

Oracle FLEXCPEL FCJ Dev Guide  
Oracle FLEXCUBE Universal Banking  
Release 14.4.0.0.0  
[May] [2020]



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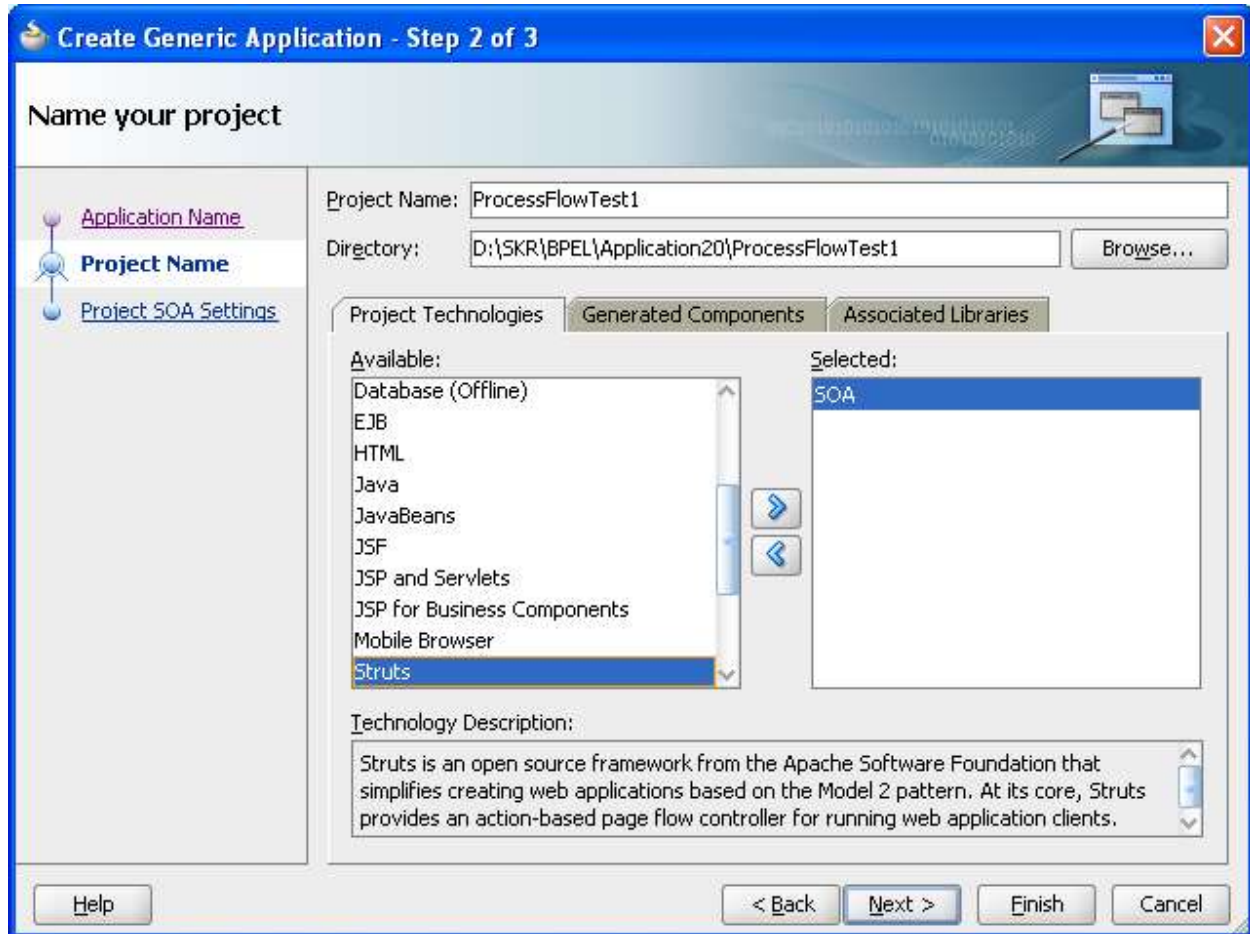
**BPEL, SOA SUITE AND JDEVELOPER .....1**

# BPEL, SOA Suite and JDeveloper

This Document is intended to explain as to how to develop simple process flow in FCUBS using BPEL, SOA Suite and JDeveloper

## CREATING PROCESS FLOW

1. Create Generic application -> create SOA project.



2. Choose 'Empty Composite'

The screenshot shows a Windows-style dialog box titled "Create Generic Application - Step 3 of 3" with a close button in the top right corner. The main title bar is blue. Below the title bar, the dialog is titled "Configure SOA settings". On the left side, there is a vertical list of three items: "Application Name" (with a purple icon), "Project Name" (with a purple icon), and "Project SOA Settings" (with a blue icon and highlighted). To the right of this list, the "Project SOA Settings" section is expanded, showing a list of composite templates. The first item, "Empty Composite", is selected and highlighted in blue. Below it are "Composite With BPEL", "Composite With Business Rule", "Composite With Human Task", "Composite With Mediator", and "Composite From Oracle BPA Blueprint". Above this list, there is a text field labeled "Composite Name:" containing the text "ProcessFlowTest1". Below the list of templates, there is a checkbox labeled "Customizable" which is currently unchecked. At the bottom of the dialog, there are four buttons: "Help", "< Back", "Next >", and "Finish" (which is highlighted in yellow). A "Cancel" button is also present to the right of the "Finish" button.

Create Generic Application - Step 3 of 3

Configure SOA settings

Application Name

Project Name

Project SOA Settings

Composite Name:  
ProcessFlowTest1

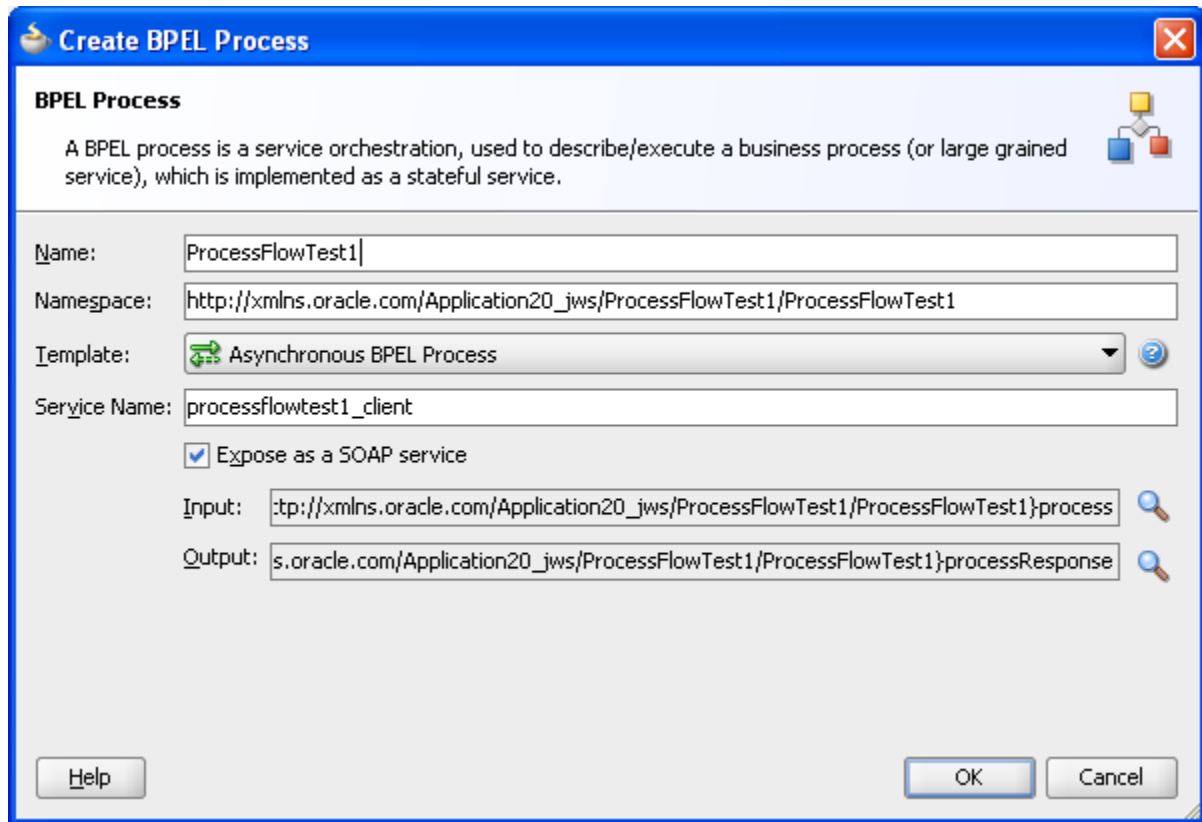
Composite Template:

- Empty Composite
- Composite With BPEL
- Composite With Business Rule
- Composite With Human Task
- Composite With Mediator
- Composite From Oracle BPA Blueprint

☐ Customizable

Help < Back Next > Finish Cancel

3. Name BPEL Process **same as the project name in Step -1**



The image shows a 'Create BPEL Process' dialog box with a blue title bar. The main area has a light blue header with the title 'BPEL Process' and a small icon of a process flow. Below the header, there is a descriptive text: 'A BPEL process is a service orchestration, used to describe/execute a business process (or large grained service), which is implemented as a stateful service.' The main body contains several input fields: 'Name' with the value 'ProcessFlowTest1', 'Namespace' with the value 'http://xmlns.oracle.com/Application20\_jws/ProcessFlowTest1/ProcessFlowTest1', 'Template' with a dropdown menu showing 'Asynchronous BPEL Process' and a help icon, and 'Service Name' with the value 'processflowtest1\_client'. There is a checked checkbox labeled 'Expose as a SOAP service'. Below this, there are 'Input' and 'Output' fields. The 'Input' field contains 'tp://xmlns.oracle.com/Application20\_jws/ProcessFlowTest1/ProcessFlowTest1}process' and has a search icon. The 'Output' field contains 's.oracle.com/Application20\_jws/ProcessFlowTest1/ProcessFlowTest1}processResponse' and also has a search icon. At the bottom, there are three buttons: 'Help', 'OK', and 'Cancel'.

**Create BPEL Process**

**BPEL Process**

A BPEL process is a service orchestration, used to describe/execute a business process (or large grained service), which is implemented as a stateful service.

Name: ProcessFlowTest1

Namespace: http://xmlns.oracle.com/Application20\_jws/ProcessFlowTest1/ProcessFlowTest1

Template: Asynchronous BPEL Process

Service Name: processflowtest1\_client

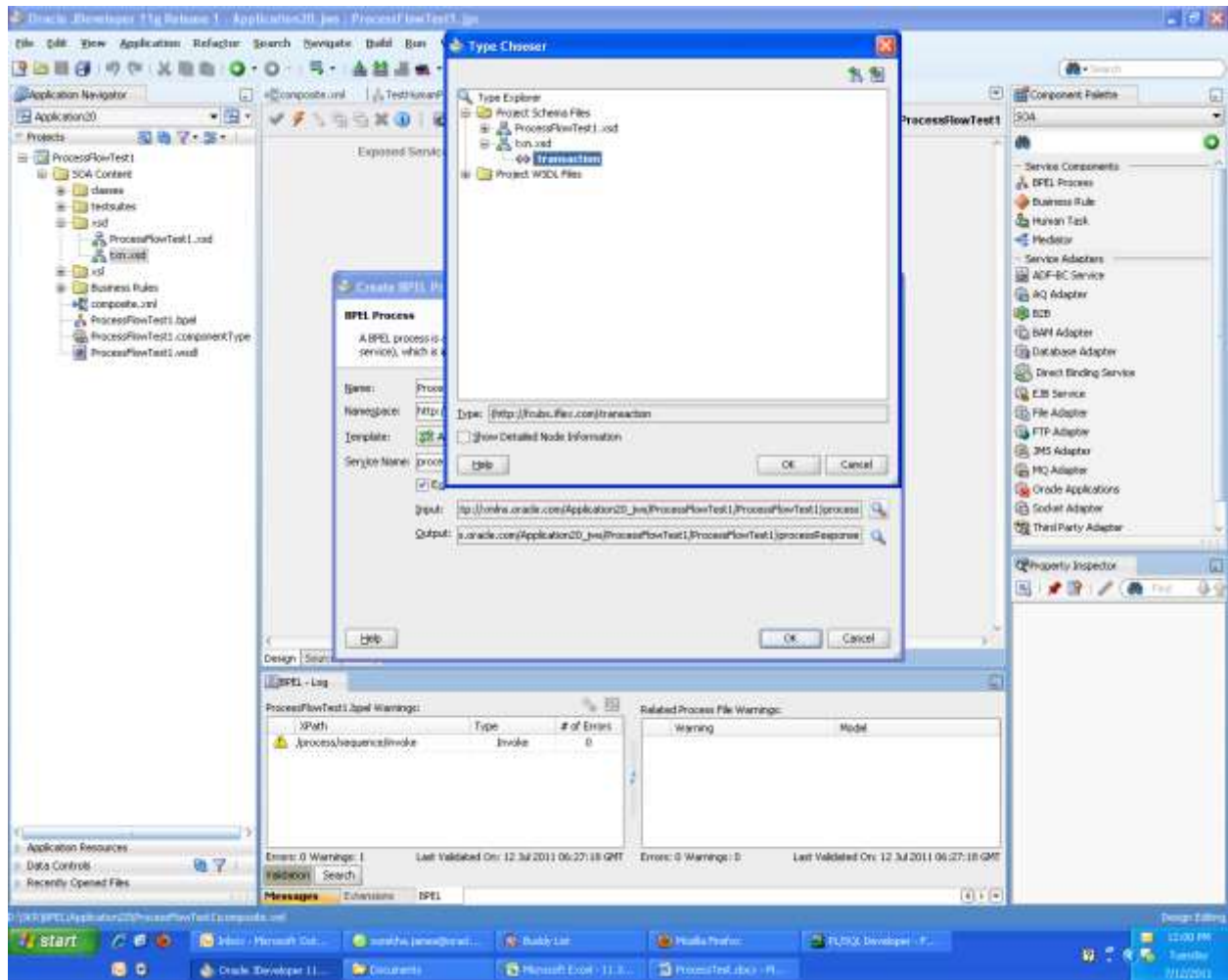
☒ Expose as a SOAP service

Input: tp://xmlns.oracle.com/Application20\_jws/ProcessFlowTest1/ProcessFlowTest1}process



Output: s.oracle.com/Application20\_jws/ProcessFlowTest1/ProcessFlowTest1}processResponse


Help OK Cancel

4. Change the input/output of .xsd to type txn.xsd which is the standard followed for FCUBS



5. Click OK.



 **Create BPEL Process** 

**BPEL Process** 

A BPEL process is a service orchestration, used to describe/execute a business process (or large grained service), which is implemented as a stateful service.


