Oracle® Fusion Middleware

Administrator's Guide for Authorization Policy Manager

11*g* Release 1 (11.1.1)

E14431-01

June 2010

Oracle Fusion Middleware Administrator's Guide for Authorization Policy Manager, 11*g* Release 1 (11.1.1)

E14431-01

Primary Author: Carlos Subi

Contributing Author:

Contributor: Josh Brunaugh, Akila Natarajan, Sanatan Sahgal, Peter Seo, Vinay Shukla, Nigel Smith, Sanjeev Topiwala, Sivakumar Venugopal, Roger Wigenstam.

The information contained herein is subject to change without notice and is not warranted to be error-free. If you find any errors, please report them to us in writing.

If this software or related documentation is delivered to the U.S. Government or anyone licensing it on behalf of the U.S. Government, the following notice is applicable:

This software is developed for general use in a variety of information management applications. It is not developed or intended for use in any inherently dangerous applications, including applications which may create a risk of personal injury. If you use this software in dangerous applications, then you shall be responsible to take all appropriate fail-safe, backup, redundancy, and other measures to ensure the safe use of this software. Oracle Corporation and its affiliates disclaim any liability for any damages caused by use of this software in dangerous applications.

This software and documentation may provide access to or information on content, products, and services from third parties. Oracle Corporation and its affiliates are not responsible for and expressly disclaim all warranties of any kind with respect to third-party content, products, and services. Oracle Corporation and its affiliates will not be responsible for any loss, costs, or damages incurred due to your access to or use of third-party content, products, or services.

Contents

4 Querying Security Artifacts

5 Managing Security Artifacts

6 Delegated Administration

7 Customizing the User Interface

8 Internationalization

A Using an OpenLDAP Identity Store

B Troubleshooting Oracle Authorization Policy Manager

Index

List of Examples

List of Figures

List of Tables

Preface

This guide explains the features, configuration, and use of Oracle Authorization Policy Manager, a tool to manage global and application security artifacts.

This preface addresses the following topics:

- Audience
- Documentation Accessibility
- Related Documentation
- Conventions

Audience

The intended audience of this guide are security administrators.

Documentation Accessibility

Our goal is to make Oracle products, services, and supporting documentation accessible to all users, including users that are disabled. To that end, our documentation includes features that make information available to users of assistive technology. This documentation is available in HTML format, and contains markup to facilitate access by the disabled community. Accessibility standards will continue to evolve over time, and Oracle is actively engaged with other market-leading technology vendors to address technical obstacles so that our documentation can be accessible to all of our customers. For more information, visit the Oracle Accessibility Program Web site at `http://www.oracle.com/accessibility/`.

Accessibility of Code Examples in Documentation

Screen readers may not always correctly read the code examples in this document. The conventions for writing code require that closing braces should appear on an otherwise empty line; however, some screen readers may not always read a line of text that consists solely of a bracket or brace.

Accessibility of Links to External Web Sites in Documentation

This documentation may contain links to Web sites of other companies or organizations that Oracle does not own or control. Oracle neither evaluates nor makes any representations regarding the accessibility of these Web sites.

Deaf/Hard of Hearing Access to Oracle Support Services

To reach Oracle Support Services, use a telecommunications relay service (TRS) to call Oracle Support at 1.800.223.1711. An Oracle Support Services engineer will handle technical issues and provide customer support according to the Oracle service request process. Information about TRS is available at `http://www.fcc.gov/cgb/consumerfacts/trs.html`, and a list of phone numbers is available at `http://www.fcc.gov/cgb/dro/trsphonebk.html`.

Related Documentation

Information about security administration is also found in the following documents:

- *Oracle Fusion Middleware Administrator's Guide*
- *Oracle Fusion Middleware Application Security Guide*
- *Oracle Fusion Middleware Security and Administrator's Guide for Web Services*
- *Oracle Fusion Middleware Administrator's Guide for Oracle Internet Directory*

For a comprehensive list of Oracle documentation or to search for a particular topic within Oracle documentation libraries, see `http://www.oracle.com/technology/documentation/index.html`.

Conventions

The following text conventions are used in this document:

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

1 Introduction to Oracle Authorization Policy Manager

Oracle Authorization Policy Manager is graphical interface tool to manage application authorization policies. This chapter describes the basic functionality of this tool in the following sections:

- Audience and Prerequisites
- What Is Authorization Policy Manager?
- The Big Picture

1.1 Audience and Prerequisites

The intended users of Authorization Policy Manager are security administrators.

Authorization Policy Manager requires that:

- The domain policy store be LDAP-based; the only supported policy store type is Oracle Internet Directory. *Before* using Authorization Policy Manager, make sure that the policy store has been reassociated to an Oracle Internet Directory. For details on reassociating the domain policy store, see *Oracle Fusion Middleware Application Security Guide*.
- The domain identity store be LDAP-based; supported identity store types are:
  - Oracle Internet Directory
  - Oracle Virtual Directory
  - WebLogic EmbeddedLDAP
  - Sun Java System Directory Service version 6.3
  - Active Directory 2003, 2008
  - Novell eDirectory 8.8
  - OpenLDAP 2.2. For the special configuration required for this type, see Appendix A, "Using an OpenLDAP Identity Store."
  - Tivoli Directory Server

  For information about Oracle Fusion Middleware Certification and Supported Configurations, visit `http://www.oracle.com/technology/software/products/ias/files/fusion_certification.html`.

Applications whose policies are managed with Authorization Policy Manager are assumed to use Oracle Platform Security Services for authorization. For details about integrating an application with these services, see *Oracle Fusion Middleware Application Security Guide*.

1.2 What Is Authorization Policy Manager?

A security administrator can use WLST commands or Fusion Middleware Control to manage application policies. On the one hand, using WLST command requires manually running commands; on the other hand, even though Fusion Middleware Control offers a graphical user interface, it is a rather complex tool that requires that the administrator work with low-level security artifacts and know names and concepts familiar to, typically, only developers (such as permission class names or task-flow names, for example).

Authorization Policy Manager greatly simplifies the creation, configuration, and administration of application policies over those two other tools by offering:

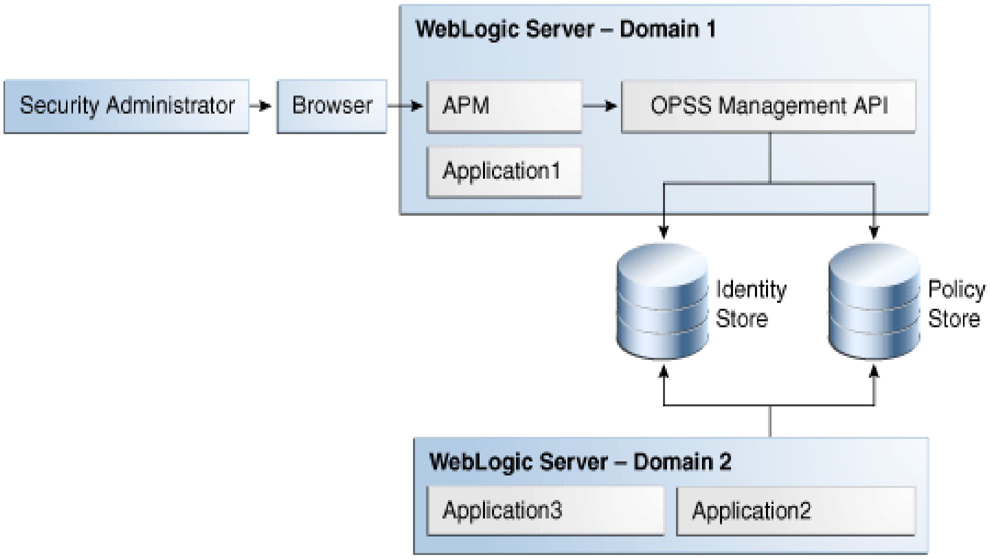
- User-friendly names and descriptions of security artifacts; for details, see Chapter 2, "The OPSS Authorization Model."
- A way to organize application roles by business, product, or any other parameter specific to an application; for details, see Section 2.3.5, "Role Categories."
- A uniform graphic interface to search, create, browse, and edit security artifacts; for details, see Chapter 4, "Querying Security Artifacts," and Chapter 5, "Managing Security Artifacts."
- A way to specify a subset of applications that a role can manage; for details, see Chapter 6, "Delegated Administration."

1.3 The Big Picture

Figure 1–1 illustrates how a security administrator accesses Authorization Policy Manager, and how the tool communicates with the domain policy and identity stores within the context of Oracle WebLogic server.

That figure also illustrates the fact that Authorization Policy Manager can access policies (and identities) of application deployed in a different domain to that in which Authorization Policy Manager is deployed, provided that those other domains point to the same policy and identity store. Authorization Policy Manager uses OPSS management APIs to access the policy store, and IGF APIs to access the identity store.

Figure 1–1 APM Deployed in a WebLogic Domain



Authorization Policy Manager does not support the management of users and external roles; these artifacts can only be viewed with the tool. Their provision and management is typically accomplished using Oracle Identity Manager. Changes to the identity store are immediately visible in Authorization Policy Manager.

1.3.1 Installing and Configuring Authorization Policy Manager

This section provides links to other documentation that describe the following topics:

- Installation
- High Availability
- Single Sign-On
- SSL
- Loggers

1.3.1.1 Installation

For details about installing Authorization Policy Manager, see *Oracle Fusion Middleware Installation Guide for Oracle Identity Management*.

1.3.1.2 High Availability

For details about high availability for Authorization Policy Manager, see *Oracle Fusion Middleware High Availability Guide*.

1.3.1.3 Single Sign-On

Oracle Access Manager 11g can be used to configure SSO between OIM and Authorization Policy Manager. For details, see *Oracle Access Manager Integration Guide*.

1.3.1.4 SSL

The connections that Authorization Policy Manager establishes with the policy store, the identity store, and the database can be secured through one-way SSL. The access to Authorization Policy Manager via a browser can also be secured through one-way

SSL. These settings are similar to those of any other application running in the Oracle WebLogic server.

For details about configuring SSL in Oracle Fusion Middleware applications when OHS is not being used, see chapter 12 in *Oracle Fusion Middleware Securing Oracle WebLogic Server*.

For details about configuring SSL in Oracle Fusion Middleware applications when OHS is being used, see chapter 6 in *Oracle Fusion Middleware Administrator's Guide*.

1.3.1.5 Loggers

Setting the loggers and a log level for Authorization Policy Manager is similar to setting them for any other application running in the Oracle WebLogic server. For details, see *Oracle Fusion Middleware Application Security Guide*.

2 The OPSS Authorization Model

This chapter describes the OPSS authorization model and the security objects used in the model. These objects, which a security administrator can manage with Oracle Authorization Policy Manager, are explained in the following sections:

- The Basic Security Artifacts
- External Roles
- The Policy Model

The terms defined in this chapter are used in the Authorization Policy Manager user-interface and throughout this guide.

2.1 The Basic Security Artifacts

An *application stripe* is a logical subset of the domain policy store where the application policies are kept. Unless specified otherwise, the application stripe name is derived from the application display name: an application with display name `appName(version)` has application stripe name `appName#vers`. An application stripe can be shared by several applications.

The first distinction among security artifacts accessible with Authorization Policy Manager is between *global* and *application-specific* artifacts.

Global artifacts include users, external roles, and system policies and they apply to all application stripes. Even though system policies are stored in the domain policy store, in this release, Authorization Policy Manager does not support viewing or managing system policies. System policies are instead managed with Fusion Middleware Control, as explained in *Oracle Fusion Middleware Application Security Guide*.

Application-specific artifacts include the resource catalog, application policies, application roles, and role categories, and they apply to just an application stripe.

2.2 External Roles

An *external role* is a collection of users and other groups. The term external role is often synonymous with the terms *enterprise role* or *enterprise group*, and it is typically implemented as LDAP groups in the identity store. Similar to other kind of roles, external roles can be structured hierarchically.

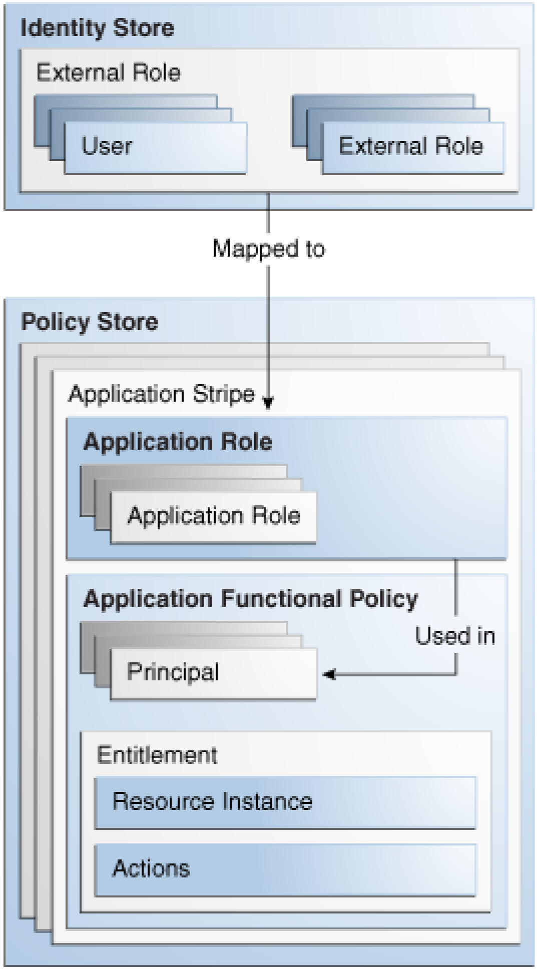
For details about the role hierarchy and permission inheritance, see *Oracle Fusion Middleware Application Security Guide*.

Note: Within Authorization Policy Manager, external roles (and users) are viewable only; they are typically managed with a different tool, such as Oracle Identity Manager. For details, see *Oracle Fusion Middleware Administrator's Guide for Oracle Identity Manager*.

2.3 The Policy Model

Figure 2–1 illustrates the logical model of an application policy. The figure does not show resource types (within entitlements), that users and external roles can also be used as principals, and that external roles can be hierarchical.

Figure 2–1 Application Policy Logical Model



The components and details of an application stripe are explained in the following sections:

- Application Role
- Principal
- The Resource Catalog
  - Resource Type
  - Resource

  - Permission and Entitlement
- Application Policy
- Role Categories

2.3.1 Application Role

An *application role* is a collection of users, groups, and other application roles; it can be hierarchical. Application roles are defined by application policies and not necessarily known to a JavaEE container. Application roles can be many-to-many mapped to external roles. For example, the external group `employee` (stored in the identity store) can be mapped to the application role `helpdesk service request` (in one stripe) and to the application role `self service HR` (in another stripe).

