9

Implementing Human Workflow and Notifications

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Objectives

After completing this lesson, you should be able to:

- Describe human task concepts
- Explain the human task component
- Design a human task
- Invoke a human task from a BPEL process
- Interact with the Worklist application to act on tasks
- Add email notification to a BPEL process

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Agenda

- Human Tasks
- The Worklist Application
- Notifications

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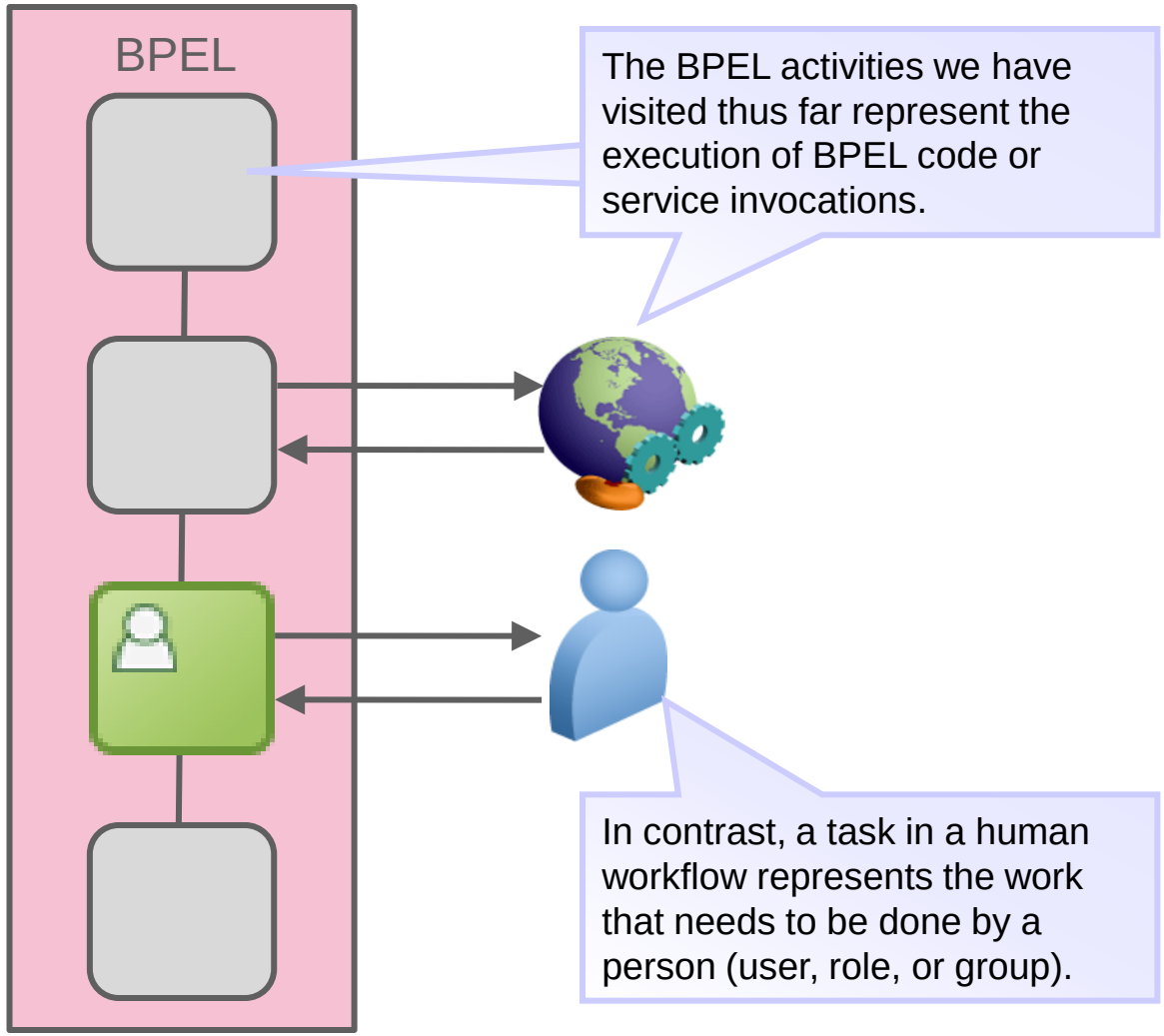
Human Tasks: Introduction



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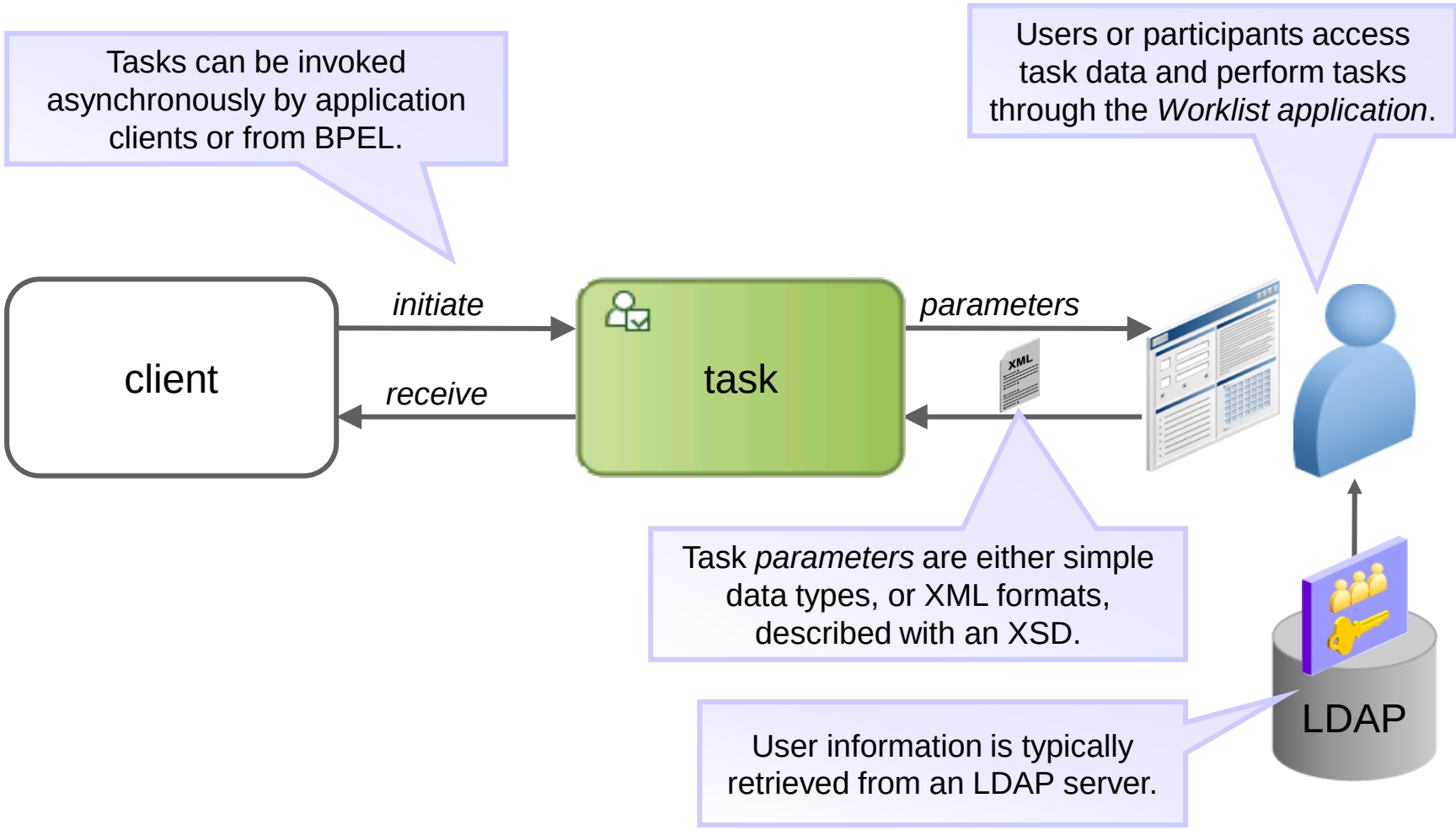
Human Tasks: Overview



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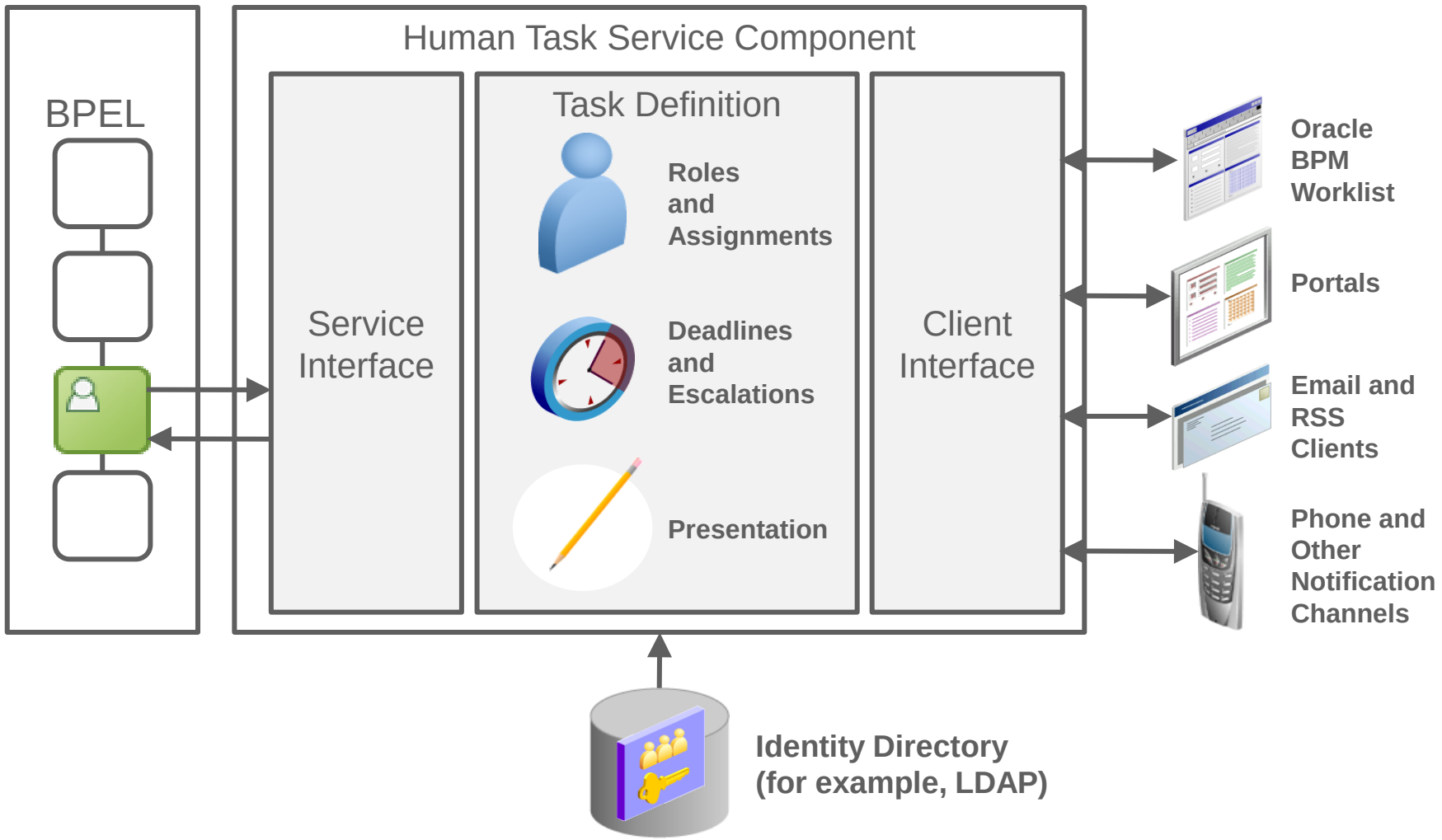
Human Task Service Component



