

5 Adding Human Workflow

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5.1 Introduction

Note: The solution for this chapter can be found in <c:\po\solutions\ch5>.

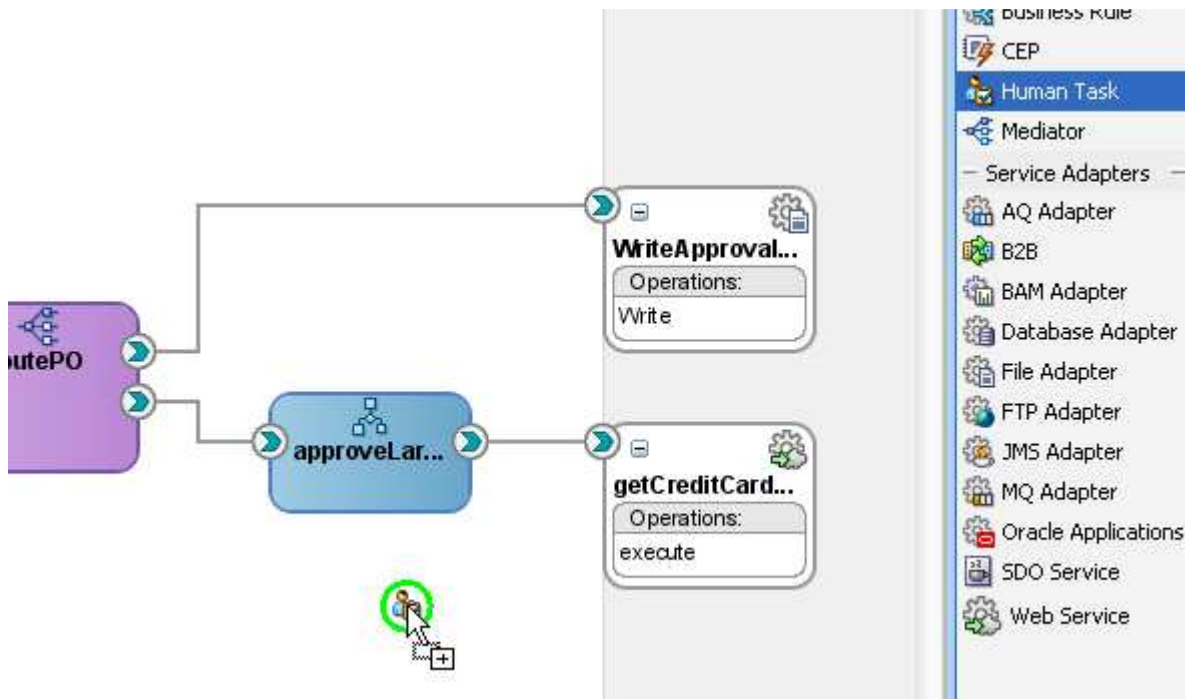
In this next iteration of the application, you will add a Human Task to the composite in order to review large orders manually.

5.2 Modifying the composite application

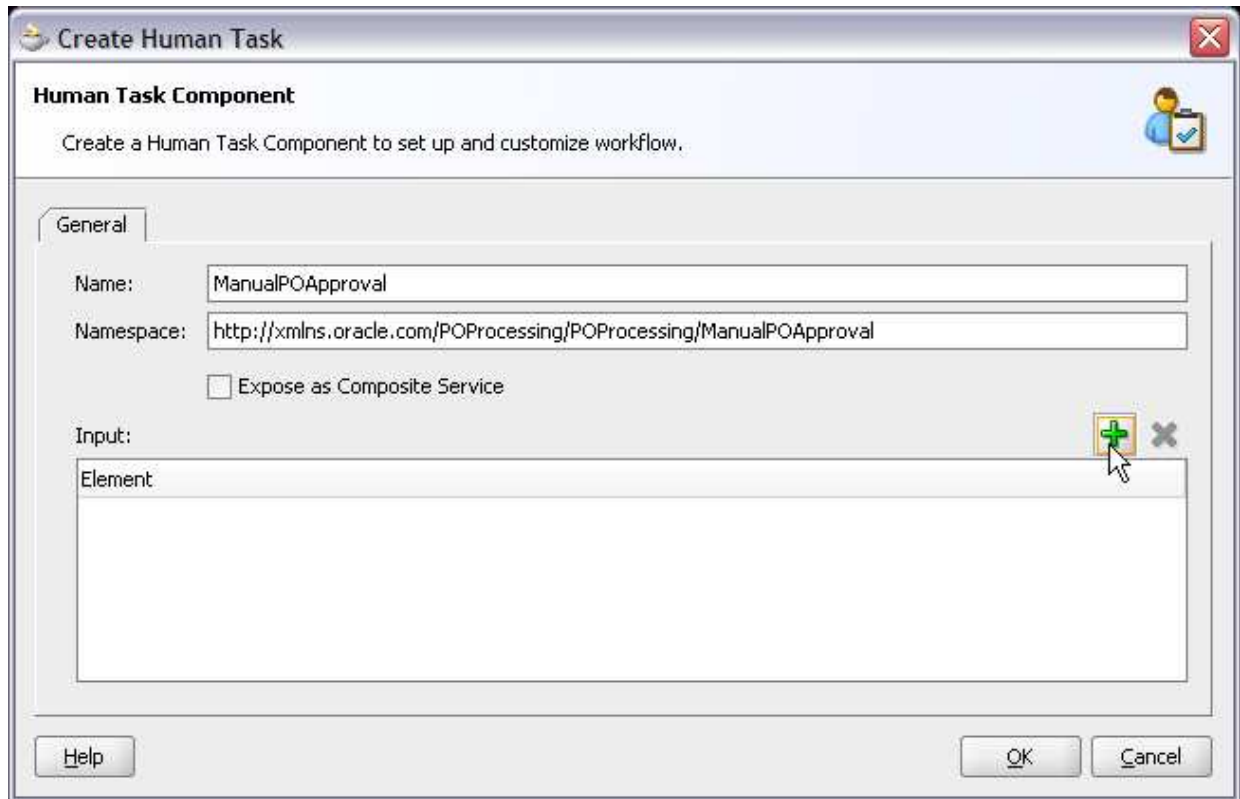
You'll continue working with the application you've built so far, and make some additions.

5.2.1 Adding a Human Task to the composite

1. In JDeveloper, drag-and-drop a **Human Task** component onto the composite.



2. Specify the following:
 - **Name:** ManualPOApproval
 - **Namespace:** Leave as default
 - **Expose as Composite Service:** Unchecked
3. Click the green plus icon to add an input element.



The image shows a 'Create Human Task' dialog box with a title bar containing a gear icon and a close button. The main title is 'Human Task Component' with a subtitle 'Create a Human Task Component to set up and customize workflow.' and a person icon. The 'General' tab is selected, showing fields for 'Name' (ManualPOApproval) and 'Namespace' (http://xmlns.oracle.com/POProcessing/POProcessing/ManualPOApproval). There is an unchecked checkbox for 'Expose as Composite Service'. An 'Input:' section contains a table with one header 'Element' and an empty body. A '+' icon and an 'x' icon are to the right of the table. At the bottom are 'Help', 'OK', and 'Cancel' buttons.