2.3.2 Principal

A *principal* is the identity to which the authorization in the policy is granted. A principal can be a user, an external role, or an application role. Most frequently, it is an application role.

2.3.3 The Resource Catalog

The resource catalog comprises resource types, resources, actions, and entitlements.

2.3.3.1 Resource Type

A *resource type* represents the type of a secured artifact. UI artifacts, such as ADF Taskflows, pages, buttons, fields, web services, reports, URLs, and scheduled jobs, are examples of resource types. Essentially, a resource type is a template for creating resources.

A resource type is associated with one Java class (the matcher class) that describes the actions that can be invoked on instances of the resource type and that must implement the class `java.security.Permission`. For example, for the resource type ADF Taskflow, the permission class allows Viewing or Customizing task-flows.

The following points apply to the specification of a resource type:

- The name is required and case insensitive.
- The matcher class name is required and case insensitive. Typically, the matcher class is the provided OPSS `ResoucePermission` class, although it can be a custom class. No two distinct resource types can specify the same matcher class *unless* it is the class `ResourcePermission`. For further details about this class, see *Oracle Fusion Middleware Application Security Guide*.
- The description string is optional and case insensitive.
- The display name is optional and case insensitive. Specifying a meaningful display name is recommended since it is displayed in Oracle Authorization Policy Manager, and it provides extra information that helps security administrators identify artifacts.
- The list of actions is optional, case sensitive, and can be empty. An empty action list indicates that the actions on instances of the resource type are determined externally and are opaque to Authorization Policy Manager, that is, that they are not relevant for resources of this type (in which case the resource is treated as a named resource).

For details about creating a resource type, see Section 5.1.2, "Managing Application Resource Types."

An *action* is tied to a resource type and defines an operation allowed on a resource. The matcher class associated with a resource type typically describes the list of actions for the resource type. The following are some examples of actions on resources:

- Get or post, on a URL.
- Read, write, copy, edit, or delete, on a file.
- Deposit, withdraw, view balance, view history, transfer to savings, or transfer from savings, on a checking bank account.

2.3.3.2 Resource

A *resource* or *resource instance* is an instance of a resource type that represents a concrete resource; it defines an application resource that can be secured by a policy, such as URLs, EJBs, JSPs. At runtime, the application passes the resource name to have permissions checked to determine whether a principal is authorized.

A resource requires an associated resource type, and it can exist independent of entitlements. Note the following points about the case sensitivity of the various strings in a resource specification:

- The name is required and case sensitive. At runtime, this is the name that the application passes to the have permissions checked to determine whether a user is authorized.
- The description is optional and case insensitive.
- The display name is required and case insensitive. Specifying a meaningful display name is recommended since it is displayed in Oracle Authorization Policy Manager, and it provides extra information that helps security administrators identify artifacts.

For details about creating a resource, see Section 5.1.3, "Managing Application Resources."

2.3.3.3 Permission and Entitlement

A *permission* aggregates a class, resources, and, for each resource, a subset of the actions allowed by the type of the resource.

An *entitlement or permission set* represents a small set of resources and privileges needed to perform a task, that is, it groups related resources, possibly of different types, needed to perform a business function. Entitlements are reusable collections of permissions that can be granted to multiple principals.

For example, the entitlement Maintain Purchase Orders groups the following resources:

```
Resource Type: ADF Taskflow
Resource: PO Summary
Action: view

Resource Type: ADF Taskflow
Resource: PO Details
Action: view

Resource Type: ADF Taskflow
Resource: Supplier Details
Action: view
```

```
Resource Type: Web Service
Resource: SpendingLimitCheckWS
Action: invoke

Resource Type: Workflow
Resource: POApproval
Action: submit
```

Note the following points about the case sensitivity of the various strings in an entitlement specification:

- The name is required and case insensitive.
- The description is optional and case insensitive.
- The display name is required and case insensitive. Specifying a meaningful display name is recommended since it is displayed in Oracle Authorization Policy Manager, and it provides extra information that helps security administrators identify artifacts.

For details about creating an entitlement, see Section 5.1.4, "Managing Application Entitlements."

2.3.4 Application Policy

An *application policy* is a functional policy that specifies a set of permissions that an entity (the grantee, a principal or code source) is allowed within an application, such as viewing web pages or modifying reports. That is, it specifies who can do what in an application.

An application policy uses:

- Principals as grantees, and must have at least one principal (Note that, in this release of Oracle Authorization Policy Manager, code sources are *not* allowed as grantees).
- Either one or more permissions, or an entitlement, but not both. Policies that use an entitlement are called *entitlement-based policies*; policies that use one or more permissions are called *resource-based policies*.

The application policy model is illustrated in Figure 2–1.

Authorization Policy Manager provides a rich user interface that allows security administrators to query, provision, and manage application policies. For details, see Chapter 4, "Querying Security Artifacts," and Chapter 5, "Managing Security Artifacts."

Note: Entitlement-based policies correspond closely with business functions. They are recommended in cases in which a business function considers securing a collection of resources; an entitlement can be used in one or more grants.

2.3.5 Role Categories

A role category is a collection of application roles. Role categories allow administrators organizing application roles in arbitrary flat collections. Role categories are not used in policy evaluations at runtime.

Role categories are *independent* of (and should not be confused with) the role hierarchy, which applies to both application and external roles. For details about the role hierarchy and permission inheritance, see *Oracle Fusion Middleware Application Security Guide*.

Role category names are case insensitive. For details about creating a role category, see Section 5.1.6, "Managing Application Role Categories."

3 Getting Started with Oracle Authorization Policy Manager

Oracle Authorization Policy Manager user interface uses the following general operational principle: first the administrator identifies a security object (by browsing or searching), and then, once the object has been selected, he chooses one of the operations available on it.

This chapter describes the major tabs, the navigation panel, how to use the navigation panel to carry out simple queries on various artifacts, the online help system, and some frequent uses of Authorization Policy Manager.

This information is presented in the following sections:

- The Two Major Tabs
- The Welcome Page
- The Navigation Panel
- Finding Artifacts with a Simple Search
- Online Help
- Some Frequently Used Operations

3.1 The Two Major Tabs

Authorization Policy Manager contains the following three major tabs:

- The Authorization Management Tab
- The System Configuration Tab

3.1.1 The Authorization Management Tab

The Authorization Management tab is used to search and maintain security artifacts. For details, see Chapter 4, "Querying Security Artifacts," and Chapter 5, "Managing Security Artifacts."

3.1.2 The System Configuration Tab

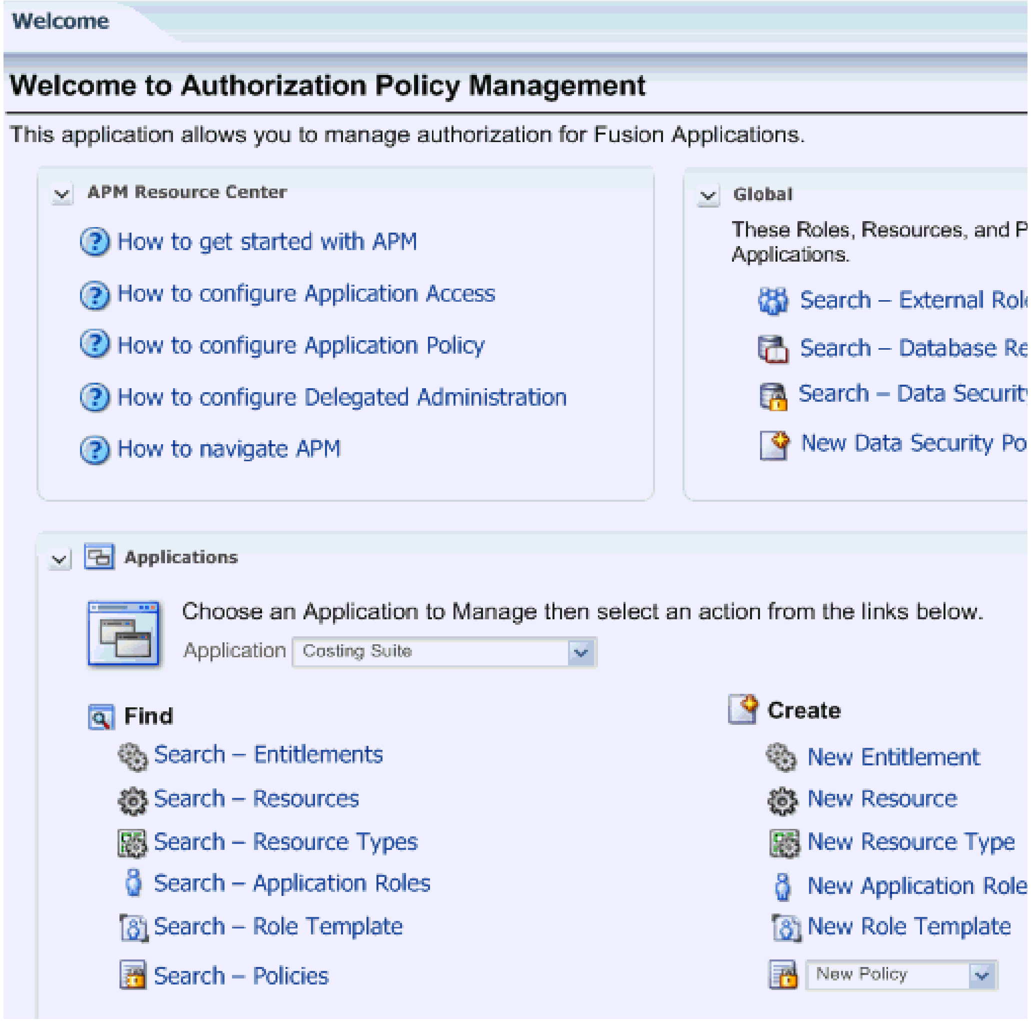
The System Configuration tab is used to specify delegated administrators, that is, to define the external roles that can manage a prescribed set of applications. For details, see Chapter 6, "Delegated Administration."

3.2 The Welcome Page

Upon a successful log in, Authorization Policy Manager displays the **Welcome** page, partially illustrated in Figure 3–1. This page contains is divided into the following areas:

- The **APM Resource Center** area contains links to some of the most commonly used procedures, including how to get started; configuring application access (or how to define the map between application roles and external roles), an application policy, delegated administration; and how to navigate through the tool UI.
- The **Global** area contains links to procedures that pertain artifacts shared across all applications, including searching external roles.
- The **Applications** area contains, at the top, a pull-down listing the application stripes in the policy store used to select the stripe to manage. This area also contains links to procedures, including searching and creating entitlements, resources, resource types, application roles, and application policies.

Figure 3–1 The Welcome Page



Welcome

Welcome to Authorization Policy Management

This application allows you to manage authorization for Fusion Applications.

These Roles, Resources, and P
Applications.

Choose an Application to Manage then select an action from the links below.

Application: Costing Suite

3.3 The Navigation Panel

The navigation panel help users finding security artifacts by browsing or searching. For details about using the navigation panel to search, see Finding Artifacts with a Simple Search.

The navigation panel, partially illustrated in Figure 3–2, is a collapsible and expandable panel that contains, from top to bottom, the following UI gadgets:

- A pull-down list to select the scope of a simple search. The scope can be global or specific to a selected application stripe.
- A pull-down list to select the artifact to query with a simple search. When the search scope is global, the list shows global artifacts; when specific to an application stripe, it shows application policy artifacts.
- A text box to enter a string that the simple search should match. The string you enter is compared against the name *and* display name of security artifacts, and those that match are displayed in the Search Results tab.
- The **Browse** tab, which displays the following expandable and collapsible hierarchy of nodes:
  - The **Global** node, from where to access global artifacts such as external roles.
  - One node per application stripe and to which the logged in user has access. Note that the list of applications shown *depends* on the logged in user. For details, see Chapter 6, "Delegated Administration."

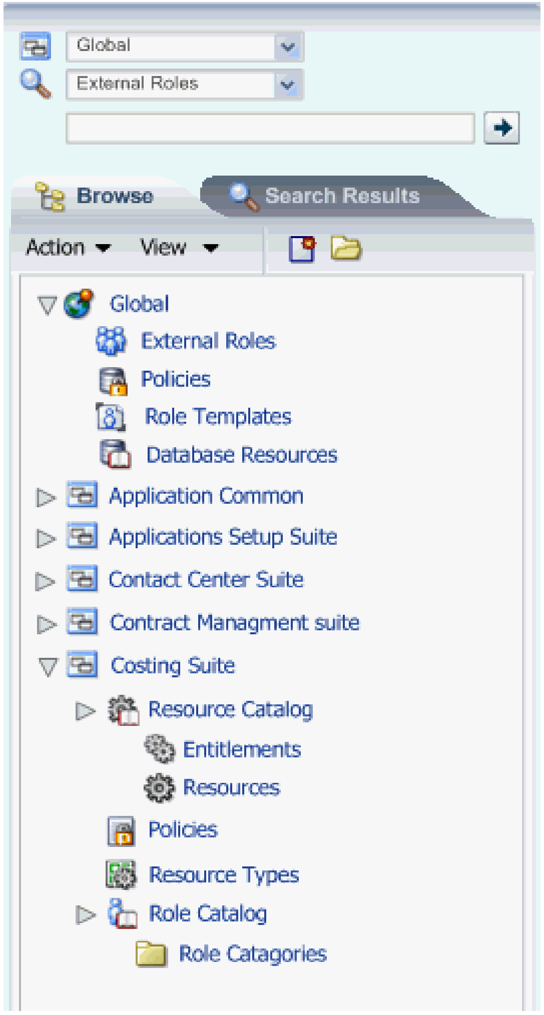
    From any of these nodes, one can access application-specific artifacts such as resource types, entitlements, resources, policies, and the role category.

    Note: As mentioned above, each node in the hierarchy identifies a application stripe in the domain policy store. Several applications *can* share a logical stripe.

    Typically, each J2EE/ADF or J2SE application has its own application stripe which is not shared with any other applications; but when several applications make up a larger logical application, then an application stripe can be shared by those applications members of the larger one.

- The **Search Results** tab, which displays the results of the last simple search.

Figure 3–2 The Navigation Panel



3.4 Finding Artifacts with a Simple Search

The top of the navigation panel, shown in Figure 3–2, is used to specify simple queries. Advanced queries are also available; for details see Chapter 4, "Querying Security Artifacts."