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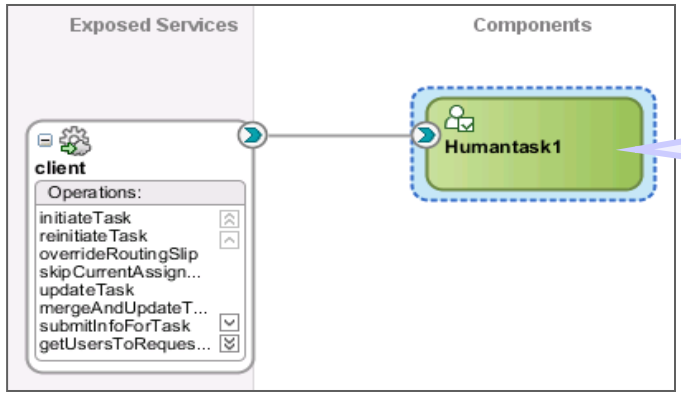
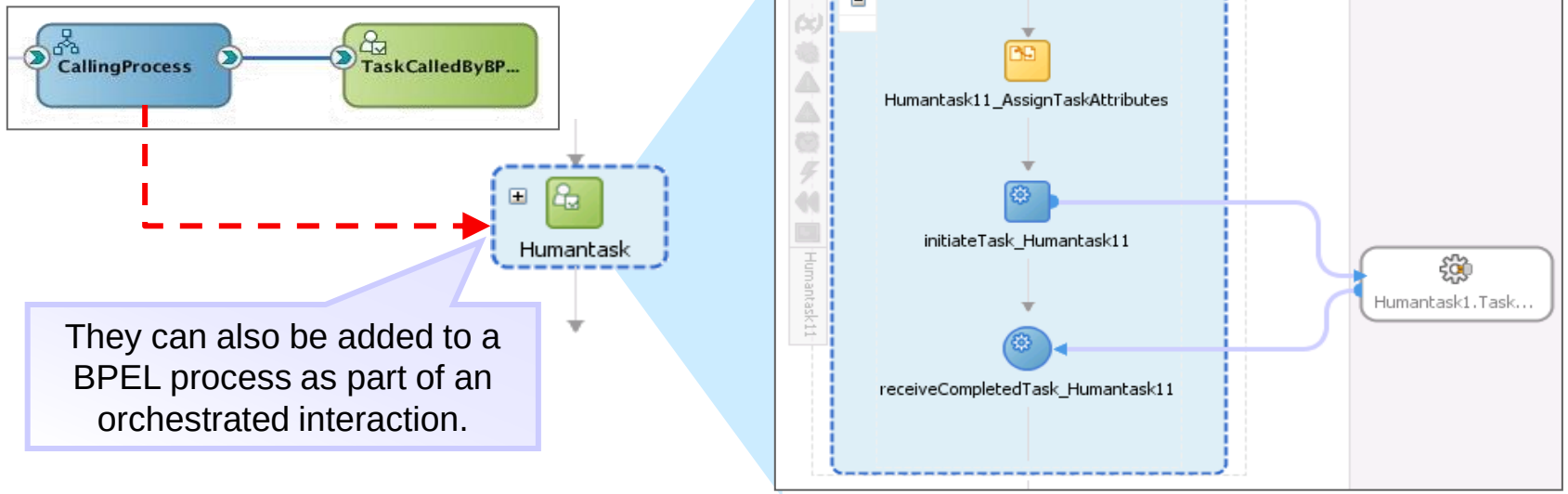
Human Tasks in a Composite Application



Human tasks can be created in a composite application as stand-alone components exposed as a service.



They can also be added to a BPEL process as part of an orchestrated interaction.

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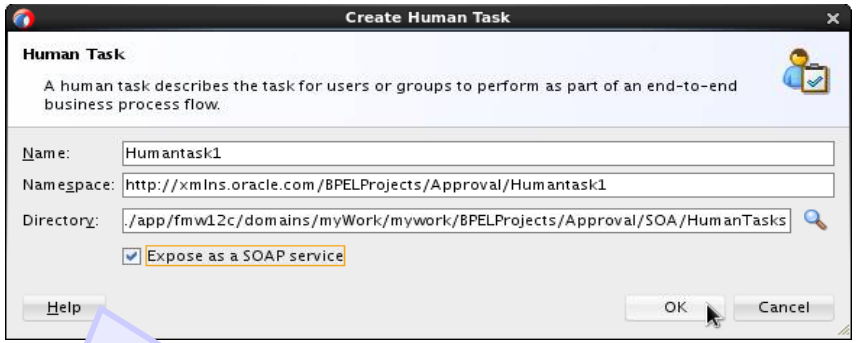
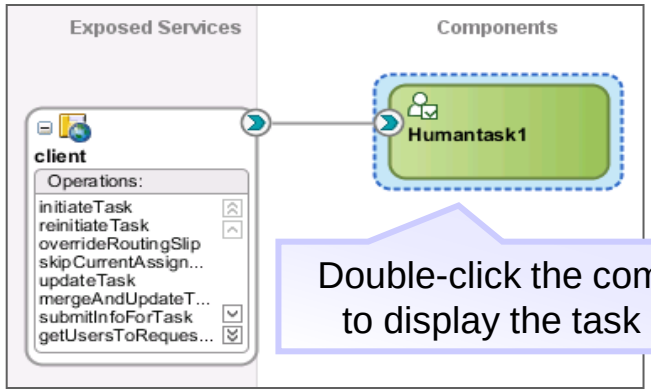
Adding a Human Task to a Composite Application

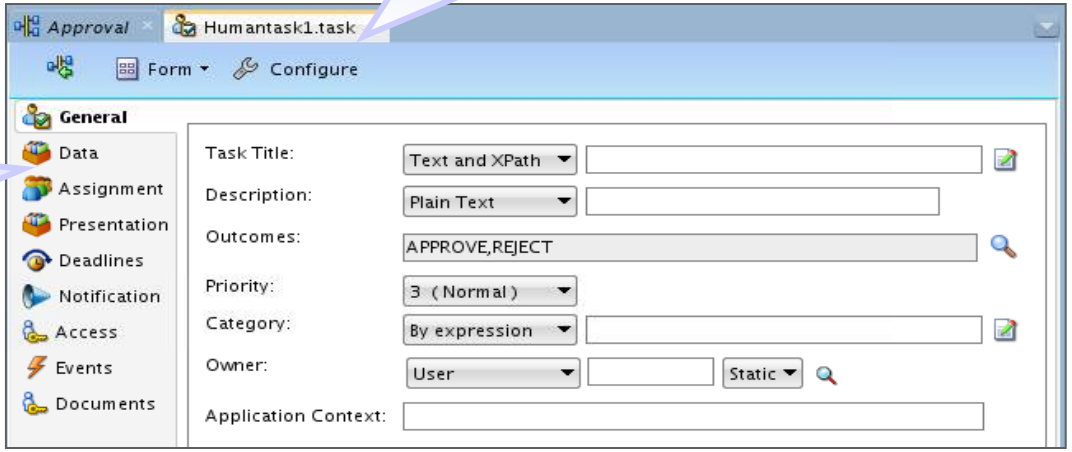


Select *Expose* as a *SOAP* Service to expose the task to clients of the composite application.



Double-click the component to display the task editor.

The configuration is stored in a **`.task`** file.



Tabs on the left side of the editor provide access to categories of configuration parameters.

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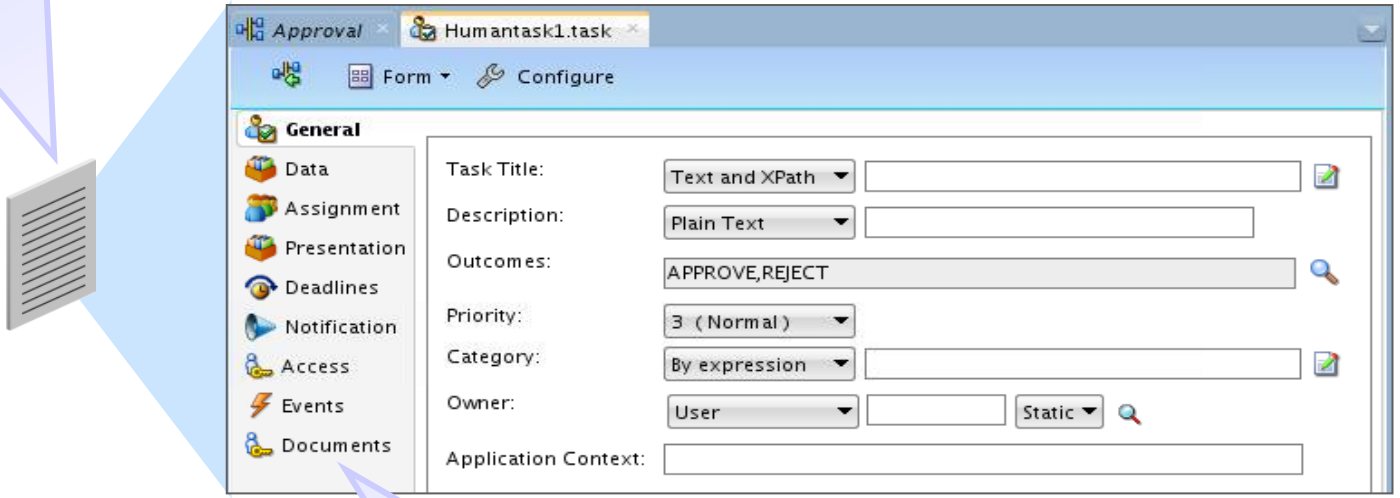
Configuring the Human Task

The human task configuration is stored in a `.task` metadata file that is deployed with the project.



The configuration options are organized into categories.

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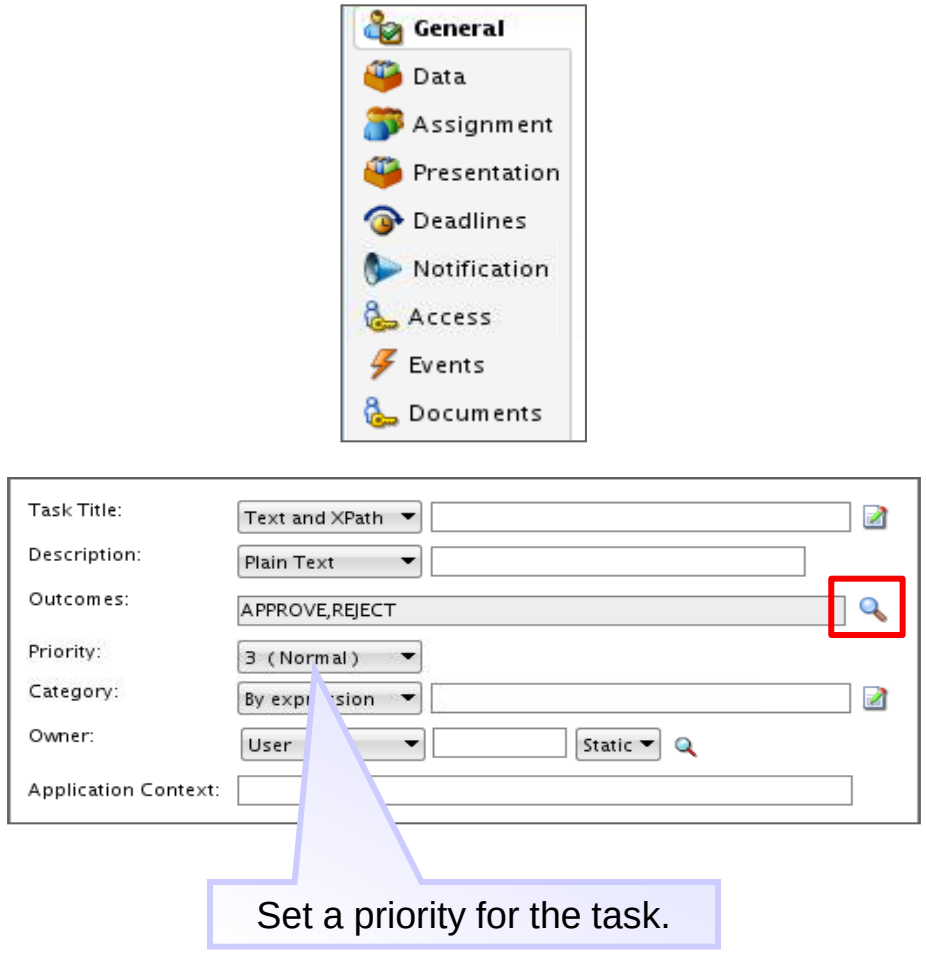
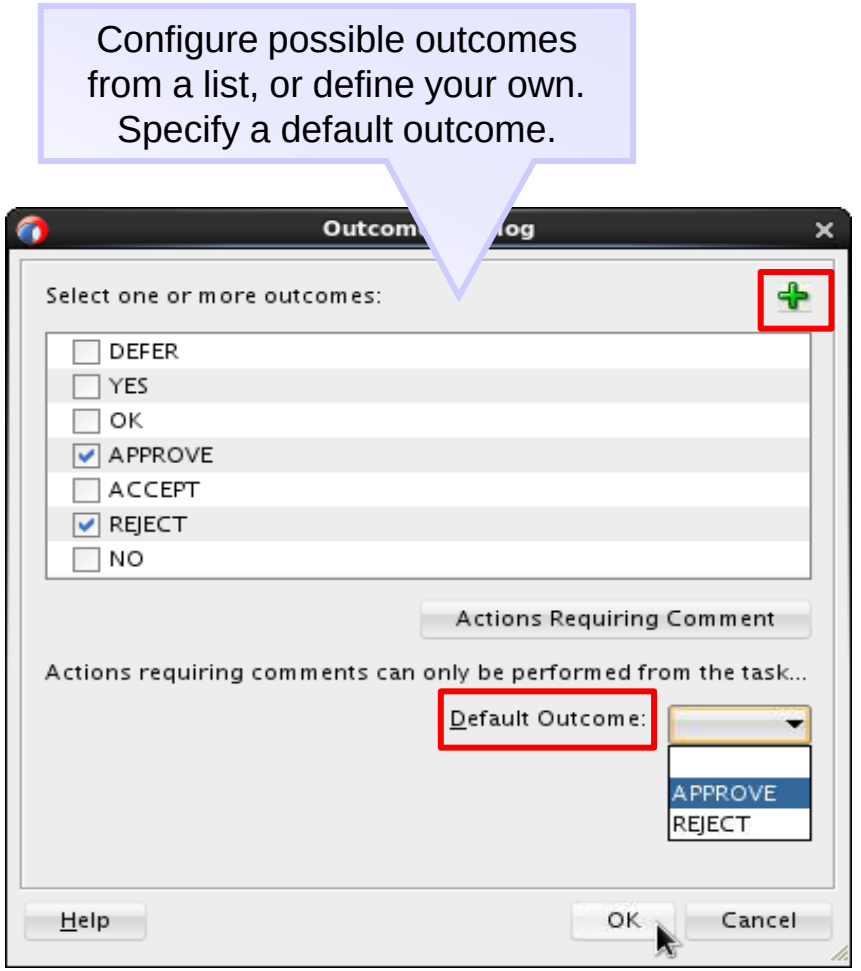
Configuring the Task Outcomes