Create Human Task

Human Task Component

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

General

Name: ManualPOApproval

Namespace: http://xmlns.oracle.com/POProcessing/POProcessing/ManualPOApproval

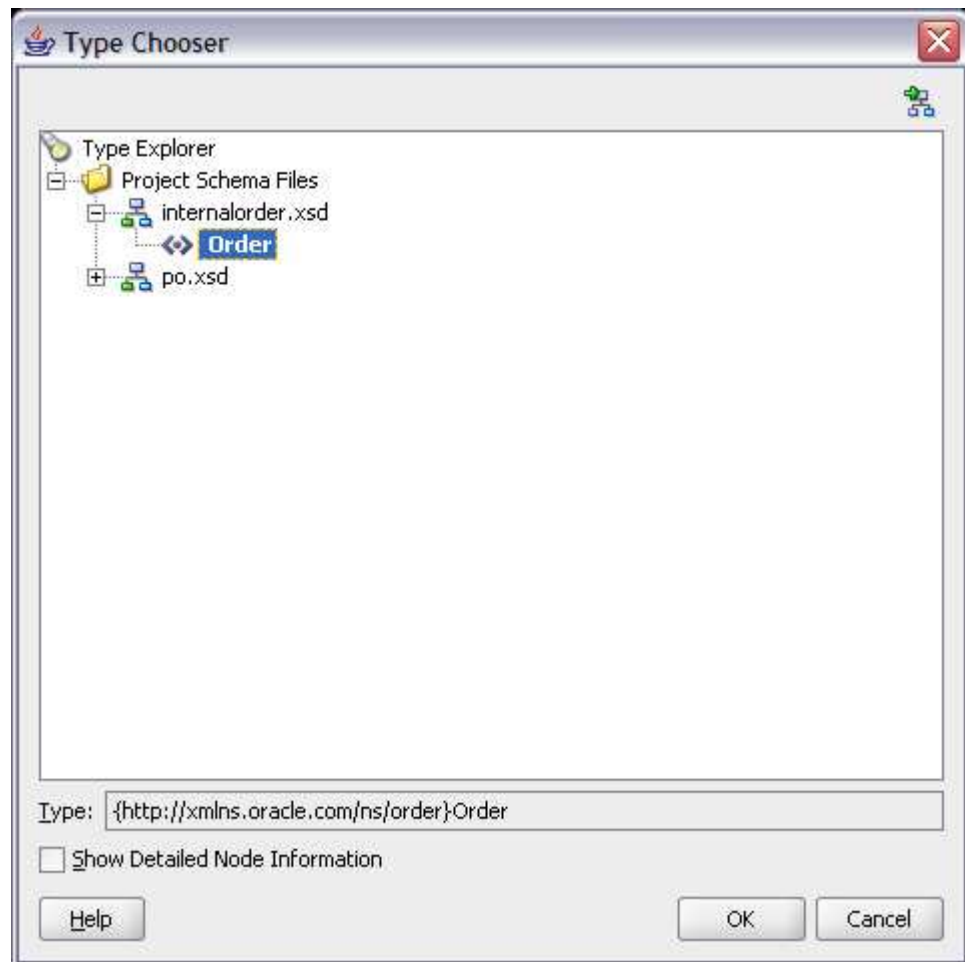
☐ Expose as Composite Service

Input:

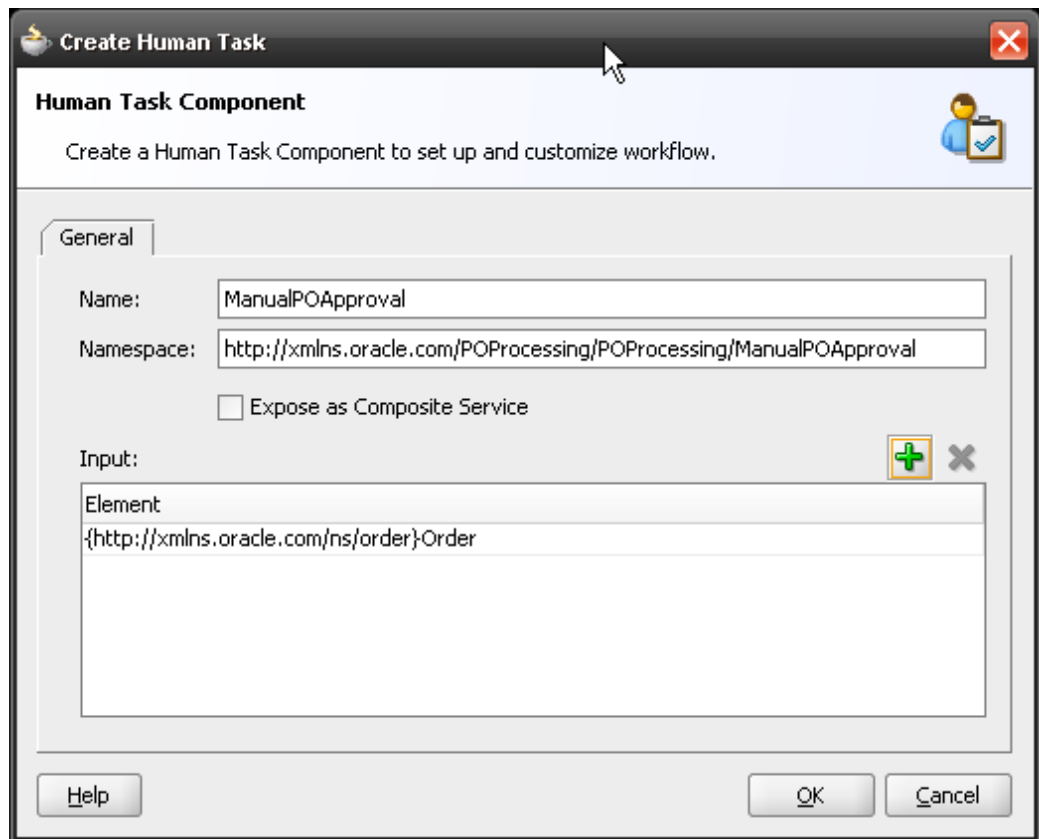
Element

Help OK Cancel

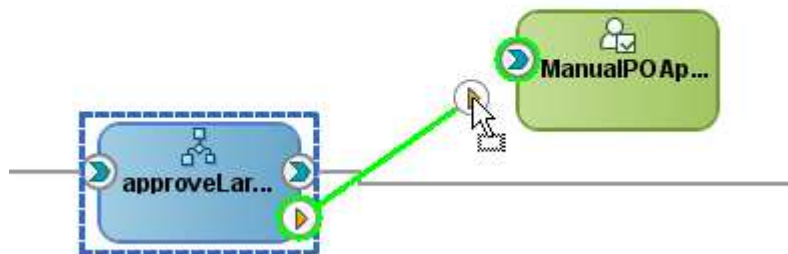
4. Select **Order** from `internalorder.xsd`.



5. Click **OK**.



6. Click **OK**.
7. Wire the BPEL process to the Human Task.



8. Double-click the Human Task to open the Task Definition editor.
9. Specify the following settings:
 - **Title:** Approve Order
 - **Description:** Manual approval task for large orders
 - **Parameters:** Order

This should already be set because you specified it a few steps ago when you created the Human Task.

Human Task

Title:
Priority:

Outcomes:
Category:

Description:

Manual approval task for la

Owner:

Parameters

Name	Element or Type	View Only
Order	{http://xmlns.oracle.com/ns/order}Order	

Assignment and Routing Policy

Click the + icon to add participants

Dev Team Approval (Group Vote)

Required majority: 50 %

Users: jstein,jcooper
Groups: writers_us
Application Roles:

☐ Allow all participants to invite other participants

☐ Add Reviewers

☐ Route task to all participants, in order specified

☐ Complete task when a participant chooses:

☐ Use Advanced Rules

Rules Dictionary:

Create a rules dictionary to store advanced rules.
Rules should not be created until the parameters section is defined.

10. In the **Assignment and Routing Policy** section, click the green plus icon to add a participant.

11. In the **Add Participant Type** dialog, specify the following:

- **Type:** Single Approver
- **Label:** Large Order Approver

Add Participant Type

General

Type: Single Approver

Label:
e.g., Approval Manager

Requires action from **one** of the participants below:

☒ By name ☐ By expression

User Id(s)
Enter comma separated names or browse for values.

Group Id(s)
Enter comma separated names or browse for values.

Application Role(s)
Enter comma separated names or browse for values.

