro application that is running in the content area of the NWBC to enable tagging data to be sent.

- **WDSIDEPANELREMOTECONSUMER**
  For the application (for example the page created with the Page Builder) that is embedded in the side panel to enable tagging data to be received.

For more information, see [Application Parameters and URL Parameters](#).

- Using tagging, communication between a stand-alone Web Dynpro application and an embedded side panel can be established - this communication is known as wiring.

- Tagging can be used to design the configuration dialog of a CHIP. Tags with special CHIP contracts are used to do this.

**Procedure**

1. Tags can be entered as free text, but we recommend that you group tags together in different namespaces. The [Tagging Framework](#) is provided in Web Dynpro ABAP. The tags you keep here can be used by both the Web Dynpro application and by CHIPs in the side panel.
   For more information: [Implementing Tag Providers](#)

2. In a Web Dynpro application you can set tags either in the program code or at runtime.
   For more information: [Setting Tags for a Web Dynpro Application](#)

3. If the Web Dynpro application is running in the content area of the NWBC, you implement the Canvas Manager to enable tagging.
   For more information: [Enabling Tagging of a WD Application in the NWBC Content Area](#)

4. With the Page Builder you set the tags for different CHIPs either in the program code or in the configuration.
   - If you want to create your own Web Dynpro CHIPs, set the tags in the CHIP ports.
     For more information: [Setting Tags for Web Dynpro CHIPs](#)
   - With *IFrame CHIPs* set the tags in the component configuration of the IFrame component.
     For more information: [IFrame CHIPs](#)
   - With *Web CHIPs* set the tags in the configuration dialog.
     For more information: [Web CHIPs](#)
Result

If there are CHIPS with the same name in the main window and in the side panel of the application, the CHIPS can receive data from the application and respond accordingly with no other steps being necessary.

If an application or a CHIP is prepared appropriately, as an administrator you can use these tags at runtime and create new tags.

More Information

- For information about tagging in a SAP GUI application, see: Side Panel Programming
- For information about CHIP contracts, which you require for using tags for the configuration dialog of a CHIP, see: Defining a CHIP Configuration Dialog [Page 60]

Tagging Framework

Structure

With the tagging framework you can make it easier to manage tags by keeping them in a repository with its own namespace. You use a tag provider to manage this repository and make it available to Web Dynpro applications or CHIPS in the Page Builder.

Tag Repository

A Tag Repository is a central repository for tags. Any number of Tag Repositories can exist. Each Tag Repository is assigned to a unique namespace. A tag can exist once only in a repository. To use tags from a Tag Repository, a Tag Provider with access to the repository must be created.
Tag Provider

A Tag Provider has access to a Tag Repository, and enables tags to be output. To use a Tag Provider at Web Dynpro runtime, it is registered in database table TAG_PROVIDER.

You can find an example implementation in the system in class: CL_WD_TAG_PROVIDER_SAMPLE.

Tag

A tag is a marker on a Web Dynpro entity that cannot be defined in the program code, nor declared. A tag is set on the original node, and not on a mapped node.

The following is valid for tags:

- A tag is a string without special characters or blank characters; underscores can be used as separators.
- A tag is case-sensitive.
- A tag can only be set for a non-structured value; tables and structures are not currently supported.
- Multiple tags can be set for one entity.
- The activity of tags is independent of the visibility of a particular UI element.

Tags can be assigned to a namespace, which is described by a prefix. The prefix is separated from the actual tag name by a colon.

A namespace is case-sensitive, and can have a maximum of 30 characters, consisting only of letters A–Z, numbers 0–9, and an underscore _.

You can use the namespaces registered at SAP, or create your own namespaces in the customer namespace. If you create your own, they have to start with a z or Z and can only contain the characters valid for tags.

Examples of valid tags:

- Tag
- /IWDA/:JustAnotherTag
- zMyNamespace:MyTag

Implementing Tag Providers

With a tag provider you can access a tag repository with its own namespace. This ensures that the tags are unique. Tags provided by a tag provider can be used in Web Dynpro applications and in CHIPS.

Procedure

1. To implement your own tag provider, and to make this known to Web Dynpro ABAP runtime, you implement interface IF_WD_TAG_PROVIDER in a class of your choice.
2. Enter this tag provider in database table TAG_PROVIDER.
Note: Field LAST_CHANGE currently does not have a reference.

