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This guide contains information about administering Oracle Communications Unified Inventory Management (UIM). This guide includes information about how to start and stop UIM, an overview of security for UIM, and how to manage and monitor UIM. It also includes information about improving UIM performance, backing up and restoring UIM data, and managing the UIM database.

Note: Documentation on third-party software products is limited to the information needed to use UIM. If you need additional information on a third-party software application, consult the documentation provided by the product’s manufacturer.

Audience

This guide is intended for system administrators and other individuals who are responsible for ensuring that UIM is operating in the manner required for your business.

This document assumes that you have a good working knowledge of Sun Solaris, Windows, UNIX, IBM AIX, Oracle Fusion Middleware 12c, Oracle WebLogic, and Java J2EE software.

Related Documentation

For more information, see the following documents in the Oracle Communications Unified Inventory Management documentation set:

- **UIM Installation Guide**: Describes the requirements for installing UIM, installation procedures, and post-installation tasks.
- **UIM Security Guide**: Provides guidelines and recommendations for setting up UIM in a secure configuration.
- **UIM Concepts**: Provides an overview of important concepts and an introduction to using both UIM and Design Studio.
- **UIM Developer’s Guide**: Explains how to customize and extend many aspects of UIM, including the data model, life-cycle management, topology, security, rulesets, user interface, and localization.
- **UIM Web Services Developer’s Guide**: Describes the UIM Service Fulfillment Web Service operations and how to use them, and describes how to create custom web services.
- **UIM API Overview:** Provides detailed information and code examples of numerous APIs presented within the context of a generic service fulfillment scenario, and within the context of a channelized connectivity enablement scenario.

- **UIM Information Model Reference:** Describes the UIM information model entities and data attributes, and explains patterns that are common across all entities. This document is available on the Oracle Software Delivery Cloud as part of the Oracle Communications Unified Inventory Management Developer Documentation package.

- **Oracle Communications Information Model Reference:** Describes the Oracle Communications information model entities and data attributes, and explains patterns that are common across all entities. The information described in this reference is common across all Oracle Communications products. This document is available on the Oracle Software Delivery Cloud as part of the Oracle Communications Unified Inventory Management Developer Documentation package.

- **UIM Cartridge Guide:** Provides information about how you use cartridges with UIM. Describes the content of the base cartridges.

- **UIM NFV Orchestration Implementation Guide:** Provides information about the NFV Orchestration functional module and includes how to install, use, and extend this functionality. This guide also provides reference information for the NFV Orchestration RESTful APIs.

For step-by-step instructions for performing tasks, log in to each application to see the following:


- UIM Help: Provides step-by-step instructions for tasks you perform in UIM.

**Documentation Accessibility**


**Access to Oracle Support**

Oracle customers that have purchased support have access to electronic support through My Oracle Support. For information, visit [http://www.oracle.com/pls/topic/lookup?ctx=acc&id=info](http://www.oracle.com/pls/topic/lookup?ctx=acc&id=info) or visit [http://www.oracle.com/pls/topic/lookup?ctx=acc&id=trs](http://www.oracle.com/pls/topic/lookup?ctx=acc&id=trs) if you are hearing impaired.

**Documentation Revision History**

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<table>
<thead>
<tr>
<th>Version</th>
<th>Date</th>
<th>Description</th>
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<tbody>
<tr>
<td>E88053-01</td>
<td>December 2017</td>
<td>Initial Release.</td>
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<td>Updated the &quot;Purging UIM Entities&quot; section.</td>
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<td>November 2018</td>
<td>Added the following sections:</td>
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<tr>
<td></td>
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<td>- Configuring UIM to Evaluate System Configuration Compliance</td>
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<td>- Preventing a ZIP Bomb When Uploading Ruleset Files</td>
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<td>Updated the following sections:</td>
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<td>- Changing the Query Behavior and Row Limit Parameters</td>
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<td></td>
<td>- Table 5-12, &quot;Properties in the system-config.properties File&quot;</td>
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<tr>
<td></td>
<td></td>
<td>- Updated the &quot;Updating the System Configuration Files&quot; section to add information about the inventoryBulkProcess.properties, importEntity.properties, and telephoneNumberBulk.properties files.</td>
</tr>
</tbody>
</table>
Unified Inventory Management System
Administration Overview

This chapter provides an overview of Oracle Communications Unified Inventory Management (UIM) basic administration tasks and the tools to perform those tasks.

Overview of UIM Administration Tasks

A UIM administrator is responsible for the day-to-day tasks of maintaining and managing UIM and its users. The tasks also include managing UIM components and database.

You perform the following tasks as a UIM administrator:

- Starting and stopping the UIM server. See "Starting and Stopping UIM" for more information.
- Managing UIM security. See "Understanding UIM Security" for more information.
- Monitoring and managing UIM. See "Monitoring and Managing Unified Inventory Management" for more information.
- Improving UIM performance. See "Improving Unified Inventory Management Performance" for more information.
- Backing up and restoring UIM data. See "Unified Inventory Management Backup and Restore" for more information.
- Working with UIM sample reports. See "Working with Reports" for more information.

Directory Placeholders Used in This Guide

Table 1–1 lists the placeholders that are used in this guide to refer to directories related to the UIM application.
### Directory Placeholders

<table>
<thead>
<tr>
<th>Placeholder</th>
<th>Default Directory Path</th>
<th>Directory Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>MW_Home</td>
<td>/opt/Oracle/Middleware</td>
<td>The location where the Oracle Middleware product was installed. This directory contains the base directory for the WebLogic Server, a utilities directory, and other files and directories.</td>
</tr>
<tr>
<td>WL_Home</td>
<td>/opt/Oracle/Middleware/wlserver</td>
<td>The base directory for the WebLogic Server core files. It is located in the MW_Home directory.</td>
</tr>
<tr>
<td>Domain_Home</td>
<td>/opt/Oracle/Middleware/user_projects/domains/domain_name</td>
<td>The directory that contains the configuration for the domain into which UIM is typically installed, but it is frequently set to some other directory at installation.</td>
</tr>
<tr>
<td>UIM_Home</td>
<td>/opt/Oracle/Middleware/user_projects/domains/domain_name/UIM</td>
<td>The directory into which UIM was installed. This directory contains various installation-related files.</td>
</tr>
</tbody>
</table>
This chapter describes how to start and stop Oracle Communications Unified Inventory Management (UIM).

About Starting and Stopping UIM

Because UIM resides on a WebLogic server, starting or stopping the WebLogic server also starts and stops UIM.

Note: If the UIM environment is in a WebLogic cluster, consult the Oracle WebLogic Server documentation for information about how to start and stop the cluster servers.

Starting the UIM Server

To start the UIM server:

1. Open a command window.
2. Navigate to the Domain_Home/bin directory.
3. Run the following command:
   ```
   ./startUIM.sh
   ```

Note: For managed servers in a cluster, run the following command for each managed server:

   ```
   ./startUIM.sh managed_server_name admin_url
   ```

   For example:

   ```
   ./startUIM.sh uim_ms1 machine1.oracle.com:7001
   ```

Verifying the UIM Server Started

To verify that the UIM server started:

1. In a Web browser, enter:
   ```
   http://ServerName:Port/console
   ```

2. Enter the WebLogic server administration user name and password.
3. In the Domain Structure tree, expand Environment, and click Servers.
Stopping the UIM Server

The Summary of Servers page appears.

4. View the state of the Administration Server and verify that the state is RUNNING.
   If the state is not RUNNING, you may need to wait a short period and refresh the page.

5. In the left panel, under Domain Structure, click Deployments.
   The Summary of Deployments page appears.

6. Verify that the state of the deployments for the UIM related applications are ACTIVE. The following is a list of the UIM related applications and libraries:
   - cartridge_management_ws (7.3.5.0.0)
   - mapviewer
   - oracle.communications.inventory
   - oracle.communications.inventory.cartridgeadapter
   - oracle.communications.inventory.customlib(7.4,7.4.0.0.0)
   - oracle.communications.inventory.externallib(7.4,7.4.0.0.0)
   - oracle.communications.inventory.javadoc
   - oracle.communications.platform.cui.webapp(12.2.1.3.0,7.4.0.0.0)
   - oracle.communications.platform.ies(12.2.1.3.0,7.4.0.0.0)
   - oracle.communications.platform.poms(12.2.1.3.0,7.4.0.0.0)
   - oracle.communications.platform.WsFramework(12.2.1.3.0,7.4.0.0.0)

   **Note:** If any of the deployments are not in the status you expected, you can use the buttons in this window to start and stop individual deployments, if necessary.

---

**Stopping the UIM Server**

To stop the UIM server:

1. Navigate to the Domain_Home/bin directory.
2. Run the following command:
   ```bash
   ./stopWebLogic.sh
   ```

   You can also stop the UIM server from the WebLogic Server Administration Console, by doing the following:

   1. In a Web browser, enter:
      ```
      http://ServerName:Port/console
      ```
   2. Enter the WebLogic server administration user name and password.
   3. In the Domain Structure tree, expand Environment, and click Servers.
      The Summary of Servers page appears.
   4. Click the Control tab and select AdminServer.
   5. Click Shutdown and select Force Shutdown Now.
The Server Life Cycle Assistant page appears.

