Applies to:
SAP enhancement package 1 for SAP NetWeaver Composition Environment 7.1

Summary
This document provides step by step guidance on how to implement a process sample with the SAP NetWeaver Business Process Management component which is shipped as part of the SAP enhancement package 1 for SAP NetWeaver Composition Environment 7.1. In our case the end-to-end process implementation sample is called “My name and age”.

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Author Bio
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STEP 1. CREATE A NEW DEVELOPMENT COMPONENT

1. Start SAP NetWeaver Developer Studio (NWDS) and select a new workspace.

2. Click on Workbench.

3. To create a new project select File > New > Project.

4. Use the Wizard – type “process” and select Process Composer Development Component. Then click Next.
5. Select Software Component
Local Development > My
Components [demo.sap.com].
Click Next.

6. Type “dc_my_name_age” as
name of the new development
component. Click Next.

7. Leave default settings and
click Finish.

8. Click “Yes” to switch to the
Process Composer
Perspective.
**STEP 2. CREATE A NEW PROCESS**

9. Expand Development Component tree. Go to Process Modeling > Processes Mouse right button click and select “New”.

10. Type “prcMyNameAge” as name for the new process and click “Next”.

11. Select Checkbox “Create start and end event from a service operation”.
12. Select “Default service” from the Dropdown list.

14. Create New Lane
15. Type “MyNameAge” as a name for the Pool - Select the Pool and go to Properties > General > Name

16. Type name for the Lane – Select the Lane one by one and go to Properties > General > Name

17. Type name of the second Lane directly in the model with click over the default Lane name.

18. Create the first Human activity for the “User_A” Lane using the speed buttons of the Start event.

19. Type the name of the Human activity “Fill Name Age”.
20. Create one more Human activity using again the speed buttons.

21. Move the new Human Activity to the Lane “User_B” and type “Display Name Age” as a name for this activity.

22. Connect the Human activity “Display Name Age” with the End event.
23. Save (Ctrl+S).
STEP 3. CREATE WEB DYNPRO UIs

24. Open the Web Dynpro perspective.

25. Close the tab with the Process diagram.

26. Create New Web Dynpro Development Component

27. Select Software Component and click “Next”

28. Type a name for the new Web Dynpro Development Component “wd_ui_mna” and click “Next”.
29. Leave the default values for the Project properties and click “Finish”.

30. Expand the tree of the new Web Dynpro Development Component
31. Create new Component with the right button click on “Components” and select “Create Component”.

32. Type a name for the new Component “C_FillMyNameAge” and click “Next”.

33. Leave the default Window Properties for this Component and click “Finish”.
34. Open the Component Controller of the new Component “C_FillMyNameAge” with double click.

35. This will open the Context tab.
36. Create new attributes with right click over the “Context”

37. Select the Radio button “Manually” and Type a “Name” for the first Attribute Name.
38. Leave the default Type “string” and click “Finish”.

39. Create the next attribute. Select the Radio button “Manually” and type the name “Age”.
40. Change the Type of this attribute to “integer” and click “Finish”.
41. Save changes (Ctrl+S).
42. Copy Context with right button click and “Copy”

43. Open with double click the Interface Controller of the Local Component Interface

44. Paste the Context with the right button click.
45. Save changes (Ctrl+S).

46. Go to the Component Controller “C_FillMyNameAge”

47. Go to Events Tab of the Component Controller

48. Create New Event with click “New..”
49. Type name “Complete” for this event and click “Finish”.
50. Click Save or (Ctrl+S).