Name:


Namespace:

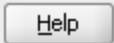
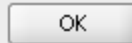
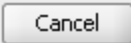
Template:  Asynchronous BPEL Process 

Service Name:

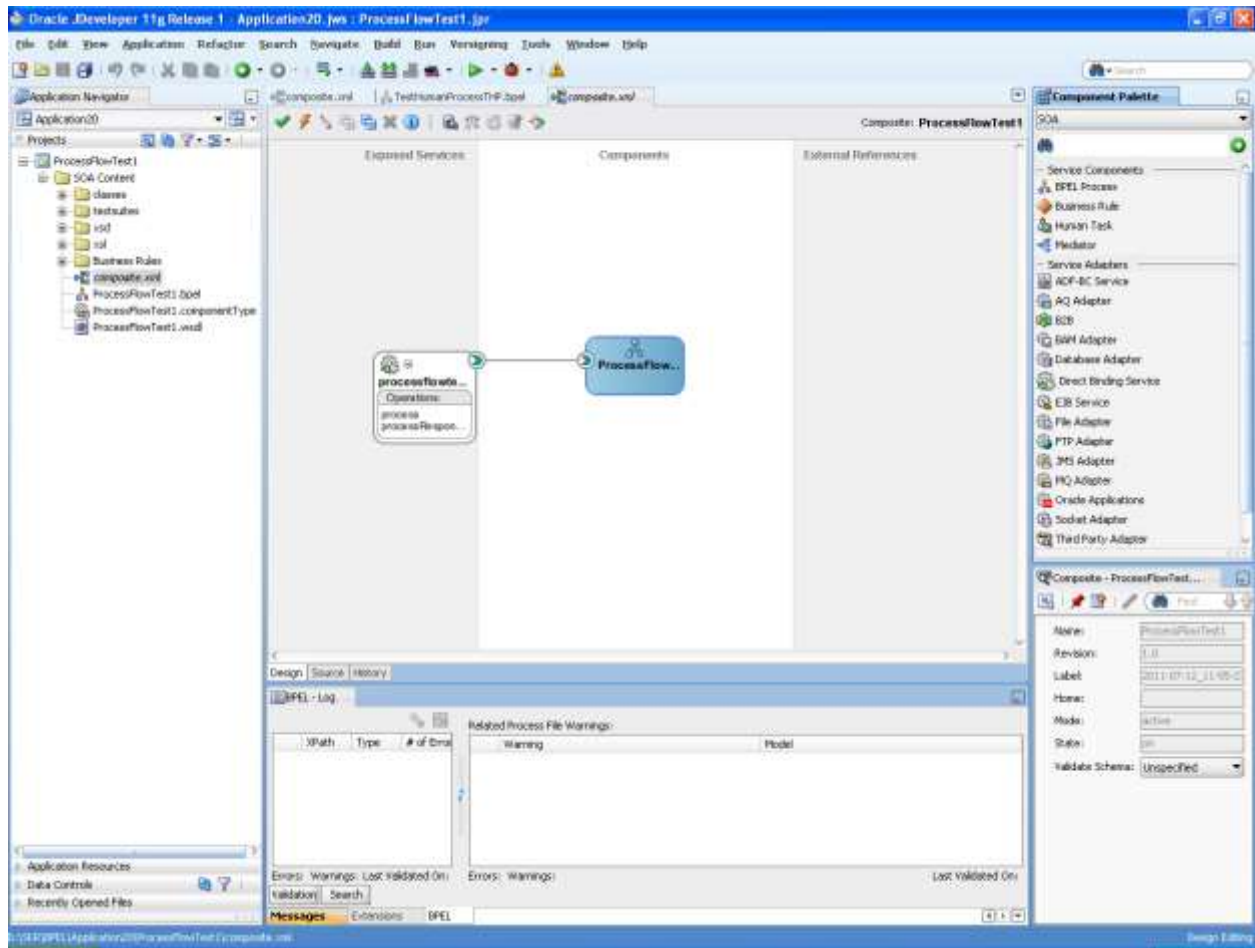
☒ Expose as a SOAP service

Input:  

Output:  

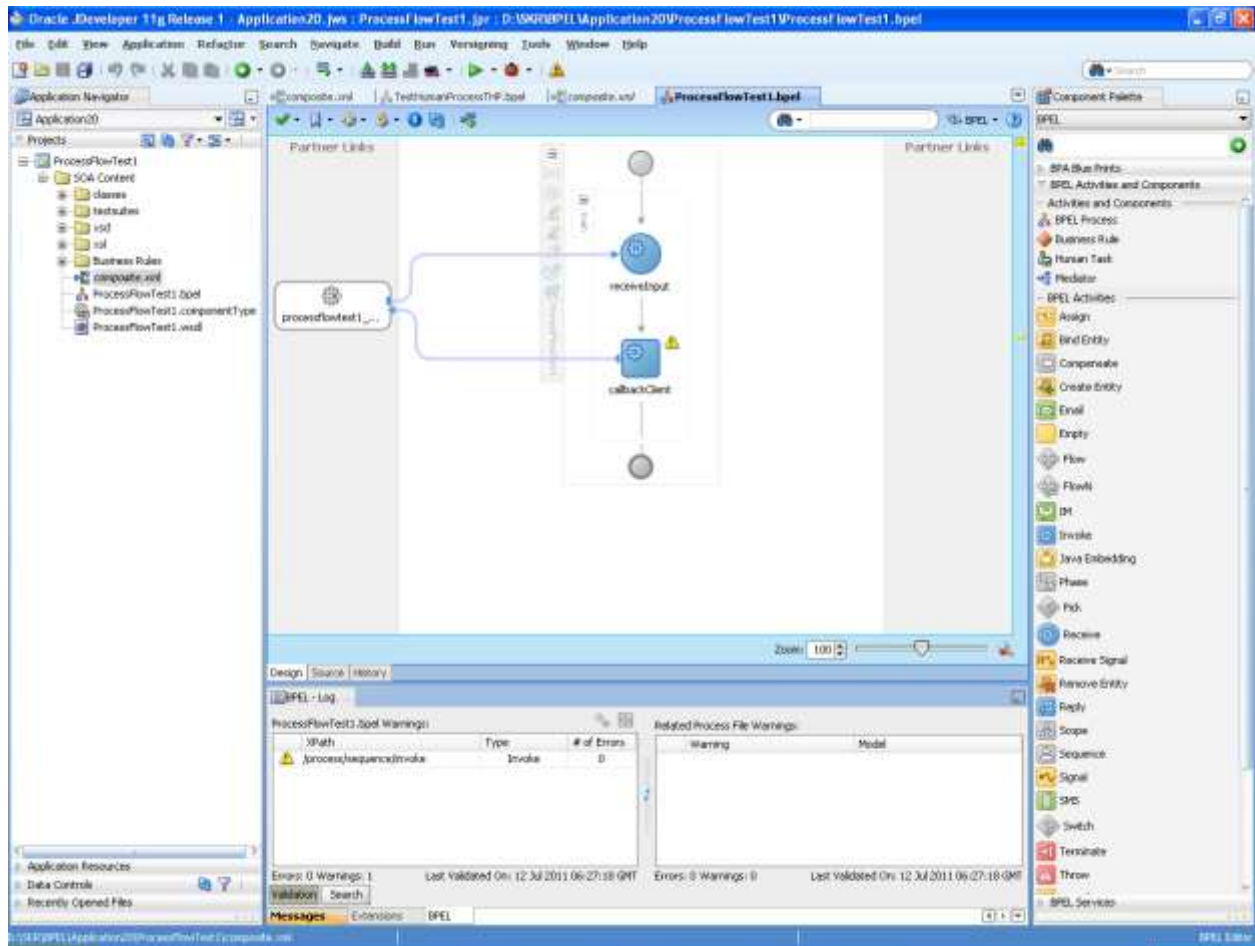
  

6. Process is created.

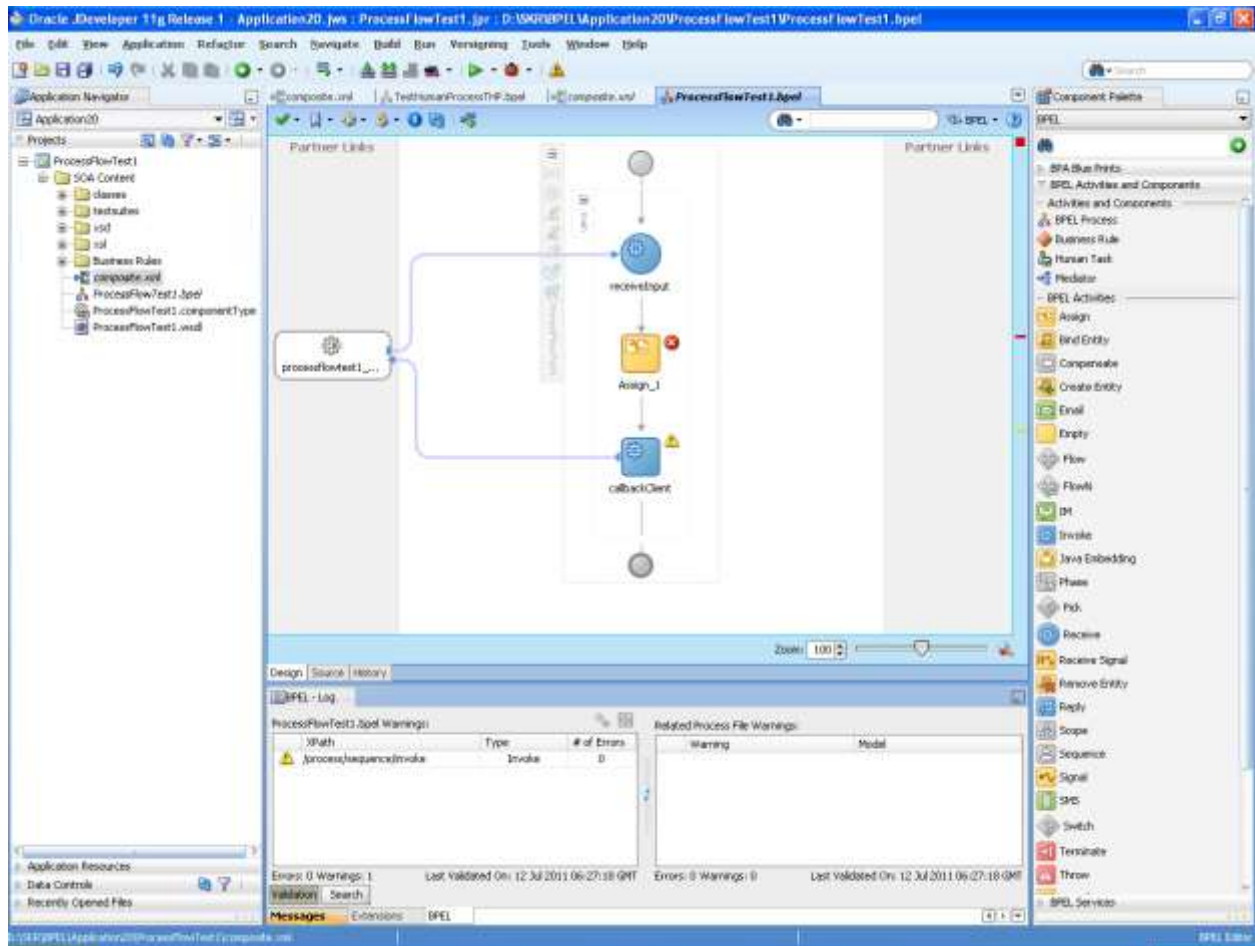




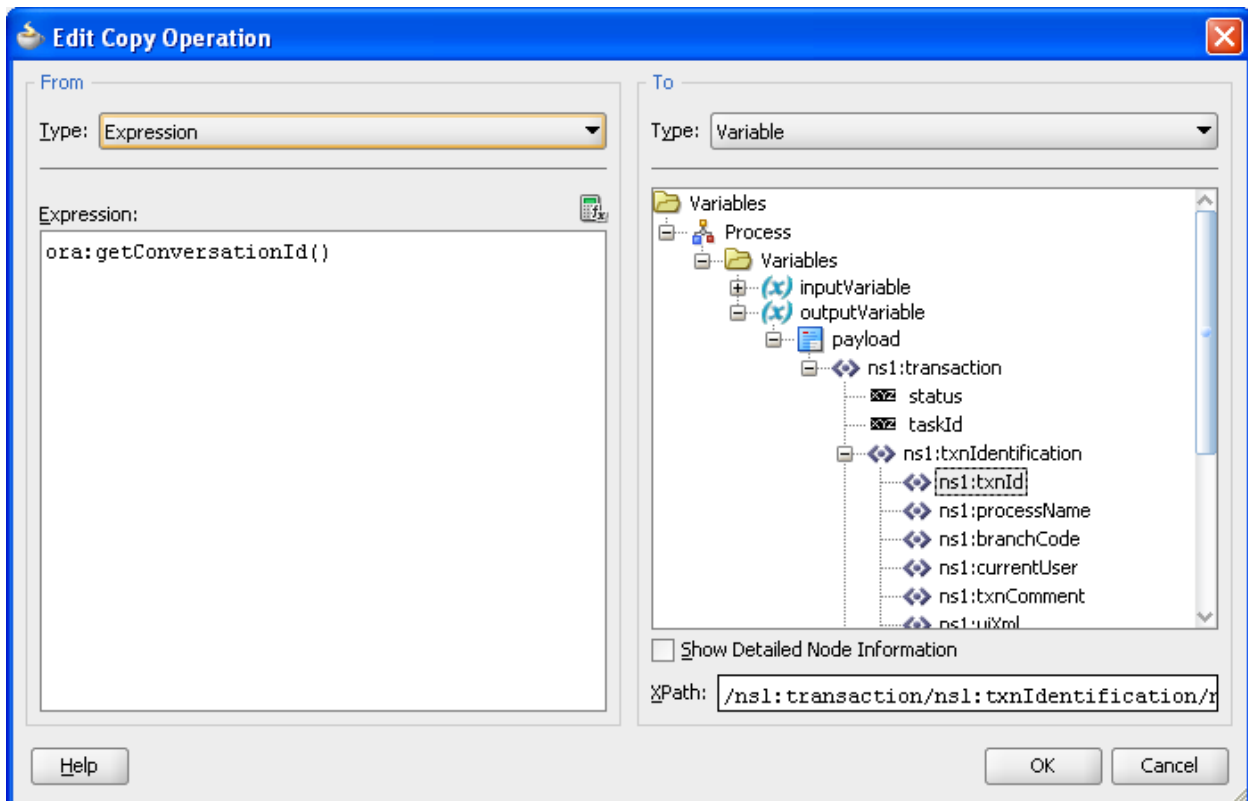
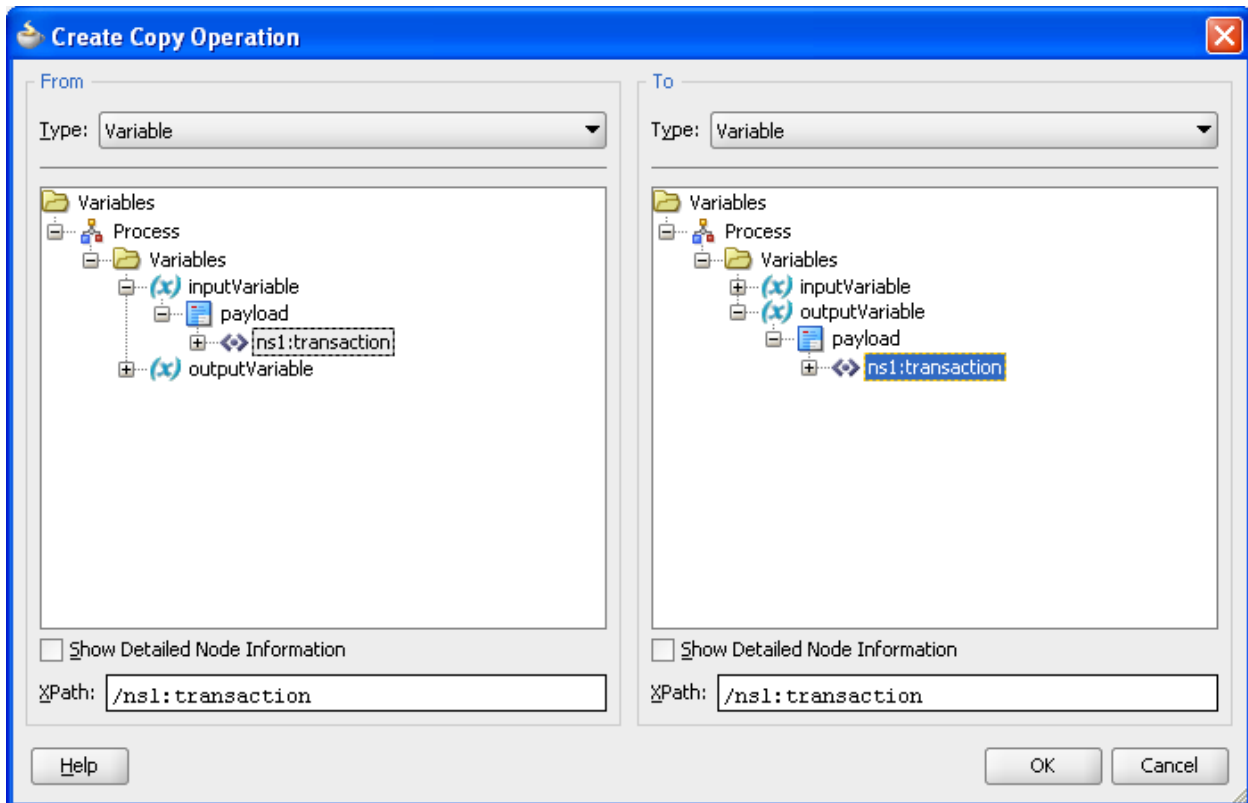
7. Open the .bpel