6. Click Yes.

---

**Note:** The procedure above stops UIM by stopping the Administration server for the WebLogic Server. If the WebLogic Server does not shut down completely, you will not be able to start it again due to a port conflict. If the procedure above has completed, but some WebLogic Server processes are still running for the domain, you can use the `kill` command to stop them. See "Verifying the UIM Server Stopped" for information about verifying whether UIM and WebLogic have stopped completely.

---

**Verifying the UIM Server Stopped**

To verify that UIM has stopped, do one of the following:

- Try connecting to the WebLogic Server Administration Console. If you cannot, WebLogic is probably not running.

- Look at the process list for the user who started the server. If WebLogic is running, there will probably be at least one process with `startUIM.sh` in its description.

- Look in the user's process list for a Java process that was started out of the Java directory for WebLogic. Process descriptions vary from platform to platform, so look at the process list when you know UIM is running to see what the entries look like on your platform. You can later use this information to confirm that the WebLogic server has shut down completely.
This chapter provides an overview of security in Oracle Communications Unified Inventory Management (UIM). You manage most aspects of UIM security externally rather than in the application itself. This chapter does not provide detailed information about how you perform application security tasks in external systems. Consult the documentation for these systems for more information.

**UIM Security Overview**

UIM supports two categories of application security:

- **Authentication** is the process of identifying users (including computer processes) by user name and password to ensure that they are allowed to access the system. See "Authentication" for more information.

- **Authorization** controls access to specific parts of UIM, such as pages, actions, and data entities. Users are granted access as the result of being assigned to application roles, which are in turn associated with application policies. For example, when an authenticated user logs in to UIM, the content of the main UIM page depends on their level of access. Users with unrestricted access see links to all pages in the Tasks pane; others see only links to the pages they are authorized to access. See "Authorization" for more information.

*Figure 3–1* illustrates a simple authentication and authorization flow. A user logs in to UIM, searches for an entity (in this case, a Network entity), views the Summary page of that entity, and then opens the Network Information page to edit data.
By default, you use two external systems to manage most aspects of UIM security:

- WebLogic Server Administration Console enables you to manage users and groups. You create and delete users and assign passwords in this application.
- Oracle Enterprise Manager enables you to create application roles and application policies that define what pages users can access and what actions they can take.
The default systems provide a low-cost, basic set of security features. You can use the following tools, which provide additional security functionality.

- Oracle Internet Directory is an LDAP-compliant security directory that runs on the Oracle database. It is fully integrated into Oracle Fusion Middleware.

- Oracle Identity Management is an enterprise-scale tool for managing the end-to-end life cycle of user identities across all resources. Oracle Identity Management is a member of the Oracle Fusion Middleware family of products.

The use of non-default systems requires configuration of both WebLogic Server and the systems themselves. See the WebLogic Server and the third-party documentation for information.

Entity security is performed by UIM itself. API security must be implemented through the extensibility framework. See UIM Developer's Guide for more information about implementing these kinds of security.

**Authentication**

Authentication verifies that you are who you claim to be. UIM requires authentication by user name and password before allowing you access to the application. Login name and password are required for access to the application home page or via direct URL to a specific page.

Note: UIM requires a separate sign-on from other Oracle Communications applications. You can configure a deployment plan to enable single sign-on (SSO) for UIM and other Oracle Communication applications to avoid the additional user sign-on processes.

The UIM login page is configured to not allow auto-completion of user names and passwords. Password text is not echoed to the field as you type. If you enter an invalid user name or password, an error message is displayed.

A configurable period of user inactivity results in a session timeout. The user must provide a user name and password to resume activity. The default session timeout is 30 minutes, but you can configure a different one. See "Setting the Session Timeout".

Access to UIM from web services also requires a user name and password. The user name and password are passed into the system in the Simple Object Access Protocol (SOAP) header of each message.
You manage user names and passwords in the WebLogic Server Administration Console (or another application of your choice). The actual authentication process is performed by the default authentication provider or the authentication provider provided by the chosen LDAP. The WebLogic Server Administration Console uses embedded LDAP by default.

Password requirements are determined by the authentication provider. In the case of Web Logic Server Embedded LDAP, passwords must be a minimum of eight characters and include at least one numerical and one alphabetic character. Password expiration policies are also determined by the authentication provider.

You can create groups that include similar users. Grouping users makes it easier to set up authorization. You can assign a group to a role, which automatically grants all permissions associated with the role to all members of the group.

See the WebLogic Server Administration Console documentation and Help for information about creating, deleting, and managing users, groups, and passwords.

To grant access to individual pages and actions in UIM, you associate users and groups with application roles, which are in turn associated with application policies. See "Authorization" for more information.

**Setting the Session Timeout**

By default, a user session times out after 30 minutes of inactivity. The user must log back in to UIM if the session times out. You can set the session timeout in WebLogic Server Administration Console.

To set the session timeout:

1. Log in to the WebLogic Server Administration Console.
2. In the left panel, under Domain Structure, click Deployments. The Summary of Deployments page appears.
3. In the Deployments list, click the oracle.communications.inventory link. The Settings for oracle.communications.inventory page appears.
4. Click the Configuration tab.
5. Click the Application sub-tab.
6. In Session Timeout (in seconds), change the value to the desired number of seconds.
7. Click Save.
8. In the left panel, under Domain Structure, click Deployments. The Summary of Deployments page appears.
9. Select the check box for oracle.communications.inventory.
10. Click Update.

The Update Application Assistant page appears.

11. Choose Redeploy this application using the following deployment files.

12. Take the default values for Source Path and Deployment Plan Path, which reflect the paths to the inventory.ear file and the Plan.xml file:

- UIM_Home/app/inventory.ear
- UIM_Home/app/plan/Plan.xml

13. Click Finish.

See the WebLogic Server Administration Console documentation and online Help for additional information.

**Authenticating Web Services**

Web service operations require authentication to ensure that the web service operations have the correct permissions to access the application.

You use the WebLogic Server Administration Console to configure authorization for web services. You configure authentication by associating a web service to one or more web service policies. Web service policies specify the details of the message-level security (digital signatures and encryption) and reliable SOAP messaging capabilities of a web service.

Policies can be attached to the web service endpoint, which means that the policy assertions apply to the entire web service, or at the operation level, which means that the policy assertions apply only to the specific operation.

Web services are defined and stored in one or more web service policy files. A sample web service policy file is shipped with UIM. You can use that file or create additional files.

See UIM Web Services Developer’s Guide for information about how to create web service policy files.

You associate web services and web service policies in the WebLogic Server Administration Console. The following procedure describes at a high level how to make this association. See the WebLogic Server Administration Console documentation and online Help for detailed instructions.

You can associate a policy to a web service without having to restart the server.

1. Log in to the WebLogic Server Administration Console.

2. In the left panel, under Domain Structure, click Deployments.

The Summary of Deployments page appears.

3. In the Deployments list, click the oracle.communications.inventory link.

The Settings for oracle.communications.inventory page appears.

4. In the Modules and Components area, click the link for the web service you want to configure.

For example, to configure the Inventory Web Service, click the oracle.communications.inventory.ws.InventoryWSPortImpl link.

5. Click the Configuration tab.

The Settings page for the web service appears.
6. Click the **WS-Policy** tab.
   
   The table of web service endpoints and operations appears. The table also displays current web service policies.

7. Select a web service endpoint or operation.
   
   The Configure a web service policy page appears.

8. Select a pre-packaged or a custom web service policy file and then click the right arrow.

9. Click **OK**.
   
   The Save Deployment Plan Assistant page appears.

10. Click the link next to **Location**.


12. Click **Finish**.

---

**Authorization**

Authorization determines whether an authenticated user has permission to view a page or to take an action. For example, if an authenticated user does not have permission to view or change telephone number information, the link to the Telephone Number Search page does not appear in the Tasks panel of the UIM home page. Similarly, the user would be denied access from a direct URL to a Telephone Number Summary page.

There are two types of permissions in UIM:

- **Taskflow permissions** controls the ability to view UIM pages. For example, the `ServiceSummaryFlow` taskflow permission enables a principal to open the Service Summary page in the user interface. See “Taskflow Permissions” for a list of all the taskflow permissions you can grant.

  The full name of a taskflow permission includes path information. For example, the full name of the `ServiceSummaryFlow` permission is `/WEB-INF/oracle/communications/inventory/ui/service/flow/ServiceSummaryFlow.xml#ServiceSummaryFlow`.

- **Resource permissions** controls the ability to take specific actions on specific resource types. For example, the `Equipment.DEACTIVATE` permission enables a principal to deactivate an Equipment entity from the Equipment Summary page. See "Resource Permissions" for a list of all the resource permissions you can grant.

  The full name of a resource permission includes information about the resource type. For example, the full name of the `Equipment.DEACTIVATE` permission is `resourceType=PAGE_ACTION,resourceName=Equipment.DEACTIVATE`.

Users are granted permissions by their assignment to application roles and application policies.

- Application roles define groups of users that require particular kinds of access. For example, you can define a role for users who must be able to view but not change telephone number information. You could define another role for users who need to be able make changes to telephone numbers. See "Using Application Roles" for more information.