51. Copy the event “Complete” with right mouse button click.

52. Go to the Interface Controller of the Component.

53. Go to the Events tab of the Interface Controller

54. Paste with the right mouse button click.
<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>55.</td>
<td>This will be the result.</td>
</tr>
<tr>
<td>56.</td>
<td>Click Save or (Ctrl+S)</td>
</tr>
<tr>
<td>57.</td>
<td>Go again to the Component Controller “C_FillMyNameAge”</td>
</tr>
<tr>
<td>58.</td>
<td>Go to the “Methods” tab</td>
</tr>
<tr>
<td>59.</td>
<td>Create a new Method with click “New..”</td>
</tr>
<tr>
<td>60.</td>
<td>Leave the default method type “Method” and click “Next”.</td>
</tr>
<tr>
<td>61.</td>
<td>Type the name “m_FillMyNameAge” for the Method and click “Finish”.</td>
</tr>
<tr>
<td>62.</td>
<td>Save changes (Ctrl+S).</td>
</tr>
</tbody>
</table>
63. Navigate to Implementation with right mouse button click over the new method.

64. Go to the end of this code line: `//@@begin m_FillMyNameAge()` and click Enter.

65. Click “Yes” in order to be able to edit the code.

66. Fire the Event of the Component Controller->Type “wdThis.wd” and the system will show a list, where you have to select “wdFireEventXXXXXX()” where XXXXX is the name of the event created for this Component Controller. For this example the event is “Complete” and you have to select “wdFireEventComplete()”.
67. Type “;” at the end of the row.

If you prefer to type the code directly, without using the help list, you have to type:

```java
public void m_FillMyNameAge() {
    //30 begin m_FillMyNameAge()
    wdThis.wdFireEventComplete();
    //30 end
}
```

68. Save (Ctrl+S) and close the tab with the code.

69. Open the View of the Component with double click on it.

70. Go to the Context tab of the View.

71. Create the View Context with mapping the attributes of the Component Controller. Right click on the “Context” > New > Attribute

72. Leave the default Radio button settings on “Mapping” and click “Next”.
73. Select the Required Controller and click “OK”.

74. Select the first Attribute “Age” and click “Finish”.

75. Map the next attribute with right click on the “Context” > New > Attribute

76. Leave the default Radio button settings on “Mapping” and click “Next”.

77. Select the first Attribute “Name” and click “Finish”.

78. Save (Ctrl+S).
79. Go to the Layout tab of the View.

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80. Go to the Outline tab on the left side. Delete “DefaultTextView” of the RootElement with right click > Delete

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81. Right button click on the RootElement and select Apply Template.

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82. Click on “Form” template button and this will select “Form” as a Template Instance Name. Click “Next”.

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83. Select “Age” and “Name” attributes of the Context and click “Next”.
84. Select "Name" row and move it on the first position using the arrows.

This will be the result. Click "Finish".

85. Save changes of the View

86. Double click to open the View again.

87. Click on the RootElement. Go to Properties and change the "layout" property to

88. Change also the number of columns for the Layout to 2

89. Click on the Label "Name_label".

90. Go to Properties and change the "text" property to "Name"
91. Click on the Label “Age_label”.

92. Go to Properties and change the “text” property to “Age”.

93. Drag and drop a Button on the View.

94. Select the Button. Go to Properties and change the “text” property to “OK”.

95. Save (Ctrl+S).

96. Create an event for the Button. Go to Properties > Events > onAction and click the button “Create”.

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Example of creating a Button with the following properties:

- **Name**: Button
- **ImageSource**: (Optional)
- **Text**: OK
- **TextDirection**: Inherit*
- **ToolTip**: (Optional)
- **Visible**: Visible*
- **Width**: (Optional)

**Event**:
- **onAction**: Create Action
97. Type “BtnOK” as a name for the Action and click “Finish”.

98. Save (Ctrl+S).

100. Navigate to Implementation for this Action “BtnOK”.

101. Move the cursor at the end of this code line:
```java
//@@begin
onActionBtnOK(ServerEvent)
And press enter
```
104. Add “C_FillMyNameAge” component to the Public Part of the Web Dynpro Development Component with right button click on the component.

105. Create new Public part for this Development Component > click the button “New..” and type “API” for the name of the new Public Part. Click “Finish”.

