

Web Dynpro Component Interface Definitions in Practice (42)

Overview

This set of Web Dynpro Development Components (Local Web Dynpro DCs) demonstrates how to design a state-of-the-art Web Dynpro application architecture using multiple components and component interface definitions in a simplified but realistic application scenario: "In a sales opportunities application we want to allow the replacement of the standard viewer UI with a custom viewer UI without code modification or re-deployment".

In a successive approach we present six different versions of a component-based Web Dynpro application fulfilling the above development task. Starting with a "bad" solution in VERSION_01 we step-by-step demonstrate improved solutions utilizing certain Web Dynpro features. The final solution (VERSION_06) combines the following techniques in a "state-of-the-art" multi-component application architecture:

- *Component Interface Definitions* to loosely couple a root component with its embedded UI component implementations based on an "abstract" definition of the UI component interfaces (component interface controller and component interface views),
- *Context-Based Dependency Injection Pattern* to transfer configuration data (fully qualified component and DC names of the configured UI component implementation) from a faceless *Locator Component* to the root component,
- *IWDConfiguration Service* to retrieve configuration data from the database of the SAP NetWeaver AS for Java in the *Locator Component* at runtime,
- *External Context Mapping* to feed UI components with *external* context data stored in a model component,
- *ViewContainerUIElement* to visually embed a UI component interface view in the root component.

Requirements

You have installed the Sneak Preview SAP NetWeaver '04s (SP9, Java Edition). All provided local Web Dynpro DCs are based on this version.

Local Development Component Names

Web Dynpro DCs: *LocalDevelopment~teched~cd354~comp~so~vers0**.

Instructions

To get the contained Web Dynpro applications running, proceed as follows:

1. Extracting the local Web Dynpro DCs into the development workspace
 - a. Unzip the complete contents of the zip file "**42TutWD_CompInterfaceDefinitions_NW04s.zip**" into your local development directory .dtc wherein all local DCs are stored.

Example: Your local development folder comprising all local DCs is C:\Documents and Settings\\.dtc\. Unzip the zip file "42TutWD_CompInterfaceDefinitions_NW04s.zip" into this folder.
2. Importing the local Web Dynpro DCs into the SAP NetWeaver Developer Studio
 - a. Start the SAP NetWeaver Developer Studio.
 - b. Open the Development Configurations perspective ("Window"|"Open Perspective"|"...Development Configurations").
 - c. Select the view "Local DCs" and open the node "Local Development"|"My Components".
 - d. Refresh the perspective view "Local DCs" by pressing the button "Refresh tree" within the title bar.
 - e. Multi-select all DCs whose name starts with "**teched/cd354/so**".
 - f. Open the context menu of the selected nodes and choose "**Create Project...**".
 - g. Open the context menu of the selected nodes and choose "**Build...**".

- h. In the "Build Development Component" window mark all listed development components, uncheck the check box "Only build if necessary" and choose "OK".
- i. Open the Web Dynpro perspective ("Window"|"Open Perspective"|...|"Web Dynpro").

The Web Dynpro DCs ...

| Development Component | VERSION | | | | | |
|--|---------|----|----|----|----|----|
| | 01 | 02 | 03 | 04 | 05 | 06 |
| LocalDevelopment... | XA | | | | | |
| ...~teched~cd354~so~vers01~itelo.com | | XA | X | | | |
| ...~teched~cd354~so~vers02~custui~itelo.com | | X | X | X | X | X |
| ...~teched~cd354~so~vers02~model~itelo.com | | XA | X | | | |
| ...~teched~cd354~so~vers02~myui~itelo.com | | | XA | | | |
| ...~teched~cd354~so~vers03~root~itelo.com | | | | X | | |
| ...~teched~cd354~so~vers04~custui~itelo.com | | | | X | | |
| ...~teched~cd354~so~vers04~myui~itelo.com | | | | XA | | |
| ...~teched~cd354~so~vers04~root~itelo.com | | | | | X | X |
| ...~teched~cd354~so~vers05~cid~itelo.com | | | | | X | X |
| ...~teched~cd354~so~vers05~custui~itelo.com | | | | | X | X |
| ...~teched~cd354~so~vers05~myui~itelo.com | | | | | X | X |
| ...~teched~cd354~so~vers05~root~itelo.com | | | | | XA | |
| ...~teched~cd354~so~vers06~locator~itelo.com | | | | | | X |
| ...~teched~cd354~so~vers06~root~itelo.com | | | | | | XA |

will appear in the "Web Dynpro Explorer" view. All six versions of the Sales Opportunities Sample Application are based on a subset of related Web Dynpro DCs (see table above).

Note:

Depending on which Java compiler preferences are set, you may see some warnings in the "Task" view after importing the project. If the severity level for problems of type "Unused imports" (set in Preferences – Java – Compiler) has the value "Warning", the compiler will issue a warning for unused import references.

Ignore these warnings!

3. Deploying the final Web Dynpro development components which demonstrate a component-based architecture.
 - a. Make sure that your SAP J2EE Engine is running. If necessary, refer to the topic "Building, Deploying and Running Your Application" in the tutorial.
 - b. Open the Development Configurations perspective ("Window"|"Open Perspective"|...|"Development Configurations").
 - c. Select the view "Local DCs" and open the node "Local Development"|"My Components".
 - d. Multi-select all DCs whose name start with **"teched/cd354/so"**
 - e. Open the context menu of the selected nodes and choose **"Deploy"**.
4. Running the different versions of the Web Dynpro sample application on *Web Dynpro Component Interface Definitions in Practice*.
 - a. Open the Web Dynpro perspective ("Window"|"Open Perspective"|...|"Web Dynpro").
 - b. To run the final "state-of-the-art" sample application (VERSION_06) open the context menu of the node "LocalDevelopment~teched~cd354~so~vers06~itelo.com"|"Web Dynpro"|"Applications"|"SalesOpportunitiesApp". To run the other application versions proceed correspondingly by selecting the Web Dynpro DC which is marked as "XA" in the above table.
 - c. Chose **"Run"**.

Corresponding Learning Material

SAP Developer Network (sdn.sap.com) → Developer Areas: Web Application Server – Web Dynpro → Code Samples: Sample Applications and Tutorials → Web Dynpro Component Interface Definitions in Practice.

Date Published December 12, 2006

Copyright (C) 2006 SAP AG – All Rights Reserved.