3. Activate the namespace using Web Dynpro application WDR_TAG_PROVIDER.

Note: The change is not written to a transport request and is therefore not transported.

More Information

You can find a test implementation in the system in component CL_WD_TAG_PROVIDER_SAMPLE.

Setting Tags for a Web Dynpro Application

Tags enable access to the values of Web Dynpro context attributes. A tag relates to the context attribute. Tags are always set in the original node. This means that if a context attribute exists in a view through mapping, the tag is stored in the original controller and the path of the original controller, and not in the view controller and the path of the view.

Procedure

Setting Tags in the Program Code

To set tags in the program code, use interface IF_WD_TAGGING_SERVICE.

Note: A tag set in the program code can be deleted in customizing. The tag beginning with a tilde character (~) is stored in the tag list in customizing.

Declaring Tags at Runtime

Administrators can declare tags for a UI element. The prerequisite for this is that the UI element has a primary property and that this is bound to a context attribute. The tag is then set for this context attribute.

1. Start the Web Dynpro application in the customizing mode as described in Customizing Web Dynpro Applications.
2. Call the context menu of the required UI element, and choose Tags → Manage Tags.... A dialog box appears displaying the available tags.
3. Create the required tag and confirm with OK.
4. Select the relevant transport request.

Note: When tag details are transported, all currently active tags are written to the selected transport request.

You can check the tagging in Web Dynpro test application WDR_TEST_TAGGING.

Enabling Tagging of a WD Application in the NWBC Content Area

If a Web Dynpro application is running in the content area of the SAP NetWeaver Business Client (NWBC), a few steps are necessary for data to be transferred to the side panel and update events to be responded to.

Note: FPM applications and pages created with the Page Builder are activated by default.
Procedure

1. To initialize the Canvas Manager, insert the following source code into the WD.DOINIT method of the relevant view:

   ```
   cl_chip_wd_canvas_manager=>get_instance( )->init( canvas_view_controller = wd_this->
   wd_get_api( ) canvas_portal_event_action = 'PORTAL_EVENT_CANVAS' ).
   ```

2. Implement an action handler in the view, for example, PORTAL_EVENT_CANVAS:

   ```
   method onactionportal_event_canvas .
   cl_chip_wd_canvas_manager=>get_instance( )->hndl_portal_event( event = wdevent ).
   endmethod.
   ```

3. (Optional) the life cycle of the Canvas Manager is ended when the life cycle of the view ends. You can also exit the Canvas Manager directly:

   ```
   method wddoexit.
   cl_chip_wd_canvas_manager=>get_instance( )->destroy( canvas_view_controller =
   wd_this->wd_get_api( ) ).
   endmethod.
   ```

Setting Tags for Web Dynpro CHIPS

With tagging you can enable various functions for Web Dynpro ABAP Page Builder:

- Tagging enables communication between a Web Dynpro application and a side panel - this communication is known as automatic Wiring. For more information: Setting Up Tagging in the Side Panel [Page 54]

- Tagging can be used to design the configuration dialog of a CHIP. For more information: Defining a CHIP Configuration Dialog [Page 60]

You can add tags to inports and outports and their parameters.

Procedure

Setting Tags for Web Dynpro CHIPS

1. On tab Imports or Outports of your CHIP choose Show Tags for the required port or parameter.
2. Enter a unique name for the tag or use input help to select a tag with a specific CHIP contract.

Setting Up Tagging in the Side Panel

Tagging (automatic wiring) is provided for you to set up a connection between an application whose data is needed (a Web Dynpro application or an application in the NWBC content area) and the CHIP in the side panel.

The tags in the Web Dynpro application must be unique, that is, a specific tag can only be used once within a Web Dynpro application. The data types of the Web Dynpro context and the CHIP inport parameter with tags of the same name must be compatible so that automatic wiring can run.
Prerequisites

- The CHIP must contain Inport parameters with tags.
- The fields that you want to connect with tagging must have the same data structure.

Procedure

1. Select a field in your Web Dynpro application, such as a table column or an Input Field, open the context menu, and choose Tags → Manage Tags.
2. Define a new tag with the same ID as the tag of the corresponding inport parameter of the CHIP in the side panel, and confirm with Add.

Creating Web Dynpro CHIPS

A Web Dynpro CHIP is based on a Web Dynpro ABAP component for which you can create a CHIP.