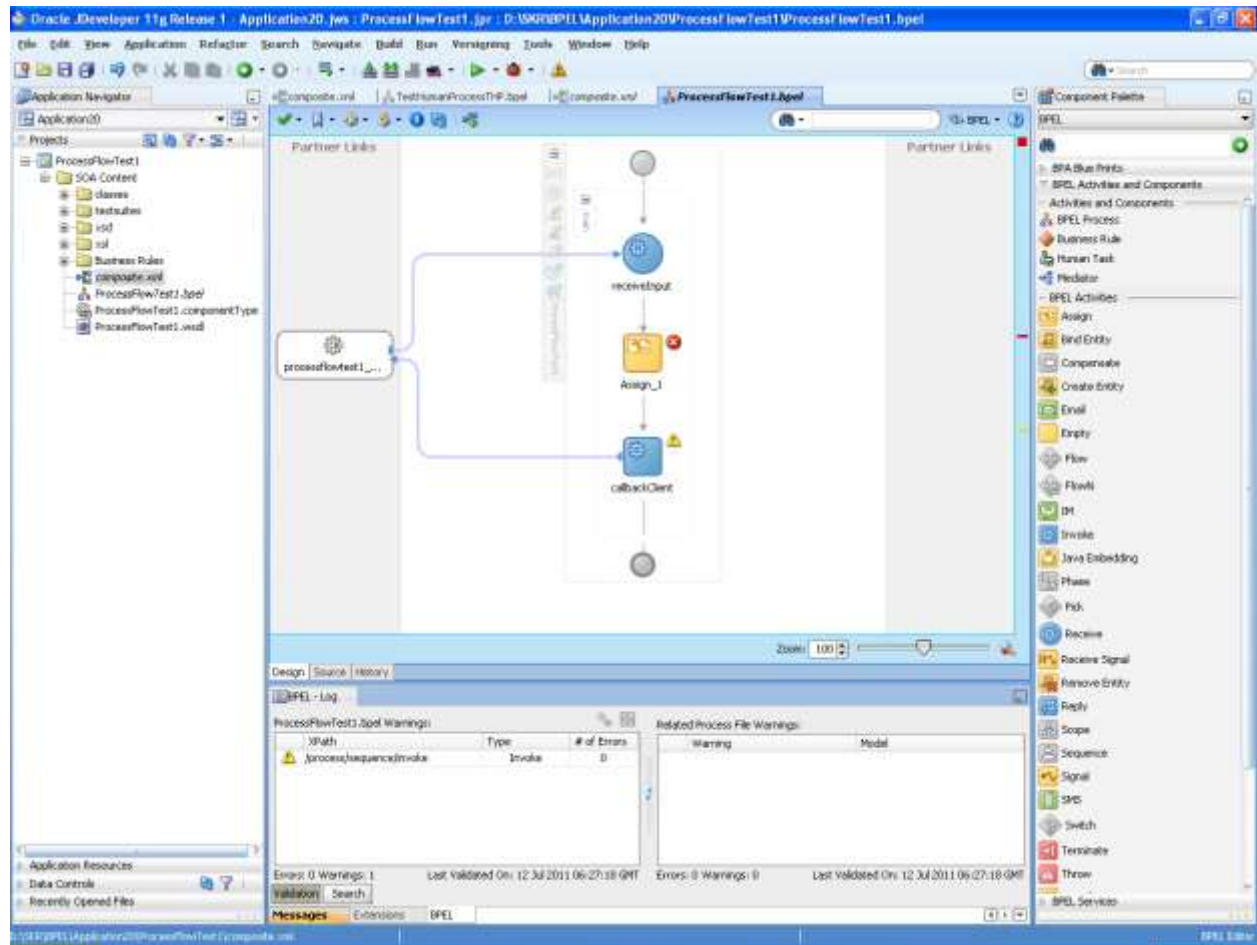
## 8. Drag and drop 'Assign' activity



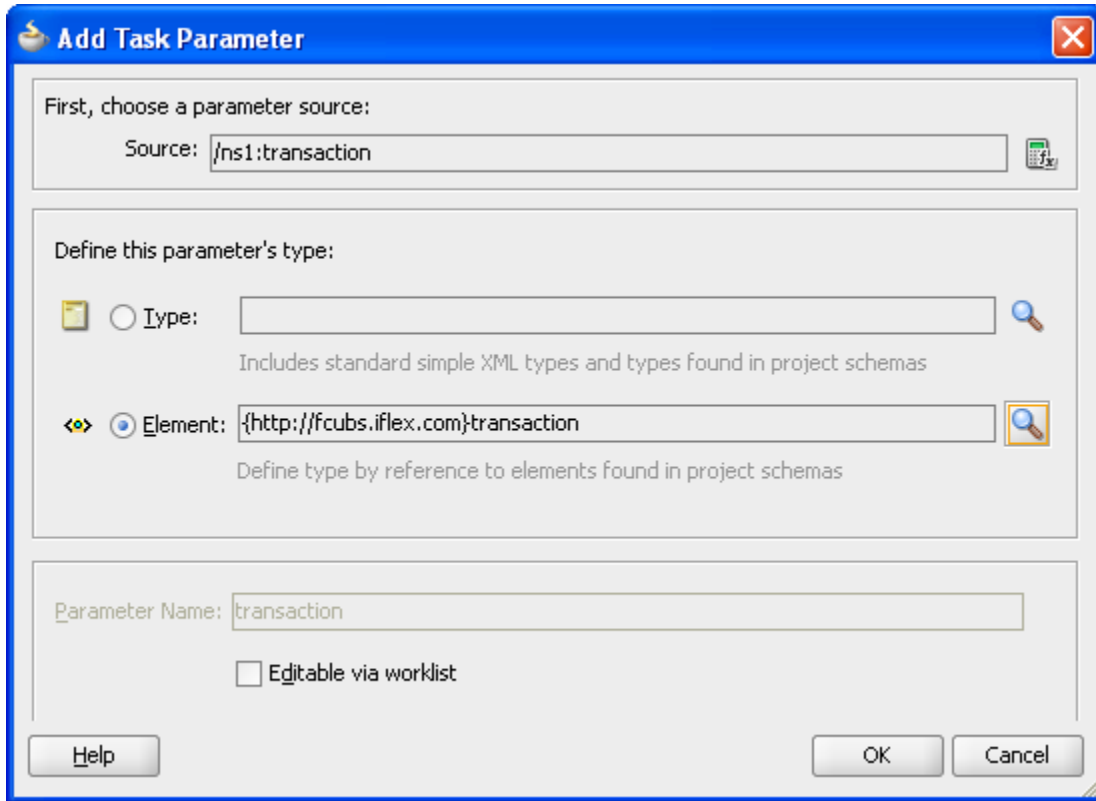
9. Give the 'Copy Operation' in 'Assign' activity as follows.



10. Drag and drop the Human task from the component Palette (BPEL activities and components) after the assign activity and navigate to .task from the Application Navigator on the left.



11. Give the 'source' same as output variable and 'Element' as transaction type in the Human task.





**Add Task Parameter**

First, choose a parameter source:

Source:

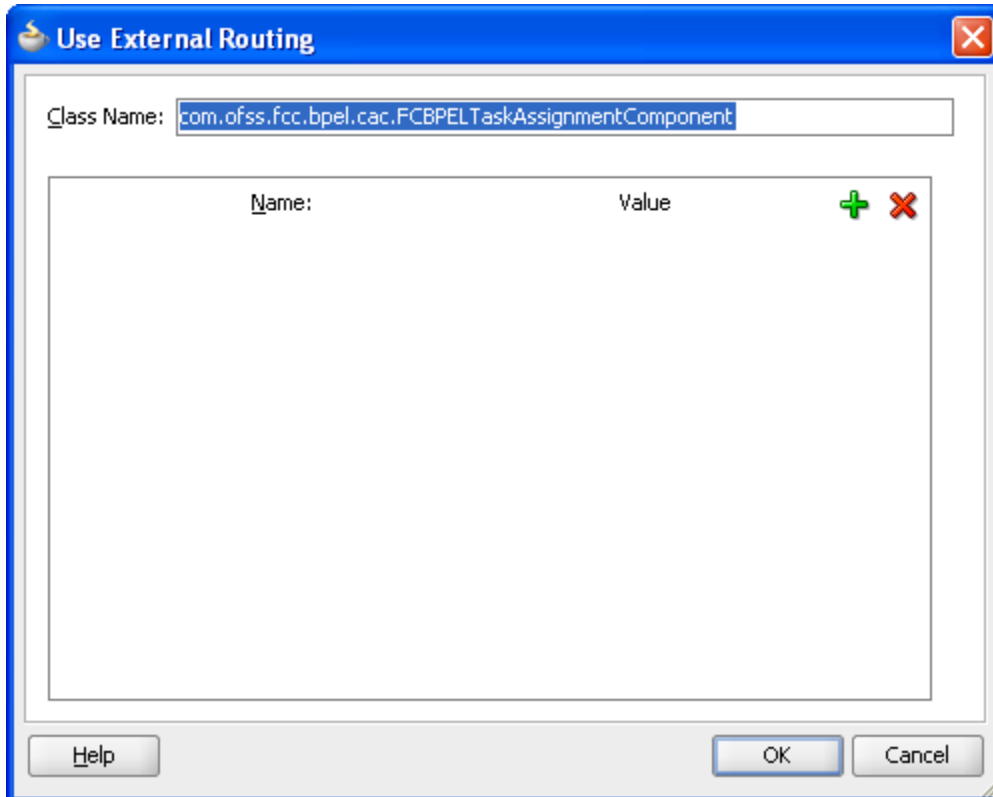
Define this parameter's type:

☐ Type:    
Includes standard simple XML types and types found in project schemas

☒ Element:    
Define type by reference to elements found in project schemas



Parameter Name:

