Oracle® Fusion Middleware

User's Guide for Oracle Business Process Management

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Contents

Part I   Using Oracle Business Process Management Workspace (Process Workspace)

2   Getting Started with Process Workspace

3   Working on Tasks in Process Workspace

8 Performing Administration in Process Workspace

Part II   Using Oracle Business Process Management Process Spaces

9 Getting Started with Process Spaces

10   Using and Customizing a Process Workspace in Process Spaces

11   Using and Customizing a Process Modeling Space in Process Spaces

12   Using and Customizing a Process Instance Space in Process Spaces

13   Performing Administration in Process Spaces

A Creating Custom ADF Applications with Oracle Business Process Management Workspace Task Flows

Index

Preface

Oracle Fusion Middleware User's Guide for Oracle Business Process Management describes how to interact with tasks and business processes in both Oracle Business Process Management Workspace and Oracle Business Process Management Process Spaces.

Audience

This document is intended for all users of both Oracle Business Process Management Workspace and Oracle Business Process Management Process Spaces.

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Related Documents

For more information, see the following Oracle resources:

- *Oracle Fusion Middleware Modeling and Implementation Guide for Oracle Business Process Management*

- *Oracle Fusion Middleware Business Process Composer User's Guide for Oracle Business Process Management*

- *Oracle Fusion Middleware Administrator's Guide for Oracle SOA Suite and Oracle Business Process Management Suite*

Conventions

The following text conventions are used in this document:

Convention	Meaning
boldface	Boldface type indicates graphical user interface elements associated with an action, or terms defined in text or the glossary.
italic	Italic type indicates book titles, emphasis, or placeholder variables for which you supply particular values.
`monospace`	Monospace type indicates commands within a paragraph, URLs, code in examples, text that appears on the screen, or text that you enter.

1

Oracle Business Process Management Suite (Oracle BPM Suite) Overview

This chapter provides a general overview of the Oracle BPM Suite.

This chapter includes these topics:

- Section 1.1, "Introduction to the Oracle BPM Suite"
- Section 1.2, "Oracle BPM User Personas"
- Section 1.3, "Oracle BPM Suite Components"
- Section 1.4, "Oracle Business Process Analysis (BPA) Suite"
- Section 1.5, "Introduction to the Application Development Life Cycle"
- Section 1.6, "Oracle BPM Use Cases"

1.1 Introduction to the Oracle BPM Suite

The Oracle BPM Suite provides an integrated environment for developing, administering, and using business applications centered around business processes.

The Oracle BPM Suite provides the following:

- Enables you to create process models based on standards with user friendly applications. It enables collaboration among process developers and process analysts. Oracle BPM supports BPMN 2.0 and Business Process Execution Language (BPEL) from modeling and implementation to run time and monitoring.

- Enables process analysts and process owners to customize business processes and Oracle Business Rules.

- Provides a web-based application for creating business processes, editing Oracle Business Rules, and task customization using predefined components.

- Expands business process management to include flexible, unstructured processes. It adds dynamic tasks and supports approval routing using declarative patterns and rules-driven flow determination.

- Enables collaboration provided by Oracle Business Process Management Process Spaces, which drives productivity and innovation.

- Unifies different stages of the application development life cycle by addressing end-to-end requirements for developing process-based applications. Oracle BPM unifies the design, implementation, run time, and monitoring stages based on an Service Component Architecture (SCA) infrastructure. This allows different personas to participate through all stages of the application life-cycle.

See Section 1.2, "Oracle BPM User Personas" for more information about the user personas defined for the Oracle BPM Suite.

The Oracle BPM Suite provides a seamless integration of all stages of the application development life cycle from design time and implementation to run time and application management.

The Oracle BPM Suite is layered on the Oracle SOA Suite and shares many of the same product components, including:

- Business Rules
- Human Workflow
- Oracle Adapter Framework for Integration

Figure 1–1 shows a high-level architectural view of the Oracle BPM Suite.

Figure 1–1   The Oracle BPM Suite
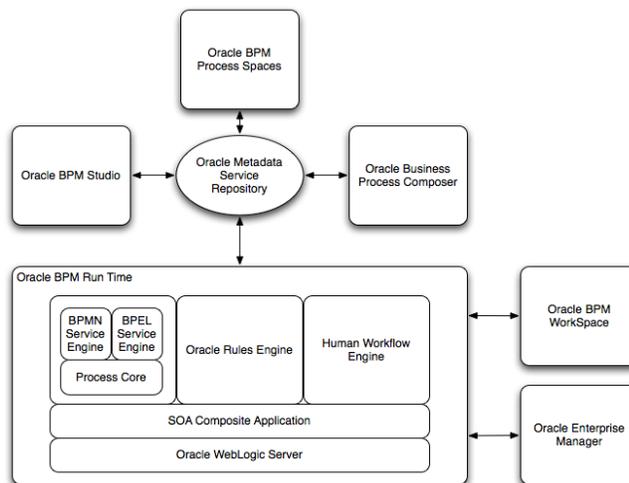
Section 1.3, "Oracle BPM Suite Components" provides more information on each of these components shown in Figure 1–1.

1.2 Oracle BPM User Personas

Different stages of application development life cycle require interaction from different types of users. Table 1–1 outlines typical users of Oracle BPM Suite and their responsibilities. It also lists the components of the Oracle BPM they would use to perform their work.

These user personas are used within the examples in this guide.

Table 1–1   Oracle BPM User Persona

User Persona	Description
Process analyst	Process analysts are responsible for creating the initial flow of a business process and documenting its steps. This also includes identifying and defining the Key Performance Indicators (KPIs) and high-level rules that define the routing artifacts of the business process. This persona can also perform simulations to calculate and estimate the return on investment.
	Process analysts typically use the Oracle Business Process Analysis Suite or Business Process Composer to create process models. They can also use process analyst role within Oracle BPM Studio.
Process developer	Process developers are responsible for implementing the process models created by process analysts. Each step in the process requires an implementation. The process developer is responsible for integrating the business process with back-end applications such as databases.
	Process developers typically use Oracle BPM Studio to model and implement the components of a business application. They may occasionally use Oracle Business Process Composer (Business Process Composer) for modeling basic processes.
Business administrator	Business administrators are responsible for administering the BPM infrastructure. Typical activities include the installation and setup of BPM environments and the overall management of the Oracle BPMN Service Engines that are hosting the business processes.
	This persona can be delegated the responsibilities for administering the organizational assets such as users, groups, organizational units, calendars and holidays.
	The main tool used by business administrators is the Oracle Enterprise Manager and automated tools such as Ant. Business administrators also use Oracle Business Process Management Workspace (Process Workspace) to manage organizational units, role assignments and perform other activities like creating workflow advanced routing declarations
Process owner	Process owners are responsible for controlling and managing deployed business processes. They are responsible for the overall supervision of the running business process. They often use metric analysis tools such as dashboards to understand the current state of the managed business processes.
	Process owners typically use Process Workspace. They also use Business Process Composer to change the behavior of a process by editing Oracle Business Rules. They may also use the Oracle BAM console to view metrics dashboards.
Process participant	Process participants are the people who use the business applications created with the Oracle BPM Suite.
	Process participants typically use Process Workspace or Process Spaces.

1.3 Oracle BPM Suite Components

This section provides a general description of the major components of the Oracle BPM Suite. See Section 1.5, "Introduction to the Application Development Life Cycle" for information about how these components interact within the application development process.

1.3.1 Process Modeling and Implementation

This section describes the applications and components used to model and implement business processes and process-based business applications.

The Oracle BPM Suite provides two primary applications for modeling and implementing business processes: Oracle BPM Studio and Oracle Business Process Composer.

> **Note:** Oracle BPM can also integrate business processes created using the Oracle Business Process Analysis Suite. See Section 1.4, "Oracle Business Process Analysis (BPA) Suite" for more information.

1.3.1.1 Oracle BPM Studio

Oracle BPM Studio is a component of the Oracle BPM Suite that provides a user friendly environment where process analysts can design business process models and run process simulations. Oracle BPM Studio supports Business Process Management Notation (BPMN) 2.0.

Oracle BPM Studio also enables process developers to create working process-based applications. These applications are Oracle BPM projects that are integrated as SOA composite applications.

You can use Oracle BPM Studio to implement business processes with other Oracle components such as adapters, human workflow and business rules. You can then deploy these processes to Oracle BPM run time.

Oracle BPM Studio is a part of the Oracle JDeveloper IDE. Oracle BPM Studio enables IT users to use a single integrated tool to model and edit business processes, implement the required IT elements, and deploy applications to the run-time environment.

Oracle BPM Studio also provides a BPM role that enables business users to use a simplified version of Oracle JDeveloper that displays only functionality relevant to process design.

See the *Oracle Fusion Middleware Modeling and Implementation Guide for Oracle Business Process Management* for more information.

1.3.1.2 Oracle Business Process Composer (Business Process Composer)

Business Process Composer is a Web-based application that enables business users to collaborate with process developers and designers. It provides a user friendly environment for editing processes and process templates created in Oracle BPM Studio.

Process developers can create a catalog of preconfigured components such as services, tasks, and rules in Oracle BPM Studio. This catalog can be included in project templates that process analysts can use to create new projects using Business Process Composer.

After creating a project based on a project template, process analysts can incorporate business catalog elements and perform other required edits defined by the project template. Process analysts can then deploy these project to theOracle BPM run time.

Business Process Composer also enables process analysts to create process blueprints. These are initial drafts of a process that can be used by process developers who use Oracle BPM Studio to add further implementation details and refinement to the project.

Business Process Composer also enables you to edit Oracle Business Rules at run time. This is important because policies tend to evolve faster than business processes.

See the *Oracle Fusion Middleware Business Process Composer User's Guide for Oracle Business Process Management* and Oracle Fusion Middleware Modeling and Implementation Guide for Oracle Business Process Management for more information.

1.3.1.3 Oracle Metadata Service (MDS) Repository

MDS provides a repository that is used to store data about applications deployed within an Oracle Fusion Middleware environment. Oracle BPM uses this repository, called Oracle Business Process Management Metadata Store, to store information about deployed applications.

Oracle BPM also uses a separate MDS partition to share projects and project templates between process analysts and process developers. Figure 1–1, "The Oracle BPM Suite" shows how the MDS repository fits within the overall Oracle BPM architecture.

1.3.1.4 Oracle BPM Projects

Oracle BPM projects are containers for the business processes and related resources used to create a process-based business application. An Oracle BPM project can contain the following:

- Organizational data

- Activity guides

- BPMN process models

- Business catalog

- Simulation models

- Other resources

Oracle BPM projects are deployed at run time as SOA composite applications. For more information on working with projects and SOA composite applications see the following documentation:

- "Working with Projects and Project Templates" in *Oracle Fusion Middleware Modeling and Implementation Guide for Oracle Business Process Management*

- "Working with Projects and Project Templates" in *Oracle Fusion Middleware Business Process Composer User's Guide for Oracle Business Process Management*

- *Oracle Fusion Middleware Developer's Guide for Oracle SOA Suite*

1.3.2 Oracle BPM Run Time Components

Oracle BPM Run Time is responsible for controlling deployed applications. Oracle BPM run time includes the following components:

1.3.2.1 Oracle BPM Engine

The Oracle BPM Engine provides a run-time environment for running business processes. It provides native support for both BPMN and BPEL processes.

The BPM engine is composed of three separate components:

- BPMN Engine

  The BPMN engine provides an environment for running BPMN processes.

- BPEL Engine

The BPEL engine provides an environment for running BPEL processes.

■ Process Core

The Process Core provides engine functionality that is shared by the BPMN and BPEL engines. Some of the key functionality performed by the process core includes:

– Manage security

– Generate audit trails

– Invoke services

– Manage persistence

1.3.2.2 Oracle Human Workflow

Many end-to-end business processes require human interactions with the process. For example, humans may be needed for approvals, exception management, or performing activities required to advance the business process. The human workflow service provides features such as:

■ Task routing to users, groups or application roles.

■ Deadlines, escalations, notifications, and other features required for ensuring the timely performance of a task.

■ Task forms for presentation of tasks to end users through a variety of mechanisms, including a workspace and portals.

■ Organization, filtering, prioritization, dispatching rules and other features required for end users to productively perform their tasks.

1.3.2.3 Oracle Business Rules

Oracle Business Rules are a component of the Oracle SOA Suite that enable dynamic decisions at run time allowing, among other features, applications to rapidly adapt to regulatory and competitive pressures. This increased agility is possible because process analysts using Oracle Business Rules can create and change business rules that are separated from the application code. By using Oracle Business Rules, process analysts can change business rules without stopping business processes. Also, externalizing business rules enables process analysts to manage business rules directly, without involving process developers.

1.3.2.4 Oracle WebLogic Server

Oracle WebLogic Server is an application server that provides a platform for creating and running J2EE-compliant applications.

1.3.2.5 Oracle Enterprise Manager

The Oracle Enterprise Manager is a Web-based application that enables system administrators to control and manage applications running on the Oracle SOA Suite. Enterprise Manager enables business administrators to configure and manage business applications and process instances.

1.3.3 Oracle BPM Suite Process Participant Applications

The following sections describe the components of the Oracle BPM Suite that are used by process participants to perform their day-to-day work. These applications enable

process participants to interact with running business applications managed by Oracle BPM run time.

1.3.3.1 Oracle Business Process Management Workspace (Process Workspace)

Process Workspace enable process participants to interact with the applications you create using Oracle BPM. The Process Workspace user interface provides tabs for each of the following:

- **Tasks**: This page enables process participants to view and work with their assigned tasks.

- **Process Tracking**: This page enables process participants to view running process instances.

- **Standard Dashboards**: This page provides out-of-the-box dashboards for monitoring process performance, task performance, and workload.

- **Custom Dashboards**: This page enables process participants to define and use custom dashboards based on the measurement data generated by process instances.

Process Workspace also enables business administrators to configure and maintain organizations and roles. See the *Oracle Fusion Middleware User's Guide for Oracle Business Process Management* for more information.

1.3.3.2 Oracle Business Process Management Process Spaces (Process Spaces)

Process Spaces is a collaborative workspace built on top of Oracle WebCenterSpaces and enables more productive BPM by increasing collaboration.

See the *Oracle Fusion Middleware User's Guide for Oracle Business Process Management* for more information.

1.3.4 Other Oracle BPM Suite Components

The following sections describe other components of the Oracle BPM Suite.

1.3.4.1 Process Analytics

Business Process Analytics enables process participants to monitor the performance of running process-based applications. It measures the key performance indicators defined in a BPM project and stores them in a database. Process participants and analysts can view the metrics stored in the process analytics databases using Process Workspace dashboards or Oracle BAM.

1.3.4.2 Guided Business Processes

Guided Business Processes enable process analysts and developers to group the interactive activities in your BPM process into a set of milestones that are meaningful to the process participants. They outline the steps the process participants must complete, hiding the complexity of the business process.

See "Introduction to Guided Business Processes" in *Oracle Fusion Middleware Modeling and Implementation Guide for Oracle Business Process Management*

1.4 Oracle Business Process Analysis (BPA) Suite

The Oracle Business Process Analysis Suite is a separate Oracle product suite based on the Aris platform from IDS Scheer. It provides comprehensive modeling, analysis, and

simulation capabilities for enterprise wide business processes. It also supports capturing business architecture artifacts such as strategic objectives, goals, higher level KPIs, risks and controls, and conceptual models such as value chain diagrams.

Additionally, the Oracle Business Process Analysis Suite supports the following:

- Alignment of business processes with a business strategy.

- Service discovery and linking to business processes. Drives service requirements for the Oracle SOA Suite.

- Loading and creating simulation scenarios which enable you to determine optimal resource allocation. Simulation enables you to perform throughput analysis, activity based costing, and resource utilization. Additionally, you can create simulation analysis reports for easy analysis of simulation results.

- Comprehensive version management including check-in, check-out, and change management capabilities.

The business architecture defined by the Oracle Business Process Analysis Suite is the formal link between strategic objectives and the actual business applications created using Oracle BPM. The Oracle Business Process Analysis Suite supports modeling of business architecture artifacts such as strategy maps, goals, objectives, risk and controls and linking them to business processes.

This provides the ability to prioritize efforts, justify decisions, and trace activities of the business process improvement initiatives to strategic goals of the business, hence improving business and IT alignment. It provides tremendous value because it offers a clear understanding of which BPM projects to undertake, which processes are currently most strategic to the company, and which services are most aligned with the business strategy.

The Oracle Business Process Analysis Suite complements the functionality of the Oracle BPM Suite by adding orthogonal dimensions to the modeling phases including organization goals. See the *Oracle BPA Quick Start Guide* for more information.

Processes created in the Oracle Business Process Analysis Suite can be imported into the Oracle BPM Suite. Using Oracle BPM Studio, you can integrate your business process with other Oracle technologies including adapters, business rules, and human tasks.

See the *Oracle Fusion Middleware Modeling and Implementation Guide for Oracle Business Process Management* for more information on using business processes created in Oracle Business Process Analysis within Oracle BPM Studio.

1.5 Introduction to the Application Development Life Cycle

This section outlines the stages of the development life cycle of an Oracle BPM application. It describes how different components of Oracle BPM are used within each stage.

Figure 1–2 lists the four stages of the application development life cycle, the user personas applicable to each stage, and the Oracle BPM tools and applications that are used.

Figure 1–2   Stages of the Oracle BPM Application Development Life Cycle
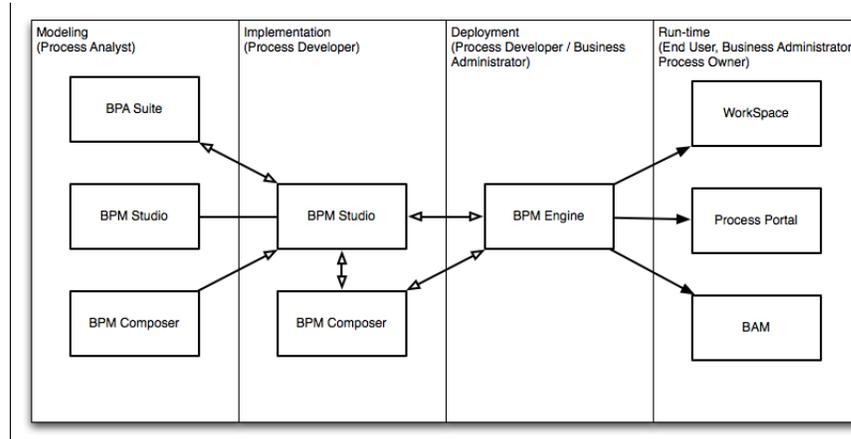
1.5.1 Process Modeling

The first stage of the application development life cycle is process modeling. During this stage a process analyst creates process models based on real-word business processes and problems.

Oracle BPM provides three distinct tools for modeling business processes. Each tool has a different role within the Oracle BPM Suite. The tool you use depends on your business requirements, the stage of the application development cycle, and your user persona.

- Oracle BPM Studio

  Oracle BPM Studio runs on the Oracle JDeveloper IDE platform. Oracle BPM Studio provides a process analyst role that displays a simplified set of JDeveloper functionality that focuses on designing process models.

  Oracle BPM Studio enables process analysts and process developers to design and implement detailed process flows that are deployed to Oracle BPM run time and run as working applications. Additionally, detailed process flows from Oracle Business Process Analysis Suite or Business Process Composer can be brought inside Oracle BPM Studio for further implementation, then deployed to the Oracle BPM run time.

- Oracle Business Process Composer

  Business Process Composer is a collaboration tool that enables process analysts to collaborate with process developers.

- Oracle Business Process Analysis Suite (BPA)

  The Oracle Business Process Analysis Suite enables you to create robust models of your business processes from high-level models of your entire organization down to lower level business processes that you can implement as running processes.

See Section 1.6, "Oracle BPM Use Cases" for more information about how each of these tools fit within the typical Oracle BPM uses cases. See *Oracle Fusion Middleware Business Process Composer User's Guide for Oracle Business Process Management* and *Oracle Fusion Middleware Modeling and Implementation Guide for Oracle Business Process Management* for more information about how Business Process Composer and Oracle BPM Studio interact within the application development life cycle.

1.5.2 Implementation

After process analysts model business processes, process developers are responsible for creating business applications based on these models. Using Oracle BPM Studio, process developers implement reusable services and integrate other business systems.

Implementation may include the following types of tasks generally performed by process developers:

- Data mapping and transformation
- System fault handling
- Designing and implementing user interfaces using Oracle Human Workflow
- Designing Oracle Business Rules
- Creating dashboards

After a process developer finishes the implementation, the application is compiled and deployed like other SOA composite applications. It can be compiled and deployed using Oracle BPM Studio.

1.5.3 Deployment

Deployment is the process of transferring an Oracle BPM project from the development environment to the run-time environment. This can be either a testing or production run-time environment.

After finishing the integration of business processes with back-end systems and reusable services, process developers create and compile a working process-based application. This application is then deployed to Oracle BPM Run Time.

Oracle BPM Suite contains the following typical scenarios for deploying to Oracle BPM Run Time:

- Deployment directly from Oracle BPM Studio

  Applications created with Oracle BPM can be deployed directly to the run-time environment like any other SOA composite application. This is typically performed by a process developer using Oracle BPM Studio within a test or development environment.

  See the *Oracle Fusion Middleware Developer's Guide for Oracle SOA Suite* for more information about deploying SOA composite applications.

- Deployment directly from Business Process Composer

  Oracle BPM enables you to deploy projects created from project templates directly to the same run time environment where Business Process Composer is installed. When creating a project, you can specify an approval workflow that must be completed before the project is deployed.

  You can deploy from Business Process Composer when it is installed in the same server infrastructure as Oracle BPM Run Time. This enables process analysts to deploy and test process-based business applications. The is generally done in a testing environment.

- Deployment using an exported SAR file

  Oracle BPM Studio and Business Process Composer enable you to export applications using a SAR file. The SAR file can be deployed to a run time environment by business administrators using Oracle Enterprise Manager.

  In a production environment, this is generally how applications are deployed.

■ Deployment Using the WebLogic Scripting Tool (WLST)

Oracle BPM provides customized WLST commands for managing and deploying Oracle BPM projects.

1.5.4 Oracle BPM Run Time

After an application is deployed, the run-time environment makes the Oracle BPM application available to process participants based on the roles assigned in the organization where the business processes were deployed. This stage is divided into these distinct functions:

■ User interaction

Process participants and process owners are responsible for interacting with the running application using Process Workspace.

Process analysts and owners can also monitor the process and revise Oracle Business Rules at run time using Business Process Composer.

■ Process management and monitoring

Process owners are responsible for monitoring and maintaining running processes using Process Workspace. Process analysts and owners use Oracle Business Process Analysis to monitor the real-time performance of business processes.

■ Process creation

Process participants who have the necessary permissions can create new processes using Oracle BPM Workspace or Oracle Process Spaces

■ System administration

Business administrators are responsible for maintaining running business applications and the overall run-time infrastructure using Oracle Enterprise Manager and the Oracle WebLogic Server administration console.

1.6 Oracle BPM Use Cases

This section describes typical uses cases of the Oracle BPM Suite from process modeling to run time.

1.6.1 Use Case: Using Oracle BPM Studio to Create Project Templates

This use case involves using Oracle BPM Studio to create project templates. These templates are used by process analysts to create new projects using Business Process Composer.

Typical Workflow for Using Oracle BPM Studio to Create Project Templates

1. Determine the business requirements (process analyst).

2. Model the required business processes using Oracle BPM Studio (process analyst or process developer)

   A process analyst can use the Process Analyst role in Oracle JDeveloper.

3. Implement the processes by integrating each element of the process with back-end systems and reusable services (process developer).

4. Create a project template using Oracle BPM Studio (process developer)

5. Publish the project template to the Oracle BPM MDS repository (process developer).

6. Create a new Oracle BPM project based on a project template (process analyst).

7. Implement the required reusable services defined by the project template (process analyst).

8. Deploy the project to Oracle BPM run time (process analyst).

1.6.2 Use Case: Using Oracle BPM Studio to Model Processes and Deploy an Application

This use case involves using Oracle BPM Studio to create process models. These models are used to create working business applications that are deployed to the Oracle BPM Run Time.

Typical Workflow for Using Oracle BPM Studio to Model Processes

1. Determine the business requirements (process analyst).

2. Model the required business processes using Oracle BPM Studio (process analyst or process developer)

   A process analyst can use the Process Analyst role in Oracle JDeveloper.

3. Run a simulation to test and improve process performance. (process analyst / process developer).

4. Implement the processes by integrating each element of the process with back-end systems and reusable services (process developer).

5. Compile the Oracle BPM project as a composite application (process developer).

6. Deploy the application to the run-time environment (process developer, business administrator).

7. Interact with the deployed processes as part of a running business application (process participants, process owner).

8. Maintain and monitor the running process-based applications (business administrator, process owner).

1.6.3 Use Case: Using Business Process Composer to Create Process Blueprints

This use case involves creating process blueprints using Business Process Composer. These blueprints are then shared with process developers who import them into Oracle BPM Studio, where they perform further refinement and implementation.

Typical Workflow for Using Business Process Composer to Create Process Blueprints

1. Create process blueprints using Business Process Composer (process analyst).

2. Provide implementation details for the business process and prepare the process-based business application for deployment (process developer).

3. Create project templates and publish them to the Oracle BPM Metadata Store repository using Oracle Business Process Management Studio (process developer).

4. Create a project based on a the project template (process analyst).

5. Edit the project as defined by the edit policies of the project template (process analyst).

6. Deploy the project to Oracle BPM Run Time (process analyst, process administrator).

1.6.4 Use Case: Using Business Process Composer to Revise Oracle Business Rules

This use case involves using Business Process Composer to edit Oracle Business Rules at run time. After an application is deployed, process analysts and owners can open the deployed project and edit Oracle Business Rules.

Typical Workflow for Using Process Composer to Revise Oracle Business Rules

1. Model a set of business processes (process analyst).

2. Implement and deploy an application (process developer).

3. Edit the Oracle Business Rules at run time using Business Process Composer. (process owner).

1.6.5 Use Case: Using the Oracle Business Process Analysis Suite to Model Your Business Processes

This use case involves using the Oracle Business Process Analysis Suite to model your business processes. These processes can be imported into Oracle BPM Studio.

Typical Workflow for Using the Oracle Business Process Analysis Suite and Oracle BPM Suite to Model Processes

1. Determine the business requirements (process analyst).

2. Design your business architecture by capturing strategic objectives, process maps, value chain diagrams using Oracle Business Process Analysis (process analyst).

3. Perform strategic analysis to determine potential process candidates for Oracle BPM projects. (process analysts)

4. Design detailed process flows for the process candidates identified previously (process analyst)

5. Import your process models into Oracle BPM Studio (process analyst, process developer).

6. Implement the processes by integrating each process component with back-end systems and reusable services (process developer).

7. Deploy the business processes, as a BPM project, to the run time environment (process developer, business administrator).

8. Interact with the deployed processes as part of a business application (process participant, process owner)

9. Maintain the processes (business administrator, process owner)

Part I

Using Oracle Business Process Management Workspace (Process Workspace)

This part contains the following chapters:

- Chapter 2, "Getting Started with Process Workspace"
- Chapter 3, "Working on Tasks in Process Workspace"
- Chapter 4, "Working on Process Instances in Process Workspace"
- Chapter 5, "Creating and Editing Custom Pages in Process Workspace"
- Chapter 6, "Using Dashboards in Process Workspace"
- Chapter 7, "Managing Workloads Among Users in Process Workspace"
- Chapter 8, "Performing Administration in Process Workspace"

2

Getting Started with Process Workspace

Process Workspace is a customizable web-based interface enabling users to access and manage tasks and process instances according to their roles and responsibilities. This chapter tells you how to start and log in to Process Workspace, navigate its interface, and configure your preferences.

To help you get started with Process Workspace, this chapter contains these topics:

- Section 2.1, "Understanding Process Workspace"

- Section 2.2, "Starting and Logging In to Process Workspace"

- Section 2.3, "Navigating Process Workspace"

- Section 2.4, "Accessing Administration Capabilities"

- Section 2.5, "Setting Your Preferences in Process Workspace"

2.1 Understanding Process Workspace

Table 2–1 lists and describes the users for whom Process Workspace is designed.

Table 2–1   Users of Oracle Business Process Management Workspace

User Profile	Description
Process Participants	This is the most basic profile, common to all users. It enables you to:
	- Organize, find, claim, and perform work assigned or delegated either to you or to your group - Delegate work to another user - Create and manage personal rules—for example, whom to send tasks to when you are on vacation - Define and share views - Manage personal preferences - View reports and dashboards
	These users may be spread throughout the organization or work outside the company.
	A process participant may be one who not only initiates the process, but can also track its progress and, if appropriate, withdraw it.

Table 2–1   (Cont.) Users of Oracle Business Process Management Workspace

User Profile	Description
Process Owners	Users who manage one or more business process. They want to know how process instances are moving in those processes. To get this perspective, they typically use dashboards.
	These users usually reside on the business side of the house as part of the operations organization. They may also be supervisors.
Administrators	Includes two types of administrative users:
	■ Business administrators: Users responsible for administering Process Workspace—for example, adding mapped attributes, changing the look and feel, or ensuring that the web application is both running and accessible. They typically need access to Fusion Middleware Control Console as well as to the computers where Process Workspace resides.
	■ Process administrators: Users responsible for administering processes—for example, creating shared views; assigning or removing roles, permissions, and groups; and mapping roles.
Supervisors	Users with other process participants reporting to them. To ensure that process instances execute as expected, supervisors can:
	■ Access staff work
	■ Reassign and delegate work as needed
	■ Handle escalations from individuals reporting to them
	■ Generate reports regarding work distribution and productivity
	■ Specify extended user properties

For personas related to accessing task information, see *Oracle Fusion Middleware Developer's Guide for Oracle SOA Suite*.

Process analysts typically use the Oracle Business Process Analysis Suite or Business Process Composer to create process models. They can also use process analyst role within Oracle BPM Studio.

Process developers typically use Oracle BPM Studio to model and implement the components of a business application. They may occasionally use Oracle Business Process Composer (Business Process Composer) for modeling basic processes.

2.2 Starting and Logging In to Process Workspace

To start Process Workspace, you must have installed Oracle SOA Suite, and the SOA server must be running. See your installation documentation for more information.

To start and log into Process Workspace:

1. Go to

    `http://`*host_name:port_number*`/bpm/workspace/`

    The `host_name` is the name of the host computer on which Oracle SOA Suite is installed.

    The `port_number` is the one used at installation.

2. Enter the user name and password.

You can use the preseeded user name to log in as an administrator. If you have loaded the demo user community in the identity store, then you can use other users such as jstein or jcooper.

The user name and password must exist in the user community provided to JAZN.

3. Click **Login**.

Notes:

- If you expect to have a large number of users using Process Workspace simultaneously, then set the session time-out value to no more than 5 minutes. To do this, expand the Process Workspace .ear file, open the web.xml file, and update the time-out parameter.

- If user identities are stored in Microsoft Active Directory, then at times authentication can fail due to the inability of Oracle WebLogic Server, where Process Workspace is running, to communicate with the Active Directory installation. This can occur when Oracle WebLogic Server and Active Directory are in separate domains.

  To resolve this issue, add the entry for the Active Directory host's address to the /etc/hosts file on machine where Process Workspace is running.

2.3 Navigating Process Workspace

At the highest level, Process Workspace provides three default tabs as shown in Figure 2–1:

- Tasks

- Process Tracking

- Standard Dashboards

It also provides a link in the top right toolbar for performing administration.

Figure 2–1 shows the Process Workspace user interface as it first opens after you log in. At the highest level, the tabs are Tasks, Process Tracking, and Standard Dashboards. The Administration link is in the upper right toolbar.

Figure 2–1   Process Workspace Tasks Page
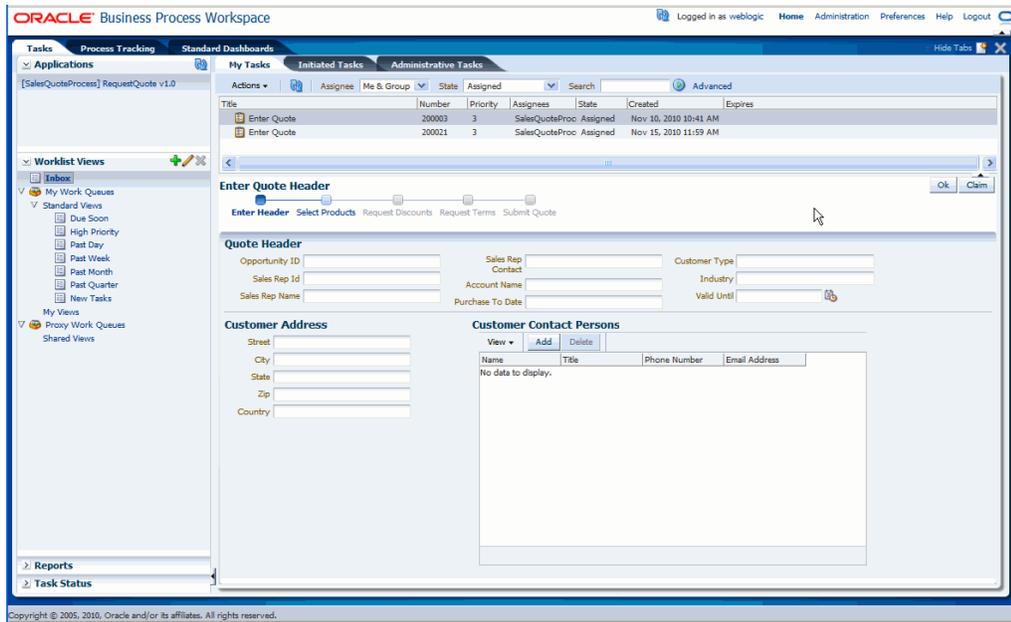
In addition to the default tabs, you can create your own custom tabs, with each one appearing as a separate page in Process Workspace. For more information about creating custom tabs, see Chapter 5, "Creating and Editing Custom Pages in Process Workspace".

This section contains these topics:

- Section 2.3.1, "About the Process Workspace Tasks Page"

- Section 2.3.2, "About the Process Workspace Process Tracking Page"

- Section 2.3.3, "About the Process Workspace Standard Dashboards Page"

2.3.1 About the Process Workspace Tasks Page

After a user logs in, the Home page, as shown in Figure 2–1, displays the Tasks page by default. The **Tasks** page displays tasks for the user based on the user's permissions and assigned groups and roles.

Within the **Tasks** page, the **My Tasks** page and the **Inbox** are displayed by default. The actions allowed from the **Actions** list depend on the logged-in user's privileges.

The Tasks page enables you to do the following:

- Perform authorized actions on tasks in the worklist, acquire and check out shared tasks, define personal to-do tasks, and define subtasks.

- Filter tasks in a worklist view based on various criteria.

- Work with standard work queues, such as high priority tasks, tasks that are due soon, and so on. Work queues enable users to create a custom view to group a subset of tasks in the worklist—for example, high priority tasks, tasks due in 24 hours, expense approval tasks, and more.

- Define custom work queues.

- Gain proxy access to part of another user's worklist.

- Define custom vacation rules and delegation rules.

- Enable group owners to define task dispatching rules for shared tasks.

- Collect a complete workflow history and audit trail.

- Use digital signatures for tasks.

> **Note:** If you change a user's privileges in Oracle Enterprise Manager Fusion Middleware Control Console while the user is logged in to Process Workspace, the changes take effect only after a subsequent login by the user. This is true for situations in which there are two active worklist sessions: one in which the user is logged in before the privileges are changed, and one in which the same user logs in after the privileges are changed. In the first case, the changes to the user's privileges do not take effect while the user is logged in. In the second case, when the user logs in to the second instance of Process Workspace, the changes to the user's privileges do take effect.

2.3.1.1 Navigating the Process Workspace Tasks Page

This page lists all the tasks and work items assigned to you, depending on your role. For example, all users will see the My Tasks and Initiated Tasks pages. Only supervisors will see the My Staff page, and only administrators will see the Administration Tasks page. The Tasks page has these sections, as shown in Figure 2–2:

- Task navigator on the left

- Task list on the upper half of the right side

- Task details on the lower half of the right side

Figure 2–2   Process Workspace Tasks Page
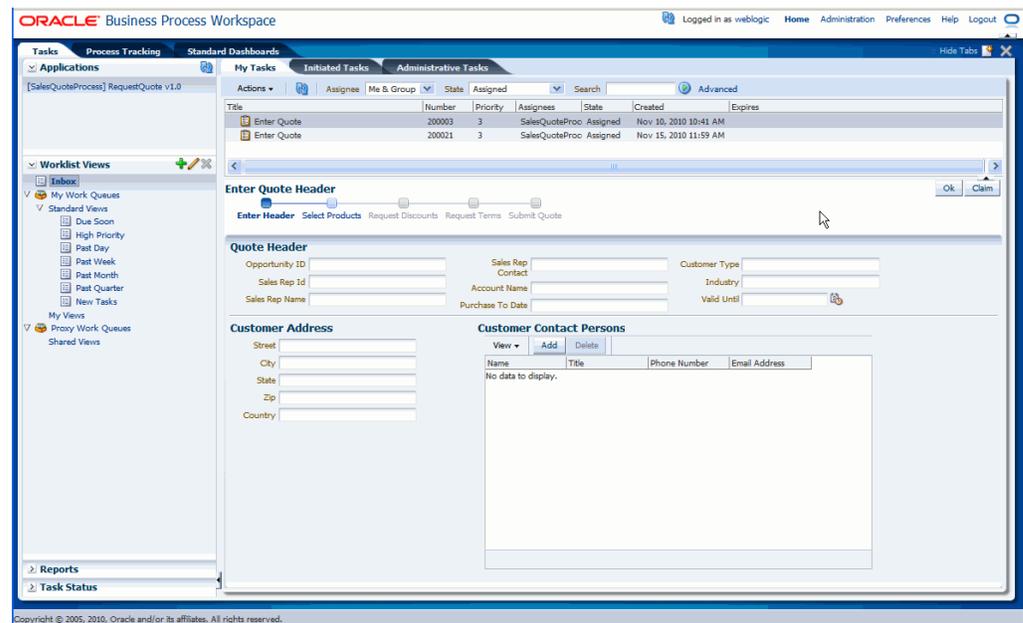
Table 2–2   Components of the Tasks Page

Component	Description
Tabs	The tabs displayed depend on the role granted to the logged-in user.
	■ Everyone (the user role) sees My Tasks and Initiated Tasks.
	■ Users who are also supervisors see the My Tasks, Initiated Tasks, and My Staff Tasks tabs.
	■ Users who are also owners (of a process) see the My Tasks, Initiated Tasks, and Administration Tasks tabs.
	■ Users who are also administrators (the BPMWorkflowAdmin), but not supervisors, see the My Tasks, Initiated Tasks, and Administration Tasks.
	■ Users who are supervisors and administrators see all the tabs— My Tasks, Initiated Tasks, My Staff Tasks, and Administration Tasks.
Applications	The processes the user is authorized to initiate.
Worklist Views	■ Inbox—Shows all tasks that result from any filters you used. The default shows all tasks.
	■ My Work Queues—Shows standard views and views that you defined. The Standard Views are Due Soon, High Priority, Past Day, Past Week, Past Month, Past Quarter, and New Tasks.
	■ Proxy Work Queues—Shows shared views.
Task Status	A bar chart shows the status of tasks in the current view.
Display Filters	Specify search criteria from the Assignee, Status, or Search fields. The category filters that are available depend on which tab is selected.
	■ From the My Tasks page, the Assignee filters are My, Group, My & Group, Previous (tasks worked on in the past), and Reviewer. From the Initiated Tasks page, the only assignee filter is Creator. From the My Staff Tasks page, the only assignee filter is Reportees. From the Administration Tasks page, the only assignee filter is Admin.
	■ The Status filters include Any, Assigned, Completed, Suspended, Withdrawn, Expired, Errored, Alerted, Information Requested.
	Use Search to enter a keyword or use Advanced Search.
Actions List	Select a group action (Claim) or a custom action (for example, Approve or Reject) that was defined for the human task. Claim appears for tasks assigned to a group or multiple users; one user must claim the task before it can be worked. Other possible actions for a task, such as system actions, are displayed on the Task Details page for a specific task. You can also create ToDo tasks and subtasks here.
Default Columns	Title—The title specified when the human task was created. Tasks associated with a purged or archived process instance do not appear.
	Number—The task number generated when the BPEL process was created.
	Priority—The priority specified when the human task was created. The highest priority is 1; the lowest is 5.
	Assignees—The user or group or application roles.
	State—Select from Assigned, Completed, Errored, Expired, Information Requested, Stale, Suspended, or Withdrawn.
	Created—Date and time the human task was created.
	Expires—Date and time the tasks expires, specified when the human task was created.
Task Details	The lower section of the worklist displays the inline view of the Task Details page. Buttons indicate available actions.

2.3.1.2 The Process Workspace Task Details Page

Figure 2–3 shows an example of a Task Details page. This page is invoked by selecting a task from the inbox on the Process Workspace Tasks page.

Figure 2–3   Example of a Task Details Page

The task details page has the following components:

- Basic information including the title of the task—for example, Help Desk Request for wfaulk—task number, creator, assignees, state, created date, the person who acquired the task, priority, expiration date, and other flex fields.

- Action buttons—For custom actions defined in the human task—for example, **Resolved** and **Unresolved** for a help desk request or **Approve** and **Reject** for a loan request. For the administrator, task initiator, or manager, **Withdraw** may also appear.

- Other Actions—System task actions, beyond the custom actions defined for the task—as described in Table 2–3.

Table 2–3   System Task Actions

Action	Description
Claim	If a task is assigned to a group or multiple users, then the task must be claimed first. Claim is the only action available in the Action list for group or multiuser assignments. After a task is claimed, all applicable actions are listed.
Escalate	If you are not able to complete a task, you can escalate it and add an optional comment in the Comments area. The task is reassigned to your manager (up one level in a hierarchy).
Pushback	Use this action to send a task down one level in the workflow to the previous assignee.
Reassign	If you are a manager, you can delegate a task to reportees. A user with BPMWorkflowReassign privileges can delegate a task to anyone.
Release	If a task is assigned to a group or multiple users, it can be released if the user who claimed the task cannot complete the task. Any of the other assignees can claim and complete the task.
Renew	If a task is about to expire, you can renew it and add an optional comment in the Comments area. The task expiration date is extended one week. A renewal appears in the task history. The renewal duration for a task can be controlled by an optional parameter. The default value is P7D (7 days).