Authorizations

To create Web Dynpro CHIPS you need developer authorization (S_DEVELOP) for OBJTYPE = WDCP.

Procedure

1. If the Web Dynpro CHIP is to transfer or receive data, you need the relevant events or methods to be able to create ports later. For more information, see Preparing the Web Dynpro Component [Page 55]
2. Then you can create the Web Dynpro CHIP. For more information, see Creating Web Dynpro CHIPS, [Page 57]
3. Inport and outports are needed to enable wiring in the runtime environment of the Page Builder. For more information, see Defining Ports for the Wiring [Page 59]
4. If you want your CHIP to support tagging, you can create tags for inports and outports and for the respective parameters. For more information, see Setting Tags for Web Dynpro CHIPS [Page 54]
5. You can provide a configuration dialog for the users of your Web Dynpro CHIPS. For more information, see Defining a CHIP Configuration Dialog [Page 60]
6. You can also implement CHIPS for embedded Web Dynpro components, or for ABAP classes. In this case though you cannot use ABAP Workbench functions. For more information, see Implementing CHIPS Dynamically [Page 64]

Preparing the Web Dynpro Component

Whether you have to change your Web Dynpro component to enable it to be used as a CHIP depends on how it is to be used. If you only want to display the Web Dynpro component and use its functions, you only have to create one CHIP for the component. If you want your component to have ports for communicating with other CHIPS, further steps are necessary.

Components of the Dictionary structure that are based on the port type can be used as inport and outport parameters provided the component type is an elementary data type. Table types of simple Dictionary structures can also be used.
Nested structures, table types, and reference types are not permitted. Dictionary structure components of this type therefore cannot be selected as port parameters.

**Procedure**

- To create an outport in your CHIP, you have to fire an event in your Web Dynpro component. For more information, see [Defining an Event for an Outport](Page 56).

- To create an inport in your CHIP, you have to implement a method in your Web Dynpro component with which you can process, for instance, the data that has been transferred through wiring from another CHIP. For more information, see [Defining a Method for an Inport](Page 56)

**Defining an Event for an Outport**

If your CHIP is to have an outport so that it can connect to another CHIP, in the component controller create an event that you can use to fire a wiring to the other CHIP.

**Procedure**

1. Go to the component controller of your Web Dynpro component, open it with a double-click, and choose the Events tab.
2. Create a new event, for example, with the name OUTPORT_EVT, and set the Interface flag.
3. Create a parameter for this event, for example, with the name PARAM_OUT that has a Dictionary structure as the reference type.
4. Go to the action handler method from where the event is to be fired, for example, as a response to a button click, and open the Web Dynpro Code Wizard here.
5. Choose the General tab, then Method Call in Used Controller, and select the event method of the COMPONENTCONTROLLER that you created in step 2. For event OUTPORT_EVT this is method FIRE_OUTPORT_EVENT_EVT.
6. Fill the parameter with an appropriate local variable. The code looks like this:

   ```
   lo_componentcontroller->fire_outport_event_evt( outparam = ls_search ).
   ```

7. You can reference this event when you create the outport for the CHIP.

   For more information: [Creating Web Dynpro CHIPS](Page 57)

**Defining a Method for an Inport**

If you want your CHIP to have an inport so that it can be accessed from another CHIP, in the component controller create a method that you can use for the response.

**Procedure**

1. Go to the component controller of your Web Dynpro component, open it with a double-click, and choose the Methods tab.
2. Create a method, for example, with the name IMPORT_METH, and set the interface flag.
3. Create an importing parameter for this method, for example, PARAM_IN, and select an appropriate Dictionary structure as the reference type.
**Note:** We recommend you write the data you want to pass with the parameter to the context in order to prevent data loss.

4. You can reference this method when you create the import for the CHIP.

**Creating Web Dynpro CHIPS**

In Web Dynpro ABAP you can create a CHIP based on a Web Dynpro component, which will then be automatically displayed in the CHIP catalog of the runtime authoring environment of the Page Builder.

**Procedure**

1. Select a Web Dynpro component, for example, `MY_COMP`, open the context menu, and choose `Create` → `Web Dynpro CHIP`.

2. Enter a name for the CHIP, for example, `MY_COMP_CHIP`, and check the properties.
   - Component: `MY_COMP`
   - Interface view: main window of your component
   - Plug name: `DEFAULT plug` of your component

3. Select an appropriate CHIP icon.

4. (Optional). If you want there to be only one instance of your CHIP at runtime, set the indicator for `Static CHIP`. This is necessary, for example, if you want to use the FPM or the POWL as the CHIP.