To specify a simple search, proceed as follows:

1. Select the search scope from the pull-down list at the top of the navigation panel.
2. Select the object type to search from the pull-down list second from the top. The list of available object types varies according to the search scope selected.

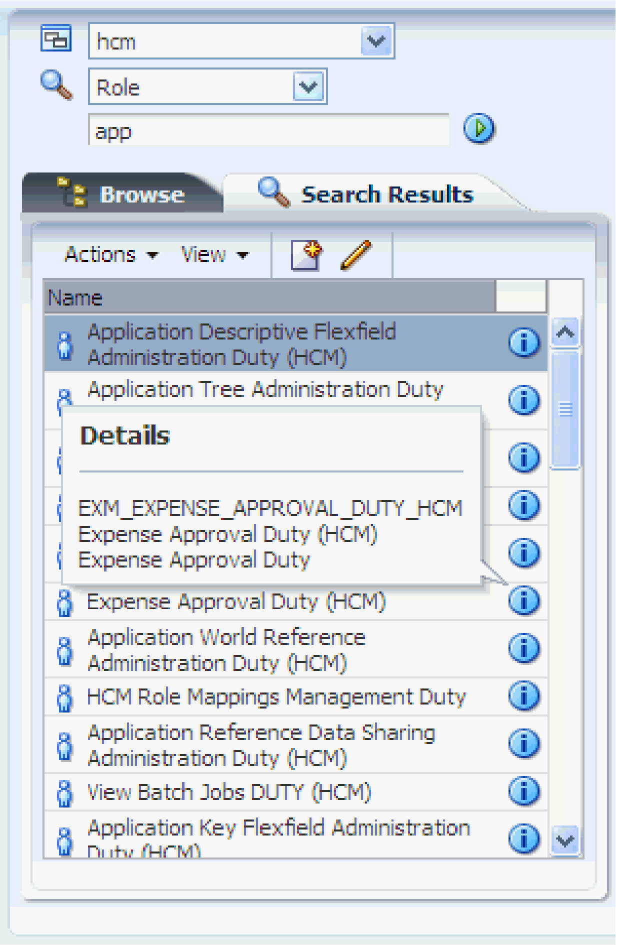
   If you select Resource Instance (on an application), you must also select the Resource Type from the pull-down list next to the object type box.
3. Enter a string to match in the text box, possibly using the wildcard characters % or * (the wild character matches any character in the pattern).

   The search returns all names and display names of the object type selected that match the specified string; leave this box empty to obtain the list of all objects of the specified type.

4. Click the Go button to trigger the search and to display the results in the tab **Search Results**, which is automatically brought to the foreground when the search is completed. Positioning the cursor on the blue information button next to an item displays the item details. The Search Results tab shows at most the first 200 matches found by the search.
5. Once an item is selected in the Search Results, it can be opened or edited by clicking **Open** or **Edit** at the top of the table.

Figure 3–3 illustrates the results of a simple search on roles for an application and the details of an application role returned by the simple search.

Figure 3–3 The Search Results Tab



hcm

Role

app

Application Descriptive Flexfield Administration Duty (HCM)

Application Tree Administration Duty

Details

EXM_EXPENSE_APPROVAL_DUTY_HCM
Expense Approval Duty (HCM)
Expense Approval Duty

Expense Approval Duty (HCM)

Application World Reference Administration Duty (HCM)

HCM Role Mappings Management Duty

Application Reference Data Sharing Administration Duty (HCM)

View Batch Jobs DUTY (HCM)

Application Key Flexfield Administration Duty (HCM)

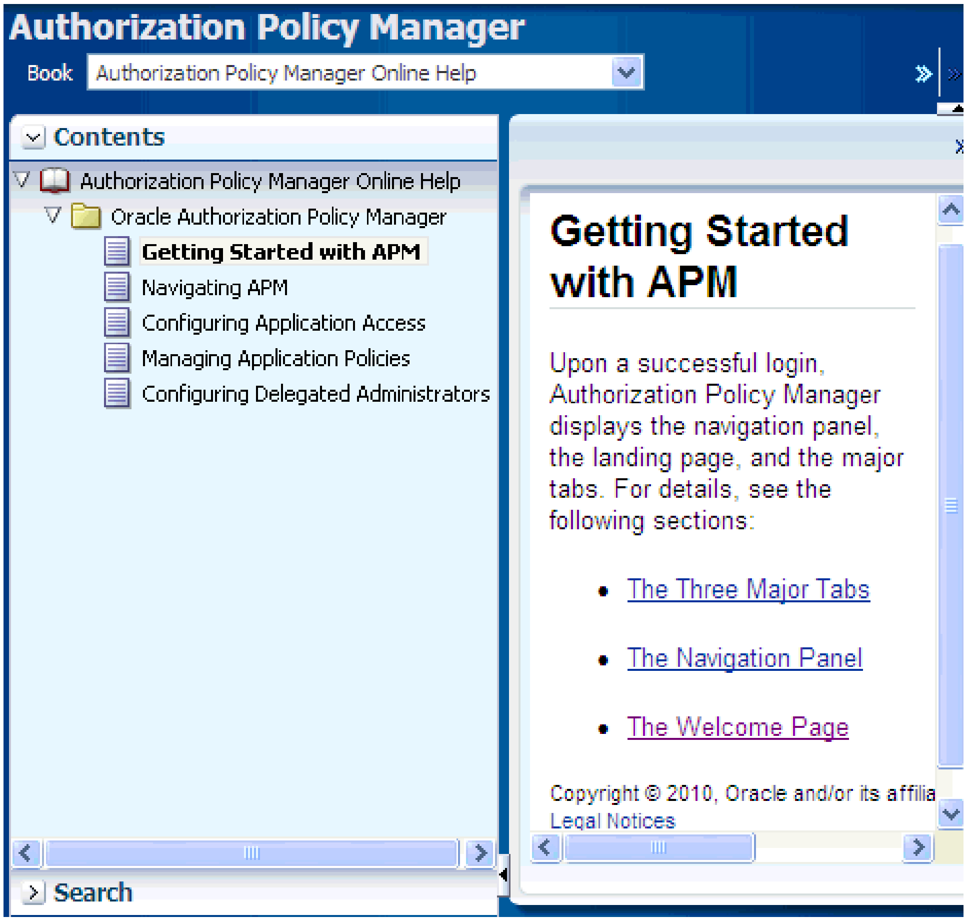
3.5 Online Help

To access online help documentation, on the upper right corner of any window, click Help to bring up the help window, partially illustrated in Figure 3–4.

In this window, you can select the documentation to view by choosing an item from the pull-down **Book** box. Selecting Authorization Policy Manager Online Help displays several topics in the online documentation; selecting Administrator's Guide for Authorization Policy Manager displays the table of contents of this guide.

Also you can search for a string in a displayed page (**Find in Page**) or within either of the two books available (select book and use **Search**).

Figure 3–4 Online Help Window


Authorization Policy Manager
Book
Authorization Policy Manager Online Help
Contents
Authorization Policy Manager Online Help
Oracle Authorization Policy Manager
Getting Started with APM
Navigating APM
Configuring Application Access
Managing Application Policies
Configuring Delegated Administrators
Search

Getting Started with APM

Upon a successful login, Authorization Policy Manager displays the navigation panel, the landing page, and the major tabs. For details, see the following sections:

- The Three Major Tabs
- The Navigation Panel
- The Welcome Page

Copyright © 2010, Oracle and/or its affilia
Legal Notices

3.6 Some Frequently Used Operations

The following scenarios describe frequent uses of Authorization Policy Manager:

- Find artifacts whose names or display names match a pattern. For details, see Finding Artifacts with a Simple Search.
- Given an external role, view all the application roles mapped to the external role. For details, see Section 5.4, "Mapping Application Roles to an External Role."
- Given an application role, view all the external roles mapped to the application role. For details, see Section 5.5, "Mapping External Roles to an Application Role."
- Given an application role, view the application hierarchy at the role. For details, see Section 5.3, "Managing the Application Role Hierarchy."
- Given an entitlement, view all application policies that use the entitlement. For details, see Section 4.6.1, "Finding Application Policies that Match Entitlements or Resources."
- Given a principal (that is, a user, an external role, or an application role), view all the application policies that use the principal. For details, see Section 4.6.2, "Finding Application Policies that Match Principals."

4

Querying Security Artifacts

Oracle Authorization Policy Manager allows two kinds of queries over OPSS security objects: simple and advanced. Simple queries are conducted in the navigation panel of the Authorization Management tab, and they involve matching names and display names only, as explained in Section 3.4, "Finding Artifacts with a Simple Search." Advanced queries are conducted in different pages of the Authorization Management tab, and they use the operators start with, ends with, contains, and equal to, which allow specifying more sophisticated matchings.

This chapter explains how to specify advanced queries, in the following sections:

There is no support for wildcard characters in advanced queries. In particular, the characters * or % are treated as plain characters in the specification of any advanced search parameter.

4.1 Searching External Roles

To search external roles, proceed as follows:

1. Expand **Global** in the navigation panel to expose the **External Roles** under it.
2. Either double-click External Roles or select it and click **Open** to display the **Search - External Roles** tab in the Authorization Management tab.
3. In the Search area of that tab, enter the query parameters as follows:
   - Select an operator for the Name from the first pull-down list and enter a string to match.
   - Select an operator for the Display Name from the second pull-down list and enter a string to match.
   - Optionally, click **Reset** to set the parameter values to the values they had before you entered the current values.

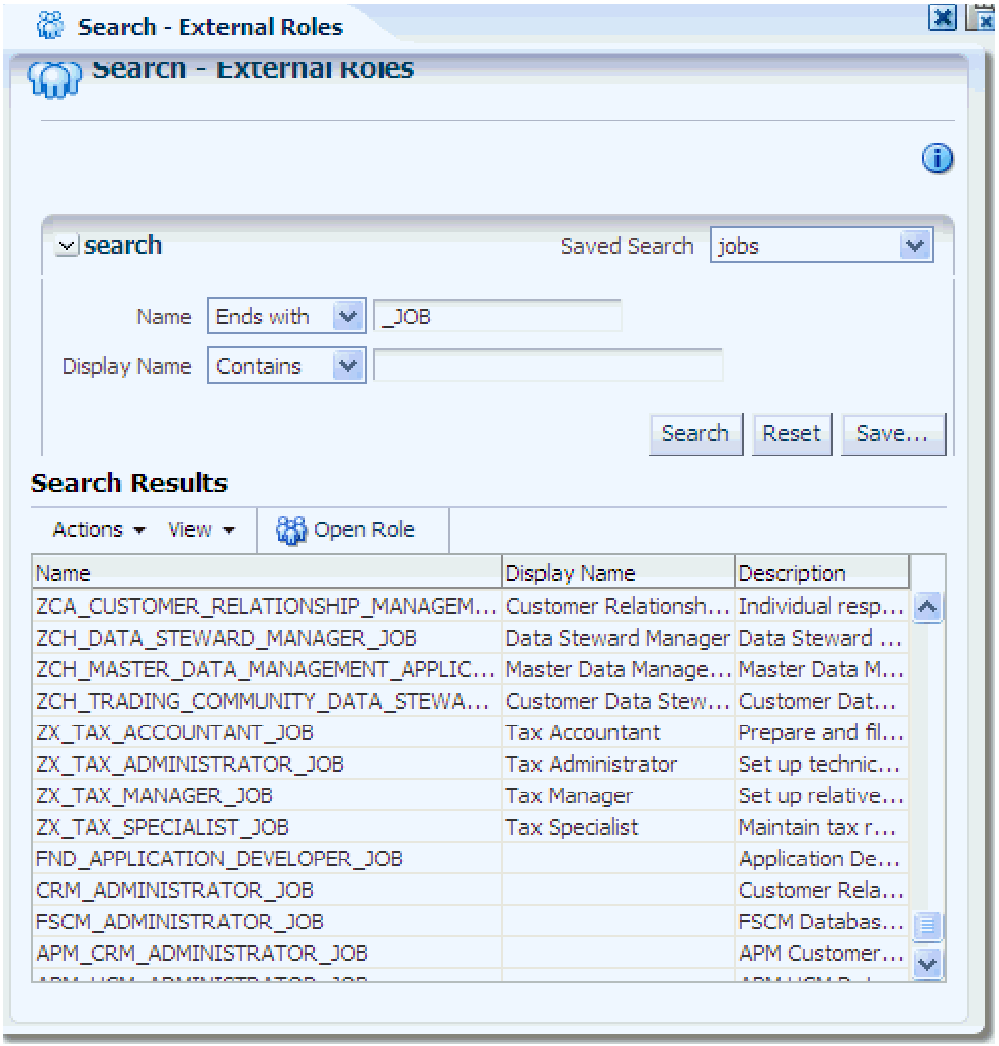
4. Optionally, click **Save...** to save the current query parameters. The name of the saved collection then appears in the pull-down list **Saved Search**. Selecting a saved search from this pull-down list fills in the query parameters automatically with the saved values.

5. Click **Search** to trigger the search. All external roles matching the query parameters are displayed in the **Search Results** area.

   The action at the top of this table allows viewing the details of a role (**Open Role**).

Figure 4–1 illustrates the results of an advanced search on external roles with previously saved query parameters (under jobs).

Figure 4–1 External Roles - Advanced Search



Saved Search: jobs

Name: Ends with _JOB

Display Name: Contains

Name	Display Name	Description
ZCA_CUSTOMER_RELATIONSHIP_MANAGEM...	Customer Relationsh...	Individual resp...
ZCH_DATA_STEWARD_MANAGER_JOB	Data Steward Manager	Data Steward ...
ZCH_MASTER_DATA_MANAGEMENT_APPLIC...	Master Data Manage...	Master Data M...
ZCH_TRADING_COMMUNITY_DATA_STEWA...	Customer Data Stew...	Customer Dat...
ZX_TAX_ACCOUNTANT_JOB	Tax Accountant	Prepare and fil...
ZX_TAX_ADMINISTRATOR_JOB	Tax Administrator	Set up technic...
ZX_TAX_MANAGER_JOB	Tax Manager	Set up relative...
ZX_TAX_SPECIALIST_JOB	Tax Specialist	Maintain tax r...
FND_APPLICATION_DEVELOPER_JOB		Application De...
CRM_ADMINISTRATOR_JOB		Customer Rela...
FSCM_ADMINISTRATOR_JOB		FSCM Databas...
APM_CRM_ADMINISTRATOR_JOB		APM Customer...

4.2 Searching Application Roles

To query application roles, proceed as follows:

1. Select an application in the navigation panel and expand it to expose all nodes in the hierarchy.

2. Either double-click **Role Catalog** or select it and click **Open** to display the **Search - Role Catalog** tab in the Authorization Management tab.