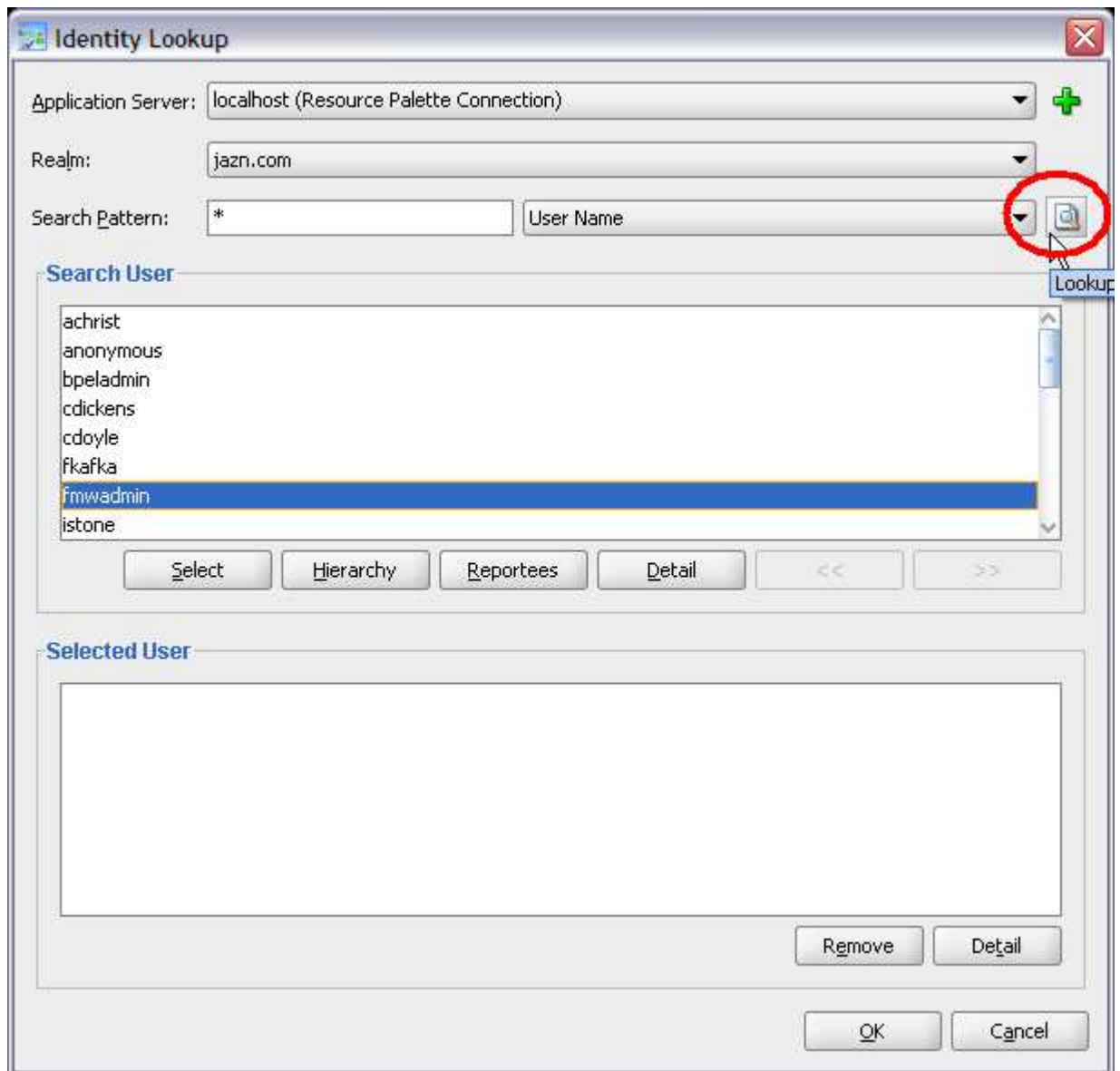
☐ Specify skip rule

Advanced

Help OK Cancel

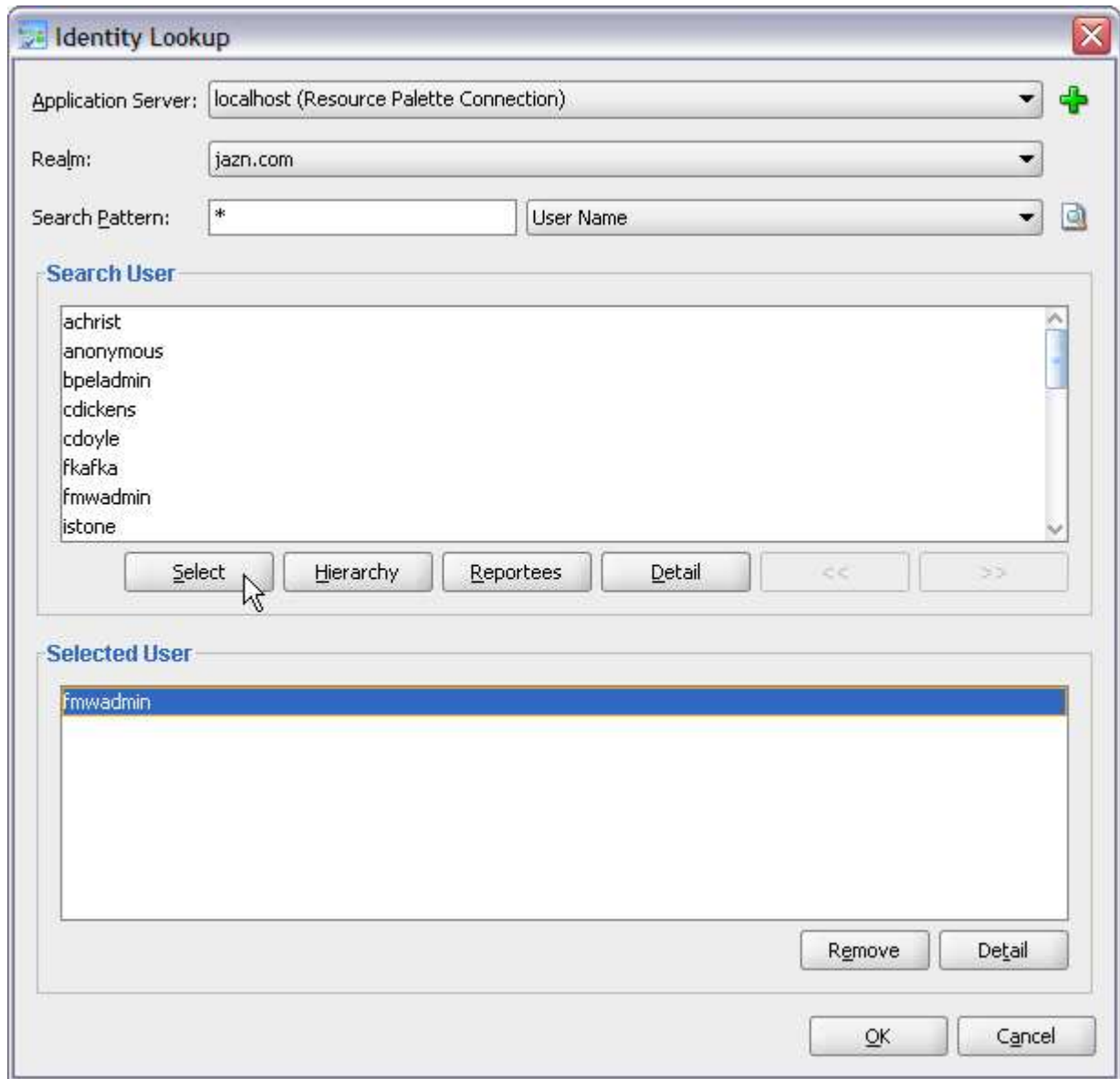
12. Click the flashlight icon next to the **User Id(s)** field to browse for users.

13. In the **Identity Lookup** dialog, click the **Lookup** button.



14. In the **Search User** section, click **fmwadmin**.

15. Click the **Select** button to move it to the **Selected User** section.



16. Click **OK**.

17. Back in the **Add Participant Type** dialog, verify that **fmwadmin** is in the **User Id(s)** field.

Add Participant Type

General

Type: Single Approver

Label:
e.g., Approval Manager

Requires action from **one** of the participants below:

☒ By name ☐ By expression

User Id(s)

Enter comma separated names or browse for values.

Group Id(s)

Enter comma separated names or browse for values.

Application Role(s)

Enter comma separated names or browse for values.

☐ Specify skip rule

Advanced

Help OK Cancel

18. Click **OK**.

19. You'll now have an approver in the **Assignment and Routing Policy** section. It's possible -- and even common -- to have multiple levels of approval, but in this case it's simple and only one level of approval is required.