- Application policies are groups of permissions that grant access to pages and actions. You associate application roles to application policies to define the access
granted to users who are assigned to those roles. For example, to grant view access for telephone numbers, you can create a policy that includes permissions to view the Telephone Number Summary and Telephone Number Search Results pages. See "Using Application Policies" for more information.

You use Oracle Enterprise Manager (or another system of your choice) to administer roles and policies for UIM. Changes you make are applied immediately without the need to restart the server. User permission changes require that the user log out and log in again.

UIM provides the ability to extend its security so that customers can create their own custom ways of authorizing what users see. See UIM Developer’s Guide for more information.

Using Application Roles

You create application roles that define the access levels appropriate for users performing particular functions. You can create as many roles as you need and you can assign as many or as few roles to a user as is necessary.

For example, you can assign Jaime to a Number_Admin role, allowing him to both view and edit telephone number entities. You can assign Jagdeep to both Number_Admin and Service_Admin roles, allowing her to view and edit telephone number entities and service entities. You can retrieve user information, including the roles assigned to a user, through the UserEnvironment class. See UIM Developer’s Guide for an example.

The actual permissions associated with any role are the result of the role being associated with application policies. Each policy defines access to a page or action in UIM. See "Using Application Policies".

All users are assigned to a default role that grants no access except the ability to log in to UIM. Another default role grants super user permissions. Other additional roles grant specific privileges. See "Default Roles and Additional Roles".

You use Oracle Enterprise Manager to create roles and to assign users to them. You can assign users when you create roles. You can also update existing roles by adding and removing users. See the Oracle Enterprise Manager documentation and online Help for more information.

Note: Before you make any changes to application roles, you should back up the system-jazn-data.xml file located in the Domain_Home/config/fmwconfig/ directory.

Default Roles and Additional Roles

All users are assigned to a default role called uim-accessible-user. This role grants no access except the ability to log in to UIM. A user with only this level of access can view the UIM home page, but cannot view any other UIM pages or take any actions.

Another default role, uimuser, grants super user permissions. Users assigned to this role can access all UIM pages and actions. In some cases, such as in testing or development environments, this may be the only role that is required.

An additional role of ProjectManager allows a user to have special privileges such as deleting a cancelled Engineering Work Order. You can also create other additional roles and assign them as necessary.
Creating Application Roles

To create an application role:

1. Open Oracle Enterprise Manager Console.
2. In the Target Navigation area, expand Application Deployments.
3. Expand oracle.communications.inventory.
4. Do one of the following:
   - For standalone servers, right-click oracle.communications.inventory (AdminServer), then select Security and Application Roles.
   - For clustered environments, right-click a managed server, then select Security and Application Roles.

The Application Role page appears.

5. Click the Create button.
6. In the Create Application Role page, enter the role name.
7. (Optional) Enter a display name and description.
8. (Optional) To associate users or groups to the new application role:
   a. In the Members area, click the Add button.
      The Add Principal dialog box appears.
   b. Search for and select a user or group, then click OK.
      The dialog box closes.
9. Click OK.

Updating Application Roles

To update an application role:

1. Log in to Enterprise Manager Console.
2. In the Target Navigation area, expand Application Deployments.
3. Expand oracle.communications.inventory.
4. Do one of the following:
   - For standalone servers, right-click oracle.communications.inventory (AdminServer), then select Security and Application Roles.
   - For clustered environments, right-click a managed server, then select Security and Application Roles.

The Application Role page appears.

5. Select an application role in the list, then click Edit.
   The Edit Application Role page appears.
6. Update the role name, display name, and description, if necessary.
7. To associate users or groups to the new application role:
   a. In the Members area, click the Add button.
      The Add Principal dialog box appears.
   b. Search for and select a user or group, then click OK.
The dialog box closes.

8. Click OK.

Deleting Application Roles
To delete an application role:
1. Log in to Enterprise Manager Console.
2. In the Target Navigation area, expand Application Deployments.
3. Expand oracle.communications.inventory.
4. Do one of the following:
   ■ For standalone servers, right-click oracle.communications.inventory (AdminServer), then select Security and Application Roles.
   ■ For clustered environments, right-click a managed server, then select Security and Application Roles.
   The Application Role page appears.
5. Select an application role in the list, then click Delete.
6. In the confirmation dialog box, click Yes.
   The role is deleted.

Creating and Deleting Roles for a Clustered Server
In a clustered environment, creating and deleting roles requires a wait time for the role changes to take effect. To have immediate effect, perform the following:
1. Navigate to the Domain_Home/config/fmwconfig directory.
2. Open the jps-config.xml file.
3. Find these lines in the file:
   <serviceInstance name="pdp.service" provider="pdp.service.provider">
   <propertySet name="props.db.1">
4. Add the following entry after the lines located in the previous step.
   <property name="oracle.security.jps.ldap.policystore.refresh.interval" value="600000"/>
   This additional entry sets the value for the policy store refresh interval. This is value is in milliseconds and set it according to your wait time requirements.
5. Restart the cluster.

Using Application Policies
You use application policies to associate specific permissions, such as the ability to view the Logical Device Search Results pages or make changes to Equipment entities, with roles. Policies are groupings of specific permissions that you grant to users assigned to roles.

Note: It is possible to associate policies directly with users, but using roles reduces duplicative work and is therefore recommended.
Because there are separate permissions for each UIM page and for the ability to make changes on those pages, there are a large number of specific permissions that can be assigned. As a result, you can tailor policies to grant exactly the permissions required for a role.

For example, suppose you have two roles associated with telephone numbers. One role (Number_User) is associated with a policy that includes permissions for viewing Telephone Number Summary and Search Results pages. Another role (Number_Admin) is associated with a policy that includes those same permissions as well as permission to edit telephone number information.

You use Oracle Enterprise Manager to manage policies. To create policies, you gather together the permissions that apply to a role or roles and then associate those permissions to the roles.

Figure 3–2 shows a portion of the Oracle Enterprise Manager Application Policies page. The highlighted area represents the permissions associated with Number_Admin_Role. The full names of the three permissions associated with that role are:

- /WEB-INF/oracle/communications/inventory/ui/number/flow/TelephoneNumberSearchResultsFlow.xml#TelephoneNumberSearchResultsFlow
- /WEB-INF/oracle/communications/inventory/ui/number/flow/TelephoneNumberSummaryFlow.xml#TelephoneNumberSummaryFlow
- /WEB-INF/oracle/communications/inventory/ui/number/flow/TelephoneNumberEditFlow.xml#TelephoneNumberEditFlow

Note: The permission strings are too long to be fully visible in Oracle Enterprise Manager Application Policies page. See “Taskflow Permissions” and “Resource Permissions” for a list of all of the permissions at full length.

Figure 3–2  Application Policies in Oracle Enterprise Manager

The Oracle Enterprise Manager Application Policies page lists all the policies defined for the application, including the policies for the default roles, which are:

- uim-accessible-user
- LocationAdministrator
- ProductAdministrator
- uimuser

See the Oracle Enterprise Manager documentation and online Help for detailed information about working with policies.

---

**Note:** Before you make any changes to application policies, you should back up the `system-jaxn-data.xml` file in the `Domain_Home/config/fmwconfig/` directory.

---

**Creating an Application Policy**

You create an application policy by granting permissions to a grantee (user, group, or application role).

To create an application policy:

1. Open Oracle Enterprise Manager Console.
2. In the Target Navigation area, expand Application Deployments.
3. Expand `oracle.communications.inventory`.
4. Do one of the following:
   - For standalone servers, right-click `oracle.communications.inventory (AdminServer)`, then select Security and Application Policies.
   - For clustered environments, right-click a managed server, then select Security and Application Policies.

   The Application Policies page appears.
5. Click the Create button.
   
The Create Application Grant page appears.
6. In the Grantee section, click the Add button.

   The Add Principal dialog box appears.
7. Search for and select a user, group, or application role to which you want to grant permissions.
8. Click OK to close the dialog box.
9. In the Permissions section, click the Add button.

   The Add Permission dialog box appears.
10. Click the Permissions button.
11. Do one of the following in the Permission Class list:

    - To add a resource permission, select `oracle.security.jps.ResourcePermission`.
    - To add a taskflow permission, select `oracle.security.jps.TaskFlowPermission`.
12. In the Resource Name field, select Includes, then enter all or part of a permission name.
13. Click the arrow button.
14. In the Search Results area, select the permission you want to grant.
15. Click Continue.
   The Add Permission dialog box changes to include customization information.

16. Select the check boxes for the permission actions you want to grant. Select All to
    grant all permission actions.

17. Click Select.
    The dialog box closes and the Permissions list includes the permission you added.

18. Repeat steps 11 through 17 for each permission you want to grant.

19. Click OK.

**Updating an Application Policy**
You can update application policies to include new grantees and new permissions.

To update an application policy:
1. Open Oracle Enterprise Manager Console.
2. In the Target Navigation area, expand Application Deployments.
3. Expand oracle.communications.inventory.
4. Do one of the following:
   - For standalone servers, right-click oracle.communications.inventory (AdminServer), then select Security and Application Policies.
   - For clustered environments, right-click a managed server, then select Security and Application Policies.