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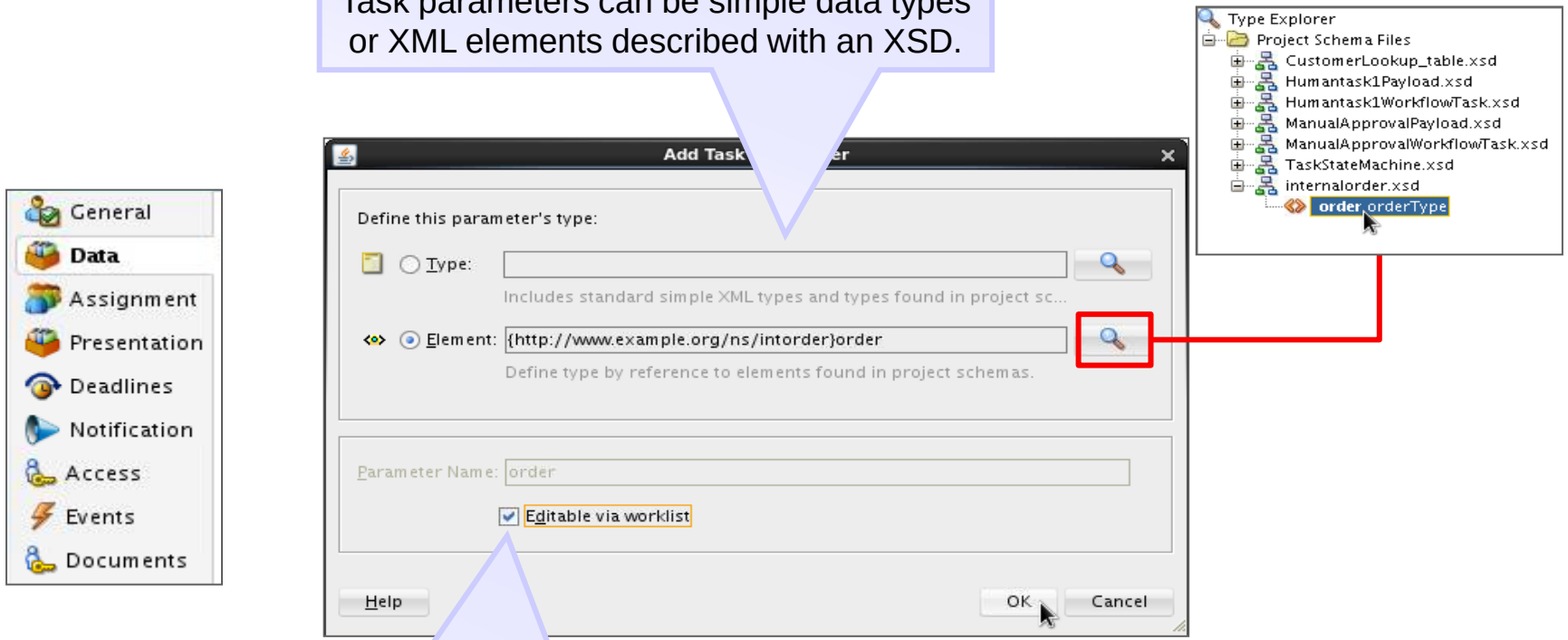
Adding Human Task Parameters

Task parameters can be simple data types or XML elements described with an XSD.



The “Editable via worklist” check box enables users to modify the task parameters in the Worklist application.

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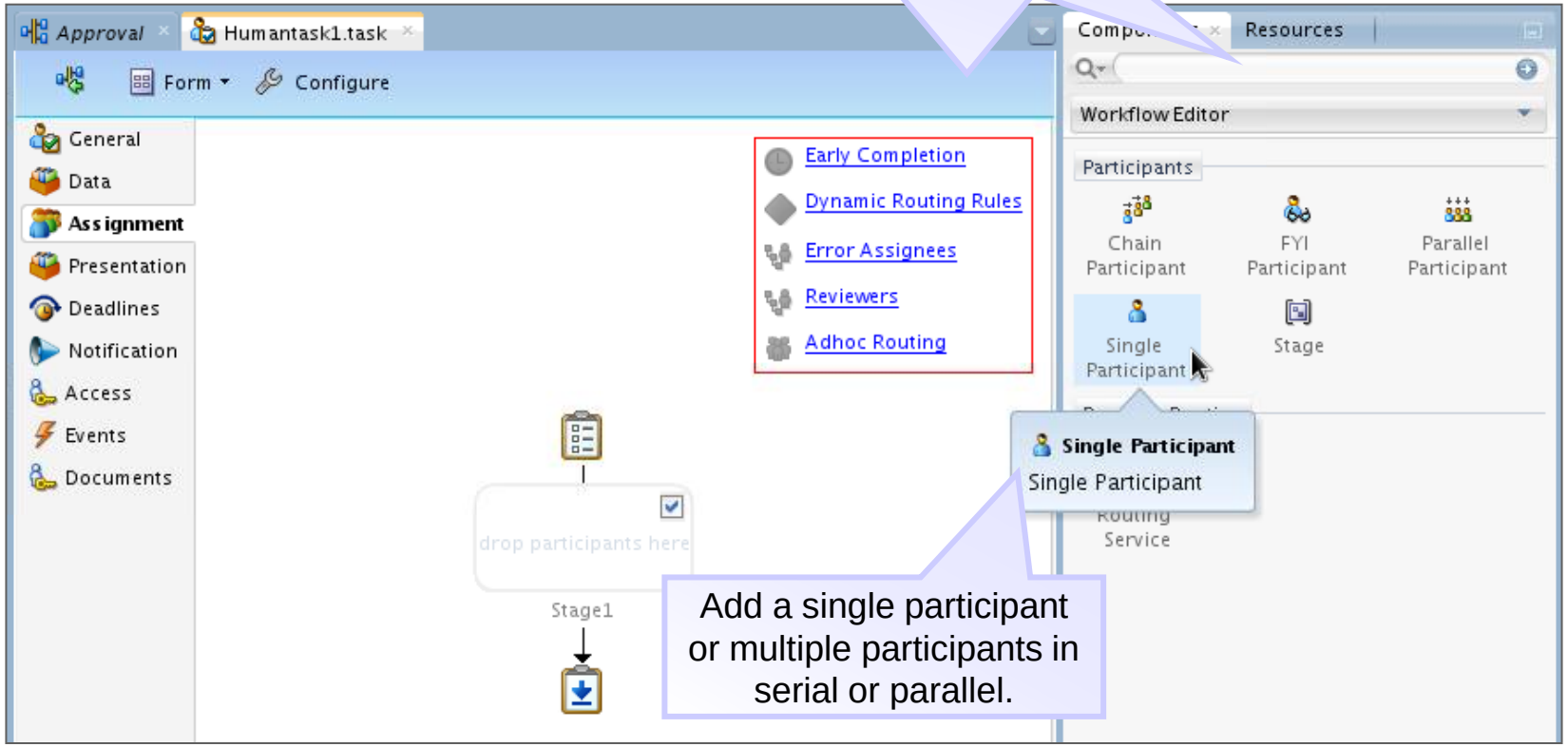
Assigning Task Participants

On the Assignment tab, you configure the route that the task will follow. You also assign the participants who will review and those who will receive errors.



Add a single participant or multiple participants in serial or parallel.

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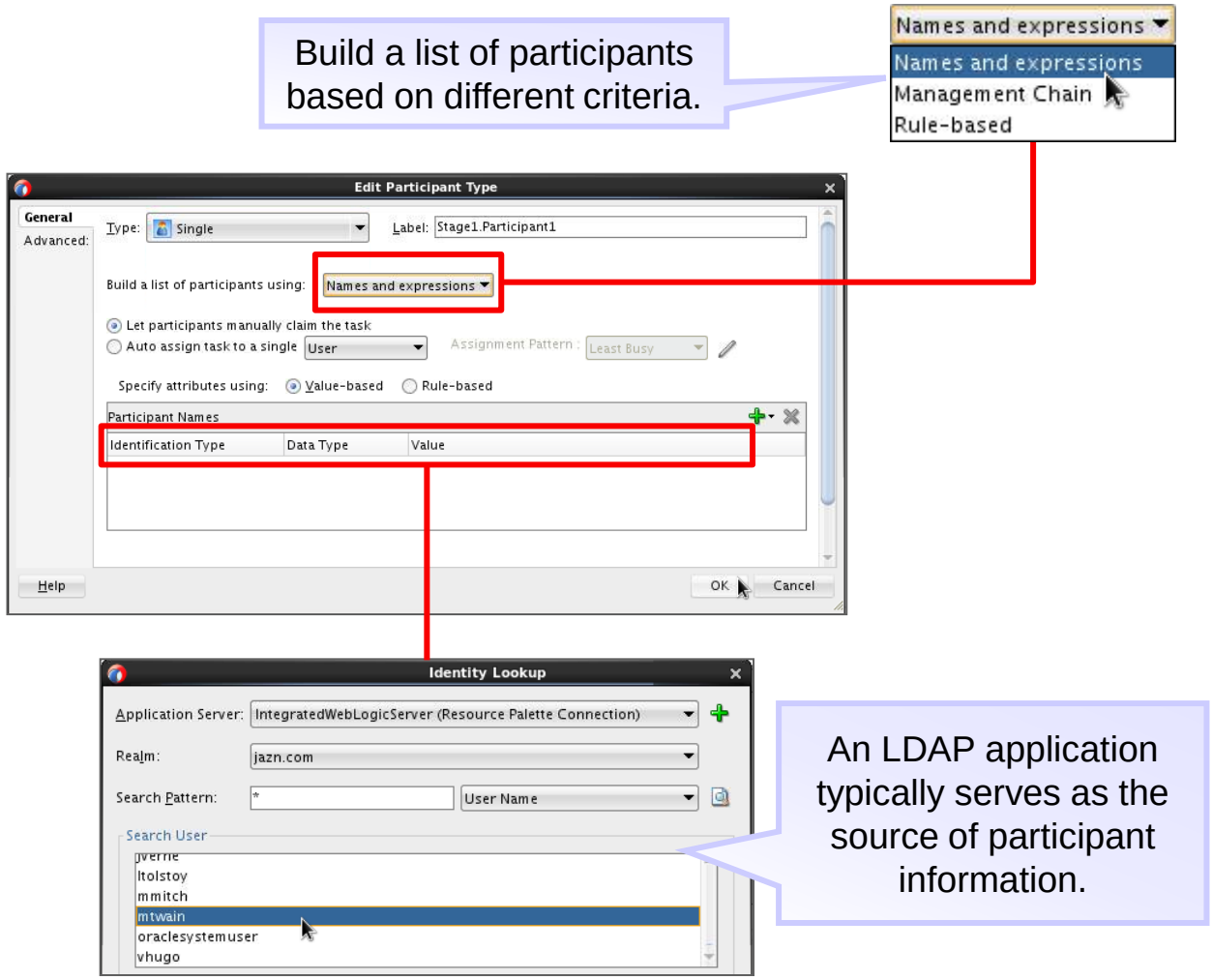
Configuring Task Participants



