Applies to:
Business Rules Framework plus shipped with SAP NetWeaver 7.0 Enhancement Package 1.

Summary
The paper introduces the workbench of the Business Rules Framework plus. You will get an overview about the functionalities of the workbench and how to use it.

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Overview

Scope
The scope of this document is limited to an abstract overview of working with the BRFplus workbench. The BRFplus workbench is a user interface (UI) that enables rules experts or developers to define, test, and maintain rules for various business scenarios. The tools provided by the workbench and their respective functionalities are discussed in this document.

The document is intended for the following user groups:
- Developers
- Rules Experts
- Business Users

Prerequisites

Authorization
To use the workbench, you need to be assigned to a role containing the following authorization objects:

<table>
<thead>
<tr>
<th>Authority Object</th>
<th>Field</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>S_TCODE</td>
<td>TCD = 'FDT_WORKBENCH'</td>
<td>This authority check is only executed if you use the transaction FDT_WORKBENCH.</td>
</tr>
<tr>
<td>FDT_OBJECT</td>
<td>FDT_ACT (Activity)</td>
<td>You can define the allowed activities (for example, Create, Change) for an object. It is also possible to specify the application and the object type.</td>
</tr>
<tr>
<td></td>
<td>FDT_OBJTYP (Object Type)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>FDT_APPL (Application)</td>
<td></td>
</tr>
<tr>
<td>FDT_WORKB</td>
<td>FDT_WB_ACT (Workbench Activity)</td>
<td>This authority object defines the general access to the workbench (Activity: Start Workbench) and its tools.</td>
</tr>
</tbody>
</table>

SAP delivers the standard role SAP_BC_FDT_ADMINISTRATOR which contains all the necessary authorizations to run the workbench.

WD Configuration
You need to activate the ICF service /sap/bc/webdynpro/sap/fdt_wd_workbench to use the workbench.
In SAP note 1088717, you will find more information on how to activate a node.

Using the Workbench

Starting the Workbench
FDT_WORKBENCH is the transaction that enables you to start or navigate to the workbench. This transaction opens up the workbench in a new window, which is basically an internet browser page as shown below.

Note: The screenshots in this document were taken during development. There may be some slight variations with the version you have.
The BRFplus Workbench page has a Repository view and a Favorites and Recently Used view. By default, the page displays the Recently Used list under the Favorites and Recently Used view.

You can also start the workbench by running the Web Dynpro application, FDT_WD_WORKBENCH.

Objects (application, data object, function, expression) which are created in the workbench have a unique ID. This ID can also be used as an ID parameter in the Web Dynpro application.
Understanding the User Interface

The workbench consists of two main panels, the *Navigation Panel* and the *Object Manager or Details Panel*. The workbench also provides some general features through the *Menu Bar*. The *Status Bar* shows the backend system or the client on which you are currently working. The image below shows the main UI components of the workbench.

Working with BRFplus Objects

**Views**

Views provide a means of navigation to the workbench objects. There are two views available in the workbench. They are:

- *Repository View* – This view not only provides a means of navigation to the workbench objects but also enables you to create new objects.
- *Personalized View* – This view shows the *Favorites and Recently Used* objects.

These views can be selected from the top of the *Navigation Panel* of the workbench.
Repository View

You can create applications and other required objects for the applications using the Repository view. It also provides a comprehensive view of all existing applications and their corresponding objects under the current user ID. Application nodes are at the highest level and contain sub-nodes such as catalogs, data objects, expressions, and functions.

Creating an Application

Procedure

1. In the menu bar, choose Workbench -> Create Application…

2. In the Object Creation dialog box that appears, enter the relevant details in the Name, Storage Type and Development Package fields.
You can find information about the different storage types as shown above. The new application appears in the *Navigation Panel*. 
Creating Objects

To create different objects (catalogs, data objects, expressions, expression types, rulesets), you can use the context menu. The newly created objects appear as sub-nodes to the application parent node as shown in the images below.
Personalized View

The personalized view refers to the Favorites and Recently Used view that you will find on the Navigation Panel. There are two options available for this view:

- Favorites
- Recently Used.