   The Application Policies page appears.
5. In Search section, select User, Group, or Application Role in the Principal Type field.
6. Click the arrow button.
7. In the Search Results section, select the principal that has the policy you want to
   update.
8. Click the Edit button.
   The Edit Application Grant page appears.
9. To add a grantee to the policy:
   a. In the Grantee section, click the Add button.
      The Add Principal dialog box appears.
   b. Search for and select a user, group, or application role to which you want to
      grant permissions.
   c. Click OK to close the dialog box.
   d. Repeat steps a through c for each grantee you want to add.
10. To add permissions to the policy:
    a. In the Permissions section, click the Add button.
       The Add Permission dialog box appears.
    b. Click the Permissions button.
    c. Do one of the following in the in the Permission Class list:
To add a resource permission, select oracle.security.jps.ResourcePermission. To add a taskflow permission, select oracle.security.jps.TaskFlowPermission.

d. In the Resource Name field, select Includes, then enter all or part of a permission name.

e. Click the arrow button.

f. In the Search Results area, select the permission you want to grant.

g. Click Continue. The Add Permission dialog box changes to include customization information.

h. Select the check boxes for the permission actions you want to grant. Select All to grant all permission actions.

i. Click Select. The dialog box closes and the Permissions list includes the permission you added.

j. Repeat steps a through i for each permission you want to grant.

11. Click OK.

**Deleting an Application Policy**

To delete an application policy:

1. Open Oracle Enterprise Manager Console.

2. In the Target Navigation area, expand Application Deployments.

3. Expand oracle.communications.inventory.

4. Do one of the following:

   - For standalone servers, right-click oracle.communications.inventory (AdminServer), then select Security and Application Policies.
   - For clustered environments, right-click a managed server, then select Security and Application Policies.

   The Application Policies page appears.

5. In Search section, select User, Group, or Application Role in the Principal Type field.

6. Click the arrow button.

7. In the Search Results section, select a principal.

8. Click Delete.

9. In the confirmation popup, click Yes to delete the application policy associated with the principal.

   The policy is deleted.

**Changing Security Policy Providers**

By default, Oracle Enterprise Manager uses an XML file as the security policy store. This file, Domain_Home/config/fmwconfig/system-jazn-data.xml, is installed automatically during the WebLogic and UIM installations.
The XML file is designed for use in development and testing environments. In production environments, you should configure Oracle Enterprise Manager to use a database policy store. For example, you may have a pre-existing LDAP server that you want to use for this purpose.

**Note:** Using an XML-based policy store in a production environment poses risks, such as file corruption or inadvertent modification. It can also cause performance degradation in environments with complex security policies.

You specify the security policy store in the Enterprise Manager Security Provider Configuration page. See the Oracle Enterprise Manager Help and documentation for detailed instructions.

### Associating Policies to Web Services

You can associate web service policies with deployed web services by using the WebLogic Server Administration Console.

**Note:** Each time the application is deployed, the WS_Policies will have to be reconfigured.

This approach is best suited for applications that do not need frequent deployments.

To associate policies to web services:

1. Open the WebLogic Server Administration Console.
2. In the left panel, under Domain Structure, select **Deployments**.
   The Summary of Deployments page appears.
3. Expand `oracle.communications.inventory`.
4. Click a deployed web service, such as `oracle.communications.inventory.webservice.ws.InventoryWSPortImpl`.
5. Select the **Configuration** tab and **WS-Policy** sub-tab.
   The tab displays the **Service Endpoints and Operations** list. The list initially shows only the service endpoints. You can expand the service endpoint rows to see the operations.
6. To configure a policy for the web service endpoint:
   a. Click on a Service Endpoint link to configure the policy type for a web service endpoint.
      The Configure a WS-Policy File for a Web Service Endpoint page appears.
   b. Select policies from the **Available Endpoint Policies** list.
   c. Click the right arrow to move the selected policies to the **Chosen Endpoint Policies** list.
   d. Click **OK**.
      The Settings page updates to include information about the policies you added.
7. To configure a policy to an operation:
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a. Expand a Service Endpoint link to display its operations.

b. Click an operation link.

The Configure the WS-Policy for the SOAP Message of an Operation page appears.

c. Select policies from the **Available Message Policies** list.

d. Click the right arrow to move the selected policies to the **Chosen Message Policies** list.

e. Click Next.

The Configure the WS-Policy for the Inbound SOAP Message of an Operation page appears.

f. Select policies from the **Available Inbound Message Policies** list.

g. Click the right arrow to move the selected policies to the **Chosen Inbound Message Policies** list.

h. Click Next.

The Configure the WS-Policy for the Outbound SOAP Message of an Operation page appears.

i. Select policies from the **Available Outbound Message Policies** list.

j. Click the right arrow to move the selected policies to the **Chosen Outbound Message Policies** list.

k. Click Finish.

8. Click OK.

The Settings page updates to include information about the policies you added.

**Entity-Level Authorization**

You can control data access to individual entities in UIM. To configure entity-level authorization, you partition the UIM database by using user groups in a security realm. You must also enable security filtering in the application.

You must also customize UIM to apply the partitioning to entities when they are created or update. You can use extension points and rulesets for this purpose.

**Creating Partitions in the UIM Database**

To create partitions in the UIM database:

1. Open the WebLogic Server Administration Console.

2. Click **Lock and Edit**.

3. In the **Domain Structure** tree, select **Security Realms**.

   The Summary of Security Realms page appears.

4. Click the link for the UIM security realm.

   The Settings page for the security realm appears.

5. Click the **Users and Groups** tab.

6. Click the **Groups** tab.

7. Click on **New**.
The Create a New Group page appears.

8. Enter the name for the new group. Use the following format for the new group: \texttt{ora\_uim\_partition\#name}.

\begin{center}
\textbf{Note:} If you do not use the \texttt{ora\_uim\_partition\#} prefix, UIM will not recognize the group as a partition and the partitioning will not work.
\end{center}

9. If you have configured a third-party security provider, select it in the Provider field.

10. Click \textbf{OK}.

The Settings page for the security realm appears.

11. Click the Users tab.

12. Click on the user name that you want to add to the new group.

The Settings page for the user appears.

13. Click the Groups tab.

14. From the Parents Groups Available list, select the group or groups that you want to add the user to and then click on the single arrow to move the group or groups to the Chosen list.

15. Click \textbf{Save}.

16. Click \textbf{Release Configuration}.

\begin{center}
\textbf{Note:} Changes made to groups in WebLogic Server are immediate, but you must log out/log back into UIM to pick up the changes.
\end{center}

\section*{Enabling Security Filtering in UIM}

To enable security filtering in UIM:

1. In the \texttt{UIM\_Home/config} directory, open the \texttt{system-config.properties} file.

2. Set the \texttt{uim.security.filter.enabled} property value to \texttt{True}.

\begin{verbatim}
uim.security.filter.enabled=true
\end{verbatim}

3. Save and close the file.

\section*{Taskflow Permissions}

\textit{Table 3–1} lists all of the UIM taskflow permissions, sorted by component name.
### Table 3–1 Taskflow Permissions

<table>
<thead>
<tr>
<th>Component</th>
<th>Access Type</th>
<th>Permission String</th>
<th>Controls the Ability to:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Activity</td>
<td>View</td>
<td>/WEB-INF/oracle/communications/inventory/ui/project/activity/flow/GroomConnectivitiesFlow.xml#GroomConnectivitiesFlow</td>
<td>Dual Tree View of Source and Target Connectivity involved in Groom operation.</td>
</tr>
</tbody>
</table>
Table 3–1 (Cont.) Taskflow Permissions

<table>
<thead>
<tr>
<th>Component</th>
<th>Access Type</th>
<th>Permission String</th>
<th>Controls the Ability to:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Custom Network Address</td>
<td>View</td>
<td>/WEB-INF/oracle/communications/inventory/ui/customnetworkaddress/flow/CustomNetworkAddressSearchResultsFlow.xml#CustomNetworkAddressSearchResultsFlow</td>
<td>Open a Search page for custom network addresses by clicking the Custom Network Address link in the Tasks panel.</td>
</tr>
<tr>
<td>Custom Network Address</td>
<td>View</td>
<td>/WEB-INF/oracle/communications/inventory/ui/customnetworkaddress/flow/CustomNetworkAddressSummaryFlow.xml#CustomNetworkAddressSummaryFlow</td>
<td>Open a Custom Network Address Summary page.</td>
</tr>
<tr>
<td>Custom Network Address</td>
<td>Edit</td>
<td>/WEB-INF/oracle/communications/inventory/ui/customnetworkaddress/flow/CustomNetworkAddressEditFlow.xml#CustomNetworkAddressEditFlow</td>
<td>Edit a custom network address from search results or a Summary page.</td>
</tr>
<tr>
<td>Condition</td>
<td>View</td>
<td>/WEB-INF/oracle/communications/inventory/ui/consumer/flow/ConditionListFlow.xml#ConditionListFlow</td>
<td>Open the list of conditions associated by using the Related Pages menu in an entity page.</td>
</tr>
<tr>
<td>Configuration</td>
<td>View</td>
<td>/WEB-INF/oracle/communications/inventory/ui/configuration/flow/ConfigurationSummaryFlow.xml#ConfigurationSummaryFlow</td>
<td>Open a Configuration Summary page. (For all configurations except Pipe.)</td>
</tr>
<tr>
<td>Configuration</td>
<td>Edit</td>
<td>/WEB-INF/oracle/communications/inventory/ui/configuration/flow/ConfigurationEditFlow.xml#ConfigurationEditFlow</td>
<td>Edit an entity configuration. (For all configurations except Pipe.)</td>
</tr>
<tr>
<td>Configuration</td>
<td>Edit</td>
<td>/WEB-INF/oracle/communications/inventory/ui/configuration/flow/ConfigurationItemAddFlow.xml#ConfigurationItemAddFlow</td>
<td>Add a configuration item from a Configuration Summary page. (For all configurations, except Pipe.)</td>
</tr>
</tbody>
</table>
### Table 3–1 (Cont.) Taskflow Permissions