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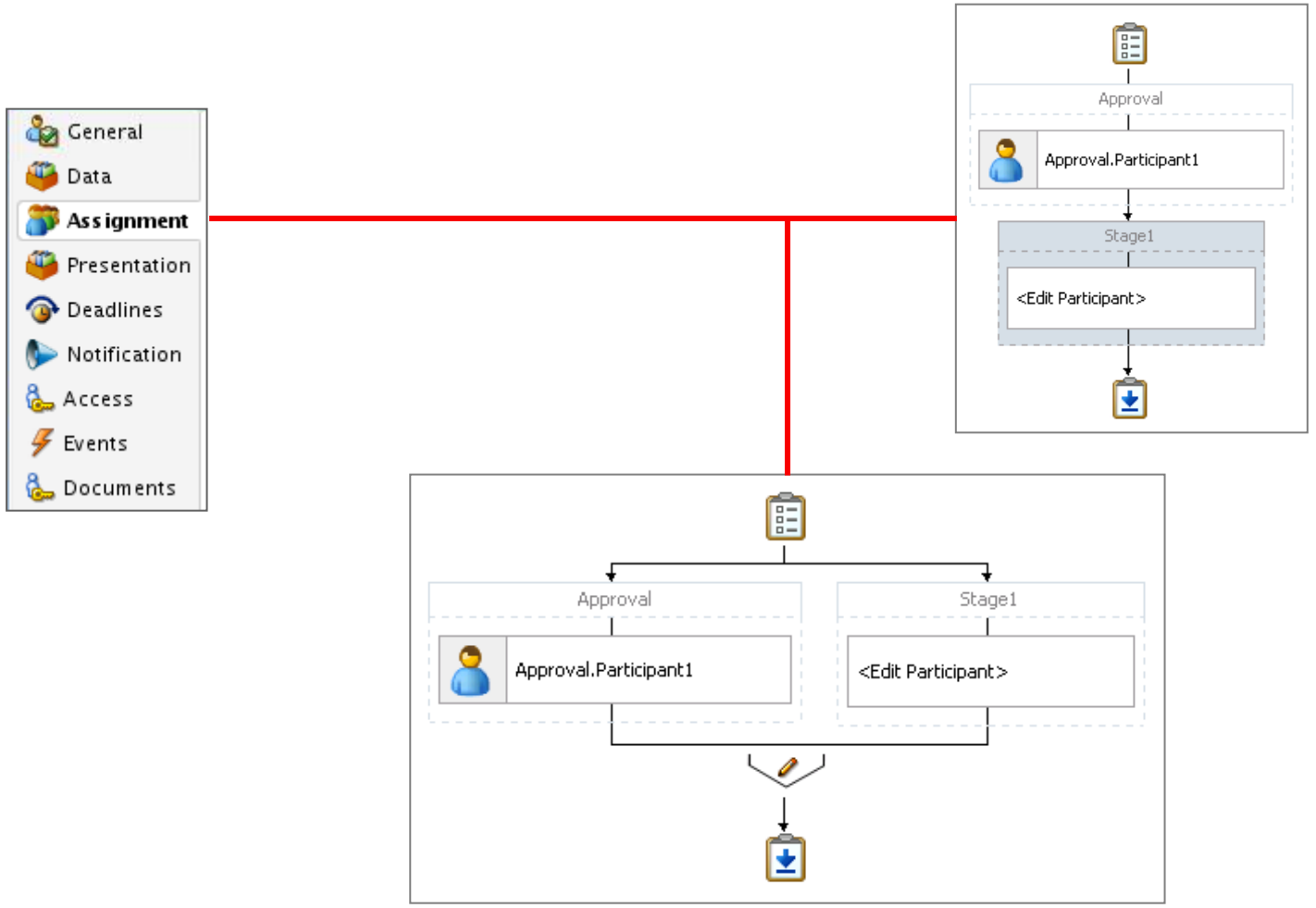
Configuring the Stages of a Task



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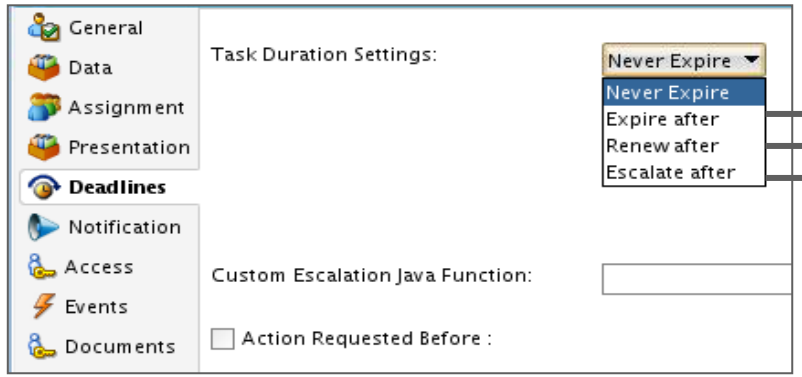
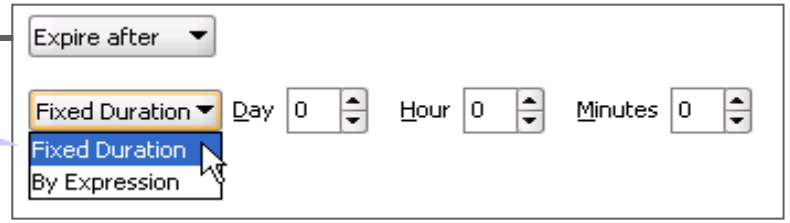
Configuring Expiration and Escalation Settings

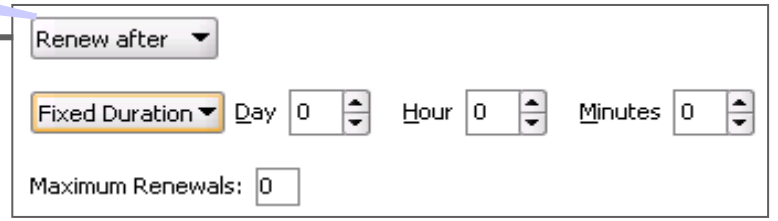
Options provide a fixed duration in days, hours, and minutes, or a period calculated by using an expression.

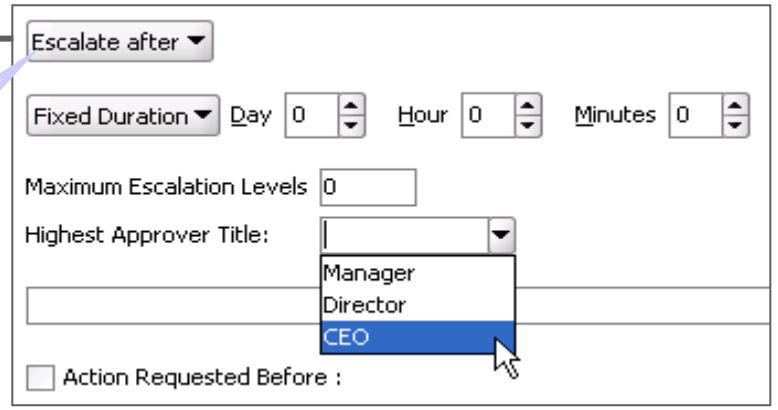
"Renew after" sets the number of renewals.

"Escalate after" sets the number of levels and the highest approver title.









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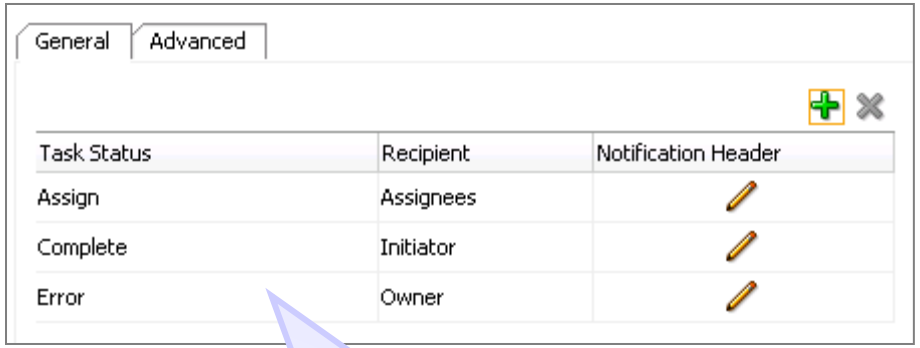
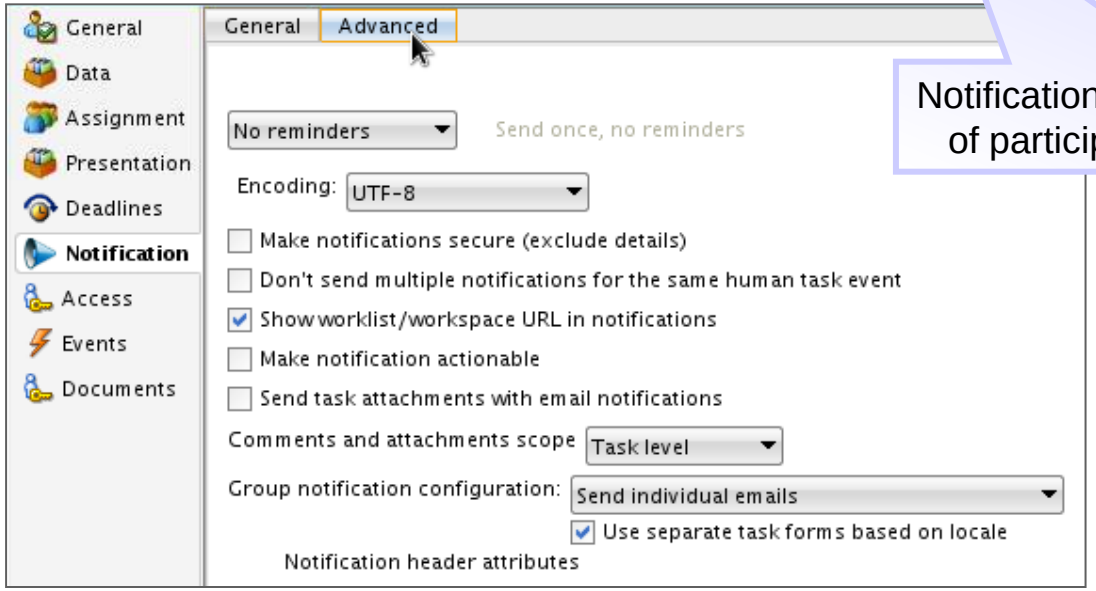
Configuring Notification Settings

Notifications are sent through channels such as email, voice message, instant message, and SMS.



Notifications are sent to different types of participants for different actions.



