Enhancing the Job Application Process

SAP Composite Application Framework

Document Version 1.1 – November 2005
## Typographic Conventions

<table>
<thead>
<tr>
<th>Type Style</th>
<th>Represents</th>
</tr>
</thead>
<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><strong>&lt;Example text&gt;</strong></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>
</tr>
</tbody>
</table>

## Icons

<table>
<thead>
<tr>
<th>Icon</th>
<th>Meaning</th>
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<tbody>
<tr>
<td><img src="image" alt="Caution" /></td>
<td>Caution</td>
</tr>
<tr>
<td><img src="image" alt="Example" /></td>
<td>Example</td>
</tr>
<tr>
<td><img src="image" alt="Note" /></td>
<td>Note</td>
</tr>
<tr>
<td><img src="image" alt="Recommendation" /></td>
<td>Recommendation</td>
</tr>
<tr>
<td><img src="image" alt="Syntax" /></td>
<td>Syntax</td>
</tr>
</tbody>
</table>
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Introduction

About This Document
This tutorial is a part of a series that describes how to implement a composite application using SAP Composite Application Framework (CAF) capabilities.

The tutorial describes how to enhance a process modeled with the CAF Process Layer (Guided Procedures).

Scenario Overview

Purpose
Guided Procedures enables you to replace paper-based processes in your enterprise with entirely Web-based routines using interactive forms. You can seamlessly integrate a form for offline processing into your workflows modeled with GP, and use it to send or receive data to and from contributors to the process.

In this tutorial, you will learn how to extend *My First Process* using an Adobe-based interactive form.

Implementation Considerations

In the example used in this tutorial, you reuse the main process structure from the My First Process tutorial, and implement an additional step to send an interactive form to an HR associate.

Filing a Job Application

Features
To implement My First Form Process, you:

1. Configure your system so that it can process Adobe-based forms.
2. Familiarize yourself with My First Process example, if you have not done so already.
3. Design a simple Adobe form template.
4. Create an additional callable object and an action for the offline process step.
5. Include this step in the process flow, and configure parameter and role mappings accordingly.

**Prerequisites**

The following table describes the prerequisites for running this tutorial.

<table>
<thead>
<tr>
<th>Software</th>
<th>The tutorial is compliant with:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• Sneak Preview SAP NetWeaver 04 – Web Application Server 6.40 Java. You can download the sneak preview at <a href="http://sdn.sap.com">http://sdn.sap.com</a></td>
</tr>
<tr>
<td></td>
<td>• SAP NetWeaver 2004s SPS04</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Documents</th>
<th>Before you start with this tutorial, see:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• Building the Job Application Process</td>
</tr>
<tr>
<td></td>
<td>• Configuring Guided Procedures for Interactive Forms</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Authorizations</th>
<th>You must hold the following Guided Procedures roles:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• GP Administrator</td>
</tr>
<tr>
<td></td>
<td>• GP Business Expert</td>
</tr>
<tr>
<td></td>
<td>• GP User</td>
</tr>
</tbody>
</table>

**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.

**Checking System Configuration**

**Use**

To use Adobe-based interactive forms, you need to have access to Adobe Document Services (ADS). The connection to ADS is provided by Web Services.

In addition, if you use SAP Business Workflow as the underlying processing layer, you must have the connectivity between it and Guided Procedures configured appropriately.
Prerequisites

To complete the following procedure, you need administrator permissions for the Java server on which Guided Procedures runs, and for SAP Business Workflow. If you do not have these, ask your system administrator to ensure that all required configuration steps are completed.

Procedure

Make sure your system is configured as described in Configuring Guided Procedures for Interactive Forms:

1. Check ADS connectivity settings in the Visual Administrator tool provided with the Java server:
   a. In SLD Data Supplier service check the following configuration:
      i. HTTP Settings
      ii. CIM Client Generation Settings
   b. In Web Services Security check the security settings for the ADS Web Service.

Result

If the above configuration is applied to your system, you can continue with creating an interactive form [Page 3] that you can use in the process.

Designing a Form Template

Use

For the purposes of the My First Form Process example, you will create a simple form template that contains fields for the applicant’s data, and for the comment of your HR associate. In addition, the form must contain a Submit button that enables the processor to return data to the Guided Procedures framework.

Prerequisites

To create the form template, you need an installation of Adobe LiveCycle Designer.

Adobe LiveCycle Designer is shipped as a part of the SAP NetWeaver offering. It is available for download on the SAP Service Marketplace at http://service.sap.com/swdc.

Procedure

1. In Adobe LiveCycle Designer, create a new form template.
2. Go to the Body Pages tab page, and create the following text fields.
   o To create a text field, use menu Insert → Standard → Text Field.
To modify its binding name, use menu \textit{Object} \rightarrow \textit{Binding}.