<table>
<thead>
<tr>
<th>Component</th>
<th>Access Type</th>
<th>Permission String</th>
<th>Controls the Ability to:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connectivity</td>
<td>Edit</td>
<td>/WEB-INF/oracle/communications/inventory/ui/connectivity/flow/TDMConnectivityCreateFlow.xml#TDMConnectivityCreateFlow</td>
<td>Create Connectivity.</td>
</tr>
<tr>
<td>Connectivity</td>
<td>View</td>
<td>/WEB-INF/oracle/communications/inventory/ui/connectivity/flow/TDMConnectivityDetailsFlow.xml#TDMConnectivityDetailsFlow</td>
<td>View Connectivity Details page.</td>
</tr>
<tr>
<td>Connectivity</td>
<td>View</td>
<td>/WEB-INF/oracle/communications/inventory/ui/connectivity/flow/TDMConnectivityChannelFlow.xml#TDMConnectivityChannelFlow</td>
<td>View Connectivity Channel page.</td>
</tr>
<tr>
<td>Connectivity</td>
<td>View</td>
<td>/WEB-INF/oracle/communications/inventory/ui/connectivity/flow/ConnectivityGapAnalysisFlow.xml#ConnectivityGapAnalysisFlow</td>
<td>View Gap Analysis.</td>
</tr>
<tr>
<td>Custom Object</td>
<td>View</td>
<td>/WEB-INF/oracle/communications/inventory/ui/customobject/flow/CustomObjectSearchResultsFlow.xml#CustomObjectSearchResultsFlow</td>
<td>Open a Search page for custom objects by clicking the Custom Objects link in the Tasks panel.</td>
</tr>
<tr>
<td>Custom Object</td>
<td>Edit</td>
<td>/WEB-INF/oracle/communications/inventory/ui/customobject/flow/CustomObjectEditFlow.xml#CustomObjectEditFlow</td>
<td>Edit a custom object from search results or a Summary page.</td>
</tr>
<tr>
<td>Device Interface</td>
<td>View</td>
<td>/WEB-INF/oracle/communications/inventory/ui/deviceinterface/flow/DeviceInterfaceSearchResultsFlow.xml#DeviceInterfaceSearchResultsFlow</td>
<td>Open a Search page for device interfaces by clicking the Device Interface link in the Tasks panel.</td>
</tr>
<tr>
<td>Component</td>
<td>Access Type</td>
<td>Permission String</td>
<td>Controls the Ability to:</td>
</tr>
<tr>
<td>----------------------</td>
<td>-------------</td>
<td>-----------------------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Device Interface</td>
<td>View</td>
<td>/WEB-INF/oracle/communications/inventory/ui/deviceinterface/flow/DeviceInterfaceSummaryFlow.xml#DeviceInterfaceSummaryFlow</td>
<td>Open a Device Interface Summary page.</td>
</tr>
<tr>
<td>Device Interface</td>
<td>Edit</td>
<td>/WEB-INF/oracle/communications/inventory/ui/deviceinterface/flow/DeviceInterfaceBulkEditFlow.xml#DeviceInterfaceBulkEditFlow</td>
<td>Bulk edit the characteristics of one or more Device Interface entities from the Device Interface - Bulk Edit page.</td>
</tr>
<tr>
<td>Endpoint</td>
<td>View</td>
<td>/WEB-INF/oracle/communications/inventory/niso/ep/flow/EndPointCreateFlow.xml#EndPointCreateFlow</td>
<td>Open Endpoint Create, View, and Edit tabs.</td>
</tr>
<tr>
<td>Equipment</td>
<td>View</td>
<td>/WEB-INF/oracle/communications/inventory/ui/equipment/flow/EquipmentSearchResultsFlow.xml#EquipmentSearchResultsFlow</td>
<td>Open a Search page for equipment by clicking the Equipment link in the Tasks panel.</td>
</tr>
<tr>
<td>Equipment</td>
<td>Edit</td>
<td>/WEB-INF/oracle/communications/inventory/ui/equipment/flow/EquipmentEditFlow.xml#EquipmentEditFlow</td>
<td>Edit an Equipment entity from search results or a Summary page.</td>
</tr>
<tr>
<td>Equipment Holder</td>
<td>View</td>
<td>/WEB-INF/oracle/communications/inventory/ui/equipmentholder/flow/EquipmentHolderSearchResultsFlow.xml#EquipmentHolderSearchResultsFlow</td>
<td>Open a Search page for device interfaces by clicking the Device Interface link in the Tasks panel.</td>
</tr>
<tr>
<td>Component</td>
<td>Access Type</td>
<td>Permission String</td>
<td>Controls the Ability to:</td>
</tr>
<tr>
<td>-------------------</td>
<td>-------------</td>
<td>-----------------------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Favorite Items</td>
<td>View</td>
<td>/WEB-INF/oracle/communications/platform/cui/flows/FavoriteItemsFlow.xml#FavoriteItemsFlow</td>
<td>View the <strong>Favorites</strong> menu in the UIM main page.</td>
</tr>
<tr>
<td>Favorite Items</td>
<td>Edit</td>
<td>/WEB-INF/oracle/communications/platform/cui/flows/ManageFavoritesFlow.xml#ManageFavoritesFlow</td>
<td>Edit the contents of the <strong>Favorites</strong> menu in the UIM main page.</td>
</tr>
<tr>
<td>Flow Identifier</td>
<td>View</td>
<td>WEB-INF/oracle/communications/inventory/ui/flowidentifier/flow/FlowIdentifierSearchResultsFlow.xml#FlowIdentifierSearchResultsFlow</td>
<td>Open a Search page for flow identifiers by clicking the <strong>Flow Identifier</strong> link in the <strong>Tasks</strong> panel.</td>
</tr>
<tr>
<td>Import</td>
<td>Edit</td>
<td>/WEB-INF/oracle/communications/inventory/ui/admin/flow/ExecuteRuleFlow.xml#ExecuteRuleFlow</td>
<td>View the Inventory Import page.</td>
</tr>
<tr>
<td>Inventory Group</td>
<td>View</td>
<td>/WEB-INF/oracle/communications/inventory/ui/inventorygroup/flow/InventoryGroupSearchResultsFlow.xml#InventoryGroupSearchResultsFlow</td>
<td>Open a Search page for inventory groups by clicking the <strong>Inventory Group</strong> link in the <strong>Tasks</strong> panel.</td>
</tr>
<tr>
<td>Inventory Group</td>
<td>View</td>
<td>/WEB-INF/oracle/communications/inventory/ui/inventorygroup/flow/InventoryGroupSummaryFlow.xml#InventoryGroupSummaryFlow</td>
<td>View an Inventory Group Summary page.</td>
</tr>
<tr>
<td>Inventory Group</td>
<td>Edit</td>
<td>/WEB-INF/oracle/communications/inventory/ui/inventorygroup/flow/InventoryGroupEditFlow.xml#InventoryGroupEditFlow</td>
<td>Edit an inventory group from search results or a Summary page.</td>
</tr>
<tr>
<td>Involvement</td>
<td>Edit</td>
<td>/WEB-INF/oracle/communications/inventory/ui/custominvolvement/flow/CustomInvolvementEditFlow.xml#CustomInvolvementEditFlow</td>
<td>Edit a custom involvement from an entity Summary page. The user can edit the custom involvement by clicking <strong>Edit</strong> in the <strong>Custom Involvement</strong> list in the entity Summary page.</td>
</tr>
<tr>
<td>IPV4</td>
<td>View</td>
<td>/WEB-INF/oracle/communications/inventory/ui/logicaldevice/flow/IPv4SearchResultsFlow.xml#IPv4SearchResultsFlow</td>
<td>View the IPV4 search page.</td>
</tr>
</tbody>
</table>
Table 3–1 (Cont.) Taskflow Permissions