3. In the Search area of that tab, enter the query parameters as follows:

   - Select an operator for the Role Name from the first pull-down list and enter a string to match.
   - Select an operator for the Display Name from the second pull-down list and enter a string to match.
   - Select an operator for the Category and enter a string to match.
   - Optionally, click **Reset** to set the parameter values to the values they had before you entered the current values.

4. Optionally, click **Save...** to save the current query parameters. The name of the saved collection then appears in the pull-down list **Saved Search**. Selecting a saved search from this pull-down list fills in the query parameters automatically with the saved values.

5. Click **Search** to trigger the search. All role categories matching the entered specifications are displayed in the table **Search Results**. Figure 4–2 illustrates this page.

   The actions at the top of this table allow:

   - Creating a new application policy (**New Policy**) based on an application role selected from the table. For details, see Section 5.1.5.1, "Creating a Policy."
   - Creating a new application role (**New**). For details, see Section 5.1.1.1, "Creating a Role."
   - Modifying or deleting a role selected from the table (**Open**, **Delete**). For details, Section 5.1.1.2, "Modifying a Role."

     Deleting a role deletes the role and all roles nested in it; Authorization Policy Manager prompts for a confirmation before executing this cascading deletion. All references to a removed role are removed from application policies in the application stripe.

   - Finding the policies matching a role selected from the table (**Find Policies**). To search policies that match entitlements or resources, see Finding Application Policies that Match Entitlements or Resources.

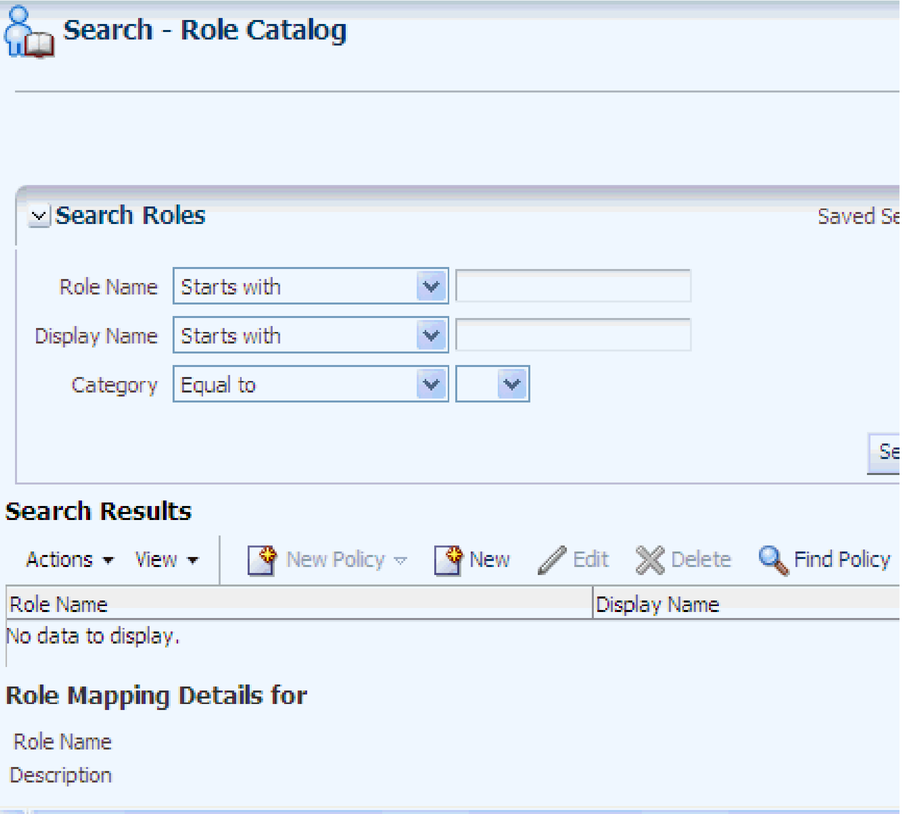
6. In addition, to modify the external roles assigned (mapped) to an application role in the Search Results table, select a role to display the area **Role Mapping Details** for the selected role.

   In that area, the table External Role Assignments lists the external roles mapped to the application role. The actions at the top of this table allow:

   - Adding an external role (**Add External Role**).
   - Removing an external role (**Remove External Role**).
   - Viewing an external role selected from the table (**Open External Role**).

   For details about the external roles, see sections Section 5.2, "Viewing the External Role Hierarchy," and Section 5.5, "Mapping External Roles to an Application Role."

Figure 4–2 Application Roles - Advanced Search



Role Name: Starts with

Display Name: Starts with

Category: Equal to

Role Name	Display Name
No data to display.	

Role Name

Description

4.3 Searching Application Resource Types

To search application resource types, proceed as follows:

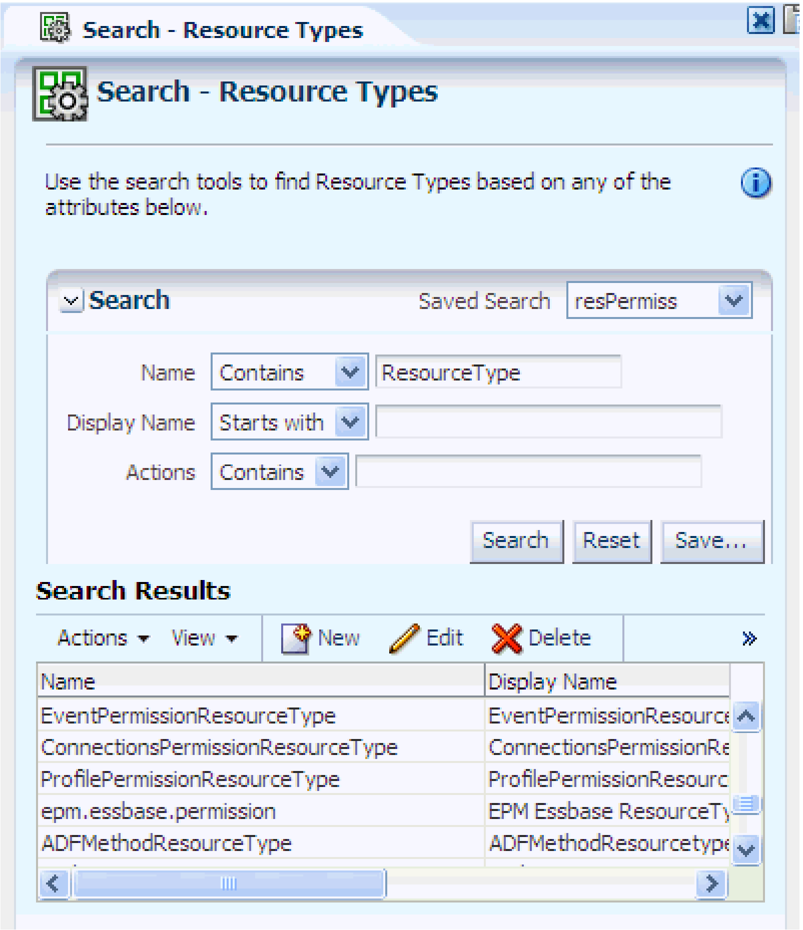
1. Select an application in the navigation panel and expand it to expose all nodes in the hierarchy.
2. Either double-click **Resource Types** or select it and click **Open** to display the **Search - Resource Types** tab in the Authorization Management tab.
3. In the Search area of that tab, enter the query parameters as follows:
    - Select an operator for the Name from the first pull-down list and enter a string to match.
    - Select an operator for the Display Name from the second pull-down list and enter a string to match.
    - Select an operator for Actions and enter a string to match.
    - Optionally, click **Reset** to set the parameter values to the values they had before you entered the current values.
4. Optionally, click **Save...** to save the current query parameters. The name of the saved collection then appears in the pull-down list **Saved Search**. Selecting a saved search from this pull-down list fills in the query parameters automatically with the saved values.
5. Click **Search** to trigger the search. All resource types matching the entered specifications are displayed in the table **Search Results**.

The actions at the top of this table allow:

- Creating a resource type (**New**)
- Editing a resource type (**Open**)
- Deleting a resource type (**Delete**)

Figure 4–3 illustrates the results of an advanced search on resource types with previously saved query parameters (under resPermiss).

Figure 4–3 Resource Types - Advanced Search



Use the search tools to find Resource Types based on any of the attributes below.

Search — Saved Search: resPermiss

Name: Contains — ResourceType

Display Name: Starts with

Actions: Contains

Search Results

Name	Display Name
EventPermissionResourceType	EventPermissionResource
ConnectionsPermissionResourceType	ConnectionsPermissionRe
ProfilePermissionResourceType	ProfilePermissionResourc
epm.essbase.permission	EPM Essbase ResourceTy
ADFMethodResourceType	ADFMethodResourcetype

4.4 Searching Application Resources

To search application resources, proceed as follows:

1. Select an application in the navigation panel and expand it to expose all nodes in the hierarchy.
2. Either double-click **Resources** or select it and click **Open** to display the **Search - Resources** tab in the Authorization Management tab.
3. In the Search area of that tab, enter the query parameters as follows:
   - Select an operator for the Name from the first pull-down list and enter a string to match.

- Select an operator for the Display Name from the second pull-down list and enter a string to match.
- Select an operator for the Resource Type and then select a resource type from the pull-down list to the right. This selection is required.
- Optionally, click **Reset** to set the parameter values to the values they had before you entered the current values.

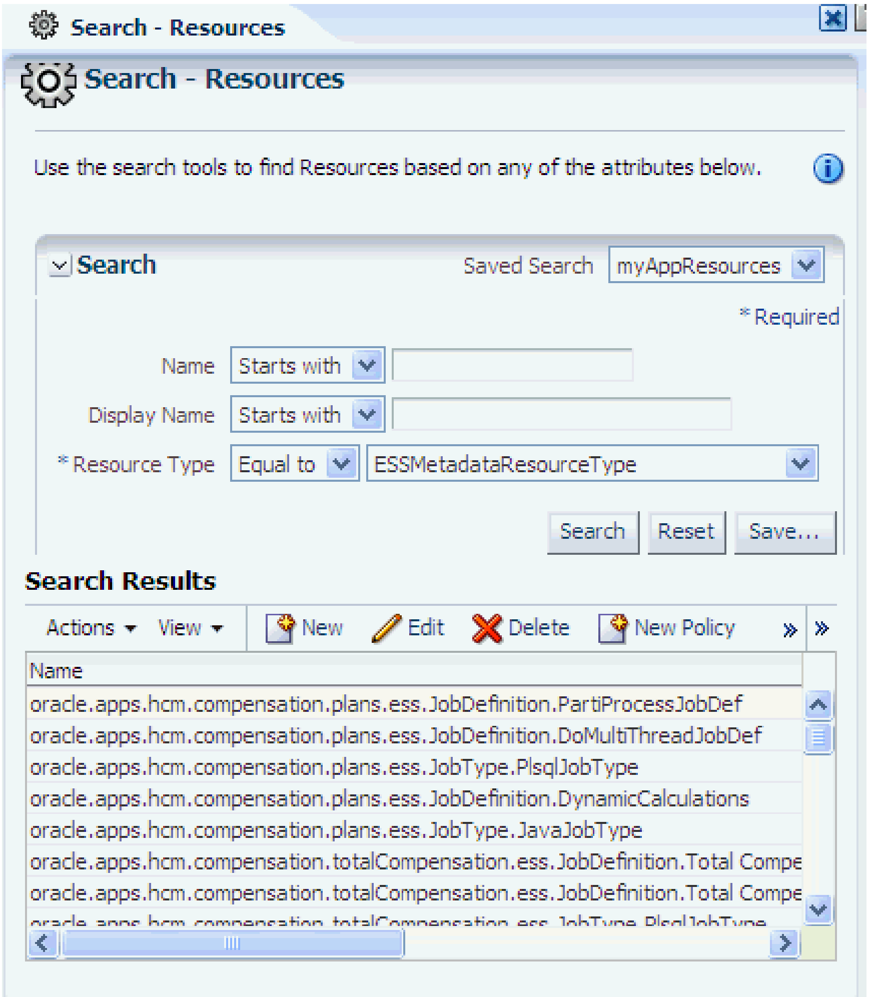
4. Optionally, click **Save...** to save the current query parameters. The name of the saved collection then appears in the pull-down list **Saved Search**. Selecting a saved search from this pull-down list fills in the query parameters automatically with the saved values.
5. Click **Search** to trigger the search. All resources matching the entered specifications are displayed in the table **Search Results**.

   The actions at the top of this table allow:

   - Creating a resource (**New**)
   - Editing a resource (**Open**)
   - Deleting a resource (**Delete**)
   - Creating a new policy based on a resource (**New Policy**)
   - Finding policies that contain a resource (**Find Policy**)
   - Detaching the Search Results table (**Detach**)

Figure 4–4 illustrates the results of an advanced search on resources with previously saved query parameters (under myAppResources).

Figure 4–4 Resources - Advanced Search



Search - Resources

Search - Resources

Use the search tools to find Resources based on any of the attributes below.

Search — Saved Search: myAppResources

* Required

Name: Starts with

Display Name: Starts with

* Resource Type: Equal to — ESSMetadataResourceType

Search Results

Name
oracle.apps.hcm.compensation.plans.ess.JobDefinition.PartiProcessJobDef
oracle.apps.hcm.compensation.plans.ess.JobDefinition.DoMultiThreadJobDef
oracle.apps.hcm.compensation.plans.ess.JobType.PlsqlJobType
oracle.apps.hcm.compensation.plans.ess.JobDefinition.DynamicCalculations
oracle.apps.hcm.compensation.plans.ess.JobType.JavaJobType
oracle.apps.hcm.compensation.totalCompensation.ess.JobDefinition.Total Compe
oracle.apps.hcm.compensation.totalCompensation.ess.JobDefinition.Total Compe
oracle.apps.hcm.compensation.totalCompensation.ess.JobType.PlsqlJobType

4.5 Searching Application Entitlements

To search application entitlements, proceed as follows:

1. Select an application in the navigation panel and expand it to expose all nodes in the hierarchy.
2. Either double-click **Entitlements** or select it and click **Open** to display the **Search - Entitlements** tab in the Authorization Management tab.
3. In the Search area of that tab, enter the query parameters as follows:
   - Select an operator for the Name from the first pull-down list and enter a string to match.
   - Select an operator for the Display Name from the second pull-down list and enter a string to match.
   - Select an operator for the Resource and enter a string to match.
   - Optionally, click **Reset** to set the parameter values to the values they had before you entered the current values.
4. Optionally, click **Save...** to save the current query parameters. The name of the saved collection then appears in the pull-down list **Saved Search**. Selecting a

saved search from this pull-down list fills in the query parameters automatically with the saved values.