Personalized view enables you to easily navigate to the objects without going through the nested nodal tree structure in the Repository view. It not only helps in easy navigation but also saves navigation time and effort.

Objects are automatically added under the Recently Used tab depending on the current usage of the objects. Objects that you have used recently are displayed at the top of the list. Objects are added to the Favorites list by choosing Add to favorites from the context menu of the object. Objects from the Recently Used list can also be added to the Favorites list. Objects can be added to the Favorites list by choosing Workbench → Add Current Object to Favorites in the menu bar.
**Details Section**

The details panel shows the information and the content of the particular object in selection. This view panel can be divided into three sub-sections for an easy study and detailed understanding of each sub-section.

**Application Toolbar Section**

*Back* – Allows you to navigate back to the previously edited object
*Change < – > Display* – Enables you to toggle between display mode and edit mode
*Save* – Saves the current object in selection
*Check* – Performs compilation checks for the currently selected object
*Activate* – Activates the currently selected object
*Transport* – Writes the changed data to a transport request

**Delete** - There are three options available with the *Delete* button.

- **Delete**
  
  Deletes the currently selected object

- **Mark For Delete**
  
  You can mark the current object for deletion by selecting *Mark For Delete*.

- **Delete Only Objects Marked For Delete**
  
  The selected object can be deleted later by selecting *Delete Only Objects Marked For Delete*. This option is available only for application objects because the delete function is focused on the objects marked for deletion in the scope of this particular application.
Change Status – Enables you to mark the object as obsolete

You Can Also

The following options are available under the You Can Also drop down menu:

- **Copy Object** – Enables you to copy the object into the same application or a different application
- **Display Where Used List** – Displays all the usages of the current object in a popup window
  
  This option is also available under each object node in the navigation panel. It provides information about which objects will be affected by the changes in the current object. With this feature, you can see the object’s dependency relations to other objects. This helps to prevent inconsistencies when trying to delete those objects.
- **Display Object History** – Displays the history of changes made to a particular object within a given time frame

General Section

Information like name of the object, short text, application to which the object belongs as well as the access level are shown in the general section. These details are shown, by default, when an object is selected in the workbench.

Detailed information of the object like object ID, date and time of the object creation and so on can also be viewed by clicking the Show More button. The Show More button also shows other related information like texts, documentation and the version of the object under their respective tabs. These tabs are common for any object that is selected.
Options Menu Tray

The Options Menu Tray has two options:

- **Rename Object** – Renames the object
- **Set Versioning On** – Enables versioning of the object.

Collapsible Tray

Shows and hides the General section.

Detail Section

This is an object specific section. The Detail section is the work area where you can define the content of the object.

Options Menu Tray – Displays if any options are available for the selected data object type

- For an application object selection, this menu tray shows the Application Clean up Tool.
- For data objects, the menu tray is empty.

**Note:** The Options Menu Tray depends upon the object type in selection.

Collapse Tray – Shows and hides the details section.
Menu Bar Options

Workbench

*Show Object* – Enables you to navigate to a particular object by entering the object ID

*Legend* – Describes the various symbols or legends or icons that have been used for the workbench UI

*Show Current Object in Repository* – Enables you to narrow down your selection and work on a specific object in the *Repository* view.

*Add Current Object to Favorites*

Tools

The workbench tools can be accessed from the *Tools* menu as shown below.
Application Usage

The application usage tool queries the applications that are being used by the selected application. It also queries other applications using the selected application. The type and scope of the query can be selected. After these options are selected, the query can be executed by clicking the Start Query button. The query results are displayed in a tabular form.

Application Cleanup

The application cleanup tool finds unused named and unnamed expressions, data objects within the selected application. In general, unused expressions and data objects can result when:

- You create test objects to check some rules or expressions or rules logic and then forget to delete them
- You delete objects from the application and the dependent objects of the deleted entity become unused

You can select a single as well as multiple objects from the Unused Objects list and delete them. The tool cleans up the application and keeps only the relevant and required expressions and data objects. You can select one object or multiple objects from the list and delete them as part of cleaning the application. You can keep only the relevant and required expressions and data objects.
Simulation

The simulation tool tests and runs the developed rules. The tool generates results after the developed rules are processed. As a starting point for the simulation, you choose a function. The tool can be accessed from the menu bar as well as by navigating to the specific function. The Detail section of the function has a Start Simulation button.