Table 2–3   (Cont.) System Task Actions

Action	Description
Submit Information and Request Information	Use these actions if another user requests that you supply more information or to request more information from the task creator or any of the previous assignees. If reapproval is not required, then the task is assigned to the next approver or the next step in the business process.
Suspend and Resume	If a task is not relevant, you can suspend it. These options are available only to users who have been granted the BPMWorkflowSuspend role. Other users can access the task by selecting Previous in the task filter or by looking up tasks in the Suspended status. A suspension is indefinite. It does not expire until Resume is used to resume working on the task.
Withdraw	If you are the creator of a task and do not want to continue with it, for example, you want to cancel a vacation request, you can withdraw it and add an optional comment in the Comments area. The business process determines what happens next. You can use the Withdraw action on the home page by using the Creator task filter.

- Content—The payload. The fields displayed are specific to how the human task was created.

- Short History—Provides a graphical view of a task flow and lists all versions created by the following tasks:

  - Initiate task

  - Reinitiate task

  - Update outcome of task

  - Completion of task

  - Erroring of task

  - Expiration of task

  - Withdrawal of task

  - Alerting of task to the error assignee

  You can include the following actions in the short history list by modifying the `shortHistoryActions` element.

  - Acquire

  - Ad hoc route

  - Auto release of task

  - Delegate

  - Escalate

  - Information request on task

  - Information submit for task

  - Override routing slip

  - Update outcome and route

  - Push back

  - Reassign

  - Release

  - Renew

- – Resume

- – Skip current assignment

- – Suspend

- – Update

- ■ History Details—The approval sequence and the update history for the task.

  To see all actions performed, including those that do not change the task, such as adding comments, check **Full History**.

- ■ Comments and Attachments:

  - – Comments entered by various users who have participated in the workflow. A newly added comment and the commenter's user name are appended to the existing comments. A trail of comments is maintained throughout the life cycle of the task. To add or delete a comment, you must have permission to update the task.

    For information about how to add a comment, see Section 3.7, "Associating Comments and Attachments with Tasks in Process Workspace"

  - – Attachments are documents or reference URLs associated with a task. These are typically associated with the workflow as defined in the human task or attached and modified by any of the participants using the task list. To add or delete an attachment, you must have permission to update the task. When adding file attachments, you can use an absolute path name or browse for a file.

2.3.1.2.1   Task History The task history maintains an audit trail of the actions performed by the participants in the workflow and a snapshot of the task payload and attachments at various points in the workflow. The short history for a task lists all versions created by the following tasks:

- ■ Initiate task

- ■ Reinitiate task

- ■ Update outcome of task

- ■ Completion of task

- ■ Erroring of task

- ■ Expiration of task

- ■ Withdrawal of task

- ■ Alerting of task to the error assignee

You can include the following actions in the short history list by modifying the `shortHistoryActions` element.

- ■ Acquire

- ■ Ad hoc route

- ■ Auto release of task

- ■ Delegate

- ■ Escalate

- ■ Information request on task

- ■ Information submit for task

- Override routing slip

- Update outcome and route

- Push back

- Reassign

- Release

- Renew

- Resume

- Skip current assignment

- Suspend

- Update

The history provides a graphical view of a task flow, as shown in Figure 2–4.

Figure 2–4   History: Graphical View
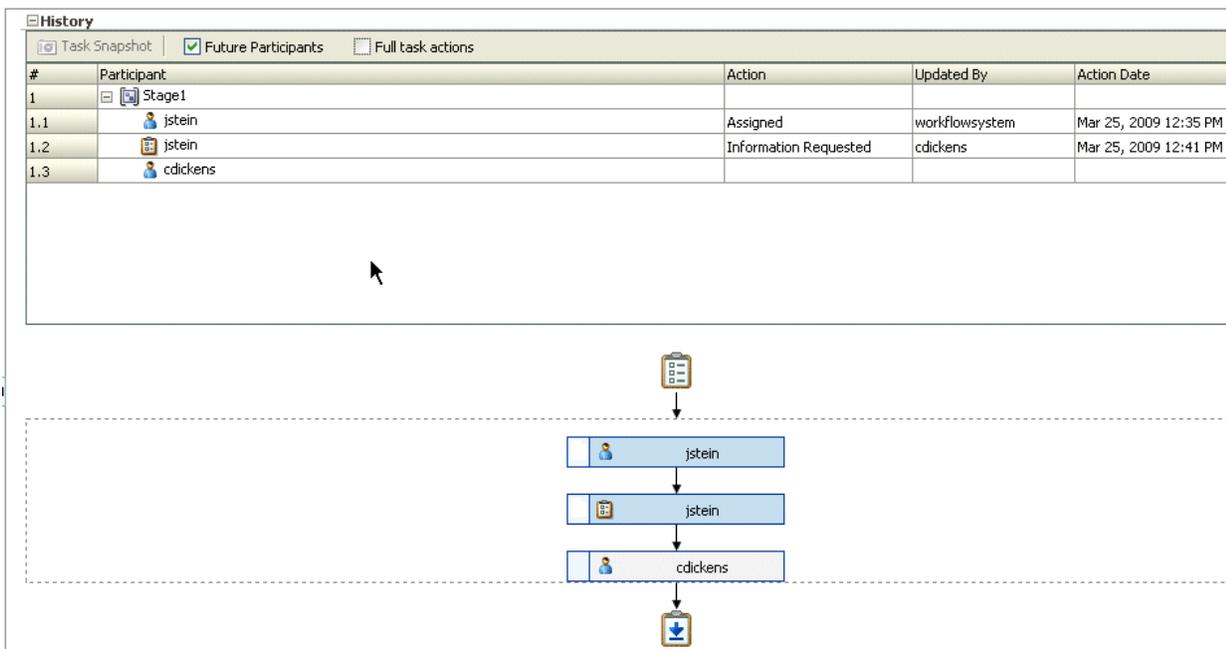
Table 2–4 describes the icons used in the Task History section.

Table 2–4   Icons for Task History

Icon	Description
	Indicates an approver in an ad hoc routing scenario.
	Indicates that the task has been approved
	Indicates that the participant just receives a notification task and the business process does not wait for the participant's response. Participant cannot directly impact the outcome of a task, but in some cases can provide comments or add attachments.
	Indicates that a set of people must work in parallel. This pattern is commonly used for voting.

Table 2–4   (Cont.) Icons for Task History

Icon	Description
	Indicates that the participant belongs to a management chain.
	Indicates the simple case in which a participant maps to a user, group, or role.
	Indicates that the task is untouched

Select **Full task actions** to see all actions performed, including those that do not make changes to the task, such as adding comments, as shown in Figure 2–5.

Figure 2–5   History: Full Task Actions
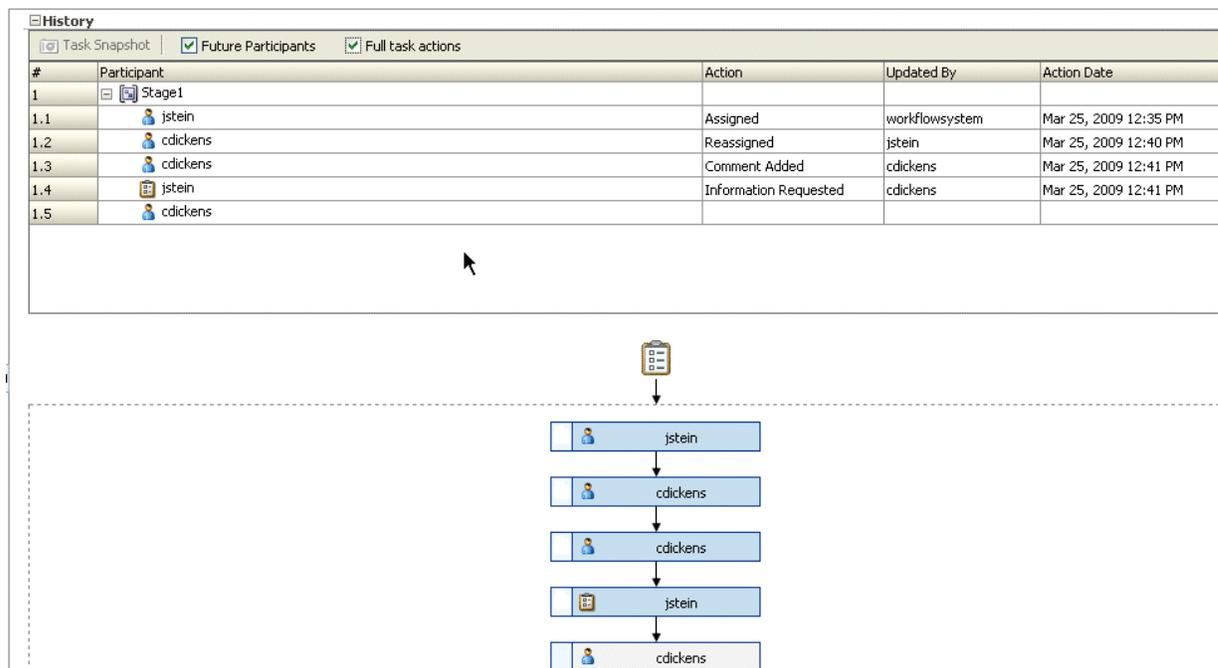
Available ways to view the task history include:

- Take a task snapshot
- See future approvers
- See complete task actions

2.3.2 About the Process Workspace Process Tracking Page

Use the Process Tracking page to interact with business processes based on the roles assigned to you.

Using the Process Tracking tab, you can do the following:

- View the list of process instances pending in your inbox.
- Execute tasks. That is, carry out a human task on a particular instance.
- Search for instances by different criteria.

- Save the searches as a view.

- View the details of an instance, including the audit trail.

- Create a new instance, if you have permission to do so.

- Attach a file to an instance.

- Add notes to an instance.

2.3.2.1 Navigating the Process Workspace Process Tracking Page

Figure 2–6 Process Workspace Process Tracking Page
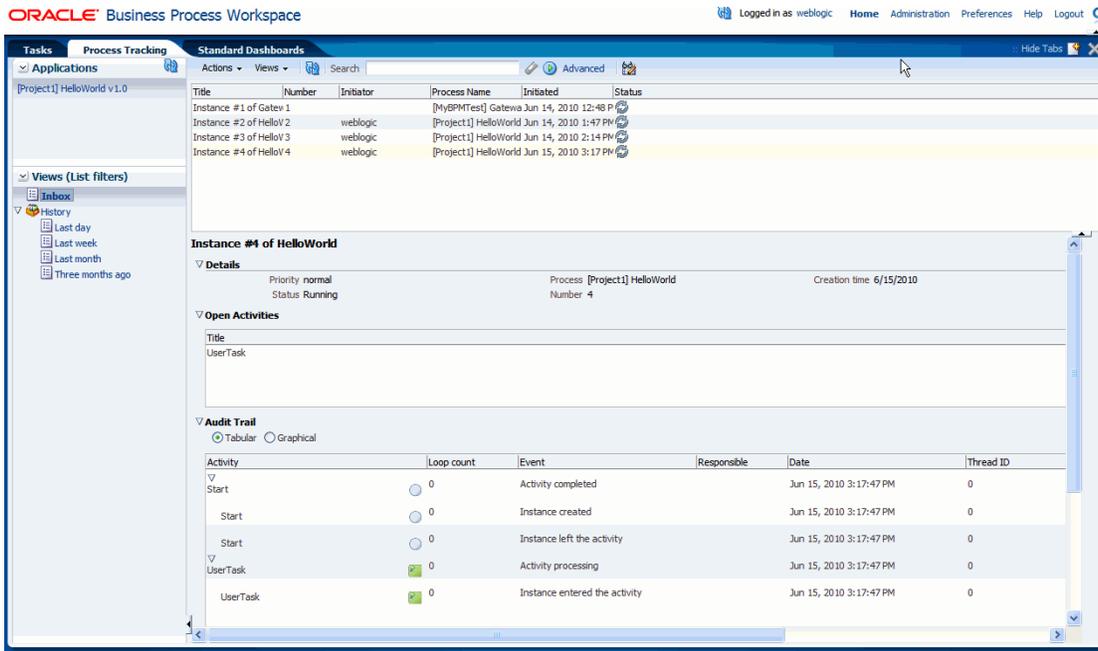
The Process Tracking page has these sections:

- The Applications panel, which shows the list of applications available to you. Here you can perform basic Process Workspace actions, such as creating a new instance or performing a given activity.

  The applications available in Process Workspace depend on the process design and the roles assigned to the user currently logged in. The list of applications available also depends on the BPM processes that are deployed and running. The applications panel will be empty if no processes are running or if you are not a participant able to execute an application in any of the processes currently running.

- The Views panel, on the lower left half, displays the views available to you in an expandable tree

- The Work Items panel, on the upper right half, shows the task items corresponding to the view you have selected in the Views panel.

- The Work Item Detail panel, on the lower right half, shows detailed information about a work item that you have selected in the Work Items panel.

In the Work Items panel, you can choose the columns that are presented in a given view. A particular column arrangement is known as presentation. Clicking

Add/Remove columns displays the Presentation dialog box in which you can define columns.

The following columns are available:

- Actions
- Activity
- Activity Due Date
- Copy
- Creation Time
- Deadline
- Description
- Has Attachments
- Has Notes
- Initiated
- Initiator
- Initiator Name
- Instance #
- Parent Copy
- Participant
- poID
- Priority
- Process Name
- Process Due Date
- Received
- Status
- Task Participant
- Title

2.3.2.2 The Process Workspace Process Audit Details Panel

The Process Audit Details panel is shown in the lower right half of Figure 2–7. It appears when you select a process instance in the Work Items panel just above it.

Figure 2–7   Process Audit Details Panel
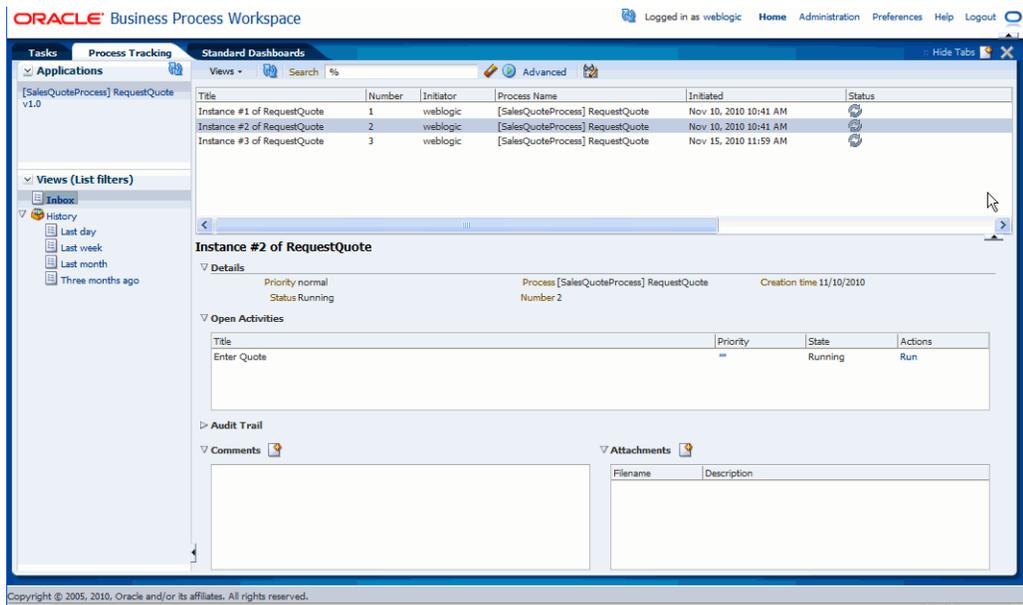
The Process Audit Details panel displays the priority, process name, when the instance is due to complete, status, creation time, and the assignee if any.

If the selected process instance has any gateways with threads that are still running, the Open Activities section displays their status.

The Audit Trail section displays audit information in either tabular form or graphically depending on your selection.

2.3.3 About the Process Workspace Standard Dashboards Page

Dashboards provide analytical information to monitor process execution as well as user workloads. They provide summary information and enable you to drill down to instance-specific information.

Figure 2–8 shows the Standard Dashboards page.

Figure 2–8   Process Workspace Standard Dashboards Page
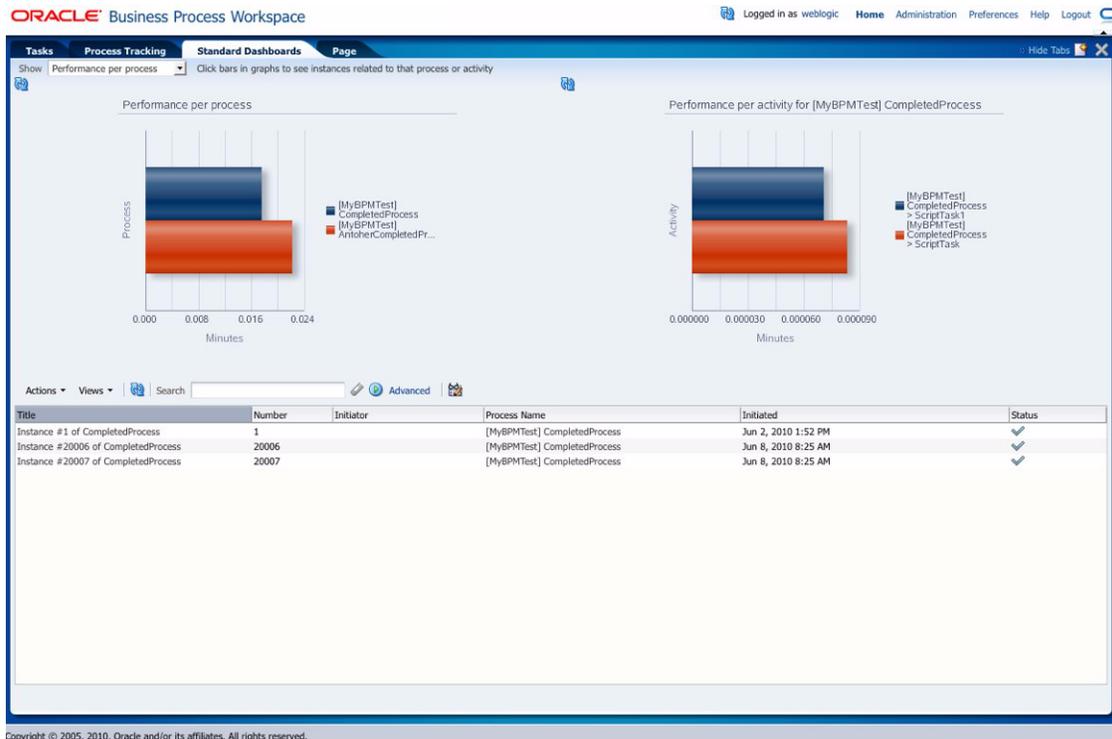
For additional information about dashboards, see Chapter 6, "Using Dashboards in Process Workspace".

2.4 Accessing Administration Capabilities

The upper right toolbar contains an **Administration** link as shown in Figure 2–9.

Figure 2–9   Administration Link
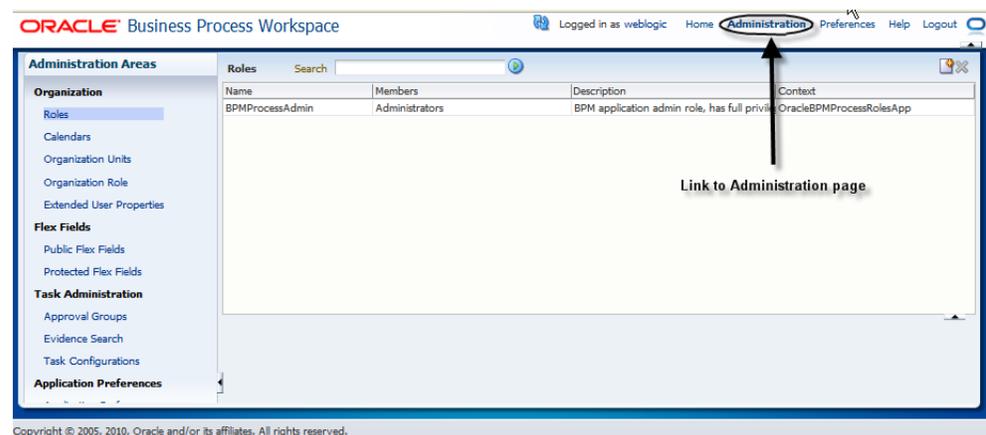
Table 2–5 lists and describes the categories in the Administration Areas and tells where to find more information about each one.

Table 2–5   Categories in the Administration Areas

Category	Description	Information
Organization	Model an organization by defining organizational units, business calendars, business holidays, roles, and other user properties. **Note:** If you are logged into Process Workspace, and changes are made to your organizational membership, you will not see these changes reflected in the interface until you log out and log back in again. This is because, for better performance, the organizational unit information is cached when you log into Process Workspace.	Section 8.3, "Managing Your Organization in Process Workspace"
Flex Fields (Mapped Attributes)	Create mappings needed for populating mapped attributes.	Section 8.4.1, "Managing Mapped Attributes (Flex Fields) in Process Workspace"
Task Administration	Administer approval groups, task configuration, evidence search, and exceptions	Section 8.4, "Administering and Configuring Task-Related Information in Process Workspace"
Application Preferences	Customize the appearance of the worklist.	Section 8.1, "Setting the Display of the Work Items Panel in Process Workspace"

2.5 Setting Your Preferences in Process Workspace

Table 2–6 lists and describes the preferences you can set and tells you where to find information for setting each preference.

Table 2–6   Preferences

Preference	Description	Information
Accessing Process Workspace in local languages	Specify your preferred language and time zone.	*Oracle Fusion Middleware Developer's Guide for Oracle SOA Suite*
Providing a digital certificate	Provide a digital certificate from a certification authority to verify your credentials.	Section 3.5, "Providing a Digital Certificate in Process Workspace".
Setting rules	Set rules for tasks assigned to a user or group.	Section 3.9.1, "How to Create User Rules in Process Workspace" Section 3.9.2, "How to Create Group Rules in Process Workspace"
Setting notification preferences	Configure the notification settings to control how, when, and where you receive messages in cases when you have access to multiple communication channels (delivery types).	Section 3.9.4, "How to Set Notification Preferences in Process Workspace".
Setting accessibility preferences	Select accessibility preferences such as using a screen reader, using high contrast colors, and large fonts.	Section 3.4, "Setting Accessibility Preferences in Process Workspace"

3

Working on Tasks in Process Workspace

This chapter describes how to perform tasks with Process Workspace.

This chapter contains the following topics:

3.1 What You Need to Know When Acting on Tasks in Process Workspace

Here are a few things to keep in mind when acting on tasks:

- If the human task was designed to permit ad hoc routing, or if no predetermined sequence of approvers was defined, then the task can be routed in an ad hoc fashion in the worklist. For such tasks, a **Route** button appears on the task details page. From the Route page, you can look up one or more users for routing. When you specify multiple assignees, you can select whether the list of assignees is for simple (group assignment to all users), sequential, or parallel assignment.

  For information about designing tasks to permit ad hoc routing, see *Oracle Fusion Middleware Developer's Guide for Oracle SOA Suite*.

■ Parallel tasks are created when a parallel flow pattern is specified for scenarios such as voting. In this pattern, the parallel tasks have a common parent. The parent task is visible to a user only if the user is an assignee or an owner or creator of the task.

The parallel tasks themselves (referred to as subtasks) are visible to whomever the task is assigned, just like any other task.

You can view the subtasks from a parent task. In such a scenario, the task details page of the parent task contains a **View SubTasks** button. The SubTasks page lists the corresponding parallel tasks.

In a voting scenario, if any of the assignees updates the payload, comments or attachments, the changes are visible only to the assignee of that task. A user who can view the parent task (such as the final reviewer of a parallel flow pattern), can drill down to the subtasks and view the updates made to the subtasks by the participants in the parallel flow.

In the worklist, you provide the percentage of votes required for approval.

■ If a human task was set up to require a password, then when you act on it, you must provide the password.

> **Note:** Any kind of change to the task details page, such as changing a priority or adding a comment or attachment, requires you to save the change.

3.2 Working with the Process Workspace Tasks Page

This section contains these topics:

■ Section 3.2.1, "Viewing Task Details in Process Workspace"

■ Section 3.2.2, "Customizing the Task List in Process Workspace"

■ Section 3.2.3, "Searching for Tasks in Process Workspace"

3.2.1 Viewing Task Details in Process Workspace

You perform most tasks in Process Workspace by using the Task Details page.

To display the Task Details page:

1. In the Home page, select the Tasks page, expand the Worklist Views section, and select Inbox. The right pane displays the My Tasks page as shown in the example in Figure 3–1. This page lists all the tasks and work items assigned to you, depending on your role. For example, all users can see the My Tasks and Initiated Tasks pages. Only supervisors can see the My Staff page, only process owners can see the Owner Tasks page, and only administrators can see the Administration Tasks page.

Figure 3–1   Tasks Page
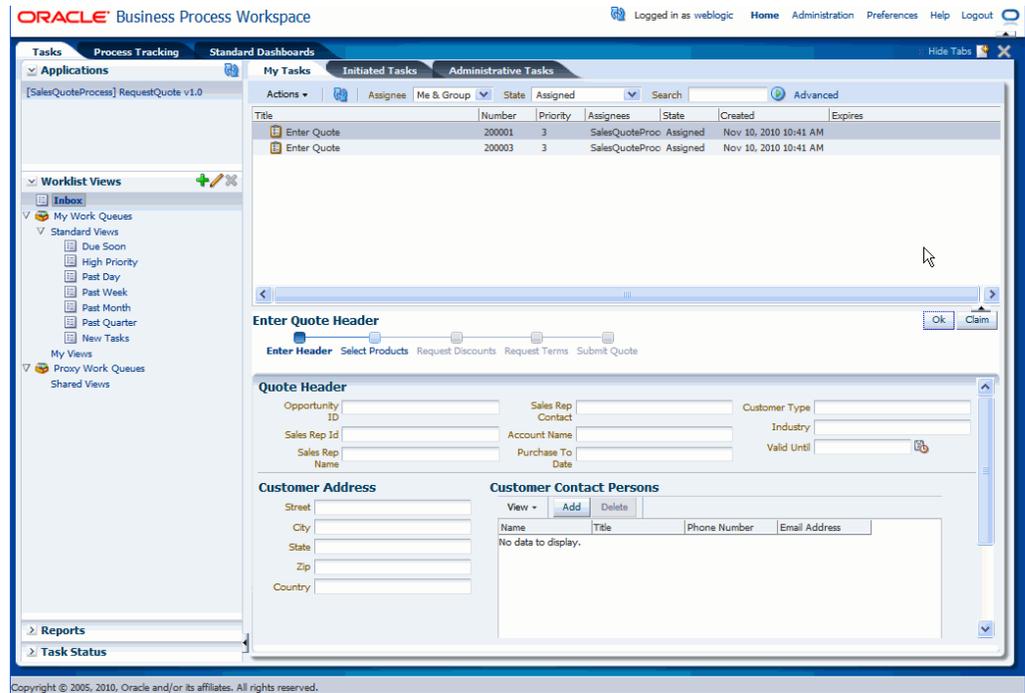
2. To display the details of a task inline, select the task in the right pane. The details are displayed in the lower right pane. To display the task details in a pop-up window, double-click the task. Figure 3–2 shows an example of a Task Details page.

Figure 3–2   Example of a Task Details Page
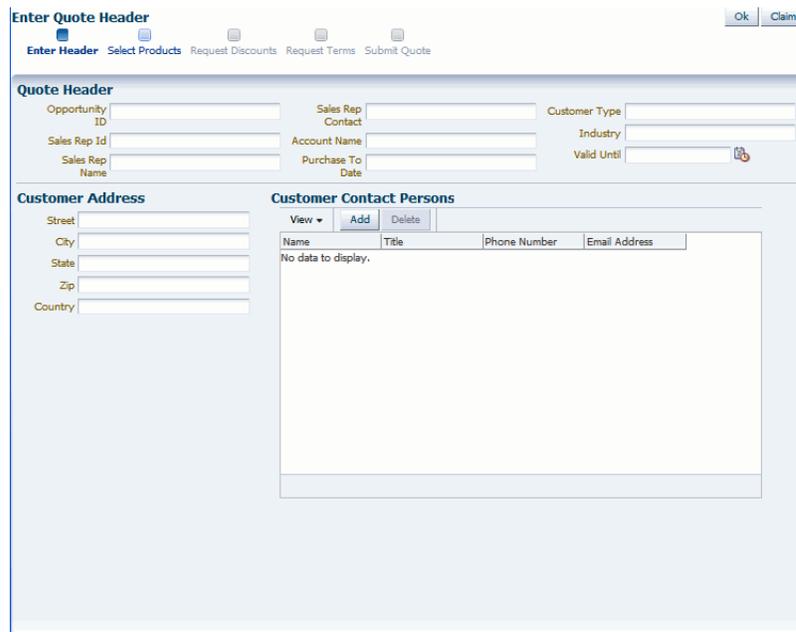
For more information about the Task Details page, see Section 2.3.1.2, "The Process Workspace Task Details Page"

3.2.1.1 Performing System Actions in Process Workspace

The action bar of the Task Details page displays system actions, which are available on all tasks based on the user's privileges. Table 3–1 lists system actions.

Table 3–1   System Task Actions

Action	Description
Claim	Use this action to claim a task that is assigned to a group or multiple users. **Claim** is the only action available in the **Task Action** list for group or multiuser assignments. After a task is claimed, all applicable actions are listed.
Escalate	Use this action to escalate a task that is assigned to a group or multiple users. You can add an optional comment in the **Comments** area. The task is reassigned to your manager (up one level in a hierarchy).
Pushback	Use this action to send a task down one level in the workflow to the previous assignee.
Reassign	Use this action to assign a task to someone else. If you are a manager, you can delegate a task to reportees. A user with BPMWorkflowReassign privileges can delegate a task to anyone.
Release	Use this action to release a claimed task. If a task is assigned to a group or multiple users, it can be released if the user who claimed the task cannot complete the task. Any of the other assignees can claim and complete the task.
Renew	Use this task to extend a task's expiration date. You can add an optional comment in the **Comments** area. The task expiration date is extended 1 week. A renewal appears in the task history. The renewal duration for a task can be controlled by an optional parameter. The default value is P7D (7 days).
Submit Information and Request Information	Use these actions if another user requests that you supply more information or to request more information from the task creator or any of the previous assignees. If reapproval is not required, then the task is assigned to the next approver or the next step in the business process.
Suspend and Resume	Use these actions to suspend or restart a task. These options are available only to users who have been granted the BPMWorkflowSuspend role. Other users can access the task by selecting **Previous** in the task filter or by looking up tasks in the **Suspended** status. A suspension is indefinite. It does not expire until **Resume** is used to resume working on the task.
Withdraw	Use this action to cancel a task. If you are the creator of a task and do not want to continue with it, for example, you want to cancel a vacation request, you can withdraw it and add an optional comment in the **Comments** area. The business process determines what happens next. You can use the **Withdraw** action on the home page by using the **Creator** task filter.

For more information about the Task Details page, see Section 2.3.1.2, "The Process Workspace Task Details Page"

3.2.2 Customizing the Task List in Process Workspace

You can customize your task list in several ways, including adding worklist views, selecting which columns to display, and displaying a subset of the tasks based on filter criteria.

To increase the number of tasks retrieved, resize the task list display area.

This section contain these topics:

- Section 3.2.2.1, "How to Filter Tasks"

- Section 3.2.2.2, "How to Create and Customize Worklist Views"

3.2.2.1 How to Filter Tasks

Figure 3–3 shows the filter fields.

Figure 3–3 Filters: Assignee, Status, Search, and Advanced Search

Filters are used to display a subset of tasks, based on the following filter criteria:

- **Assignee**

  From the **My Tasks** page, select from the following:

  - **My**: Retrieves tasks directly assigned to the logged-in user

  - **Group**: Retrieves the following:

    * Tasks that are assigned to groups to which the logged-in user belongs

    * Tasks that are assigned to an application role that the logged-in user is assigned

    * Tasks that are assigned to multiple users, one of which is the logged-in user

  - **My & Group**: Retrieves all tasks assigned to the user, whether through direct assignment, or by way of a group, application role, or list of users

  - **Previous**: Retrieves tasks that the logged-in user has updated

  - **Reviewer**: Retrieves task for which the logged-in user is a reviewer

  From the **Initiated Tasks** page, select **Creator**.

  From the **My Staff Tasks** page, select **Reportees**.

  From the **Administration Tasks** page, select **Admin**.

- **Status**: Select from the following: **Any**, **Assigned**, **Completed**, **Suspended** (can be resumed later), **Withdrawn**, **Expired**, **Errored** (while processing), **Alerted**, or **Information Requested**.

- **Search**: Enter a keyword to search task titles, comments, identification keys, and the flex string fields of tasks that qualify for the specified filter criterion.

- **Advanced**: Provides additional search filters.

  > **Note:** If a task is assigned separately to multiple reportees, when a manager looks at the My Staff Tasks list, the manager sees as many copies of that task as the number of reportees to whom that task is assigned.

To filter tasks based on assignee or status:

1. Select options from the **Assignee** and **Status** lists.

   The task list is automatically updated based on the filter selections.

To filter tasks based on keyword search:

1. Enter a keyword to search task titles, comments, identification keys, and the flex string fields of tasks that qualify for the specified filter criterion.

2. Press **Enter** or click **Refresh**.

To filter tasks based on an advanced search:

Mapped attribute labels can be used in an advanced search if you select task types for which mapped attribute mappings have been defined.

See *Oracle Fusion Middleware Developer's Guide for Oracle SOA Suite* for more information.

1. Click **Advanced**.

2. (Optional) Select **Save As View**, provide a view name, and use the **Display** page to provide other information, as shown in Figure 3–4 and Figure 3–5.

Figure 3–4   Worklist Advanced Search: Definition Page

Figure 3–5   Worklist Advanced Search: Display Page
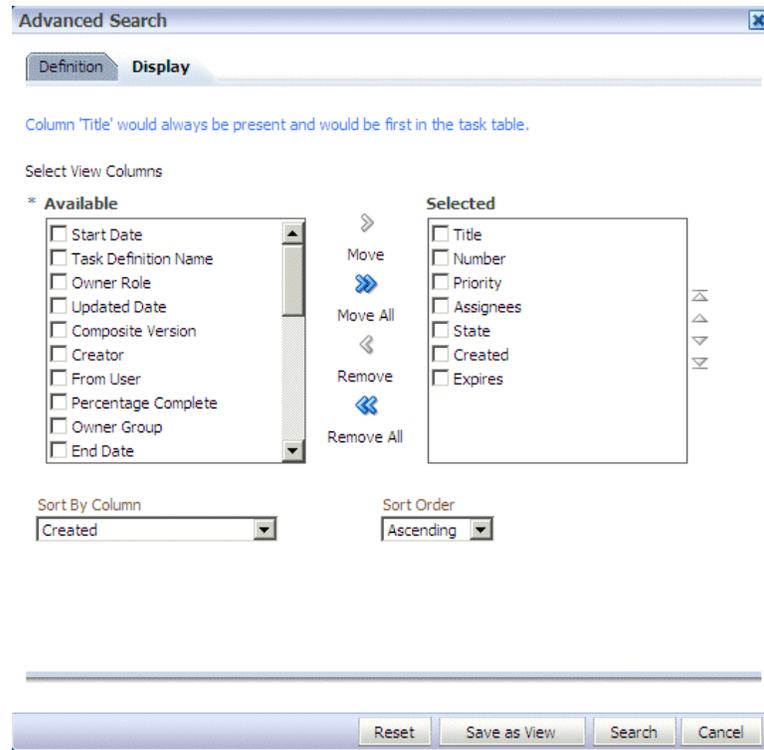
Table 3–2 describes the advanced search view columns available in the **Display** page.

Table 3–2   Advanced Search: View Columns

Column	Description
Start Date	The start date of the task (used with ToDo tasks).
Task Definition Name	The name of the task component that defines the task instance.
Owner Role	The application role (if any) that owns the task instance. Task owners can be application roles, users, or groups. If the owner of the task is an application role, this field is set.
Updated Date	The date the task instance was last updated.
Composite Version	The version of the composite that contains the task component that defines the task instance.
Creator	The name of the creator of the task.
From User	The from user for the task.
Percentage Complete	The percentage of the task completed (used with ToDo tasks).
Owner Group	The group (if any) that owns the task instance. Task owners can be application roles, users, or groups. If the owner of the task is a group, this field is set.
End Date	The end date of the task (used with ToDo tasks).
Composite	The name of the composite that contains the task component that defines the task instance.
Due Date	The due date of the task (used with ToDo tasks).

Table 3–2   (Cont.) Advanced Search: View Columns

Column	Description
Composite Distinguished Name	The unique name for the particular deployment of the composite that contains the task component that defines the task instance.
Task Display URL	The URL to display the details for the task.
Updated By	The user who last updated the task.
Outcome	The outcome of the task, for example approved or rejected. This is only set on completed task instances.
Task Namespace	A namespace that uniquely defines all versions of the task component that defines this task instance. Different versions of the same task component can have the same namespace, but no two task components can have the same namespace.
Approvers	The approvers of the task.
Application Context	The application to which any application roles associated with the tasks (such as assignees, owners, and so on) belong.
Owner User	The user (if any) that owns the task instance. Task owners can be application roles, users, or groups. If the owner of the task is a user, this field is set.
Identifier	The (optional) custom unique identifier for the task. This is an additional unique identifier to the standard task number.
Category	The category of the task.
Acquired By	The name of the user who claimed the task in the case when the task is assigned to a group, application role, or to multiple users, and then claimed by the user.
Component	The name of the task component that defines the task instance.
Original Assignee User	The name of the user who delegated the task in the case when the user delegates a task to another user.
Assigned	The date that this task was assigned.
Domain	The domain to which the composite that contains the task component that defines the task instance belongs.
Title	The title of the task.
Number	An integer that uniquely identifies the task instance.
Priority	An integer that defines the priority of the task. A lower number indicates a higher priority; typically numbers 1 to 5 are used.
Assignees	The current task assignees (users, groups or application roles).
State	The state of the task instance.
Created	The date that the task instance was created.
Expires	The date on which the task instance expires.

The saved view appears in the **Inbox** under **My Views**, as shown in Figure 3–6.

Figure 3–6   Saving a View
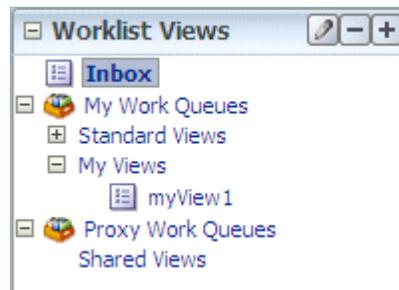
3. Select an assignee, as shown in Figure 3–7.

Figure 3–7   Worklist Advanced Search

4. Add conditions (filters), as shown in Figure 3–8.

Figure 3–8   Adding Filters for an Advanced Search on Tasks
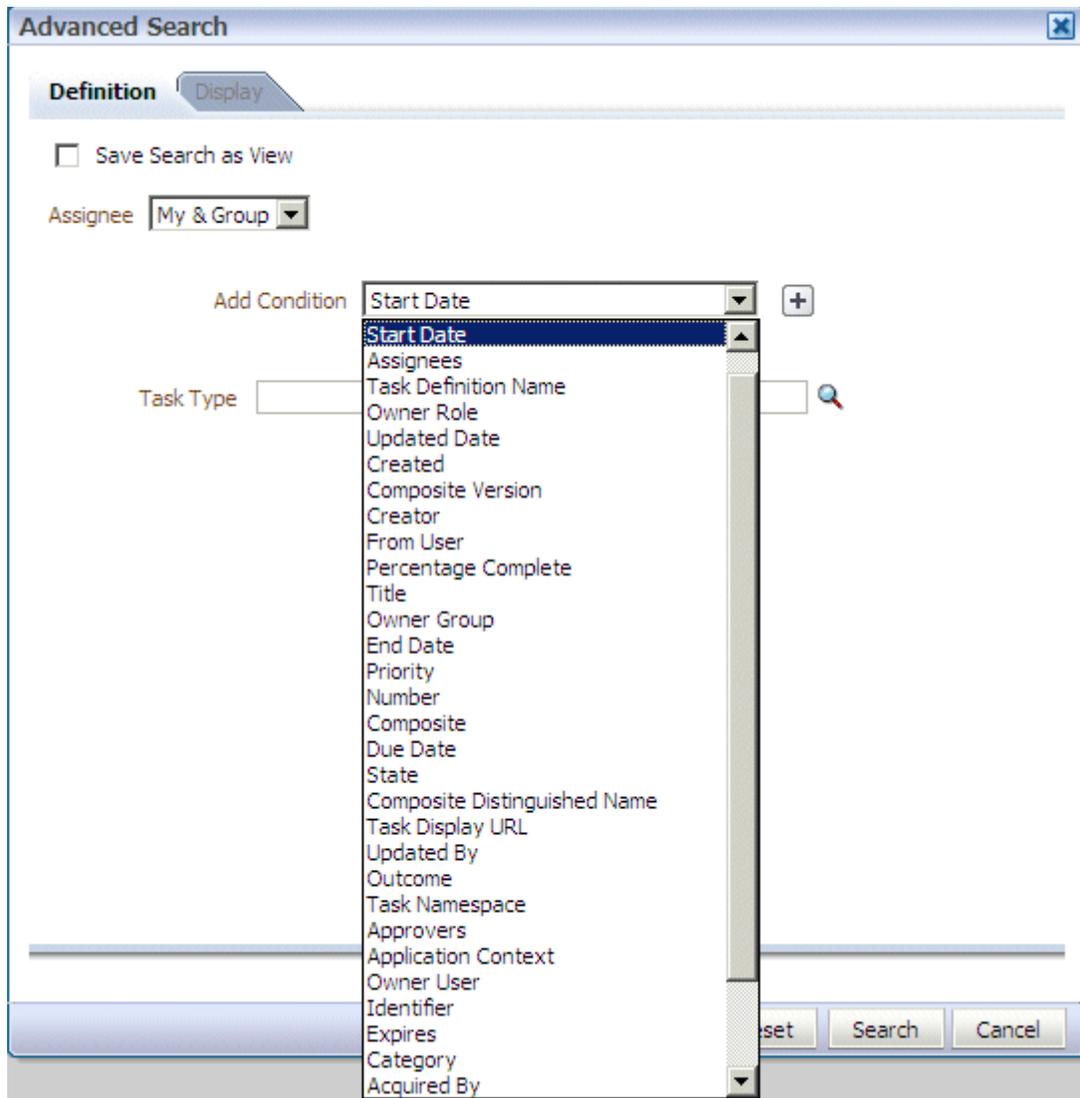
Table 3–3 describes the available conditions.