5. (Optional). If you want your CHIP to be able to be called remotely, set the indicator for `Remote-Enabled`.

6. Save.

**Result**

After you have created and saved the CHIP, it is automatically available in the CHIP catalog and ready for use. If it is not visible, refresh the display.

**Setting Layout Properties of a CHIP**

You can define the layout properties of a CHIP in the program code. These include:

- **Height**
  Here you enter the height of the CHIP as a string. Enter the number followed by `px` to ensure the height is displayed in pixels.

- **Padding**
  Here you can decide whether a padding is displayed in the CHIP.

- **Height can be stretched**
  Here you can decide whether the height of the CHIP is stretched if there is enough space on the page or in the line.

  With Web CHIPS this property is set in the configuration dialog.

- **Full screen possible**
  You can decide whether the user can display the CHIP in full screen mode. In the options menu the
entry Full Screen is shown, enabling the user to display this CHIP on the whole page.

- Open in new window
  Here you can decide whether a CHIP can be executed remotely. In the options menu the entry Open in New Window is shown.

  ![Image](image.png)
  You can find the example component WDR_TEST_CHIP_FULLSCREEN in the system.

- Set Separate Tray Menu
  You can set your own options menu for a CHIP.

  ![Image](image.png)
  You can find the example component WDR_TEST_CHIP_TRAY_ACTION in the system.

### Procedure

#### Setting the Layout Property Dynamically

Using interface IF_CHIP_API you can implement these properties using the following methods:

- SET_CHIP_PADDING
- SET_CHIP_HEIGHT
- SET_CHIP_STRETCH_HEIGHT
- SET_EXEC_FULLSCREEN
- SET_CUSTOM_TRAY_MENU

The source code could look like:

```abap
try.
  wd_this->m_chip_api->set_chip_height( chip_height = chip_size_config->height ).
  wd_this->m_chip_api->set_chip_stretch_height( chip_stretch_height = chip_size_config->stretch_height ).
  wd_this->m_chip_api->set_custom_tray_menu( chip_size = chip_size_config ).
  catch cx_chip_size.
  endtry.
  wd_this->m_chip_api->set_chip_padding( abap_false ) .
```

### Setting the Layout Property Statically

You can set these properties statically with CHIP_PARAMETERS constants using interface IF_CHIP_DEFINITION.

- CO_PARAM_EXECUTE_REMOTE
- CO_PARAM_FULLSCREEN
- CO_PARAM_CHIP_PADDING
- CO_PARAM_CHIP_HEIGHT
- CO_PARAM_CHIP_STRETCH_HEIGHT
For All CHIPS of a CHIP Provider

You can set these layout properties for all the CHIPS belonging to a CHIP provider. You can specify these properties in your CHIP_PROVIDER when you create the CHIP_DEFINITION. This could look like: `CL_CHIP_PROVIDER_PFCG -> IF_CHIP_PROVIDER~GET_CHIP_DEFINITION`.

```abap
ls_chip_parameter-name = if_chip_definition=>co_param_execute_remote.
ls_chip_parameter-value = abap_true.
insert ls_chip_parameter into table lt_chip_parameters.
create object chip_definition type cl_chip_definition
exporting
name = chip_name
display_names = lt_display_names
descriptions = lt_descriptions
icon = <ls_tree>-icon
chip_description = l_chip_description
chip_parameters = lt_chip_parameters
custom_parameters = lt_custom_parameters.
```

For the CHIPS of a Web Dynpro Component

In a Web Dynpro assistance class you can change the static CHIP_DEFINITION parameter using ABAP interface `IF_CHIP_DEFINITION_MODIFIER`.

```
You can find an example in the system in the Web Dynpro component WDR_TEST_CHIP_FULLSCREEN. In assistance class CL_WDR_TEST_CHIP_FULLSCREEN_AS you can find method IF_CHIP_DEFINITION_MODIFIER~MODIFY
```

```abap
data chip_parameter type chip_definition_parameter.
chip_parameter-name = if_chip_definition=>co_param_fullscreen.
chip_parameter-value = abap_true.
insert chip_parameter into table chip_parameters.
if sy-subrc = 4.
modify table chip_parameters from chip_parameter.
endif.
```

Defining Ports for the Wiring

Procedure

Ports are needed to enable wiring in the runtime environment of the Page Builder.