106. Select the Public Part “API” and click “Finish”.

107. Create one more Component for the user interface of the second Human activity.
108. Type name "C_DisplayMyNameAge" for the new Component and click "Next".

109. Leave default settings for the Window properties and click "Finish".

110. Double click on the Component Controller of the new Component "C_DisplayMyNameAge".

111. Create Context for this Component Controller with two attributes; “Name” of type string and “Age” of type integer.
112. Copy Context with right button click and “Copy”.

113. Open with double click the Interface Controller of the Local Component Interface

114. Go to the Context and Paste.

115. Go back to the Component Controller.

116. Go to Events and create a new Event with name “Display Complete”. Click “Finish”.

117. Save (Ctrl+S).
118. Copy the Event with right button click and “Copy”.

119. Open the Interface Controller with double click.

120. Go to Events and Paste.

121. Save (Ctrl+S).

122. Go back to the Component Controller.

123. Go to the “Methods” tab

124. Create new Method with name “m_DisplayComplete”.

125. Save (Ctrl+S).
126. Navigate to implementation

127. Go to the end of this code line: `//@@begin m_DisplayComplete()` and click Enter.

128. Click “Yes” in order to be able to edit the code.

129. Fire the Event of the Component Controller. Type: `wdThis.wdFireEventDisplayComplete();` Save (Ctrl+S).

130. Go to the View of the Component. Double click to open the View “C_DisplayMyNameView”.
131. Go to the context of the View.

132. Create Context attributes with mapping the attributes of the Component Controller.

133. Select first “Age” attribute, click “Finish” and then repeat again the mapping for the “Name”.

This will be the result:

134. Save (Ctrl+S).

135. Go to Layout of the View and delete the DefaultTextView

136. Insert child to theRootElement.

137. Select category “Text” and UI Element “TextView”. Click “OK”.
138. Copy the “TextView” element with right button click and paste it as child to the RootElement.

This will be the result:

139. Paste three more times in order to create three more TextView elements as children to the RootElement. All five TextView elements will differ by their “id” property.

140. Click on the first TextView > Properties > text. Change “text” property to “My name is”.

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>id</td>
<td>TextView</td>
</tr>
<tr>
<td>design</td>
<td>standard*</td>
</tr>
<tr>
<td>enabled</td>
<td>true</td>
</tr>
<tr>
<td>halign</td>
<td>auto*</td>
</tr>
<tr>
<td>layout</td>
<td>native*</td>
</tr>
<tr>
<td>semanticColor</td>
<td>standard*</td>
</tr>
<tr>
<td>text</td>
<td>My name is</td>
</tr>
</tbody>
</table>
141. Click on the TextView1 > Properties > text. Click Bind button to bind the “text” property of the TextView1 with the “Name” attribute of the Context.

Select “Name” Context attribute and click “OK”.

This will be the binding result:

143. Change the “design” property to “emphasized”.

144. Save(Ctrl+S).

145. Change the “semanticColor” property to “negative”

146. Click on the TextView2 > Properties > text. Change “text” property to “and I am”.

147. Click on the TextView3 > Properties > text. Click Bind button to bind the “text” property of the TextView1 with the “Age” attribute of the Context.
148. Change the “design” property to “emphasized”.

149. Change the “semanticColor” property to “negative”.

150. Click on the TextView4 > Properties > text. Change “text” property to “years old.”.

151. Drag and drop a button on the View.

152. Change the “text” property of the button with “OK”.

153. Go to the Events are of the button properties and create an Action that will be assigned to the “onAction” event of the button.

154. Type “DisplayOK” as name for the action, leave the rest settings with their default values and click “Finish”.

155. Save (Ctrl+S).

This will be the result:

156. Go to “Actions” tab of the Button.

158. Move the cursor at the end of this code line:
“//@begin
onActionDisplayOK(ServerEvent)” and press Enter

159. Click “Yes” for edit the code

160. Call the Method of the Component Controller. Type:
“wdThis.wdGetC_DisplayMyNameAgeController().m_DisplayComplete();”

161. Save (Ctrl+S) and close the tabs for this Component.

162. Add “C_DisplayMyNameAge” component to the Public Part of the Web Dynpro Development Component with right button click on the component.
163. Select the Public Part “API” and click “Finish”.

