SAP Composite Application Framework

Debugging CAF Services
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<table>
<thead>
<tr>
<th>Type Style</th>
<th>Represents</th>
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<tbody>
<tr>
<td><em>Example Text</em></td>
<td>Words or characters quoted from the screen. These include field names, screen titles, pushbuttons labels, menu names, menu paths, and menu options. Cross-references to other documentation.</td>
</tr>
<tr>
<td><strong>Example text</strong></td>
<td>Emphasized words or phrases in body text, graphic titles, and table titles.</td>
</tr>
<tr>
<td><strong>EXAMPLE TEXT</strong></td>
<td>Technical names of system objects. These include report names, program names, transaction codes, table names, and key concepts of a programming language when they are surrounded by body text, for example, SELECT and INCLUDE.</td>
</tr>
<tr>
<td><strong>Example text</strong></td>
<td>Output on the screen. This includes file and directory names and their paths, messages, names of variables and parameters, source text, and names of installation, upgrade and database tools.</td>
</tr>
<tr>
<td><strong>Example text</strong></td>
<td>Exact user entry. These are words or characters that you enter in the system exactly as they appear in the documentation.</td>
</tr>
<tr>
<td><code>&lt;Example text&gt;</code></td>
<td>Variable user entry. Angle brackets indicate that you replace these words and characters with appropriate entries to make entries in the system.</td>
</tr>
<tr>
<td><strong>EXAMPLE TEXT</strong></td>
<td>Keys on the keyboard, for example, F2 or ENTER.</td>
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<table>
<thead>
<tr>
<th>Icon</th>
<th>Meaning</th>
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<tr>
<td>⚠️</td>
<td>Caution</td>
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<tr>
<td>💡</td>
<td>Example</td>
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Requirements and Dependencies

Before you start with this tutorial you should have installed the following Software:

- SAP Web Application Server Java 7.0
- SAP NetWeaver Developer Studio 7.0

This tutorial is based on the following How-to Guides:

- Create a local entity service with maintenance UI
- Create complex data types and Java Data Dictionary types
- Create an Application Service

Additionally you should have configured CAF as described in the How-to Guide “Installation and Configuration Guide”.

Applicable Releases

This tutorial is compatible with the following releases:

- SAP NetWeaver ’04s
- SAP Composite Application Framework (CAF) 7.0

Disclaimer

Any software coding and/or code lines / strings (“Code”) included in this documentation are only examples and are not intended to be used in a productive system environment. The Code is only intended better explain and visualize the syntax and phrasing rules of certain coding. SAP does not warrant the correctness and completeness of the Code given herein, and SAP shall not be liable for errors or damages caused by the usage of the Code, except if such damages were caused by SAP intentionally or grossly negligent.

Debugging CAF Services

The following section explains how to configure the NetWeaver Studio and J2EE Engine for debugging CAF models.

1) The first step is to start the J2EE engine in the Debug mode. Open the IDE. Switch to the J2EE engine View. Choose Window -> Show View -> Other -> J2EE -> J2EE Engine. Click OK.
2) The J2EE Engine View will be displayed. Maximize it to view the complete server tree. (To maximize, right click on the J2EE engine title bar and select Maximize).

Now, highlight the server node (usually server0), and click on *Enable debugging of process* from the context menu. This will stop the J2EE engine and restart it in Debug mode. Check the state of the engine from the right pane. Once the server is started the state will change to Running.
Note the Debug Port Number.

3) The next step is to set the breakpoints in the code. In this example you will set a breakpoint in the code of Application Service TravelLocationApp to interrupt the execution of the application.

Open the Composite Application Services Perspective and select the Navigator tab.

Expand the ejbmodule sub tree and double click on entry TravelLocationAppBean.

In the outline view on the lower left side of the IDE, double click on entry createTravelLocation.

Add a breakpoint at the line CAFPublicLogger.entering().

4) The next step is to launch the application in the debug mode. For this you have to create a Debug configuration.
From the menu select Run-> Debug.

Select Remote Java Application and click on New button.
A new configuration will be created.

Enter the connection properties, host and port. Enter the debug port number in the Port field. Click on Apply and then Debug.
This will create the Debug configuration. The Debug views will be displayed on the screen.
5) Now launch the Object Editor pattern for the TravelLocationApp, enter the values and click on the Save button.

URL: http://<was_host>:<was_port>/webdynpro/dispatcher/sap.com/caf~UI~ptn~objecteditor/ObjectEditor?app.configName=carpool_TravelLocationCreate

The browser will now wait for the response from the server.

6) Switch over to the IDE. The control will have come to the break point.
7) You can use the following keys to step through the code.

<table>
<thead>
<tr>
<th>Key</th>
<th>Action</th>
</tr>
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<tbody>
<tr>
<td>F5:</td>
<td>Step Into Jumps to Next Statement</td>
</tr>
<tr>
<td>F6:</td>
<td>Step Over The next command is executed without jumping to the current statement.</td>
</tr>
<tr>
<td>F7:</td>
<td>Step Return If you previously choose F5, then you can cancel the debugging of the current command by choosing F7.</td>
</tr>
<tr>
<td>F8:</td>
<td>Resume The application exits the debug mode and continues with execution.</td>
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</tbody>
</table>

You can inspect the values of the variables at any point during debugging by selecting the variable from the code and choosing Watch from the context menu.
The value of the variable will appear in the Expressions window.
To change the values of the variables at any time, switch to the Variables window of the Debug perspective and double click the variable.

Change the value and click OK.

8) To terminate the debug session, navigate to the Context menu of the top node in the Debug view (e.g. TravelLocationAppBean (Remote Java Application)). Select Terminate. This will terminate the debug session.
Again select Remove All Terminated from the context menu of the top node.
This ends the debug session completely.
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