1. If you need Inports, switch to the Inports tab page, and choose Create Ports. The interface methods of your Web Dynpro component will be displayed.

   If the message No port available appears, you have not created any interface methods in your Web Dynpro component, or else you have not selected an appropriate dictionary structure as a parameter. For more information, see Preparing the Web Dynpro Component [Page 55]

2. Create the necessary port parameters.
3. If you need outports, switch to the Outports tab, and repeat steps 1 and 2 for the interface events of your Web Dynpro component. Here only the events that you flagged as interface events are displayed.

**Note:** If you respond to inport events in an embedded Web Dynpro component or in an ABAP class, or you want to fire outport events, you can write this in the program code. For more information, see *Implementing CHIPS Dynamically* [Page 64]

### Defining a CHIP Configuration Dialog

The configuration dialog of a CHIP in Web Dynpro ABAP Page Builder consists of two components:

**Options Menu**

From the *Options Menu* in the CHIP tray the user can open a menu with various setting options. Some of these settings are valid for all CHIPS, others you configure for a specific CHIP.

![Options Menu of a CHIP](image)

**Note:** The *Full Screen* and *Open in New Window* options are not automatically available to each CHIP. But you can activate them for your CHIP. See also: *Setting Layout Properties for the CHIP* [Page 57]

**Configuration Dialog Box**

The user can open the configuration dialog from a menu entry. You define and configure this configuration using the inport parameters.

The figure below shows this box, using the favorites list as an example:
You can define the options for a specific CHIP and the configuration dialog box yourself.

**Procedure**

1. To define the menu entry and the configuration dialog, define a specific import and parameter for your CHIP. 
   More information: [Creating a CHIP Configuration Dialog](#) [Page 61]

2. All the settings are initially available on each adaptation level. However, many of the settings are only relevant for certain users, for example, for an administrator. You can hide menu entries for the relevant adaptation level. 
   More information: [Hiding Entries in the CHIP Configuration Dialog](#) [Page 62]

3. You set an initial default value in the program code, which is then generally available to the CHIP. This value is used again if you choose *Reset* in the configuration dialog. 
   More information: [Setting Initial Default Values for the Configuration Dialog](#) [Page 63]

**Creating a CHIP Configuration Dialog**

You create a CHIP configuration dialog using an import with a special CHIP contract, which you use to define the entry in the options menu, and using parameters of this entry to define the entries in the configuration dialog box.

**Procedure**

**Creating an Entry in the CHIP Options Menu**

1. You are on the *Import* tab of your CHIP. Choose *Create Ports*, and select the interface method you want.

2. To define the entry for the options menu of the CHIP, enter the name you want as the *Display Name*, for example, CHIP Settings.

3. Choose *Show Tags*, and then *Append Line*.


**Result**

The relevant imports will be displayed in the options menu of your CHIP:
Creating an Entry in the Configuration Dialog

If the user selects an entry in the options menu (selects 1 or 2 in the example above), the configuration dialog box opens. You define these entries in the configuration dialog using parameters in the relevant import. The possible parameters come from the data structure of the import.

- On the Inports tab select the relevant Inbound Port, and create the required parameters. Each parameter produces one entry in the configuration dialog. Depending on the data type an InputField or a checkbox is displayed for entering the values. The display name determines the label.

Note

The values of these parameters can be translated if you use a datatype based on domain CHIP_CONFIG_TRANS_TEXT for the parameter, or if you use the data element with the same name.

Language-dependent texts are persisted in the following way:

- For configuration in table WDY_CONFIG_COMPT
- For customizing and personalization in table WDY_CONF_USERT2

Hiding Entries in the CHIP Configuration Dialog

Many options in the configuration dialog are only relevant for certain user groups. An entry that you defined for the options menu is initially available to users in all adaptations layers. You can hide the whole configuration dialog or single entries in each adaptation layer.

Procedure

1. You are on the Inports tab of your CHIP and you have chosen Show Tags.
2. To hide a single entry in the configuration dialog, add one of the following tags to the import parameter:
   - For the configuration layer: CHIP_ATTRIBUTE:CONFIGURATION_HIDDEN
   - For the customizing layer: CHIP_ATTRIBUTE:CUSTOMIZING_HIDDEN
   - For the end user: CHIP_ATTRIBUTE:PERSONALIZATION_HIDDEN
3. To hide the whole configuration dialog, add the relevant tag directly to the import.