<table>
<thead>
<tr>
<th>Component</th>
<th>Access Type</th>
<th>Permission String</th>
<th>Controls the Ability to:</th>
</tr>
</thead>
<tbody>
<tr>
<td>IPV4 Address</td>
<td>View</td>
<td>/WEB-INF/oracle/communications/inventory/ui/ip/flow/IPv4AddressSearchResultsFlow.xml#IPv4AddressSearchResultsFlow</td>
<td>View IPV4 Address Search page.</td>
</tr>
<tr>
<td>IPV4 Address</td>
<td>View</td>
<td>/WEB-INF/oracle/communications/inventory/ui/ip/flow/IPv4AddressDetailsFlow.xml#IPv4AddressDetailsFlow</td>
<td>View IPV4 Address details page.</td>
</tr>
</tbody>
</table>
### Table 3–1 (Cont.) Taskflow Permissions

<table>
<thead>
<tr>
<th>Component</th>
<th>Access Type</th>
<th>Permission String</th>
<th>Controls the Ability to:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Logical Device</td>
<td>View</td>
<td>/WEB-INF/oracle/communications/inventory/ui/logicaldevice/flow/LogicalDeviceSearchResultsFlow.xml#LogicalDeviceSearchResultsFlow</td>
<td>Open a Search page for logical devices by clicking the Logical Device link in the Tasks panel.</td>
</tr>
<tr>
<td>Logical Device</td>
<td>View</td>
<td>/WEB-INF/oracle/communications/inventory/ui/logicaldevice/flow/LogicalDeviceSummaryFlow.xml#LogicalDeviceSummaryFlow</td>
<td>Open a Logical Device Summary page.</td>
</tr>
<tr>
<td>Logical Device</td>
<td>Edit</td>
<td>/WEB-INF/oracle/communications/inventory/ui/logicaldevice/flow/LogicalDeviceEditFlow.xml#LogicalDeviceEditFlow</td>
<td>Edit a logical device from search results or a Summary page.</td>
</tr>
<tr>
<td>Logical Device</td>
<td>Edit</td>
<td>/WEB-INF/oracle/communications/inventory/ui/logicaldevice/flow/LogicalDeviceBulkEditFlow.xml#LogicalDeviceBulkEditFlow</td>
<td>Bulk edit the characteristics of one or more Logical Device entities from the Logical Device - Bulk Edit page.</td>
</tr>
<tr>
<td>Logical Device</td>
<td>Edit</td>
<td>/WEB-INF/oracle/communications/inventory/ui/device/MaintainMappingsFlow.xml#MaintainMappingsFlow</td>
<td>Map a device interface to a physical connector or physical port.</td>
</tr>
<tr>
<td>Logical Device</td>
<td>View</td>
<td>/WEB-INF/oracle/communications/inventory/ui/logicaldevice/flow/LogicalDeviceCopyFlow.xml#LogicalDeviceCopyFlow</td>
<td>Copy Logical Device.</td>
</tr>
<tr>
<td>Logical Device Account</td>
<td>View</td>
<td>/WEB-INF/oracle/communications/inventory/ui/logicaldeviceaccount/flow/LogicalDeviceAccountSearchResultsFlow.xml#LogicalDeviceAccountSearchResultsFlow</td>
<td>Open a Search page for logical device accounts by clicking the Logical Device Account link in the Tasks panel.</td>
</tr>
<tr>
<td>Logical Device Account</td>
<td>Edit</td>
<td>/WEB-INF/oracle/communications/inventory/ui/logicaldeviceaccount/flow/LogicalDeviceAccountEditFlow.xml#LogicalDeviceAccountEditFlow</td>
<td>Edit a logical device account from search results or a Summary page.</td>
</tr>
</tbody>
</table>
### Table 3–1 (Cont.) Taskflow Permissions

<table>
<thead>
<tr>
<th>Component</th>
<th>Access Type</th>
<th>Permission String</th>
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</thead>
<tbody>
<tr>
<td>Map Profile</td>
<td>Edit</td>
<td>/WEB-INF/oracle/communications/inventory/ui/network/flow/MapProfileEditFlow.xml#MapProfileEditFlow</td>
<td>Edit a the map profile from a Network Summary page.</td>
</tr>
<tr>
<td>Map Viewer</td>
<td>View</td>
<td>/WEB-INF/oracle/communications/inventory/ui/network/flow/MapViewFlow.xml#MapViewFlow</td>
<td>Open the Map Viewer application.</td>
</tr>
<tr>
<td>Media Resource</td>
<td>View</td>
<td>/WEB-INF/oracle/communications/inventory/ui/mediaresource/flow/MediaResourceLogicalDeviceListFlow.xml#MediaResourceLogicalDeviceListFlow</td>
<td>Open a list of media resources in a Logical Device or Media Stream Summary page.</td>
</tr>
<tr>
<td>Media Stream</td>
<td>View</td>
<td>/WEB-INF/oracle/communications/inventory/ui/mediaresource/flow/MediaStreamSearchResultsFlow.xml#MediaStreamSearchResultsFlow</td>
<td>Open a Search page for media streams by clicking the Media Streams link in the Tasks panel.</td>
</tr>
<tr>
<td>Media Stream</td>
<td>View</td>
<td>/WEB-INF/oracle/communications/inventory/ui/mediaresource/flow/MediaStreamSummaryFlow.xml#MediaStreamSummaryFlow</td>
<td>Open a Media Stream Summary page.</td>
</tr>
<tr>
<td>Media Stream</td>
<td>Edit</td>
<td>/WEB-INF/oracle/communications/inventory/ui/mediaresource/flow/MediaStreamEditFlow.xml#MediaStreamEditFlow</td>
<td>Edit a Media Stream entity from search results or a Summary page.</td>
</tr>
<tr>
<td>Network</td>
<td>View</td>
<td>/WEB-INF/oracle/communications/inventory/ui/networknode/flow/NetworkNodeSearchResultsFlow.xml#NetworkNodeSearchResultsFlow</td>
<td>Open a Search page for network nodes. The page is opened from the topology visualization.</td>
</tr>
<tr>
<td>Network</td>
<td>View</td>
<td>/WEB-INF/oracle/communications/inventory/ui/network/flow/NetworkSearchResultsFlow.xml#NetworkSearchResultsFlow</td>
<td>Open a Search page for Network entities by clicking the Network link in the Tasks panel.</td>
</tr>
<tr>
<td>Network</td>
<td>Edit</td>
<td>/WEB-INF/oracle/communications/inventory/ui/networkedge/flow/NetworkEdgeEditFlow.xml#NetworkEdgeEditFlow</td>
<td>Edit a network edge from Network canvas.</td>
</tr>
<tr>
<td>Network</td>
<td>Edit</td>
<td>/WEB-INF/oracle/communications/inventory/ui/network/flow/NetworkEditFlow.xml#NetworkEditFlow</td>
<td>Edit a Network entity from search results or a Summary page.</td>
</tr>
</tbody>
</table>
### Table 3–1 (Cont.) Taskflow Permissions