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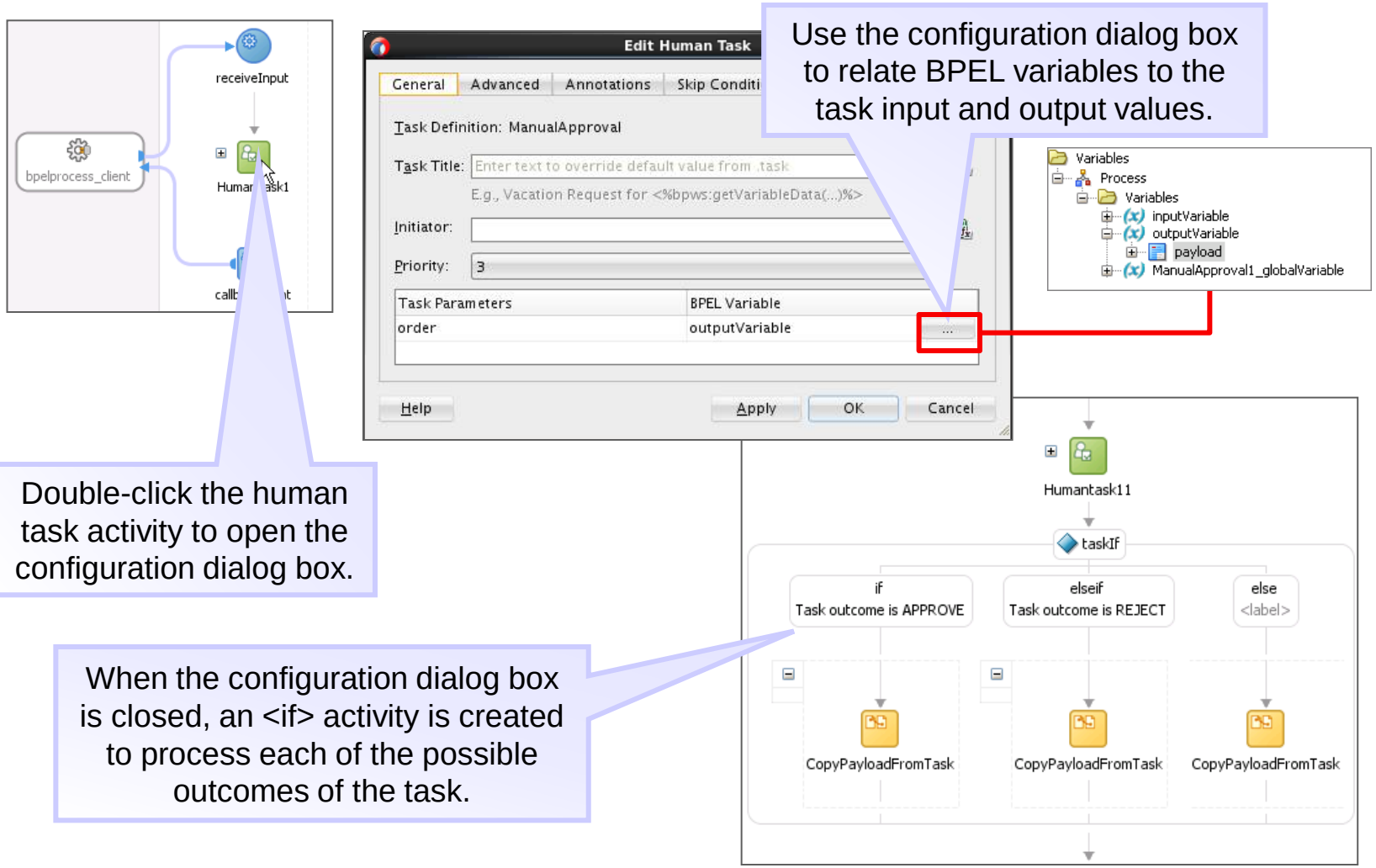
Adding a Human Task to a BPEL Process



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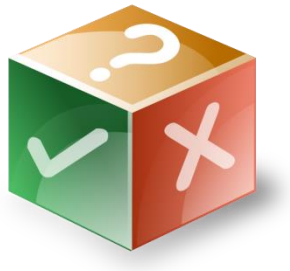
Quiz

A human task can be used only by a BPEL process component.

a. True

b. False



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Agenda

- Human Tasks
- The Worklist Application
- Notifications

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Task Display Forms

Task display forms are:

- Designed to display and optionally modify task information supplied as parameters to a human task in a composite application
- Generated as JavaServer Page XML (`.jspx`) files by using:
  - The human task activity in a BPEL process component
  - The “ADF Task Flow Based on Human Task” item in the JSF category of the New Gallery window

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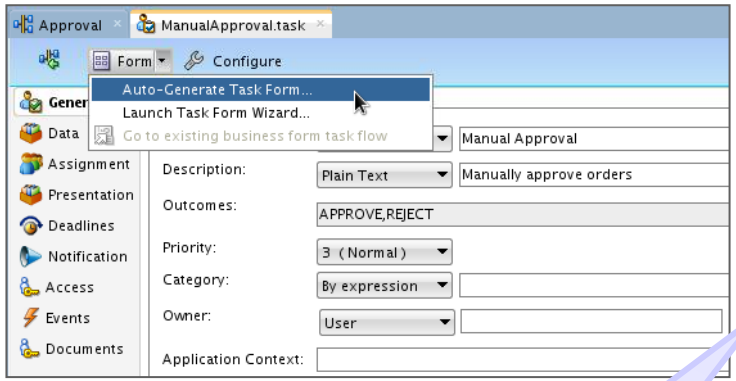
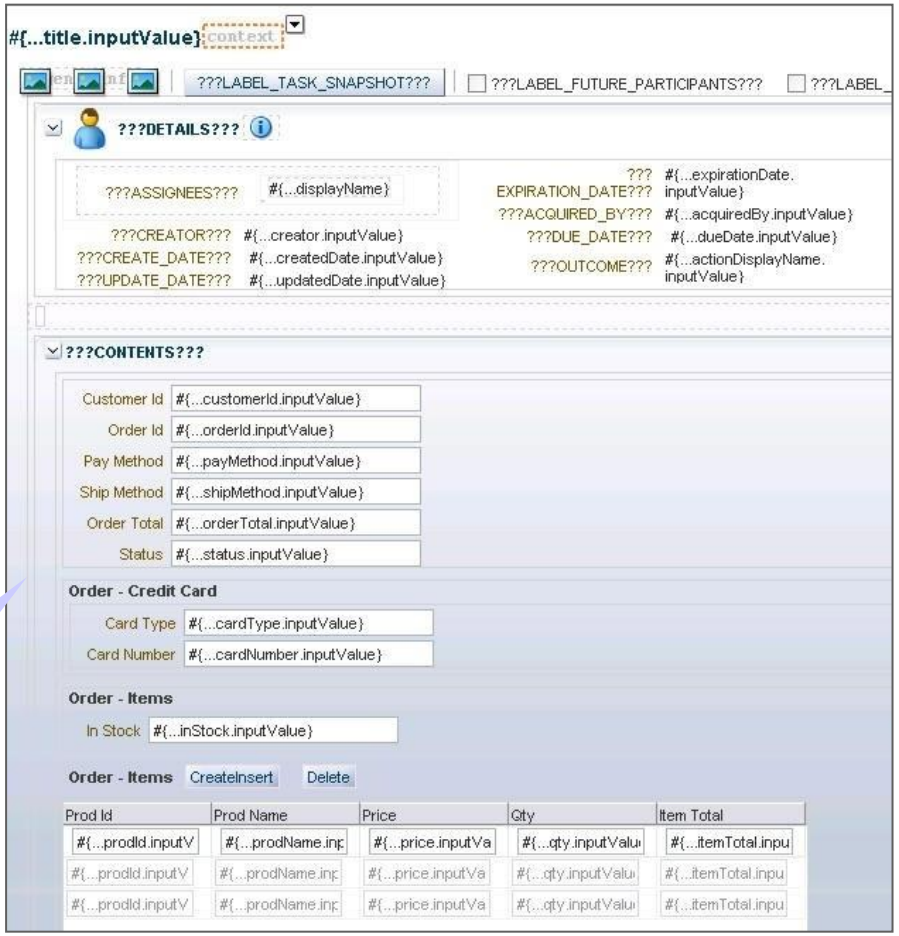
Generating a Task Display Form



Task parameters obtained from a task payload definition



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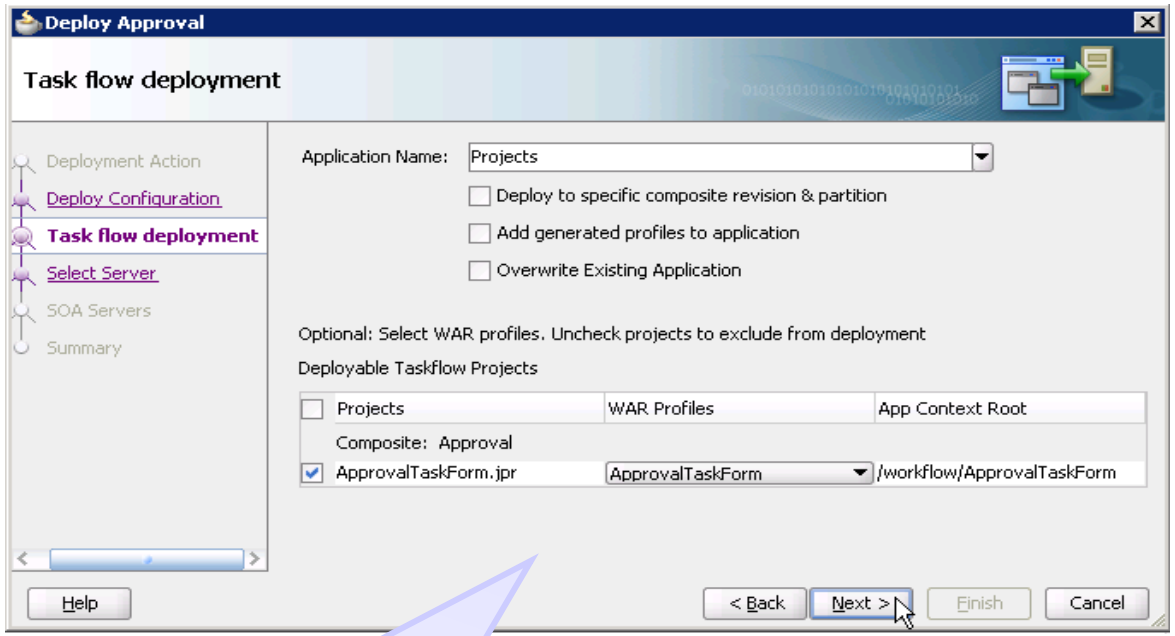
Deploying Task Display Forms



Task flows can be deployed with their related composite applications.

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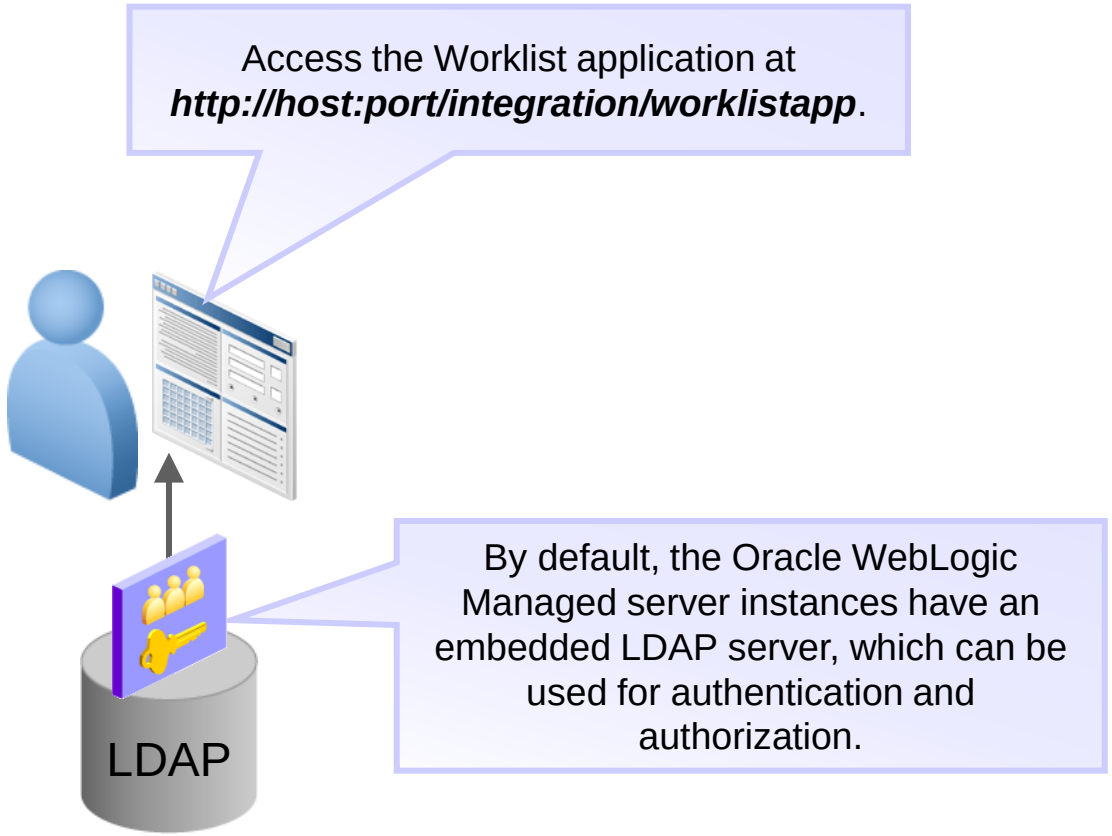
Accessing the Worklist Application