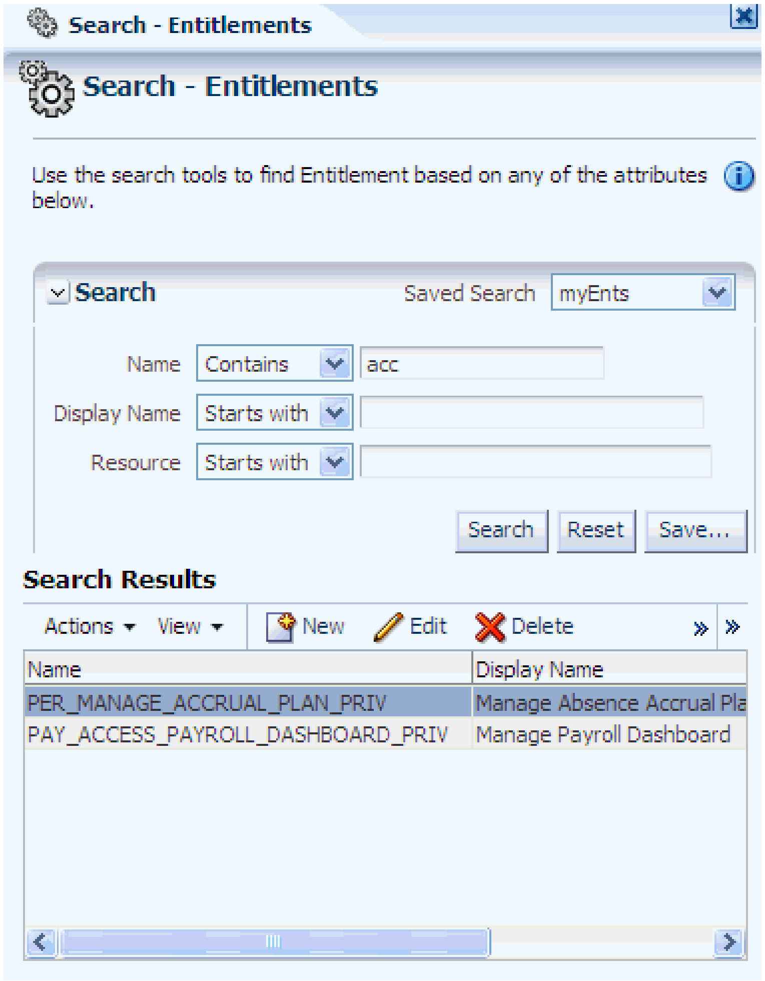
5. Click **Search** to trigger the search. All entitlements matching the entered specifications are displayed in the table **Search Results**.

   The actions at the top of this table allow:

   - Creating an entitlement (**New**)
   - Editing an entitlement (**Open**)
   - Delete an entitlement (**Delete**)
   - Creating a new policy based on an entitlement (**New Policy**)
   - Finding policies that contain an entitlement (**Find Policy**)
   - Detaching the Search Results table (**Detach**)

Figure 4–5 illustrates the results of an advanced search on entitlements with previously saved query parameters (under myEnts).

Figure 4–5 Entitlements - Advanced Search



Search - Entitlements

Use the search tools to find Entitlement based on any of the attributes below.

Saved Search: myEnts

Name	Contains	acc
Display Name	Starts with	
Resource	Starts with	

Name	Display Name
PER_MANAGE_ACCRUAL_PLAN_PRIV	Manage Absence Accrual Pla
PAY_ACCESS_PAYROLL_DASHBOARD_PRIV	Manage Payroll Dashboard

4.6 Searching Application Policies

Application policies can be searched by specifying entitlements, resources, or principals to match, as explained in the following sections:

- Finding Application Policies that Match Entitlements or Resources
- Finding Application Policies that Match Principals

Alternative ways of finding application policies that contain an entitlement or a resource is available using the action menu **Find Policy** as explained in sections Searching Application Entitlements and Searching Application Resources.

4.6.1 Finding Application Policies that Match Entitlements or Resources

To query application policies that match entitlements or resources, proceed as follows:

1. Select an application in the navigation panel and expand it to expose all nodes in the hierarchy.
2. Either double-click **Policies** or select it and click **Open** to display the **Search - Policies** tab in the Authorization Management tab.
3. In this tab, click **Function Resource** to display the page where you specify parameters for entitlement and/or resource names.
4. Select an operator for the Entitlement Name from the first pull-down list and enter a string to match, and/or select an operator for the Resource Name from the second pull-down list and enter a string to match.

   At least one of Entitlement Name or Resource Name must be specified.
5. Click **Search** to trigger the search.
6. To view all entitlement-based policies matching the specification, click **Entitlement Policies**. The actions **New Policy** and **Delete** at the top of table in this area allows creating an entitlement-based policy and deleting a policy.
7. To view all resource-based policies matching the specification, click **Resource Based Policies**. The actions **New Policy**, **Open**, and **Delete** at the top of table in this area allows creating, editing, and deleting a resource-based policy.
8. To view the details of a item, linger the cursor over the information blue button.

4.6.2 Finding Application Policies that Match Principals

To query application policies that match principals, proceed as follows:

1. Select an application in the navigation panel and expand it to expose all nodes in the hierarchy.
2. Either double-click **Policies** or select it and click **Open** to display the **Search - Policies** tab in the Authorization Management tab.
3. In this tab, click **Principal** to display the page where you specify parameters for the principal to match.
4. Select the type of principal from the first pull-down, an operator from the second pull-down list, and enter a string to match.
5. Click **Search** to trigger the search.
6. To view all entitlement-based policies matching a principal, select a principal from the **Found Principals** table, and click **Entitlement Policies**. The **New Policy** menu at the top of table allows creating an entitlement-based policy.

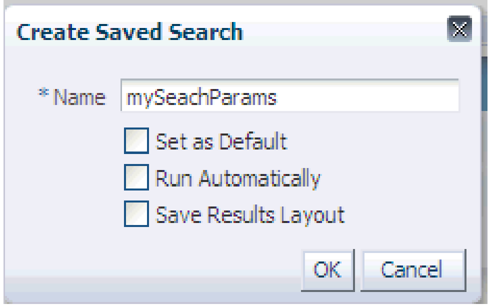
7. To view all resource-based policies matching a principal, select a principal from the **Found Principals** table, and click **Resource Based Policies**. The **New Policy** and **Open** menus at the top of table in this area allows creating and editing a resource-based policy.
8. To view the details of a item, linger the cursor over the information blue button.

4.7 Reusing Search Parameter Values

Advanced search allows saving the set of parameters used in the search. This option facilitates reproducing the results of a previous search quickly without the need to enter the same set of values multiple times.

A set of parameters is given a name and saved using the button **Save...**, and it is reused using the pull-down list **Saved Search**. Selecting a set of parameters from that list, automatically fills in the search parameters with the saved values. Figure 4–6 illustrates the Create Saved Search dialog.

Figure 4–6 Saving the Parameters of a Search



* Name mySeachParams

□ Set as Default

□ Run Automatically

□ Save Results Layout

5 Managing Security Artifacts

This chapter describes the procedures an administrator follows to manage application-specific security artifacts, view the external role hierarchy, manage the application role hierarchy, and manage the many-to-many mapping of application roles to external roles from both the application and the external role point of view.

This chapter is divided into the following sections:

- Managing Application Security Artifacts
- Viewing the External Role Hierarchy
- Managing the Application Role Hierarchy
- Mapping Application Roles to an External Role
- Mapping External Roles to an Application Role

5.1 Managing Application Security Artifacts

Authorization Policy Manager allows performing CRUD (create, read, update, delete) operations on several application security artifacts.

The menu **New**, to create an artifact, is available in the Browser and Search Results tabs of the navigation panel, and advanced search results tables.

The menu **Open**, to view and modify an artifact, is available in the Search Results tab of the navigation panel and advanced search results tables.

The menu **Delete**, to remove an artifact, is available in advanced search results tables.

The following sections describe how to manage specific security artifacts:

- Managing Application Roles
- Managing Application Resource Types
- Managing Application Resources
- Managing Application Entitlements
- Managing Application Policies
- Managing Application Role Categories

> **Note:** In regards to enterprise users and external roles, Authorization Policy Manager provides viewing and searching functionality only. To manage users and external roles, use Oracle Identity Manager or some other identity management tool.

5.1.1 Managing Application Roles

The following sections describe how to manage application roles:

- Creating a Role
- Modifying a Role

5.1.1.1 Creating a Role

To create an application role, proceed as follows:

1. In the navigation panel, right-click the application **Role Catalog** icon and select **New**, to open an Untitled page on the right panel.
2. In the **General** tab of the page, enter the following data for the role being created:
   - A role name (required)
   - A display name (required)
   - A description (optional). Although optional, it is recommended because it can provide useful information about the role.
   - A role category, to which the role being created belongs (optional)
3. Click **Save**. Note the following changes in the page: (a) the title Untitled changes to the string entered for display name; (b) two other tabs, **Application Role Hierarchy** and **External Role Mapping**, become available.
4. To position the role being created in the application role hierarchy:
   1. Bring the **Application Role Hierarchy** tab to the foreground.
   2. To view or specify the application roles this role inherits, select **Inherits** and click **Add** to display the **Add a Role** dialog.

      In the **Add a Role** dialog, query application roles with a given display name (empty string fetches all roles), select one or more roles from the results (Ctrl-click allows selecting one role at the time), and then click **Add**, to display the selected roles in the Inherits table.

      To delete a role from the Inherits table, select the role and click **Remove**; only roles directly under the top can be removed. To view a role, select the role and click **Open**; to find the policies that use a role, select the role and click **Find Policies**. To create a policy based on the application role, click **Create Policy** at the top of the page.

      To specify application roles for a role in the Inherits table, select the role, and click **Add** to display the **Add a Role** dialog. In that dialog, click the radio button for the selected role, and proceed to search and select roles to add. Then click Add, to display the added roles under the selected role.
   3. To view the application roles that this role is inherited by, select **Is Inherited By**.

      To view a role in the Is Inherited table, select the role and click **Open**; to view the policies that use a role, select the role and click **View Policies**.

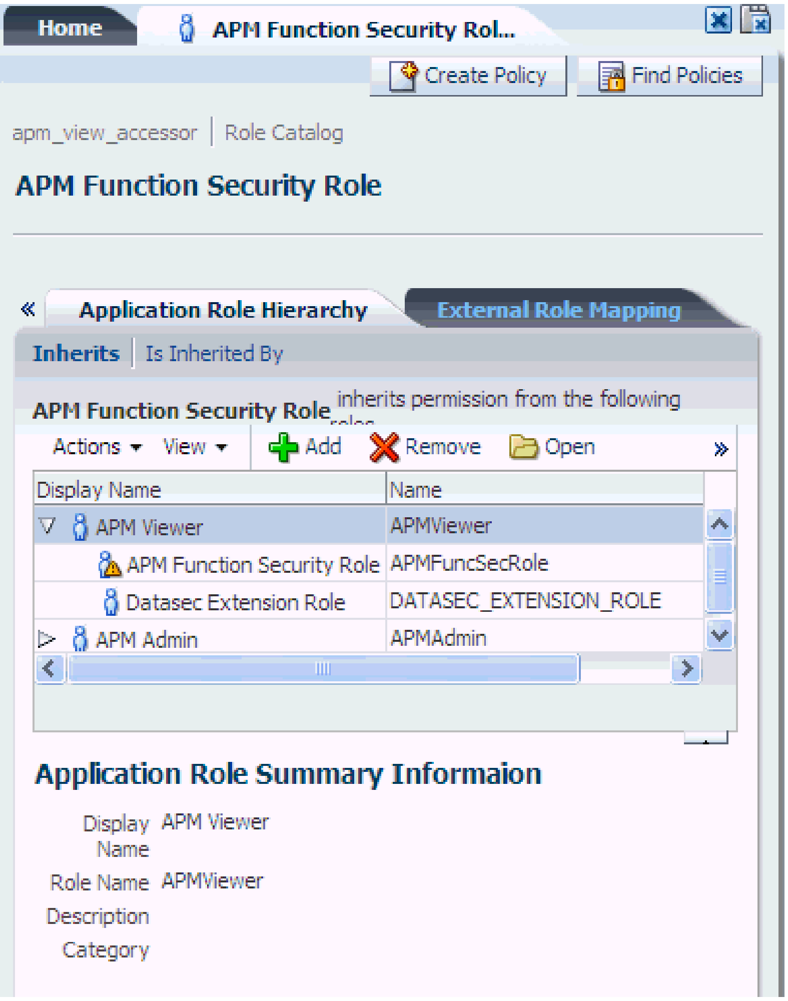
   In both pages, Inherits and Is Inherited By, the bottom area displays the summary information of a role selected from the table.
5. To map external roles to the application role being created:
   1. Bring the **External Role Mapping** tab to the foreground.

2. Click **Add** to display the **Add a Role** dialog, or select an item an click **Remove** to delete it.

3. In the **Add a Role** dialog, query external roles with a given display name (empty string fetches all roles), select one or more roles from the results (Ctrl-click allows selecting one role at the time), and then click **Add**, to display the selected roles in the External Roles tab.

Figure 5–1 illustrates part of the ApplicationRole Hierarchy tab.

Figure 5–1 Roles that an Application Role Inherits


Home
APM Function Security Rol...
Create Policy
Find Policies
apm_view_accessor
Role Catalog
APM Function Security Role
Application Role Hierarchy
External Role Mapping
Inherits
Is Inherited By
APM Function Security Role inherits permission from the following roles
Actions
View
Add
Remove
Open

Display Name	Name
APM Viewer	APMViewer
APM Function Security Role	APMFuncSecRole
Datasec Extension Role	DATASEC_EXTENSION_ROLE
APM Admin	APMAdmin

Application Role Summary Informaion

Display Name APM Viewer

Role Name APMViewer

Description

Category

5.1.1.2 Modifying a Role

Deleting a role deletes the role and all roles nested in it; Authorization Policy Manager prompts a confirmation before executing this cascading deletion. Moreover, all references to a removed role are removed from application policies in the application stripe.

To delete an application role, use the procedure in Section 4.2, "Searching Application Roles" to identify the role in the Search Results table of an advanced search, select the role, and then click **Delete**.