Table 3–3   Advanced Search: Conditions

Condition	Description
Start Date	The start date of the task (used with ToDo tasks).
Assignees	The current task assignees (users, groups or application roles).
Task Definition Name	The name of the task component that defines the task instance.
Owner Role	The application role (if any) that owns the task instance. Task owners can be application roles, users, or groups. If the owner of the task is an application role, this field is set.
Updated Date	The date that the task instance was last updated.
Created	The date that the task instance was created.
Composite Version	The version of the composite that contains the task component that defines the task instance.
Creator	The name of the creator of the task.

Table 3–3 (Cont.) Advanced Search: Conditions

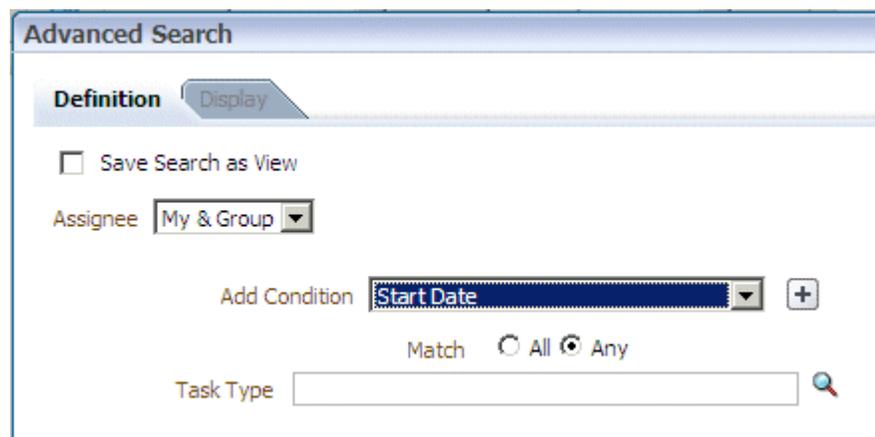| Condition	Description
From User	The from user for the task.
Percentage Complete	The percentage of the task completed (used with ToDo tasks).
Title	The title of the task.
Owner Group	The group (if any) that owns the task instance. Task owners can be application roles, users, or groups. If the owner of the task is a group, this field is set.
End Date	The end date of the task (used with ToDo tasks).
Priority	An integer that defines the priority of the task. A lower number indicates a higher priority; typically numbers 1 to 5 are used.
Number	An integer that uniquely identifies the task instance.
Composite	The name of the composite that contains the task component that defines the task instance.
Due Date	The due date of the task (used with ToDo tasks).
State	The state of the task instance.
Composite Distinguished Name	The unique name for the particular deployment of the composite that contains the task component that defines the task instance.
Task Display URL	The URL to display the details for the task.
Updated By	The user who last updated the task.
Outcome	The outcome of the task, for example approved or rejected. This is only set on completed task instances.
Task Namespace	The namespace of the task.
Approvers	The approvers of the task.
Application Context	The application to which any application roles associated with the tasks (such as assignees, owners, and so on) belong.
Owner User	The user (if any) that owns the task instance. Task owners can be application roles, users, or groups. If the owner of the task is a user, this field is set.
Identifier	The (optional) custom unique identifier for the task. This is an additional unique identifier to the standard task number.
Expires	The date on which the task instance expires.
Category	The category of the task.
Acquired By	The name of the user who claimed the task in the case when the task is assigned to a group, application role, or to multiple users, and then claimed by the user.
Component	The name of the task component that defines the task instance.
Original Assignee User	The name of the user who delegated the task in the case when the user delegates a task to another user.
Assigned	The date that this task was assigned.
Domain	The domain to which the composite that contains the task component that defines the task instance belongs.

5. Add parameter values, shown in Figure 3–9.

Figure 3–9   Advanced Search

6. Select **Any** or **All** for matching multiple filters.

7. (Optional) Search on a task type.

8. Click **Search**.

    The task list with the tasks filtered according to your criteria appears.

3.2.2.2 How to Create and Customize Worklist Views

The **Worklist Views** area, shown in Figure 3–10, displays the following:

- **Inbox**—Shows all tasks that result from any filters you may have used. The default shows all tasks.

- **My Work Queues**—Shows standard views and views that you defined.

- **Proxy Work Queues**—Shows shared views.

Figure 3–10   Worklist Views
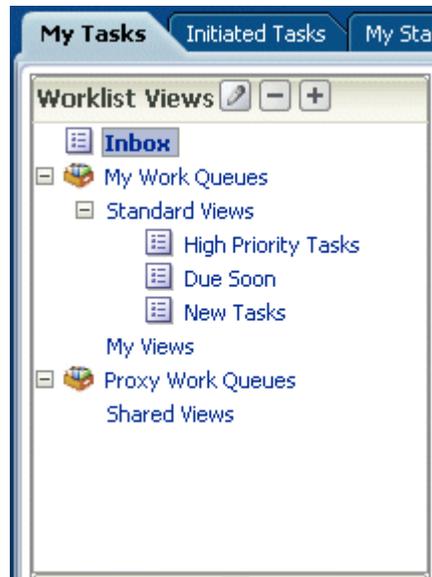
Use **Worklist Views** to create, share, and customize views.

To create a worklist view:

1.   In the **Worklist Views** section, click **Add**.

2.   Use the **Definition** page of the Create User View dialog box, shown in Figure 3–11.

Figure 3–11   Creating a Worklist View
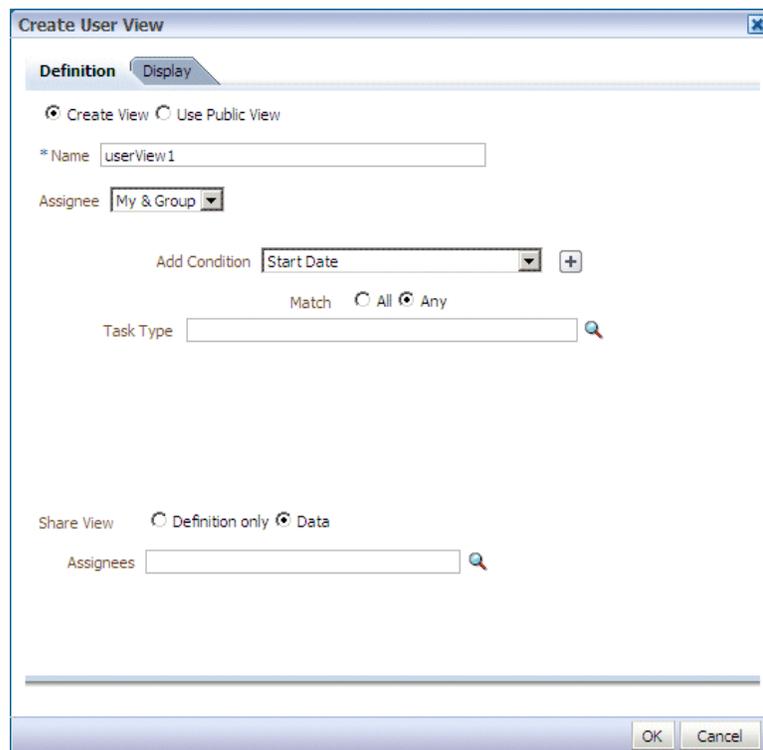
- **Create View** or **Use Public View**—Create your own view or browse for a public view to copy.

- **Name**—Specify a name for your view.

- **Add to Standard Views**—This option applies to administrators only. Administrators select this option to create the view as a standard view, which then appears in the **Standard Views** list for *all* worklist users.

- **Assignee**—Select **My**, **Group**, **My&Group**, **Previous**, or **Reviewer**.

- **Add Condition**—Select a filter from the list and click **Add**. For example, if you select **startDate**, and click **Add**, then a calendar and a list including **on**, **equals**, **not equals**, **greater than**, **less than**, and so on appears.

- **Task Type**—Browse for a task type or leave the field blank for all types. Mapped attribute labels can be selected in the query and display columns dialog boxes if the selected task types have mapped attribute mappings defined.

- **Match**—Select **All** or **Any** to match the conditions you added.

- **Share View**—You can grant access to another user to either the definition of this view, in which case the view conditions are applied to the grantee's data, or to the data itself, in which case the grantee can see the grantor's worklist view, including the data. Sharing a view with another user is similar to delegating all tasks that correspond to that view to the other user; that is, the other user can act on your behalf. Shared views are displayed under **Proxy Work Queues**.

- **Assignees**—Specify the users (grantees) who can share your view.

3. Use the **Display** page of the Create User View dialog box, shown in Figure 3–12, to customize the fields that appear in the view.

Figure 3–12   Displaying Fields in a Worklist View
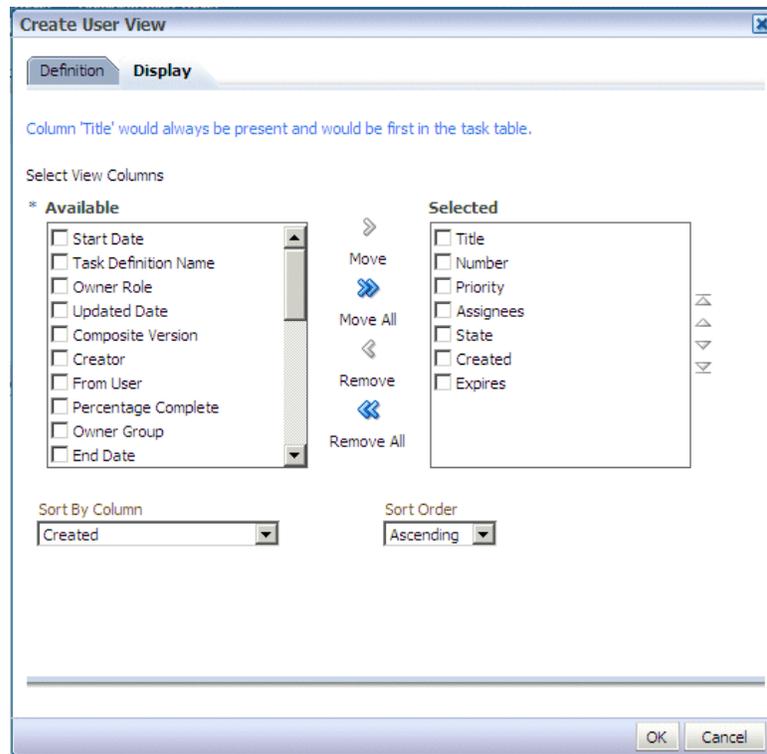
- **Select View Columns**—Specify which columns you want to display in your task list. They can be standard task attributes or mapped attributes that were mapped for the specific task type. The default columns are the same as the columns in your inbox.

- **Sort by Column**—Select a column on which to sort.

- **Sort Order**—Select ascending or descending order.

4. Click **OK**.

To customize a worklist view:

1. In the **Worklist Views** section, click the view name.

2. Click the **Edit** icon.

3. Use the **Definition** and **Display** pages of the Edit User View dialog box to customize the view, as shown in Figure 3–13 and Figure 3–14, and click **OK**.

Figure 3–13   Customizing a Worklist View

Figure 3–14   Customizing Fields in a Worklist View
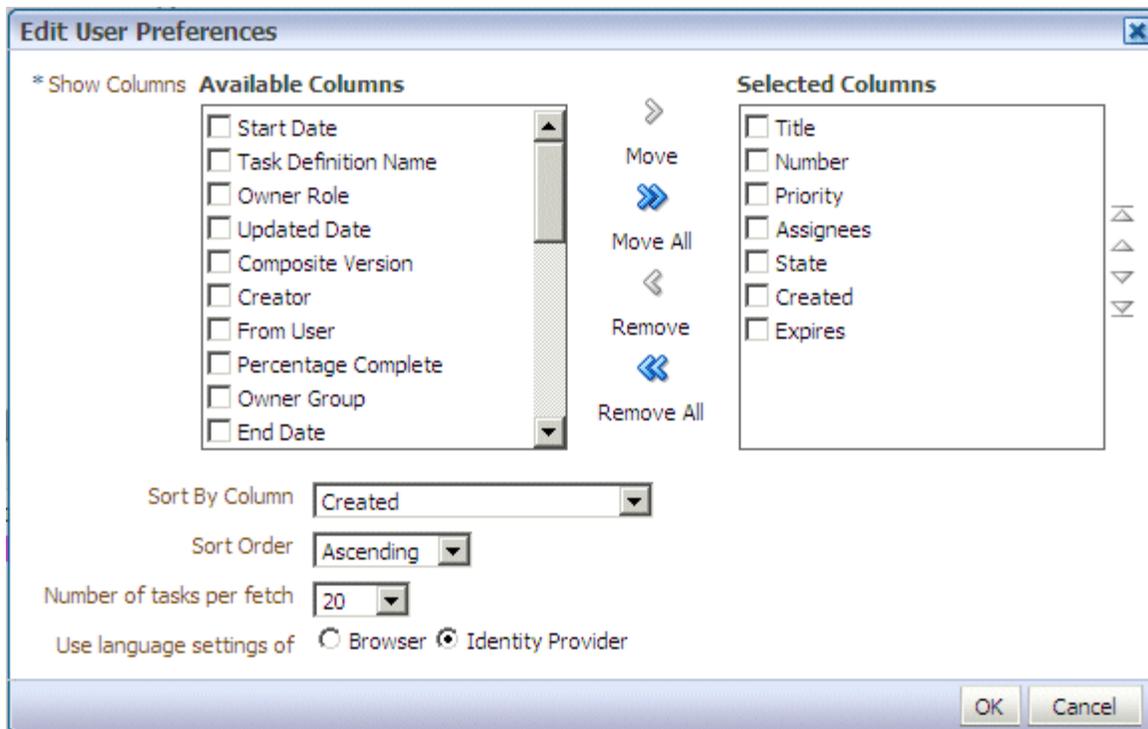
When you select and move items from the **Available Columns** list to the **Selected Columns** list (or vice-versa), the items remain selected. Therefore, if you select items to move back, the previously selected items are also moved. Ensure that you deselect items after moving them between the lists if you intend to move additional columns.

3.2.3 Searching for Tasks in Process Workspace

For instructions about searching for tasks, see:

- "To filter tasks based on keyword search:" on page 3-6

- "To filter tasks based on an advanced search:" on page 3-6

3.3 Claiming and Releasing Tasks in Process Workspace

If a task is assigned to a group or multiple users, then the task must be claimed first. Claim is the only action available in the Task Action list for group or multiuser assignments. After a task is claimed, all applicable actions are listed.

If a task is assigned to a group or multiple users, it can be released by the user who claimed it. Any of the other assignees can then claim and complete the task.

To claim and release tasks:

To claim a task, open it in the Task Details page, then click the **Claim** button.

Similarly, to release a task, open it in the Task Details page, then click the **Release** button.

Figure 3–15 shows part of a Task Details page with the **Claim** button in the upper right corner.

Figure 3–15   Claiming a Task

3.4 Setting Accessibility Preferences in Process Workspace

To set accessibility preferences:

1. In the upper right corner of Process Workspace, click **Preferences**.

2. In the Configuration Areas panel, select **Accessibility**. The Select Accessibility page appears in the right pane as shown in Figure 3–16.

Figure 3–16   Selecting Accessibility
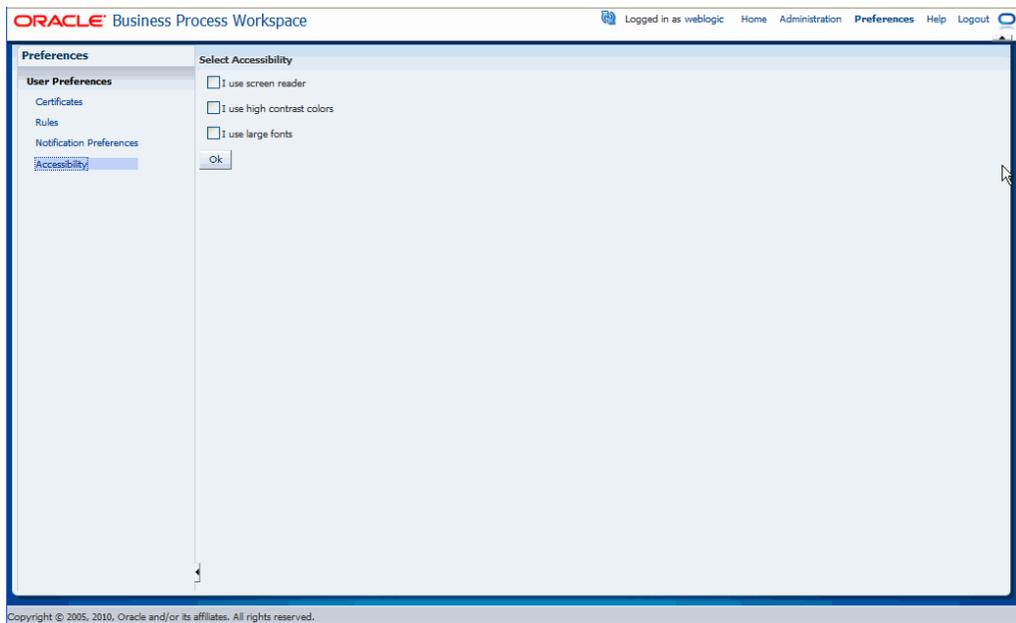
3. Select your accessibility preferences, then click **OK**.

3.5 Providing a Digital Certificate in Process Workspace

A digital certificate establishes the participant's credentials. It is issued by a certification authority (CA). It contains your name, a serial number, expiration dates, a copy of the certificate holder's public key (used for encrypting messages and digital signatures), and the digital signature of the certificate-issuing authority so that a recipient can verify that the certificate is real.

To provide a digital certificate:

1. In the upper right corner of Process Workspace, click **Preferences**.

2. In the navigation bar on the left, click **Certificates**.

3. Upload the certificate to use to sign your decision, as shown in Figure 3–17.

   When signing a task outcome using your certificate, you must upload the entire chain of certificates through Process Workspace as a `.P7B` (PKCS7 format) file, not just the one certificate issued to you by the certificate issuer. The entire chain can be exported through Internet Explorer. Mozilla Firefox does not let you export the chain as a `.P7B` file. Therefore, you can perform the following steps:

   a. Export the chain from Mozilla Firefox as a `.P12` file (PKCS12 format that also contains your private key).

   b. Import the `.P12` file in Internet Explorer.

   c. Export it again from Internet Explorer as a `.P7B` file.

   d. Upload it through Process Workspace.

Figure 3–17   Uploading a Certificate
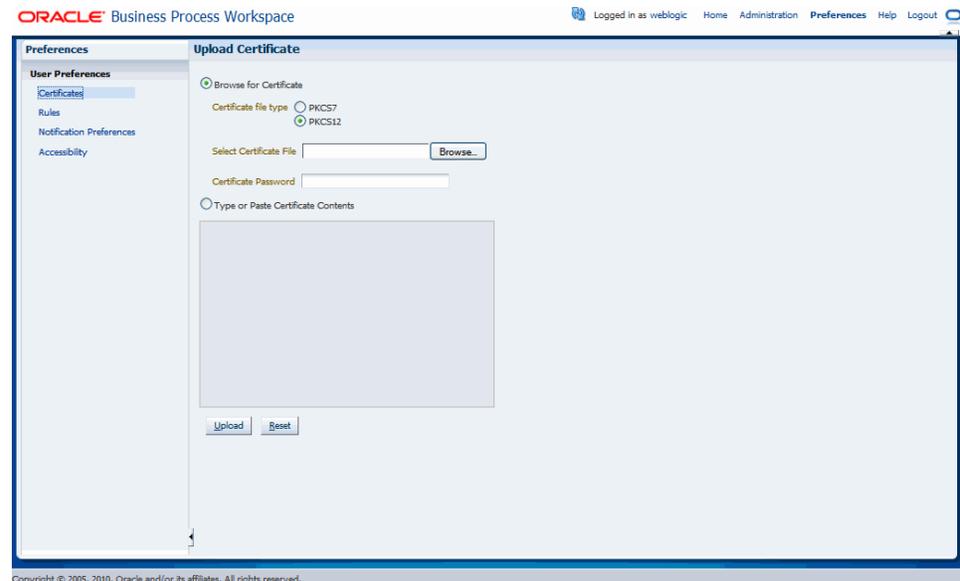
Note the following important points when providing your certificate to the system. Otherwise, you cannot use your certificate to sign your decisions on tasks.

   ■ The PKCS7 file format is a binary certificate format. Select this option if you have a standalone certificate file stored on your disk.

   ■ The PKCS12 file format is a keystore format. Select this option if you have your certificate stored inside a keystore.

   ■ If you want to copy and paste the contents of the certificate, select **Type or Paste Certificate Contents** and paste the BASE64-encoded text into the field. Do not paste a certificate in any other format into this field. Likewise, if you choose to upload a certificate, do not upload a BASE64-encoded certificate. Only PKCS12- and PKCS7- formatted files are supported for uploads.

4. Return to the task list by clicking the **Home** link in the upper right corner of Process Workspace.

5. Click a task to approve or reject.

   The task details are displayed.

6. Click either **Approve** or **Reject**.

   Details about the digital signature are displayed.

7. For a task that has a signature policy, click **Sign**.

   The Text Signing Report dialog box appears.

8. Select the certificate from the list to use to sign your decision.

9. Enter the master password of the Web browser that you are using.

10. Click **OK**.

    The Web browser signs the string displayed in the upper half of the Text Signing Request with the certificate you selected and invokes the action (approval or rejection) that you selected. The task status is appropriately updated in the human workflow service.

For more information about how certificates are uploaded and used, see *Oracle Fusion Middleware Developer's Guide for Oracle SOA Suite*.

3.6 Reassigning and Delegating Tasks in Process Workspace

For information about reassigning and delegating tasks, see *Oracle Fusion Middleware Developer's Guide for Oracle SOA Suite*.

3.7 Associating Comments and Attachments with Tasks in Process Workspace

You can associate comments and attachments with a task by using the Task Details page.

For instructions about associating comments and attachments with a task, see *Oracle Fusion Middleware Developer's Guide for Oracle SOA Suite*.

For details about the Task Details page, see Section 2.3.1.2, "The Process Workspace Task Details Page"

3.8 Requesting Information in Process Workspace

For information about requesting information, see *Oracle Fusion Middleware Developer's Guide for Oracle SOA Suite*.

3.9 Setting Rules, Vacation Periods, and Notification Preferences in Process Workspace

Rules act on tasks, either a specific task type or all the tasks assigned to a user or group. To set rules, from the Process Workspace toolbar, select **Preferences**. The Preferences window appears as shown in Figure 3–18.

Figure 3–18   Configuration Areas: My Rules Page
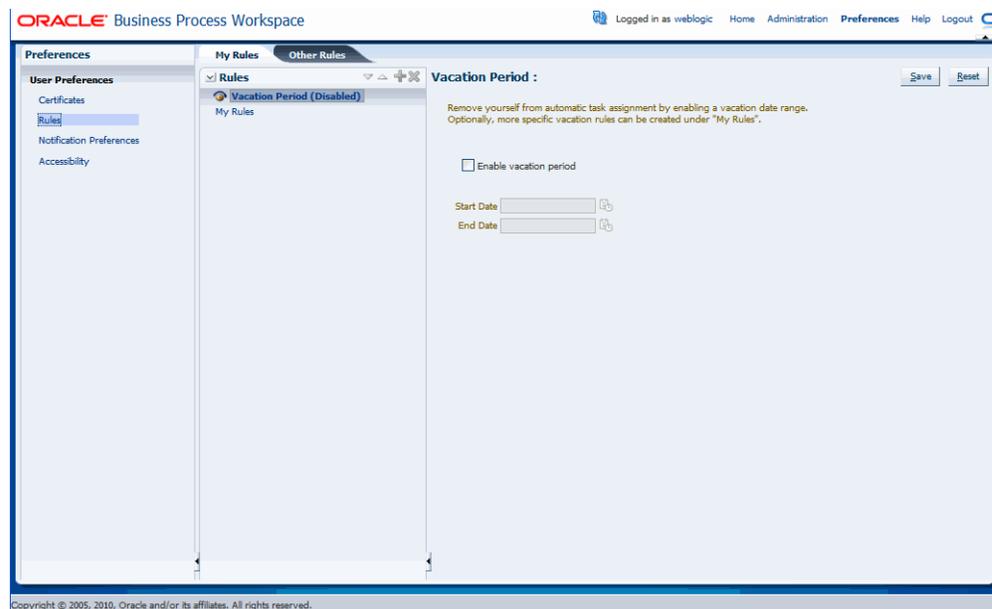
A rule cannot always apply to all circumstances in which it is used. For example, if a rule applies to multiple task types, it may not be possible to set the outcome for all tasks, because different tasks can have different outcomes.

Rules are executed in the order in which they are listed.

If a rule meets its filter conditions, then it is executed and no other rules are evaluated. For your rule to execute, you must be the only user assigned to that task. If the task is assigned to multiple users (including you), the rule does not execute.

You cannot specify business rules for ToDo tasks.

This section contains these topics:

- Section 3.9.1, "How to Create User Rules in Process Workspace"

- Section 3.9.2, "How to Create Group Rules in Process Workspace"

- Section 3.9.3, "How to Enable a Vacation Period in Process Workspace"

- Section 3.9.4, "How to Set Notification Preferences in Process Workspace"

3.9.1 How to Create User Rules in Process Workspace

To create a user rule:

1. From the Process Workspace toolbar, select **Configuration**. The **Configuration Areas** window is displayed.

2. In the User Preferences area, click **Rules**. The My Rules and Other Rules pages appear in the right pane. The My Rules page is selected.

3. In the **My Rules** page, in the Rules section, select **My Rules**. The My Rule screen appears in the right pane.

4. Provide a name for the rule.

5. If the rule is a vacation rule, select **Use as a vacation rule**. The start and end dates of the rule are automatically synchronized with the vacation period.

For instructions about setting a vacation period that is synchronized with the vacation rule, see Section 3.9.3, "How to Enable a Vacation Period in Process Workspace."

6. In the **Apply only to task type(s)** field, browse for task types to which the rule applies. If a task is unspecified, then the rule applies to all tasks. If a task type is specified, then any mapped attribute mapped for that task type can be used in the rule condition.

7. Select **Execute rule only between these dates** and provide rule execution dates.

8. In the **IF** area, add rule conditions. These are filters that further define the rule, such as specifying that a rule acts on priority 1 tasks only, or that a rule acts on tasks created by a specific user. The conditions can be based on standard task attributes and any mapped attributes that were mapped for the specific tasks. See Section 8.4.1.1, "How to Map Mapped Attributes" for more information.

9. In the **THEN** area, select actions to be taken. User rules do the following actions:

- **Reassign to**—You can reassign tasks to subordinates or groups you manage. If you were granted the BPMWorkflowReassign role, then you can reassign tasks to any user or group.

- **Delegate to**—You can delegate to any user or group. Any access rights or privileges for completing the task are determined according to the original user who delegated the task. (Any subsequent delegations or reassignments do not change this from the original delegating user.)

- **Set outcome to**—You can specify an automatic outcome if the workflow task was designed for those outcomes, for example, accepting or rejecting the task. The rule must be for a specific task type. If a rule is for all task types, then this option is not displayed.

- **Take no action**—Use this action to prevent other more general rules from applying. For example, to reassign all your tasks to another user while you are on vacation, except for loan requests, for which you want no action taken, then create two rules. The first rule specifies that no action is taken for loan requests; the second rule specifies that all tasks are reassigned to another user. The first rule prevents reassignment for loan requests.

10. Click **Save**.

The new rule appears under the **My Rules** node.

3.9.2 How to Create Group Rules in Process Workspace

Creating a group rule is similar to creating a user rule, with the addition of a list of the groups that you (as the logged-in user) manage. Examples of group rules include:

- Assigning tasks from a particular customer to a member of the group

- Ensuring an even distribution of task assignments to members of a group by using round-robin assignment

- Ensuring that high-priority tasks are routed to the least busy member of a group

Group rules do the following actions:

- **Assign to member via**—You can specify a criterion to determine which member of the group gets the assignment. This dynamic assignment criterion can include round-robin assignment, assignment to the least busy group member, or assignment to the most productive group member. You can also add your custom functions for allocating tasks to users in a group.

- **Assign to**—As with user rules, you can assign tasks to subordinates or groups you directly manage. If you have been granted the BPMWorkflowReassign role, then you can reassign tasks to any user or group (outside your management hierarchy).

- **Take no action**—As with user rules, you can create a rule with a condition that prevents a more generic rule from being executed.

To create a group rule:

1. From the Process Workspace toolbar, select **Preferences**. The Preferences window is displayed.

2. In the User Preferences area, click **Rules**. The My Rules and Other Rules pages appear in the right pane. The My Rules page is selected.

3. Click the **Other Rules** tab.

4. Select **Group** from the list.

5. Enter a group name and click the **Search** icon, or enter a group name.

   The Identity Browser dialog box opens for you to find and select a group.

6. Select the group name under the **Group Rules** node and click **Add**, as shown in Figure 3–19.

Figure 3–19   Creating a Group Rule
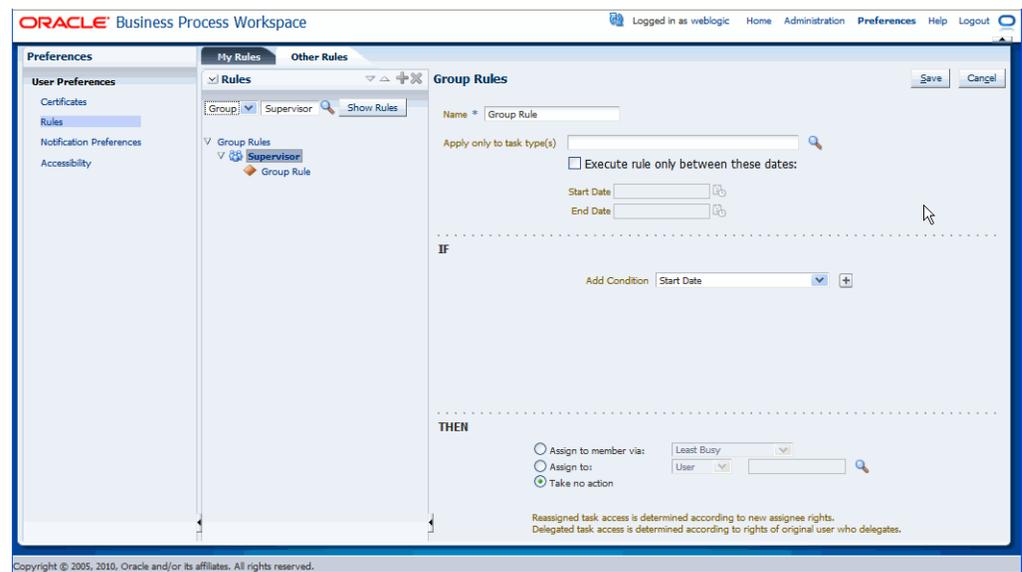
7. Provide group rule information and click **Save**.

   - Provide a name for the rule.

   - Browse for task types to which the rule applies.

   - Provide rule execution dates.

   - In the **IF** area, add rule conditions.

   - In the **THEN** area, select the actions to be taken: (**Assign to member via**, **Assign to**, or **Take no action**), as shown in Figure 3–19.

   The new rule appears under the **Group Rules** node.

3.9.3 How to Enable a Vacation Period in Process Workspace

You can set a vacation period so that you are removed from automatic task assignment during the dates you specify.

Vacation rules are not executed for ToDo tasks. See Section 3.9.1, "How to Create User Rules in Process Workspace" for how to set a vacation rule that is synchronized with the vacation period.

To enable a vacation period:

1. Click the **Preferences** link. The Preferences page appears.

2. In the User Preferences panel, click **Rules**. The right pane displays the Rules panel with the My Rules page selected. Adjacent and to the right of the My Rules page, the Vacation Period page appears.

3. Select **Enable vacation period**.

4. Provide start and end dates.

5. Click **Save**. The vacation period is enabled.

3.9.4 How to Set Notification Preferences in Process Workspace

You can configure the notification settings to control how, when, and where you receive messages in cases when you have access to multiple communication channels (delivery types). Specifically, you can define messaging filters (delivery preferences) that specify the channel to which a message should be delivered, and under what circumstances.

For example, you could create filters for messages received from customers with different Service Level Agreements (SLA). You could specify that, for customers with a premium SLA, you want to be notified through business phone and SMS channels; and, for customers with a nonpremium SLA, by email.

For information about how to specify notification settings, see *Oracle Fusion Middleware Developer's Guide for Oracle SOA Suite*.

3.10 Creating ToDo Tasks and Subtasks in Process Workspace

To create ToDo tasks and subtasks, see *Oracle Fusion Middleware Developer's Guide for Oracle SOA Suite*.

3.11 Acting on Tasks that Require Passwords in Process Workspace

For instructions about acting on tasks that require passwords, see *Oracle Fusion Middleware Developer's Guide for Oracle SOA Suite*.

3.12 Acting on a Task that Requires a Digital Signature in Process Workspace

For instructions about acting on tasks that require digitial signatures, see *Oracle Fusion Middleware Developer's Guide for Oracle SOA Suite*.

3.13 Routing Tasks in Process Workspace

For instructions about routing tasks, including ad hoc tasks, see *Oracle Fusion Middleware Developer's Guide for Oracle SOA Suite*.

4

Working on Process Instances in Process Workspace

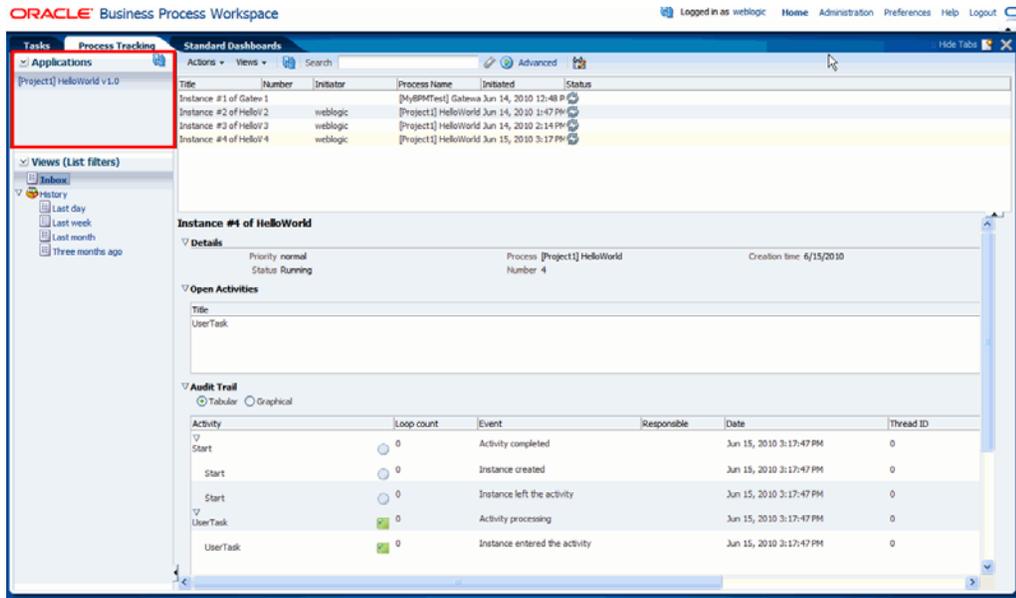This chapter contains these topics:

4.1 Initiating Process Instances in Process Workspace

To initiate a process instance, you begin with the Applications panel. Figure 4–1 shows the Process Tracking page with the Applications panel highlighted.

Figure 4–1   Process Workspace Applications Panel

To initiate a process:

1. In the Process Tracking page, in the Applications panel, click the process you want to initiate. The dialog box for that process instance appears.

    Note: If your browser has pop-up blocking enabled, then enable pop-ups for task flow servers, otherwise the application does not launch and the dialog box does not appear.

    ---

2. Create any comments or add any attachments.

    To add a comment:

    a. In the Comments section, click **Create**. The Create Comment dialog box appears.

    b. Enter your comment and click **OK**.

    To add an attachment:

    a. In the Attachments section, click **Add**. The Add Attachment dialog box appears.

    b. Select the attachment type. If you select Desktop File, a dialog box enables you to enter the path name of the file or browse to find it. If you select URL, you are prompted for the name of the file and the URL.

    c. After you have specified the attachment, click **OK**.

4.2 Searching for Process Instances in Process Workspace

You can perform either a basic search or an advanced search for process instances.

4.2.1 How to Perform a Basic Search for Process Instances

For a basic search, you enter all or part of the name of a process instance in the Search field.

To perform a basic search for a process instance:

Select the Process Tracking page and, in the Search field, enter all or part of the name of the instance for which you are searching. Note that the search results are based on the Description column of the Process Tracking page.

To retrieve a list of all instances, enter %.

Search results are displayed as shown in the example in Figure 4–2.

Figure 4–2   Search Results
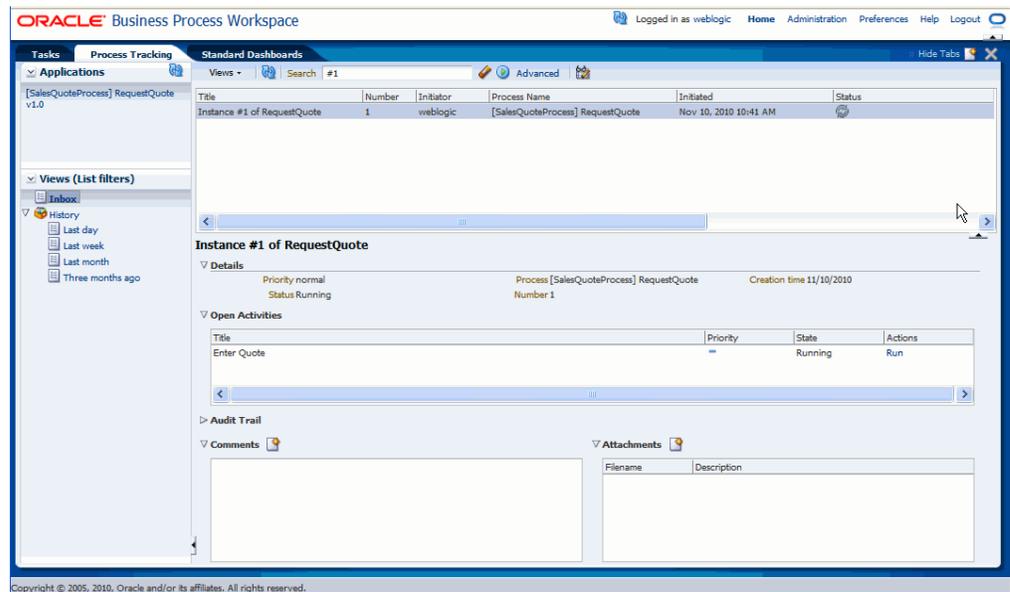
The Details section displays the priority, process name, when the instance is due to complete, status, creation time, and the assignee.

If the process instance has any gateways resulting in multiple threads (paths) that are still running, the Open Activities section display the status of each thread.

The Audit Trail section displays audit information—in either tabular form or graphically depending on your selection.

4.2.2 How to Perform an Advanced Search for Process Instances

You can perform a search based on one or more conditions you specify.

To perform an advanced search for a process instance:

1. In the Process Tracking page, click **Advanced**. The Advanced Search dialog box appears.

2. From the Processes list, select each of the processes you want to include in the view.

3. From the Assigned list, select one of the following: Anyone, at Any Role; Me, or Unassigned in my Role(s); Me.

4. From the Status list, select one or more the following:

Table 4–1   Add View Status List

Status	Description
In Process	The work item is active; it has not reached the end of the process.
Completed	The work item reached the end of the process.
Aborted	The work item is no longer active, and did not reach the end of the process.

5. Click **OK**.

4.3 Viewing the Details of a Process Instance in Process Workspace

The ability of a user to see process instances depends on the user's roles. Table 4–2 maps the various roles to their correponding levels of visibility.

Table 4–2   Visibility into Process Instances

Role	Visibility into Process Instance
Administrator—that is, a user with the WorkflowAdmin role or the Administrator role	Can see all information related to all process instances
Process owner	At any given time, can see the instance details of the process instance
User with a swimlane role	Can see any unassigned instance associated with that role
Task assignee	Can see the instance details of that task

To view the details of a process instance:

In the Process Tracking page, from the process instance list, select the instance whose details you want to view. The Work Item Detail panel opens in the lower right section of the page as shown in Figure 4–3.

Figure 4–3   Work Item Details Panel
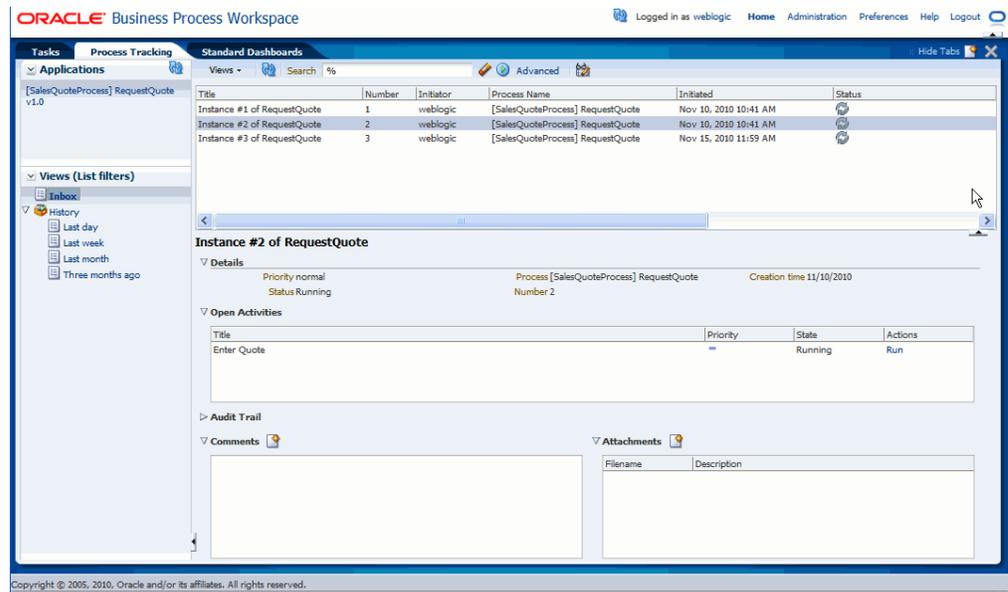
The Details section displays the priority, process name, when the instance is due to complete, status, creation time, and the assignee if any.