![Image of selecting API Public Part in SAP NetWeaver Business Process Management]
**STEP 4. SET UP DEPENDENCES**

164. Go to Development Infrastructure perspective to create dependencies.

165. Find the Web Dynpro Development Component “wd_ui_mna”.

166. Build the Development Component.

167. Select Force build and click “OK”.

168. Wait the build operation to Finish.
169. The Local Build State of the “wd_ui_mna” will become “ok”.

170. Deploy the Web Dynpro Development Component

171. Select the Development Component of the Process “dc_my_name_age”.

172. Go to Dependences tab and click “Add”
173. Type the name of the Web Dynpro Development Component “wd_ui_mna” as filter and select it when the system will find it. Click “Next”.

174. Click on the DC

175. Select all Checkboxes for Dependency details and click “Finish”.

176. This will add the Web Dynpro Development Component as dependency.
**STEP 5. CREATE USERS AND GRANT ACCESS**

177. Open SAP NetWeaver Application Server Administration > User Management

178. Create User

179. For the First UserID type “User_A” for Logon ID, type password **1234qwer**, confirm it and type “User_A” for the Last Name of this UserID (see the example). Click “Save” at the end.

180. Complete the same for the UserID “User_B”.

181. Users will be displayed like this:
182. Assign Users to Roles. 
   Change the Search Criteria to Role.

183. Search for a Role containing “BPEM” – type for the search criteria *BPEM*. Click “Go”.

184. Click on the displayed Portal Role with description “BPEM End User”.

185. Go to tab “Assigned Users” and click button “Modify”.

186. Search for the “User_*” and click “Go”.
187. When found, select all rows.

188. Add UserIDs to the role.

189. After the assign both UserIDs will be displayed on the right site with Assigned Users.

190. Click Save to save Role Changes.

191. Search also for the Portal Role “Every User Core Role”. Click on the role.
192. Go to tab “Assigned Users” and click button “Modify”.

193. Search for the “User_#” and click “Go”.

194. When found, select all rows

195. Add UserIDs to the role
196. After the assign both UserIDs will be displayed on the right site with Assigned Users.

197. Click Save to save Role Changes.
STEP 6. CREATE TASKS IN THE PROCESS COMPOSER AND LINK THEM WITH THE RELEVANT WEB DYNPRO UI

198. Go to the Process Composer perspective.

199. Create a new Task.

200. Type “FillMyNameAge” as name for the Task and click “Finish”.

201. Go to the Task Overview tab. Go to User Interface section and click “Choose..” to select the User Interface.

202. Click on the Development Component.
203. The Public Part “API” will be displayed, select it and click “Next”.

204. Wait for the System to load the components

205. Select the Component with the name “C_FillMyNameAge”. This will display the Interface View of this Component.

206. Select the Interface View “C_FillMyNameAgeView” of this Component and click “Next”.

207. Select the Completion Event “Complete” and click “Finish”.

208. Save (Ctrl+S).
209. Go to the “Roles” tab.

210. Potential Owners > “Choose…”

211. Change Principal to “User”

212. Type “User_*” and click “Search…”

213. Provide UserID and Password for the access to the UME

214. Select “User_A” and click button “Add”.
215. When “User_A” will be displayed on the right side click “OK” and the user “User_A” will be selected as a potential owner for this task.