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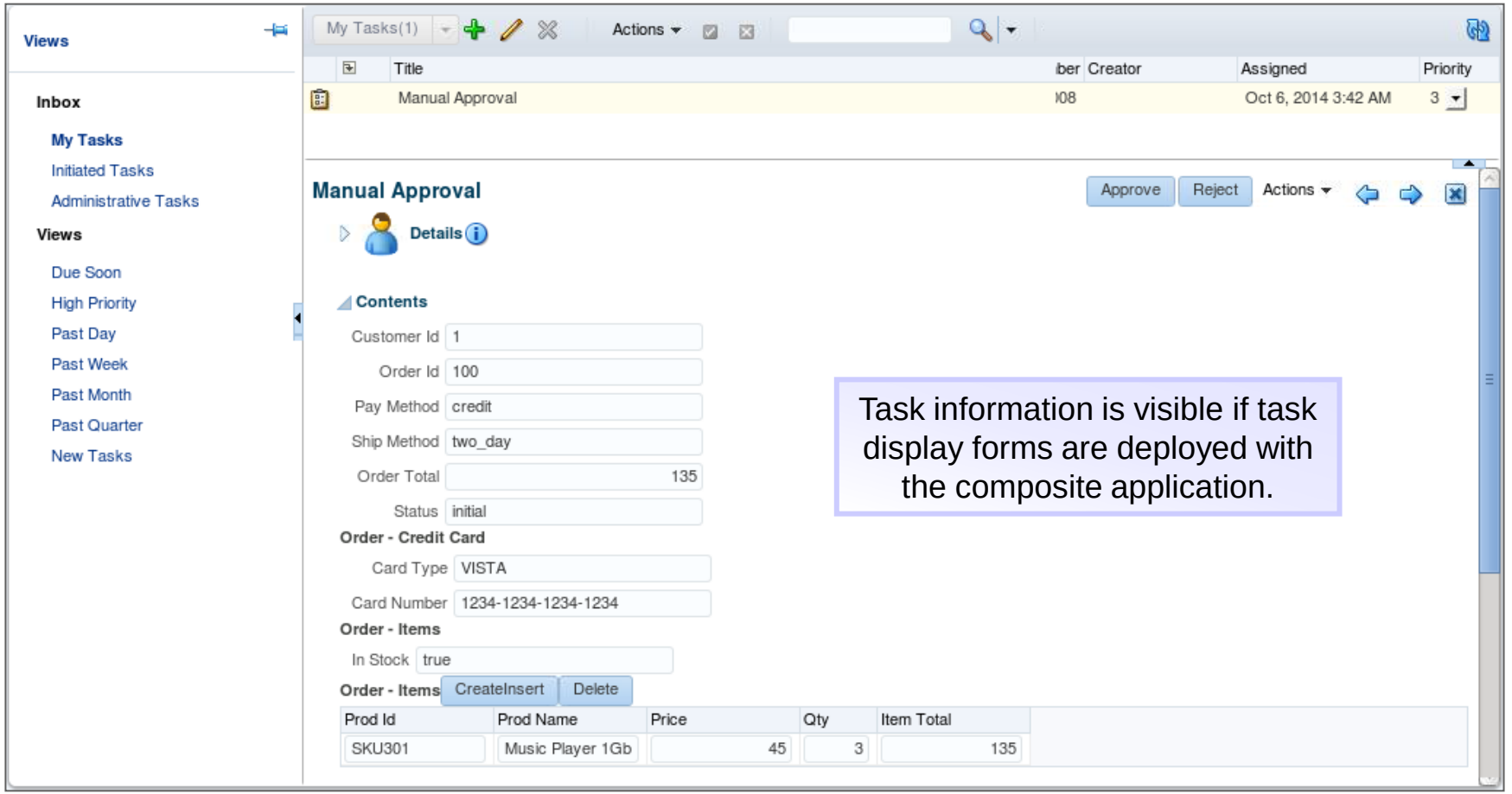
Viewing and Acting on Task Information



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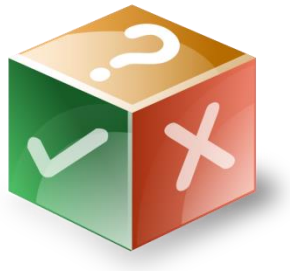
Quiz

Task display forms provide Worklist application users with a way to view and (optionally) modify task data.

a. True

b. False



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Agenda

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- Notifications

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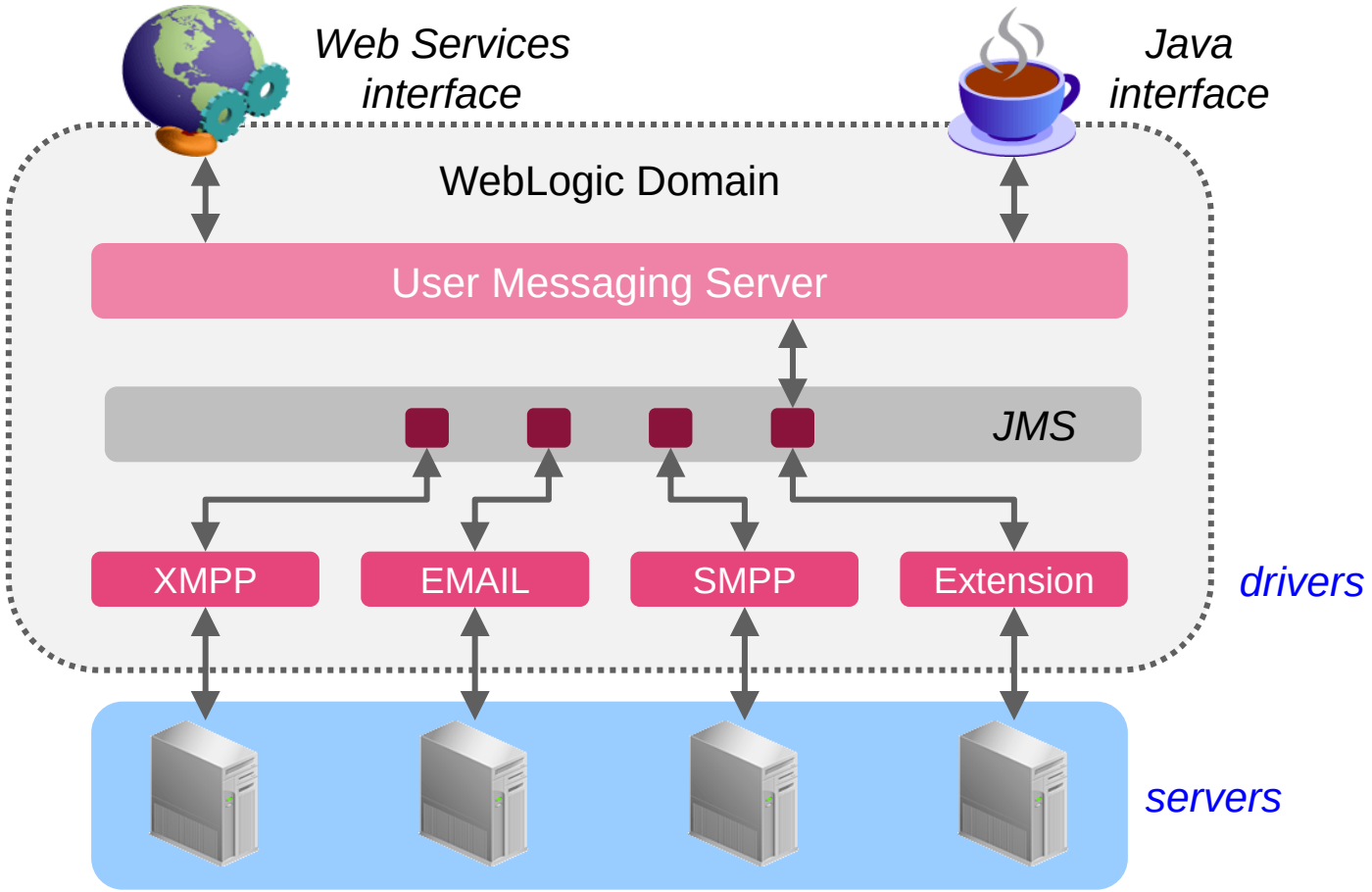
Working with Notification Services



ORACLE

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Oracle User Messaging Service (UMS)

- Enables sending notification through email, voice, IM, or SMS channels
- Supports two-way messaging (sending and receiving messages)
- Provides user messaging preferences, enabling users to configure how and when to receive notifications
- Integrates with Fusion Middleware components through:
  - BPEL notification activities, such as email, IM, and voice
  - Human workflow notifications that also provide actionable messages
  - Oracle BAM alerts for monitored events

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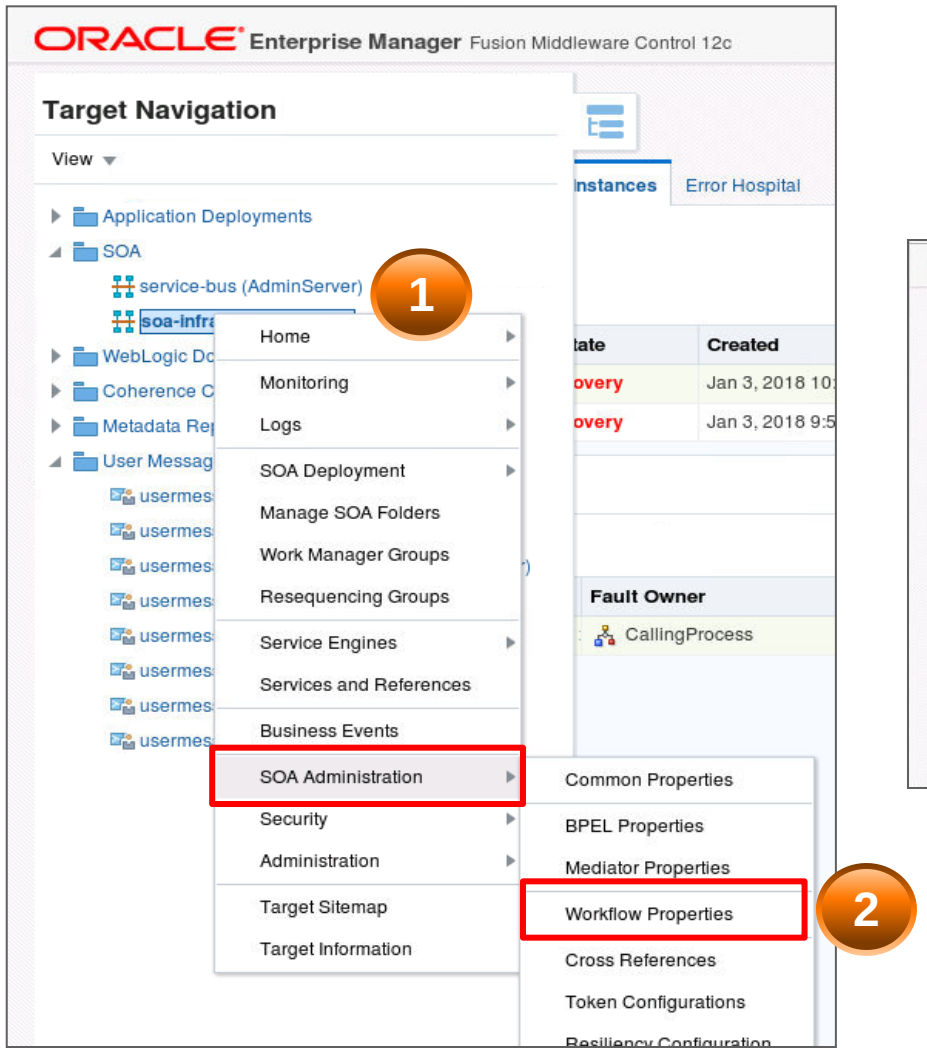
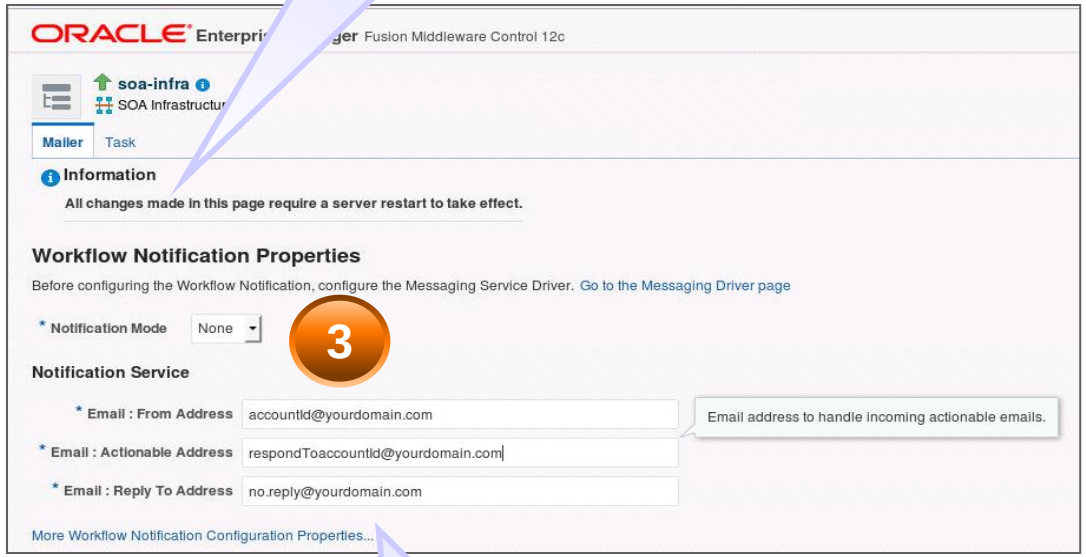
Configuring UMS Notification Properties