To modify or view an application role, proceed as follows:

1. Select the application role in the Search Results of the navigation panel, and double-click it or click **Open** to display the page for the application role. For details, see Section 3.4, "Finding Artifacts with a Simple Search."
2. Modify, as appropriate, the current specifications in the General, Application Role Hierarchy, and External Role Mapping tabs. If any data in the General tab is changed, click **Apply**.

5.1.2 Managing Application Resource Types

The following sections describe how to manage application resource types:

- Creating a Resource Type
- Modifying a Resource Type

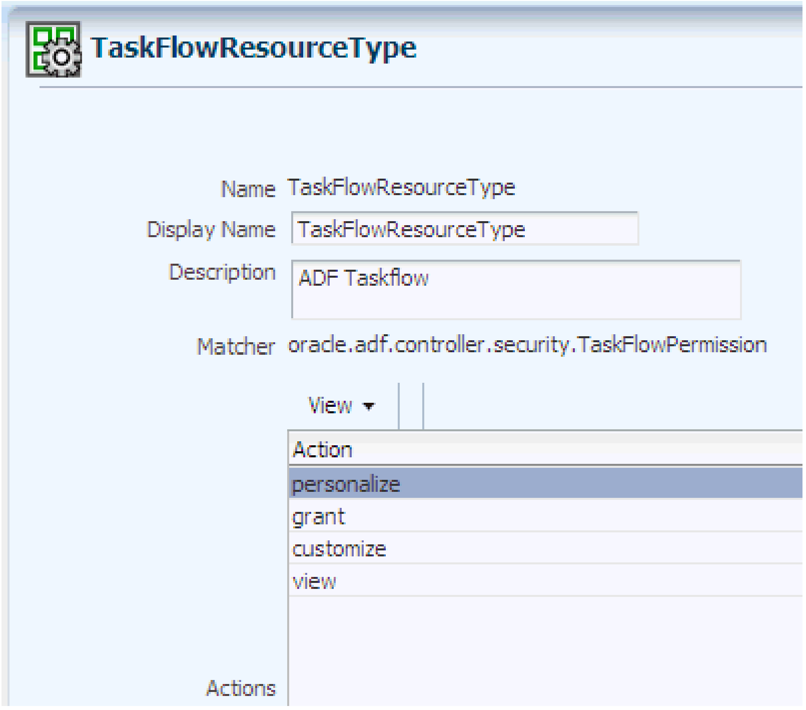
5.1.2.1 Creating a Resource Type

To create an application resource type, proceed as follows:

1. In the navigation panel, right-click the application **Resource Types** icon and select **New**, to open an Untitled page on the right panel.
2. In that page, enter the following data for the resource type being created:
   - A name (required).
   - A display name (required).
   - A description (optional). Although optional, it is recommended because it can provide useful information about the resource type.
   - A fully qualified name of the permission class for the resource type, in the box labeled **Matcher** (required).
   - The actions allowed by the type - to insert an action in the current list, click **New** to display the **New Action** dialog; enter the name of the action and then click **Save**; the Action list is then updated with the new action.
3. Click **Save**. The tab changes its title to the name of the resource type just created.

Figure 5–2 illustrates part of the page for the resource type *TaskFlowResourceType*.

Figure 5–2 Creating a Resource Type



TaskFlowResourceType

Name TaskFlowResourceType

Display Name TaskFlowResourceType

Description ADF Taskflow

Matcher oracle.adf.controller.security.TaskFlowPermission

Actions

Action
personalize
grant
customize
view

5.1.2.2 Modifying a Resource Type

To modify an application resource instance type, proceed as follows:

1. Identify the application resource type to modify or view. For details, see Section 4.3, "Searching Application Resource Types."
2. Select the resource, and click **Open** to open the page for the resource. (The Delete and New menus, also available, allows deleting a selected resource or creating a new one).
3. In that page, modify the resource type as appropriate.
4. Click **Apply** to save changes.

5.1.3 Managing Application Resources

The following sections describe how to manage application resources:

- Creating a Resource
- Modifying a Resource

5.1.3.1 Creating a Resource

To create an application resource instance, proceed as follows:

1. In the navigation panel, right-click the application **Resources** icon and select **New**, to open an Untitled page on the right panel.
2. In that page, enter the following data for the resource instance being created:
   - A name (required)
   - A display name (required)

   - A description (optional). Although optional, it is recommended because it can provide useful information about the resource instance.
   - A resource type - Select a resource type for the instance from the pull-down **Resource Types** (required)

3. Click **Save**. The tab changes its title to the name of the resource instance just created.

5.1.3.2 Modifying a Resource

To modify an application resource instance, proceed as follows:

1. Identify the application resource to modify or view. For details, see Section 4.4, "Searching Application Resources."
2. Select the resource, and click **Open** to open the page for the resource. (The Delete menu, also available, allows deleting a selected resource).
3. In that page, modify the resource as appropriate.
4. Click **Apply** to save changes.

Alternatively, use a simple search to identify the resource, select it, and then click **Open** to edit its attributes.

5.1.4 Managing Application Entitlements

The following sections describe how to manage application entitlements:

- Creating an Entitlement
- Modifying an Entitlement

5.1.4.1 Creating an Entitlement

To create an application entitlement, proceed as follows:

1. In the navigation panel, right-click the application **Entitlements** icon and select **New**, to open an Untitled page on the right panel.
2. In that page, enter the following data for the entitlement being created:
   - A name (required)
   - A display name (required)
   - A description (optional). Although optional, it is recommended because it can provide useful information about the entitlement.
3. Add resources to the entitlement being created. There are two ways of accomplishing this task; the first way is as follows:
   1. List the resources available to the application by performing a regular search on resource instances.
   2. Drag an drop resource instances from the **Search Results** tab (on the navigation panel) into the area labeled **Resources**.

   The second, alternative way is as follows:

   1. Click **Add** at the top of the area **Resources**, to display the **Add Resource** dialog.

   2. In that dialog, search for the available resources whose names or display names match a string, and a selected Resource Type. The resources matching the query are displayed in the table at the bottom of the dialog.

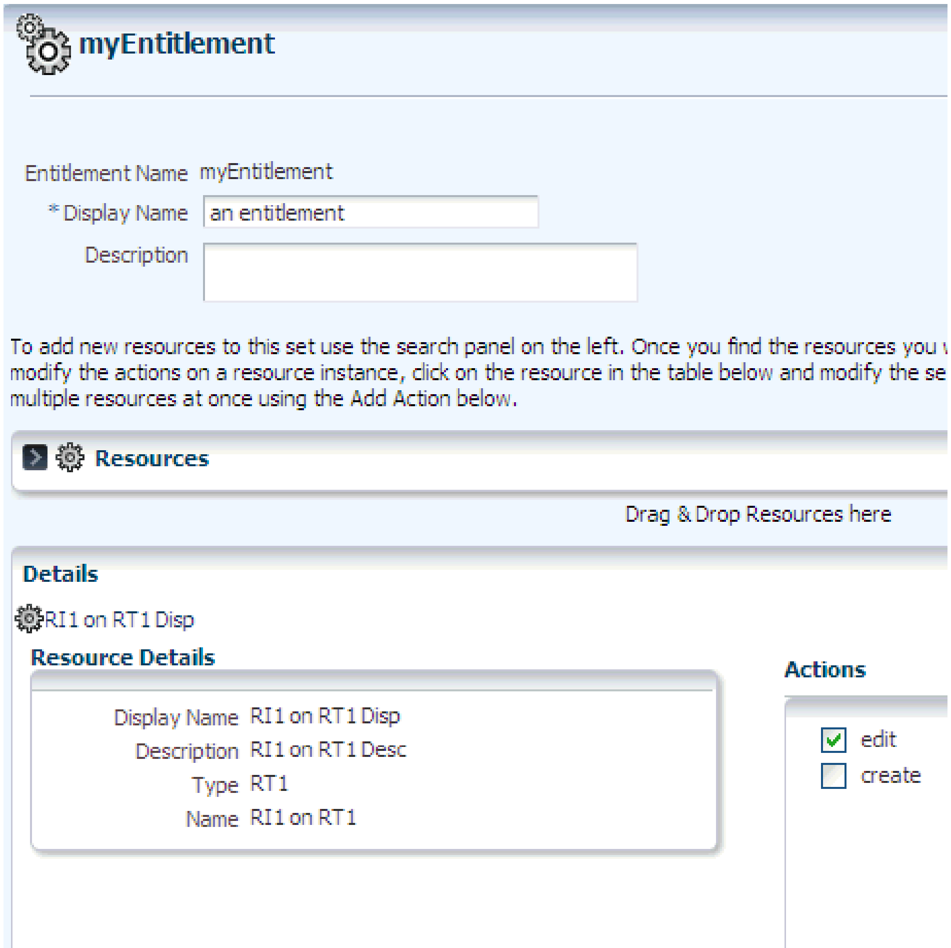
   3. From the results, select the resources to add (the combination ctrl-left click allows you to select multiple items from the list), and then click **Add**. Only resources not already in the Resources list are allowed to be added.

4. Select actions for resources - First select a resource that you have added (from the Resources list) to display the resource details in the **Resource Details** area at the bottom of the page. Then check the desired actions for that resource in the area **Actions**. Only the actions allowed for the type of the selected resource are available in this area. Repeat this step for each of the resources you have added to the entitlement being created.

5. Click **Save**. The page changes its title to the name of the entitlement just created.

Figure 5–3 illustrates part of the page after the entitlement *myEntitlement* has been created and in which the area Resources has been collapsed.

Figure 5–3 Creating an Entitlement



myEntitlement

Entitlement Name myEntitlement

* Display Name an entitlement

Description

To add new resources to this set use the search panel on the left. Once you find the resources you \
modify the actions on a resource instance, click on the resource in the table below and modify the se
multiple resources at once using the Add Action below.

Resources

Drag & Drop Resources here

Details

RI1 on RT1 Disp

Resource Details

Display Name	RI1 on RT1 Disp
Description	RI1 on RT1 Desc
Type	RT1
Name	RI1 on RT1

Actions

☑ edit

□ create

5.1.4.2 Modifying an Entitlement

To modify or view an entitlement, proceed as follows:

1. Select the entitlement in the Search Results of the navigation panel, and double-click it or click **Open** to display the page for the entitlement. For details, see Section 3.4, "Finding Artifacts with a Simple Search."
2. Modify, as appropriate, the current specifications in the page.
3. Click **Apply** to save changes.

5.1.5 Managing Application Policies

The following sections describe how to manage application functional policies:

- Creating a Policy
- Modifying a Policy

5.1.5.1 Creating a Policy

The following procedure describes a way to create an application policy based in an application role; alternative ways to create policies based on a principal, an entitlement, or a resource by using the **New Policy** menu are described in Section 4.6.1, "Finding Application Policies that Match Entitlements or Resources," and Section 4.6.2, "Finding Application Policies that Match Principals."

To create an application policy based on a specific application role, proceed as follows:

1. Select **Policies** under the application for which you want to create the policy, and double-click it or click **Open** to display the **Search - Policies** page.
2. In that page, bring the tab **Principal** to the foreground and specify parameters for a **Search**, to locate and select the principals (application role, external role, or user) on which to base the policy being created.
3. In the tab **Function Security**, at the bottom area of the page, select either **Entitlement Policies** or **Resource Based Policies** (according to the kind of policy to create), and then click New Policy to display an **Untitled** policy page.

   If creating an entitlement-based policy, then in the Untitled page:

   1. Add principals to the policy - Either use the button **Add** at the top of the **Principal** table, or, alternatively, perform a simple search on application roles, external roles, or users, and drag-and-drop items from the search results into the Principal table. For details, see Section 3.4, "Finding Artifacts with a Simple Search."
   2. Add an entitlement to the policy - Either use the button **Add** at the top of the **Entitlement** table, or, alternatively, perform a simple search on the application entitlements, and drag-and-drop an entitlement from the search results into the Entitlement table.
   3. Click **Save**.

   If creating a resource-based policy, then in the Untitled page:

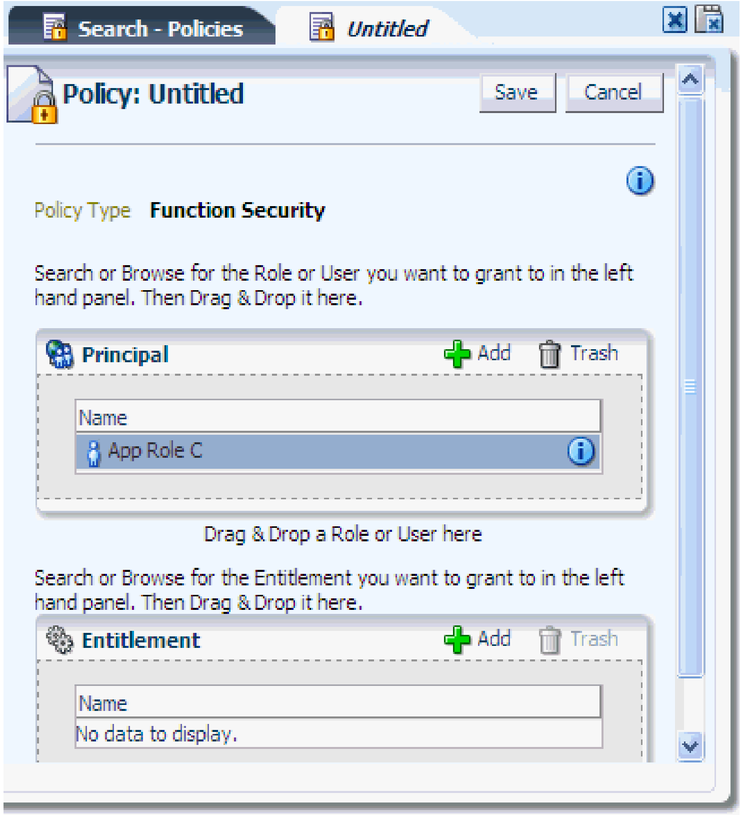
   1. Add principals to the policy - Either use the button **Add** at the top of the **Principal** table, or, alternatively, perform a simple search on application roles, external roles, or users, and drag-and-drop items from the search results into the Principal table. For details, see Section 3.4, "Finding Artifacts with a Simple Search."
   2. Add resource instances to the policy - Either use the button **Add** in the **Resources** table, or, alternatively, perform a simple search on the application

resource instances, and drag-and-drop a resource instances from the search results into the Resources table.

3. For each of the resource instance added, select a resource instance and specify the actions allowed by checking the appropriate boxes in the **Actions** area at the bottom of the page.
4. Click **Save**.