216. Save (Ctrl+S).

217. Create the second Task.

218. Type “DisplayMyNameAge” as name for the Task and click “Finish”.

219. Go to the Task Overview tab. Go to User Interface section and click “Choose..” to select the User Interface.

220. Click on the Development Component.
221. The Public Part “API” will be displayed, select it and click “Next”.

222. Wait for the System to load the components

223. Select the Component with the name “C_DisplayMyNameAge”. This will display the Interface View of this Component.

224. Select the Interface View “C_DisplayMyNameAgeView” of this Component and click “Next”.

225. Select the Completion Event “DisplayComplete” and click “Finish”.

226. Save (Ctrl+S).

227. Go to the “Roles” tab.
228. Potential Owners > “Choose…”

229. Change Principal to “User”

230. Type “User_∗” and click “Search…”

231. Provide UserID and Password for the access to the UME

232. Select “User_B” and click button “Add”.

233. When “User_B” will be displayed on the right side click “OK” and the user “User_B” will be selected as a potential owner for this task.

234. Save (Ctrl+S).
STEP 7. ASSIGN TASKS TO THE RESPECTIVE HUMAN ACTIVITIES

235. Open the Process with double click.

236. Select “Fill Name Age” task

237. Go to Properties > Task > Select “FillMyNameAge” task from the drop down list.

238. Save (Ctrl+S).

239. Select “Display Name Age” task
240. Go to Properties > Task >
Select “FillMyNameAge” task from the drop down list.

241. Save (Ctrl+S).

**STEP 8. CREATE MAPPINGS**

242. Go to Data Types. Look for one of the Context elements of the Web Dynpro User Interfaces.

243. Drag and drop one of the Contexts in the process canvas.
244. Select the Task “Fill Name Age”> Go to Properties > Output Mapping > Map Name and Age as Output from the Fill Name Age Human activity on the left side with the Name and Age of the Process context on the right side.

245. Select the Task “Display Name Age”> Go to Properties > Input Mapping > Map Name and Age from the Process context on the left side with the Name and Age of the Input for Display Name Age Human activity.

246. Save (Ctrl+S).

247. Go to Development Infrastructure perspective. Find the Development Component of the process and Build.

248. Select also the development component of the Web Dynpro Development Component if you want to rebuild it and click “OK”.

**STEP 9. BUILD AND DEPLOY THE PROCESS**
249. Go to the Overview of the Development Component of the Process and check the Local Build State. It has to be “ok”.

250. Deploy the Development Component of the Process

251. Click “OK”.

252. Type the UserID and Password for the server
**STEP 10. RUN THE PROCESS**

255. Go to the SAP NetWeaver Administration of your server.

256. Configuration Management > Processes and Tasks > Process Repository

257. Select the Process “dc_my_name_age” from the list with Components.

258. Go to Resources of the Component > Processes and Tasks - select the Process Definition “prcMyNameAge”. Click Start Process.
259. Click Start Process

260. A message for successful process start will appear at the bottom of this screen.

261. Process is already started.

**STEP 11. TEST THE PROCESS behavior WITH “USER_A” AND “USER_B”**

262. Log-in to the Portal using User_A and the initial password 1234qwer.

263. Change the Initial Password of the User_A to qwer1234
264. A task is already assigned to User_A and is visible in the Task list of his Universal Worklist.

265. Click on the Task

266. Go to the link of the Process to see where you are on the process flow.

267. You are on the first Human activity “Fill Name Age”.

268. Type your name and your age and click the Button “OK”.

269. Click Close.

270. Refresh the list with Tasks in the Universal Worklist of User_A

271. Task will disappear
272. Log-in to the Portal using User_B and the initial password 1234qwer.

273. Change the Initial Password of the User_B to qwer1234

274. The next process task is already assigned to User_B and is visible in the Task list of his Universal Worklist.

275. Click on the Task

276. Go to the link of the Process to see where you are on the process flow.
277. You are on the second Human activity “Display Name Age”

278. Type your name and your age and click the Button “OK”.

279. Click Close.
280. Refresh the list with Tasks in the Universal Worklist of User_B.

281. Task will disappear.

282. This is the end of the implementation test.