☐ Editable via worklist

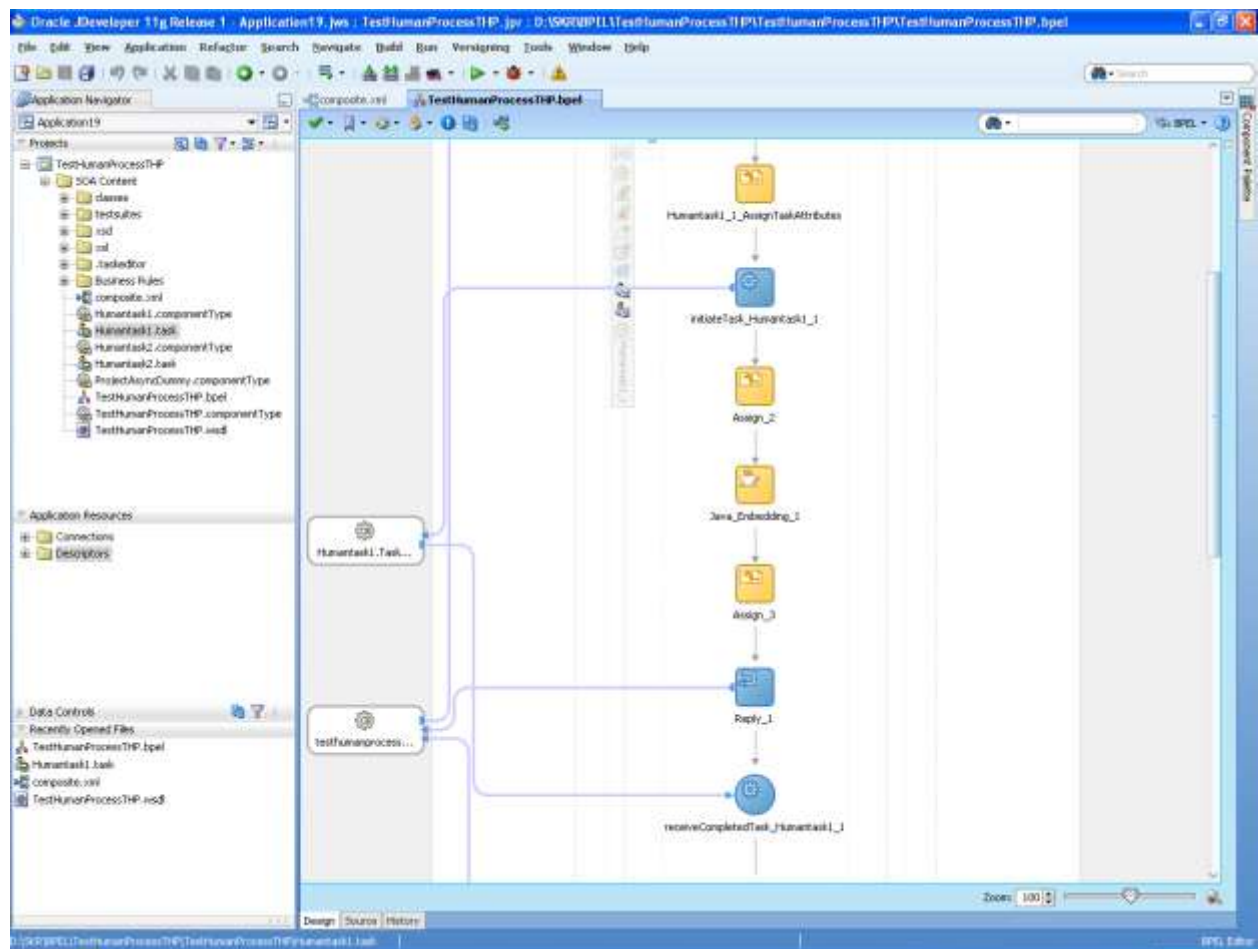


**Use External Routing**

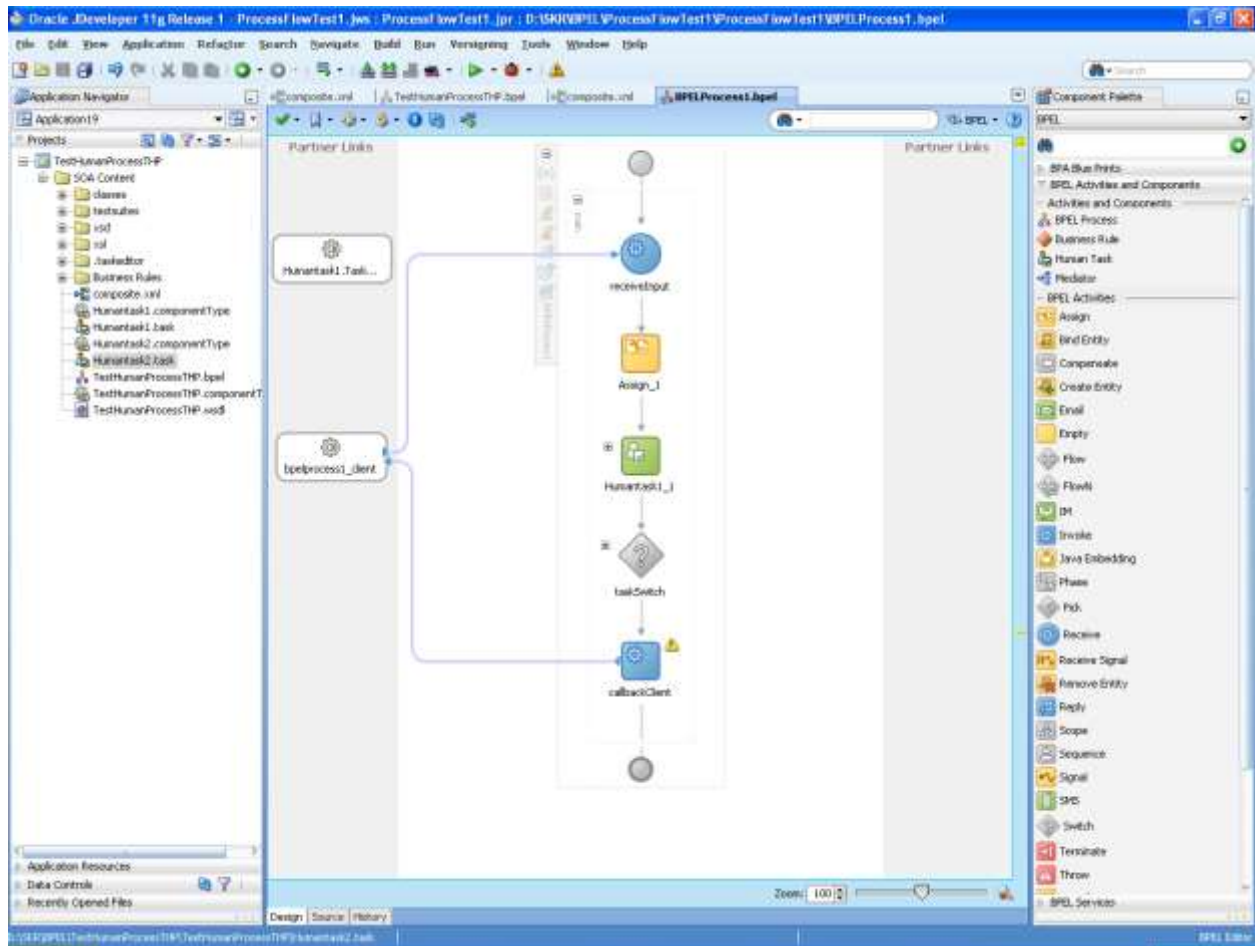
Class Name:

Name:	Value		
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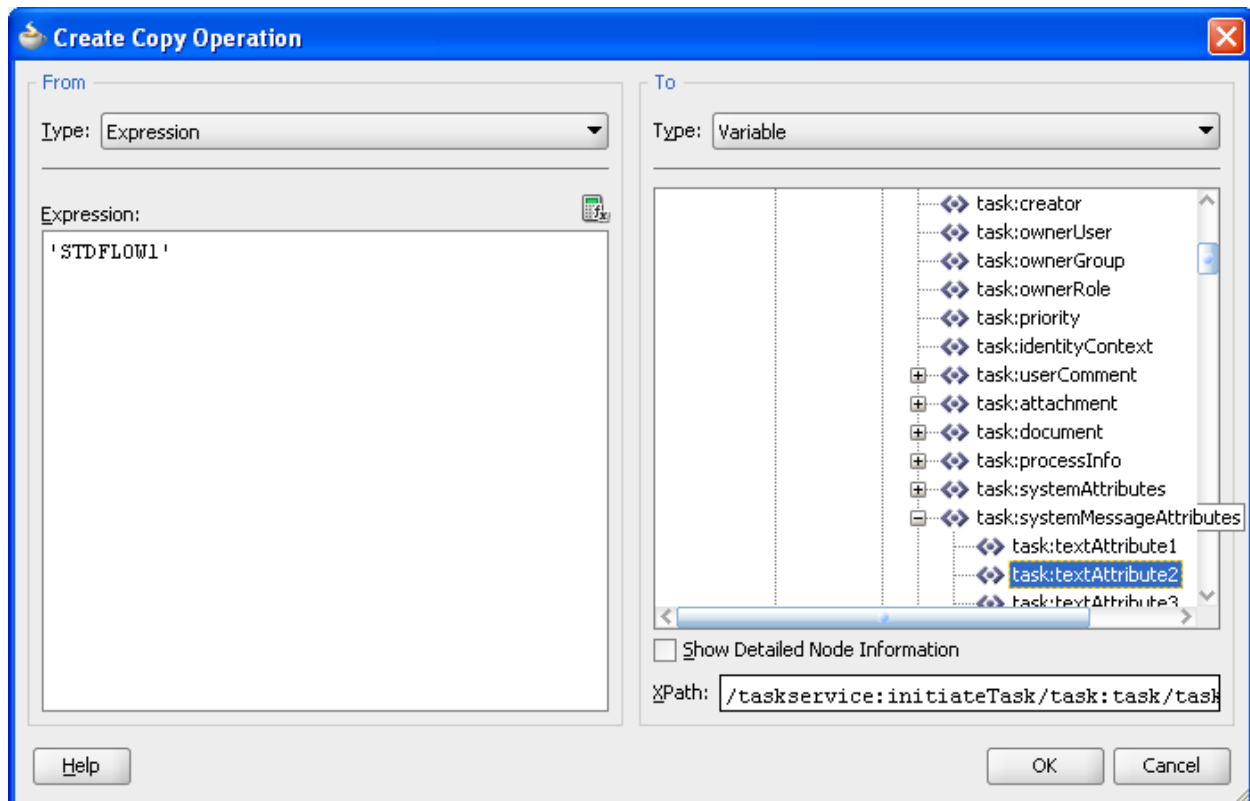
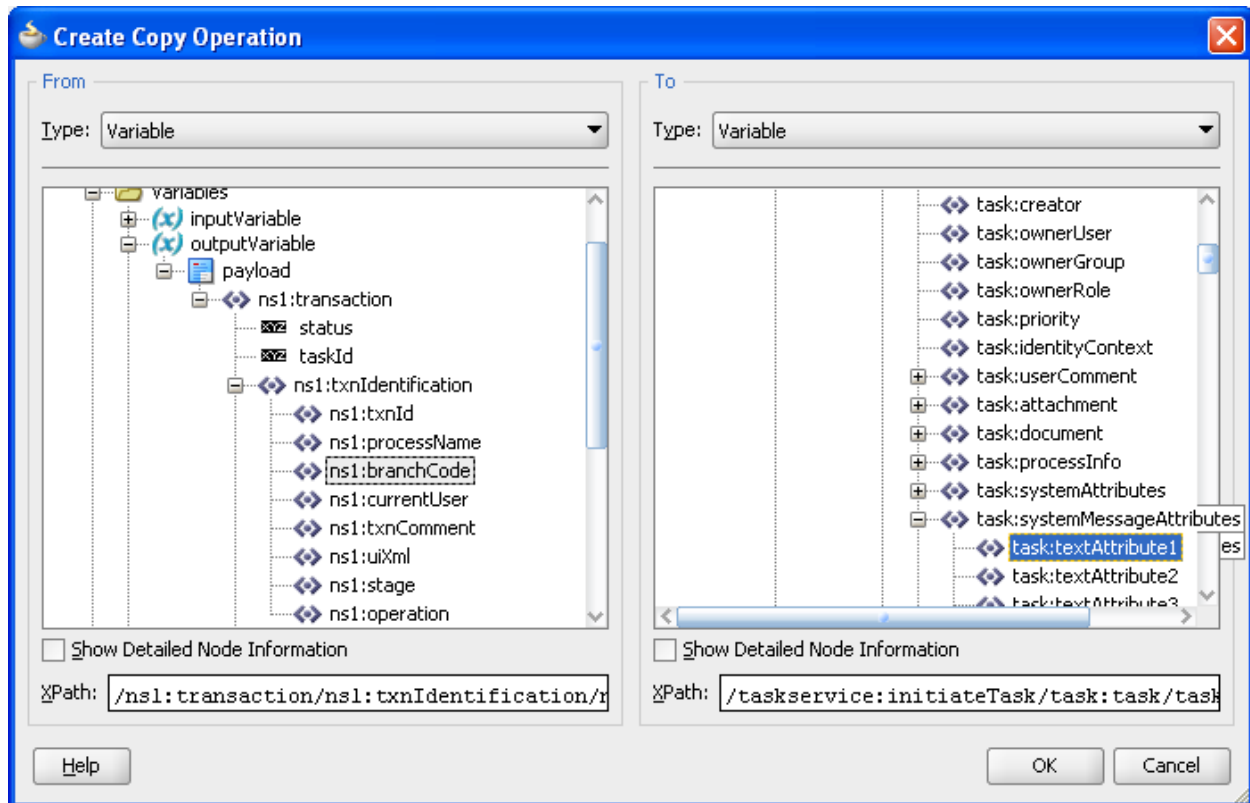
12. Expanded Humantask shown below.