Human Task

Title: Priority:

Outcomes: Category:

Description:

Owner:

Parameters

Name	Element or Type	View Only
Order	{http://xmlns.oracle.com/ns/order}Order	<input checked="" type="checkbox"/>

Assignment and Routing Policy

☒ Large Order Approver (SingleApprover) Users: fmwadmin
Groups:
Application Roles:

☐ Allow all participants to invite other participants

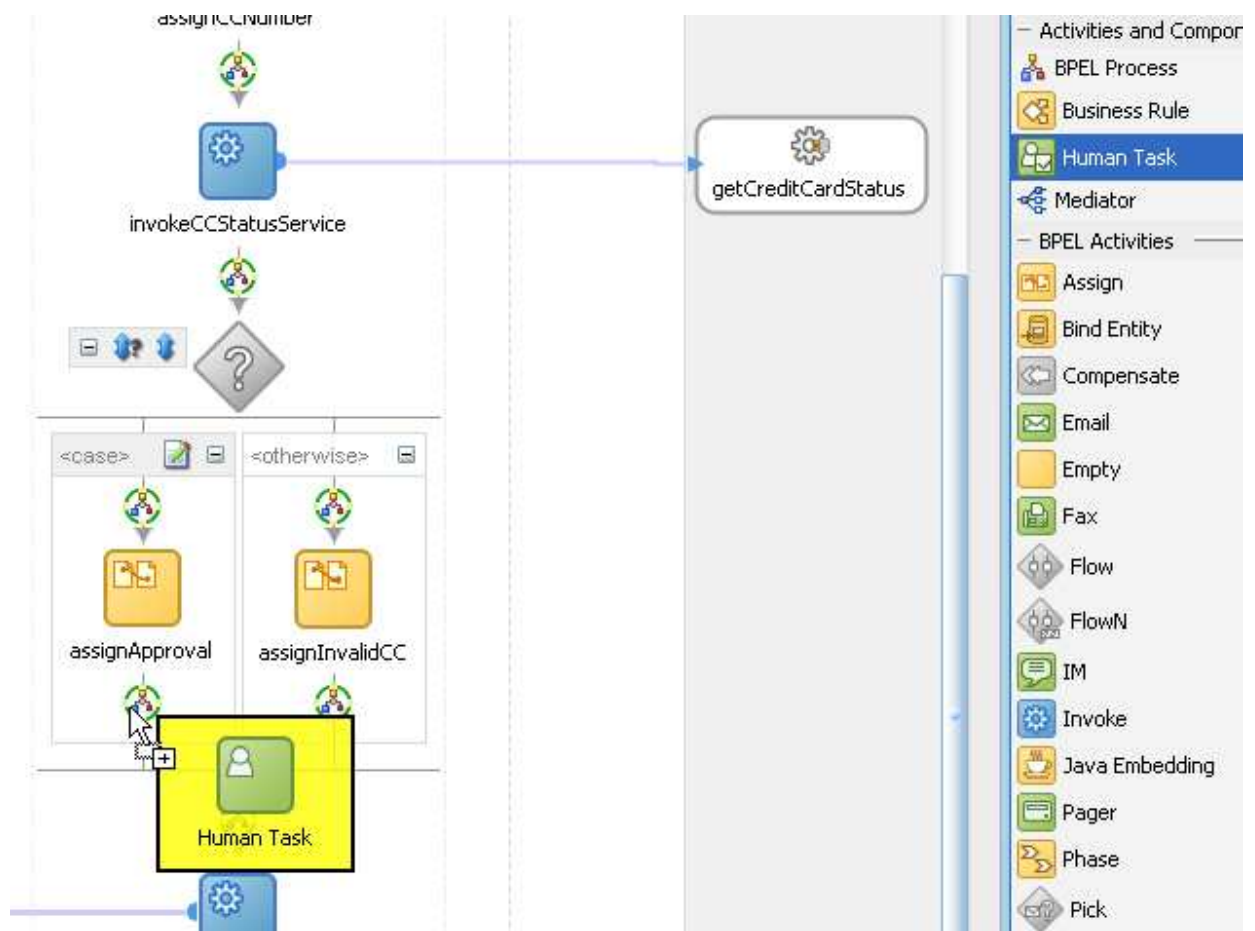
☐ Add Reviewers

☐ Route back to all participants in order specified

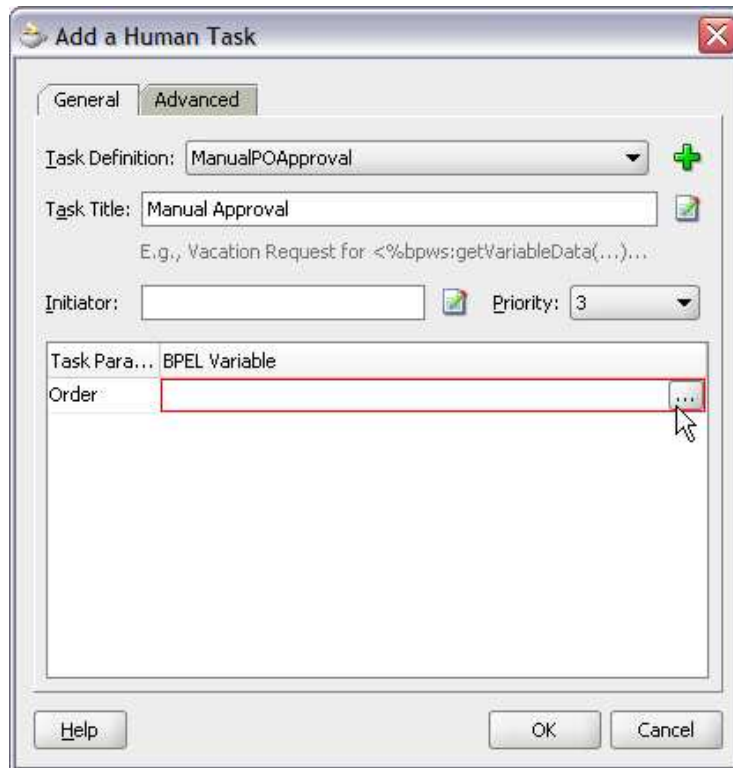
20. Save (Ctrl-S) and close (Ctrl-W) the Task Definition editor and return to the composite.

5.2.2 Calling the Human Task from BPEL

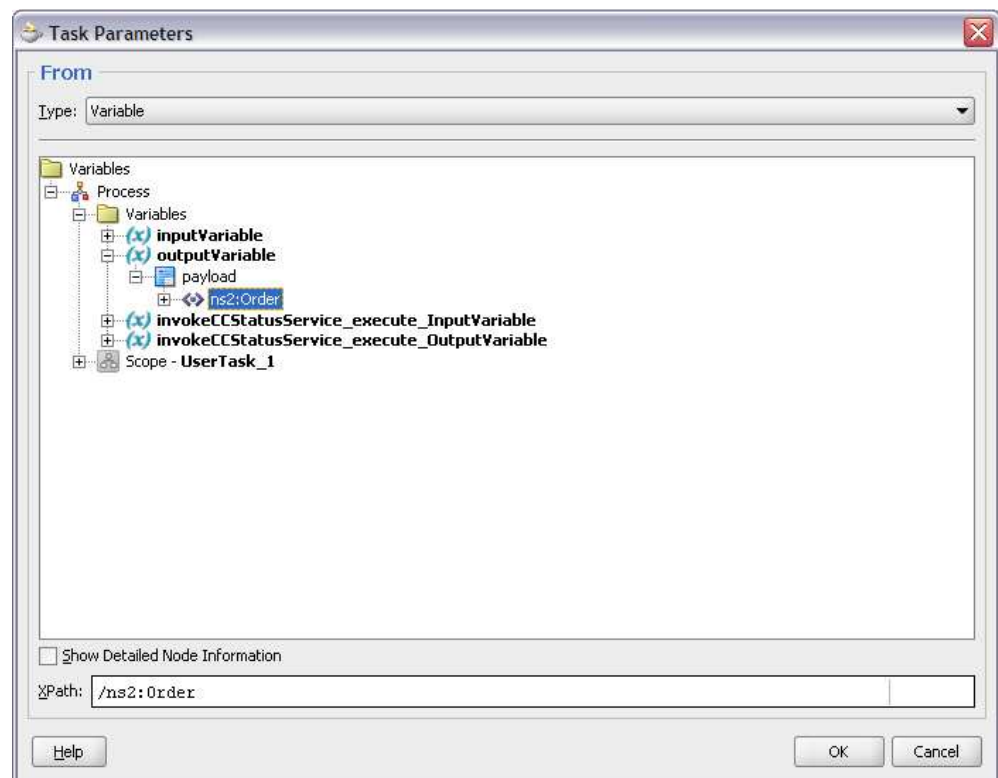
1. Double-click the BPEL component to open the BPEL designer.
2. Drag a Human Task into the <case> branch of the <switch>, underneath the **assignApproval** <assign> activity.



