SAP NetWeaver BPM Tutorial for Beginners: My Name and Age – BPM Tutorial

Applies to:
SAP NetWeaver Composition Environment 7.20
SAP Business Process Management/ SAP BPM.

Summary
SAP BPM-Tutorial for Beginners. Shows how easy it is to develop a simple process. Starts from scratch; no external service needed/integrated.

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Author Bio
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Introduction/ Overview

The tutorial should be completed with approx. 60 minutes. At the end you will be able to run your first BPM process. In comparison to the tutorial in the SAP NWDS help you do not need any other system because the example process just uses pure CE features. Of course the tutorial is just a starting point but it should already give you an idea how to use/develop features like:

- Swim lanes
- Human activities
- Process repository
- Generating Web Dynpro UI's out of the BPM context
- Modeling a BPM process flow
- How to use the process composer
- How to do mapping between activities and the context
- How to create users and assign them to a swim lane
- How you build, deploy and execute a process

The demo process has just 2 swim lanes and 2 human activities. The following image gives you a overview of the process in BPMN:

At the end of the tutorial I give you some ideas how to enhance this example. The ideas are based on real life experience.
### Prerequisites
- Sandbox/Development System: SAP NetWeaver CE7.20 (incl. BPM usage type),
- SAP NWDS,
- Administration user on the sandbox to create new users and to deploy a new dc.

### Procedure

#### Step 1. Create New Development Component

In this step you create a new Development Component (DC) in your local environment (without NWDI).

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.

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 New Process

In this step you create the basic BPM process flow. This simple example includes just two swimlanes and two human activities.

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 “Create a pool with the following names lanes”
12. Enter “MyNameAge”
13. Enter “User_A,User_B”
14. Click Next
15. Leave defaults as is and click Finish
16. The Wizard creates the following situation

17. Select the line between Start and End and delete the link/line

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).
24. Format the whole pool by selecting the pool on the top; right mouse click and "Format pool"
25. Save (Ctrl+S).
Step 3. Create Web Dynpro UIs by UI template

In this step you create and assign new User Interfaces, based on Web Dynpro Java, for the human activities. This UI wizard was introduced in CE7.20. In comparison to CE7.1.1 this step is much easier.

26. Remove default task from Human activity “Fill Name Age”
27. Repeat the step for “DisplayName Age”
28. Save ALL

Create new BPM Context:
29. Use the Palette on the right hand side to create a new Context by Drag and Drop the “Data Object” to the
30. Change the name no “Name”.

Repeat last step to create “Age” BPM Context:
31. Use the Palette on the right hand side to create a new
Context by Drag and Drop the “Data Object” to the swim lane “User_B”

For info: By default the Data Type is String which is fine for Name

32. Change the name no “Age”

33. Change the Data Type for Age to “Integer” by selecting “Data Type”

34. Click on Browse and choose the one displayed on the image.

35. SAVE ALL.
36. Select process in Project Explorer and right mouse click
37. Select Apply Template..

38. Select UI Task Generation
39. Click Next
40. Select “Fill Name Age” and check both checkboxes

41. Repeat last Step for Display Name Age
42. Click Next
43. Select New

44. Select MyComponents
45. Click Next
46. In this screen just enter `dc_wd_my_name_age` as the name.
47. Click “Next”.
48. Click Finish and wait.

INFO:
The Wizard is generating the UIs now. Therefore it creates Web Dynpro Java DC incl. Default Form. You can later on change the form in the Web Dynpro Perspective.
49. After the successful generation (up to 10 minutes) the NWDS will look as follows:

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**Step 4. Create Users and Grant Access**

In this step you create new users in the Java Web Application Server Identity Management. Later on you will assign exactly these users to the swimlanes in BPM; means: These users will participate in the process and will receive the tasks. In addition you can also assign complete groups and roles to the swim lanes to implement mass assignments.

50. Open SAP NetWeaver Application Server Administration > User Management (like: http://<ip>:<port>/startPage

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

53. Complete the same for the UserID “SDN_User_B”.

54. Users will be displayed like this:

55. Assign Users to Roles. Change the Search Criteria to Role.

56. Search for a Role containing “BPEM” – type for the search criteria “BPEM”. Click "Go".
57. Click on the displayed Portal Role with description “BPEM End User”.

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

59. Search for the “SDN*” and click “Go”.

60. When found, select all rows

61. Add UserID to the role.
62. After the assign both UserIDs will be displayed on the right side with Assigned Users.

63. Click Save to save Role Changes.

64. Search also for the Portal Role "Every User Core Role". Click on the role.

65. Go to tab “Assigned Users” and click button “Modify”.
66. Search for the “SDN” and click “Go”.

67. When found, select all rows

68. Add UserIDs to the role

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

70. Click Save to save Role Changes.
Step 5. Assign Users to Swim-Lanes

71. Select the Task swimlanes User A and select “Potential Users” in Properties tab
72. Click on Choose...
73. Search for “SDN*”
74. Select SDN_User_A added in the last step
75. Click OK
76. Select the Task swimlanes User B and select “Potential Users” in Properties tab
77. Click on Choose...
78. Select SDN_User_B added in the last step
79. SAVE ALL
Step 6. Create Mappings

80. 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.
81. 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.