13. Human task is created.

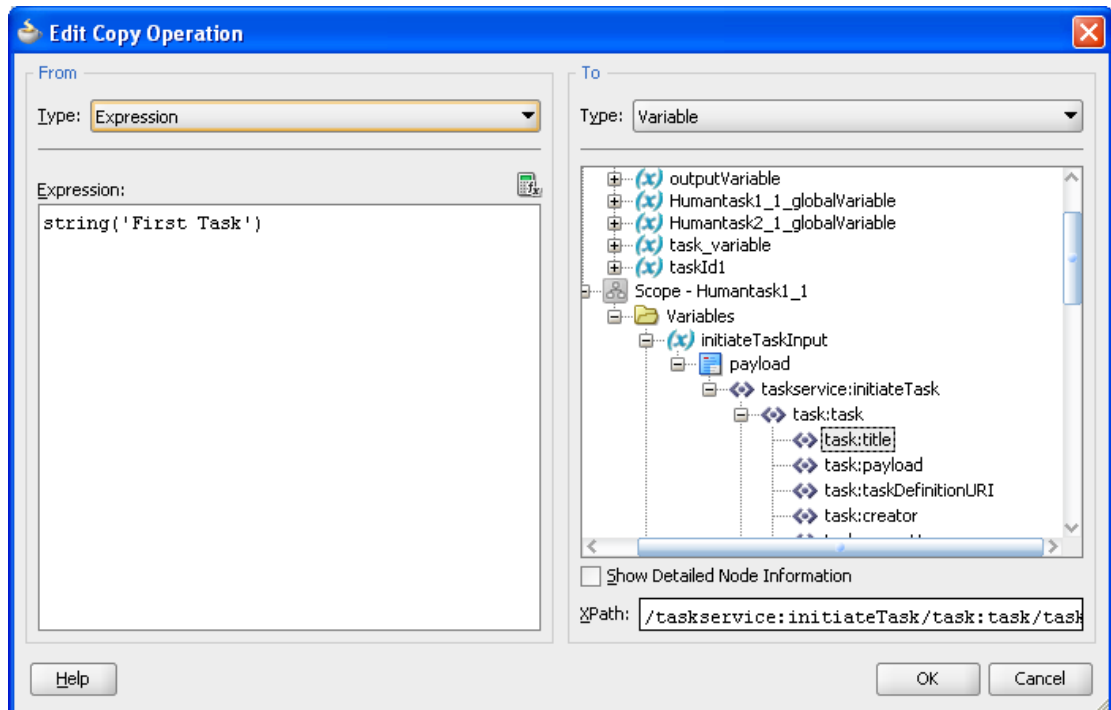


14. Create 'Copy Operation' for 'Assign' activity in Human task as follows.

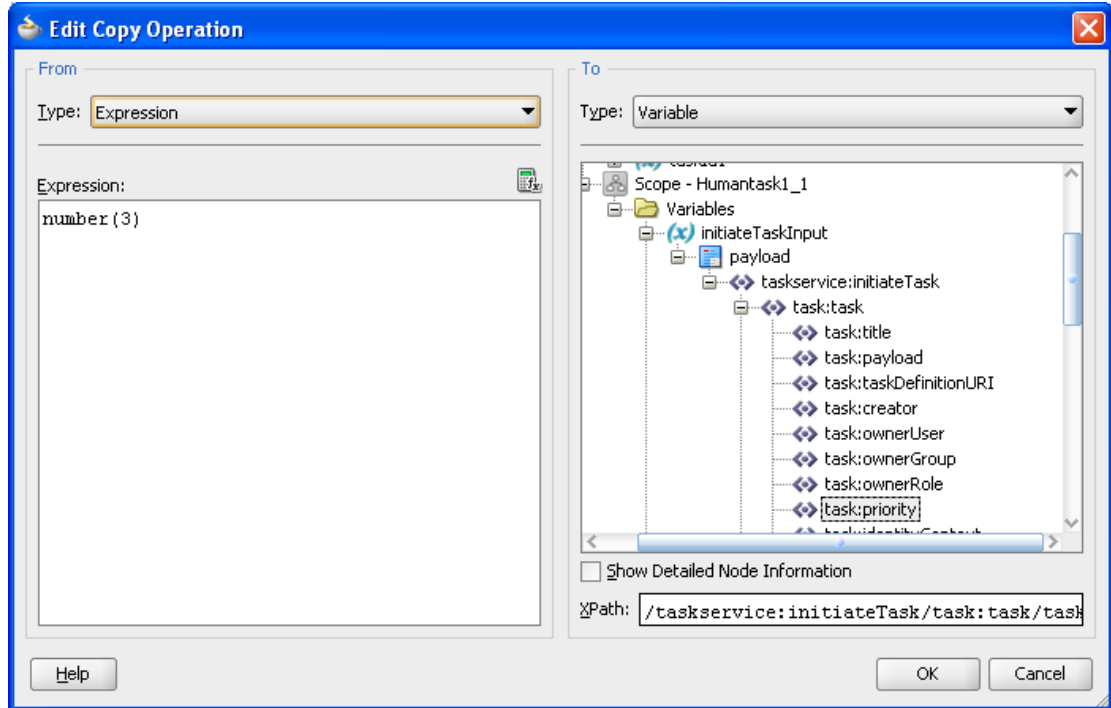




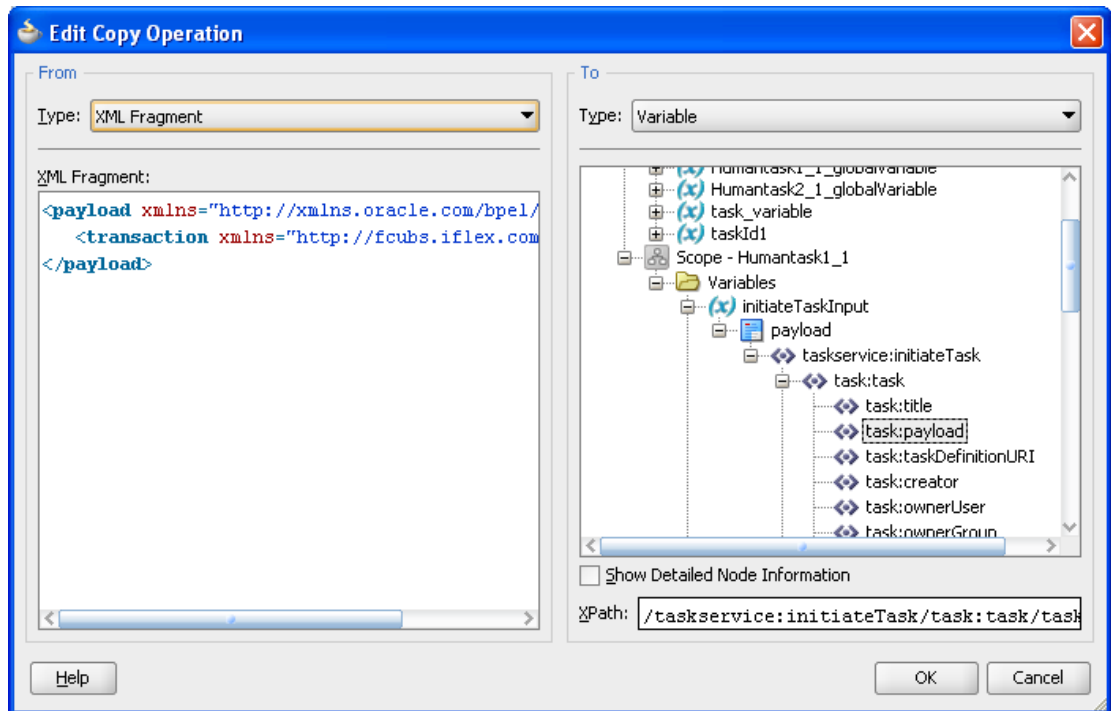
**Note :** Other automatic assignments which are defaulted on creation of Human Task are as follows-



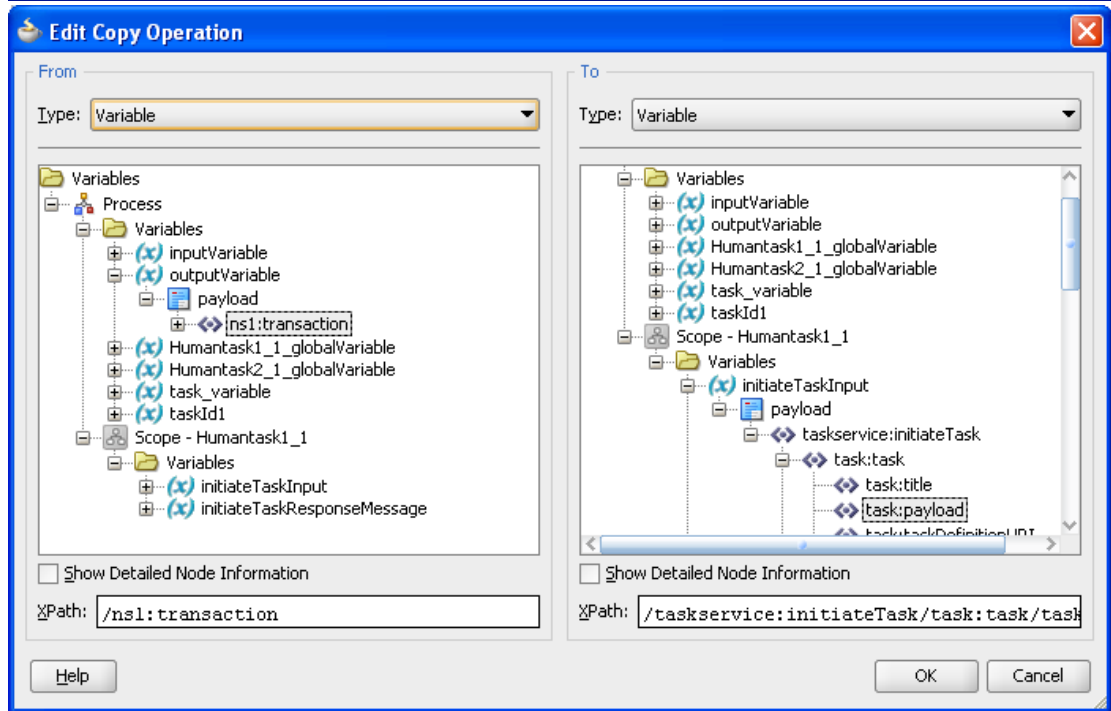
i.



ii.

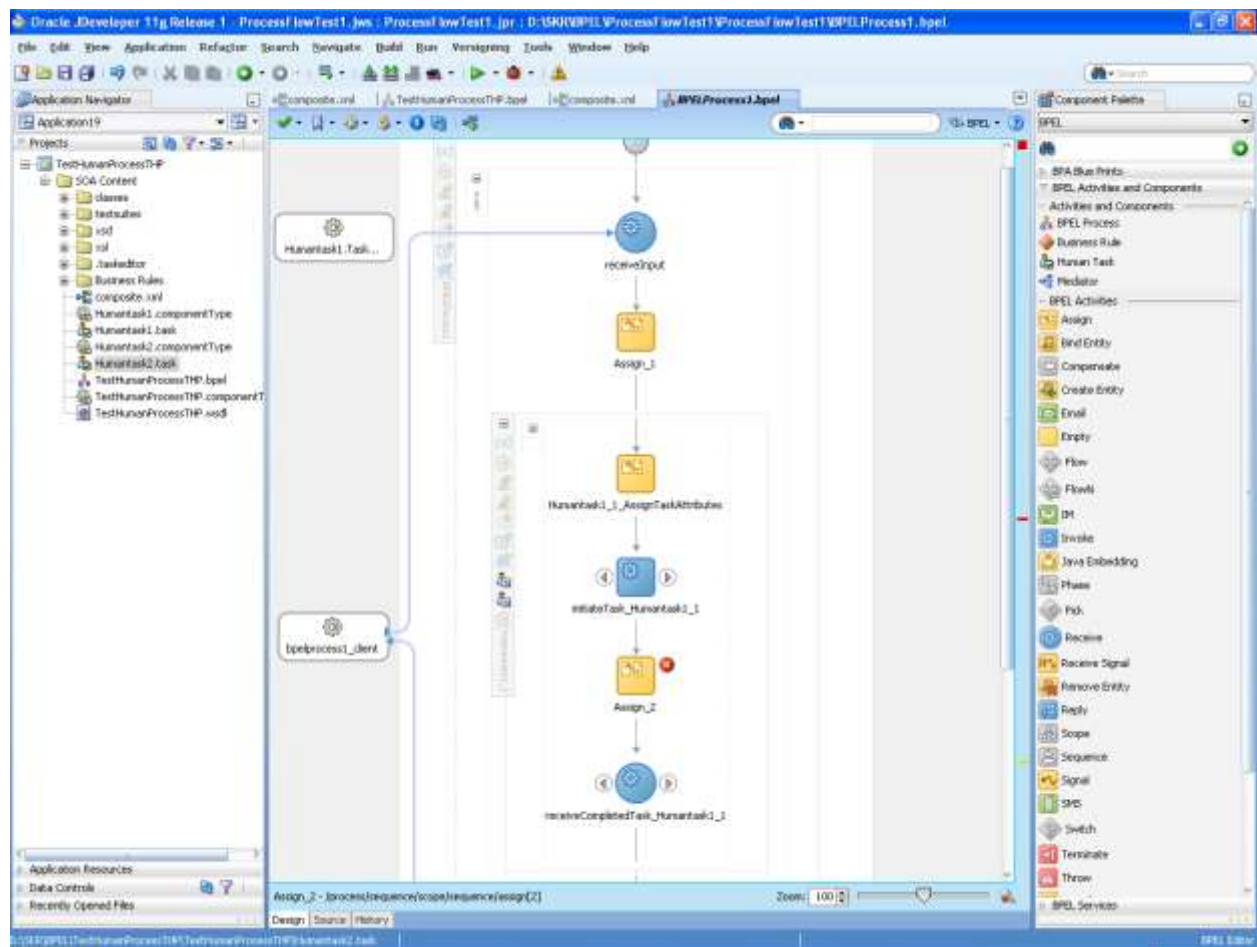


iii.

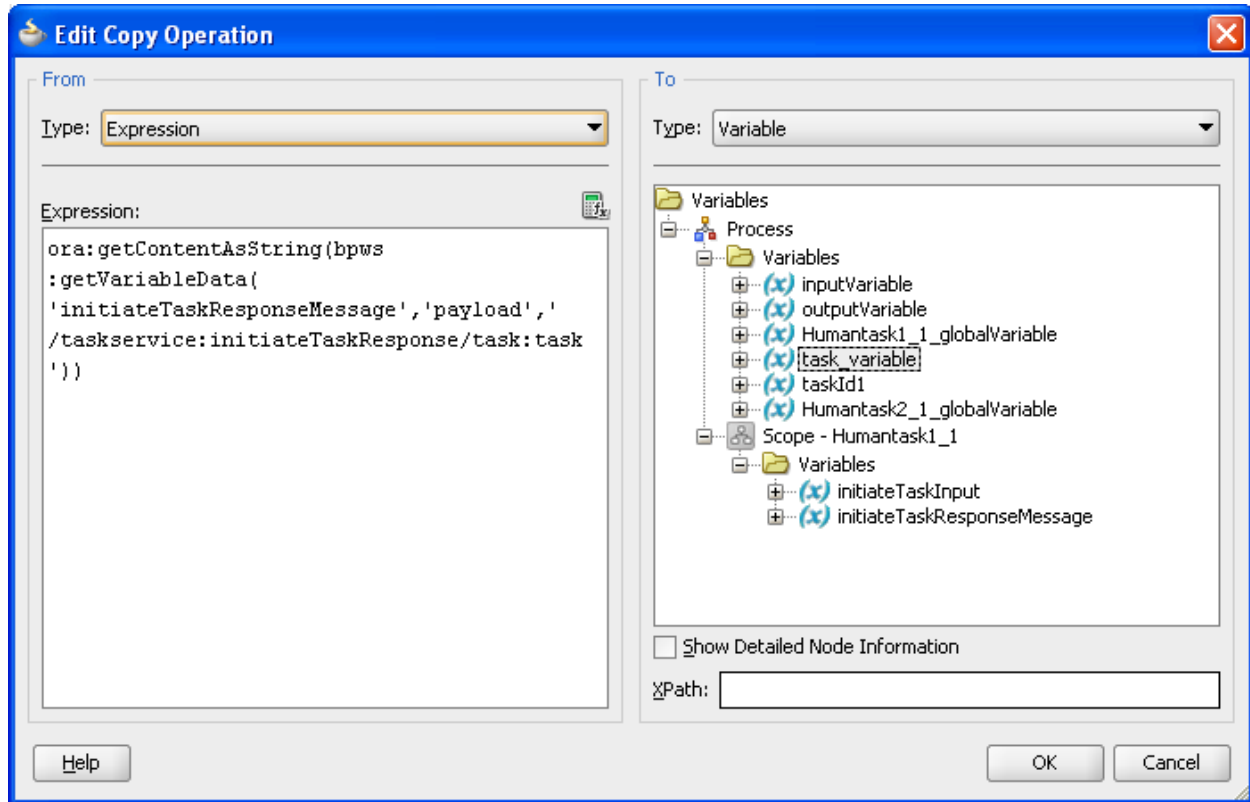


iv.