Figure 5–4 illustrates part of the page after creating a policy based on an entitlement.

Figure 5–4 Creating an Entitlement-Based Policy



Policy Type Function Security

Search or Browse for the Role or User you want to grant to in the left hand panel. Then Drag & Drop it here.

Name
App Role C

Search or Browse for the Entitlement you want to grant to in the left hand panel. Then Drag & Drop it here.

Name
No data to display.

5.1.5.2 Modifying a Policy

Entitlement-based policies cannot be modified.

To modify or view a resource-based policy, proceed as follows:

1. Identify the resource-based application policy to modify or view in either of the following ways:
   - By matching an application role in the policy. For details, see step 7 in procedure in Section 4.6.2, "Finding Application Policies that Match Principals."
   - By matching a resource name in the policy. For details, see step 7 in procedure in Section 4.6.1, "Finding Application Policies that Match Entitlements or Resources."
2. Select the policy, and click **Open** to open the page for the policy.
3. In that page, modify the policy attributes as appropriate.

4. Click **Apply** to save changes.

5.1.6 Managing Application Role Categories

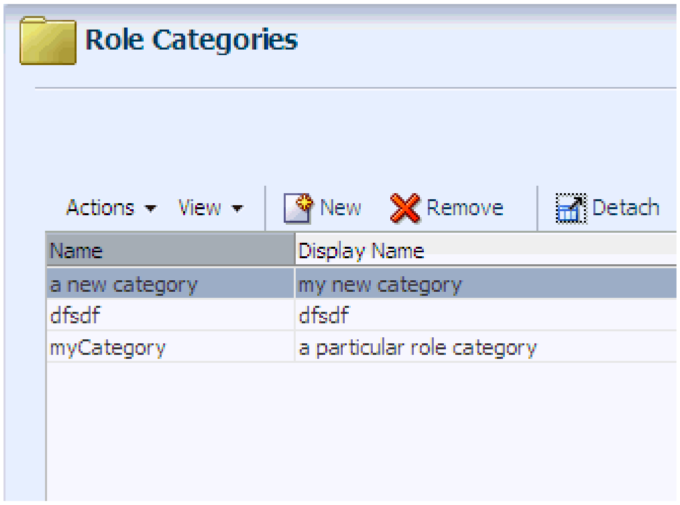
Authorization Policy Manager does not support modifying role categories, but only creating and deleting them.

To create an application role category, proceed as follows:

1. In the navigation panel, right-click the application **Roles Categories** icon and select **New**, to open an Untitled page on the right panel.
2. In that page, click New to display the **New Category** dialog.
3. In that dialog, enter the following data for the category being created:
   - A name (required)
   - A display name (required)
   - A description (optional). Although optional, it is recommended because it can provide useful information about the category.
4. Click **Create**: the new category is displayed in the list under the Role Categories page.

Figure 5–5 partially illustrates the Role Categories page after a category has been created.

Figure 5–5 Creating an Application Role Category



Name	Display Name
a new category	my new category
dfsdf	dfsdf
myCategory	a particular role category

5.2 Viewing the External Role Hierarchy

To view the external role hierarchy under a given external role, proceed as follows:

1. Select an external role in the Search Results of the navigation panel, and double-click it or select it and click the View icon to display the page for the external role. For details, see Section 3.4, "Finding Artifacts with a Simple Search."
2. In that page, select the **External Role Hierarchy** tab.

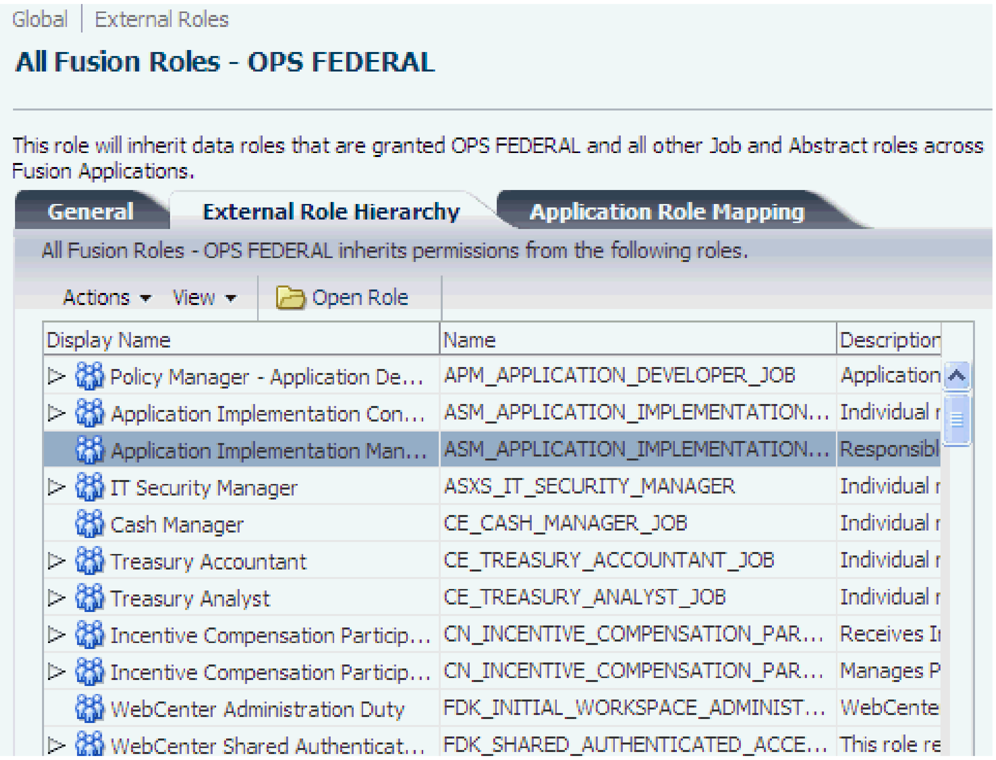
3. The table in that tab displays all the external roles from which the selected role inherits permissions. Any external role in the table admits being expanded to further show the deeper levels of the hierarchy.

   In addition, the actions at the top of the table allow:

   - Opening a selected external role for view (**Open Role**)

Figure 5–6 partially illustrates the External Role Hierarchy tab for the external role OPS FEDERAL.

Figure 5–6 External Role Hierarchy



Global | External Roles

All Fusion Roles - OPS FEDERAL

This role will inherit data roles that are granted OPS FEDERAL and all other Job and Abstract roles across Fusion Applications.

All Fusion Roles - OPS FEDERAL inherits permissions from the following roles.

Display Name	Name	Description
▷ Policy Manager - Application De...	APM_APPLICATION_DEVELOPER_JOB	Application
▷ Application Implementation Con...	ASM_APPLICATION_IMPLEMENTATION...	Individual r
Application Implementation Man...	ASM_APPLICATION_IMPLEMENTATION...	Responsibl
▷ IT Security Manager	ASXS_IT_SECURITY_MANAGER	Individual r
Cash Manager	CE_CASH_MANAGER_JOB	Individual r
▷ Treasury Accountant	CE_TREASURY_ACCOUNTANT_JOB	Individual r
▷ Treasury Analyst	CE_TREASURY_ANALYST_JOB	Individual r
▷ Incentive Compensation Particip...	CN_INCENTIVE_COMPENSATION_PAR...	Receives I
▷ Incentive Compensation Particip...	CN_INCENTIVE_COMPENSATION_PAR...	Manages P
WebCenter Administration Duty	FDK_INITIAL_WORKSPACE_ADMINIST...	WebCente
▷ WebCenter Shared Authenticat...	FDK_SHARED_AUTHENTICATED_ACCE...	This role re

5.3 Managing the Application Role Hierarchy

This section explains how to view and modify an application role hierarchy, specifically, the hierarchy of application roles below and above a given application role.

- Roles that an Application Role Inherits
- Roles that Inherit an Application Role

5.3.1 Roles that an Application Role Inherits

To view or modify the application role hierarchy below a given application role, proceed as follows:

1. Select an application role in the Search Results of the navigation panel, and double-click it or click Open to display the page for the application role. For details, see Section 3.4, "Finding Artifacts with a Simple Search."

2. Bring the tab **Application Role Hierarchy** to the foreground and select **Inherits**.
3. The table in that region displays the application roles under the role.

   The actions at the top of this table allow:

   - Adding application roles (**Add**)
   - Removing a selected role (**Remove**)
   - Opening for viewing a selected role (**Open**)
   - Viewing the policies that contain a selected role (**View Policies**)

5.3.2 Roles that Inherit an Application Role

To view or modify the application role hierarchy above a given application role, proceed as follows:

1. Select an application role in the Search Results of the navigation panel, and double-click it or click Open to display the page for the application role. For details, see Section 3.4, "Finding Artifacts with a Simple Search."
2. Bring the tab **Application Role Hierarchy** to the foreground and select **Is Inherited By**.
3. The table in that region displays the application roles under the role.

   The actions at the top of this table allow:

   - Adding application roles (**Add**)
   - Removing a selected role (**Remove**)
   - Opening for viewing a selected role (**Open**)
   - Viewing the policies that contain a selected role (**View Policies**)

5.4 Mapping Application Roles to an External Role

To map application roles to an external role, proceed as follows:

1. Select the external role in the Search Results of the navigation panel, and double-click it or click Open to display the page for the external role. For details, see Section 3.4, "Finding Artifacts with a Simple Search."
2. In that page, select the **Role Mapping** tab.
3. In that tab, in the table in the area **External Role Hierarchy**, select **Map Roles** to display the Map Application Roles to External Roles dialog.
4. Use that dialog to search and select the application roles you want to map into the external role, and then click **Map Roles**. The current list of application roles mapped to the external role is shown in the table in the area **Application Role Hierarchy for:**.

   In addition, the actions at the top of the table allow:

   - Removing roles from the map (**Remove Roles**)
   - Opening a selected external role for view (**Open Role**)
   - Finding policies that contain a selected role (**Find Policies**)

5.5 Mapping External Roles to an Application Role

To map external roles to an application role, proceed as follows:

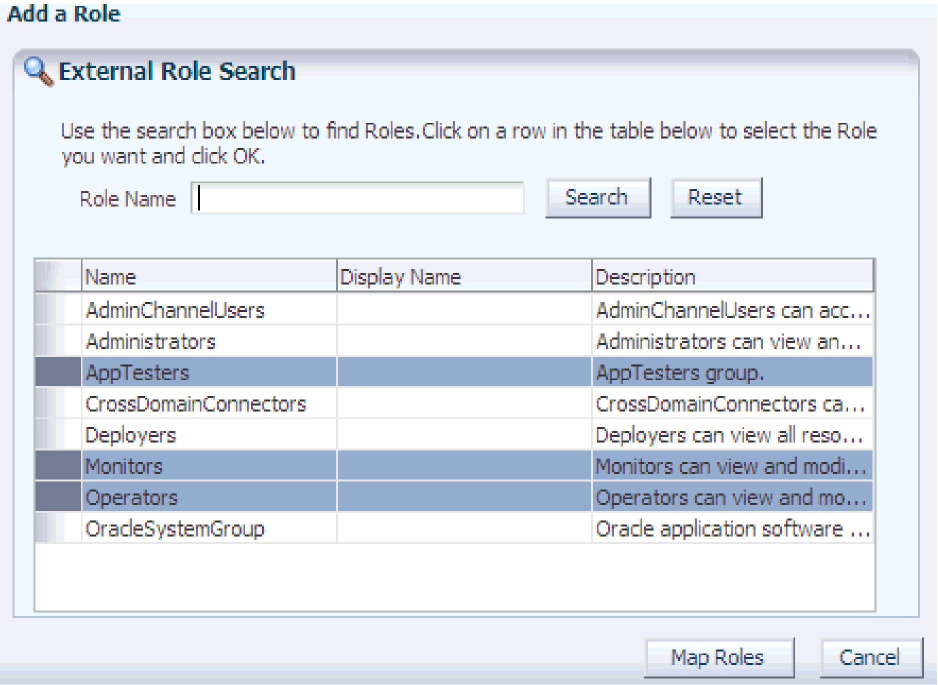
1. Select an application role in the Search Results of the navigation panel, and double-click it or click Open to display the page for the application role. For details, see Section 3.4, "Finding Artifacts with a Simple Search."
2. Bring the tab **External Role Mapping** tab to the foreground.
3. In that tab, click **Add** to display the **Add a Role** dialog. Use this dialog to search and select the set of external roles to be mapped to the application role; then click **Map Roles**.

   The table showing the external roles mapped to the application role is then updated to include the selected roles. In addition to adding external roles, the actions at the top of this table allow:

   - Removing a selected role (**Remove**)
   - Opening for viewing a selected role (**Open**)

Figure 5–7 illustrates the Add a Role dialog with results of an External Role Search and three external roles selected.

Figure 5–7 Selecting the External Roles to Map to an Application Role

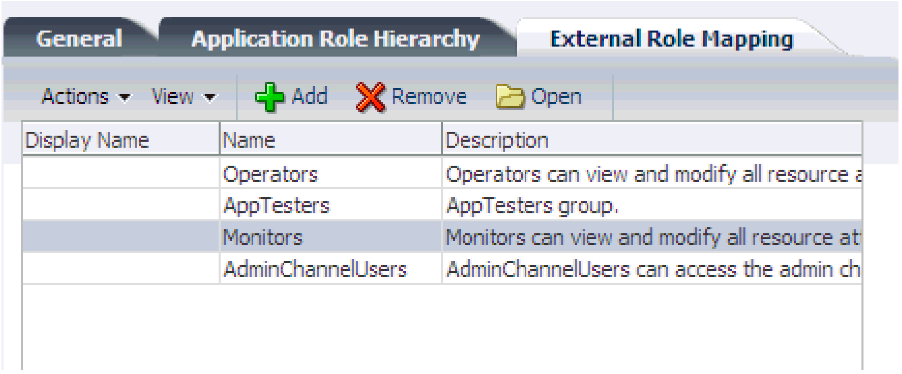


Use the search box below to find Roles.Click on a row in the table below to select the Role you want and click OK.

Name	Display Name	Description
AdminChannelUsers		AdminChannelUsers can acc...
Administrators		Administrators can view an...
AppTesters		AppTesters group.
CrossDomainConnectors		CrossDomainConnectors ca...
Deployers		Deployers can view all reso...
Monitors		Monitors can view and modi...
Operators		Operators can view and mo...
OracleSystemGroup		Oracle application software ...

Figure 5–8 illustrates the External Role Mapping tab displaying the external roles mapped to an application role.