To modify the value type, use menu \textit{Object} \rightarrow \textit{Value}.

\textbf{Warning}

Do not create the fields in the \textit{Master Pages} tab page, Guided Procedures does not recognize them as input parameters.

\begin{table}[h]
\centering
\begin{tabular}{|l|l|l|}
\hline
\textbf{Field Caption} & \textbf{Binding Name} & \textbf{Value Type} \\
\hline
First Name & FirstName & Read Only \\
Last Name & LastName & Read Only \\
Education & Education & Read Only \\
English & English & Read Only \\
German & German & Read Only \\
Other & Other & Read Only \\
Comment & CommentField & User Entered – Optional \\
\hline
\end{tabular}
\end{table}

3. Create a button with the following parameters, using menu \textit{Insert} \rightarrow \textit{Standard} \rightarrow \textit{Button}.

\begin{table}[h]
\centering
\begin{tabular}{|l|l|}
\hline
\textbf{Menu Path} & \textbf{Value} \\
\hline
\textit{Object} \rightarrow \textit{Field} \rightarrow \textit{Control Type} & Submit \\
\textit{Object} \rightarrow \textit{Submit} \rightarrow \textit{Submit Format} & XML Data (XML) \\
\textit{Object} \rightarrow \textit{Submit} \rightarrow \textit{Submit to URL} & %com.sap.caf.gp.if.PostProcessorUrl% \\
\hline
\end{tabular}
\end{table}

4. You can enhance the layout of your form template

5. Finally, save the template as \textit{MyFirstFormProcess.xdp}, and close it.

You can also use the XML source provided in the \textit{Appendix} section of this document. Copy the source, paste it into a text editor, and save the file as \textit{MyFirstFormProcess.xdp}.

\textbf{Result}

You have created a form template that you can use in Guided Procedures. To be able to do so, you must \textbf{expose the form as a callable object} [Page 5].
Exposing the Interactive Form in Guided Procedures

Use
In this step of the tutorial, you will expose the interactive form template that you created as a callable object in Guided Procedures. You must configure the object so that you can use the form in a process and send it to the processor by e-mail.

Procedure

Creating the Callable Object
1. Launch GP design time and choose Create Callable Object from the contextual panel.
2. Enter the following data:
   - Type – select Interactive Form
   - Name – enter CO 4: Application Data Form
   - Description – enter a brief description of the callable object, as shown in the example below
   - Original Language – choose English
   - Location – choose folder My First Process

Example: Basic Data
3. Choose Next.
   a. To select the form template that you have created, choose Change….
   b. Browse the file system to select the file.
   c. For Template Adapter, choose Adobe Forms.
   d. For Language, choose English.
   e. For Encoding, select the same encoding that you used when you created the form template.
   f. Choose OK.

4. Choose Next.
   The form’s input parameters are displayed automatically, as shown in the example below.

Example: Input Parameters
5. Choose Next.

The form’s output parameters are also displayed automatically, as shown in the following example.

**Example: Output Parameters**

6. Choose Next.

In the Set Configuration screen, choose Enable Use in Guided Procedures. Make sure that the option Create Offline Interactive Form and Send it by E-Mail is selected, as in the example below.

**Example: Interactive Form Configuration**
7. Choose Next, and then Finish and Open.
8. Choose Activate Callable Object from the contextual panel.

Creating an Action

1. Open the gallery and choose Create Action from the contextual panel.
2. Enter the following data:
   - Name – for example, Send Application Data
   - Description – enter a brief description of the action
   - Original Language – select English
   - Folder – select folder My First Process

Example: Create Action
3. Choose **Save and Open**.
   
   The action’s design time opens.

4. Choose **Attach Callable Objects** from the contextual menu, or follow the link under **Callable Objects** in the Overview screen.

5. To select an object for execution, click **Choose**… and then browse to **CO 4: Application Data Form**.

**Example: Attach Callable Objects**

<table>
<thead>
<tr>
<th>Attach Callable Objects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Object for Display:</td>
</tr>
<tr>
<td>Object for Execution:</td>
</tr>
</tbody>
</table>

6. Choose **Save**.

7. Choose **Activate Action** from the contextual menu, and confirm that you want to activate the action.

**Result**

You have created the action that you will add to the process flow.

Your next step is to [enhance the approval callable object](Page 9), so that it displays the comments entered offline by the HR associate.

**Enhancing the Approval Callable Object**

**Use**

To display the comments that the HR associate enters in the offline form and sends back to the framework, you need an additional field in the approval callable object used in the last step of the process.