**Result**

The option is no longer displayed in the mode in question.

**Setting Initial Default Values for the Configuration Dialog**

For an initial default value to be available at runtime, it must be retrieved when the CHIP is started. To do this, you need an outport event that can be fired when the CHIP is initialized. For this you need interface `IF_CHIP_API`.

**Procedure**

**Implementing Interface IF_CHIP_API to Fire Event to Save Default Values**

1. To implement interface `IF_CHIP_API`, choose Change in the context menu of your Web Dynpro component, and then choose tab Implemented Interfaces.
2. Choose the name `IF_CHIP_API` and save it.
3. Choose button Reimplement, which is now visible in column Action.

After the interface has been activated, there are two new methods available in the component controller:

- `CHIP_DO_INIT`
- `CHIP_DO_EXIT`

You need method `CHIP_DO_INIT` to fire the outport event with which the default values for the CHIP are set.

4. Go to method `CHIP_DO_INIT` and set the default values you want.
5. Open the Web Dynpro code wizard, choose Method Call in Current Controller, and select the relevant event handler method.
6. Pass the parameter value to this method.

**Creating an Outport with an Appropriate Tag**

CHIP contract `INITIAL_VALUE_CONFIGURATION_OUTPORT` enables you to set default values for settings in the configuration dialog on different adaptation layers and to persist these values.

1. Create an interface event with an appropriate parameter, as described in Defining an Event for an Outport [Page 56].
2. In the context menu of the CHIP choose Change, and go to the Outports tab.
3. Create a new outport with the necessary parameters.
Caution

In the configuration mode, in addition to *Copy* (directly in the configuration dialog), the whole page must also be saved to persist a default value.

**Example**

For an `SAVE_DEFAULTS` event with a parameter of type `SPFLI` the source code may look like:

```plaintext
DATA ls_spfli TYPE SPFLI.
  ls_spfli-CARRID = 'LH'.
  wd_this->fire_event_save_defaults_evt( config_data = ls_spfli ).
```

**Implementing CHIPs Dynamically**

If you want to implement a CHIP in an embedded Web Dynpro component (for example, as in the Floorplan Manager (FPM) in a Custom UIBB Component) or in an ABAP class (for example, as in the personal object worklist (POWL) in a feeder class or in FPM in a Generic UIBB), you can access ABAP interface `IF_CHIP_API`, in order to receive inport events and fire outport events, for instance.

**Procedure**

**Using CHIPs in an Embedded Web Dynpro Component**

1. In an embedded component you use the following source code to access ABAP interface `IF_CHIP_API`.

   ```plaintext
   data l_chip_api type ref to if_chip_api.
   l_chip_api = cl_chip_api_util=>get_chip_api( wd_this->wd_get_api( )->get_component( ) ).
   if l_chip_api is bound.
      " WD component is embedded in a CHIP and CHIP is already started
   endif.
   ```

**Using CHIPs in an ABAP Class**

1. In an ABAP feeder class you use the following source code to access ABAP interface `IF_CHIP_API`.

   ```plaintext
   data l_chip_api type ref to if_chip_api.
   l_chip_api = cl_chip_api_util=>get_chip_api_for_static_chip( ).
   if l_chip_api is bound.
      " ABAP class is used in the context of a static CHIP and CHIP is already started
   endif.
   ```

**Note:** The prerequisite for accessing ABAP Interface `IF_CHIP_API` from an ABAP class is that the used CHIP has property *Static CHIP*. This gives you access to the methods of the ABAP interface `IF_CHIP_API`, for example, to register inport events or fire outport events.
Page Builder Reference

Help Classes for Administration of Customizing and Personalization

Features

Using the following methods, obsolete configurations in customizing and personalization can be identified in the program code.

The following methods are available:

```java
cl_chip_page_conf_check=>check_customizing( )
cl_chip_page_conf_check=>check_personalization( )
```

Using the following methods you can find out which pages exist on the different layers:

```java
cl_chip_page_conf_util=>get_pages( ).
c1_chip_page_cust_util=>get_pages( ).
c1_chip_page_pers_util=>get_pages( ).
```

Using the following methods you can delete pages in the different configuration layers:

```java
cl_chip_page_conf_util=>delete( ).
c1_chip_page_cust_util=>delete( ).
c1_chip_page_pers_util=>delete( ).
```

CHIP Attributes and CHIP Contracts

Using special tags inports and outports and their parameters can be assigned attributes and contracts.