If the process instance has any gateways resulting in multiple threads (paths) that are still running, the Open Activities section displays the status of each thread.

The Audit Trail section displays audit information—in either tabular form or graphically depending on your selection. Figure 4–4 shows a Work Items Details panel in which audit information is displayed graphically.

Figure 4–4   Work Item Details Panel with Graphical Audit Trail
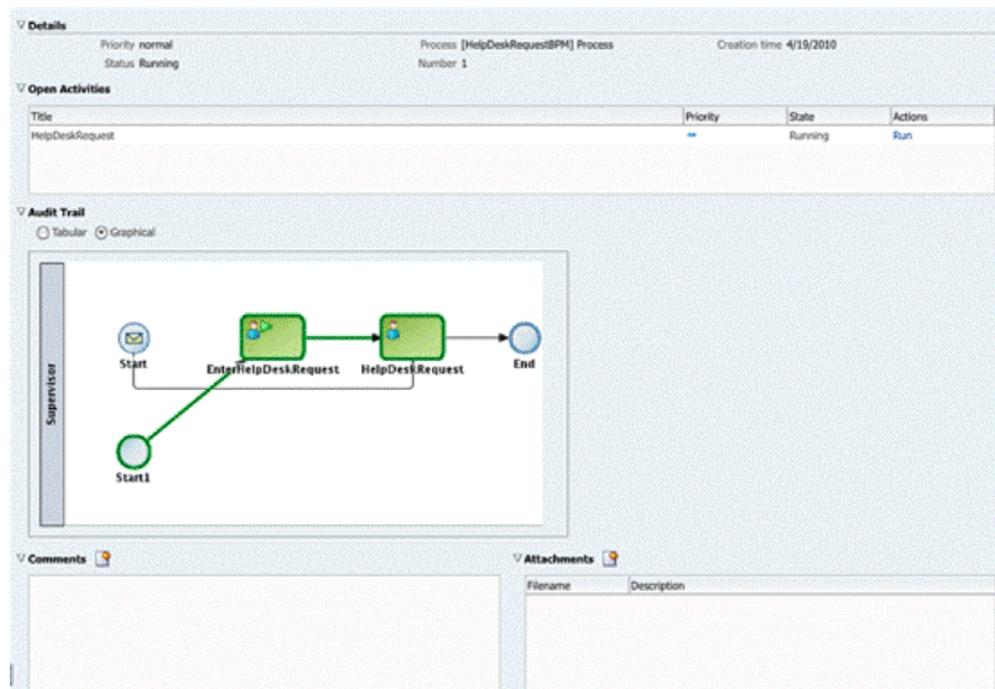
For more information about the Task Details page, see Section 2.3.2.2, "The Process Workspace Process Audit Details Panel"

You can also use this panel to create comments and add attachments as described in Section 4.4, "Associating Comments and Attachments with a Process Instance in Process Workspace"

4.4 Associating Comments and Attachments with a Process Instance in Process Workspace

To associate a comment with a process instance:

1. From the worklist, select the process instance with which you want to associate a comment.

2. In the details panel, in the Comments section, click **New**.

3. Enter your comment and click **OK**.

To associate an attachment with a process instance:

1. From the worklist, select the process instance with which you want to associate an attachment.

2. In the details panel, in the Attachments section, click **New**. The Add Attachment dialog box appears.

3. In the Description field, optionally enter a description for the attachment.

4. In the Filename field, enter the path to the file, or click **Browse** to navigate to it.

5. Click **OK**.

4.5 Performing a Bulk Operation in Process Workspace

In this release, the only available bulk operation you can perform is Cancel.

To perform a bulk operation:

1. In the Process Tracking page, from the process instance list, select several instances. In the Instance Details panel, a message indicates how many instances are currently selected to be processed. Also, the Actions list is updated with the options that can be performed over the group of instances that were selected.

2. Select the operation in the Actions list. The selected operation is performed on the instances you specified.

4.6 Canceling a Process Instance in Process Workspace

Only process owners can cancel a process instance.

To cancel a process instance:

-   From the Actions list at the end of the row for the instance you want to cancel, select **Cancel**.

-   Select the instance and, from the Actions list on the toolbar of the Process Tracking page, select **Cancel**

4.7 Customizing the Presentation of Process Instances in Process Workspace

A presentation is a column arrangement to use when viewing instances in the Work Items panel. When looking at a view, you can use an existing presentation or create a new one to be associated with that view.

You can choose the columns that are presented in any view displayed in the Work Items panel.

To customize the presentation of a process instance:

1. From the Views panel, select the view whose presentation you want to customize. The view is displayed in the Work Items panel.

2. From the Work Items toolbar, click **Edit Presentation**. This displays the Presentation dialog box in which you can select and sort the columns in your presentation.

3. From the Available Columns list, select the columns you want to include in your view and move them to the Presentation Columns list by clicking the right arrow.

4. To sort the columns:

    a. Select an individual item in the Presentation Columns list.

    b. Move it into place by using the vertical arrows to the right of the list.

    c. Repeat for each column you want to sort.

5. Click **OK**.

5

Creating and Editing Custom Pages in Process Workspace

A layout is a set of pages. It contains information about the pages it contains and the panels each page contains.

Process Workspace provides its own default layout, but an end user can customize that layout by adding new pages and panels.

In addition to customizing the default layout, process designers and administrators can also create new layouts and associate them with different sets of roles. This enables them to define the experience for the various kinds of users of each project.

You can select which page you are currently viewing by clicking the page. You can choose which pages to hide or show by selecting from the **Hide Tabs** list in the toolbar.

Depending on your roles, you may see several layouts at the same time.

This chapter contains these topics:

- Section 5.1, "Creating Custom Pages in Process Workspace"
- Section 5.2, "Establishing Communication Between Panels"
- Section 5.3, "Editing Custom Pages and Panels in Process Workspace"

5.1 Creating Custom Pages in Process Workspace

You can design and add new pages and panels to customize your layout. This section contains these topics:

- Section 5.1.1, "How to Create a Custom Page"
- Section 5.1.2, "How to Add an Applications Panel to a Customized Page"
- Section 5.1.3, "How to Add a Dashboards Panel to a Customized Page"
- Section 5.1.4, "How to Add a Process Instance Panel to a Customized Page"

5.1.1 How to Create a Custom Page

To create a custom page:

1. In the upper right corner of Process Workspace, click **Add Page**, as shown in Figure 5–1.

Figure 5–1   Adding a Page

The new page appears.

2.   In the upper right corner of the new page, click **Add Panel**. The Add Panel dialog box appears with the Applications item selected, as shown in Figure 5–2.

Figure 5–2   Adding an Applications Panel

You can choose the type of application panel to add: application, dashboard, or process instance.

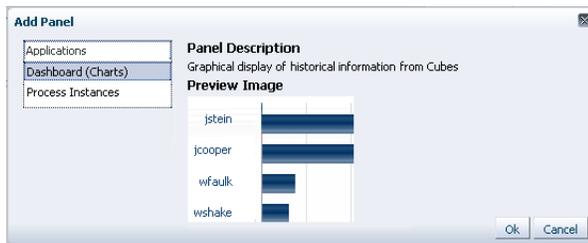## 5.1.2 How to Add an Applications Panel to a Customized Page

To add an Applications panel to a customized page:

1.   From the Add Panel dialog box, select Applications, then click **Ok**. The Applications panel appears on the page.

2.   Specify the name of the Applications panel and any configurable properties.

3.   Click **Apply**.

5.1.3 How to Add a Dashboards Panel to a Customized Page

From the Add Panel dialog box, you can also select Dashboards (Charts), as shown in Figure 5–3.

Figure 5–3   Adding a Dashboards (Charts) Panel

This dialog box enables you to include either charts or a chart selector in your new page. Choosing either one provides you with the corresponding preview image.

To add a Dashboards panel to a customized page:

1.   From the Add Panel dialog box, select Dashboards (Charts), then click **Ok**. The Dashboards panel appears on the page.

2.   In the **Panel label** section, specify the name of the Dashboards panel.

3. In the **Panel properties** section, from the **Data Source** list, select a data source for this dashboard panel. The default options are:

- Workload per Process

- Performance per Process

- Workload per Participant

- Performance per Participant

You can also specify a custom data source. To do this:

a. In the Dashboards panel, in the Panel Properties section, to the right of the **Data Source** field, click the spy-glass icon. The Data Sources dialog box appears.

b. In the navigator pane on the left, click **New**. A Data Source dialog box appears for you to create a new data source.

c. Specify the fields as described in Section 6.2.1, "Specifying Graph Content."

d. When you are finished specifying the data source, click **Ok**.

4. Specify the action to be triggered when clicking the graph or widget. Options are:

- Update another widget: Updates any widget configured to listen to this widget

- Update a view: Updates any view configured to listen to this widget

5. Specify any communication that is to take place with other panels. For information, see Section 5.2, "Establishing Communication Between Panels" on page 5-4.

5.1.4 How to Add a Process Instance Panel to a Customized Page

From the Add Panel dialog box, you can select Process Instances, as shown in Figure 5–4.

Figure 5–4   Adding a Process Instances Panel

Selecting this option enables you to include one of the following types of process instance panels in your new page: list of instances, instance details, views (list filters), and chart instances. Choosing any one of these displays the corresponding preview image.

To add a Process Instance panel:

1. From the Add Panel dialog box, select Process Instances, select the type of Process Instances panel, then click **Ok**. The type of Process Instances panel you selected appears on the page.

2. In the **Panel label** section, specify the name of the Process Instance panel.

3. If the **Panel properties** section appears for the type of panel you selected, set the properties as required.

4. Specify any communication that is to take place with other panels. For information, see Section 5.2, "Establishing Communication Between Panels."

5.2 Establishing Communication Between Panels

You can establish communication between two panels so that an action in one panel is triggered by an action in the other. For example, you can configure a Process Instance panel to listen for actions that occur in a View List panel. Then, when a user selects a given view in the View List panel, that action triggers the use of that view in the Process Instance panel.

### 5.2.1 How to Establish Communication Between Panels

To establish communication between panels, you configure one panel, designed with listening capabilities, to monitor actions in one or more source panels. An action occurring in a source panel then triggers an action in the listening panel.

> **Note:** Communication can be established only between panels on the same page.

To establish communication between panels:

1. In the custom page, click **Edit Mode**. The entire page is available for editing.

2. Create a source panel and select the appropriate option from the **Data Source** list.

3. Create a listening panel. This time, do not select anything from the **Data Source** list.

4. Expand **Communication with other panels**, and, in the **Selected event sources** window, select the source panel created in step 2. Figure 5–5 shows an example of of the Process Workspace interface in which communication is being established between a source panel and a listening panel.

*Figure 5–5   Establishing Communication Between Panels*
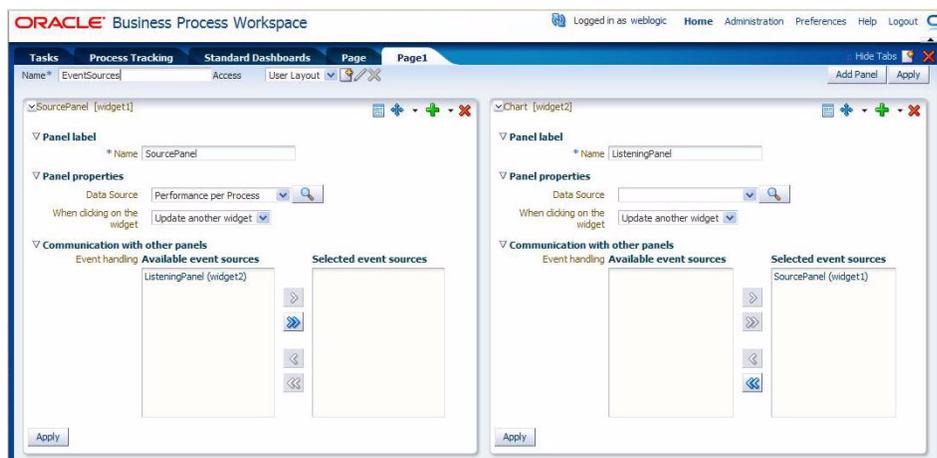
5. In each panel, click **Apply**.

Once you have done this, any action in the source panel triggers a corresponding action in the listening panel. For example, in the case of communicating dashboard panels, clicking any graphical bars in the source panel triggers the use of that view in the listening panel.

5.3 Editing Custom Pages and Panels in Process Workspace

Figure 5–6 shows an example of a custom page as it initially appears, with the panel available for editing.

Figure 5–6 Example of a Custom Page
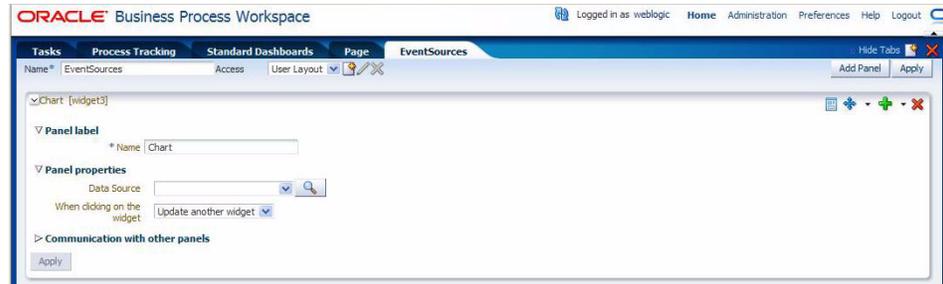
This editable display of the panel enables you to define the name and properties for the new page and establish communication with other panels. In addition, the icons in the upper right corner of the new page enable you to:

■ Switch to View Mode—that is, the manner in which the page is ordinarily viewed. After you switch to View Mode, you can switch back to Edit Mode.

■ Move the panel up, right, left, or down.

■ Add another panel to the right, left, above, or below this one.

■ Remove this panel.

6

Using Dashboards in Process Workspace

This chapter contains these topics:

- Section 6.1, "Using Standard Dashboards"
- Section 6.2, "Creating Custom Dashboards"

6.1 Using Standard Dashboards

Standard dashboards are the graphs and drill-downs based on data previously computed in a process cube schema. They reflect the standard metrics gathered during the execution of a process.

In each of the standard dashboards, clicking a bar graph in the left pane causes data to be displayed graphically in the right pane. Clicking an item in the right pane displays certain data in the lower pane. This section explains how each type of dashboard operates.

This section contains these topics:

- Section 6.1.1, "Participant Dashboards"
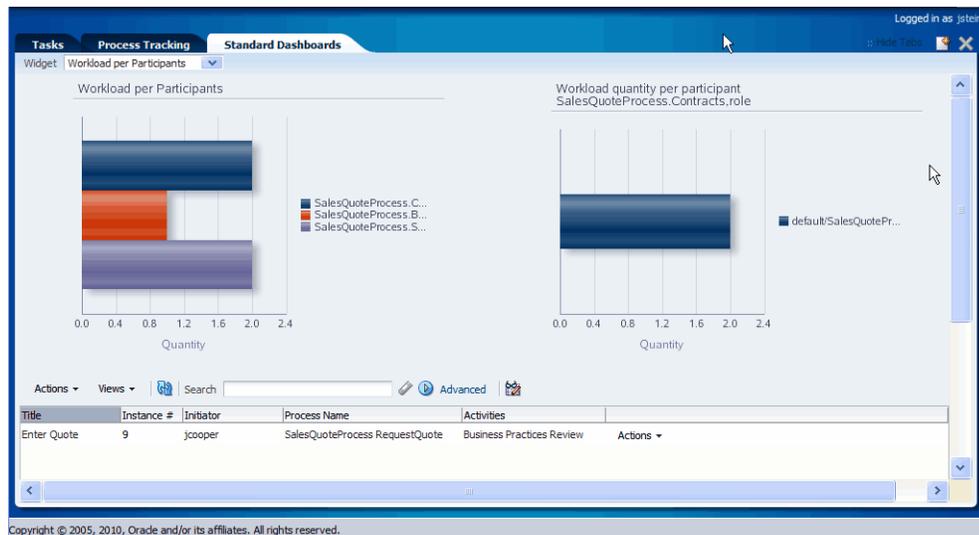- Section 6.1.2, "Process Dashboards"

6.1.1 Participant Dashboards

Two types of standard participant dashboards enable you to analyze:

- The workload of participants
- The performance of participants

6.1.1.1 Participant Workload Dashboard

Figure 6–1 shows an example of a participant workload dashboard.

Figure 6–1   Participant Workload Dashboard

The left panel of a participant workload dashboard displays the total number of active instances waiting for completion for each participant across all processes. When you drill down into the chart for a specific participant, the right panel displays the total number of active instances waiting for completion by process for either the selected participant or the selected role. The last drill-down displays the active instances waiting for completion for either the selected participant or the selected role and process.

> **Note:**   In this release, participant information in a workload dashboard is for the physical role corresponding to the swimlane for the task. When the swimlane role is not defined, the corresponding participant information is null.

6.1.1.2 Participant Performance Dashboard

Figure 6–2 shows a participant performance dashboard.

Figure 6–2   Participant Performance Dashboard
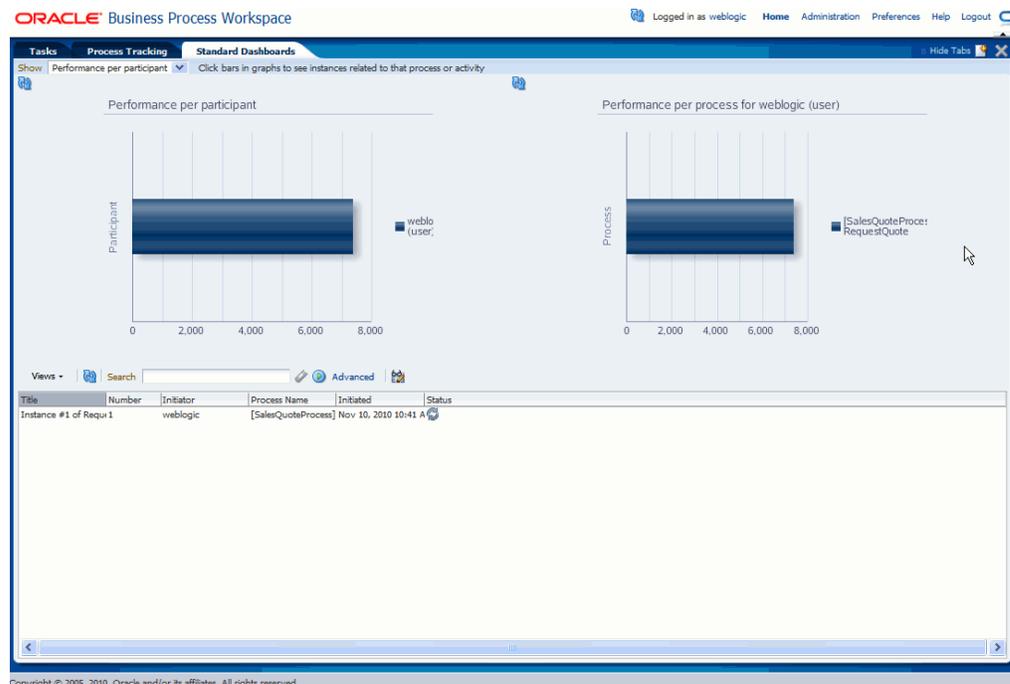
The left panel of a participant performance dashboard displays the average time taken by participants across all processes. When you drill down into the chart for a specific participant, the right panel displays the average time taken to complete instances by process for the selected participant. The last drill-down displays the list of completed instances for either the selected participant or the selected role and process.

> **Note:**   In this release, for processes that have user tasks with multiple users, user information is captured only for the last user that updated the task.
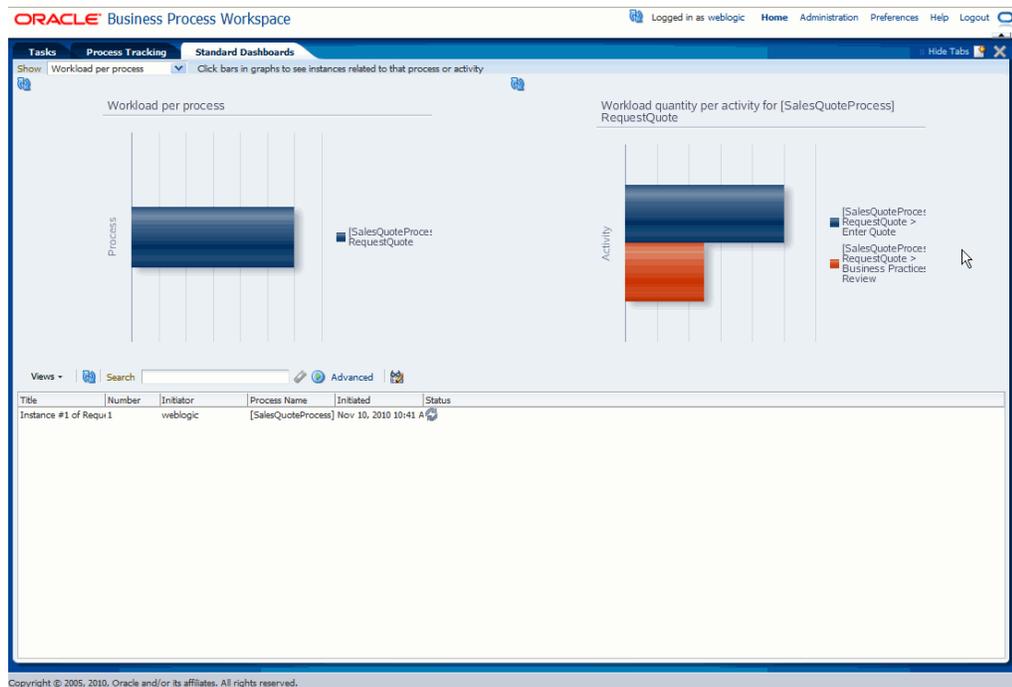
6.1.2 Process Dashboards

Two types of standard process dashboards enable you to analyze:

■   The number of process instances waiting for completion

■   The average time taken per process

6.1.2.1 Process Workload Dashboard

Figure 6–3 shows a process workload dashboard.

Figure 6–3   Process Workload Dashboard

The left panel in the process workload dashboard displays the total number of active instances waiting for completion per process. When you drill down into a specific process, the right panel displays the total number of active instances waiting for completion for activities in the selected process. The last drill-down displays the active instances waiting for completion for the selected activity and process.

6.1.2.2 Process Performance Dashboard

The left panel in the process performance dashboard displays the average time taken per process. When you drill down into a specific process, the right panel displays the average time taken to complete by activities in the selected process. The last drill-down displays the completed instances for the selected activity and process.

Figure 6–4 shows a process performance dashboard.

Figure 6–4   Process Performance Dashboard
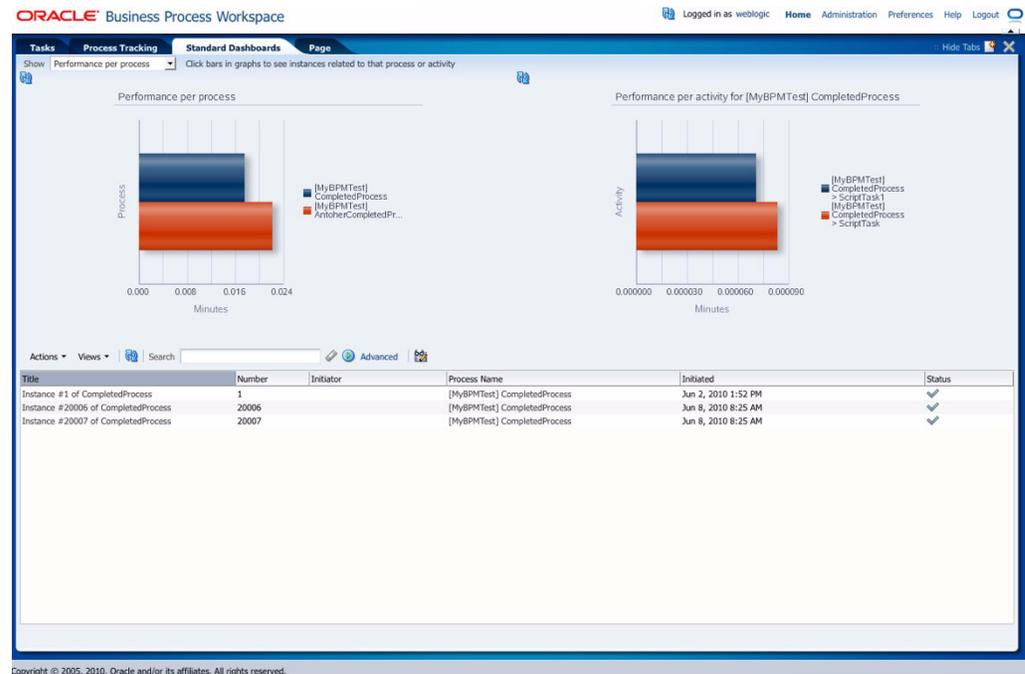
6.2 Creating Custom Dashboards

As with standard dashboards, custom dashboards are the graphs and drill-downs based on data previously computed in a process cube schema. They reflect the standard and user-defined metrics gathered during the execution of the process. They enable you to define new graphs using both standard metrics and user-defined metrics specified by using business indicators.

For instructions about adding a custom dashboard, see Section 5.1.1, "How to Create a Custom Page" on page 5-1.

6.2.1 Specifying Graph Content

Graph content is specified by defining a data source. Figure 6–5 shows an example of the Data Sources dialog box.

For information about invoking the data source dialog box, see Section 5.1.3, "How to Add a Dashboards Panel to a Customized Page."

Figure 6–5   Specifying Data Sources
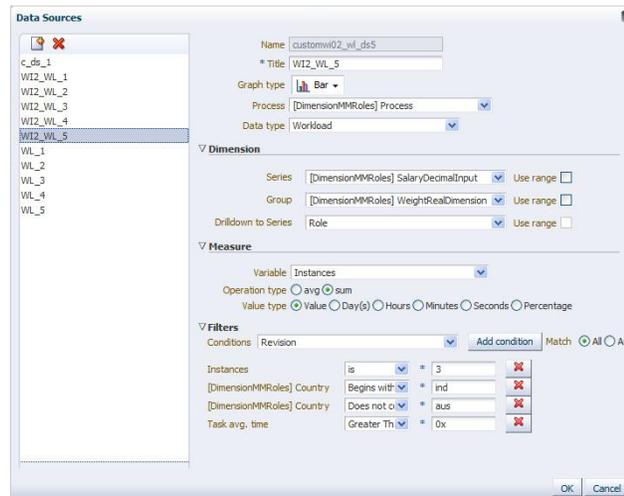
In the Data Sources dialog box, specify the following:

- Name: Provide a data source identifier

- Title: Provide the title used while displaying the data source

- Graph Type: Select one of the following list of graph types:

  - Area

  - Percent Area

  - Stacked Area

  - Horizontal Bar

  - Horizontal Percent Bar

  - Horizontal Stacked Bar

  - Bar

  - Percent Bar

  - Stacked Bar

  - Line

  - Percent Line

  - Stacked Line

  - Pie

  - Pie Bar

  - Multiple Pie

- Process: Select the process from the list. All business indicators associated with the selected process become available for the data source definition.

- Data Type: Select one of the following supported data types:

  - Workload

  - Activity and Measurement Sampling

  - Process Level Sampling

Dimensions

- Series: Specify the dimension.

  Use Range: Select to use ranges for dimensions with ranges.

- Group: Specify the dimension used to group the dimensions used in a series.

  Use Range: Select to use ranges for dimensions with ranges.

- Drilldown to Series

  Use Range: Select to use ranges for dimensions with ranges.

Table 6–1 summarizes the standard dimensions available based on the Data Type selection. Additionally, all the process specific dimensions are available.

Table 6–1   Standard Dimensions Available

	Workload	Activity and Measurement Sampling	Process Sampling
Dimension: Series	Revision Role Activities Participant	Revision Role Activities Participant Completion Date	Revision Completion Date
Dimension: Group	Participant	Participant Completion Date	Completion Date

Measure

- **Variable:** Specify the measurement

  Table 6–2 summarizes list of standard measurements available based on the Data Type selection. Additionally, all the process-specific measurements are available.

Table 6–2   Standard Measurements Available

	Workload	Activity and Measurement Sampling	Process Sampling
Variable	Instances Task Avg. Time Task Median Process Avg. Time Process Median Time	Task Time	Task Time

- **Operation Type:** Specify the aggregation functions to be applied on the measurement variables selected.

  Table 6–3 summarizes the operation types that can be used with various Data Type selections.

Table 6–3   Operation Types Allowed

	Workload	Activity and Measurement Sampling	Process Sampling
Operation Type	Avg Sum	Avg Sum Min Max	Avg Sum Min Max

- **Value Type:** Select one of the following values: Value, Day(s), Hours, Minutes, Seconds, Percentage

> **Note:** If a new process is deployed while you have a dashboards page open, the new process will not be listed in the Data Sources dialog box until you log out of Process Workspace and then log back in.

Filters

You can add filter conditions based on the measure variables, series, and groups. You can add the filter condition only if a process is selected from the Process list. If "All" is selected in the Process list, then the Filters section is disabled.

> **Note:** If you add a filter for business indicators, that filter filters out the values initially based on the condition given. Aggregation—either the sum or the average—then applies to the resulting set of items.
>
> For example, if the user tries to compute the average of all business indicator values greater than 1000, the user will set a filter for this—for example: BI <Greater or equals> 1000 and set Operation type as "avg". The result is that the business indicator values greater than 1000 are collected first, and then the computation for the average calculation takes place.

7

Managing Workloads Among Users in Process Workspace

Supervisors are users who have other users reporting to them. Supervisors can view and update all tasks assigned to all users who report to them. This chapter discusses the tasks that supervisors can perform.

This chapter contains these topics:

7.1 Managing the Availability of Users in Process Workspace

If a user is unavailable for a period of time and must delegate some or all assigned tasks to another user, then the user rules can automatically reassign the tasks based on certain conditions. More specifically, if a user is going on vacation, a vacation period can be associated with a rule to create a vacation rule.

For more information about creating user rules, see Section 3.9.1, "How to Create User Rules in Process Workspace."

For more information about setting a vacation rule, see Section 3.9.3, "How to Enable a Vacation Period in Process Workspace.".

7.2 Distributing Work among Users in a Group

To distribute work among users in a group, you create a rule for that group. Creating a group rule is similar to creating a user rule, with the addition of a list of the groups that you, as the logged-in user, manage.

For information about creating user rules, see Section 3.9.1, "How to Create User Rules in Process Workspace."

Examples of group rules include:

- Assigning tasks from a particular customer to a member of the group

- Ensuring an even distribution of task assignments to members of a group by using round-robin assignment

- Ensuring that high-priority tasks are routed to the least busy member of a group

For information about creating a group rule, see Section 3.9.2, "How to Create Group Rules in Process Workspace".

7.3 Setting Assignment Rules for Tasks with Multiple Assignees

For information about assignment rules for tasks with multiple assignees, see *Oracle Fusion Middleware Developer's Guide for Oracle SOA Suite*.

7.4 Reassigning or Delegating Tasks in Process Workspace

A supervisor can reassign or delegate tasks to reportees. A user with BPMWorkflowReassign privileges can delegate a task to anyone.

For information about reassigning or delegating tasks, see *Oracle Fusion Middleware Developer's Guide for Oracle SOA Suite*.

7.5 Using Reports to Manage Workflows in Process Workspace

Reports are available on the Tasks page in the Reports panel. Report results cannot be saved.

Figure 7–1 shows the Reports panel displaying the standard report types available.

Figure 7–1 Oracle Business Process Management Workspace Reports

For more information about reports, see *Oracle Fusion Middleware Developer's Guide for Oracle SOA Suite*.

7.6 Using Dashboards to Manage Workflows in Process Workspace

Dashboards provide a variety of analytical information about the workload on users for the different processes being executed. For example, if a specific user has many tasks assigned to her, and she is making little progress, this would indicate that all those corresponding processes are blocked. Having this information enables you to reassign those tasks to someone else and, if necessary some user or group routing rules can be specified to manage the issue in the short term.

For more information about dashboards, see Chapter 6, "Using Dashboards in Process Workspace".

7.7 Handling Escalations in Process Workspace

If a user escalates a task, it is automatically assigned to his or her supervisor. The supervisor can then decide what type of action to perform on the task.

Escalations are among the system actions you can perform from the Task Details page.

For more information about the Task Details page, see Section 2.3.1.2, "The Process Workspace Task Details Page".

For information about the system actions you can perform from the Task Details page, see Table 2–3.

8

Performing Administration in Process Workspace

This chapter explains the various tasks an administrator can perform in Process Workspace.

This chapter contains these topics:

8.1 Setting the Display of the Work Items Panel in Process Workspace

To set the display of the Work Items panel, administrators can specify the following application preferences:

- **Login page realm label**—If the identity service is configured with multiple realms, then the Process Workspace login page displays a list of realm names. The `LABEL_LOGIN_REALM` parameter specifies the resource bundle key used to look up the label to display these realms. The term *realm* can be changed to fit the user community—terms such as country, company, division, or department may be more appropriate. Administrators can customize the resource bundle, specify a resource key for this string, and then set this parameter to point to the resource key.

- **Global branding icon**—This is the image displayed in the top left corner of every page of the worklist. (The Oracle logo is the default.) Administrators can provide a `.gif`, `.png`, or `.jgp` file for the logo. This file must be in the `public_html` directory.

- **Resource bundle**—An application resource bundle provides the strings displayed in the worklist. By default, this is the class at:

    `oracle.bpel.worklistapp.resource.WorklistResourceBundle`

    Administrators must extend `WorklistResourceBundle.java` by adding their resource strings. Administrators can change the strings shown in the application by copying `WorkflowResourceBundle` and customizing it. This parameter allows administrators to specify the class path to this custom resource bundle.

Then administrators create a JAR file from the compiled resource bundle and copy it under

```
SOA_Oracle_Home\j2ee\home\applications\worklist\worklist\WEB-INF\lib
```

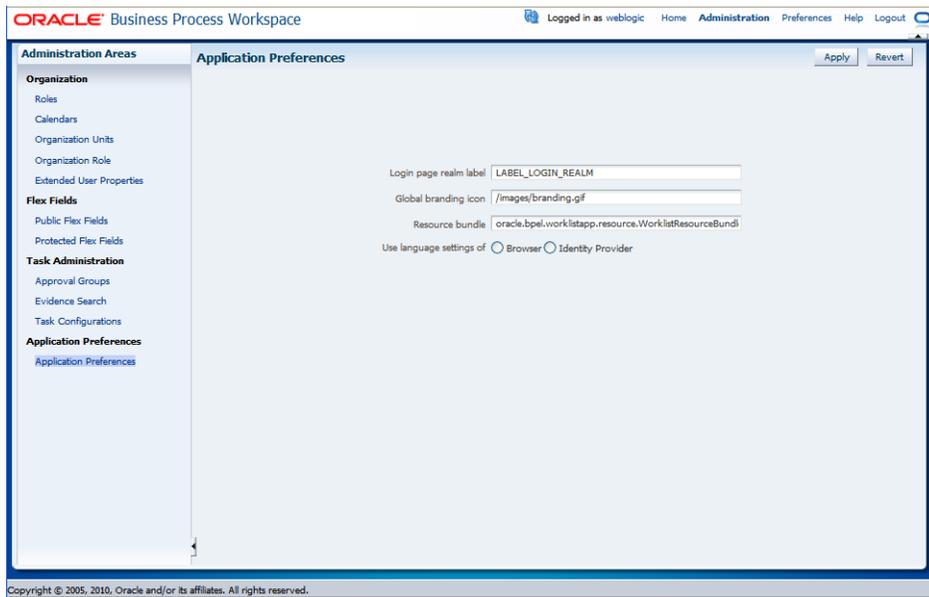■ **Use language settings of**—Select the browser or the identity provider.

The identity provider that stores information about worklist users can store the user's locale, which can determine the worklist display language. Alternatively, the user's browser can supply the locale information. This parameter determines which is used as the source for determining the worklist application display language.

For more information about the display of local languages, see *Oracle Fusion Middleware Developer's Guide for Oracle SOA Suite*.

To specify application preferences:

1. Click **Administration**.

2. Click **Application Preferences**.

3. Specify the login page realm label, branding icon, or resource bundle as described earlier in this section and as shown in Figure 8–1.

Figure 8–1   Setting Application Preferences in Process Workspace

4. Select which language settings you want to use—from the browser or the identity provider.

5. Click **Save**.

8.2 Managing Other Users' or Groups' Rules (as an Administrator) in Process Workspace

Administrators can make changes to rules. This ability is useful for correcting a problem with a rule. For example, for a user who no longer works for the company, administrators can set up a rule for that user so that all tasks assigned to the user are automatically assigned to another user or group.

To create a rule for another user or group:

1. From the Process Workspace toolbar, click **Configuration**.

    From the Configuration panel, in the Rules section, click **Rules**.

2. Click the **Other Rules** tab.

    From this point, follow the instructions in *Oracle Fusion Middleware Developer's Guide for Oracle SOA Suite*.

8.3 Managing Your Organization in Process Workspace

Oracle Business Process Management Suite enables you to model an organization by defining organizational units, business calendars, business holidays, roles, and other user properties.

This section contains these topics:

-   Section 8.3.1, "Understanding Deployment of Organization Entities in Process Workspace"

-   Section 8.3.2, "Managing Holiday Rules in Process Workspace"

-   Section 8.3.3, "Managing Calendar Rules in Process Workspace"

-   Section 8.3.4, "Managing Roles in Process Workspace"

-   Section 8.3.5, "Managing Organization Roles in Process Workspace"

-   Section 8.3.6, "Extending User Properties in Process Workspace"

-   Section 8.3.7, "Managing Organizational Units in Process Workspace"

8.3.1 Understanding Deployment of Organization Entities in Process Workspace

For information about organizational units, see *Oracle Fusion Middleware Modeling and Implementation Guide for Oracle Business Process Management*.

When a process is deployed, the various organization entities—for example, the organizational unit, calendar, and so on—are created. Later, when the process is redeployed, those entities are not modified. After a process is created, modification can happen only through Process Workspace. This is to prevent data in Oracle BPM Studio overwriting what can be changed during run time.

8.3.2 Managing Holiday Rules in Process Workspace

Figure 8–2   Holiday Rules
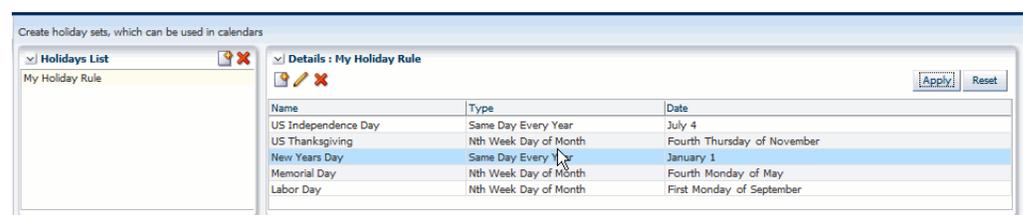
Business holidays are collections of holidays that can be applied to calendar rules. Then, when computing the duration of a process, the calendar takes into account the specified holidays.

You can create as many holiday rules as needed for different calendar rules. For example, if you apply holiday rules for India, the United States, and China to a given calendar, then those various national holidays are taken into account when the duration of a process is computed.

When you create a business holiday rule, you specify the holiday name, date, and holiday type. Table 8–1 lists and describes the holiday types.

Table 8–1   Holiday Types

| Holiday Type	Description
Same Day Every Year	On the same day each year
Current Year	In the current year only
Nth Week Day of Month	In a specified week, on a specified day, in a specified month each year—for example, in the United States, Thanksgiving Day is celebrated each year on the fourth Thursday of November
Nth Day of Reference Holiday	On a day in relation to another specified holiday—for example, on the day after Thanksgiving Day
Closest week day	The closest day to a given date—for example, in the United States, the Independence Day holiday may be celebrated on the weekday closest to the Fourth of July.

To create a holiday rule:

1. From the Process Workspace toolbar, select **Administration**. The Administration Areas panel appears.

2. In the Organization panel, click **Calendars**. The Calendars page appears.

3. In the Holidays List section, click **Add a Holidays List**. The Add a Holidays List dialog prompts you for the name of the new holiday list.

4. Enter the name of the new holidays list and click **OK**. The new holidays list appears in the holidays list.

5. Select the new holidays list. The details for the new list appear in the right pane.

6. In the holiday details section, click **Add a Holiday**. A row appears for you to specify the attributes of the new holiday.

7. Specify the name of the holiday, and the day on which the holiday occurs each year. Options for specifying holiday occurrence are described in Table 8–1.

8. Click **Apply**. The new holiday rule is configured according to your specifications.

To edit a holiday rule:

1. From the Process Workspace toolbar, select **Administration**. The Administration Areas panel appears.

2. In the Organization panel, click **Calendars**. The Calendars panel appears in the right pane.

3. In the Holidays List section, select the holiday rule you want to edit. The details page for the rule appears in the right pane.

4. Change the settings, and click **Apply**. The holiday rule is now modified according to your specifications.

To delete a holiday rule:

1. From the Process Workspace toolbar, select **Administration**. The Administration Areas panel appears.

2. In the Organization panel, click **Calendars**. The Calendars panel appears in the right pane.

3. In the Holidays List section, select the holiday rule you want to delete. The details for the rule appears in the right pane.