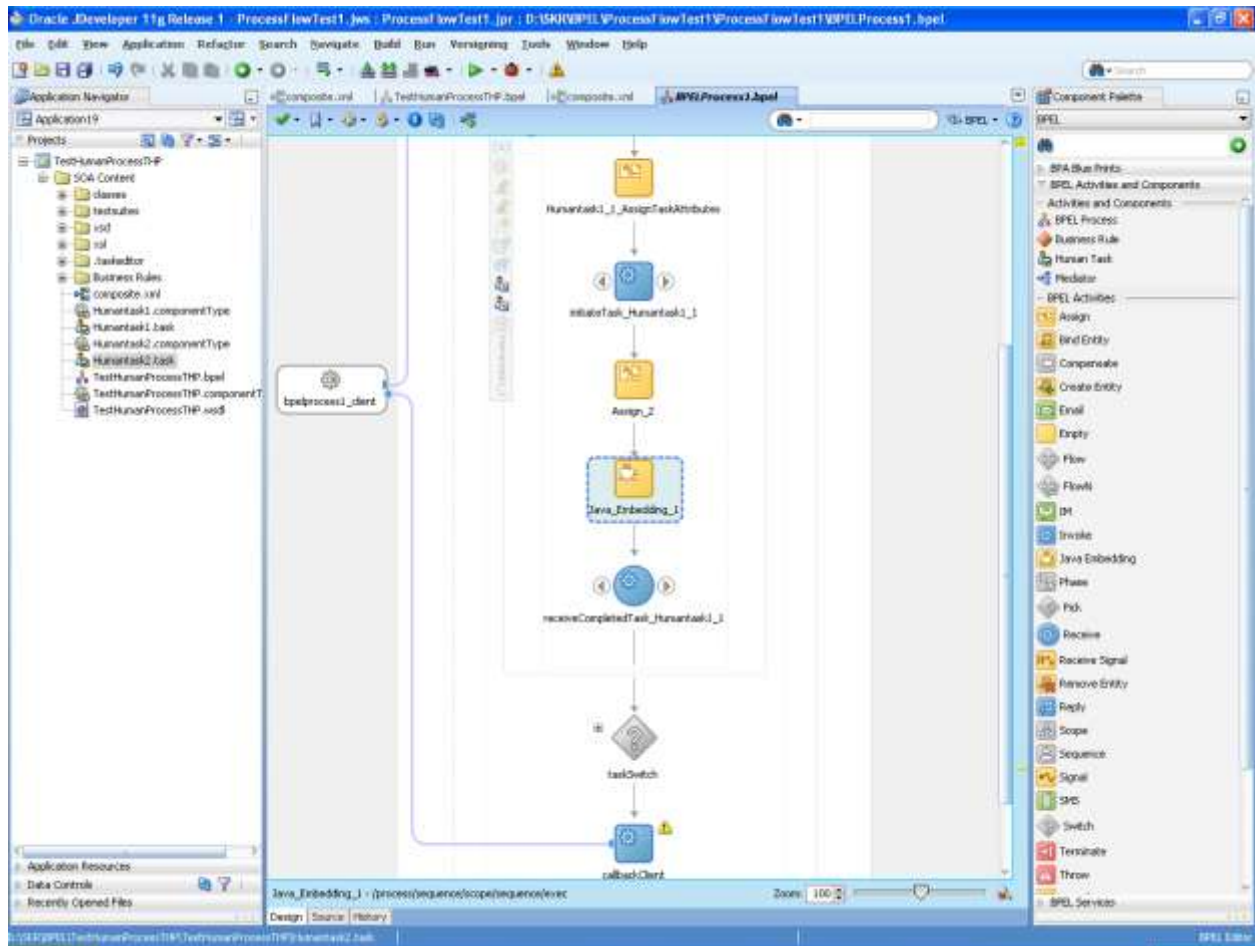
15. Put another 'Assign' activity in Human task



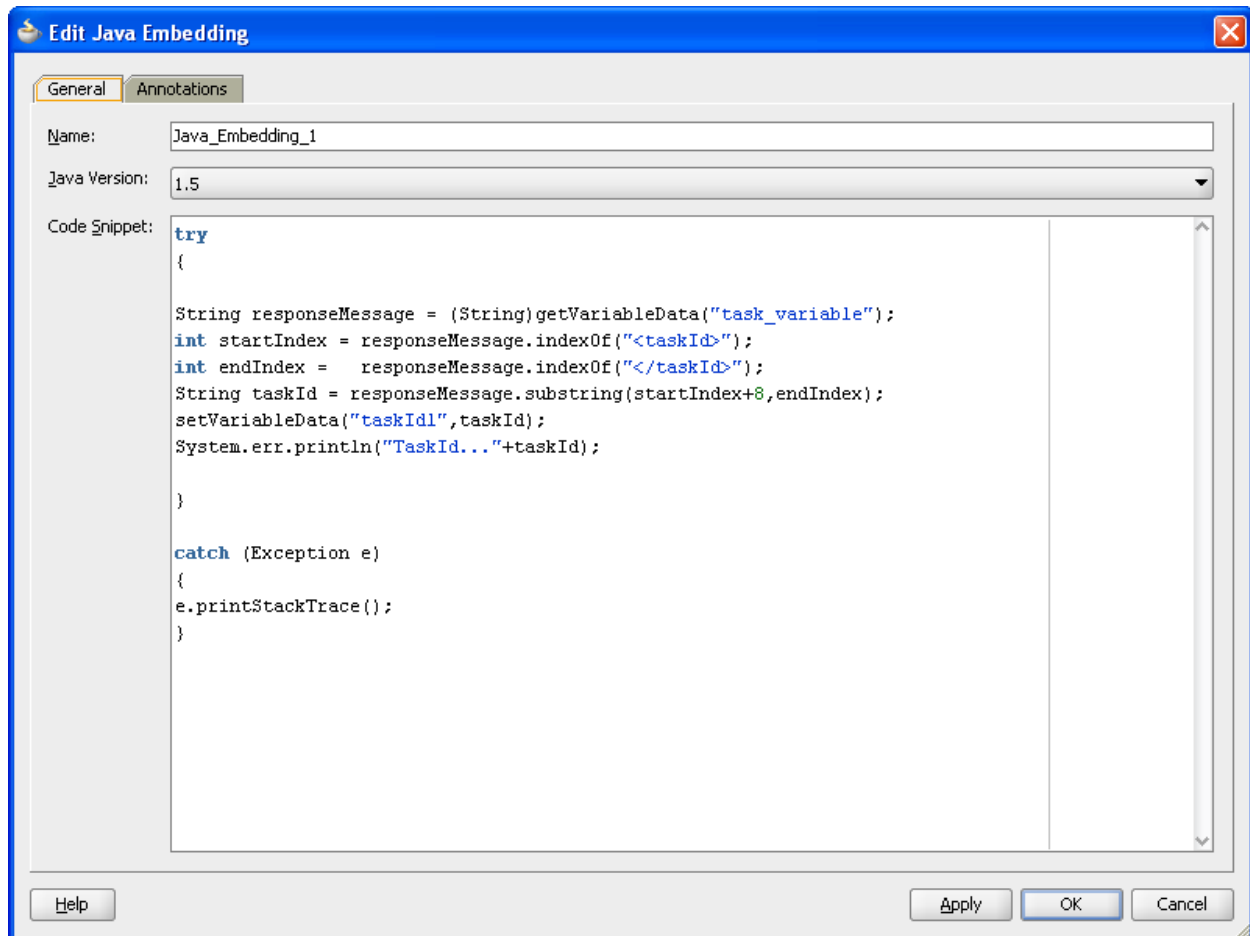
16. Give the 'Copy Operation' for 'assign' activity. Create a new variable by right clicking on 'variables' in Variables -> Process -> Variables



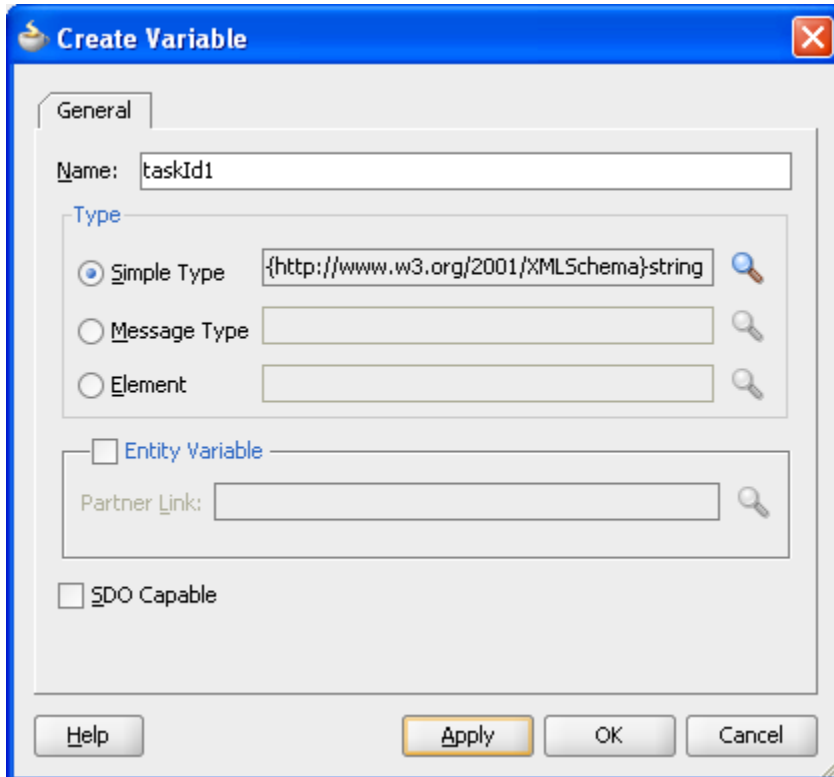
17. Put 'Java embedding' activity after the assign activity.



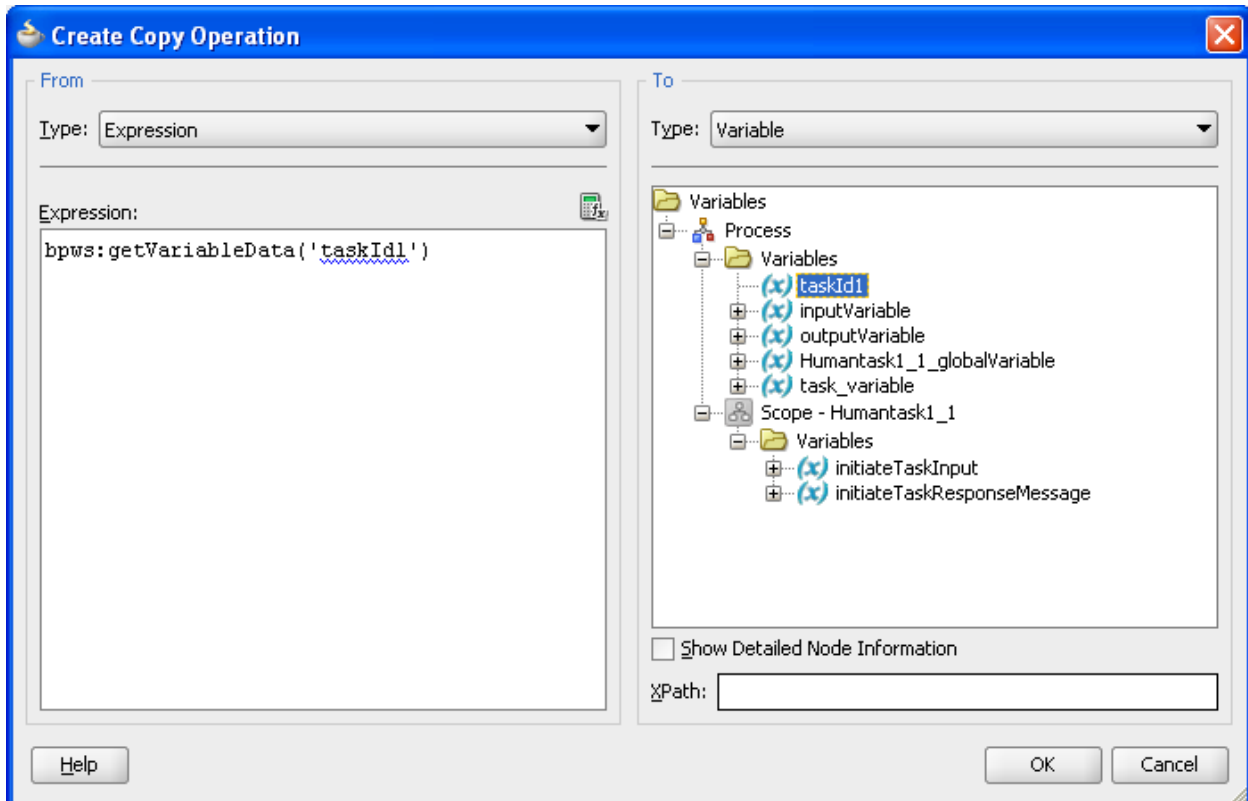
18. Put the 'Code snippet'



19. Put another 'Assign' activity after Java embedding and give 'Copy operation'

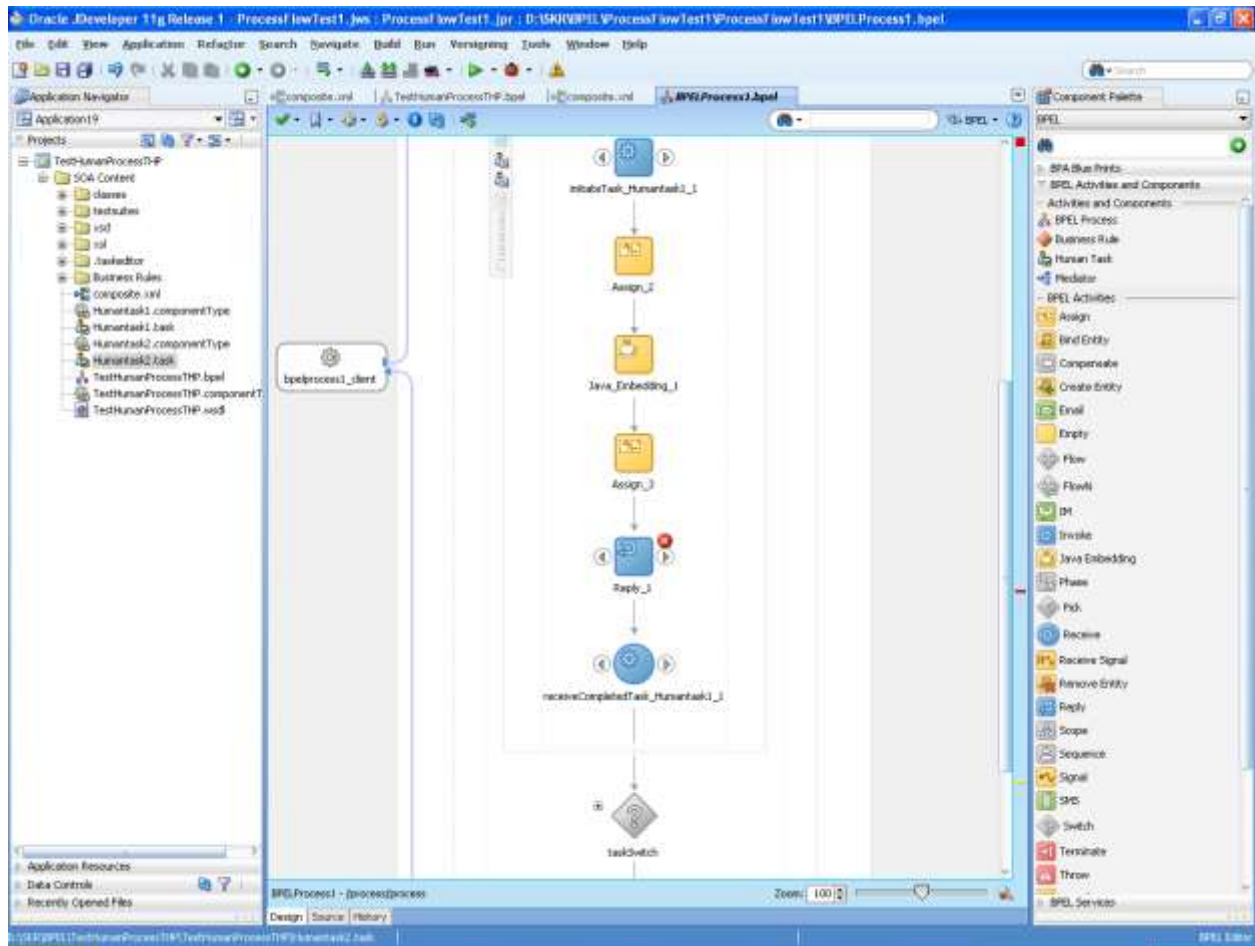


The 'Create Variable' dialog box is shown with the 'General' tab selected. The 'Name' field contains 'taskId1'. Under the 'Type' section, 'Simple Type' is selected with the value '{http://www.w3.org/2001/XMLSchema}string'. The 'Message Type' and 'Element' options are unselected. The 'Entity Variable' checkbox is unchecked, and the 'Partner Link' field is empty. The 'SDO Capable' checkbox is also unchecked. At the bottom, there are buttons for 'Help', 'Apply', 'OK', and 'Cancel'.