<table>
<thead>
<tr>
<th>Component</th>
<th>Access Type</th>
<th>Permission String</th>
<th>Controls the Ability to:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Network Address Domain</td>
<td>View</td>
<td>/WEB-INF/oracle/communications/inventory/ui/networkaddress/flow/NetworkAddressDomainSearchResultsFlow.xml#NetworkAddressDomainSearchResultsFlow</td>
<td>View a Network Address Domain Search page.</td>
</tr>
<tr>
<td>Network Address Domain</td>
<td>View</td>
<td>/WEB-INF/oracle/communications/inventory/ui/networkaddress/flow/NetworkAddressDomainCreateFlow.xml#NetworkAddressDomainCreateFlow</td>
<td>View a Network Address Domain Create page.</td>
</tr>
<tr>
<td>Network Address Domain</td>
<td>View</td>
<td>/WEB-INF/oracle/communications/inventory/ui/networkaddress/flow/NetworkAddressDomainDetailsFlow.xml#NetworkAddressDomainDetailsFlow</td>
<td>View a Network Address Domain details page.</td>
</tr>
<tr>
<td>Network Service Descriptor</td>
<td>View</td>
<td>/WEB-INF/oracle/communications/inventory/nsd/flow/NSDSearchResultsFlow.xml#NSDSearchResultsFlow</td>
<td>Open Network Service Descriptor Details page.</td>
</tr>
<tr>
<td>Orchestration Request</td>
<td>View</td>
<td>/WEB-INF/oracle/communications/inventory/orchestrationrequest/flow/OrchestrationRequestSearchResultsFlow.xml#OrchestrationRequestSearchResultsFlow</td>
<td>View Orchestration Request Search Results.</td>
</tr>
<tr>
<td>Orchestration Request</td>
<td>View</td>
<td>/WEB-INF/oracle/communications/inventory/orchestrationrequest/flow/OrchestrationRequestDetailsFlow.xml#OrchestrationRequestDetailsFlow</td>
<td>Open Orchestration Request Details page.</td>
</tr>
<tr>
<td>Party</td>
<td>View</td>
<td>/WEB-INF/oracle/communications/inventory/ui/party/flow/PartySearchResultsFlow.xml#PartySearchResultsFlow</td>
<td>Open a Search page for parties by clicking the Party link in the Tasks panel.</td>
</tr>
<tr>
<td>Party</td>
<td>Edit</td>
<td>/WEB-INF/oracle/communications/inventory/ui/party/flow/PartyEditFlow.xml#PartyEditFlow</td>
<td>Edit a party from search results or a Summary page.</td>
</tr>
<tr>
<td>Path Analysis</td>
<td>Edit</td>
<td>/WEB-INF/oracle/communications/inventory/ui/connectivity/flow/PathAnalysisFlow.xml#PathAnalysisFlow</td>
<td>Open a Path Analysis page from a Pipe or Pipe Configuration page.</td>
</tr>
<tr>
<td>Component</td>
<td>Access Type</td>
<td>Permission String</td>
<td>Controls the Ability to:</td>
</tr>
<tr>
<td>----------------------------</td>
<td>-------------</td>
<td>-----------------------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Physical Connector</td>
<td>View</td>
<td>/WEB-INF/oracle/communications/inventory/ui/physicalconnector/flow/PhysicalConnectorSearchResultsFlow.xml#PhysicalConnectorSearchResultsFlow</td>
<td>Open a Search page for physical connectors from a Physical Device or Equipment Summary page.</td>
</tr>
<tr>
<td>Physical Connector</td>
<td>View</td>
<td>/WEB-INF/oracle/communications/inventory/ui/physicalconnector/flow/PhysicalConnectorSummaryFlow.xml#PhysicalConnectorSummaryFlow</td>
<td>Open a Physical Connector Summary page from a Physical Device or Equipment Summary page.</td>
</tr>
<tr>
<td>Physical Connector</td>
<td>Edit</td>
<td>/WEB-INF/oracle/communications/inventory/ui/physicalconnector/flow/PhysicalConnectorEditFlow.xml#PhysicalConnectorEditFlow</td>
<td>Edit a physical connector from a Physical Device or Equipment Summary page.</td>
</tr>
<tr>
<td>Physical Device</td>
<td>View</td>
<td>/WEB-INF/oracle/communications/inventory/ui/physicaldevice/flow/PhysicalDeviceSearchResultsFlow.xml#PhysicalDeviceSearchResultsFlow</td>
<td>Open a Search page for physical devices by clicking the Physical Device link in the Tasks panel.</td>
</tr>
<tr>
<td>Physical Device</td>
<td>Edit</td>
<td>/WEB-INF/oracle/communications/inventory/ui/physicaldevice/flow/PhysicalDeviceEditFlow.xml#PhysicalDeviceEditFlow</td>
<td>Edit a physical device from search results or a Summary page.</td>
</tr>
<tr>
<td>Physical Network Function</td>
<td>View</td>
<td>/WEB-INF/oracle/communications/inventory/vns/ui/vnf/flow/PNFSearchResultsFlow.xml#VNFSearchResultsFlow</td>
<td>View PNF Search results.</td>
</tr>
<tr>
<td>Physical Network Function</td>
<td>View</td>
<td>/WEB-INF/oracle/communications/inventory/vns/ui/vnf/flow/PNFCreateFlow.xml#VNFCreateFlow</td>
<td>Open PNF Create tab in Network Service Create and Details page.</td>
</tr>
<tr>
<td>Physical Port</td>
<td>View</td>
<td>/WEB-INF/oracle/communications/inventory/ui/physicalport/flow/PhysicalPortSearchResultsFlow.xml#PhysicalPortSearchResultsFlow</td>
<td>Open a Search page for physical ports from a Physical Device or Equipment Summary page.</td>
</tr>
<tr>
<td>Physical Port</td>
<td>View</td>
<td>/WEB-INF/oracle/communications/inventory/ui/physicalport/flow/PhysicalPortSummaryFlow.xml#PhysicalPortSummaryFlow</td>
<td>Open a Physical Port Summary page from a Physical Device or Equipment Summary page.</td>
</tr>
<tr>
<td>Physical Port</td>
<td>Edit</td>
<td>/WEB-INF/oracle/communications/inventory/ui/physicalport/flow/PhysicalPortEditFlow.xml#PhysicalPortEditFlow</td>
<td>Edit a physical port from a Physical Device or Equipment Summary page.</td>
</tr>
<tr>
<td>Component</td>
<td>Access Type</td>
<td>Permission String</td>
<td>Controls the Ability to:</td>
</tr>
<tr>
<td>---------------</td>
<td>-------------</td>
<td>-------------------</td>
<td>-------------------------</td>
</tr>
<tr>
<td>Pipe</td>
<td>View</td>
<td>&lt;/WEB-INF/oracle/communications/inventory/ui /configuration/flow/PipeConfigurationTrailListFlow.xml#PipeConfigurationTrailListFlow</td>
<td>Open an Enabled By Visualization page in a Pipe Configuration Summary page.</td>
</tr>
<tr>
<td>Pipe</td>
<td>View</td>
<td>&lt;/WEB-INF/oracle/communications/inventory/ui /connectivity/flow/PipeSearchResultsFlow.xml#PipeSearchResultsFlow</td>
<td>Open a Search page for pipes by clicking the Pipe link in the Tasks panel.</td>
</tr>
<tr>
<td>Pipe</td>
<td>View</td>
<td>&lt;/WEB-INF/oracle/communications/inventory/ui /connectivity/flow/PipeSummaryFlow.xml#PipeSummaryFlow</td>
<td>Open a Pipe Summary page.</td>
</tr>
<tr>
<td>Pipe</td>
<td>View</td>
<td>&lt;/WEB-INF/oracle/communications/inventory/ui /connectivity/flow/PipeTerminationPointSearchResultsFlow.xml#PipeTerminationPointSearchResultsFlow</td>
<td>Open a Search page for pipe termination points.</td>
</tr>
<tr>
<td>Pipe</td>
<td>View</td>
<td>&lt;/WEB-INF/oracle/communications/inventory/ui /connectivity/flow/PipeTerminationPointSummaryFlow.xml#PipeTerminationPointSummaryFlow</td>
<td>Open a Pipe Termination Point Summary page from a Pipe Summary page.</td>
</tr>
<tr>
<td>Pipe</td>
<td>View</td>
<td>&lt;/WEB-INF/oracle/communications/inventory/ui /configuration/flow/PipeConfigurationSummaryFlow.xml#PipeConfigurationSummaryFlow</td>
<td>Open a Pipe Configuration Summary page.</td>
</tr>
<tr>
<td>Pipe</td>
<td>Edit</td>
<td>&lt;/WEB-INF/oracle/communications/inventory/ui /connectivity/flow/PipeEditFlow.xml#PipeEditFlow</td>
<td>Edit a pipe from search results or a Summary page.</td>
</tr>
<tr>
<td>Pipe</td>
<td>Edit</td>
<td>&lt;/WEB-INF/oracle/communications/inventory/ui /connectivity/flow/PipeTerminationPointEditFlow.xml#PipeTerminationPointEditFlow</td>
<td>Edit a pipe termination point from a Pipe Summary page.</td>
</tr>
<tr>
<td>Place</td>
<td>View</td>
<td>&lt;/WEB-INF/oracle/communications/inventory/ui /place/flow/PlaceSearchResultsFlow.xml#PlaceSearchResultsFlow</td>
<td>Open a Search page for places by clicking the Place link in the Tasks panel.</td>
</tr>
<tr>
<td>Place</td>
<td>View</td>
<td>&lt;/WEB-INF/oracle/communications/inventory/ui /place/flow/PlaceSummaryFlow.xml#PlaceSummaryFlow</td>
<td>Open a Place Summary page.</td>
</tr>
<tr>
<td>Place</td>
<td>Edit</td>
<td>&lt;/WEB-INF/oracle/communications/inventory/ui /place/flow/PlaceEditFlow.xml#PlaceEditFlow</td>
<td>Edit a place from search results or a Summary page.</td>
</tr>
<tr>
<td>Product</td>
<td>View</td>
<td>&lt;/WEB-INF/oracle/communications/inventory/ui /product/flow/ProductSearchResultsFlow.xml#ProductSearchResultsFlow</td>
<td>Open a Search page for products by clicking the Product link in the Tasks panel.</td>
</tr>
</tbody>
</table>
Table 3–1 (Cont.) Taskflow Permissions