4. Click **Delete Holiday Rule**. The holiday rule is now deleted.

8.3.3 Managing Calendar Rules in Process Workspace

Figure 8–3 Calendar Rules
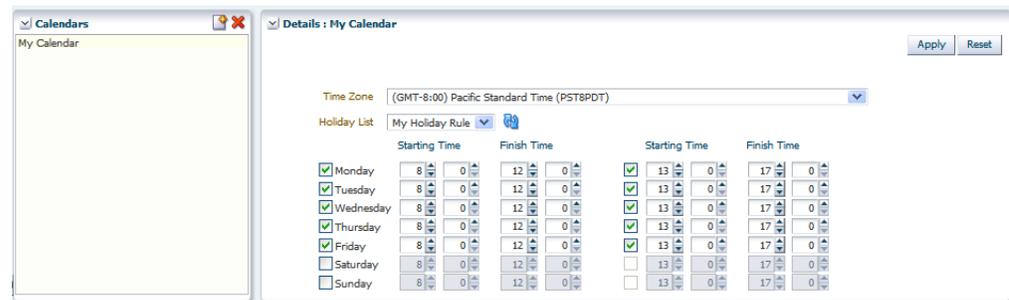
A business calendar defines a work pattern for each day and a work week structure for each week. In addition, a calendar also defines non-working days by using business holiday rules—that is, the business calendar and holiday rule together define the work period.

When you create a business calendar, you define the following:

■ Calendar name

■ Time zone

■ Working days in week

■ Start time and end time for each day

■ Optional holiday rule

You can create as many calendars as necessary.

You can specify a business calendar for a role and organizational unit association. For example, you can specify that the InsuranceAgents role in the US-California organizational unit follows the US-California business calendar.

To create a calendar rule:

1. From the Process Workspace toolbar, select **Administration**. The Administration Areas panel appears.

2. In the Organization panel, click **Calendars**. The Calendars page appears in the right pane.

3. In the Calendars section, click **Add a Calendar Rule**. The Add a Calendar Rule dialog prompts you for the name of the new calendar rule.

4. Enter the name of the new calendar rule, and click **OK**. The new calendar rule appears in the Calendars list.

5. Select the new calendar rule. The details for the new rule appears in the right pane.

6. Specify the following:

   - The time zone

   - The holiday rule, if any, that applies

   - The appropriate starting and finishing times

7. Click **Apply**. The new calendar rule is now configured according to your specifications.

To edit a calendar rule:

1. From the Process Workspace toolbar, select **Administration**. The Administration Areas panel appears.

2. In the Organization panel, click **Calendars**. The Calendars page appears in the right pane.

3. Select the calendar rule you want to edit. The details page for the new rule appears in the right pane.

4. Change the settings, and click **Apply**. The calendar rule is now modified according to your specifications.

To associate a calendar rule with a role and an organization unit:

1. From the Process Workspace toolbar, select **Administration**. The Administration Areas panel appears.

2. In the Organization panel, click **Roles**. The Roles panel displays a list of the roles you are authorized to administer.

3. In the Details panel, in the Calendars section, click **Associate a new calendar rule to an organization unit for the application role**. Calendar and Organization Unit lists appear in the Calendar section.

4. Using Calendar and Organization Unit lists, specify the calendar and organization unit to which you want to associate this role.

5. Click **Apply**.

To associate a calendar with an organization unit:

1. From the Process Workspace toolbar, select **Administration**. The Administration Areas panel appears.

2. Under Organization, click **Organizational Units**. The Organizational Units panel appears.

3. Select the organizational unit with which you want to associate a calendar rule. The details for that organizational unit appear in the right pane.

4. In the Details panel, from the Calendars list, select the calendar to associate with this organizational unit.

5. Click **Apply**.

To delete a calendar rule:

1. From the Process Workspace toolbar, select **Administration**. The Administration Areas panel appears.

2. In the Organization panel, click **Calendars**. The Calendars panel appears in the right pane.

3. In the Calendars section, select the calendar rule you want to delete. The details for the rule appears in the right pane.

4. Click **Delete Calendar**. The calendar is now deleted.

8.3.4 Managing Roles in Process Workspace

Roles are created as application roles under the application OracleBPMProcessRolesApp. There are two types:

- Swimlane roles: Each swimlane role in a BPM process is created during design time in Oracle BPM Studio. It is then mapped to an application role that is created during deployment. This mapping cannot be changed after deployment.

  Members for these application roles can be defined and updated before deployment by using Oracle BPM Studio or after deployment by using Process Workspace.

  In this release, swimlanes define the default task assignee and how to initiate a process if the initiator task pattern is used. During runtime, only members of those roles can perform actions such as viewing and acting on tasks and initiating processes.

- Application roles: These represent any roles in the organization, and they can be created in addition to the swimlane roles defined during design time. An application role can be used as a task assignee or as a grantee of another application role. They can be created by using either Oracle BPM Studio or Process Workspace.

When you create a role, you define both the role name and the grantees of the role. The grantees can be users, groups, or other application roles.

8.3.4.1 How to Add New Application Roles

To add a new application role:

1. From the Process Workspace toolbar, select **Administration**. The Administration Areas panel appears.

2. In the Organization panel, click **Roles**. The Roles panel displays a list of the roles you are authorized to administer.

3. In the upper-right corner of the Roles panel, click **Add a new application role**. The Add Role dialog box appears.

4. Specify a name, and, optionally, a description for the new role. Click **OK**. The new role is now listed in the Roles panel.

5. To grant this role to users, groups or application roles, follow the steps in Section 8.3.4.2, "How to Grant and Revoke Roles".

6. To associate a calendar and its corresponding organizational unit with this new role, in the Calendar section:

    a. Select **Associate a new calendar rule to an organization unit for the application role**.

    b. From the Calendar list, select the calendar you want to associate with this new role.

    c. From the Organization Unit list, select the unit that you want to associate with the calendar you just specified.

Note: When a calendar is associated with an organization unit for a role, this calendar overrides the calendar associated with the calendar page when the particular role is used.

8.3.4.2 How to Grant and Revoke Roles

You can grant roles to, and revoke them from, users, groups, or application roles

To grant a role to a user, group, or application role:

1. From the Process Workspace toolbar, select **Administration**. The Administration Areas panel appears.

2. In the Organization panel, click **Roles**. The Roles panel displays a list of the roles you are authorized to administer.

3. Select a role. The Details panel displays the details for the selected role, as shown in Figure 8–4.

Figure 8–4   Role Details Panel
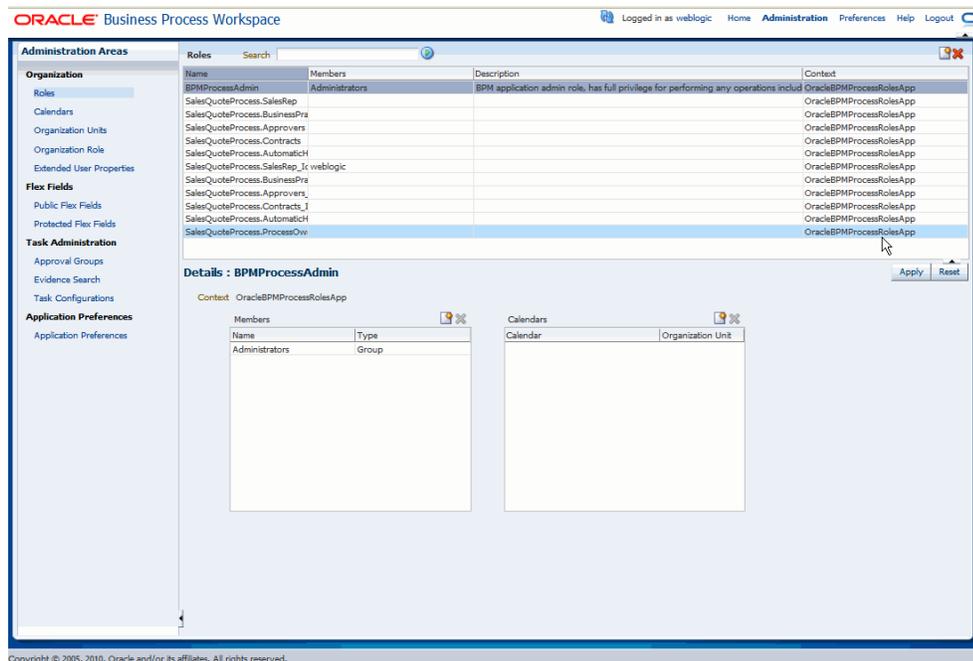
4. In the Members section, click **Grant the role to user, group, or role.**

5. Specify the parameters of your search, click **Search**, then select the user, group, or application role to whom you want to grant this role. The Details section for your selection appears.

6. Click **OK**. The user or group you specified now appears in the Members box.

To revoke a role from a user, group, or application role:

1. From the Process Workspace toolbar, select **Administration**. The Administration Areas panel appears.

2. In the Organization panel, click **Roles**. The Roles panel displays a list of the roles you are authorized to administer.

3. Select a role. The Details panel displays the details for the selected role.

4. In the Members section, click **Revoke the role from user, group, or role.**

5. Click **OK**. The user or group you specified no longer appears in the Members box.

> **Note:**
>
> - Process Workspace caches the user's role information for the duration of the session. As a result, if you are an administrator, and you grant a role to or revoke a role from yourself as the administrator, you will not see the change reflected in the interface until you terminate the session and open a new one. Terminate the session by logging out, then log back in.
>
> - If, during design time, you update a process by removing a member from a role and then re-deploy the process, the member you removed is still listed as a member of that role. This is because permission to remove members from roles is limited to administrators during runtime.

8.3.4.3 How to Create and Manage Role-Specific Views and Layouts

For information about creating a role-specific layout, see Section 5.1, "Creating Custom Pages in Process Workspace"

8.3.5 Managing Organization Roles in Process Workspace

Organization Roles are logical roles that define the members of an organization unit. They are groups of users specified by using a query. These roles are dynamic—for example, all grantees of role InsuranceAgent with expertise in HomeInsurance where expertise is an extended user property.

The query can contain one or more of the following parts:

- Group membership

- Role membership

- Extended user properties

  For information about extended user properties, see Section 8.3.6, "Extending User Properties in Process Workspace".

> **Note:** Deleting an extended user property already in use by an organization role causes an error when administering that role.

An organization role can be a member of organizational unit.

To associate properties to users, you must have a manager role in relation to those users.

Organization roles can be based only on process roles that can be created in the Administration Areas panel in Process Workspace.

You can define several parameters of which some, none, or all can be evaluated and used at run time.

To create an organization role:

1. From the Process Workspace toolbar, click **Administration**. The Administration Areas panel appears in the left pane.

2. Select **Organization Role**. The Organization Role panel appears in the right pane.

3. In the Organization Role panel, click **Create Organization Role**. This opens an editable Details panel.

4. Enter a name for this organization role, and specify the conditions users in this role must meet.

5. From the Grantees list, select either **Groups** or **Application Roles**.

   If you select **Groups**:

   a. Either enter the name of the group in the text field, or click **Select Group** to begin a search. The Select Group dialog box appears.

   b. Specify your search, or use an asterisk (*) as a wildcard, then click **OK**. The group you specified is listed as the grantee of this organization role.

   If you select **Application Role**:

   a. From the **Application Role** list, select the application role you are granting.

   b. If you know the role identifier of the grantee, enter it in the Role Id field. Otherwise, you can use an asterisk (*) as a wildcard.

   c. Click **Search**. The search results appear in the Searched Items panel.

   d. Select a role from the Searched Items list. More detailed information for that role appears in the Details panel.

Figure 8–5   Searching for an Application Role
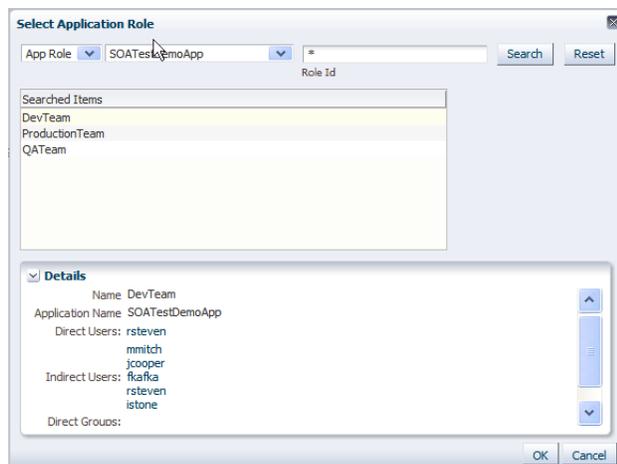
    e. Click **OK**. The role you specified is listed as the grantee of this organization role.

6. Click **Apply**.

To modify an organization role:

1. From the Process Workspace toolbar, click **Administration**. The Administration Areas panel appears in the left pane.

2. Select **Organization Role**. The Organization Role panel appears in the right pane.

3. From the Organization Role panel, select the role you want to modify. The Details panel for that role appears to the right.

4. Enter the new values for the role just as you did when you created the role. See "To create an organization role:" on page 8-10.

5. Click **Apply**.

To delete an organization role:

1. From the Process Workspace toolbar, click **Administration**. The Administration Areas panel appears in the left pane.

2. Select **Organization Role**. The Organization Role panel appears in the right pane.

3. From the Organization Role panel, select the role you want to delete. The Details panel for that role appears to the right.

4. Click **Delete Organization Role** and, when prompted, confirm the deletion.

8.3.6 Extending User Properties in Process Workspace

Extended user properties are used in defining organization roles, which are described in Section 8.3.5, "Managing Organization Roles in Process Workspace.".

Typically, users have some properties specified in Oracle Internet Directory or some other LDAP directory. Often, however, additional properties specific to their organization and roles are necessary. At times, these properties are added on demand when newer business processes are created. At that time, it might not be possible to extend the company's global LDAP directory. In these cases, extended user properties are useful. For example, you can specify that a given user with the sales representative role is located in California. Although, from a functional point of view, there is only one role, the individual user is associated with a property, and that property has a value assigned for that user.

Figure 8–6 shows the Extended User Properties page.

Figure 8–6 Extended User Properties
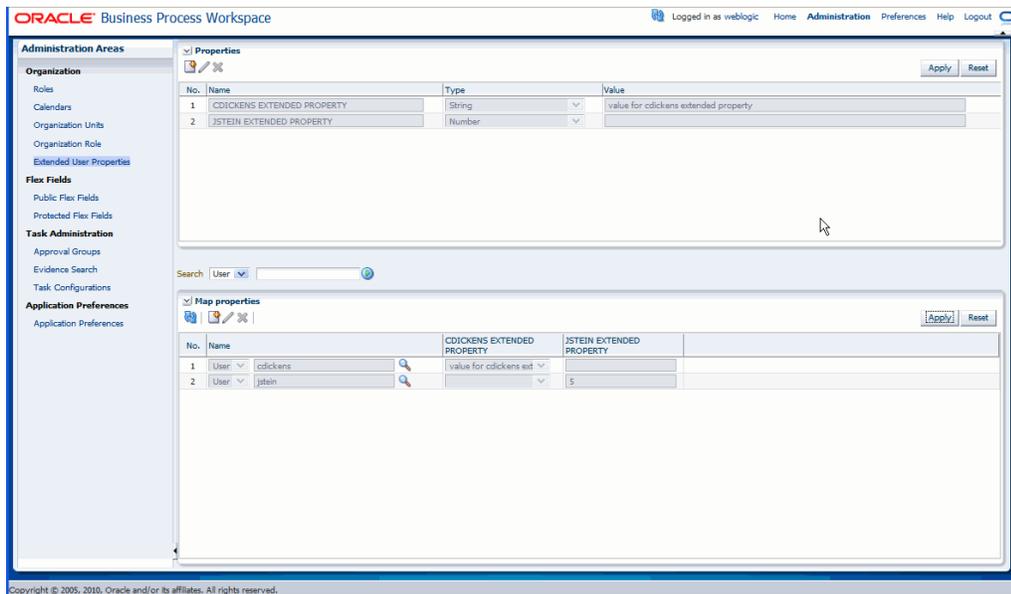
Extended user properties can be assigned to users, groups, or roles.

When you create extended user properties, you define the following:

- Property name

- Property type, which can be of the following data types: string, number, date and free form text. String data types are enumerated values. Free form strings can have any value.

- Enumeration in case of a string data type. Note that only string-typed properties can be assigned values at the time of definition and only those values can be assigned to users when the property is associated with a user.

After properties are defined, they can be associated with any user. During association, values must be assigned to the property for that user

Only users who have Administrator privileges can define new properties.

To add extended user properties:

1. From the Process Workspace toolbar, select **Administration**. The Administration Areas panel appears.

2. In the Organization panel, click **Extended User Properties**. The Extended User Properties page appears in the right pane.

3. In the **Properties** pane, click **Add Property**. Property fields appear in the table.

    An Extended User Property has the following fields:

    - Name—The name can be any user defined string that is meaningful to the user or the company. Case does not matter. The system will convert all names to uppercase.

    - Type—The type field is a drop-down list from which the user must select the data type of the values that the property is expected to hold when it is associated with various users in the organization.

    - Value—The value field is meaningful only when the property is assigned the data type string because only string typed properties can be assigned

enumerations of values. For all other data types (number, date and freeform text) no values can be assigned to the property.

For number, date, and freeform text-typed properties, a value is assigned to the property only when the property is associated to a user and the value assigned can be different for each user.

4. After you specify the property, click **Apply**. A column for this property appears in the Map Properties pane.

To modify extended user properties:

1. From the Process Workspace toolbar, select **Administration**. The Administration Areas panel appears.

2. In the Organization panel, click **Extended User Properties**. The Extended User Properties page appears in the right pane.

3. In the **Properties** pane, select the property you want to edit, then click **Edit Property**. The row for that property becomes editable.

4. Enter your changes, then click **Apply.**

To delete extended user properties:

> **Note:** Deleting an extended user property already in use by an organization role causes an error when administering that role.

1. From the Process Workspace toolbar, select **Administration**. The Administration Areas panel appears.

2. In the Organization panel, click **Extended User Properties**. The Extended User Properties page appears in the right pane.

3. In the Properties pane, select the property you want to delete, then click **Delete Property**. A Confirm Delete dialog box advises you that deleting a property will dissociate this property from and associated user, if any. If you are sure you want to proceed, click **Yes**.

4. In the Properties pane, click **Apply.**

To associate extended user properties to users:

1. To specify the user with whom this property is to be associated, in the Map Properties pane, click **Add User**. The User field appears.

2. Specify the user. You can do this either by entering the user identifier in the field or by clicking **Select User**, and, in the Identity Browser window that appears, performing a search for the user and clicking **OK**.

3. If the property is a string type, then, in the Map Properties pane, from the column for the property, select the property to assign to this user. If the property is a number, enter the appropriate value in the text field.

> **Note:** The **All** check box means that you wish to assign all the values defined on the string property to a particular user. It does not mean that you are assigning all the properties defined in the system to the user. The purpose of the **All** check box must be understood in the context that a user can be assigned multiple values for a string and a freeform text typed property. For string-typed properties the values that you can assign to a user are enumerated at the time of property definition itself and the All checkbox enables you to assign all of them to a user at once. Freeform text-typed properties do not have any values defined on them. To assign multiple values to a freeform text-typed property at the time of associating it to a user, enter the multiple values and separate each value by a comma.

4. After you map the property to the user, in the Map Properties pane, click **Apply**.

8.3.7 Managing Organizational Units in Process Workspace

An organizational unit represents departments or divisions within an organization. Organizational units can contain child organizational units, creating a hierarchy that corresponds to your organization.

When you create an organizational unit, you define the following:

- Organizational unit name
- Time zone
- Members of the organizational unit, which can include users, groups, application roles, or organization roles
- Optional parent organizational unit
- Optional business calendar

When a process is associated with an organizational unit, only members of that organizational unit and its children can see that process and the tasks initiated by it.

> **Note:** A manager is not a member of an organizational unit by default. The manager must be added to the organizational unit in order to see the processes and the tasks within it.

If a process is associated with an organizational unit, then the tasks initiated by the process can use the business calendar associated with the organizational unit. Please see Section 8.3.3, "Managing Calendar Rules in Process Workspace" for more information.

To create an organizational unit:

1. From the Process Workspace toolbar, select **Administration**. The Administration Areas panel appears.

2. Under Organization, click **Organizational Units**. The Organizational Units panel appears.

3. From the **Add Organizational Unit** list, select either **Root Organization Unit** or **Child Organization Unit**. The Create New Org Unit dialog box prompts you for the name of the organizational unit.

4. Enter the name of the organizational unit, and click **OK**. The new organizational unit appears in the Organizational Units list as shown in Figure 8–7.

Figure 8–7   Adding an Organizational Unit
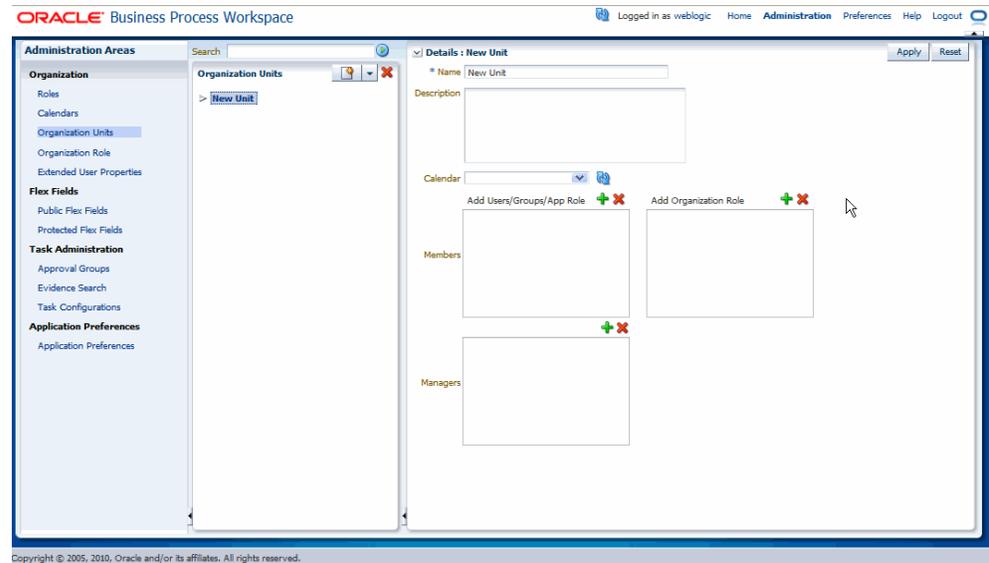
5. In the right pane, in the Details section for the new organizational unit, do the following:

   a. Optionally provide a description of the newly created organizational unit.

   b. From the Calendar list, select a calendar rule to associate with this organizational unit.

   For information about adding a calendar rule, see Section 8.3.3, "Managing Calendar Rules in Process Workspace".

   c. In the Members window, click **Add new member**. The Select Member dialog box prompts you to search for a user or group to add to this organizational unit.

   d. Enter the name of the user or group you want to add, then click **Search**. From the Available column, select one or more members you want to add, and use the arrow button to move them to the Selected column. Click **OK**. The members you added appear in the Members window.

   e. Similarly, in the Managers window, select **Add new member**. The Select Manager dialog box prompts you to search for a user or group to add to this organizational unit.

   f. Enter the name of the manager you want to add, then click **Search**. From the Available column, select one or more managers you want to add, and use the arrow button to move them to the Selected column. Click **OK**. The managers you added appear in the Members window.

6. Click **Apply**.

To edit an organizational unit:

1. From the Process Workspace toolbar, select **Administration**. The Administration Areas panel appears.

2. Under Organization, click **Organizational Units**. The Organizational Units panel appears.

3. In the Organization Units panel, select the organizational unit you want to edit.

Figure 8–8   Organization Units Details Panel
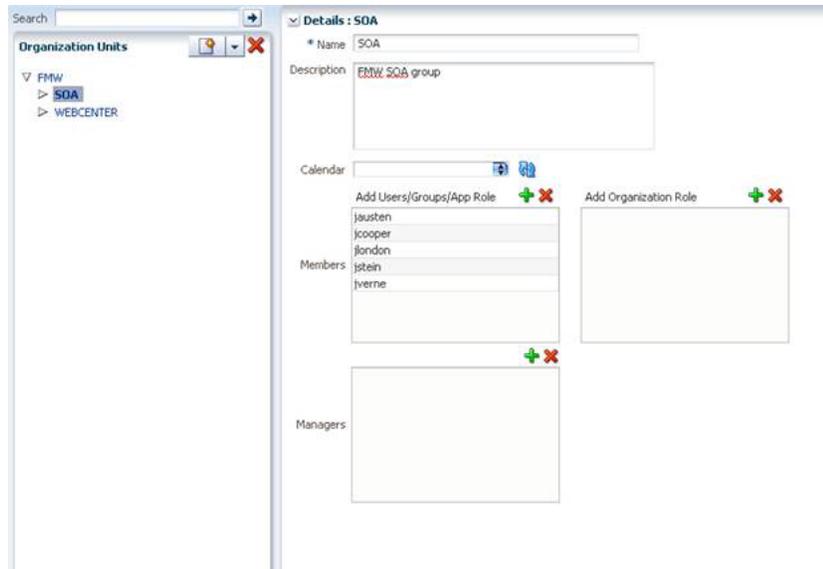
4. In the right pane, in the Details section for the new organizational unit, make the changes you want, then click **Apply**.

To delete an organizational unit:

1. From the Process Workspace toolbar, select **Administration**. The Administration Areas panel appears.

2. Under Organization, click **Organizational Units**. The Organizational Units panel appears.

3. In the Organization Units panel, select the organizational unit you want to delete, and click **Delete Organization Unit**.

8.4 Administering and Configuring Task-Related Information in Process Workspace

This section contains these topics:

- Section 8.4.1, "Managing Mapped Attributes (Flex Fields) in Process Workspace"
- Section 8.4.2, "Administering Approval Groups in Process Workspace"
- Section 8.4.3, "Using Task Configuration in Process Workspace"
- Section 8.4.4, "Using Evidence Search in Process Workspace"
- Section 8.4.5, "Managing Exceptions in Process Workspace"

8.4.1 Managing Mapped Attributes (Flex Fields) in Process Workspace

Human workflow mapped attributes (formerly referred to as flex fields) store and query use case-specific custom attributes. These custom attributes typically come from

the task payload values. Storing custom attributes in mapped attributes provides the following benefits:

- They can be displayed as a column in the task listing
- They can filter tasks in custom views and advanced searches
- They can be used for a keyword-based search

For example the Requester, PurchaseOrderID, and Amount fields in a purchase order request payload of a task can be stored in the mapped attributes. An approver logging into Process Workspace can see these fields as column values in the task list and decide which task to access. The user can define views that filter tasks based on the mapped attributes. For example, a user can create views for purchase order approvals based on different amount ranges. If the user must also retrieve tasks related to a specific requester or a purchase order ID, the user can specify this in the keyword field and perform a search to retrieve the relevant tasks.

For the mapped attributes to be populated, an administrator must create mapped attribute mappings, as follows:

1. Specify a label for the mapped attribute to be populated.

2. Map the payload attribute that contains the data to the label.

These mappings are valid for a certain task type. Therefore, each task type can have different mapped attribute mappings. After the mapping is complete and a new task is initiated, the value of the payload is transferred to the mapped attribute that has just been mapped. Tasks initiated before the mapping do not contain the value in the mapped attribute. Only top-level simple type attributes in the payload can be transferred to a mapped attribute. Complex attributes or simple types nested inside a complex attribute cannot be promoted. It is important to define the payload for a task in the Human Task Editor, keeping in mind which attributes from the payload may must promoted to a mapped attribute. All text and number mapped attributes are automatically included in the keyword-based search.

Essentially, the Human Task Editor is used only when defining the payload for a task. All other operations are performed at runtime.

Directory naming is not available concomitantly with the flex file naming convention.

Note: Mapped attributes must be defined before instances of the business process are generated. Only instances generated after mapped attributes are created reflect the correct mapped attributes. Older instances of the business process do not reflect subsequent mapped attribute changes.

For more information about how to map mapped attributes, see *Oracle Fusion Middleware Developer's Guide for Oracle SOA Suite*.

8.4.1.1 How to Map Mapped Attributes

An administrator, or users with the necessary privileges, can use mapped attribute mapping, shown in Figure 8–9, to transfer data from the payload to inline attribute mapped attributes. By promoting data to mapped attributes, the data becomes searchable and can be displayed as columns on the task list.

Administrators and users with the appropriate privileges can map both public and protected mapped attributes. They see both a **Public Flex Fields** node and a **Protected Flex Fields** node in the **Administration** panel as shown in Figure 8–9.

Figure 8–9   Mapped Attribute Mapping
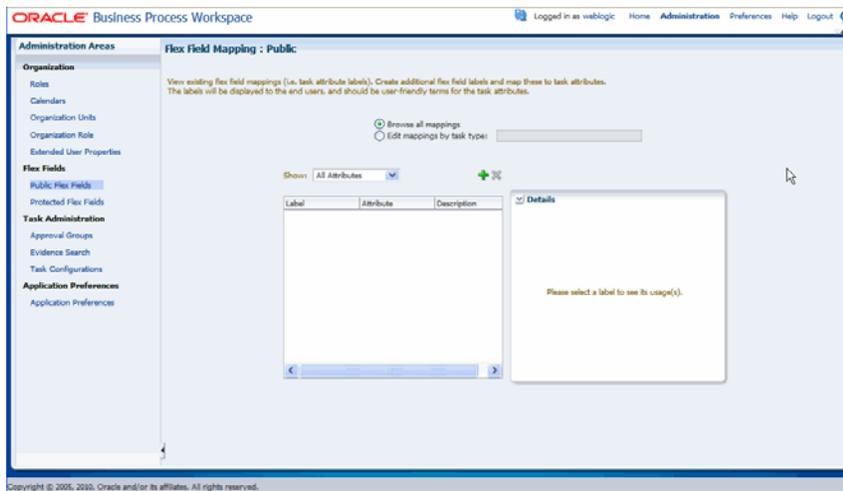
For more information about public and protected mapped attributes, see *Oracle Fusion Middleware Modeling and Implementation Guide for Oracle Business Process Management*.

To create labels:

To create a mapped attribute mapping, an administrator first defines a semantic label, which provides a more meaningful display name for the mapped attribute. Click **Add** to use the Create Label dialog box shown in Figure 8–10.

Figure 8–10   Creating a Label

As the figure shows, **labelName** is mapped to the task attribute **TextAttribute1**. The payload attribute is also mapped to the label. In this example, the **Text** attribute type is associated with **labelName**. The result is that the value of the **Text** attribute is stored in the **TextAttribute3** column, and **labelName** is the column label displayed in the user's task list. Labels can be reused for different task types. You can delete a label only if it is not used in any mappings.

A mapped payload attribute can also be displayed as a column in a custom view and used as a filter condition in both custom views and workflow rules. The display name of the payload attribute is the attribute label that is selected when doing the mapping.

Note the following restrictions:

■   Only simple type payload attributes can be mapped.

■   A mapped attribute (and thus a label) can be used only once per task type.

■   Data type conversion is not supported for the `number` or `date` data types. For example, you cannot map a payload attribute that is assigned the `string` datatype to a label that is assigned the datatype `number`.

To browse all mappings:

1.   Click **Browse all mappings**.

2. Select a row in the label table to display all the payload attributes mapped to a particular label.

To edit mappings by task type:

1. Click **Edit mappings by task type**, optionally provide a task type, and click **Search**.

2. Select a task type and click **OK**.

3. With the task type displayed in the **Edit mappings by task type** field, click **Go**.

4. Select a mapping label and click **Select**.

8.4.2 Administering Approval Groups in Process Workspace

An approval group consists of a name and a predefined set of users configured to act on a task in a certain pattern. This pattern is similar to a human workflow routing slip pattern where users can act on tasks in serial or parallel. An approval group also can contain a nested approval group in the pattern.

The name of an approval group is necessary when specifying the approval group list builder as discussed in *Oracle Fusion Middleware Modeling and Implementation Guide for Oracle Business Process Management*. The pattern configured in the approval group is used by default to order the users who must act on the task. However, when creating the list builder, the default pattern can be overridden by specifying the voting method.

The sections that follow describe the Worklist Application user interface that enables users with administrator rights to manage approval groups.

8.4.2.1 How to View Approval Groups

To view approval groups:

1. From the Process Workspace toolbar, click **Administration**. The Administration Areas panel appears in the left pane.

2. Under Task Administration, click **Approval Groups**. The Groups page appears in the right pane.

3. In the navigation pane of the Approval Groups page, select an approval group. A details page for that approval group appears in the right pane, similar to the one shown in Figure 8–11.

Figure 8–11   Oracle Business Process Management Workspace: Approval Group Detail
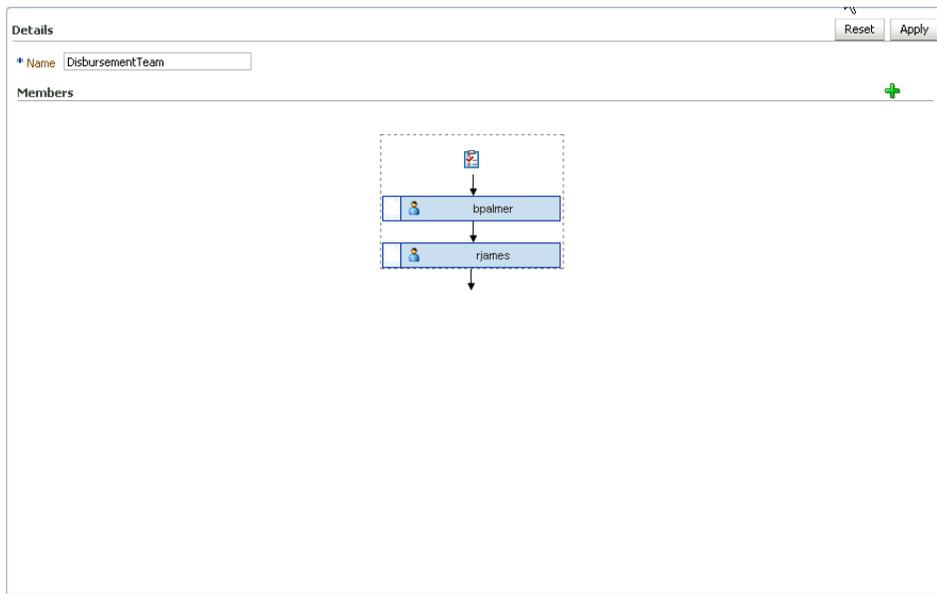
The figure shows that the DisbursementTeam approval group has two users, bpalmer and rjames. The users will act on a task in a specific sequence configuration.

8.4.2.2 How to Search for an Approval Group

You can search for an approval group either by user name or group name.

To search by user name:

1. From the Process Workspace toolbar, click **Administration**. The Administration Areas panel appears in the left pane.

2. Under Task Administration, click **Approval Groups**. The Approval Groups page appears in the right pane.

3. Select **User** from the list.

4. Enter the full user name for the user in the field. (You also can perform a wildcard search (*) with a partial user name.)

5. Click the action (>) button.

   A list of all approval groups to which the user belongs displays in the left pane, as shown in Figure 8–12.

Figure 8–12   User Name Search Results

Clicking the approval group name refreshes the details pane on the right with the structure of that group.

To search by group name:

1. In the left pane, select **Group** from the list.

2. Enter the full group name in the field. (You also can perform a wildcard search (*) with a partial group name.)

3. Click the action (>) button.

    A list of all matching approval groups displays in the left pane.

Clicking on the approval group name refreshes the Details pane on the right with the structure of that group.

8.4.2.3 How to Add a Static Approval Group

To add a static approval group:

1. Click the **Add** (+) button and select **Create Static** from the list, as shown in Figure 8–13.

Figure 8–13   Create Approval Group: Select Static Group
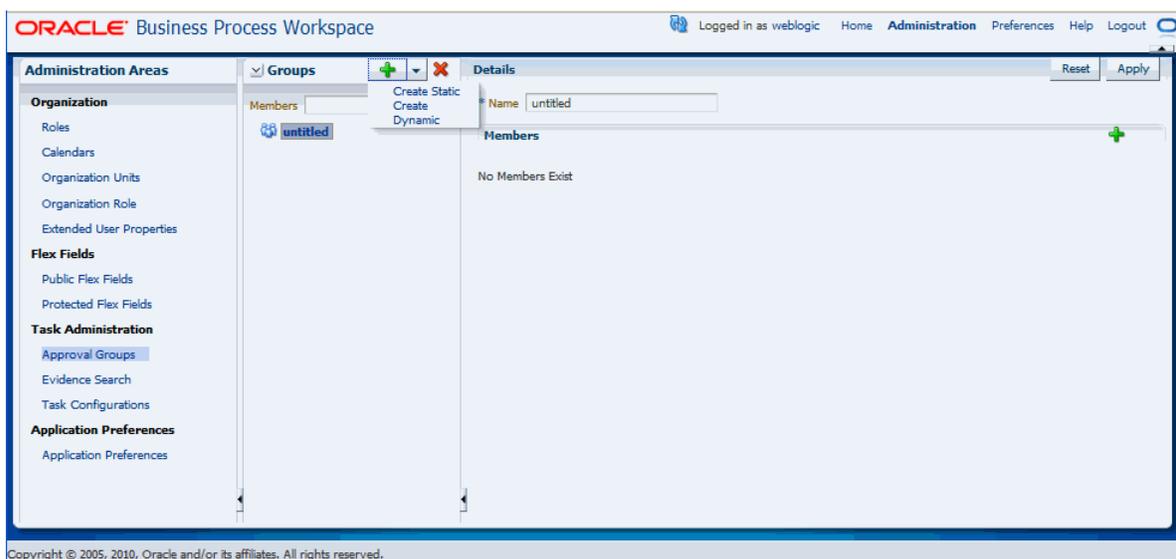
2. Enter a new name for the group.

3. Click **Apply**.

    You can add members to the new approval group.

8.4.2.4 How to Add a New Member to a Static Approval Group

Members of a static approval group can be either users or other approval groups.

To add a new user member to an approval group:

1. From the Details page shown in Figure 8–14, click the **Add** (+) icon.

    The other icons enable you to edit, delete, and reorder members in the approval sequence.

    The Add to Group dialog box appears.

2. Select **User**.

3. Do one of the following:

   ▪ Enter a full user name and click **OK**.

     The dialog box closes and the new member appears in the **Members** section of the **Details** pane.

   ▪ Click the magnifying glass to search for a user.

     If you click the magnifying glass, an Identity Browser pop-up dialog appears.

4. Select **Users** from the list.

5. Enter a full name in the text-entry field and click **Search**. (You also can perform a wildcard search (*) with a partial user name.)

   The Identity Browser dialog refreshes and the search results appear.

6. Choose a user from the list.

   The details for that user appear in the **Details** section of the dialog.

7. Click **OK**.

8. Click **OK** again to close the Add to Group dialog.

   A node representing the selected user appears in the approval group structure in the **Members** section of the **Details** pane.

You can add more members to the approval group by repeating the steps above. The resulting approval group structure will look similar to the one shown in Figure 8–14.

Figure 8–14   Approval Group Structure: Multiple Members
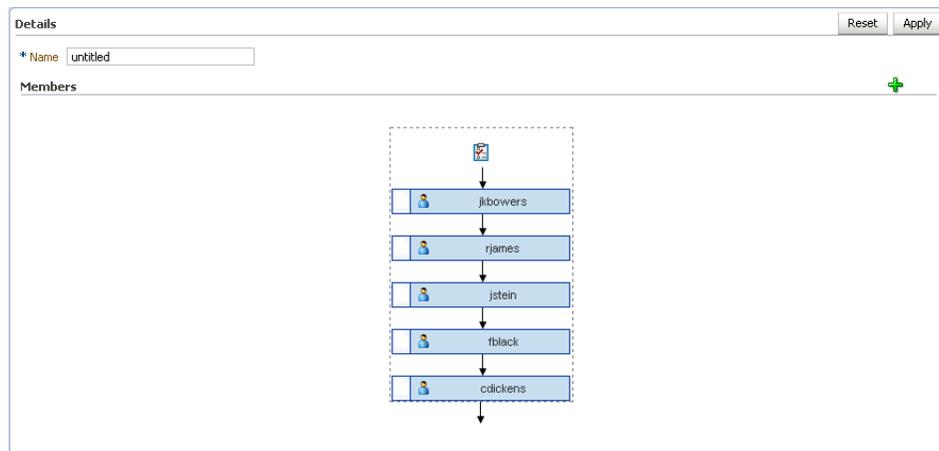
8.4.2.5 How to Delete a Member from an Approval Group

To delete a member from an approval group:

1. Choose the appropriate member node from the approval group structure.

2. Click the **Delete** icon.

   The approval group structure refreshes and the member node has been deleted.

8.4.2.6 How to Move an Approval Group's Members

To change the sequence order of an approval group:

1. Choose a member node to move.

2. Use the Push Member Up (^) and Push Member Down (v) icons to move the member to the desired location.

8.4.2.7 How to Nest Approval Groups

Nesting an approval group means making it part of another approval group.

To nest an approval group:

1. Click the **Add** icon.

2. Select **Approval Group**.

3. Click the magnifying glass.

   Another Add to Group dialog box appears.

4. From the left pane, choose the approval group you want to add.

   Its structure appears in the right pane.

5. Click **OK**.

6. Click **OK** again to close the Add to Group dialog box.

   The new approval group appears in the approval group's structure.

8.4.2.8 How to Rename an Approval Group

To rename an approval group:

1. Enter the new name of the approval group in the **Name** field.

2. Click **Apply**.

The name change is reflected in other approvals groups in which this approval group is nested.

8.4.2.9 Using Dynamic Approval Groups

Dynamic Approval Groups provide a way to create approval groups through a custom Java class at runtime. This requires the following:

- Writing a custom dynamic approval group class for the custom implementation by the developer

- Registering the custom dynamic approval group using the worklist apps UI by the IT department

- Making the class file available in a globally well known directory that is part of the SOA class path

8.4.2.9.1   How to Write a custom Dynamic Approval Group Class To define a dynamic approval group, the user must define an implementation class using the interface file IDynamicApprovalGroup.java, defined by AMX for dynamic approval groups in the package *oracle.bpel.services.workflow.task*. This package contains only one public method that gets the approval group members. The Task object will be the only input parameter. The primary key list can be obtained from the task *task/systemAttributes/collectionTarget*.