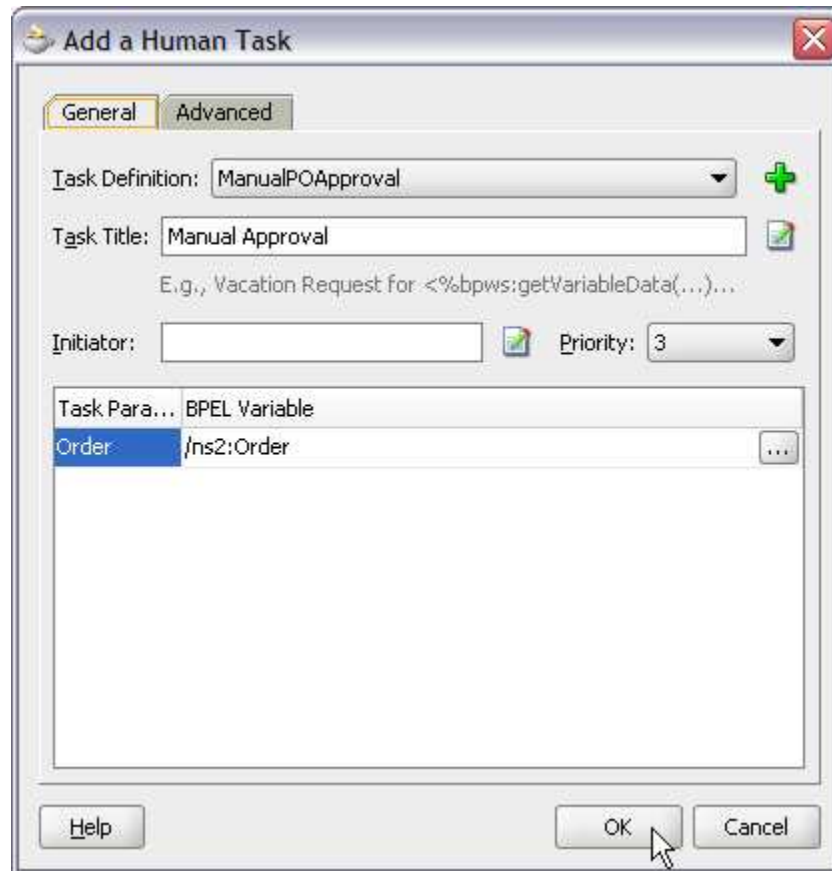
3. The **Add a Human Task** dialog opens. Select from the **Task Definition** drop down, **ManualPOApproval**. The **Task Title**, **Approve Order** is filled in automatically.



4. Add a BPEL variable to hold the input parameter by clicking the [...] button on the right of **Order**.
5. Select **Variables > Process > Variables > outputVariable > payload > Order**.



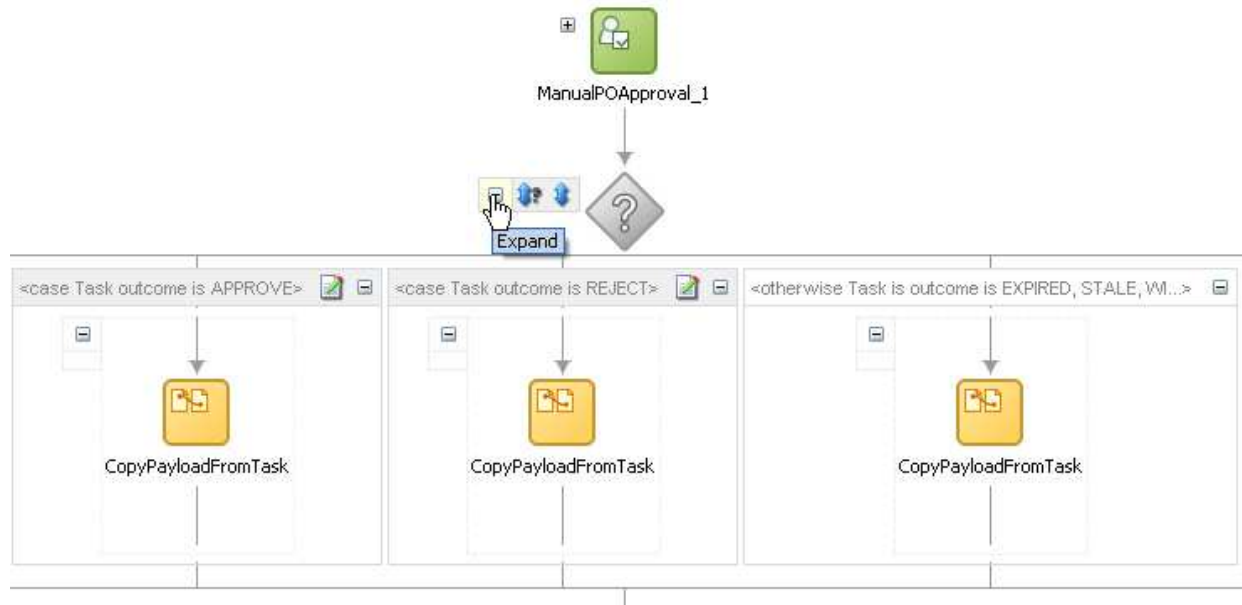
6. Click **OK**.



7. Click **OK**.
8. You will have two new activities in your BPEL process: a Human Task and a `<switch>` activity. The Human Task handles getting the approval (or rejection) from users. The `<switch>` activity can then be used to evaluate the results from the Human Task, e.g., what to do if it's approved? What to do if it's rejected?

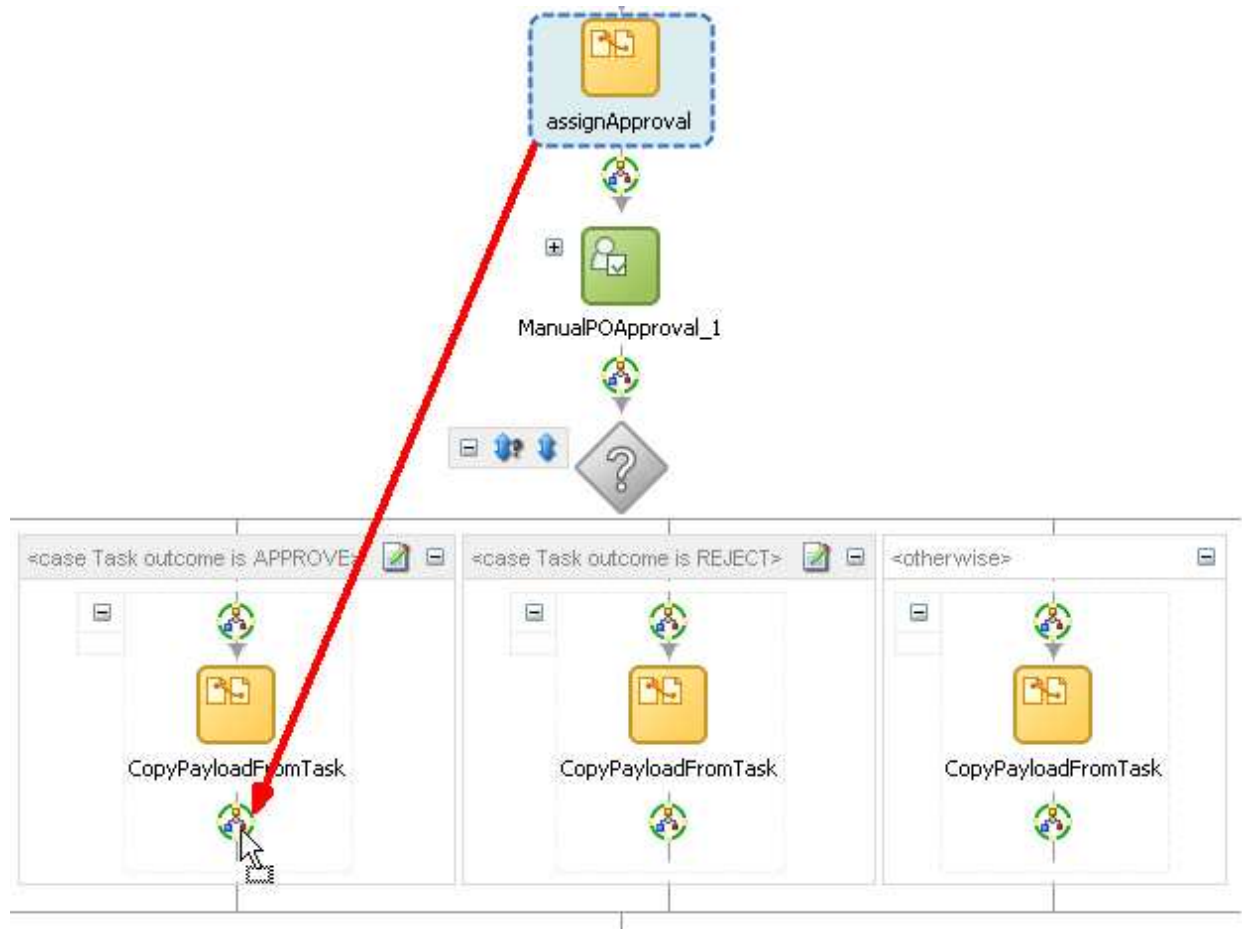
You just configured the Human Task, so the next step is to take appropriate actions in the `<switch>`.