**Procedure**

1. Open Guided Procedures design time, and browse to the **CO 3: Approve or Reject** callable object.

2. To open its design time, select it and choose **Open**….

3. Choose **Edit Input Parameters** from the contextual panel. Create an inactive version of the object, if required.

4. Add a parameter of type String named **HR Associate Comment**, for example.

5. Choose **Save**.
6. Choose *Activate Callable Object* from the contextual panel.
7. Return to the gallery, select action *Approve or Reject*, and choose *Open*.
8. Choose *Attach Callable Objects* from the contextual panel. Create an inactive version of the action, if required.
9. To use the latest version of CO 3: *Approve or Reject*, choose *Update* next to the *Object for Execution* input field.
10. Choose *Save*.
11. Choose *Activate Action*.

**Result**

Your next step is to enhance the existing Application block [Page 10] from My First Process with the new and modified actions.

**Enhancing the Application Block Flow**

**Use**

In this step, you will add the action that you have created to the existing Application block. In addition, you will configure the input and output parameters, as well as the roles in the block.

**Procedure**

1. Open Guided Procedures design time, and browse to the *Application* block.
2. To open the block’s design time, select it and choose *Open*.
3. Choose *Edit Block Flow* from the contextual panel. If you have previously activated the block, confirm that you want to create an inactive version.
4. To add the *Send Application Data* action, choose *Insert*.
   - Select option *Use existing template(s)*, and choose *Select*.
   - Browse the gallery to select *Send Application Data*, and confirm using *Select* again.
   - Position the action after *Enter Data*, using *Move Up* or *Move Down*.
5. Select entry *Approve or Reject*, and choose *Update* to set the latest version of the action in the block flow.
   - The final result should be as in the example below.

**Example: Enhance Block Flow**
6. Choose Save.

7. Choose **Consolidate Parameters** from the contextual panel.

   To display data as required, create the following groups:
   
   - Consolidate all entries for *First Name*.
   - Consolidate all entries for *Last Name*.
   - Consolidate all entries for *Education*.
   - In group *Languages*, select the entry *English* defined for *Enter Data*, and consolidate it with the entry *English* defined for *Send Application Data*. Repeat the same step for *German* and for *Other*, as shown in the example below.

   This consolidation ensures that the output from the first action is used to fill in the input fields of the interactive form.

**Example: Consolidate Parameters**

- **Languages**
  - Structure
  - Languages
  - English
  - Other

- **Consolidate**

  - Consolidate the entries *CommentField* defined for *Send Application Data* and *HR Associate Comment* defined for *Approve or Reject*.

8. Choose Save.

9. Choose **Consolidate Roles** from the contextual panel.

10. Select *Processor of Send Application Data*, and enter *HR Associate* in the *Consolidate To* field. Choose Go.

11. Choose Save.

12. Choose **Activate Block** from the contextual panel.

**Result**

You have enhanced and configured the Application block. You can now use it to [create your first form process](Page 12).
Creating My First Form Process

Use

In this procedure, you will create a process in which you will use the block that you created in the previous step of the tutorial. In addition, you will configure the input parameters that are displayed when you start the process.

Procedure

1. Launch Guided Procedures design time, and choose Create Process from the contextual panel.
2. Enter the following basic data for the process:
   - Name – enter *My First Form Process*
   - Description – enter a brief description for the process, as shown in the example below
   - Original Language – choose *English*
   - Number of Instances per Initiator – leave the default option enabled
   - Folder – for example, *My First Process*

Example: Create Process Template

![Create process template](image)

3. Choose *Save and Open*.
4. Choose Edit Process Flow from the contextual panel. Use Insert... to add the Application block to the process flow. Choose Save.
5. Choose Consolidate Parameters from the contextual panel, and then Maintain Input Context. Disable the Exposed option for all parameters, so that you are not prompted to enter any values for them when you start the process.
6. Choose Back and then Save.

Result
You can now go to GP runtime and start the process. When you initiate the process, you will be required to assign users to each process role – that is, Applicant, HR Associate, HR Manager, and the default process roles Administrator, Owner, and Overseer.

At runtime, the applicant enters his or her data in the Enter Data step. The system fills the interactive form with this data and sends it to the HR Associate, who enters a comment, and submits the form back to the system. In the step Approve or Reject, the HR Manager considers the comments from the associate, and makes the final decision whether to approve or reject the application. The decision is communicated to the applicant by e-mail.

Appendix

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  </pageSet>
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      </value>
    </draw>
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Language Skills

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  </ui>
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    </value>
  </caption>
</field>

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      </border>
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  </ui>
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  </caption>
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</config>
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<connectionSet xmlns="http://www.xfa.org/schema/xfa-connection-set/2.1/">
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    xmlns:x="http://www.xfa.org/schema/xfa-wrapset/1.0/"
  
<xfa:data xfa:dataNode="dataGroup"/>
</xfa:datasets>
</xdp:xdp>