Example 8–1 Implementation Class

```
************** IDynamicApprovalGroup.java ******************

public interface IDynamicApprovalGroup {

    /**
        *  Get members of this dynamic approval group
        *  @param task Property bag containing information required to generate
            the approver list
        *  @return list of IApprovalListMember including sequence, member, member_
            type; null for empty group
        *  The primary key list can be obtained from task:
            task/systemAttributes/collectionTarget
        */

    public List getMembers(Task task )
        throws WorkflowException;
}
**********************************************************
```

Figure 8–15 shows a code snippet for a sample dynamic approval group class.

Figure 8–15 Code for Dynamic Approval Group Class

8.4.2.9.2 How to Register the Custom Dynamic Approval Group Class For more information, see *Oracle Fusion Middleware Modeling and Implementation Guide for Oracle Business Process Management*

8.4.2.9.3 How to Make the Custom Dynamic Approval Group Class Available To make the class file available in a globally well-known directory that is part of the SOA class path, put your class files in the following WebLogic Server directory:

```
$BEAHOME/AS11gR1SOA/soa/modules/oracle.soa.ext_11.1.1/classes
```

For example, for the Java class *oracle.apps.DynamicAG*, the path would be `$BEAHOME/AS11gR1SOA/soa/modules/oracle.soa.ext_ 11.1.1/classes/oracle/apps/DynamicAG.class`. You **must** restart WebLogic Server after you put your class files there.

8.4.2.9.4 How to Add a Dynamic Approval Group The following procedure explains how to add a dynamic approval group.

1. In the left pane, click the **Add** (+) button and select **Create Dynamic** from the list

2. Enter a name and a class for the group.

3. Click **Apply** to save the group.

8.4.2.10 How to Delete an Approval Group

To delete an approval group:

1. In the Approval Group page, choose the approval group you want to delete.

2. Click the **Delete** (-) button.

   A confirmation dialog box appears.

3. Click **OK**.

   The approval group is deleted.

> **Note:** If the approval group you deleted is nested in other approval groups, it also is deleted from those parent groups.

8.4.3 Using Task Configuration in Process Workspace

Task Configuration in Process Workspace lets business users and administrators review the rules that were configured automatically by the workflow designer. These predefined rules can be changed for a specific customer based on the customer's applicable corporate policies.

For example, if a corporate policy requiring two levels of approvals for expense amounts greater than 1000 is changed to a policy requiring three levels, the customer can use this web-based application to change the rule rather than having its IT department modify the rule in the underlying process and then deploy it again. Any change made to the rule will be applied starting with the next instance; instances that are already in progress will use the current rule definitions.

Task Configuration enables you to edit the event driven and data-driven rules associated with an approval flow at run time; that is, when the workflow has already been deployed.

To access the **Task Configuration** page:

1. From the Process Workspace toolbar, click **Administration**. The Administration Panel appears in the left pane.

2. In the Administration Panel, under Task Administration, click **Task Configuration**. The Task Configuration page appears in the right pane, as illustrated in Figure 8–16.

Figure 8–16 Task Configuration: Main Page
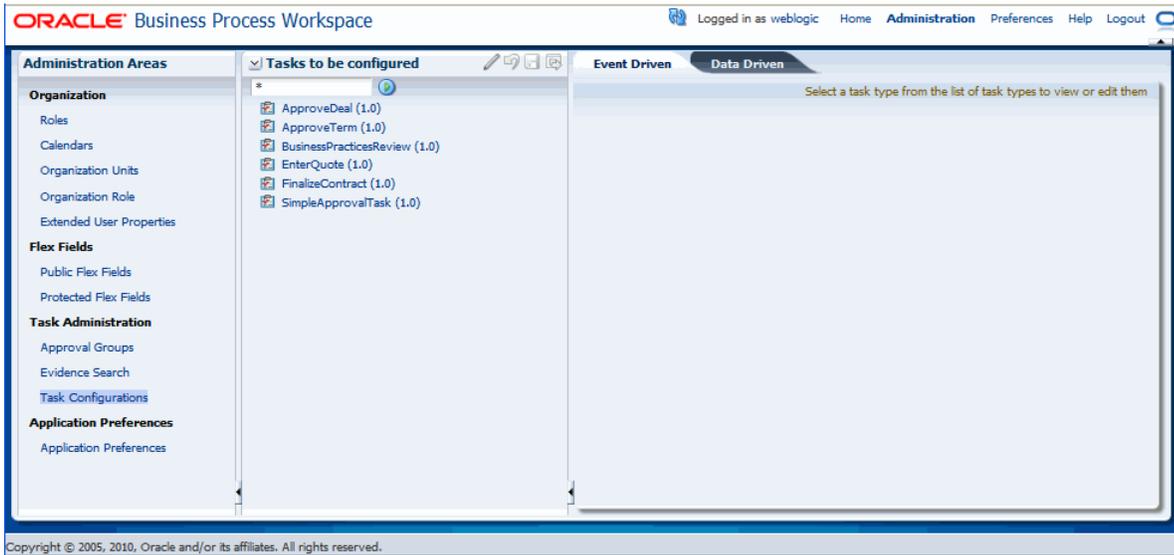
The **Tasks to be configured** section in the right pane lists all workflow tasks that have been configured to use approval-flow rules. It also provides a search capability. In the view mode, the right panel displays the default configuration and rules for overriding the approval-flow list builder configuration. The rule configurations are displayed based on the stages defined in the approval flow.

8.4.3.1 How to Edit Event-Driven Settings

This section contains information about event-driven settings (task metadata).

To edit an event-driven setting:

1. From the Process Workspace toolbar, click **Administration**. The Administration Panel appears in the left pane.

2. In the Administration Panel, under Task Administration, click **Task Configuration**. The Task Configuration page appears in the right pane.

3. In the **Tasks to be configured** pane, select a task. The main page refreshes in edit mode.

4. Make your changes and click **Apply** to save them.

> **Note:** An improper or incomplete rules definition in a list-creation rule set can cause runtime errors. Errors can be caused by the following:
>
> - **No rule was defined in the rule set.**
>
> - **None of the conditions defined in the rule was met.**
>
> Ensure that rules are properly defined to handle all conditions.

8.4.3.1.1 How to Specify Routing Settings The **Event Driven** page contains a limited set of the routing options available in the Human Task Editor.

Approval aggregation requirements can be any of the following:

- None

- Once per task

- Once per stage

8.4.3.1.2 How to Define Expiration and Escalation Policies Defining expiration and escalation policies in Process Workspace is similar to how it is done in the Human Task Editor. For more information, see the section "How to Escalate, Renew, or End the Task" in the chapter "Designing Human Tasks" in *Oracle Fusion Middleware Developer's Guide for Oracle SOA Suite*.

8.4.3.1.3 How to Specify Notification Settings Creating or updating notification settings for a task in Process Workspace is similar to how it is done in the Human Task Editor. For more information, see the section "How to Specify Participant Notification Preferences" in the chapter "Designing Human Tasks" in *Oracle Fusion Middleware Developer's Guide for Oracle SOA Suite*.

8.4.3.1.4 How to Allow Task Access Access-rule settings can be set to control the actions a user can perform and is similar to how it can be done in the Human Task Editor. Content and action permissions can be specified based on the logical role of a user, such as creator (inititator), owner, assignee, and reviewers.

For more information, see *Oracle Fusion Middleware Modeling and Implementation Guide for Oracle Business Process Management*.

8.4.3.2 How to Edit Data-Driven Settings

To edit a data-driven setting (a rule or condition):

1. From the Process Workspace toolbar, click **Administration**. The Administration Panel appears in the left pane.

2. In the Administration Panel, under Task Administration, click **Task Configuration**. The Task Configuration page appears in the right pane.

3. In the Task Configuration page, select the **Data Driven** page.

4. In the **Tasks to be configured** pane, select a task.

   The right panel refreshes in edit mode.

5. Do any of the following:

   - Add

- Update

- Delete

- Change assertions (which depend on the type of list builder for which the rule has been configured)

- Add variables

6. When you have finished making your changes, click **Apply**.

   The changes are saved to the rule definitions in the rules dictionary.

For more information about editing tasks see *Oracle Fusion Middleware Modeling and Implementation Guide for Oracle Business Process Management*.

8.4.3.2.1 How to Add a Variable To add a variable:

1. In the Data Driven page, click **Add variable**.

   The Add Variable window appears.

2. Enter a name for the variable.

3. Click the down arrow to select a variable type from the list.

   The types displayed in the list correspond to those that are available in the rule dictionary (built-in and others that have been registered).

4. Enter a value.

5. Click **OK**.

   The variable can now be used to define conditions.

8.4.3.2.2 How to Define Conditions You can set the left and right sides of a condition by selecting operands from condition browsers. Clicking the magnifying glass icon displays the browsers.

The operator for comparing the operands of the condition will change based on the type of operand selected for the left side of the condition.

You also can define more complex conditions using the Expression Builder.

For more information, see the section "Creating ADF Data Binding EL Expressions" in *Oracle Fusion Middleware Fusion Developer's Guide for Oracle Application Development Framework*. See also the section "Creating EL Expressions" in *Oracle Fusion Middleware Web User Interface Developer's Guide for Oracle Application Development Framework.*

8.4.3.2.3 How to Define Assertions You can specify an assertion by selecting the appropriate rule function from the list.

8.4.4 Using Evidence Search in Process Workspace

The evidence store service is used for digital signature storage and nonrepudiation of digitally signed human tasks.

To search the evidence store:

1. In the Process Workspace toolbar in the upper right corner, click **Administration**. The Administration Areas panel appears in the left pane.

2. In the Administration Areas panel, under Task Administration, select **Evidence Search**. The Evidence Search page appears in the right pane, as shown in Figure 8–17.

Figure 8–17   Searching the Evidence Store
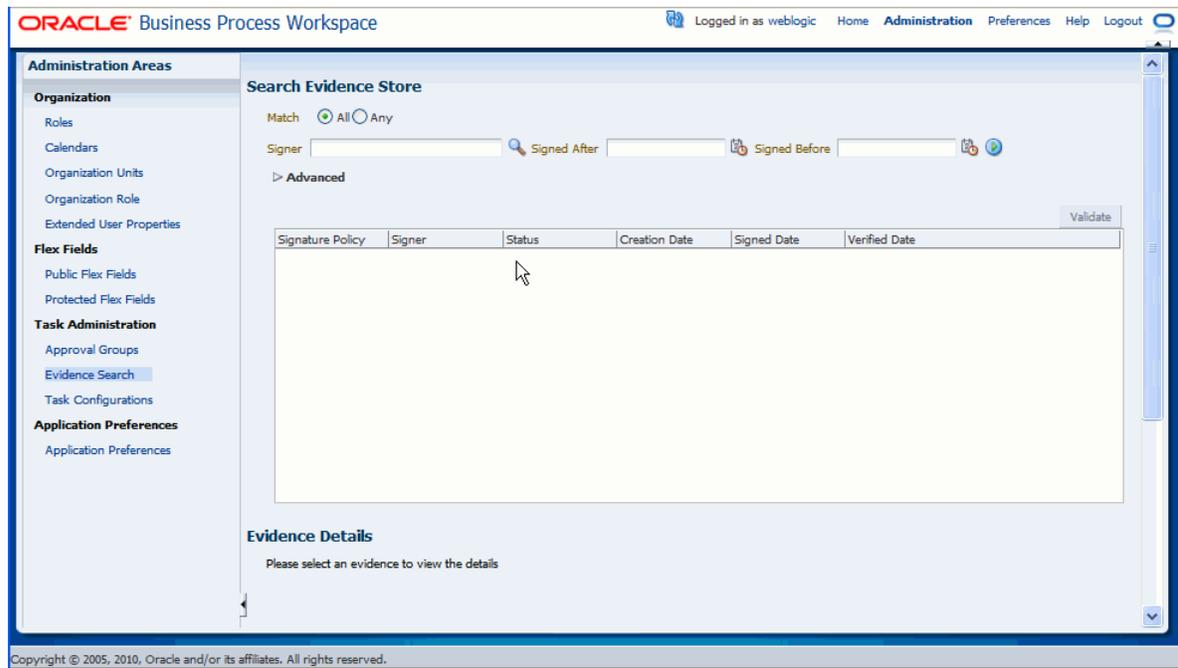
3. Fill in the search fields, then click **Search Evidence Store**.

For information about the evidence store for digital signatures, see *Oracle Fusion Middleware Developer's Guide for Oracle SOA Suite*.

8.4.5 Managing Exceptions in Process Workspace

Under certain circumstances—for example, an employee who has left the company being assigned to a task—an exception can occur. When an exception occurs, the task gets put into an alerted state. The task then gets assigned to the error assignee or, if one is not specified, to the administrator.

For information about configuring the error assignee, see *Oracle Fusion Middleware Developer's Guide for Oracle SOA Suite*.

There are other scenarios in which an exception can happen.

8.5 Moving Oracle BPM from Test to Production

For information about moving Oracle BPM from a test site to a production site, see *Oracle Fusion Middleware Administrator's Guide*.

Part II

Using Oracle Business Process Management Process Spaces

This part contains the following chapters:

9

Getting Started with Process Spaces

To help you get started with Process Spaces, his chapter contains these topics:

- Section 9.1, "Understanding Process Spaces"
- Section 9.2, "Starting and Logging In to Process Spaces"
- Section 9.3, "Navigating Process Spaces"

9.1 Understanding Process Spaces

Process Spaces is a workspace built on top of Oracle WebCenter Spaces. It enables greater collaboration by combining the content from the panels in Process Workspace with an additional workspace in which you can collaborate in the development of process models.

WebCenter provides group spaces that support discrete communities of any size that are organized around an area of interest or a common goal. WebCenter also provides various collaborative services enabling document sharing, discussions, wikis, lists, links, tagging, and real-time collaboration services such as presence and instant messaging.

As a combination of WebCenter and Process Workspace functionalities, Process Spaces provides WebCenter group spaces that are designed specifically for modeling and executing business processes. modeling and execution, Process Spaces also utilizes the collaborative services of WebCenter.

For information about Oracle WebCenter, see *Oracle Fusion Middleware User's Guide for Oracle WebCenter Spaces*.

9.1.1 Oracle WebCenter Group Spaces for Business Process Management

Process Spaces provides these WebCenter group spaces specifically for business process management:

- A process workspace—For process participants to collaborate on relevant processes and instances based on their roles. This enables, for example, a group of sales representatives within a given region to share documents and information about various customers, the products they are buying, their requirements and history.

- A process modeling space—For domain analysts to collaborate on various aspects of modeling business processes. This enables, for example, experts from various departments to jointly develop processes that reflect the needs of their various departments.

- A process instance space—Created on an ad hoc basis for long-running instances, it displays specific instances that require a high level of collaboration over time.

You can customize these group spaces based on functional teams, granting access only to a relevant set of users with the appropriate roles. After you specify these user sets, only the relevant processes are included in the space.

9.2 Starting and Logging In to Process Spaces

To start Process Spaces, you must have installed Oracle SOA Suite and the SOA server must be running. See *Oracle Fusion Middleware Installation Guide for Oracle SOA Suite and Oracle Business Process Management Suite* for more information.

To start and log in to Process Spaces:

1. Go to

   `http://host_name:port_number/webcenter/`

   The `host_name` is the name of the host computer on which Oracle WebCenter is installed.

   The `port_number` is the one used at installation.

2. Enter the user name and password.

   You can use the preseeded user to log in as an administrator. If you have loaded the demonstration user community in the identity store, then you can use other users such as jstein or jcooper.

   The user name and password must exist in the user community provided to JAZN.

3. Click **Login**.

9.3 Navigating Process Spaces

Tabs in Process Spaces are customizable depending on your roles—for example, an administrator can add or remove panels in any given page.

This section contains these topics:

- Section 9.3.1, "About the Process Spaces Process Workspace"
- Section 9.3.2, "The Modeling Space in Process Spaces"
- Section 9.3.3, "The Process Instance Space in Process Spaces"

9.3.1 About the Process Spaces Process Workspace

The Process Spaces Process Workspace includes a Home page and a Process Tracking page.

9.3.1.1 The Process Workspace Home Page

After a user logs in, depending on the user's roles and privileges, the Process Spaces Home page displays the user's tasks and related panels, as shown in Figure 9–1.

Figure 9–1   Process Spaces Home Page
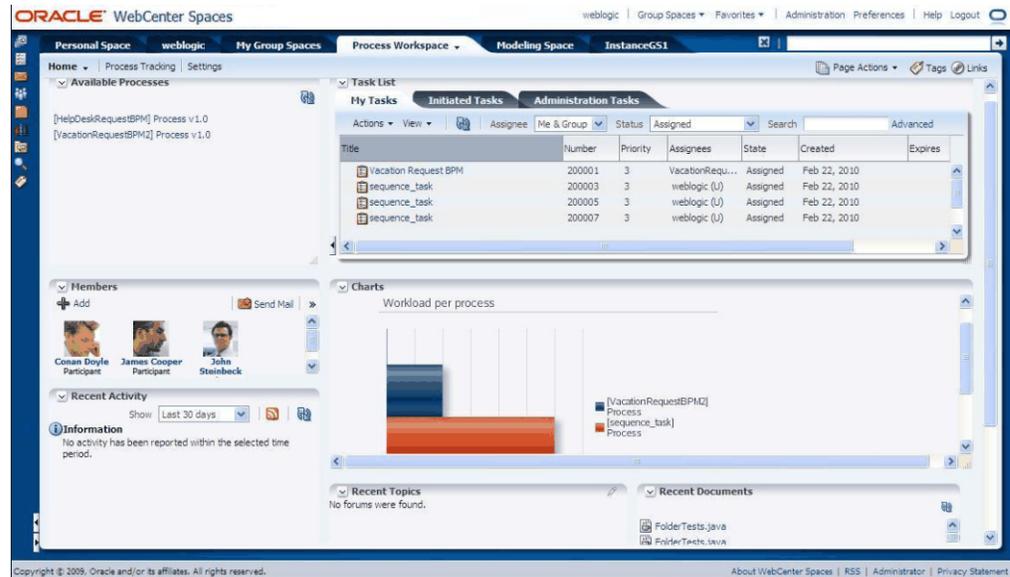
Included in the various panels of the Home page is the Available Processes panel, which displays the processes the user is authorized to execute. The Home page also displays the task inbox and dashboards (charts), and several standard panels of WebCenter.

9.3.1.2 The Process Workspace Process Tracking Page

Selecting the Process Tracking page provides process-related information, as shown in Figure 9–2. Depending on the user's roles and privileges, this page displays the process instance list and various other panels including available processes and dashboards. It also includes a number of standard WebCenter panels.

Figure 9–2   Process Spaces Process Tracking Page
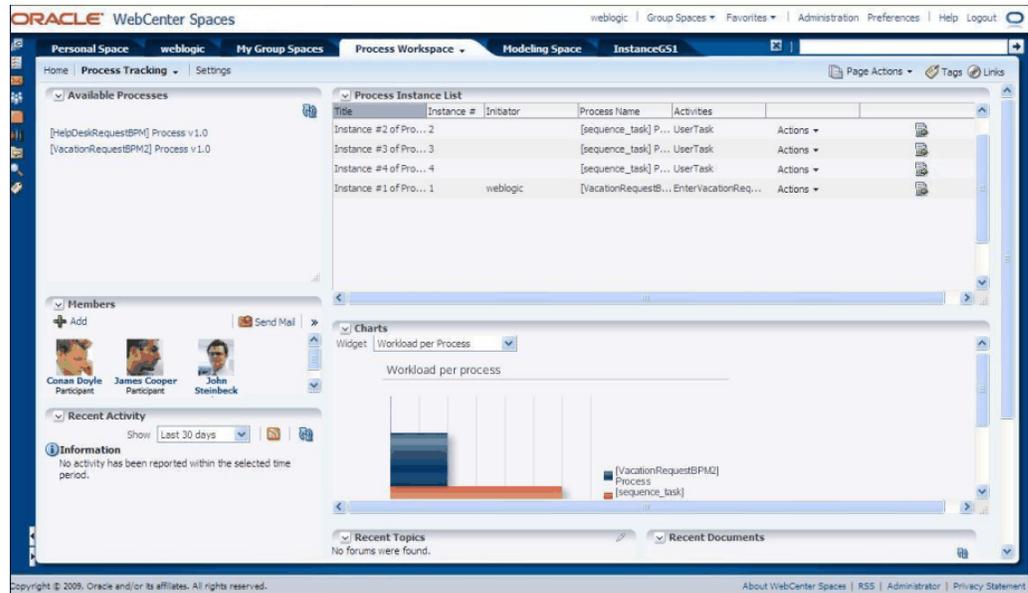
9.3.2 The Modeling Space in Process Spaces

The Process Spaces Modeling Space page enables users to collaborate on process definition. In this page users can, for example, comment on potential bottlenecks of a deployed process and discuss improvements. Figure 9–3 shows a Process Spaces Modeling Space page.

Figure 9–3   Process Spaces Modeling Space Page
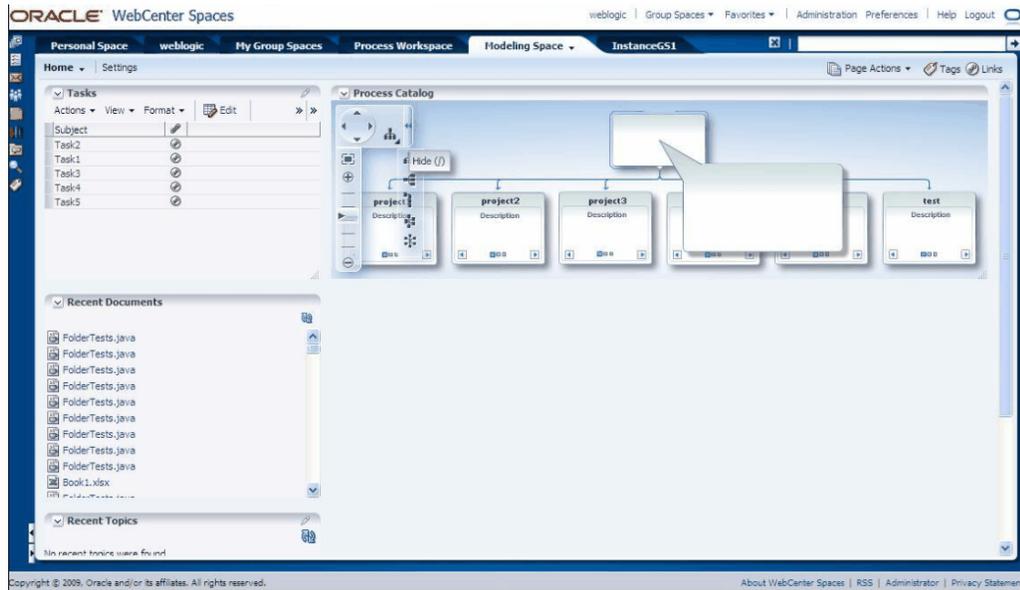
This page includes the Process Catalog, which graphically displays the various processes in the project. Each process is represented by a square. Navigation arrows within a given square enable you to find more information about the process it represents. The page also includes a number of panels that are standard to WebCenter.

9.3.3 The Process Instance Space in Process Spaces

The Process Instance Space allows users to collaborate on a process instance. Usually the process instance space is used for a long-running process instance that involves many ad hoc activities and collaboration.

Figure 9–4 shows a process instance page showing the stakeholders of the process instance, audit trail of the instance, and the process instance calendar.

Figure 9–4   Process Spaces Process Instance Page

10
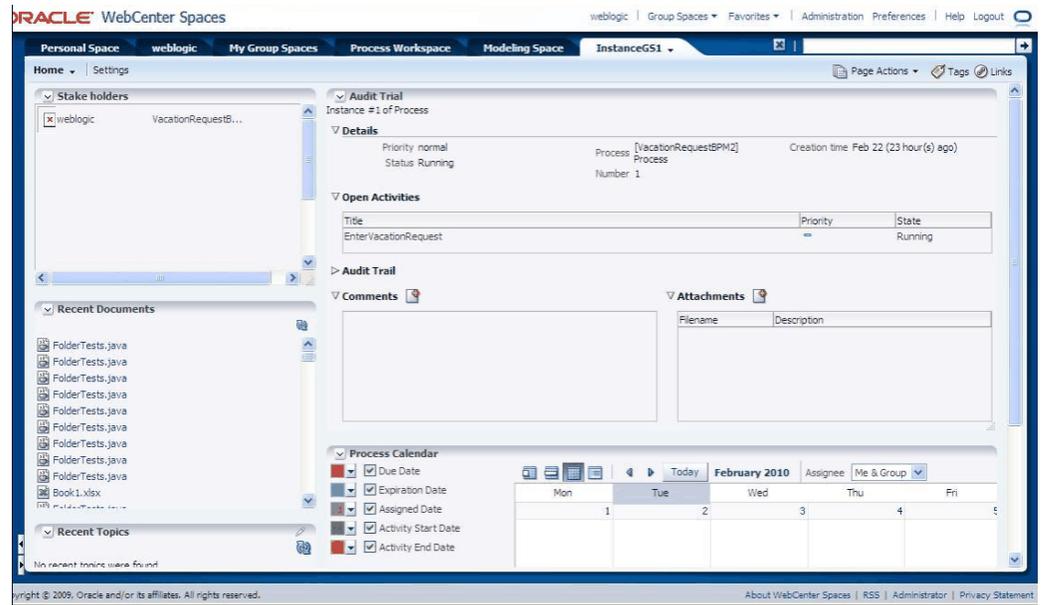
Using and Customizing a Process Workspace in Process Spaces

Because Process Spaces is tightly integrated with both Process Workspace and WebCenter, using and customizing a work space sometimes involves performing tasks that are unique to Process Spaces. At other times, the tasks are performed by using either Process Workspace or WebCenter.

This chapter contains these topics:

- Section 10.1, "The Process Workspace Home Page in Process Spaces"
- Section 10.2, "Acting on Tasks in Process Spaces"
- Section 10.3, "Filtering Tasks in Process Spaces"
- Section 10.4, "Adding Members to Process Spaces"
- Section 10.5, "Adding Documents to Process Spaces"
- Section 10.6, "Participating in Discussions in Process Spaces"
- Section 10.7, "Viewing Recent Activity in Process Spaces"
- Section 10.8, "Initiating a Process Instance in Process Spaces"
- Section 10.9, "Filtering Process Instances in Process Spaces"
- Section 10.10, "Canceling a Process Instance in Process Spaces"
- Section 10.11, "Adding Documents to Process Instances in Process Spaces"
- Section 10.12, "Using and Customizing Dashboards in Process Spaces"
- Section 10.13, "Creating an On-Demand Group Space for an Instance in Process Spaces"
- Section 10.14, "Customizing Process Workspace in Process Spaces"
- Section 10.15, "Subscribing to a Process Workspace Group Space in Process Spaces"

10.1 The Process Workspace Home Page in Process Spaces

Figure 10–1 shows an example of a Process Spaces Home page.

Figure 10–1 Process Spaces Home Page
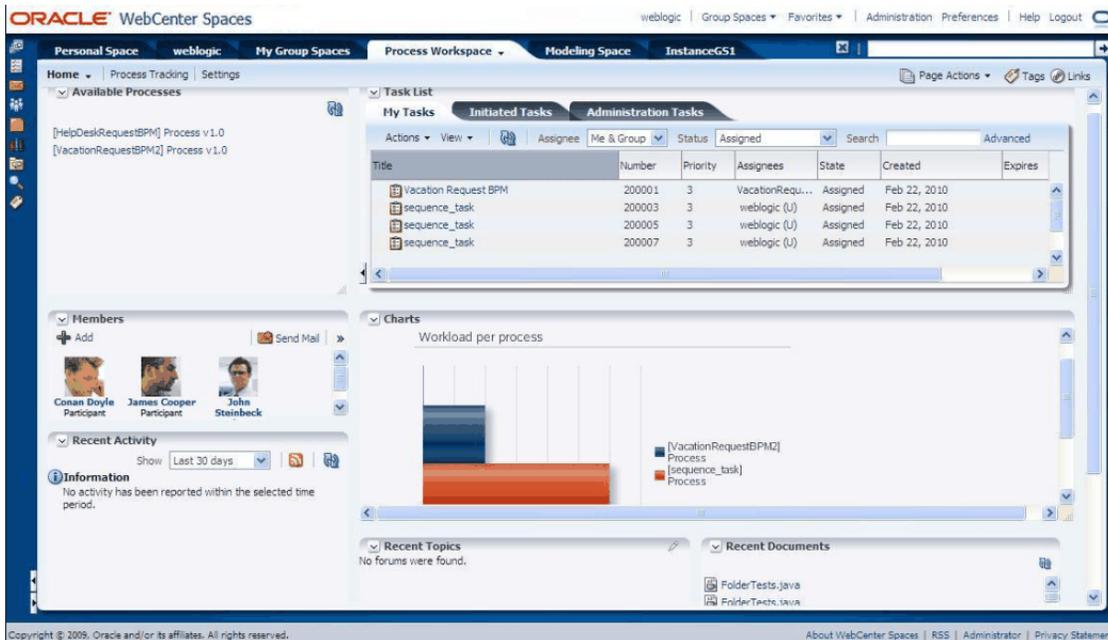
For more information about the Process Workspace Home page in Process Spaces, see Section 9.3.1, "About the Process Spaces Process Workspace."

10.2 Acting on Tasks in Process Spaces

In Process Spaces, you act on tasks by using the Process Workspace panel on the Process Spaces Home page.

For instructions on acting on tasks, see Chapter 3, "Working on Tasks in Process Workspace".

10.3 Filtering Tasks in Process Spaces

In Process Spaces, you filter tasks by using the Process Workspace panel on the Process Spaces Home page.

For instructions about filtering tasks, see Section 3.2.3, "Searching for Tasks in Process Workspace"

10.4 Adding Members to Process Spaces

For information about how to add members to a group space, see *Oracle Fusion Middleware User's Guide for Oracle WebCenter Spaces*.

10.5 Adding Documents to Process Spaces

For instructions about adding documents to Process Workspace, see *Oracle Fusion Middleware User's Guide for Oracle WebCenter Spaces*.

10.6 Participating in Discussions in Process Spaces

For instructions about participating in a discussion, see *Oracle Fusion Middleware User's Guide for Oracle WebCenter Spaces*.

> **Note:** If you have imported a group space and want to create or select a forum, you must do so manually from the services page of the imported group space.
>
> For information about choosing or creating a forum in a group space imported into Oracle WebCenter, see *Oracle Fusion Middleware Administrator's Guide for Oracle WebCenter*.

10.7 Viewing Recent Activity in Process Spaces

For instructions about viewing recent activity, see *Oracle Fusion Middleware User's Guide for Oracle WebCenter Spaces*.

10.8 Initiating a Process Instance in Process Spaces

In Process Spaces, you initiate a process instance by using the Process Workspace portlet on the Process Spaces home page.

For instructions about initiating a process instance, see Section 4.1, "Initiating Process Instances in Process Workspace"

10.9 Filtering Process Instances in Process Spaces

In Process Spaces, you filter process instances by using the Process Workspace portlet on the Process Spaces Home page.

For instructions about filtering process instances, see Section 4.2, "Searching for Process Instances in Process Workspace".

10.10 Canceling a Process Instance in Process Spaces

In Process Spaces, you cancel process instances by using the Process Workspace portlet on the Process Spaces Home page.

For instructions about canceling a process instance, see Section 4.6, "Canceling a Process Instance in Process Workspace".

10.11 Adding Documents to Process Instances in Process Spaces

A process instance group space is configured with the document service that Oracle WebCenter offers. The widget added to this group space enables you to add and remove documents within the group space folder.

> **Note:** Note that these documents are different from the ones attached to the process instance itself. The documents added in Process Spaces are generally collaboration documents and have no significance after the process is completed.

For instructions about adding documents to process instances in Process Spaces, see *Oracle Fusion Middleware User's Guide for Oracle WebCenter Spaces*.

10.12 Using and Customizing Dashboards in Process Spaces

For instructions about using and customizing dashboards in Process Spaces, see Chapter 6, "Using Dashboards in Process Workspace".

10.13 Creating an On-Demand Group Space for an Instance in Process Spaces

Process instances that typically run for a long time may require a dedicated collaboration space. To create a dedicated collaboration space, in either the task list or the process instance list, at the end of the row for the process instance, click **Launch Process Instance Space**. A page appears with the new process instance group space. Here, you can perform activities specific to that instance.

10.14 Customizing Process Workspace in Process Spaces

To enable collaboration on a specific set of processes, you can create a new group space by using the Process Workspace template. This creates a new group space that is a replica of the default Process Workspace.

The default Process Workspace can also be customized just like any group space.

To create a customized default group space from the Process Workspace template, customize and then save the template. To customize the template, first create a group space from it, then customize, save, and publish it as Process Workspace Template.

For information about customizing group space pages, see *Oracle Fusion Middleware User's Guide for Oracle WebCenter Spaces*.

10.15 Subscribing to a Process Workspace Group Space in Process Spaces

When Oracle Business Process Management Process Spaces is installed, users are not granted access to Process Workspace by default. To access the Process Workspace group space, the user logs in to Process Workspace and performs a search for discoverable spaces. From the search results, the user selects a Process Workspace and is asked to choose a role. Available roles are: Viewer, Participant, and Moderator.

The Participant and Viewer roles can be self-subscribed—that is, when the user chooses the role, the user is granted that role automatically. When the user chooses the Moderator role, that request is submitted to the administrator for approval.

11

Using and Customizing a Process Modeling Space in Process Spaces

This chapter discusses modeling spaces, those group spaces that enable business analysts to collaborate in developing process models. It also explains how to use Process Spaces to customize your own modeling space.

This chapter contains these topics:

11.1 About Modeling Spaces in Process Spaces

A modeling space enables business analysts to collaborate on process models. This collaboration includes these activities:

- Browsing published projects by using the Process Catalog—The Process Catalog shows all published processes. When you find and double-click a specific process, it opens in Business Process Composer. From there you can collaborate with process developers and designers to edit the processes.

   > **Note:** If you browse the Process Catalog, and Single Sign-on is not set up, then you are prompted for the necessary credentials before being taken to Composer.

- Adding tasks by using Oracle WebCenter—To track the progress of projects being developed, you can add tasks.

   For information about adding tasks, see *Oracle Fusion Middleware User's Guide for Oracle WebCenter Spaces*

- Add documents by using Oracle WebCenter—Use this Oracle WebCenter feature when collaborating on process models.

For information about adding documents, see *Oracle Fusion Middleware User's Guide for Oracle WebCenter Spaces*.

11.2 The Process Modeling Space Page

Figure 11–1 shows an example of a Process Spaces Modeling Space page.

Figure 11–1   Process Spaces Modeling Space Page
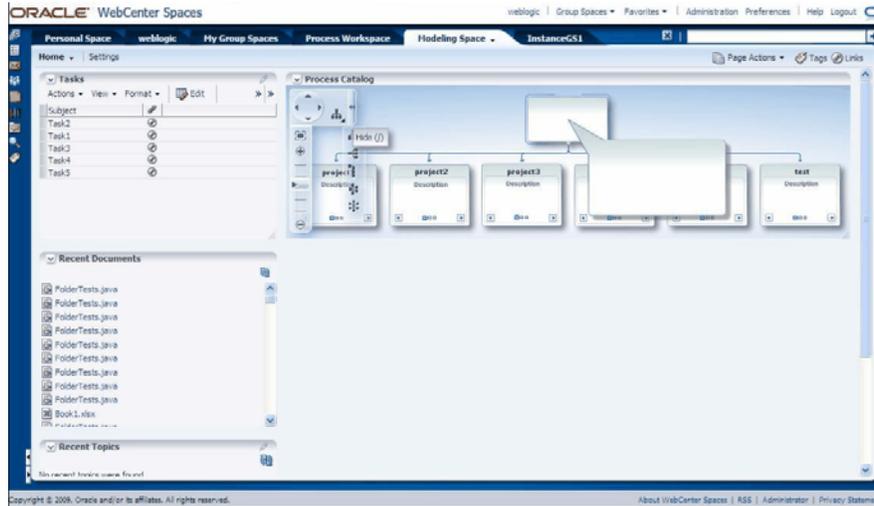
Table 11–1   Process Spaces Modeling Spaces Panels

Panel	Description
Tasks	Enables you to track the progress of projects being developed
Recent Documents	Lists the most recently created or modified files in the root folder of the active content repository connection to the page
Recent Topics	Lists recent discussion topics, popular topics, watched topics, and watched forums
Process Catalog	Enables you to browse the various projects. When you find and double-click a specific project, the selected project opens in Business Process Composer.

11.3 Customizing a Process Modeling Space in Process Spaces

To enable collaboration on a specific set of processes, you can create a new group space by using the Process Modeling template. This creates a new group space that is a replica of the default modeling space.

The default Process Modeling Space can also be customized just like any group space.

To create a customized default group space from the Process Modeling template, customize and then save the template. To customize the template, first create a group space from it, then customize, save, and publish it as Process Modeling Template.

For information about customizing group space pages, see *Oracle Fusion Middleware User's Guide for Oracle WebCenter Spaces*.

11.4 Adding Members to the Modeling Space in Process Spaces

For information about adding members to a modeling space, see *Oracle Fusion Middleware User's Guide for Oracle WebCenter Spaces*.

11.5 Adding Documents to the Modeling Space in Process Spaces

For information about adding documents to the modeling space, see *Oracle Fusion Middleware User's Guide for Oracle WebCenter Spaces*.

11.6 Participating in Modeling Space Discussions in Process Spaces

For information about participating in modeling space discussions, see *Oracle Fusion Middleware User's Guide for Oracle WebCenter Spaces*.

11.7 Subscribing to a Modeling Space in Process Spaces

For information about subscribing to a modeling space, see *Oracle Fusion Middleware User's Guide for Oracle WebCenter Spaces*.

12

Using and Customizing a Process Instance Space in Process Spaces

A process instance space is created on an ad hoc basis for long-running instances. It displays specific instances that require a high level of collaboration over time. This chapter tells you how to create, manage, and customize a process instance space for collaborating on long-running instances.

Because Process Spaces is tightly integrated with both Process Workspace and WebCenter, using and customizing a work space sometimes involves performing tasks that are unique to Process Spaces. At other times, the tasks are performed by using either Process Workspace or WebCenter.

This chapter contains these topics:

- Section 12.1, "The Process Instance Space in Process Spaces"
- Section 12.2, "Adding Comments and Attachments to a Process Instance in Process Spaces"
- Section 12.3, "Tracking a Process Instance in Process Spaces"
- Section 12.4, "Creating a Calendar for a Process Instance in Process Spaces"
- Section 12.5, "Adding a Document to a Process Instance Space in Process Spaces"
- Section 12.6, "Participating in a Discussion in a Process Instance Space in Process Spaces"
- Section 12.7, "Customizing a Process Instance Space in Process Spaces"

12.1 The Process Instance Space in Process Spaces

Figure 12–1 shows an example of a process instance space.

Figure 12–1   Process Spaces Process Instance Page
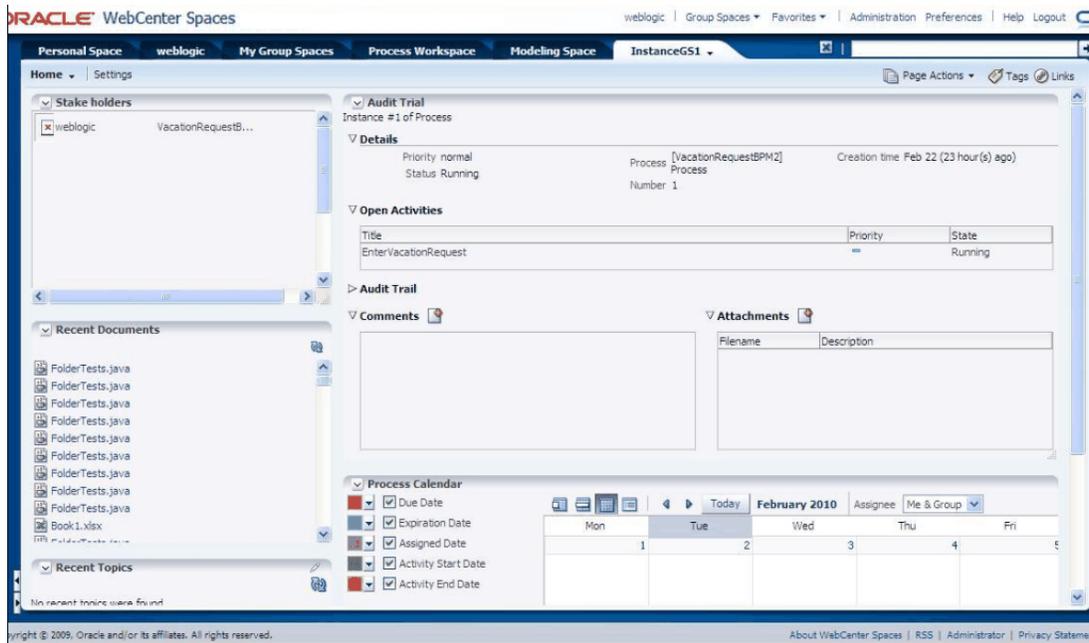
Table 12–1 describes the elements in the process instance page shown in Figure 12–1.

Table 12–1   Panels in the Process Instance Space

Panel	Description
Stakeholders	Lists any user who has acted on the process, including the initiator
Recent Documents	Lists the most recently created or modified files in the entire root folder of the active content repository connection to the page
Recent Topics	Lists recent discussion topics, popular topics, watched topics, and watched forums
Audit Trail	Shows the details for this instance including any open instances. Enables you to add comments and attachments.
Process Calendar	Shows different dates associated with a process—for example: activity start date, activity end date, and human task dates such as assigned date, expiration date, and due date.

12.2 Adding Comments and Attachments to a Process Instance in Process Spaces

In Process Spaces, you add comments and attachments to a process instance by using the Process Workspace portlet on the Process Spaces home page.

For instructions on adding comments and attachments to a process instance, see Section 4.4, "Associating Comments and Attachments with a Process Instance in Process Workspace".

12.3 Tracking a Process Instance in Process Spaces

In Process Spaces, you a track a process instance by using the Process Workspace portlet on the Process Spaces Home page.