Press the plus icon next to the `<switch>` to expand it.

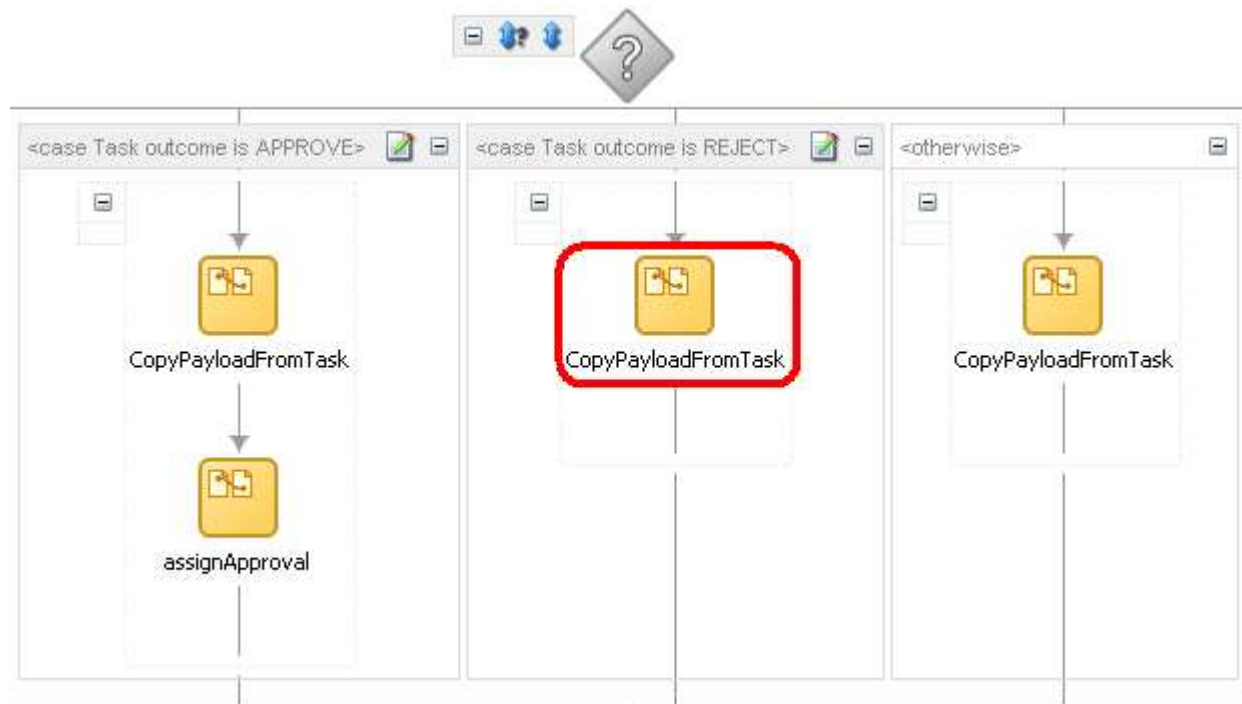


9. Notice the three outcomes this Human Task was configured for: APPROVE; REJECT; or EXPIRED, STALE, WITHDRAWN, or ERRORED. You will set the status for each of those cases.

The approved case was already done earlier, so you can reuse that. Drag the **assignApproval** <assign> activity underneath the **CopyPayloadFromTask** <assign> activity in the APPROVE branch of the <switch>.