82. Save (Ctrl+S).

Step 7: Build and Deploy the Process

83. In Process Composer perspective: Build the DC
84. Select also the development component of the Web Dynpro Development Component if you want to re-build it and click “OK”.

INFO: Build takes some time
85. Deploy the Development Component of the Process

86. Click "OK".

87. Type the UserID and Password for the server

88. Deploy is still Running
Step 8. Run the Process

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

SAP NetWeaver Administrator

A powerful administration, configuration and monitoring tool, which bundles key administrative tasks to keep your SAP NetWeaver system landscape running. SAP NetWeaver Administrator can be used in a central or local scenario. Here you access the local NetWeaver Administrator.

91. Configuration Management > Processes and Tasks > Process Repository

The NW BPM Process Repository tool displays all the deployed process development components, the versions of the components deployed and all the process and task definitions deployed.
92. Select the Process "dc_my_name_age" from the list with Components.

<table>
<thead>
<tr>
<th>Component (Vendor)</th>
<th>Last Install</th>
</tr>
</thead>
<tbody>
<tr>
<td>age (demo.sap.com)</td>
<td>200807221</td>
</tr>
<tr>
<td>age_pr (demo.sap.com)</td>
<td>200807221</td>
</tr>
<tr>
<td><strong>dc_my_name_age (demo.sap.com)</strong></td>
<td><strong>200807251</strong></td>
</tr>
<tr>
<td>dcl_demo_pr (demo.sap.com)</td>
<td>200807161</td>
</tr>
</tbody>
</table>

93. Go to Resources of the Component > Processes and Tasks - select the Process Definition "prcMyNameAge". Click Start Process.
94. A new pop up appears
95. Click Start Process

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

97. Process is already started.

Step 9. Test the Process behavior with “User_A” and “User_B”.

SDN_User_A and the initial password 1234qwer.
99. Change the Initial Password of the SDN_User_A to qwer1234

100. A task is already assigned to User_A and is visible in the Task list of his Universal Worklist.

101. Click on the Task/ Open the task

102. A new pop up appears

103. Go to the link of the Process to see where you are on the process flow.
104. You are on the first Human activity “Fill Name Age”.

105. Type your name and your age and click the Button “Approve”.
106. Click Close.

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

108. Task will disappear

109. Log-in to the Portal using SDN_User_B and the initial password 1234qwer.
110. Change the Initial Password of the SDN_User_B to qwer1234

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

112. Click on the Task

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

114. You are on the second Human activity “Display Name Age”
115. Inspect the BPM UI itself and click Approve.
INFO: You can see the values entered by the first user.

116. Click Close.

117. Refresh the list with Tasks in the Universal Worklist of User_B.

118. Task will disappear.
### Step 10. Possible Enhancements

Congratulate… You developed your first BPM process. Now you can think of the following enhancements:

| **Explore more BPM capabilities** | BPM comes with capabilities like:  
|                                 | Notes  
|                                 | Attachments  
|                                 | Substitution (in UWL)  
| **Modify Web Dynpro UI: Make Display UI Read Only** | It makes no sense that the User B can edit the values. You can change the Web Dynpro Form.  
|                                 | You can also remove the unused button and change the texts of the button.  
| **Group assignments of tasks** | Instead of assigning single users to the swim lanes you can assign groups or roles. All members with receive UWL notifications.  
| **Dynamic UWL Texts** | For the second user you can display already in the UWL the name.  
| **Boundary Events** | You can implement (without coding) that the second user has only a limited timeframe to complete the task.  
| **Tasks Priorities** | You can change the priorities of the Tasks in the UWL. E.G.: If the name is “Steffen” the priority is high 😊  
| **Integrate backends like Service Call into ERP** |  
| **SAP MDM** |  
| **Google Search** |  
| **Start process via Web Dynpro UI (instead of Process Repository)** | Instead of starting a process through the process repository you can develop a small Web Dynpro application (and integrate in to the Portal). The Web Dynpro application start a new process instance by calling the Start-Web Service-Trigger  
| **Change the BPM Process Flow** | You can change the process flow for instance:  
|                                 | Second user can send back the task to the first user  
|                                 | Add a third swim lane  
| **Add BRM capabilities** | You can develop your own Business Rule which you integrate in to the process as a automated activity.  

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This is the end of the implementation test.
<table>
<thead>
<tr>
<th>Use case:</th>
</tr>
</thead>
<tbody>
<tr>
<td>If the age is lower than 12 you need a third person.</td>
</tr>
</tbody>
</table>