For instructions about tracking a process instance, see Section 4.3, "Viewing the Details of a Process Instance in Process Workspace".

12.4 Creating a Calendar for a Process Instance in Process Spaces

If you are an administrator or a user with permissions to edit the group space, you can add a calendar taskflow. This taskflow shows different activities—for example, assigned date, expiration date, due date for a task, activity start date, and activity end date for the process instance.

> **Note:** Do not confuse this calendar with the one in Process Workspace. At the moment, you cannot create a calendar for an organizational unit in Process Spaces.

12.5 Adding a Document to a Process Instance Space in Process Spaces

For instructions about adding documents to a process instance space, see *Oracle Fusion Middleware User's Guide for Oracle WebCenter Spaces*.

12.6 Participating in a Discussion in a Process Instance Space in Process Spaces

For instructions about participating in discussion, see *Oracle Fusion Middleware User's Guide for Oracle WebCenter Spaces*.

> **Note:** If you have imported a group space and want to create or select a forum, you must do so manually from the services page of the imported group space.
>
> For information about choosing or creating a forum in a group space imported into Oracle WebCenter, see *Oracle Fusion Middleware Administrator's Guide for Oracle WebCenter*.

12.7 Customizing a Process Instance Space in Process Spaces

Like other templates, the process instance template can be customized. Unlike other templates, the process instance template cannot be used to create other group spaces manually. It is used by the system to create a group space that is connected to a specific process instance.

The created group space can be customized just like any other Oracle WebCenter group space. However, because there is instance-specific data—namely, a process instance identifier link—you should not modify the group space attribute that is added as part of its creation.

13

Performing Administration in Process Spaces

This chapter discusses what you need to know as an administrator of Process Spaces.

This chapter contains these topics:

- Section 13.1, "Understanding Roles and Permissions in Process Spaces"
- Section 13.2, "Understanding Task Flows in Process Spaces"
- Section 13.3, "Editing Pages in Process Spaces"
- Section 13.4, "Configuring a Group Space in Process Spaces"

13.1 Understanding Roles and Permissions in Process Spaces

Both Oracle WebCenter and Oracle Business Process Management Process Spaces use an identity store, each with a different set of application roles. Process Spaces group spaces come with default WebCenter roles—for example: moderator, participant viewer, and public user. However, an administrator can create more roles and provide appropriate permissions to them.

For more information about creating roles and providing permissions, see *Oracle Fusion Middleware User's Guide for Oracle WebCenter Spaces*.

13.2 Understanding Task Flows in Process Spaces

Task flows in Process Spaces display the same information available in Process Workspace. These are reusable components that have been consumed in Oracle WebCenter so they can be used in Process Spaces.

For more information about the various task flows and their parameters, see Appendix A, "Creating Custom ADF Applications with Oracle Business Process Management Workspace Task Flows."

13.3 Editing Pages in Process Spaces

To use Process Spaces specific group spaces and templates, use the BPM Process Spaces Catalog. The BPM Process Spaces Catalog includes all the resources from the default group space catalog.

If you have upgraded from an earlier release and you want to edit the existing Process Spaces group space, you can either change the settings to use BPM Process Spaces Catalog for the particular group space or change the settings globally so that all group spaces in the application use the BPM Process Spaces Catalog.

For information about how to use a resource catalog, see *Oracle Fusion Middleware User's Guide for Oracle WebCenter Spaces*.

BPM Process Spaces Catalog includes the following folders:

- Process Work Space Resources

    - Available processes: All available processes that a logged-in user can instantiate

    - Charts: Charts that show various statistics

    - Process instance list: All process instances a user can access

    - Task list: List of tasks that user has to act upon

- Process Instance Space Resources

    - Audit trail: Audit trail of a given instance in tabular and graphical forms

    - Process calendar: Calendar that shows various important dates for a given process instance. Also capable of showing dates for all process instances of a user in context.

    - Stake holders: List of stake holders for a given instance.

- Process Modeling Space Resources

    - Process catalog: Process catalog viewer that shows all published processes.

While there are no restrictions about using these task flows, they are grouped based on the group spaces to which they belong. However when a custom group space is created, you can mix and match the task flow.

For task flows to function correctly, you must pass the appropriate parameters to them. For configuring task flow parameters, see the Oracle WebCenter documentation

For information about each task flow, see Appendix A, "Creating Custom ADF Applications with Oracle Business Process Management Workspace Task Flows."

You edit a page just as you would any other group space page. For more information, see *Oracle Fusion Middleware User's Guide for Oracle WebCenter Spaces*.

Each group space has a settings page for administering the group space. Process Workspace settings are configured to enable self-subscription for users. You can change these settings as needed. The rest of the default group space settings are similar to any other group space.

13.4 Configuring a Group Space in Process Spaces

For information about configuring a group space, see Section 13.3, "Editing Pages in Process Spaces".

A

Creating Custom ADF Applications with Oracle Business Process Management Workspace Task Flows

Different features available in Process Workspace are exposed as standalone reusable components, called task flows. You can embed task flows in any Oracle Application Development Framework (ADF) application. These standalone task flows provide many parameters that enable you to build customized applications.

All the task flows are bundled in an ADF library that you can include in the application in which you are embedding.

This appendix provides basic information about the features in each task flow. Later, in Section A.5, "Samples: Customizing ADF Applications with Oracle Business Process Management Workspace Task Flows," a sample task flow using TaskListTaskFlow shows detailed steps for embedding the task flow in the application as well as customizing, deploying, and running it.

For descriptions of the various task flows, see *Oracle Fusion Middleware Modeling and Implementation Guide for Oracle Business Process Management*.

This appendix covers the following topics:

- Section A.1, "User-Related Task Flows"

- Section A.2, "Process Task Flows"

- Section A.3, "Process Analytics Task Flows"

- Section A.4, ".JAR files for the Task Flows"

- Section A.5, "Samples: Customizing ADF Applications with Oracle Business Process Management Workspace Task Flows"

- Section A.6, "Sample: Wf_client_config.xml File"

- Section A.7, "Sample: Bean with the Method Returning the WorkflowServicesClientConfigurationType Object"

> **Note:** This appendix assumes that you are familiar with both Oracle Application Development Framework and security.

A.1 User-Related Task Flows

This section contains these topics:

- Section A.1.1, "Task List Task Flow"

- [Section A.1.2, "Certificates Task Flow"](#)

- [Section A.1.3, "Reports Task Flow"](#)

- [Section A.1.4, "Application Preferences Task Flow"](#)

- [Section A.1.5, "Flex Fields Task Flow"](#)

- [Section A.1.6, "Rules Task Flow"](#)

A.1.1 Task List Task Flow

The task flow takes in the parameters to control how the embedded region displays. This section discusses the following parameters:

- [Section A.1.1.1, "federatedMode"](#)

- [Section A.1.1.2, "federatedServers"](#)

- [Section A.1.1.3, "showServerColumn"](#)

- [Section A.1.1.4, "wfCtxID"](#)

For the full list of parameters, see *Oracle Fusion Middleware Modeling and Implementation Guide for Oracle Business Process Management*.

Figure A–1 Process Workspace Tasks Page
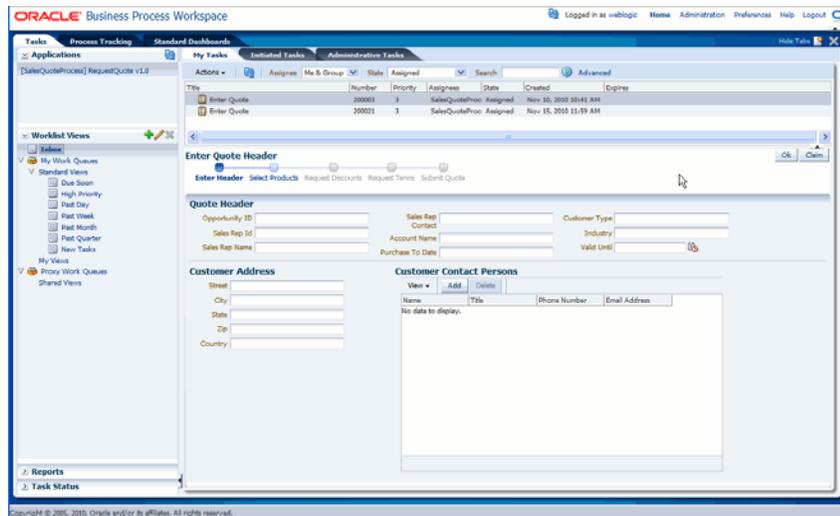
A.1.1.1 federatedMode

If you set this parameter to true, then the task list is shown in the federated mode. For the task flow to run in federated mode, you must pass the list of federated servers to the task flow. For instructions about how to pass a list of federated servers to the task flow, see [Section A.1.1.2, "federatedServers"](#).

A.1.1.2 federatedServers

To pass the federated servers list to the task flow, do one of the following:

- Provide the client configuration file, `wf_client_config.xml`, in the class path The class path is either `APP-INF\classes\wf_client_config.xml` at the ear level or the `WEB-INF\classes` of the web application. The client configuration file contains all federated server details.

For a sample `.wf_client_config.xml` file, see Section A.6, "Sample: Wf_client_config.xml File".

- Construct a JAXB object that contains the federated servers list. This JAXB object can be passed to the task flow through the federatedServers parameter. The object should be returned by a backing bean method.

  For a sample bean with the method returning the WorkflowServicesClientConfigurationType object, see Section A.7, "Sample: Bean with the Method Returning the WorkflowServicesClientConfigurationType Object"

If you provide both the client configuration file `wf_client_config.xml` and the JAXB object to the task flow, the JAXB object takes precedence.

A.1.1.3 showServerColumn

If the task flow is run in federated mode, the server column in the task list is not shown by default. To show the server column in the task list, this parameter must be passed as "true".

A.1.1.4 wfCtxID

This is a workflow context token string. It is used to create workflow context inside the task flow.

> **Note:** If the application is SSO-enabled or is secured using ADF security, this parameter is not required. Otherwise, this parameter is required.

To get the workflow context identifier:

Run the following:

```
IWorkflowContext wfCtx =
wfSvcClient.getTaskQueryService().authenticate(username,

password,

realm,

null);

wfCtxID = wfCtx.getToken();
```

A.1.2 Certificates Task Flow

A digital certificate contains the digital signature of the certificate authority so that anyone can verify that the certificate is real. A digital certificate establishes the participant's credentials. It is issued by a certification authority. It contains your name, a serial number, expiration dates, a copy of the certificate holder's public key (used for encrypting messages and digital signatures), and the digital signature of the certificate-issuing authority so that a recipient can verify that the certificate is real

As Figure A–2 shows, when you want to sign a decision, you can upload your digital certificate. When signing a task outcome by using your certificate, you must upload not only the one certificate issued to you by the certification authority but the entire chain of certificates. Upload the chain as a `.P7B` (PKCS7 format) file.

Figure A–2   Uploading a Certificate
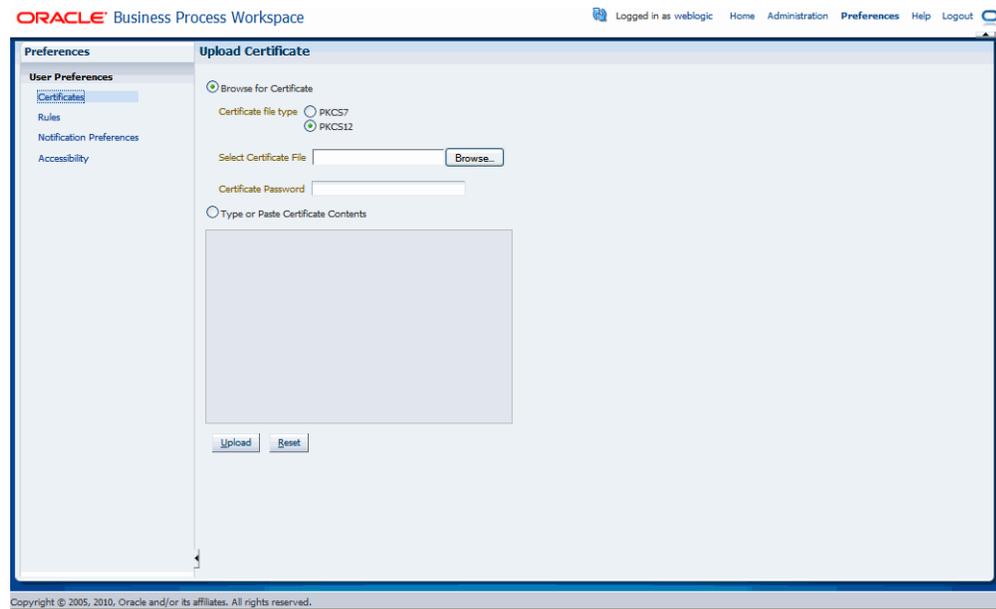
To create an application and embed the Certificates task flow in the application, follow all the steps of Section A.5, "Samples: Customizing ADF Applications with Oracle Business Process Management Workspace Task Flows" except Step 9. This is because certificates have no parameters.

A.1.3 Reports Task Flow

For information about the Reports task flow, see Section 7.5, "Using Reports to Manage Workflows in Process Workspace."

To create an application and embed the Reports task flow in the application, follow all the steps of Section A.5, "Samples: Customizing ADF Applications with Oracle Business Process Management Workspace Task Flows" except Step 9. This is because Reports have no parameters.

A.1.4 Application Preferences Task Flow

For information about the Application Preferences task flow, see Section 8.1, "Setting the Display of the Work Items Panel in Process Workspace".

To create an application and embed the Application Preferences task flow in it, follow all the steps of Section A.5, "Samples: Customizing ADF Applications with Oracle Business Process Management Workspace Task Flows" except Step 9. This is because application preferences have no parameters.

A.1.5 Flex Fields Task Flow

For information about the Flex Fields task flow, see Section 8.4.1, "Managing Mapped Attributes (Flex Fields) in Process Workspace".

To create an application and embed the Flex Fields task flow in it, follow all the steps of Section A.5, "Samples: Customizing ADF Applications with Oracle Business Process Management Workspace Task Flows" except Step 9. This is because flex fields have no parameters.

A.1.6 Rules Task Flow

For information about the Rules task flow, see Section 3.9.1, "How to Create User Rules in Process Workspace".

The **showOtherUsersRules** parameter takes a Boolean value. When it is passed as True, other users rules are displayed; when it is passed as False, other user rules are not shown. In addition, this user must have the required permission to view other user rules.

To create an application and embed the Rules task flow in it, follow all the steps of Section A.5, "Samples: Customizing ADF Applications with Oracle Business Process Management Workspace Task Flows" except Step 9. This is because rules fields have no parameters.

A.2 Process Task Flows

This section contains these topics:

- Section A.2.1, "Process Application Task Flow"
- Section A.2.2, "Process Instances Task Flow"
- Section A.2.3, "Process Instance Details Task Flow"

A.2.1 Process Application Task Flow

The applications available in Process Workspace depend on the process design and the roles assigned to the user currently logged in. The list of applications available also depends on the BPM processes that are deployed and running. The applications panel will be empty if no processes are running, or if the user is not able to execute an application in any of the processes currently running. Figure A–3 shows the location of the Applications panel in Process Workspace.

Figure A–3 Applications Panel
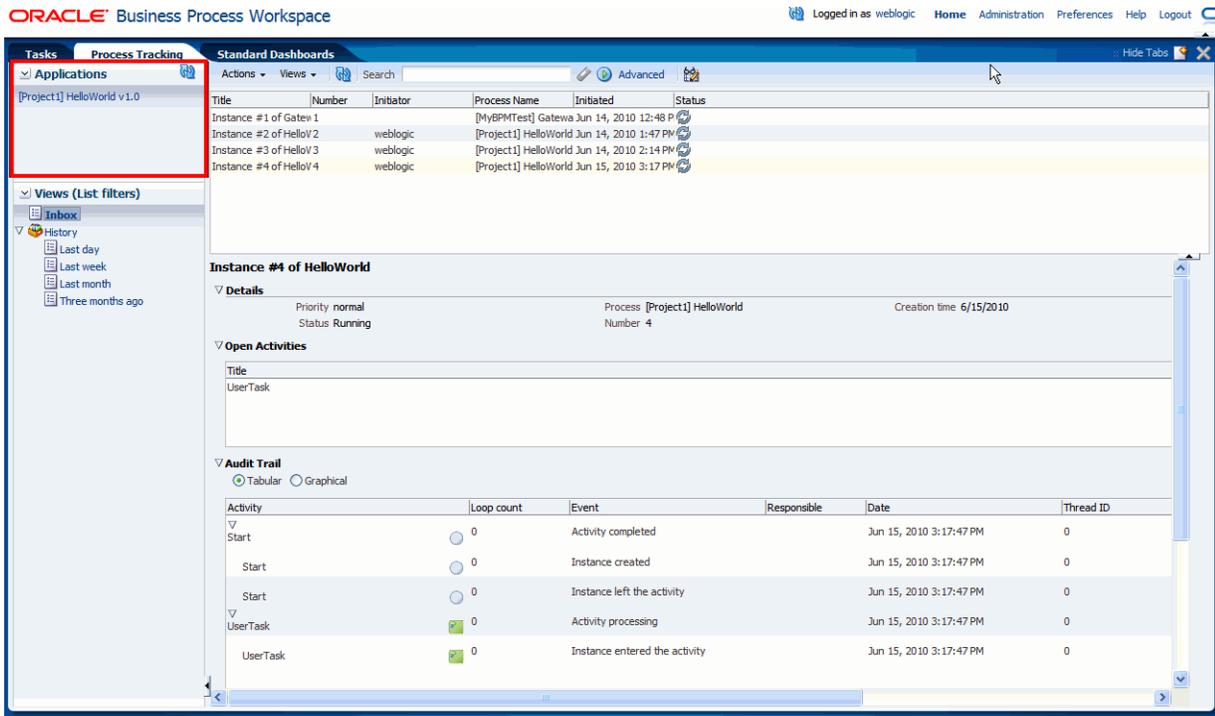
Table A–1   Process Applications Task Flow

Task Flow definition file:	`processApplicationsTaskflow.xml`
Description:	Renders the list of applications available to the user, that is, the list of tasks that, when executed, will create instances in the different deployed processes.
Arguments:	None

A.2.2 Process Instances Task Flow

Table A–2   Process Instances Task Flow

Task Flow definition file:	`processInstancesTaskflow.xmll`
Description:	Renders the list of instances corresponding to a certain view (by default, Inbox view) in a table format. The columns that this table will show are defined by the presentation associated to the selected view, which can be edited from here. It also provides search capabilities.
Arguments:	`viewId`: specifies the view that will be rendered initially. By default, Inbox is assumed.

A.2.3 Process Instance Details Task Flow

Table A–3   Process Instances Task Flow

Task Flow definition file:	`processInstanceDetailTaskflow.xmll`
Description:	Renders the instance details, including open activities, audit trail (both tabular and graphical), comments and attachments.
Arguments:	`instanceId:` Task Flow will render the details associated to this instance ID.

Figure A–4   Work Items Details Panel

A.3 Process Analytics Task Flows

This section contains these topics:

- Section A.3.1, "Dashboard Widget Task Flow"

- Section A.3.2, "Application Roles Task Flow"

- Section A.3.3, "Organization Units Task Flow"

- Section A.3.4, "Organization Roles Task Flow"

- Section A.3.5, "Business Calendar and Holiday Lists Task Flow"

- Section A.3.6, "Extended User Properties Task Flow"

A.3.1 Dashboard Widget Task Flow

Table A–4   Dashboard Widget Task Flow

Task Flow definition file:	widgetTaskflow.xml
Description:	Renders a widget, that is, a graph displaying information stored in Cubes. This widget could be one of the out of the box ones (like Workload per Participant, Performance per Process, etc.) or a custom one.
Arguments:	`widgetId`: The ID of the widget that will be rendered.
	`showSelector`: A Boolean value (true/false) stating whether the task flow will render a drop down listing all available widgets, so that the user can select and change from one widget to other.

Figure A–5   Process Performance Dashboard
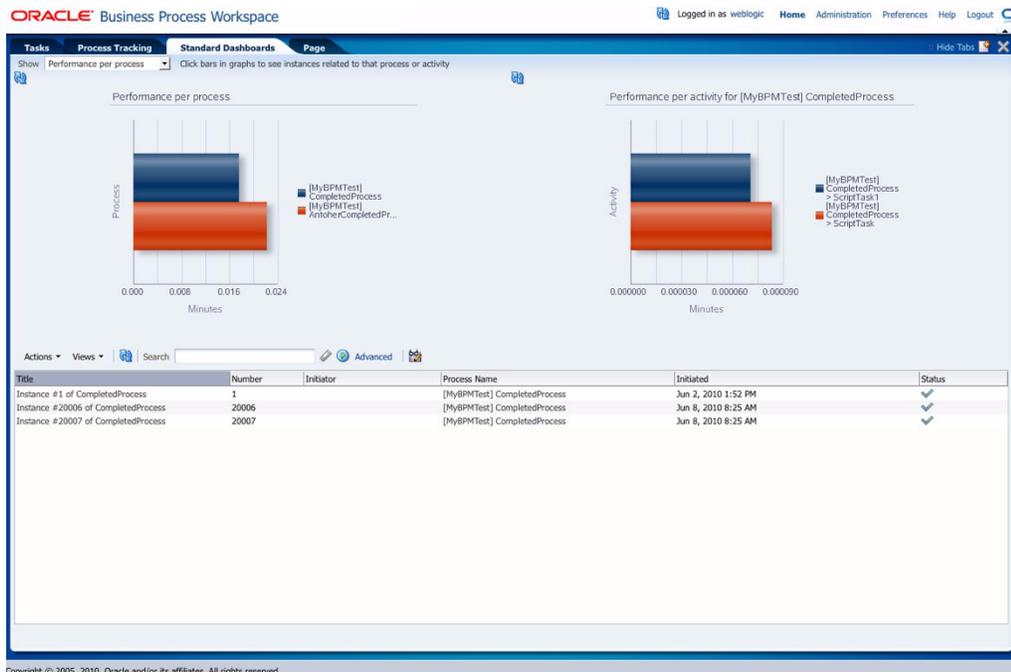
A.3.2 Application Roles Task Flow

Application Roles task flow displays the list of application roles defined in the system for application context OracleBPMProcessRolesApp. The user can search for application roles, select a role and add members (users, groups or other roles) to it or even define business calendar-organization unit mappings for the role.

Figure A–6   Role Details Panel
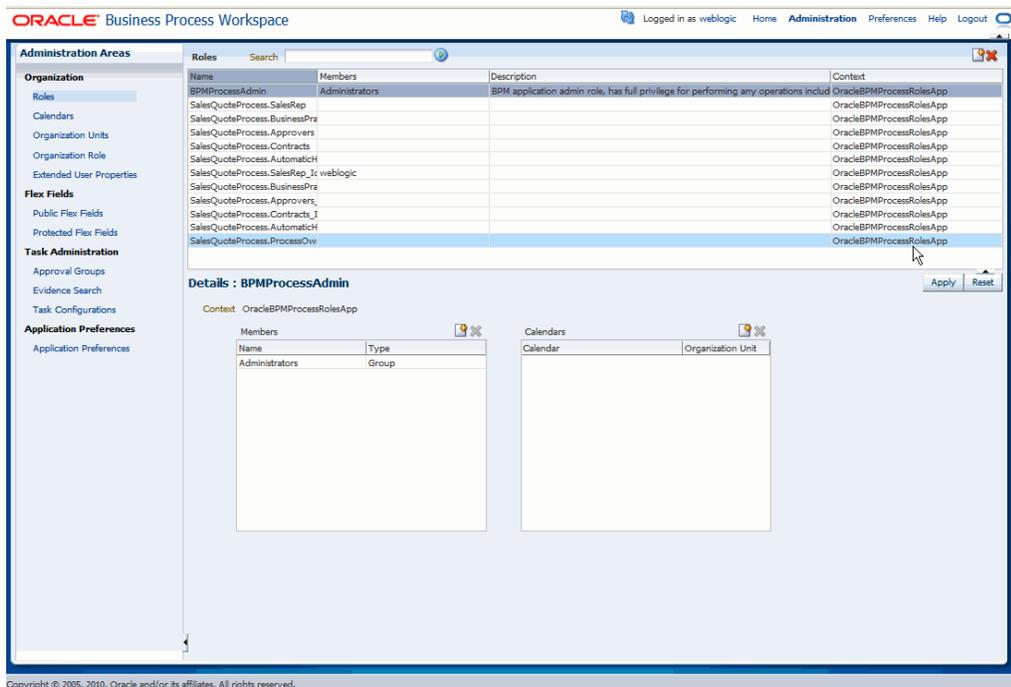
A.3.3 Organization Units Task Flow

This task flow enables users to create new organization units or edit existing ones.

For information about the Organizational Units task flow, see Section 8.3.7, "Managing Organizational Units in Process Workspace".

Figure A–7 shows an Organization Units details panel.

Figure A–7   Organization Units Details Panel
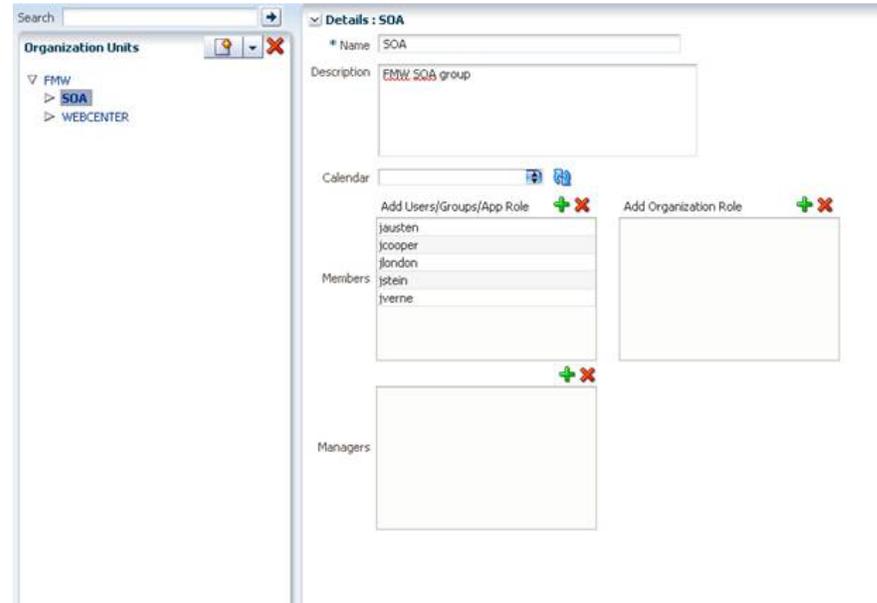
A.3.4 Organization Roles Task Flow

For information about the Organization Roles task flow, see Section 8.3.5, "Managing Organization Roles in Process Workspace".

A.3.5 Business Calendar and Holiday Lists Task Flow

For information about the Business Calendar and Holiday List task flow, see Section 8.3.3, "Managing Calendar Rules in Process Workspace" and Section 8.3.2, "Managing Holiday Rules in Process Workspace".

A.3.6 Extended User Properties Task Flow

For information about the Extended User Properties task flow, see Section 8.3.6, "Extending User Properties in Process Workspace".

A.4 .JAR files for the Task Flows

Table A–5   JAR Files for Task Flows

JAR File	Location
`adflibTaskListTaskFlow.jar`	`$FMW_HOME/AS11gR1SOA/soa/modules/oracle.soa.worklist_11.1.1`
`oracle.bpm.workspace-adflib.jar`	This jar is packaged only with a process portal installation
`adflibWorkspaceTaskFlows.jar`	`$FMW_HOME/AS11gR1SOA/soa/modules/oracle.soa.worklist_11.1.1`

A.5 Samples: Customizing ADF Applications with Oracle Business Process Management Workspace **Task Flows**

This section contains these topics:

- Section A.5.1, "Sample 1: Creating an Application with an Embedded Tasklist Task Flow"
- Section A.5.2, "Sample 2: Creating an ADF Page with Task Flows"

A.5.1 Sample 1: Creating an Application with an Embedded Tasklist Task Flow

The sample explains how to create an application and embed the TaskList task flow in it.

The Tasklist ADF library jar file `adflibTaskListTaskFlow.jar` needs to be in the class path. This jar is available in Oracle JDeveloper in the BPM Worklist Components library.

What follows are the steps to embed the task flow in your application. You can use these same steps to create a new sample.

To embed the Tasklist task flow in your application:

1. Create a new Fusion Web Application in Oracle JDeveloper and name it TaskListTaskFlowSample.

Figure A–8   Creating New Oracle Fusion Middleware Application
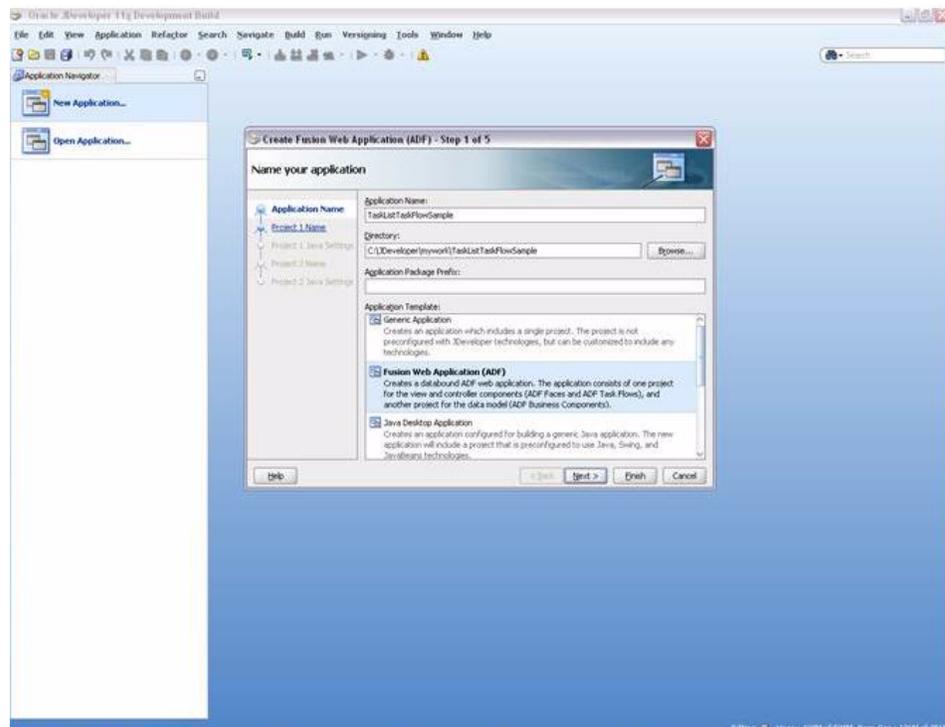
2. Add the task flow jar `adflibTaskListTaskFlow.jar` in the project's class path. Include the BPM Worklist Components library from the Libraries and Classpath section of the JDeveloper and add the library. This library also contains the `adflibWorklistComponents.jar` that must also be in the classpath.

Figure A–9   Adding BPM Worklist Component Library
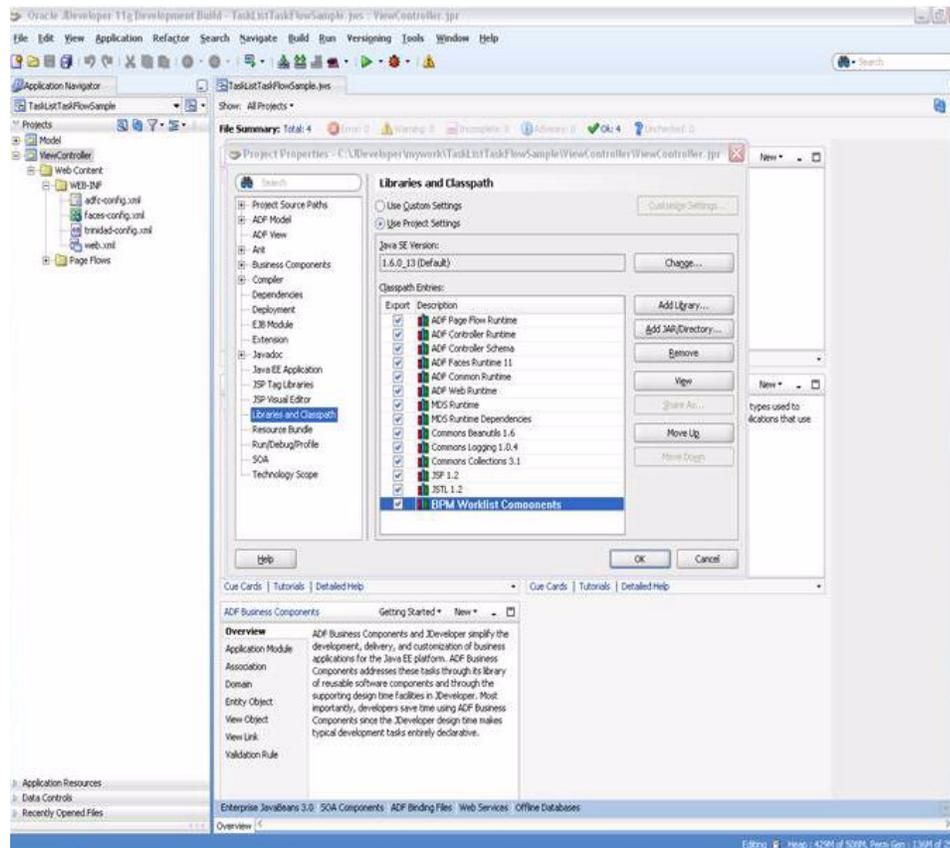
3. Add the BPM Services library in the class path.

Figure A–10   Adding BPM Services Library
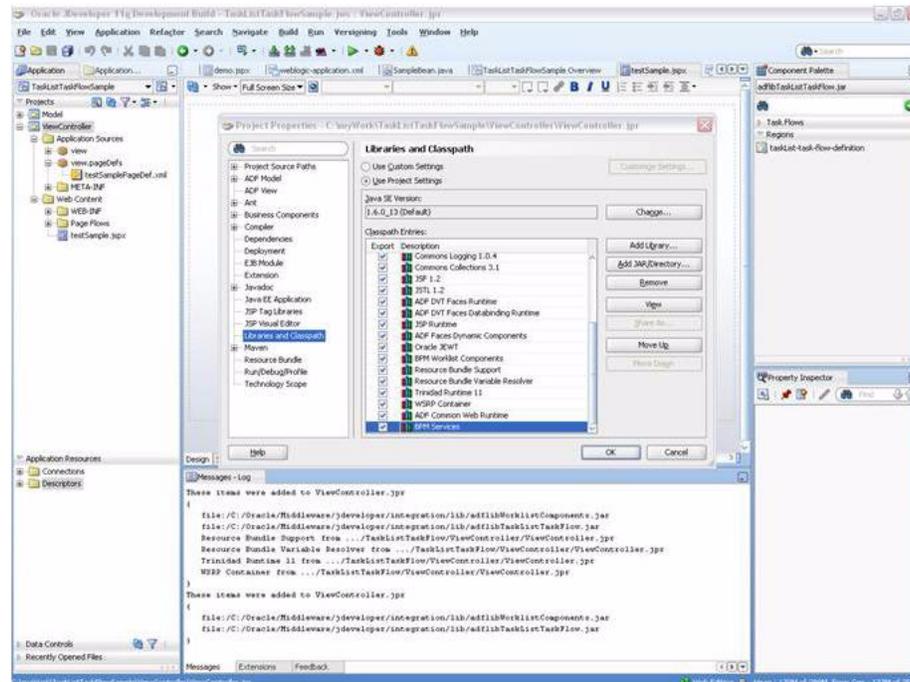
4. Add the WSRP Container library in the classpath.

Figure A–11
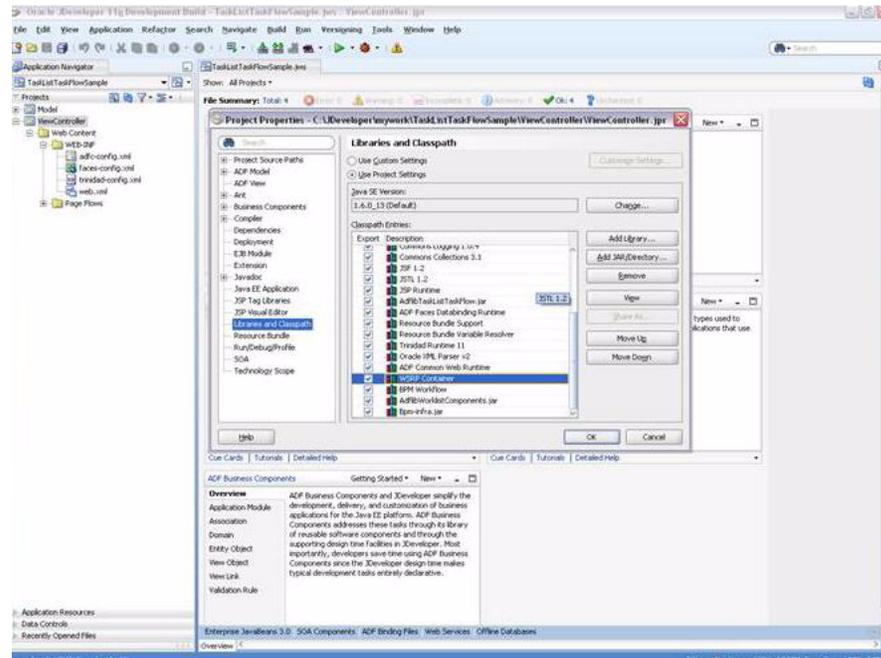
5. In case you are running your application on non-SOA server, you need to perform two additional steps that are documented in the *Oracle Fusion Middleware Developer's Guide for Oracle SOA Suite*.

    a. Install the `oracle.soa.workflow` shared library. If your server already has `oracle.soa.workflow.wc` installed, then you do not need to install `oracle.soa.workflow`.

    For information about installing the `oracle.soa.workflow` shared library, see *Oracle Fusion Middleware Developer's Guide for Oracle SOA Suite*.

    b. Configure foreign JNDI on the non-SOA server.

    For information about configuring a foreign JNDI on the non-SOA server, see *Oracle Fusion Middleware Programming JNDI for Oracle WebLogic Server*.

> **Note:** If you are running the Task List task flow in federated mode, then you do not need to do this step. See the parameter "federatedMode" on how to use task flow in federated mode.

6. Create a JSPX file `testSample.jspx`.

Figure A–12   Creating a a JSPX File
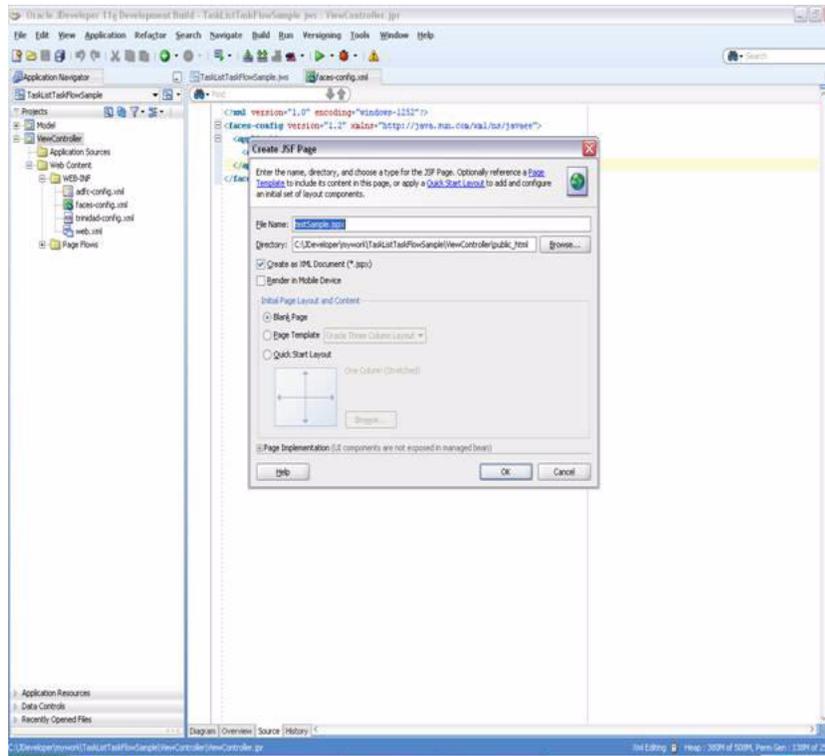
7. Choose `adflibTaskListTaskFlow.jar` from the component palette. It contains the list of all the Task Flows.

Figure A–13   Choosing adflibTaskListTaskFlow.jar
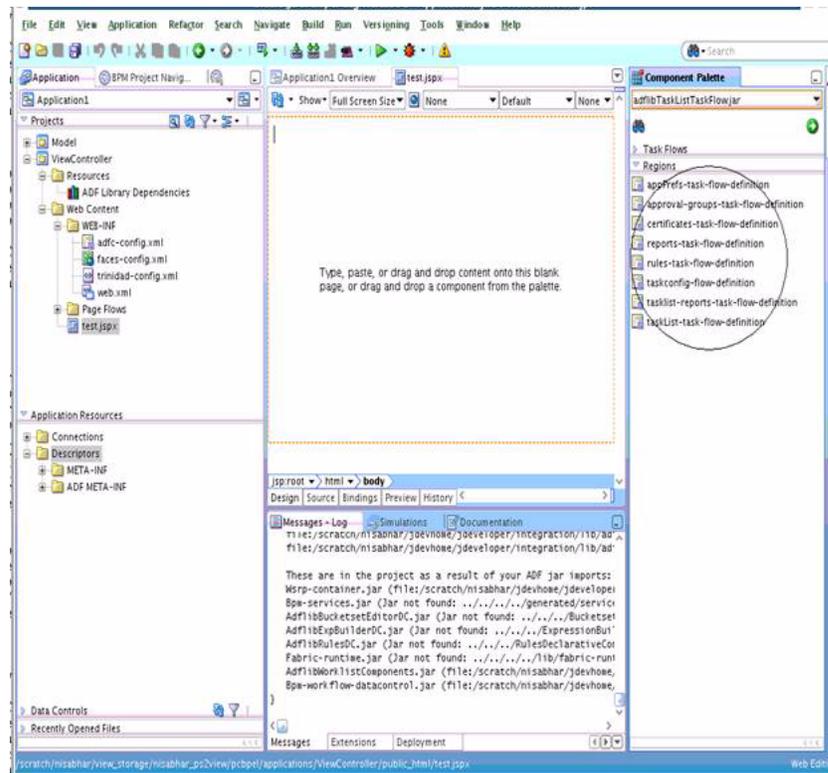
8. Drag and drop one of the Task Flow onto the JSPX page as a region. Figure A–14 shows, by way of example, the TaskListTaskFlow being dropped onto the JSPX page as a region.