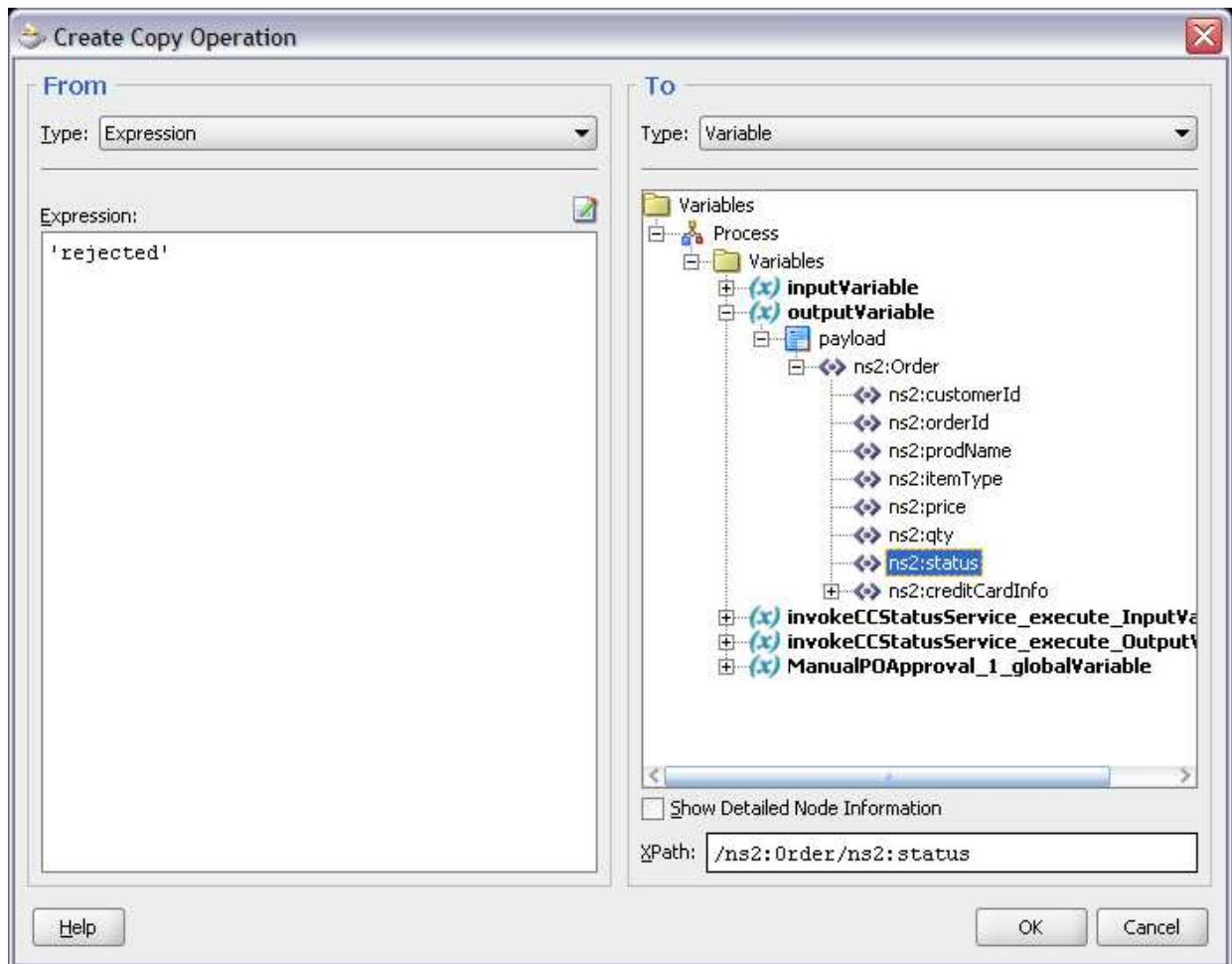


10. Double-click the **CopyPayloadFromTask** <assign> activity in the REJECT branch.

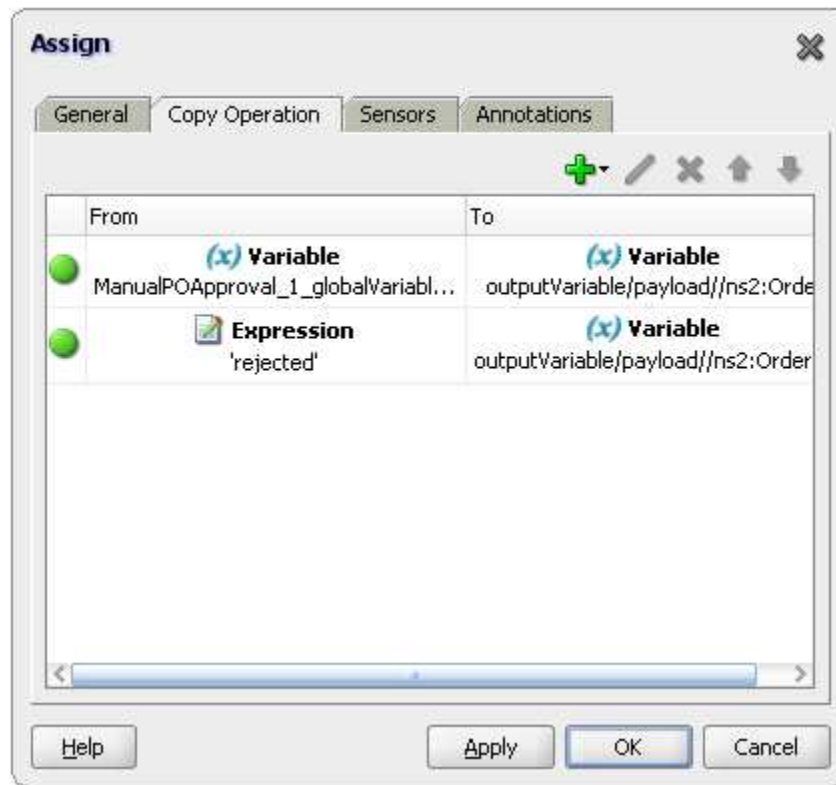


11. Click the green plus icon and add a new copy operation.

12. Set the **status** field of the **outputVariable** variable to 'rejected'.

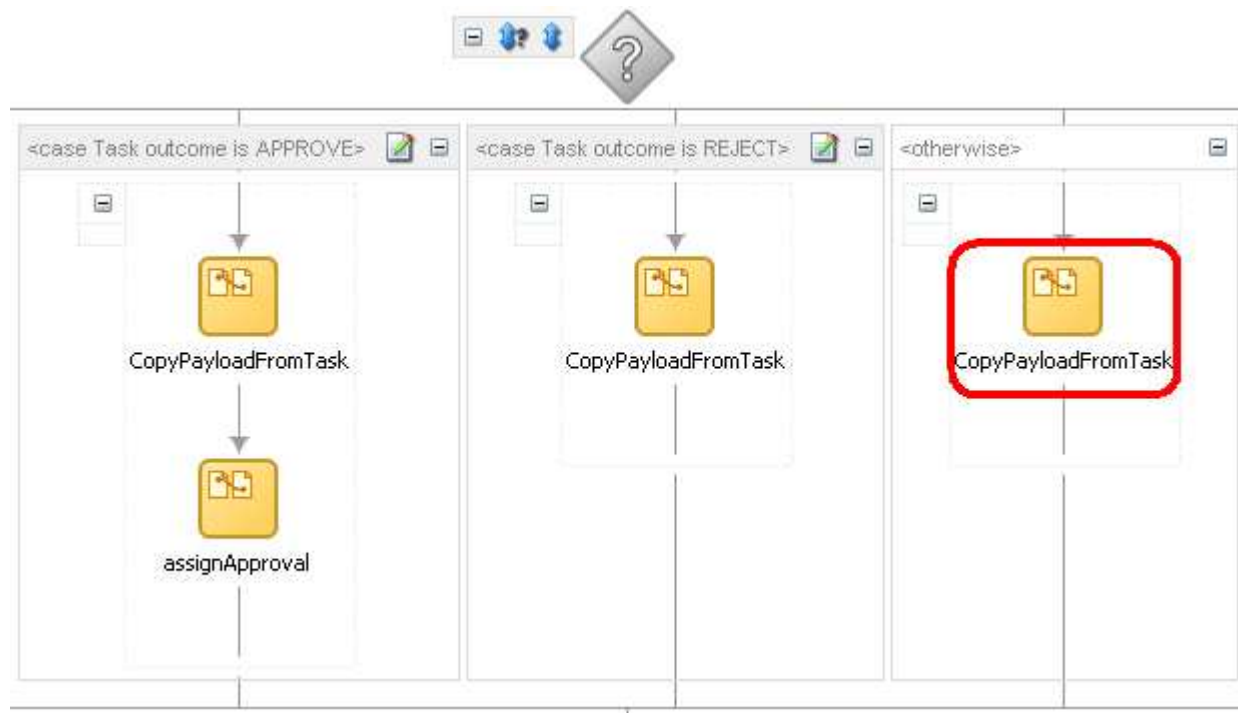


13. Click **OK**.



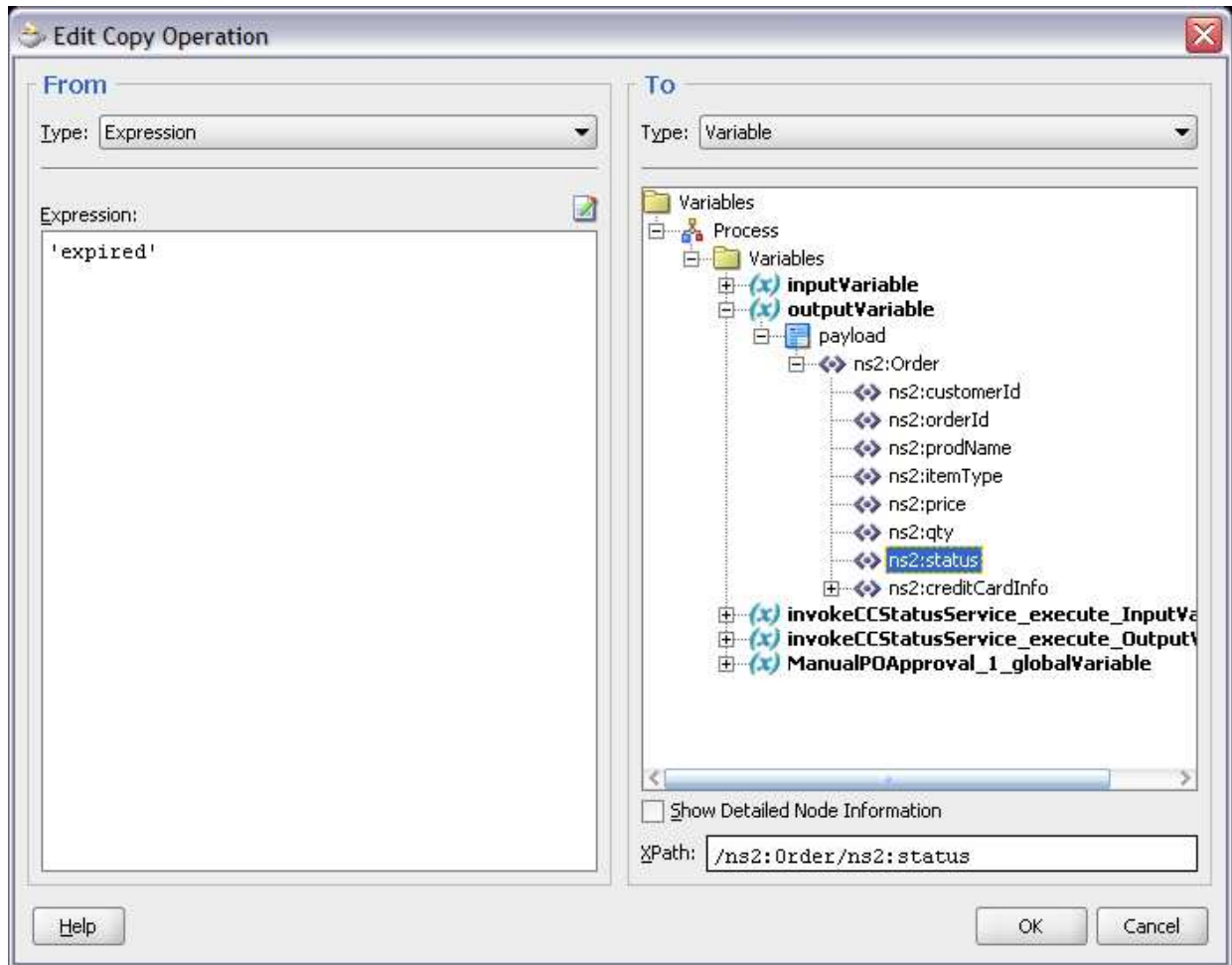
14. Click **OK**.