Figure 5–8 Displaying the External Roles Mapped to an Application Role



Display Name	Name	Description
	Operators	Operators can view and modify all resource a
	AppTesters	AppTesters group.
	Monitors	Monitors can view and modify all resource at
	AdminChannelUsers	AdminChannelUsers can access the admin ch

An alternative way to add external roles to an application role (with the action menu **Add External Role)** is explained in Section 4.2, "Searching Application Roles."

6 Delegated Administration

This chapter describes a special role with permissions to manage a specified set of applications, so that only that role can view, access, and have administrator privileges to artifacts in the set of applications.

This chapter is divided into the following sections:

- Delegated Administrators
- Managing Delegated Administrators

6.1 Delegated Administrators

A delegated administrator is a role that can administer a given set of applications. A delegated administrator (and only a delegated administrator) can view or modify policies for that set of applications. Oracle Authorization Policy Manager allows you to specify delegated administrator roles, to determine which applications it can manage, and to map external roles to it. All these functions are available in the System Configuration tab.

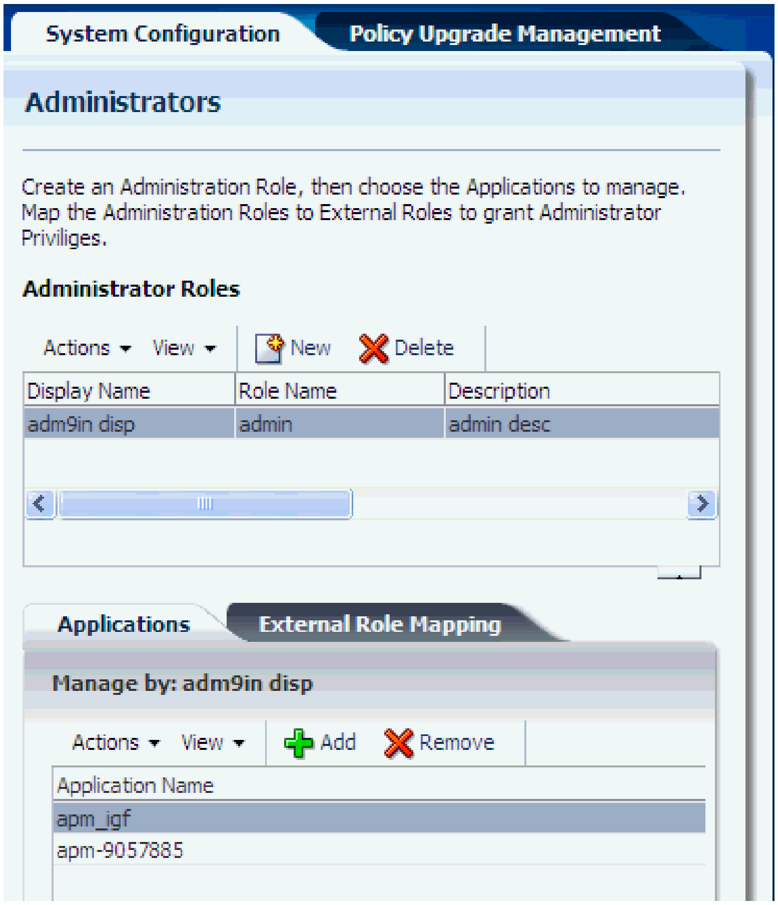
The Browser tab in the Navigation Panel displays only the set of application stripes that the logged in user is authorized to administer. All stripes that a delegated administrator *cannot* administer are also hidden in other pages, such as the page that displays how an external role maps to application roles in multiple stripes.

6.2 Managing Delegated Administrators

The System Configuration tab, partially illustrated in Figure 6–1, displays the current list of delegated administrator roles, the application stripes managed by a delegated administrator (in the Applications tab), and the external roles mapped into it (in the External Role Mapping tab). This page also allows creating a delegated administrator and modifying an existing one, as explained in the following sections:

- Managing Delegated Administrators
- Managing the Applications Assigned to a Delegated Administrator
- Managing the External Roles Mapped to a Delegated Administrator

Figure 6–1 The System Configuration Tab



Administrators

Create an Administration Role, then choose the Applications to manage. Map the Administration Roles to External Roles to grant Administrator Priviliges.

Administrator Roles

Display Name	Role Name	Description
adm9in disp	admin	admin desc

Manage by: adm9in disp

Application Name
apm_igf
apm-9057885

6.2.1 Managing Delegated Administrators

To add a delegated administrator, proceed as follows:

1. Click the **System Configuration** tab.
2. In the **Administrator Roles** area, click **New** to display the **New Administrator Role** dialog.
3. In that dialog, enter a name, a display name, and (optionally) a description for the role being created, and then click **Save.** The table in the Administrator Roles area is updated to include the new role.

To remove a delegated administrator, proceed as follows:

1. Click the **System Configuration** tab.
2. In the **Administrator Roles** area, select an administrator from the list and click **Delete**.

6.2.2 Managing the Applications Assigned to a Delegated Administrator

To add an application to the set of applications managed by a delegated administrator, proceed as follows:

1. Click the **System Configuration** tab.

2. Select a delegated administrator role from the table in the **Administrator Roles** area.
3. Click the **Applications** tab, to display the current list of applications managed by the selected role.
4. Click **Add** to display the **Add Application** dialog showing the list of applications.
5. In that dialog, select the application(s) to include, and click **Add**. The list of applications in the Applications table is updated with the items you have selected.

To remove an application from the set of applications managed by a delegated administrator, proceed as follows:

1. Click the **System Configuration** tab.
2. Select a delegated administrator role from the table in the **Administrator Roles** area.
3. Click the **Applications** tab, to display the current list of applications managed by the selected role.
4. Select an application from the table, and click **Remove**.

6.2.3 Managing the External Roles Mapped to a Delegated Administrator

To map external roles to a delegated role, proceed as follows:

1. Click the **System Configuration** tab.
2. Select a delegated administrator role from the table in the **Administrator Roles** area.
3. Click the **External Role Mapping** tab, to display the current list of external roles mapped by the selected role.
4. Click **Add** to display the **Add a Role** dialog.
5. In that dialog, search and select the external roles to add to the map, and click **Map Roles**. The list of roles in the External Role Mapping table is updated with the items you have selected.

To remove an external role from the list of external roles mapped to a delegated role, proceed as follows:

1. Click the **System Configuration** tab.
2. Select a delegated administrator role from the table in the **Administrator Roles** area.
3. Click the **External Role Mapping** tab, to display the current list of external roles mapped by the selected role.
4. Select a role from the table, and click **Remove**.

7 Customizing the User Interface

This chapter explains several customizations available in Oracle Authorization Policy Manager in the following sections:

- Customizing Authorization Policy Manager
- Customizing Headers, Footers, and Logo
- Customizing Color Schemes
- Customizing the Login Page

7.1 Customizing Authorization Policy Manager

All customizations described in this chapter require modifying data in the following files:

```
$ORACLE_HOME$/apm/modules/oracle.security.apm_11.1.1/oracle.security.apm.ear
$ORACLE_HOME$/apm/modules/oracle.security.apm_
11.1.1/oracle.security.apm.core.view.war
```

Customizations applied to a version of Authorization Policy Manager need to be specified anew every time a new version of the tool is installed.

Before you begin customizing Authorization Policy Manager, it is recommended that you backup the tool's EAR and the view WAR files listed above.

To customize Authorization Policy Manager, proceed as follows:

1. Unzip the tool's EAR and WAR files, and the view WAR file, as illustrated by the following commands:

```
$ unzip -d $tempDir/ear $ORACLE_HOME$/apm/modules/oracle.security.apm_
11.1.1/oracle.security.apm.ear
$ unzip -d $tempDir/war $tempDir/ear/oracle.security.apm.war
$ unzip -d $tempDir/viewWar $ORACLE_HOME$/apm/modules/oracle.security.apm_
11.1.1/oracle.security.apm.core.view.war
```

2. Modify one or more unzipped files, as explained in the remaining sections of this chapter.

3. Zip anew the tool's EAR and WAR files, and the view WAR file, as illustrated by the following commands:

```
$ zip $tempDir/ear/oracle.security.apm.war $tempDir/war/*
$ zip $ORACLE_HOME$/apm/modules/oracle.security.apm_
11.1.1/oracle.security.apm.ear $tempDir/ear/*
$ zip $ORACLE_HOME$/apm/modules/oracle.security.apm_
11.1.1/oracle.security.apm.core.view.war $temp/viewWar/*
```

4. Redeploy Authorization Policy Manager.

7.2 Customizing Headers, Footers, and Logo

To customize headers, footers, and logo, proceed as follows:

1. Unzip the view WAR file. For details, see Customizing Authorization Policy Manager.
2. Open for edit the file `AuthPolicyMgr.jspx` and apply any of the following modifications, as appropriate.
3. To specify a new branding title, modify the `branding` facet as illustrated in the following snippet:

   ```
   <f:facet name="branding">
    <af:outputText value="My Custom Application Title" noWrap="true" id="ot1"/>
   </f:facet>
   ```

4. To specify a new footer, modify the `appAbout` and `appCopyright` facets as illustrated in the following snippet:

   ```
   <f:facet name="appAbout">
     <af:outputText value="My Custom Footer at Right" noWrap="true" id="ot2"/>
   </f:facet>
   <f:facet name="appCopyright">
     <af:outputText value="My Custom Footer at Left"  noWrap="true" id="ot3"/>
   </f:facet>
   ```

5. To specify a new logo image, proceed as follows:
   1. Insert your resource in the `metaContainer` facet as illustrated in the following snippet (leave all other content inside the facet as is):

      ```
      <f:facet name="metaContainer">
      ....
        <af:resource type="css">
                  .MyCustomBrandingLogo {
                      background-image:url(/apm/images/world_36x20.png);
                      background-position:center;
                      background-repeat:no-repeat; display:block;
                      height:2.5em; width:119px;
                    }
        </af:resource>
      ...
      </f:facet>
      ```

   2. Specify that style class name as the input attribute to the `pageTemplate` tag, as illustrated in the following snippet (leave all other content inside the tag as is):

      ```
      <af:pageTemplate viewId="/templates/IdmShell.jspx"
                             value="#{bindings.pageTemplateBinding}" id="pt1">
      ...
        <f:attribute name="brandingLogoCls" value="MyCustomBrandingLogo"/>
      ...
      ```

7.3 Customizing Color Schemes

Assuming that you have a new skin available, to customize the color scheme, proceed as follows:

1. Unzip the tool's EAR and WAR files. For details, see Customizing Authorization Policy Manager.
2. Open for edit the file `Trinidad-config.xml`, typically located in the folder `WAR/WEB-INF.`
3. In that file, specify the value of the new skin in the `skin-family` tag, as illustrated in the following snippet:

```
<trinidad-config xmlns="http://myfaces.apache.org/trinidad/config">
...
  <skin-family>MyCustomSkin</skin-family>
...
</trinidad-config>
```

7.4 Customizing the Login Page

To customize the login page and login error page, proceed as follows:

1. Unzip the tool's EAR file. For details, see Customizing Authorization Policy Manager.
2. Open for edit the file `web.xml`, typically located in the folder `EAR/WEB-INF.`
3. In that file, specify the appropriate values for the `form-login-page` and `form-error-page`, under the element `form-login-config`, as illustrated in the following snippet:

```
<login-config>
  <form-login-config>
    <form-login-page>/MyCustomLoginPage.html</form-login-page>
    <form-error-page> MyCustomLoginErrorPage.html </form-error-page>
  </form-login-config>
</login-config>
```

8 Internationalization

Oracle Authorization Policy Manager uses Globalization Support to handle data in one of several languages. Globalization Support allows Authorization Policy Manager to display text, such as role and user names, in a one of those languages.

8.1 Language Support

Oracle Authorization Policy Manager determines the language in which text is displayed from the setting of the browser locale.

Oracle Authorization Policy Manager supports the following standard administrator languages: English, Portuguese, French, German, Italian, Japanese, Korean, Spanish, and Chinese.

When your browser locale is set to one of the above supported administrator languages, then the text that Oracle Authorization Policy Manager displays is in that language. In this way, an administrator can specify the language in which pages are displayed.

A

Using an OpenLDAP Identity Store

This appendix describes the special set up required in case the domain APM is running uses an OpenLDAP 2.2 identity store.

A.1 Using an OpenLDAP Identity Store

To use OpenLDAP 2.2 as a domain identity store with Authorization Policy Manager, proceed as follows:

1. Use the WebLogic Server administration console to create a new authenticator provider. For this new provider:
   - Select OpenLDAPAuthenticator from the list of authenticators.
   - Set the control flag of the OpenLDAPAuthenticator to SUFFICIENT.
   - Set the control flag of the DefaultAuthenticator to SUFFICIENT.
   - Change the order of authenticators to make the OpenLDAPAuthenticator the first in the list.
   - In the Provider Specific page for the OpenLDAPAuthenticator, enter User Base DN and Group Base DN, and set the value of the objectclass in the Group From Name Filter to something other than groupofnames.
2. From the Home directory of the OpenLDAP installation:
   - Open the file `slapd.conf` for edit.
   - In that file, insert the following line in the "include" section at the top:

     ```
     include ./schema/inetorgperson.schema
     ```

   - Save the file, and restart the OpenLDAP.

The above settings make possible adding the object class `inetorgperson` to every new external role you create in the OpenLDAP; this object class is required to map the external role to an application role.

B

Troubleshooting Oracle Authorization Policy Manager

This appendix describes common problems that you may encounter when configuring and using Authorization Policy Manager and explains how to solve them.

B.1 Unable to Login

This section explains one of the reasons why logging in Authorization Policy Manager may fail.

Symptom

Authorization Policy Manager logging in fails and the system outputs a message that contains a line similar to the following:

```
Cannot obtain connection: driverURL = jdbc:weblogic:pool:mds-ApplicationMDSDB,
props = {EmulateTwoPhaseCommit=false, connectionPoolID=mds-ApplicationMDSDB,
jdbcTxDataSource=true, LoggingLastResource=false,
dataSourceName=mds-ApplicationMDSDB}.
```

Diagnosis

The above message indicates that Authorization Policy Manager cannot establish a connection with the database mds-ApplicationMDSBD. Authorization Policy Manager requires that this database be present for a successful logging in.

For the list of databases required by APM, see Section 1.1, "Audience and Prerequisites."

Solution

Verify that referenced database is up, running, and available; then retry logging in.

B.2 Need Further Help?

You can find more solutions on My Oracle Support (formerly MetaLink) at `http://myoraclesupport.oracle.com`. If you do not find a solution to your problem, log a service request.

Index