Figure A–14   Oracle JDeveloper with TaskList Task Flow on the JSPX Test Page
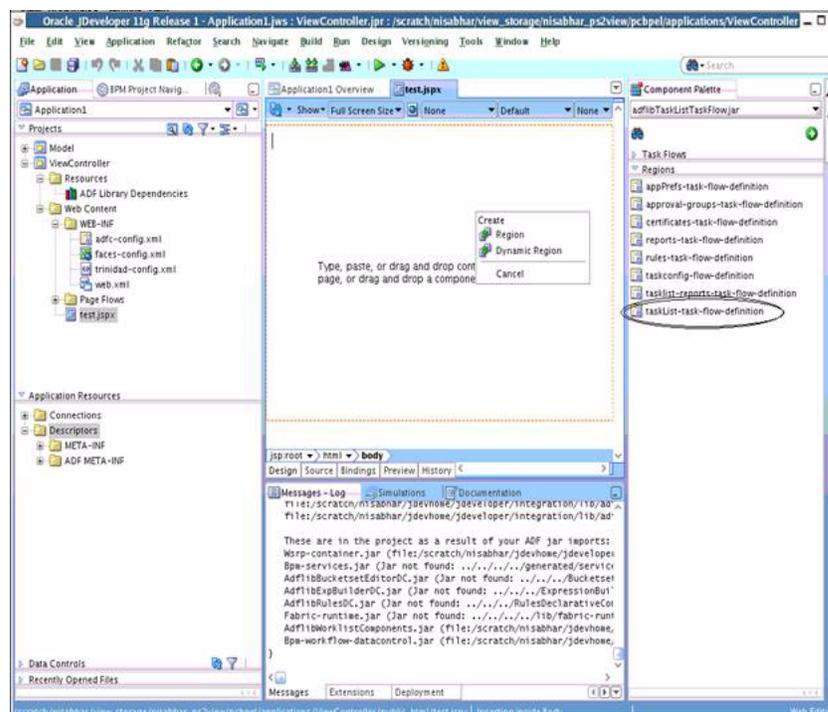
When you drag a task flow onto a JSPX page, a popup shows a list of the available parameters. For a description of these paramters, see *Oracle Fusion Middleware Modeling and Implementation Guide for Oracle Business Process Management*.

The Edit Task Flow Binding dialog box appears.

9. In the Edit Task Flow Binding dialog box, pass the task flow parameters.

Figure A–15   Passing Task Flow Parameters
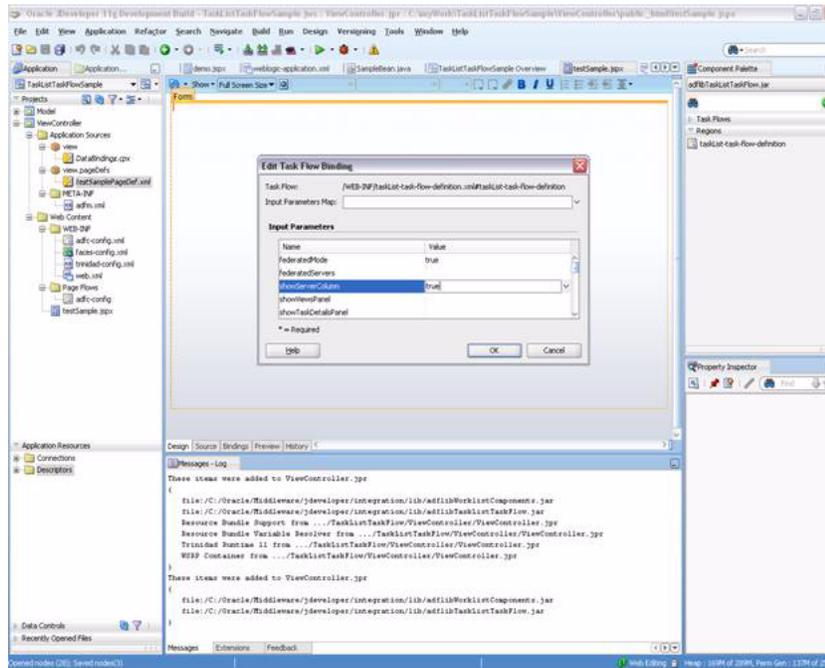
The following entry is created in the `testSamplePagedef.xml`.

```
<taskFlow id="taskListtaskflowdefinition1"
taskFlowId="/WEB-INF/taskList-task-flow-definition.xml#taskList-task-flow-defin
ition"
xmlns="http://xmlns.oracle.com/adf/controller/binding">
<parameters>
<parameter id="federatedMode" value="true"
xmlns="http://xmlns.oracle.com
/adfm/uimodel"/>
<parameter id="showServerColumn" value="true"
xmlns="http://xmlns.oracle.com/adfm/uimodel"/>
</parameters>
</taskFlow>
```

10. Add the following shared libraries in `weblogic-application.xml`. If you have `oracle.soa.workflow.wc` installed on your server, add that library by specifying the following.

```
<library-ref>
<library-name>oracle.soa.workflow</library-name>
</library-ref>
```

11. Open and edit the WAR deployment profile for editing. To do this:

    a. Right Click ViewController.

    b. Select Deployment.

    c. Select WAR File.

    d. Click **Edit**.

    e. Check `adflibTaskListTaskFlow.jar`,
       `adflibWorklistComponents.jar` and `wsrp-container.jar`.

Figure A–16   Editing the WAR Deployment Profile
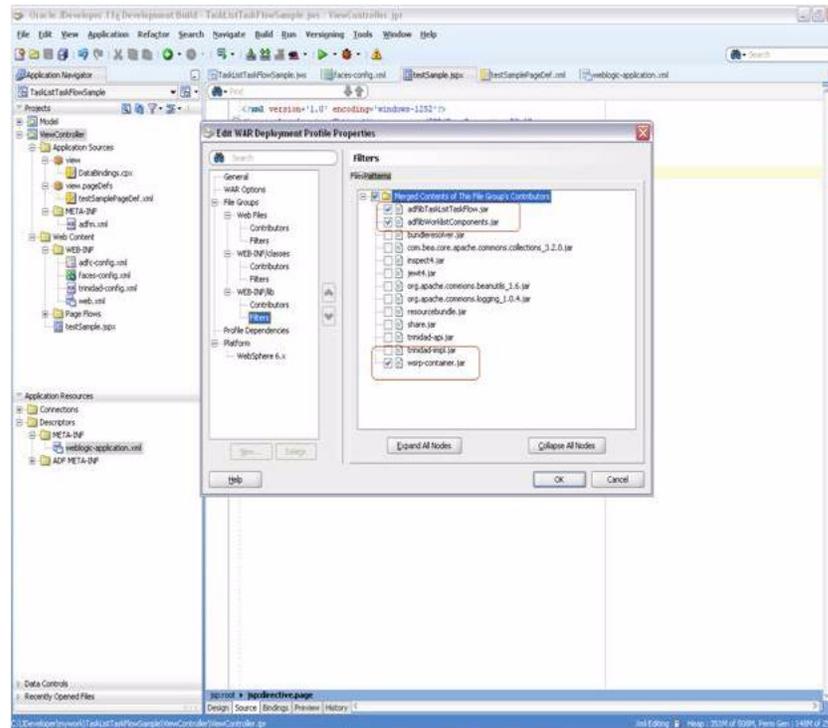
12. Secure the application using ADF Security by navigating **Secure** then **Configure ADF Security…** from the application-level menu as Figure A–17 shows.

Figure A–17   Navigating to Secure the Application
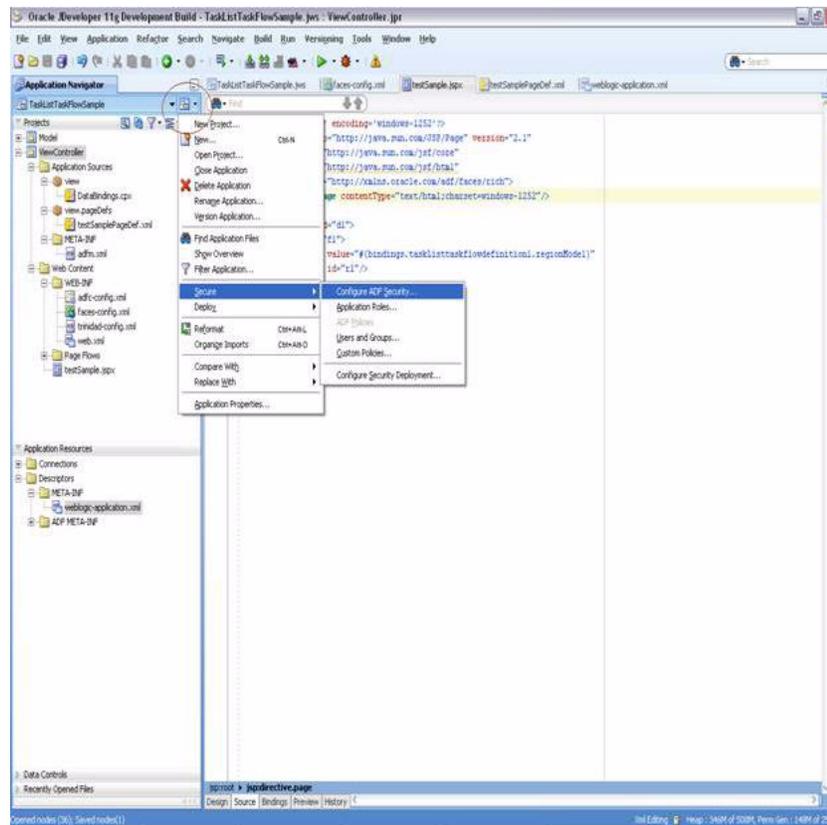
The Enable ADF Security dialog box appears.

13. Select ADF Authentication as shown in Figure A–18.

Figure A–18   Selecting ADF Authentication
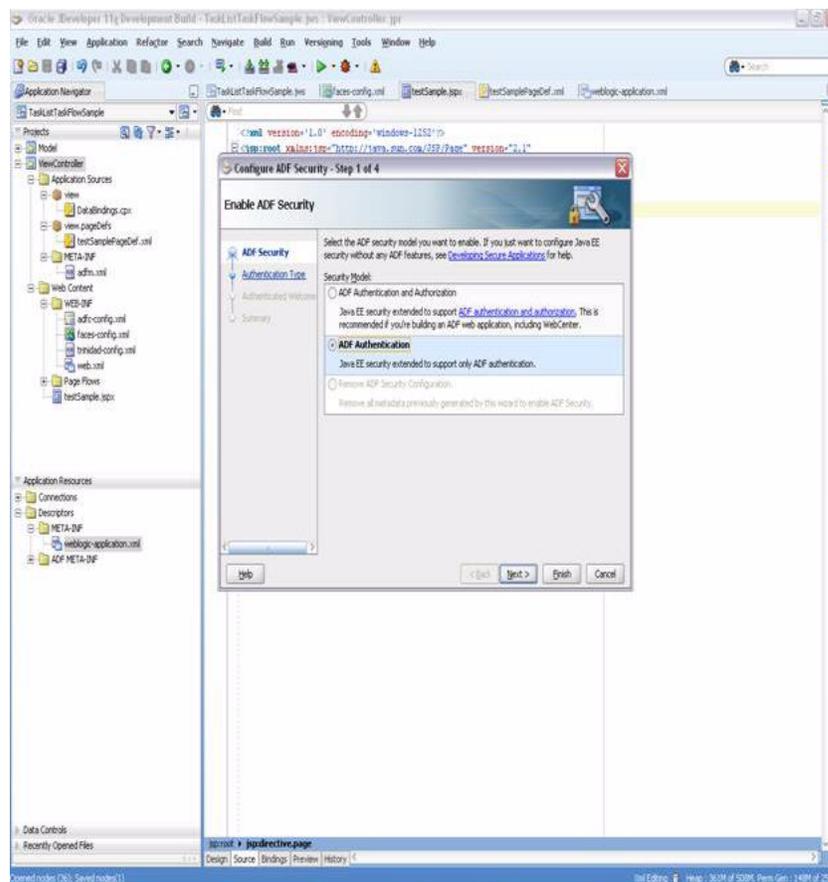
Click **Next**. The Select Authentication Type dialog box appears.

Note: If you choose ADF Authentication and Authorization, do the following:

1. In the Application Resources - Descriptors - META-INFO folder, open `jazn-data.xml`.

2. Select Resource Grants.

3. Select Task Flow type.

4. Select **Show task flows imported from ADF libraries**.

   The taskflows are listed in the Resources listing.

5. Select the appropriate taskflow that you have consumed in the application—for example, `taskList-task-flow-definition`.

6. Add a **Granted to ted role** for the "view" permission.

---

14. Select HTTP Basic Authentication as shown in Figure A–19.

Figure A–19   Selecting HTTP Basic Authentication
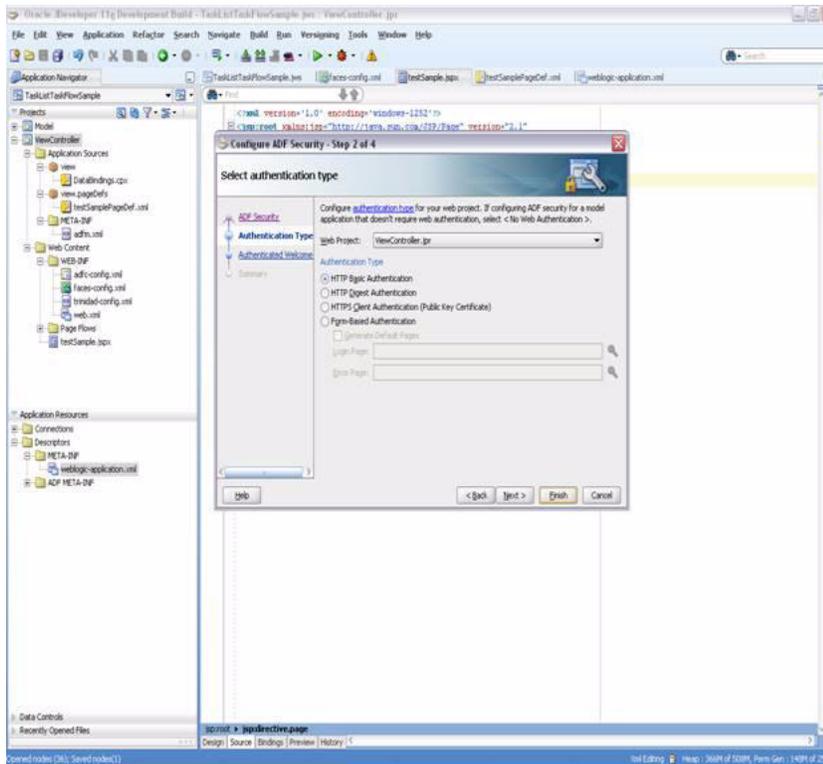
For information about enabling ADF security in a Fusion web application see *Oracle Fusion Middleware Fusion Developer's Guide for Oracle Application Development Framework*.

Click **Finish**.

> **Note:** If you are using the task flow in federated mode, do the following:
>
> - Pass the list of federated servers to the task flow. For more information, see Section A.1.1.2, "federatedServers."
>
> - Enable global trust between the federated servers. This is done so that the already ted user token is passed to all the federated servers. Do the following:
>
>   1. Login to the Oracle WebLogic Server console.
>
>   2. Under Domain Structures, select the domain name `base_domain`. The domain name may be different if a non-soa server is used. You can rename the domain name during configuration.
>
>   3. Select the Security tab.
>
>   4. Click the Advanced link (near the bottom **Save** button.)
>
>   5. Give some password in the "Credential:" field. **(The same password needs to be given for all the federated servers)**.
>
>   6. Click **Save**.
>
>   7. Restart the server.

15. Create an EAR deployment profile, build the EAR, and deploy it. To deploy the EAR, do the following:

    a. From the application-level menu, navigate to **Deploy** then **TaskListTaskFlowSample_Appl...**.

Figure A–20   Deploying the Application
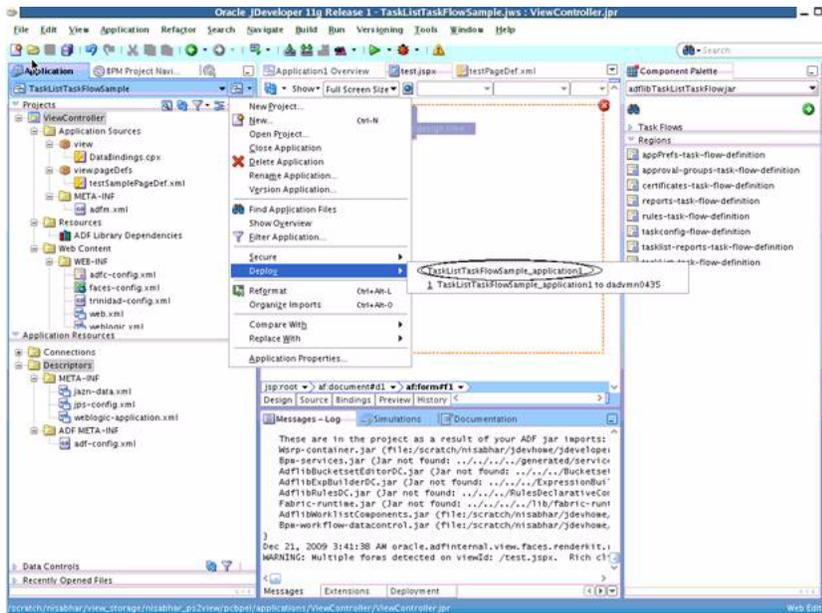
The Deployment Action dialog box appears.

b.   Select **Deploy to Application Server** as shown in Figure A–21.

Figure A–21   Deploying to Application Server
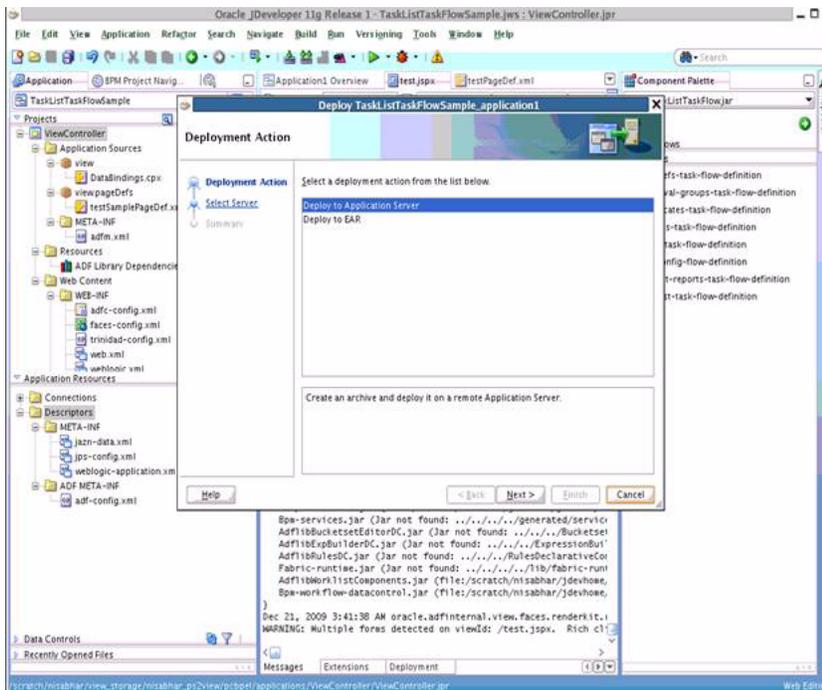
Click **Next**. The Select Server dialog box appears.

16.   Select the server. Deselect **Deploy to all Server instances in the domain**. Click **Next**.

The Server Instances dialog box appears.

17. Select the server instance and click **Finish**.

18. Access the following link, specifying the proper values for `server` and `port`.
`http://server:port/TaskListTaskFlowSample-ViewController-cont`
`ext-root/faces/testSample.jspx`.

A login popup appears. Log in as any user. The task list appears for the logged-in user as shown in Figure A–22.

If the task flow is used in federated mode, then the list of servers appear in the Show list. Selecting any combination of servers from the list refreshes the task list to show all the tasks belonging to the selected servers. If you passed the parameter `showServerColumn` as true, then the server column appears in the task list and indicates the server to which the task belongs.

Figure A–22   Process Workspace Task List
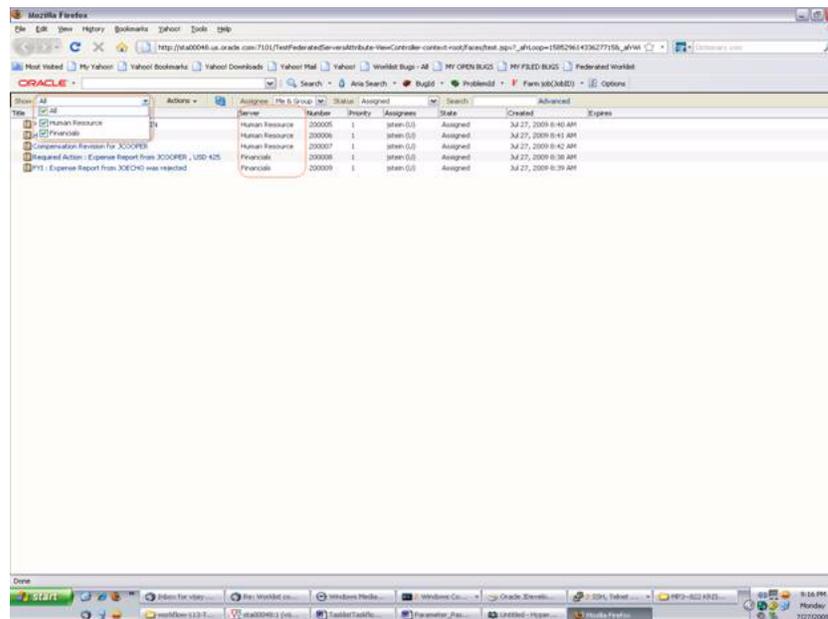
Click on any of the tasks title links to see the task details in a new browser window.

A.5.2 Sample 2: Creating an ADF Page with Task Flows

This sample shows how to create an ADF page and add three task flows to the page.

The page will be divided into two parts. If the user selects TaskFlow from left side, the corresponding task flow appears on the right side.

To create the ADF page with task flows:

1. Follow Steps 1 to 6 of Section A.5.1, "Sample 1: Creating an Application with an Embedded Tasklist Task Flow.".

2. Configure the JSPX page as follows:

   a. In Component Palette, select ADF Faces.

   b. Drag and drop the Panel Stretch Layout on to the JSPX page.

   c. Delete Top, Start, Bottom, and End from the JSPX page. The JSPX page will look like Figure A–23.

Figure A–23 Configuring the JSPX Page
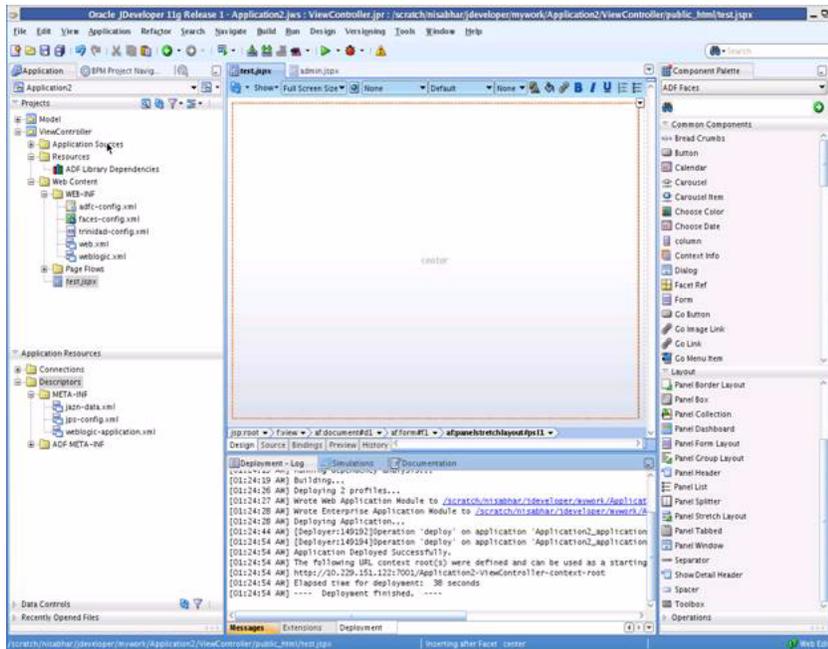
3. Drag and drop the Panel Splitter from the Component Palette into the JSPX page. The JSPX page now appears as shown in Figure A–24.

Figure A–24 Split Panel in the JSPX Page
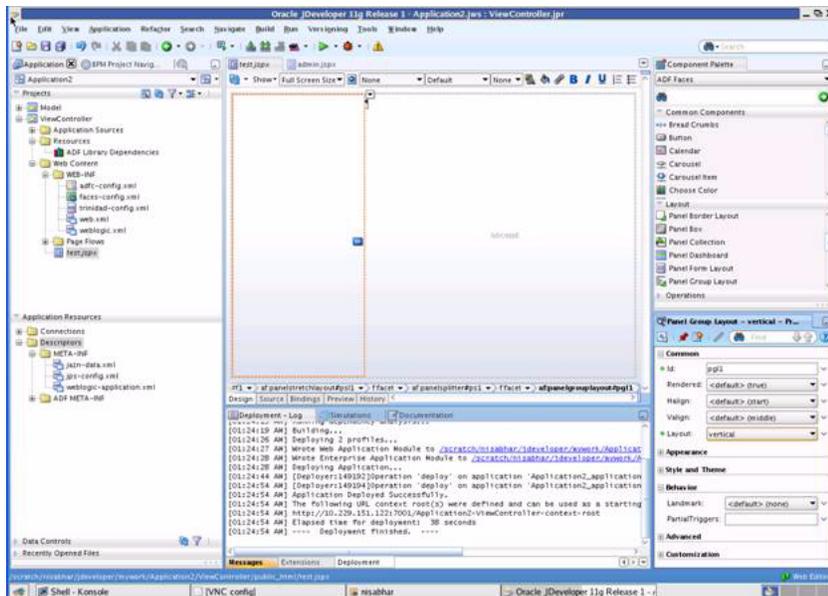
4. In the navigator, right-click the View Controller and create a new Java Class. Name it `SampleController.java`.

   Add `private transient UIComponent rightPanel = null;` with getters and setters as shown in Figure A–25.

Figure A–25   Creating SampleController.java
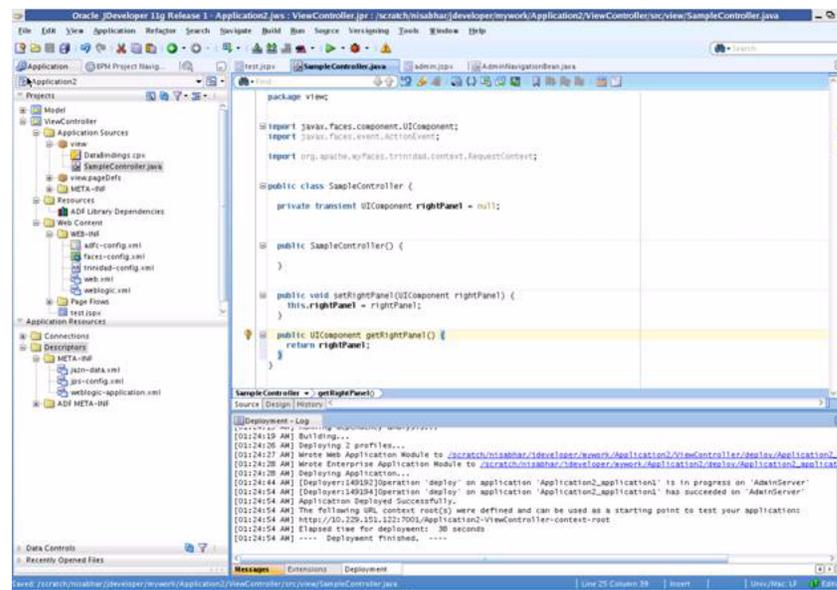
5. In the navigator, select the Faces-config.xml file. Specify the Managed Bean, naming it as `sampleControllerBean` as shown in Figure A–26.

Figure A–26   Specifying the Managed Bean
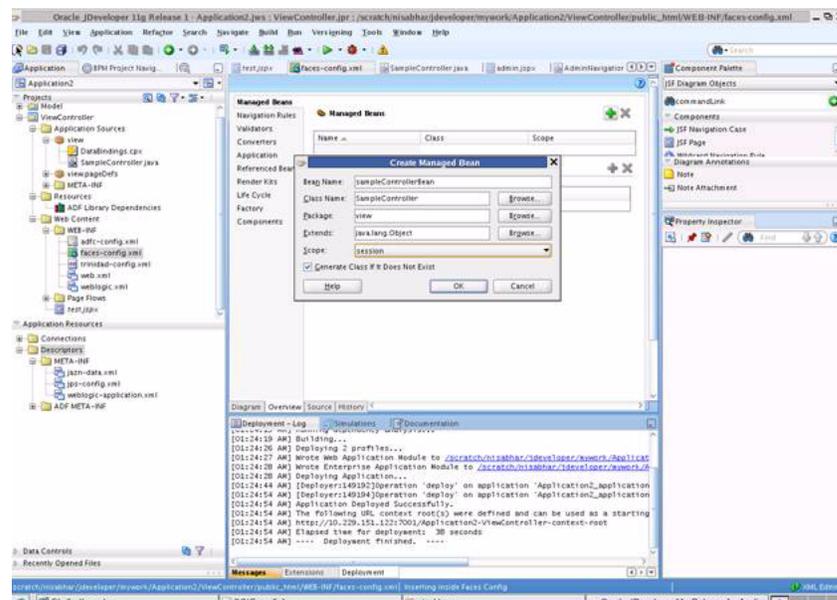
6. Drag and Drop Panel Stretch Layout on to the Second Facet. Delete Top, Start, Bottom, End from it. And Specify a binding for PanelStrechLayout from the Property Inspector as `#{sampleControllerBean.rightPanel}`.

7. Drag and drop a link from the Component Palette into the JSPX page. In the Property Inspector specify the text as Rules. In `SampleController` Java file, add the following code:

    ```
    private String selectedLink = "RULES";  with getter and
    setters
    ```

```
public void displayRules(ActionEvent event){

setSelectedLink("RULES");

if(getRightPanel() != null){

RequestContext.getCurrentInstance().addPartialTarget(getRight
Panel());
        }       }
```

Add the Action Listener property for the rules as follows:

```
#{sampleControllerBean.displayRules}
```

8. Drag and drop a link from the Component Palette into the JSPX page. In the Property Inspector, specify the text as Certificates. In the `SampleController` Java file, add following code:

```
public void displayCertificates(ActionEvent event){

setSelectedLink("CERTIFICATES");

if(getRightPanel() != null){

RequestContext.getCurrentInstance().addPartialTarget(getRight
Panel());

} }
```

Add the Action Listener property for the certificates as follows:

```
#{sampleControllerBean. displayCertificates }
```

9. Drag and drop a link from the Component Palette into the JSPX page. In the Property Inspector, specify the text as Reports. In the `SampleController` Java file, add following code:

```
public void displayReports(ActionEvent event){

setSelectedLink("REPORTS");

if(getRightPanel() != null){

RequestContext.getCurrentInstance().addPartialTarget(getRight
Panel());

} }
```

Add the Action Listener property for the reports as follows:

```
#{sampleControllerBean. displayReports}
```

10. Drag and drop a switcher from the Component Palette into the center facet of the second facet.

In the Property Inspector, specify:

- the facet name as
  `#{sessionScope.sampleControllerBean.selectedLink}"`
- the default faces as RULES

Figure A–27   Adding and Specifying a Switcher
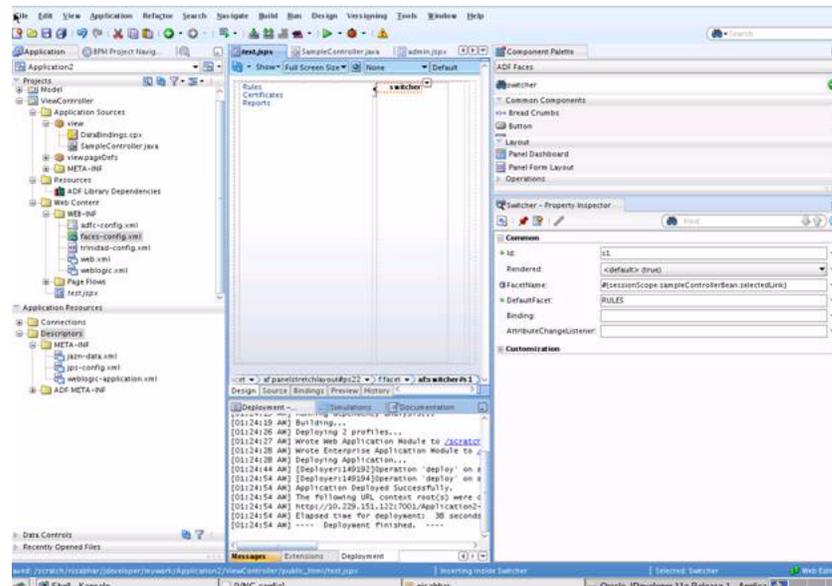
11. Inside `af:switcher` define a facet and name it `f:facet name="RULES"`. Inside this facet, drag and drop Rules-Task-Flow-Definition from the Component Palette (inside `adflibTaskListTaskFlow.jar`).

12. Inside `af:switcher` define another facet and name it `f:facet name="CERTIFICATES"`. Inside this facet, drag and drop Certificates-Task-Flow-Definition from the Component Palette (inside `adflibTaskListTaskFlow.jar`)

13. Inside `af:switcher` define another facet and name it `f:facet name="REPORTS"`. Inside this facet drag and drop Reports-Task-Flow-Definition from the Component Palette (inside `adflibTaskListTaskFlow.jar`)

14. Save your work.

15. Follow Steps 10 to 18 of Section A.5.1, "Sample 1: Creating an Application with an Embedded Tasklist Task Flow."

A.6 Sample: Wf_client_config.xml File

This section provides a sample of the client configuration file, `Wf_client_config.xml`.

If you don't want to include the server in the federated servers list, put `excludeFromFederatedList="true"` in the `<server>` element.

The client type needs to be specified explicitly on the `<server>` element in the XML.

- If you are using a remote client, enter `clientType="REMOTE"`.

- If you are using a SOAP client, enter `clientType="SOAP"`.

In Example A–1, REMOTE client type is used.

Example A–1   Wf_client_config.xml

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<workflowServicesClientConfiguration
xmlns="http://xmlns.oracle.com/bpel/services/client">
```

```
                <server name="default" default="true" excludeFromFederatedList="true"
clientType="REMOTE">
                    <localClient>
<participateInClientTransaction>false</participateInClientTransaction>
                    </localClient>
                    <remoteClient>
                        <serverURL>t3://sta00048.us.oracle.com:7001</serverURL>
<initialContextFactory>weblogic.jndi.WLInitialContextFactory</initialContextFactor
y>
<participateInClientTransaction>false</participateInClientTransaction>
                    </remoteClient>
                    <soapClient>
                        <rootEndPointURL>http://sta00048.us.oracle.com:7001</rootEndPointURL>
                        <identityPropagation mode="dynamic" type="saml">
                            <policy-references>
                                <policy-reference enabled="true" category="security"
                                            uri="oracle/wss10_saml_token_client_policy"/>
                            </policy-references>
                        </identityPropagation>
                    </soapClient>
                </server>
                <server name="ERP" clientType="REMOTE">
                    <soapClient>
                        <rootEndPointURL>http://sta00147.us.oracle.com:7001</rootEndPointURL>
                        <identityPropagation mode="dynamic" type="saml">
                            <policy-references>
                                <policy-reference enabled="true" category="security"
                                            uri="oracle/wss10_saml_token_client_policy"/>
                            </policy-references>
                        </identityPropagation>
                    </soapClient>
                    <remoteClient>
                        <serverURL>t3://sta00147.us.oracle.com:7001</serverURL>
<initialContextFactory>weblogic.jndi.WLInitialContextFactory</initialContextFactor
y>
                        <participateInClientTransaction>false</participateInClientTransaction>
                    </remoteClient>
                </server>
                <server name="CRM" clientType="REMOTE">
                    <soapClient>
                        <rootEndPointURL>http://sta00048.us.oracle.com:7001</rootEndPointURL>
                        <identityPropagation mode="dynamic" type="saml">
                            <policy-references>
                                <policy-reference enabled="true" category="security"
                                            uri="oracle/wss10_saml_token_client_policy"/>
                            </policy-references>
                        </identityPropagation>
                    </soapClient>
                    <remoteClient>
                        <serverURL>t3://sta00048.us.oracle.com:7001</serverURL>
<initialContextFactory>weblogic.jndi.WLInitialContextFactory</initialContextFactor
y>
                        <participateInClientTransaction>false</participateInClientTransaction>
                    </remoteClient>
                </server>
</workflowServicesClientConfiguration>
```

A.7 Sample: Bean with the Method Returning the WorkflowServicesClientConfigurationType Object

This section provides a sample: bean with the method returning the WorkflowServicesClientConfigurationType object.

> **Note:** You must set the client type explicitly while building the JAXB object. For example:
>
> ```
> ServerType server1 = new ServerType();
> ```
>
> ```
> server1.setClientType("REMOTE"); // If REMOTE client
> is to be used.
> ```
>
> Or:
>
> ```
> server1.setClientType("SOAP"); // If SOAP client is
> to be used.
> ```
>
> If you do not specify anything for the client type, the default is SOAP.

```
package view;

import java.util.List;

import oracle.bpel.services.workflow.client.config.IdentityPropagationType;
import oracle.bpel.services.workflow.client.config.PolicyReferenceType;
import oracle.bpel.services.workflow.client.config.PolicyReferencesType;
import oracle.bpel.services.workflow.client.config.RemoteClientType;
import oracle.bpel.services.workflow.client.config.ServerType;
import oracle.bpel.services.workflow.client.config.SoapClientType;
import
oracle.bpel.services.workflow.client.config.WorkflowServicesClientConfigurationTyp
e;
import weblogic.nodemanager.common.ServerType;

public class WorklistBackingBean {
  WorkflowServicesClientConfigurationType wscct = null;

  public WorklistBackingBean() {
    super();
  }

  public WorkflowServicesClientConfigurationType getWSCC() {
    if (wscct == null) {
      wscct = new WorkflowServicesClientConfigurationType();
      List<ServerType> servers = wscct.getServer();
      /**** Setting default server in the list ****/
      ServerType defaultServer = new ServerType();
      defaultServer.setClientType("SOAP");
      servers.add(defaultServer);
      defaultServer.setDefault(true);
      //If this is true, the server is excluded from federated server list
      //By defalut it is false
      //defalutServer.setExcludeFromFederatedList(true);
      defaultServer.setName("default");
      RemoteClientType rct = new RemoteClientType();
      rct.setServerURL("t3://defaultHost:port");
      rct.setInitialContextFactory("weblogic.jndi.WLInitialContextFactory");
      rct.setParticipateInClientTransaction(false);
```

```
                    defaultServer.setRemoteClient(rct);
                    SoapClientType sct = new SoapClientType();
                    PolicyReferencesType prts = new PolicyReferencesType();
                    PolicyReferenceType prt = new PolicyReferenceType();
                    prt.setEnabled(true);
                    prt.setCategory("security");
                    prt.setUri("oracle/wss10_saml_token_client_policy");
                    prts.getPolicyReference().add(prt);
                    IdentityPropagationType ipt = new IdentityPropagationType();
                    ipt.setMode("dynamic");
                    ipt.setType("saml");
                    ipt.setPolicyReferences(prts);
                    sct.setRootEndPointURL("http://defaultHost:port");
                    sct.setIdentityPropagation(ipt);
                    defaultServer.setSoapClient(sct);
                    /****** Setting Federated Server 1 to the list ****/
                    ServerType server1 = new ServerType();
                    server1.setClientType("SOAP");
                    servers.add(server1);
                    server1.setName("Human Resource");
                    RemoteClientType rct1 = new RemoteClientType();
                    rct1.setServerURL("t3://HumanResourcesHost:port");
                    rct1.setInitialContextFactory("weblogic.jndi.WLInitialContextFactory");
                    rct1.setParticipateInClientTransaction(false);
                    server1.setRemoteClient(rct1);
                    SoapClientType sct1 = new SoapClientType();
                    PolicyReferencesType prts1 = new PolicyReferencesType();
                    PolicyReferenceType prt1 = new PolicyReferenceType();
                    prt1.setEnabled(true);
                    prt1.setCategory("security");
                    prt1.setUri("oracle/wss10_saml_token_client_policy");
                    prts1.getPolicyReference().add(prt1);
                    IdentityPropagationType ipt1 = new IdentityPropagationType();
                    ipt1.setMode("dynamic");
                    ipt1.setType("saml");
                    ipt1.setPolicyReferences(prts1);
                    sct1.setRootEndPointURL("http://HumanResourcesHost:port");
                    sct1.setIdentityPropagation(ipt1);
                    server1.setSoapClient(sct1);

        }
      return wscct;
    }
}
```

Index

working with in Process Workspace,   3-2
todo tasks and subtasks
    creating in Process Workspace,   3-24

U

user rules, setting in Process Workspace,   3-21
user-related task flows,   A-1

V

vacation period
    setting in Process Workspace,   3-20, 3-24
views, worklist
    in Process Workspace,   3-12

W

wfCtxID parameter of task list task flow,   A-3
work items, changing the display in Process
        Workspace,   8-1
worklist views
    creating and customizing
        in Process Workspace,   3-12
    customizing,   3-15
workloads, managing in Process Workspace,   7-1