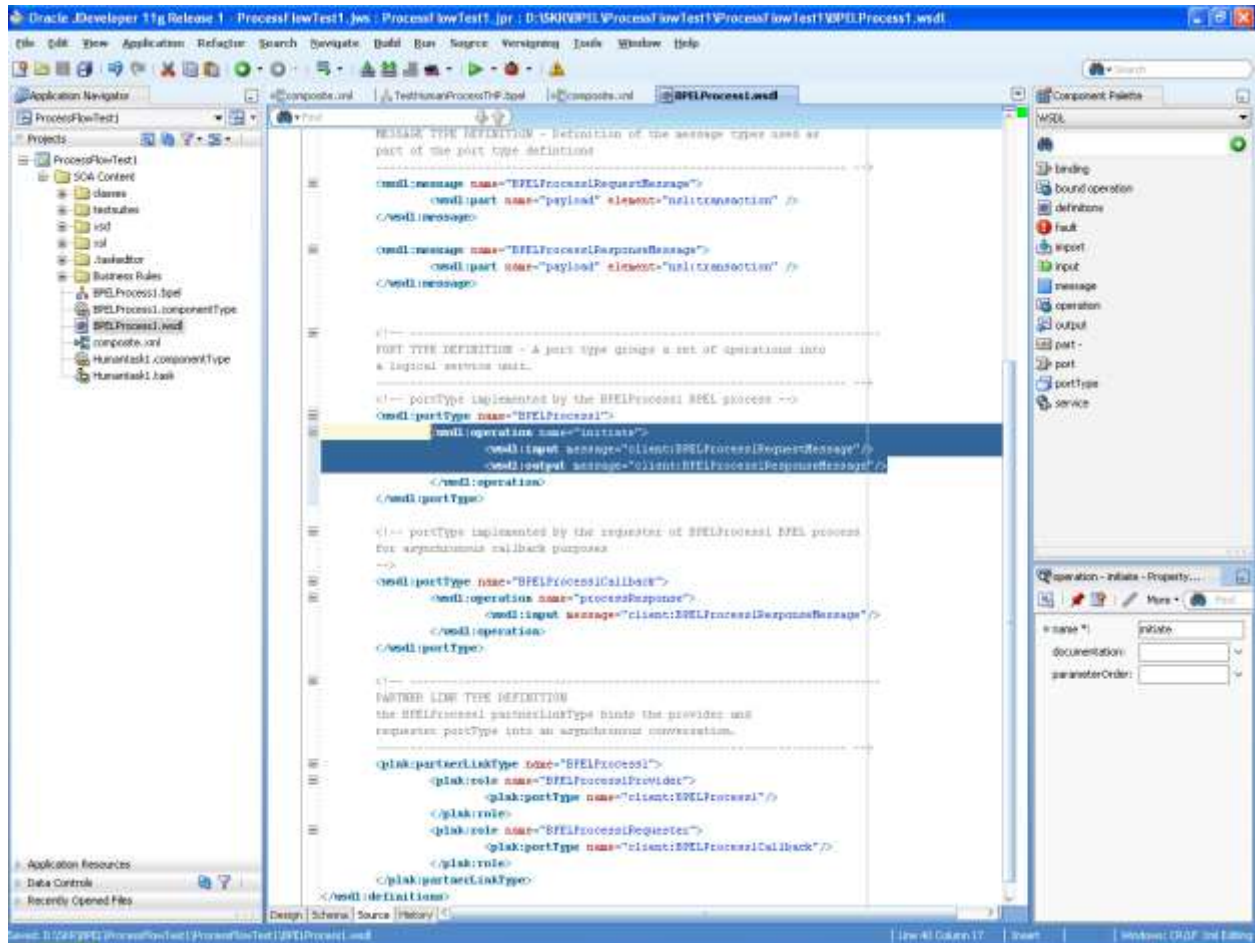
The 'Create Copy Operation' dialog box is shown. The 'From' section has 'Type' set to 'Expression' and the 'Expression' field contains the code `bpws:getVariableData('taskId1')`. The 'To' section has 'Type' set to 'Variable'. A tree view on the right shows the variable hierarchy: 'Process' contains 'Variables', which contains 'taskId1' (selected), 'inputVariable', 'outputVariable', 'Humantask1\_1\_globalVariable', and 'task\_variable'. Below this, 'Scope - Humantask1\_1' contains its own 'Variables' section with 'initiateTaskInput' and 'initiateTaskResponseMessage'. At the bottom, there is a checkbox for 'Show Detailed Node Information' and an 'XPath' field.

20. Put 'Reply' activity after the 'Assign'

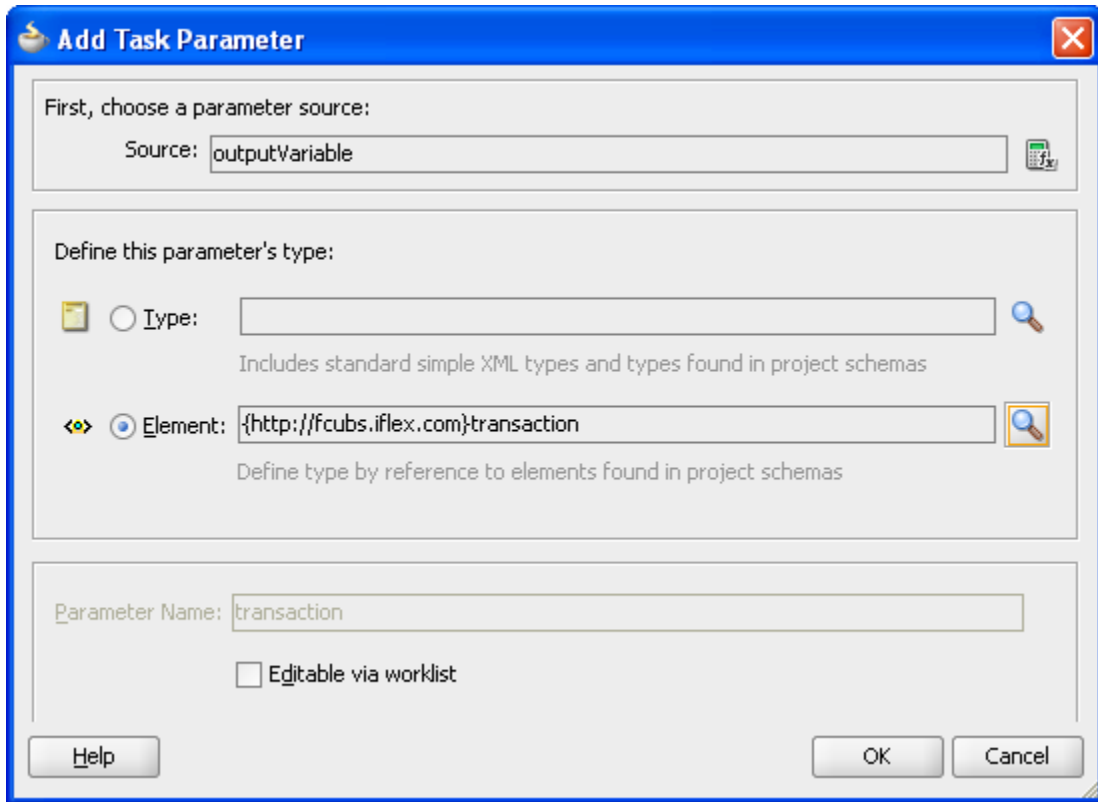




21. Put 'output Response message' <wsdl:output message="client:BPELProcess1ResponseMessage"/> and change operation name to 'initiate' in .wsdl <wsdl:operation name="initiate">



22. Create another human task similarly



The image shows a dialog box titled "Add Task Parameter" with a blue header bar. The dialog is divided into three main sections. The first section, "First, choose a parameter source:", contains a "Source:" label and a text field with the value "outputVariable". The second section, "Define this parameter's type:", has two options. The first option is "Type:" with a radio button and a text field; below it is the text "Includes standard simple XML types and types found in project schemas". The second option is "Element:" with a radio button (which is selected), a text field containing "{http://fcubs.iflex.com}transaction", and a button with a magnifying glass icon; below it is the text "Define type by reference to elements found in project schemas". The third section contains a "Parameter Name:" label and a text field with the value "transaction", and a checkbox labeled "Editable via worklist" which is currently unchecked. At the bottom of the dialog are three buttons: "Help", "OK", and "Cancel".

**Add Task Parameter**

First, choose a parameter source:

Source:

Define this parameter's type:

☐ Type:

Includes standard simple XML types and types found in project schemas

☒ Element:

Define type by reference to elements found in project schemas

Parameter Name:

☐ Editable via worklist

Help OK Cancel

Create Human Task

Human Task Component

Create a Human Task Component to set up and customize workflow.

Name:

Humantask2

Priority:

3 (Normal)

Namespace:

http://xmlns.oracle.com/ProcessFlowTest1/ProcessFlowTest1/Humantask2

Title:

TestTask2

Outcomes:

APPROVE,REJECT

Parameters:

Source	Payload In Task
outputVariable	transaction

Only static strings entered here will be included in the task definition

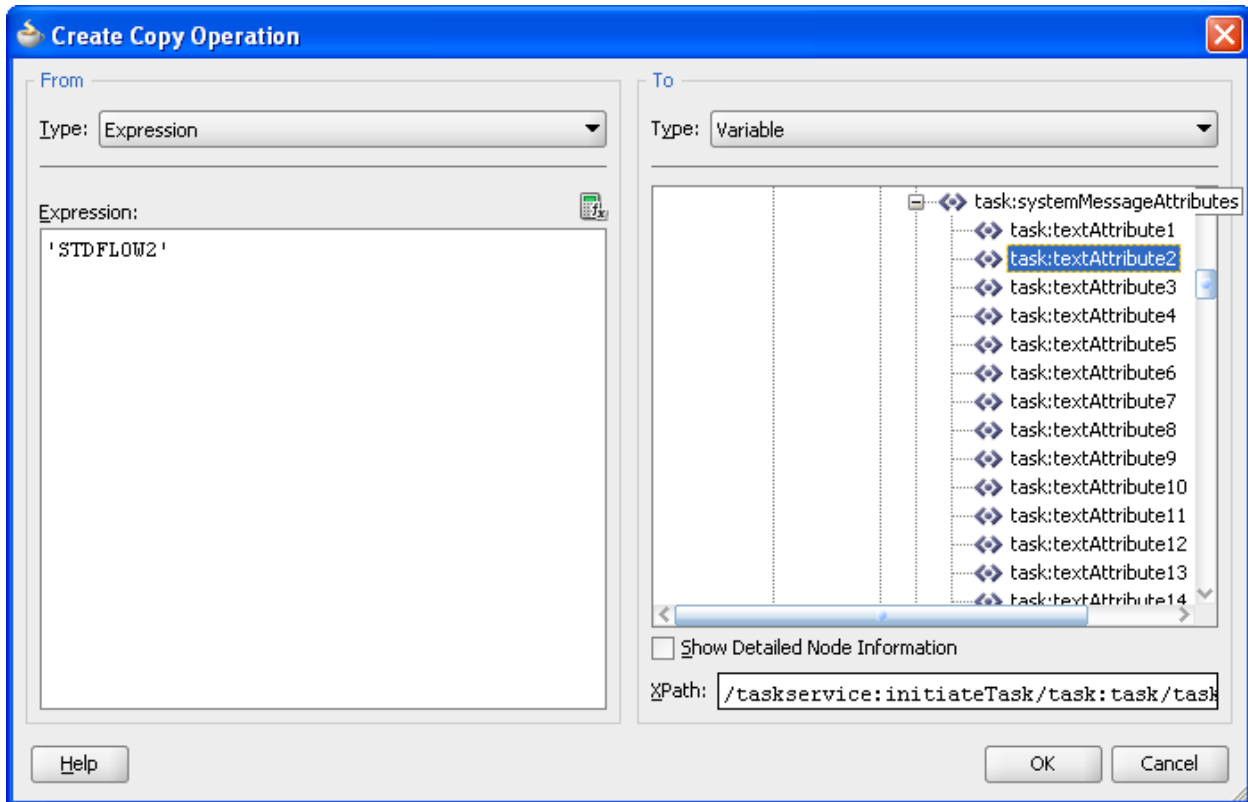
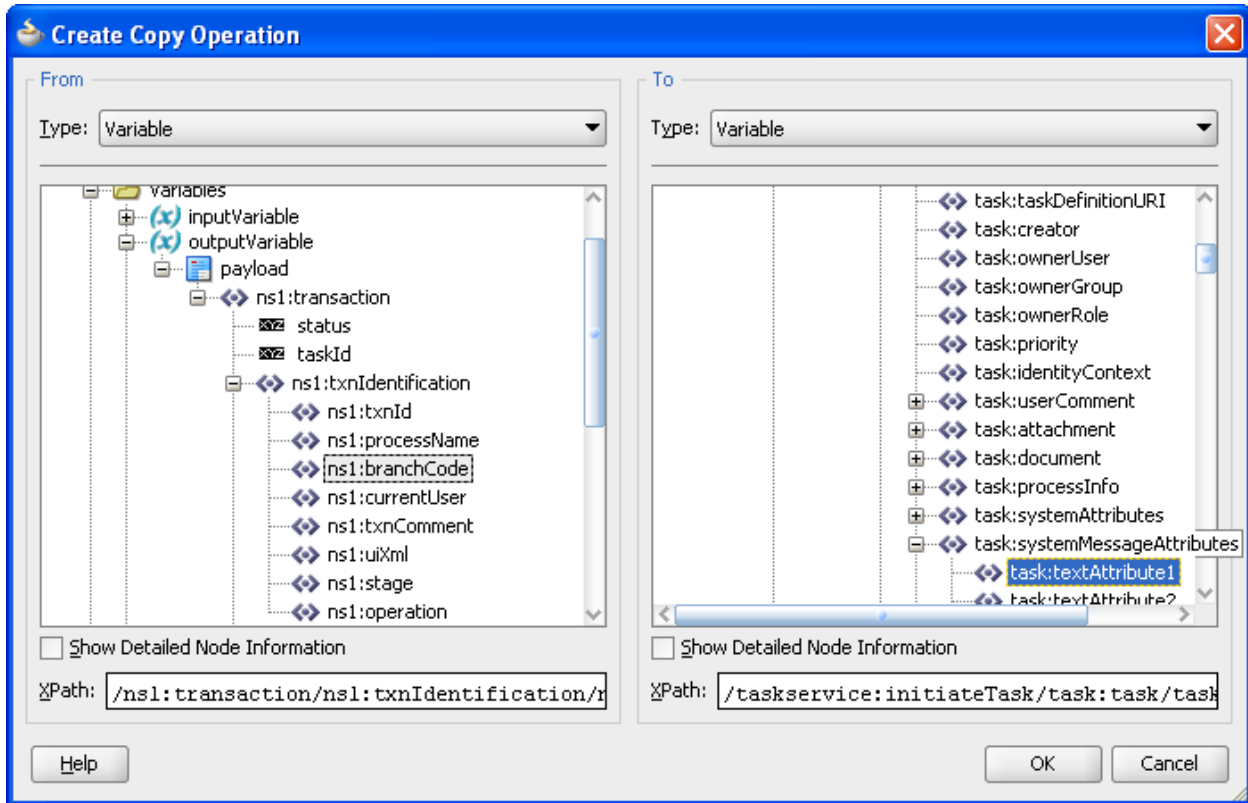
Help