Features

CHIP Attributes

A CHIP attribute defines special properties of a port or parameter.

<table>
<thead>
<tr>
<th>Attribute Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHIP_ATTRIBUTE:CONFIG_PORT_SCOPE_ALL</td>
<td>Special attribute for the Display Area (Work Area) [Page 32]. Multiple CHIPS can be embedded in the display area at runtime. If these CHIPS have configuration ports with the same signature and this tag is set for all of them, the value only has to be set once in the configuration, and will then apply to all other CHIPS.</td>
</tr>
</tbody>
</table>

Visibility of Configuration Inport Parameters in Various Adaptation Layers

<table>
<thead>
<tr>
<th>CHIP_ATTRIBUTE:CONFIGURATION_HIDDEN</th>
<th>You can restrict the visibility of a configuration inport parameter for each configuration layer individually by adding the relevant tag to the parameter. In this way you can also restrict access to a port for the various layers.</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHIP_ATTRIBUTE:PERSONALIZATION_HIDDEN</td>
<td></td>
</tr>
</tbody>
</table>
Compatible Changes in CHIP Definition

You can also set enhanced port parameters to deprecated. To do this, add the two tags
CHIP_ATTRIBUTE:PORT_PARAMETER_ENHANCED and
CHIP_ATTRIBUTE:PORT_PARAMETER_DEPRECATED to the port parameter.

<table>
<thead>
<tr>
<th>CHIP_ATTRIBUTE:PORT_PARAMETER_DEPRECATED</th>
<th>The port parameter will be deprecated once the CHIP has been delivered.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>If you use this tag to set a port parameter to deprecated, the parameter in the CHIP implementation can be ignored and default values are not set. The cardinality of table-type configurations is retained.</td>
</tr>
<tr>
<td>CHIP_ATTRIBUTE:PORT_PARAMETER_ENHANCED</td>
<td>The port parameter is added once the CHIP has been delivered.</td>
</tr>
<tr>
<td></td>
<td>If you use this tag to set a port parameter to enhanced, the new parameter has an initial value. Default values are not set. The cardinality of table-type configurations is retained.</td>
</tr>
</tbody>
</table>

CHIP Contracts

A contract specifies how a CHIP, and in particular its imports and outports, can be used.

<table>
<thead>
<tr>
<th>CHIP Contracts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name of CHIP Contract</td>
</tr>
<tr>
<td>---------------------</td>
</tr>
<tr>
<td>Configuration ports</td>
</tr>
<tr>
<td>A configuration outport must have the same port signature as the corresponding configuration inport. The signature of the corresponding configuration inport must be unique for all inports of this CHIP. The port signature is defined by the data types of the port parameters and by the tags of ports and parameters that do not define a CHIP contract.</td>
</tr>
<tr>
<td>CHIP_CON...</td>
</tr>
<tr>
<td>CHIP_CON...</td>
</tr>
<tr>
<td>CHIP_CON...</td>
</tr>
<tr>
<td>CHIP_CON...</td>
</tr>
<tr>
<td>CHIP_CON...</td>
</tr>
</tbody>
</table>
Contracts of Process Steps

These contracts are required so that a CHIP can interact with BPM.

<table>
<thead>
<tr>
<th>Contract</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHIP_CONTRACT:PROCESS_STEP_END_POINT</td>
<td>Process step end point of a human activity in BPM</td>
</tr>
<tr>
<td>CHIP_CONTRACT:PROCESS_STEP_START_POINT</td>
<td>Process step start point of a human activity in BPM</td>
</tr>
</tbody>
</table>

Wiring Contracts

These contracts are automatically (and invisibly) added to a port if no tag is created for this port. With these contracts wiring also can be enabled for ports that have a tag.

More information: [Defining Ports for the Wiring](#) [Page 59]

<table>
<thead>
<tr>
<th>Contract</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHIP_CONTRACT:WIRING_INPORT</td>
<td>This inport is used to receive data through wiring.</td>
</tr>
<tr>
<td>CHIP_CONTRACT:WIRING_OUTPORT</td>
<td>This outport is used to send data through wiring.</td>
</tr>
</tbody>
</table>

Related Content

[SAP NetWeaver Business Client](#)

Read especially the chapters about side panel programming