In general, a function has a context and a result data object. The context data object contains the input data, and the result data object yields the output data. When the function is simulated, the context data objects appear as input fields on the screen.

There are two simulation modes. They are

- **Show Only Result**
  - Executes all applicable rules of a function at once and shows the final result

- **Show also Results of Intermediate Steps**
  - Shows the intermediate or sequential execution of each single rule that occurs at runtime, along with the final result

By default, Show Only Result is selected.
The *Show also Results of Intermediate Steps* mode of simulation helps you to track the rule execution flow and take necessary corrective actions if the rule execution is not correct. A sample screenshot of a simulation run is shown below.

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### Trace

Trace is a step-by-step explanation for processing a function. This tool helps you to access information that has been logged while processing a function or an expression. The information generated is helpful for understanding the rule execution and may even be legally required.

**Note:** Trace may slow down performance as it brings in many additional method calls and DB communication.

### Prerequisites

This tool can only be used for those functions in which *Internal Commit* or *External Commit* option is selected under the *Trace Mode* field.

### Example

A function runs $n$ times. If you want to see what has happened at a specific point in time, you can run the function with the proper trace mode and check if anything went wrong. The results of each step can be seen.

### Transport Analysis

This tool analyzes the BRFplus objects in a transport request. The consistency of all the objects in the request can be checked. Objects with errors or inconsistencies are shown after the consistency check. The tool also provides an option to navigate to the affected objects and correct the errors or inconsistencies.
Open transport requests, specific transport requests, and inactive imported transports can also be checked.

**Webservice Generation**

The webservice generation tool helps a third-party user to process the rules defined in BRFplus. The tool also helps the third-party user to create web services with minimal interaction.

**Example**

You need to work on more than one product at a time. Rules are defined in BRFplus and these rules (in coding) are used as input in a different product. In such a situation, assign the rules created in BRFplus to a function. Generate a webservice, process the function and invoke the webservice from any environment, for example, in a Java environment.

![Webservice Generation](image)

**XML Export and Import**

The XML export and import tool enables you to transport customizing objects from different systems which support BRFplus. An XML file is generated for the object that you want to export from the source system. This file can then be imported into the target system.

**More Information**

XML Export and Import SDN paper

**Exit Workbench**

This is the recommended way to exit the workbench as it prevents any loss of data. The *Exit* option is available under the *General* tab of the menu bar.
Other UI Options

*Hide Navigation* toggle button hides and shows the navigation panel in the workbench UI. There are also two more icons (− and +) next to the toggle button. The − button decreases the width of the navigation panel and the + button expands the navigation panel. These options are useful to adapt the UI work area to your individual needs.
Related Content

- BRFplus – The Very Basics
- Expression and Action Types
- Using BRFplus with Third-Party Rules Engine
- Carsten Ziegler, *About Business Rules*
- Carsten Ziegler, *Important Information for Using BRFplus*
- Carsten Ziegler, *BRFplus a Business Rule Engine written in ABAP*
- Rajagopalan Narayanan, *Business Rules and Software Requirements*, [https://www.sdn.sap.com/irj/sdn/go/portal/prtroot/docs/library/uuid/70c669d8-3ac2-2a10-0e96-c7c3786168f0](https://www.sdn.sap.com/irj/sdn/go/portal/prtroot/docs/library/uuid/70c669d8-3ac2-2a10-0e96-c7c3786168f0)
- Rajagopalan Narayanan, *Getting Started with Business Rules Management*, [https://www.sdn.sap.com/irj/sdn/go/portal/prtroot/docs/library/uuid/70c669d8-3ac2-2a10-0e96-c7c3786168f0](https://www.sdn.sap.com/irj/sdn/go/portal/prtroot/docs/library/uuid/70c669d8-3ac2-2a10-0e96-c7c3786168f0)
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