OK

Cancel

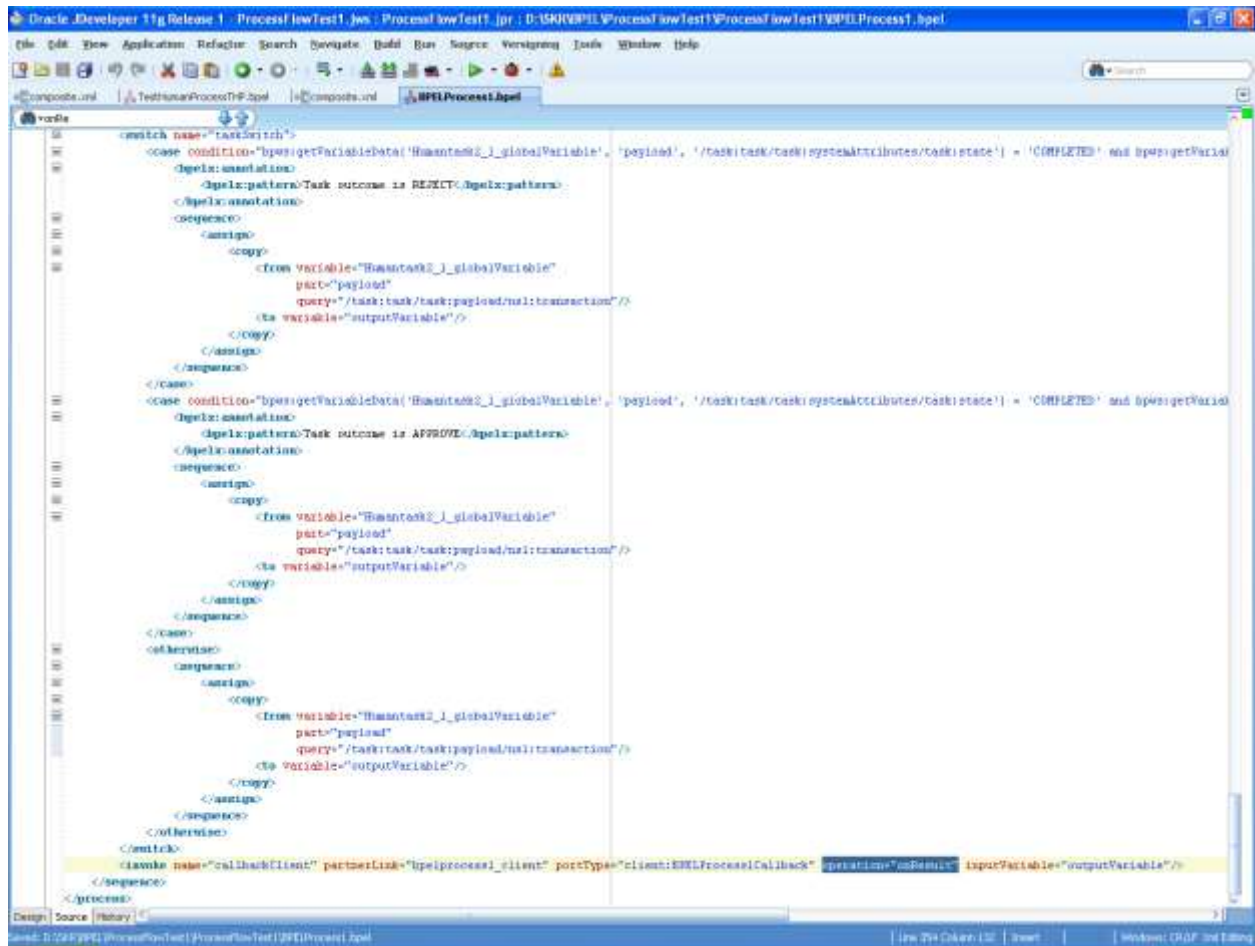
25

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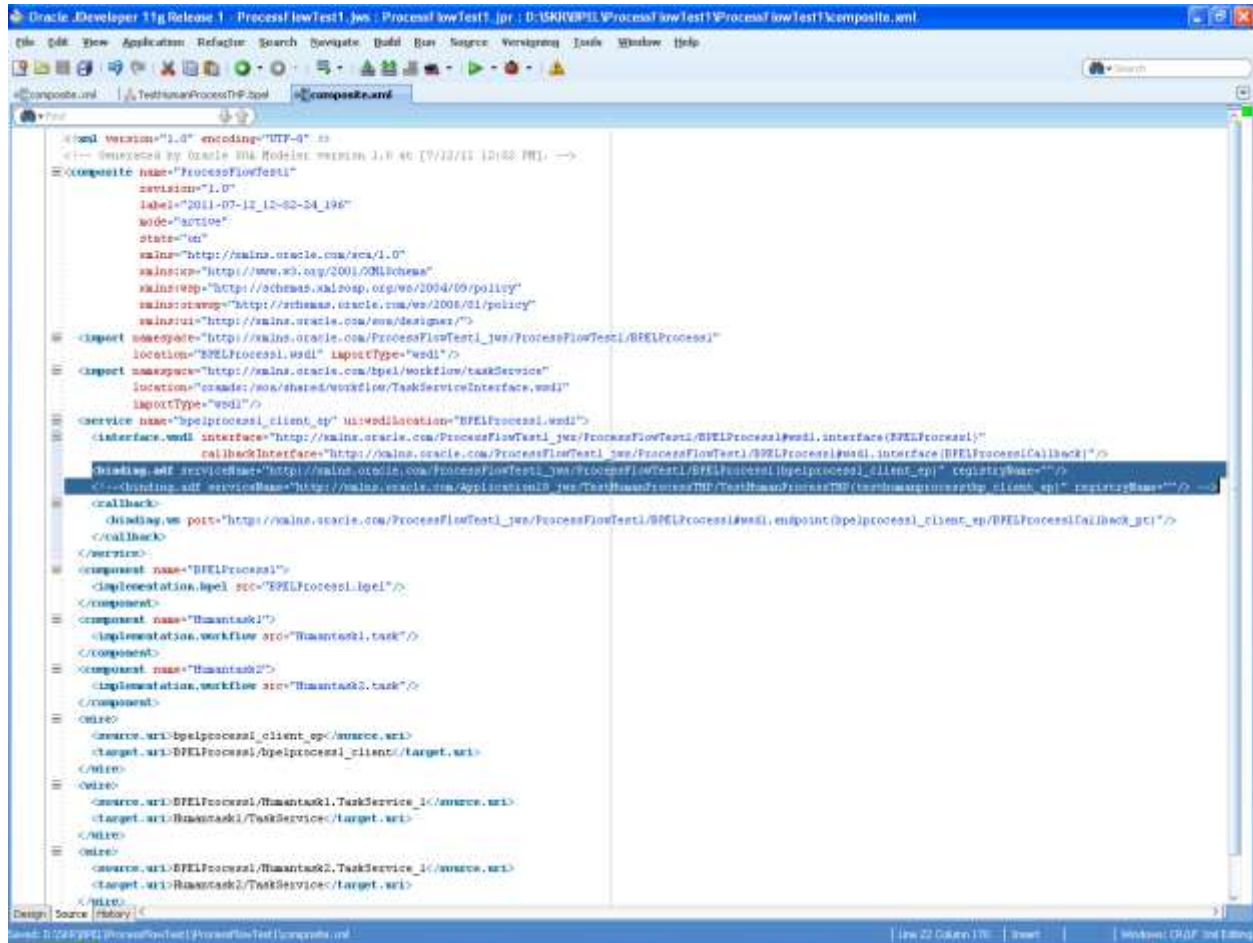


23. In .bpel change the operation to 'onResult' as highlighted.



```
<switch name="taskSwitch">
  <case condition="bpw:getVariableData('HumanTask2_1_globalVariable', 'payload', '/task/task/task/systemAttributes/taskState') = 'COMPLETED' and bpw:getVaria
    <bpel:annotation>
      <bpel:pattern>Task outcome is REJECT</bpel:pattern>
    </bpel:annotation>
    <sequence>
      <assign>
        <copy>
          <from variable="HumanTask2_1_globalVariable"
            part="payload"
            query="/task/task/task:payload/mal:transaction"/>
          <to variable="outputVariable"/>
        </copy>
      </assign>
    </sequence>
  </case>
  <case condition="bpw:getVariableData('HumanTask2_1_globalVariable', 'payload', '/task/task/task/systemAttributes/taskState') = 'COMPLETED' and bpw:getVaria
    <bpel:annotation>
      <bpel:pattern>Task outcome is APPROVE</bpel:pattern>
    </bpel:annotation>
    <sequence>
      <assign>
        <copy>
          <from variable="HumanTask2_1_globalVariable"
            part="payload"
            query="/task/task/task:payload/mal:transaction"/>
          <to variable="outputVariable"/>
        </copy>
      </assign>
    </sequence>
  </case>
  <otherwise>
    <sequence>
      <assign>
        <copy>
          <from variable="HumanTask2_1_globalVariable"
            part="payload"
            query="/task/task/task:payload/mal:transaction"/>
          <to variable="outputVariable"/>
        </copy>
      </assign>
    </sequence>
  </otherwise>
</switch>
<invoke name="callBackClient" partnerLink="bpelprocess1_client" portType="client:BPBProcessCallback" operation="onResult" inputVariable="outputVariable"/>
</sequence>
</process>
```

24. In composite.xml change the 'binding.ws' as highlighted as we need .adf binding to connect to the Flexcube application.



```
<?xml version="1.0" encoding="UTF-8" ?>
<!-- Generated by Oracle B2B Modeler version 3.0.0.0 (7/13/11 12:02 PM) -->
<composite name="ProcessFlowTest1"
  revision="1.0"
  label="2011-07-11_12-02-24_196"
  mode="active"
  state="on"
  xmlns="http://xmlns.oracle.com/bpel/1.0"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema"
  xmlns:esp="http://schemas.xmlsoap.org/ws/2004/09/policy"
  xmlns:otwsp="http://schemas.xmlsoap.org/ws/2006/01/policy"
  xmlns:ui="http://xmlns.oracle.com/bpel/Designer/"
  xmlns:bpel="http://xmlns.oracle.com/ProcessFlowTest1_jws/ProcessFlowTest1/BPELProcess1/"
  location="BPELProcess1.wsdl" importType="wsdl"/>
<import namespace="http://xmlns.oracle.com/bpel/workflow/taskService"
  location="comads/oa/shared/workflow/TaskServiceInterface.wsdl"
  importType="wsdl"/>
<service name="BPELProcess1_client_ep" uri="wsdl:location=BPELProcess1.wsdl">
  <interface name="interface" uri="http://xmlns.oracle.com/ProcessFlowTest1_jws/ProcessFlowTest1/BPELProcess1.wsdl:interface(BPELProcess1)"
    callbackInterface="http://xmlns.oracle.com/ProcessFlowTest1_jws/ProcessFlowTest1/BPELProcess1.wsdl:interface(BPELProcess1Callback)"/>
    <binding ws="binding.ws" type="http://xmlns.oracle.com/ProcessFlowTest1_jws/ProcessFlowTest1/BPELProcess1.wsdl:endpoint(BPELProcess1_client_ep/BPELProcess1Callback_gci)"/>
  </binding>
</service>
<component name="BPELProcess1">
  <implementation:bpel src="BPELProcess1.bpel"/>
</component>
<component name="HumanTask1">
  <implementation:workflow src="HumanTask1.task"/>
</component>
<component name="HumanTask2">
  <implementation:workflow src="HumanTask2.task"/>
</component>
<wire>
  <source uri="BPELProcess1_client_ep" sourceUri="BPELProcess1/BPELProcess1_client_ep" targetUri="BPELProcess1/BPELProcess1_client_ep" />
</wire>
<wire>
  <source uri="BPELProcess1/HumanTask1.TaskService_1" sourceUri="BPELProcess1/HumanTask1/TaskService_1" targetUri="HumanTask1/TaskService_1" />
</wire>
<wire>
  <source uri="BPELProcess1/HumanTask2.TaskService_1" sourceUri="BPELProcess1/HumanTask2/TaskService_1" targetUri="HumanTask2/TaskService_1" />
</wire>
</wire>
```



BPEL\_FCJ\_Essentials  
.docx

Further reference :



Oracle FLEXCUBE BPL FCJ Dev Guide  
[May] [2020]  
Version 14.4.0.0.0

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Fax: +91 22 6718 3001  
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