15. Now for the third branch. Double-click the **CopyPayloadFromTask** <assign> activity in the EXPIRED, STALE, WITHDRAWN, or ERRORED branch.

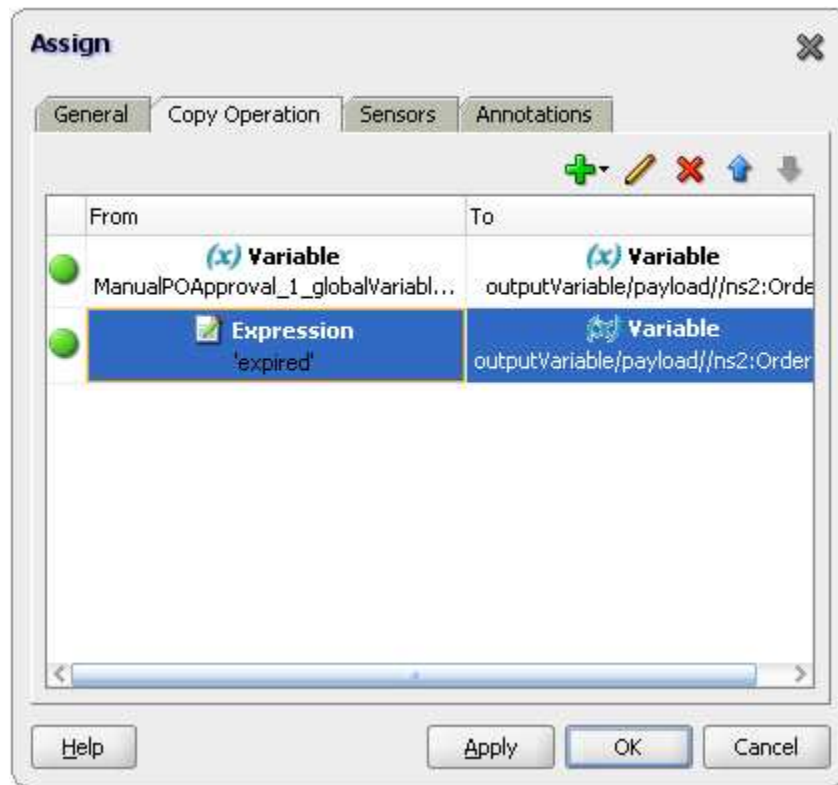


16. Click the green plus icon and add a new copy operation.

17. Set the **status** field of the **outputVariable** variable to 'expired'.

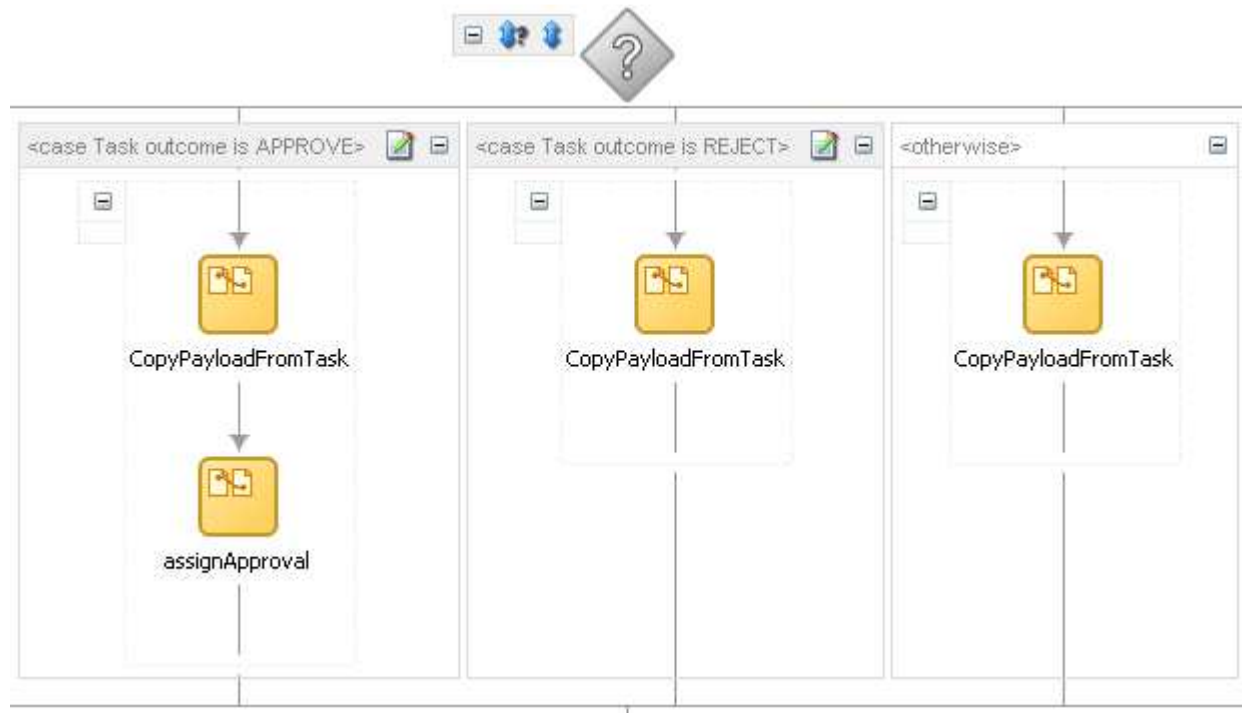


18. Click OK.



19. Click **OK**.

The <switch> activity now looks like the following figure. Note that the APPROVE branch could have been done the same way as the other two, but in this case there are two separate <assign> activities. The end result is the same.



20. Save and close the BPEL process.

5.3 Testing the application

1. Deploy the composite.
2. Once deployed, open the SOA Console to test the application using the input for a large order as you did in the previous chapter. This will create a new order that's over \$1,000.
3. As usual, the **Test Result** page won't show any this is a one-way invocation with no reply or callback. Also notice, however, that a new order file was not created in `c:\temp`. That's because the application hasn't completed running yet. To see what's going on, you need to look at the instance audit trail.

Back in the SOA Console, click the latest instance (you may need to press the **Refresh** link in the upper right to update the list of instances.)

4. Click on the **approveLargeOrder** BPEL component.
5. Click the **Flow-Debug** tab to see the visual view of the BPEL process.
6. Scroll to the bottom and notice the BPEL process is incomplete, blocked on the Human Task until it is approved.
7. Now it is time to "change hats" and log on to the worklist application as a customer service representative to approve the task. Using a browser, navigate to:

<http://localhost:8888/integration/worklistapp>

8. Logon using the following credentials:

- **Username:** fmwadmin
- **Password:** welcome1 or welcome (depends on the version of your installation)

9. The worklist application is an out-of-the-box application where users can view and manage their tasks.

Click on the most recent task to highlight it.

10. From the **Actions** menu at the top-right, select **Approve**.
11. Press the **Perform Action** button to the right of the **Actions** menu. This will approve the task and notify the BPEL process it can continue.
12. Return to the BPEL process flow. If you still have it open you can just refresh the page.

Notice that it is now complete.

13. You will also have a new order file in `c:\temp`.