Changes require a server restart.



Set notification mode and email properties as appropriate.

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Creating the User Messaging Email Driver

1

Workflow Notification Properties

Before configuring the Workflow Notification, configure the Messaging Service Driver. Go to the Messaging Driver page

Associated Drivers

Local | All

Name	Driver Type	Cluster Name	Status	Configuration Level	Configure Driver
/Domain_soa_domain/soa_domain/AdminServer/usermessagingdriver-smpp	User Messaging SMPP Driver		↑	Unconfigured	
/Domain_soa_domain/soa_domain/AdminServer/usermessagingdriver-xmpp	User Messaging XMPP Driver		↑	Unconfigured	
/Domain_soa_domain/soa_domain/AdminServer/usermessagingdriver-apns	User Messaging APNS Driver		↑	Unconfigured	
/Domain_soa_domain/soa_domain/AdminServer/usermessagingdriver-email	User Messaging Email Driver		↑	Unconfigured	

2

3

usermessagingserver

User Messaging Service

Email Driver Properties

The UMS driver supports multiple configurations, at server or cluster level. Create or edit a configuration to configure the driver properties.

View | + Create | Edit | Delete

Name	Driver Type	Configuration Level
No driver configurations found		

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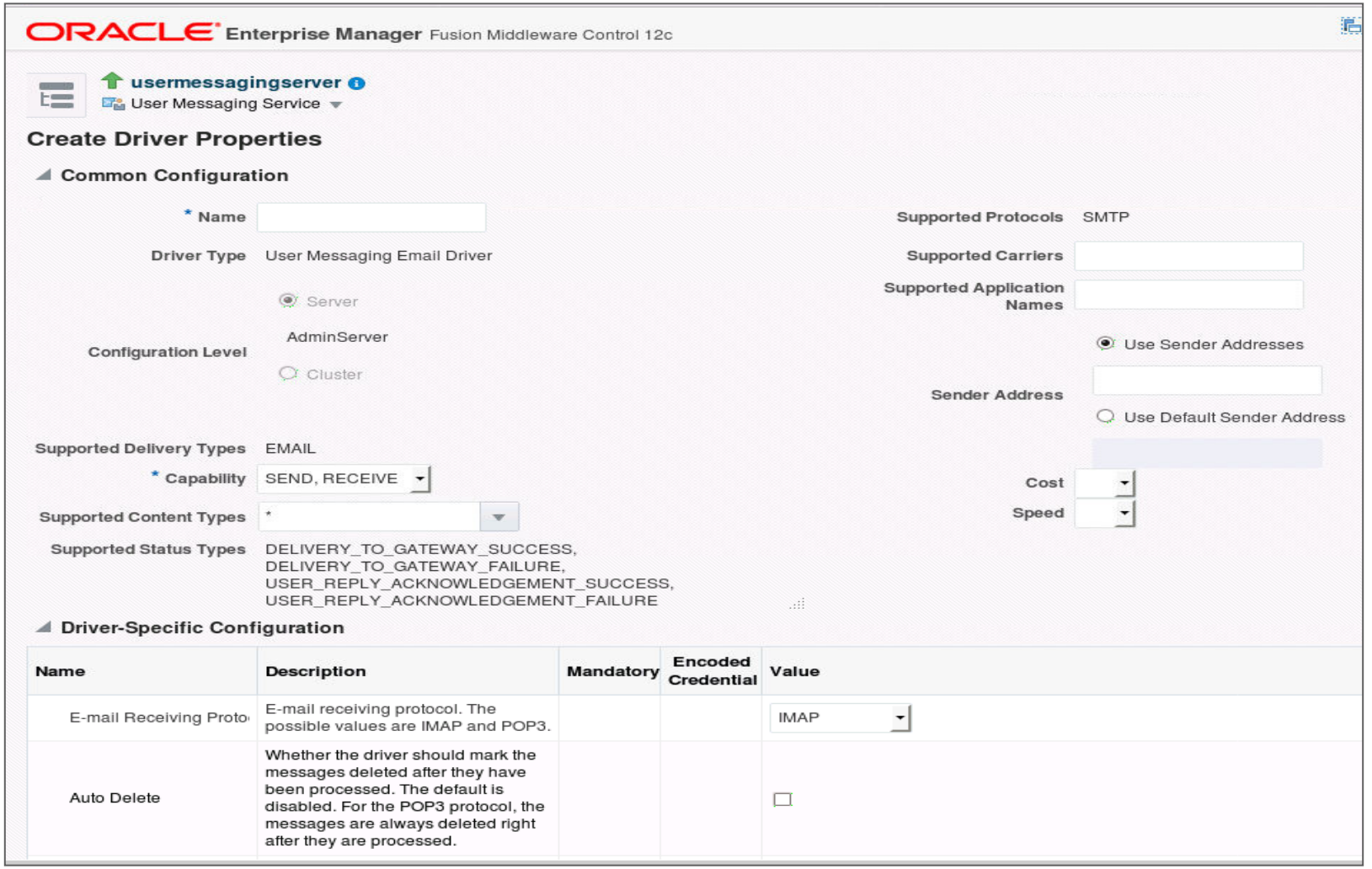
Configuring the User Messaging Email Driver



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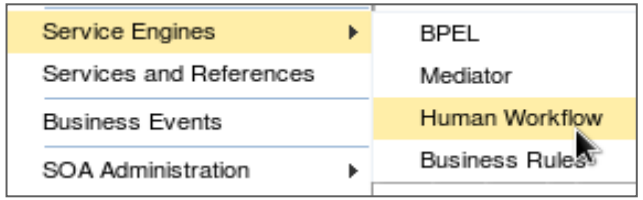
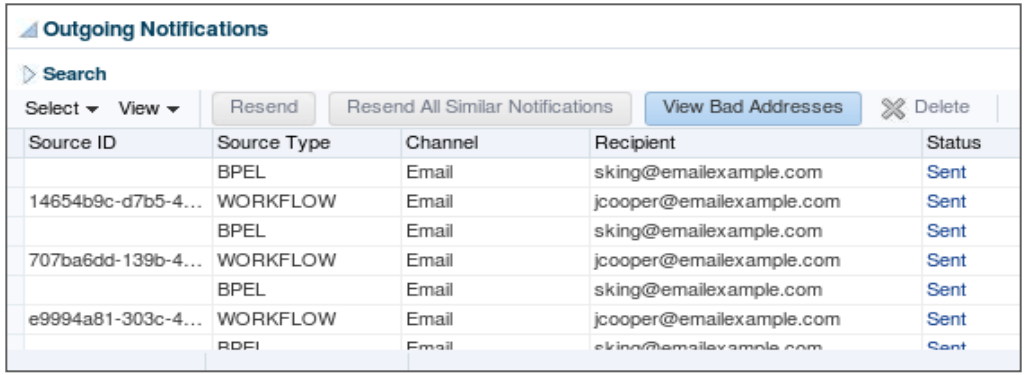
Viewing and Testing Email Notifications

1



2



3

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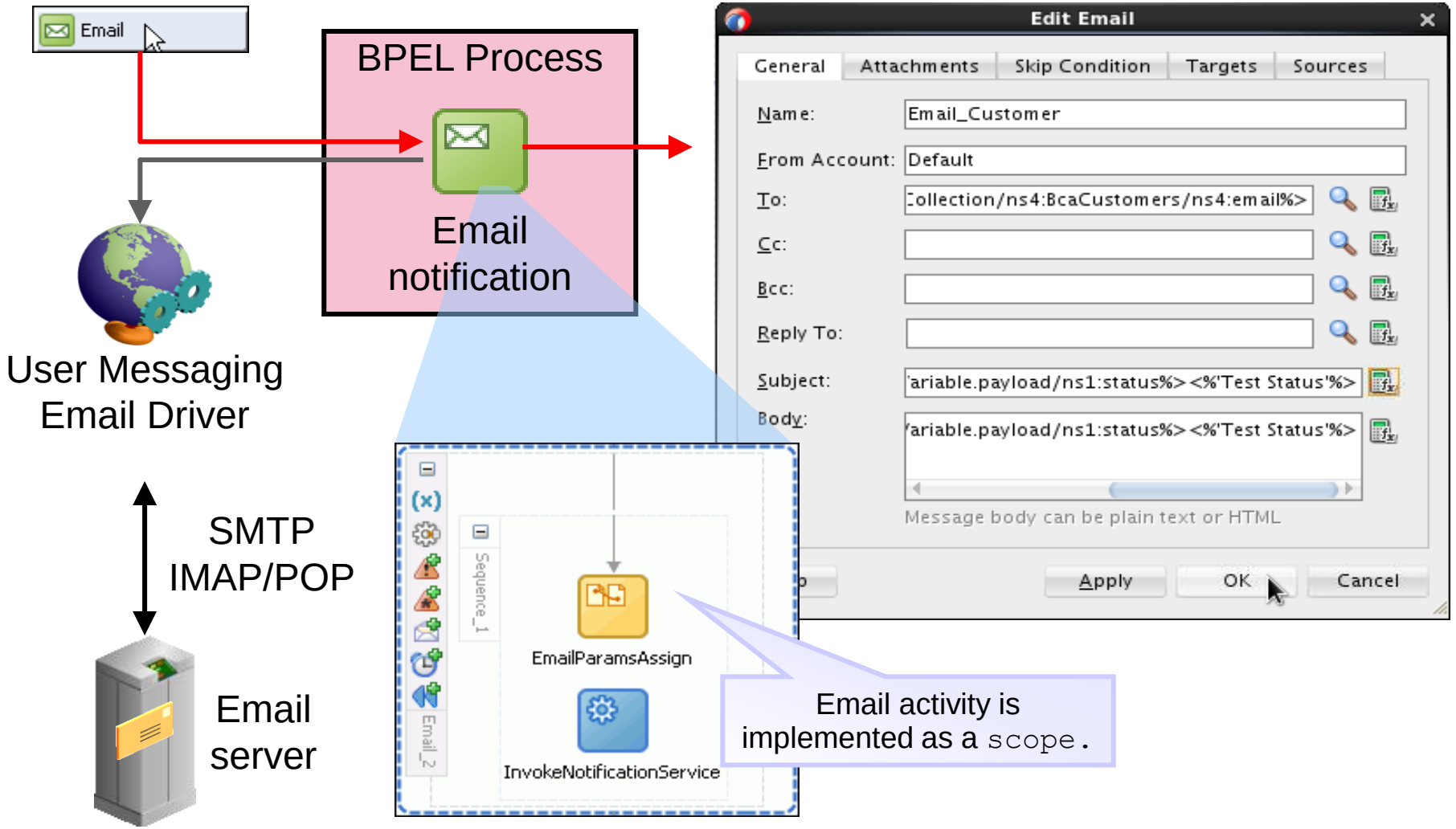
Sending Email Notification from BPEL



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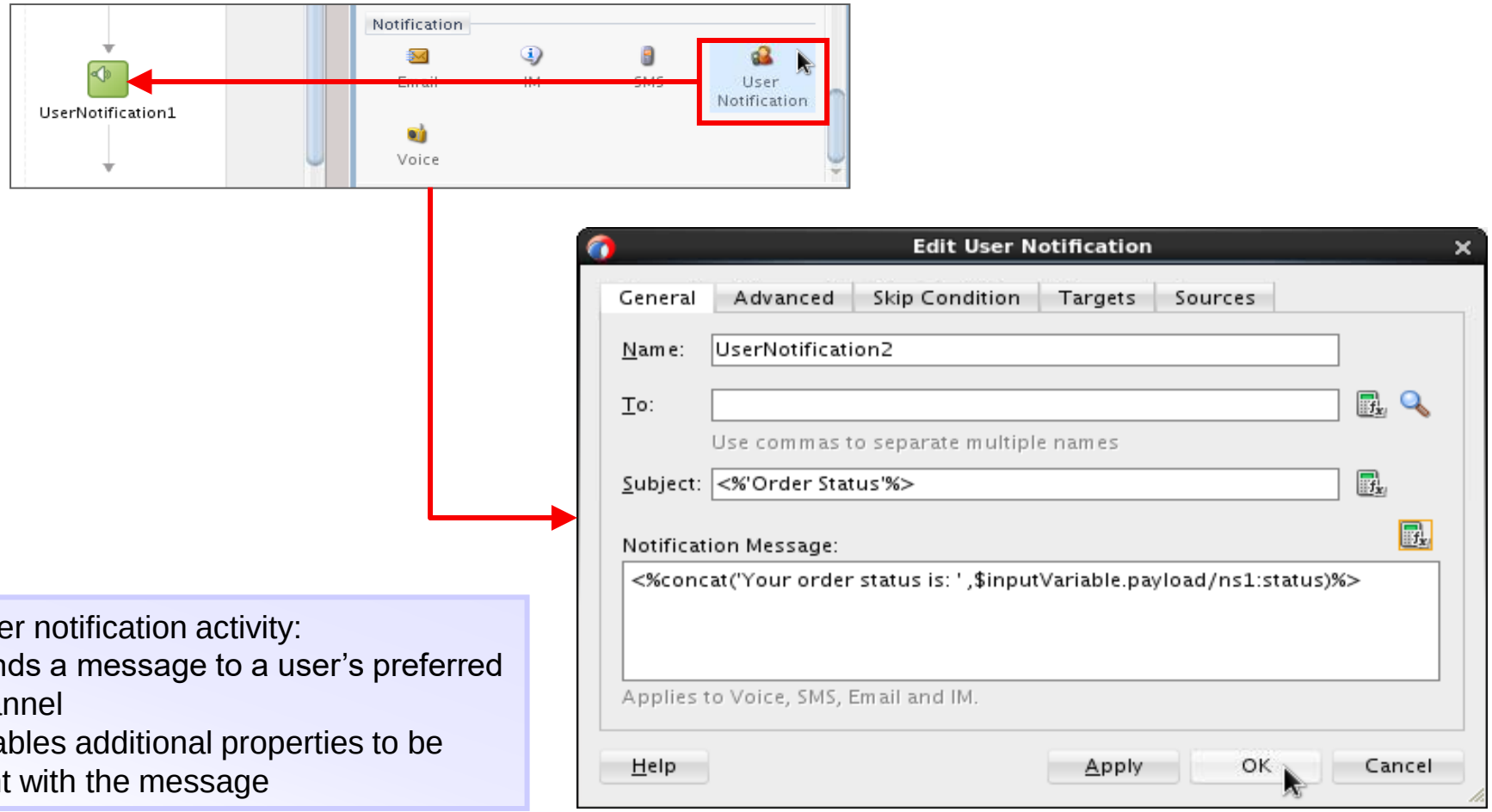
Sending a Notification to a User's Preferred Channel



The user notification activity:

- Sends a message to a user's preferred channel
- Enables additional properties to be sent with the message

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Quiz

Which of the following provide support for notification? (Select all that apply.)

a. User notification activity
b. An `OnMessage` branch in a Scope or Pick activity
c. Mediator routing rules
d. Human task component
e. Email activity

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Summary

In this lesson, you should have learned how to:

- Describe human task concepts
- Explain the human task component
- Design a human task
- Invoke a human task from a BPEL process
- Interact with the Worklist application to act on tasks
- Add email notification to a BPEL process

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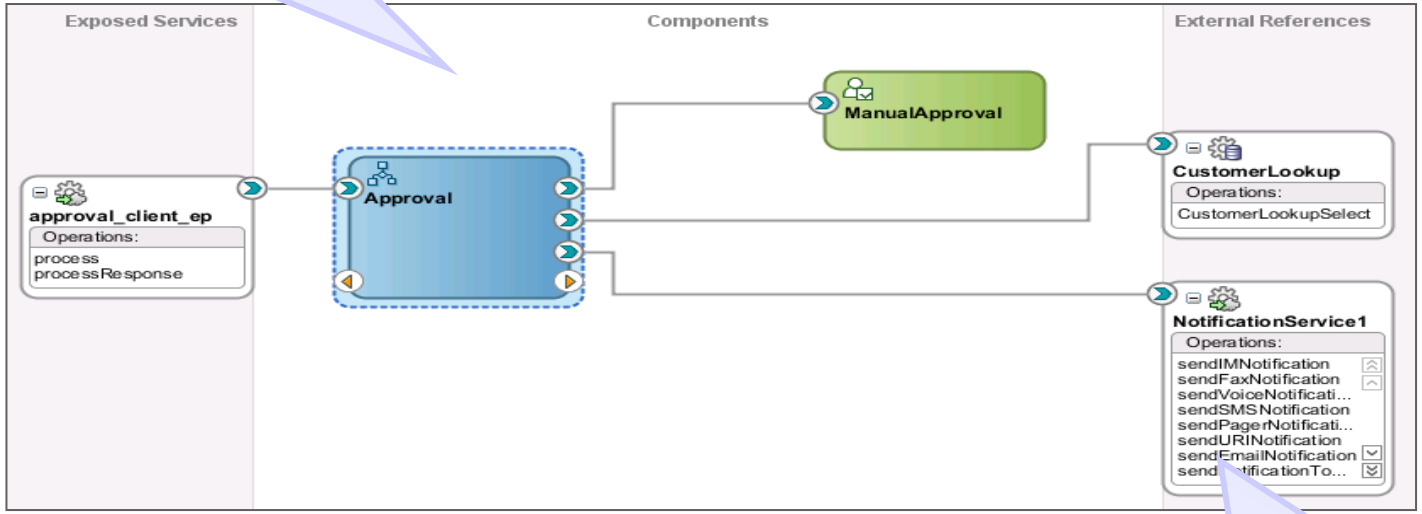
Practice 9 Overview

A composite application is built that includes a BPEL process component and a human task component.



Database and notification external references provide customer lookup and email capabilities.

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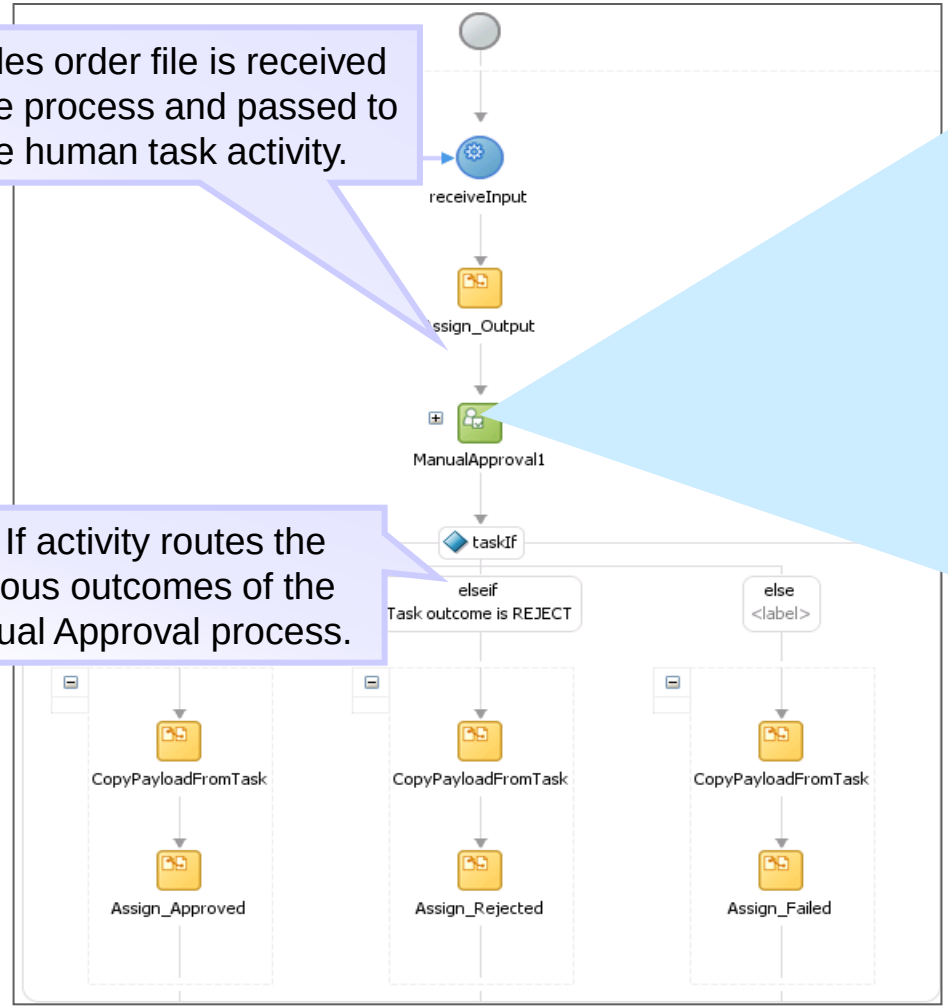
Practice 9 Overview

A sales order file is received by the process and passed to the human task activity.

An If activity routes the various outcomes of the Manual Approval process.



The Worklist application provides a chance to review and edit the details before approving or rejecting the order.

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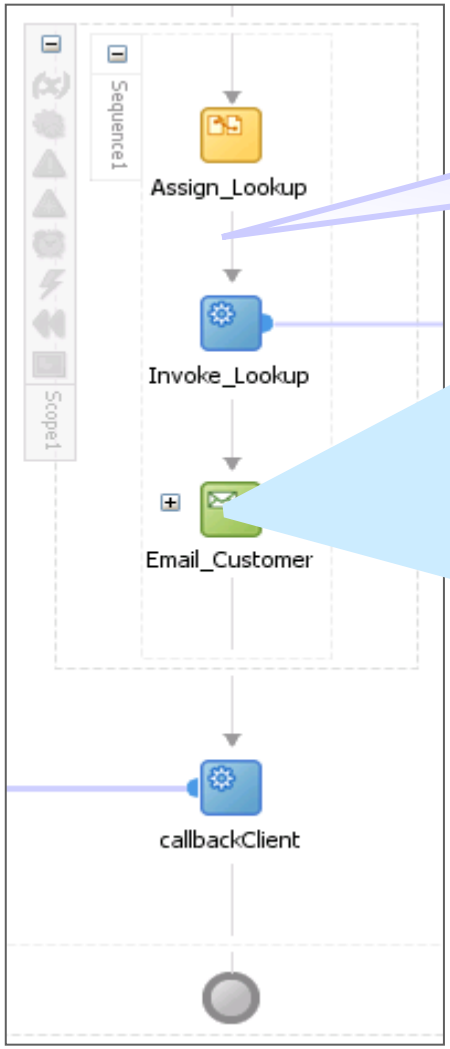
Practice 9 Overview



A Database adapter is invoked to query the customer database for email information.

from You
subject **Your order status: approved**
reply-to no.reply@yourdomain.com
to sking@soa11g.example.com

Dear Steve,

The status of your order is **approved.**.

Thank you for shopping with us. For m formation contact customer support on 1-800-MUSICFANS.

An email task advises customers of the status of their order.

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