<table>
<thead>
<tr>
<th>Component</th>
<th>Access Type</th>
<th>Permission String</th>
<th>Controls the Ability to</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product</td>
<td>Edit</td>
<td>/WEB-INF/oracle/communications/inventory/ui/product/flow/ProductEditFlow.xml#ProductEditFlow</td>
<td>Edit a product from search results or a Summary page.</td>
</tr>
<tr>
<td>Project</td>
<td>View</td>
<td>/WEB-INF/oracle/communications/inventory/ui/project/flow/ProjectSearchResultsFlow.xml#ProjectSearchResultsFlow</td>
<td>Project Search Results.</td>
</tr>
<tr>
<td>Project</td>
<td>View</td>
<td>/WEB-INF/oracle/communications/inventory/ui/project/flow/ProjectCreateFlow.xml#ProjectCreateFlow</td>
<td>Create Project.</td>
</tr>
<tr>
<td>Project</td>
<td>View</td>
<td>/WEB-INF/oracle/communications/inventory/ui/project/flow/ProjectDetailsFlow.xml#ProjectDetailsFlow</td>
<td>View Project Details.</td>
</tr>
<tr>
<td>PropertyLocation</td>
<td>View</td>
<td>/WEB-INF/oracle/communications/inventory/ui/location/flow/LocationSearchResultsFlow.xml#LocationSearchResultsFlow</td>
<td>View Property Location Search page.</td>
</tr>
<tr>
<td>PropertyLocation</td>
<td>Edit</td>
<td>/WEB-INF/oracle/communications/inventory/ui/location/flow/LocationDetailsFlow.xml#LocationDetailsFlow</td>
<td>View Property Location Create/Edit page.</td>
</tr>
<tr>
<td>Reservation</td>
<td>View</td>
<td>/WEB-INF/oracle/communications/inventory/ui/consumer/flow/ReservationListFlow.xml#ReservationListFlow</td>
<td>View the reservation list for an entity by selecting from the Related Pages menu in an entity Summary page.</td>
</tr>
<tr>
<td>Reservation</td>
<td>View</td>
<td>/WEB-INF/oracle/communications/inventory/ui/consumer/flow/ReservationSearchResultsFlow.xml#ReservationSearchResultsFlow</td>
<td>Open a Search page for reservations by clicking the Reservation link in the Tasks panel.</td>
</tr>
<tr>
<td>Reservation</td>
<td>Edit</td>
<td>/WEB-INF/oracle/communications/inventory/ui/consumer/flow/RedeemReservationFlow.xml#RedeemReservationFlow</td>
<td>Open the Redeem Reservation page.</td>
</tr>
<tr>
<td>Role</td>
<td>Edit</td>
<td>/WEB-INF/oracle/communications/inventory/ui/role/flow/InventoryRoleEditFlow.xml#InventoryRoleEditFlow</td>
<td>Edit a role from an entity Summary page.</td>
</tr>
<tr>
<td>RuleSet</td>
<td>View</td>
<td>/WEB-INF/oracle/communications/inventory/ui/rule/flow/RuleSearchResultsFlow.xml#RuleSearchResultsFlow</td>
<td>Open a Search page for rulesets by clicking the Rule Set link in the Tasks panel.</td>
</tr>
<tr>
<td>Service</td>
<td>View</td>
<td>/WEB-INF/oracle/communications/inventory/ui/service/flow/ServiceSearchResultsFlow.xml#ServiceSearchResultsFlow</td>
<td>Open a Search page for services by clicking the Service link in the Tasks panel.</td>
</tr>
<tr>
<td>Service</td>
<td>View</td>
<td>/WEB-INF/oracle/communications/inventory/ui/service/flow/ServiceSummaryFlow.xml#ServiceSummaryFlow</td>
<td>Open a Service Summary page.</td>
</tr>
</tbody>
</table>
### Table 3–1 (Cont.) Taskflow Permissions

<table>
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<tr>
<th>Component</th>
<th>Access Type</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Service</td>
<td>View</td>
<td>/WEB-INF/oracle/communications/inventory/ui/service/flow/ServiceTopologyViewFlow.xml#ServiceTopologyViewFlow</td>
<td>Open the topology view for a service.</td>
</tr>
<tr>
<td>Service</td>
<td>Edit</td>
<td>/WEB-INF/oracle/communications/inventory/ui/service/flow/ServiceEditFlow.xml#ServiceEditFlow</td>
<td>Edit a service from search results or a Summary page.</td>
</tr>
<tr>
<td>Specification</td>
<td>View</td>
<td>/WEB-INF/oracle/communications/inventory/ui/sequencespecification/flow/SequenceSpecificationSearchResultsFlow.xml#SequenceSpecificationSearchResultsFlow</td>
<td>Open a Search page for sequence specifications by clicking the <strong>Sequence Specification</strong> link in the <strong>Tasks</strong> panel.</td>
</tr>
<tr>
<td>Specification</td>
<td>View</td>
<td>/WEB-INF/oracle/communications/inventory/ui/specification/flow/SpecificationSearchResultsFlow.xml#SpecificationSearchResultsFlow</td>
<td>Open a Search page to search for specifications by clicking the <strong>Specification</strong> link in the <strong>Tasks</strong> panel.</td>
</tr>
<tr>
<td>Tag</td>
<td>View</td>
<td>/WEB-INF/oracle/communications/inventory/ui/tag/flow/TagSearchResultsFlow.xml#TagSearchResultsFlow</td>
<td>Tag Search Results.</td>
</tr>
<tr>
<td>Telephone Number</td>
<td>View</td>
<td>/WEB-INF/oracle/communications/inventory/ui/number/flow/TelephoneNumberSearchResultsFlow.xml#TelephoneNumberSearchResultsFlow</td>
<td>Open a Search page for telephone numbers by clicking the <strong>TelephoneNumber</strong> link in the <strong>Tasks</strong> panel.</td>
</tr>
</tbody>
</table>
Table 3–2 Resource Permissions

<table>
<thead>
<tr>
<th>Component</th>
<th>Access Type</th>
<th>Permission Name</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Activity</td>
<td>Menu Action</td>
<td>Activity.VALIDATE</td>
<td>Validate the Activity.</td>
</tr>
<tr>
<td>Activity</td>
<td>Menu Action</td>
<td>Activity.SUBMIT</td>
<td>Submit the Activity.</td>
</tr>
<tr>
<td>Activity</td>
<td>Menu Action</td>
<td>Activity.CANCEL</td>
<td>Cancel the Activity.</td>
</tr>
<tr>
<td>Business Interaction</td>
<td>Button Action</td>
<td>BusinessInteraction.DELETE</td>
<td>Delete a business interaction from the search results.</td>
</tr>
<tr>
<td>Business Interaction</td>
<td>Button Action</td>
<td>BusinessInteractionItem.DELETE</td>
<td>Delete a business interaction item from the Business Interaction Summary page.</td>
</tr>
</tbody>
</table>

Table 3–2 lists all the UIM resource permissions, sorted by component.
### Table 3–2 (Cont.) Resource Permissions

<table>
<thead>
<tr>
<th>Component</th>
<th>Type</th>
<th>Permission Name</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Interaction</td>
<td>Button</td>
<td>BusinessInteractionItem.TRANSFER</td>
<td>Transfer a business interaction item from the Business Interaction Summary page.</td>
</tr>
<tr>
<td>Business Interaction</td>
<td>Menu</td>
<td>BusinessInteraction.ASSOCIATE</td>
<td>Associate a business interaction item from the Business Interaction Summary page.</td>
</tr>
<tr>
<td>Business Interaction</td>
<td>Menu</td>
<td>BusinessInteraction.ACTIVATE</td>
<td>Activate a business interaction from the Business Interaction Summary page.</td>
</tr>
<tr>
<td>Business Interaction</td>
<td>Menu</td>
<td>BusinessInteraction.APPROVE_CONFIGURATIONS</td>
<td>Approve a business interaction from the Business Interaction Summary page.</td>
</tr>
<tr>
<td>Business Interaction</td>
<td>Menu</td>
<td>BusinessInteraction.CANCEL</td>
<td>Cancel a business interaction from the Business Interaction Summary page.</td>
</tr>
<tr>
<td>Business Interaction</td>
<td>Menu</td>
<td>BusinessInteraction.CANCEL_HIERARCHY</td>
<td>Cancel a business interaction hierarchy from the Business Interaction Summary page.</td>
</tr>
<tr>
<td>Business Interaction</td>
<td>Menu</td>
<td>BusinessInteraction.DEACTIVATE</td>
<td>Deactivate a business interaction from the Business Interaction Summary page.</td>
</tr>
<tr>
<td>Business Interaction</td>
<td>Menu</td>
<td>BusinessInteraction.ISSUE_CONFIGURATIONS</td>
<td>Issue a service configuration from the Business Interaction Summary page.</td>
</tr>
<tr>
<td>Business Interaction</td>
<td>Menu</td>
<td>BusinessInteraction.SEND_REQUEST</td>
<td>Send a request from the Business Interaction Summary page.</td>
</tr>
<tr>
<td>Business Interaction</td>
<td>Menu</td>
<td>BusinessInteraction.VALIDATE</td>
<td>Validate a business interaction from the Business Interaction Summary page.</td>
</tr>
<tr>
<td>Business Interaction</td>
<td>Menu</td>
<td>BusinessInteraction.DISASSOCIATE_CHILD_BI</td>
<td>Remove a child business interaction from the hierarchy in the Business Interaction Summary page.</td>
</tr>
<tr>
<td>Characteristics</td>
<td>Button</td>
<td>CharacteristicSpecification.DELETE</td>
<td>Delete a Characteristic specification from the Characteristic Specification list.</td>
</tr>
<tr>
<td>Common Configuration</td>
<td>Menu</td>
<td>Configuration.MAINTAIN_CONFIG_ITEMS</td>
<td>Maintain configuration items from the hierarchy in the Configuration Summary page.</td>
</tr>
</tbody>
</table>
Table 3–2 (Cont.) Resource Permissions

<table>
<thead>
<tr>
<th>Component</th>
<th>Type</th>
<th>Permission Name</th>
<th>Purpose</th>
</tr>
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<tbody>
<tr>
<td>Condition</td>
<td>Button</td>
<td>Condition.DELETE</td>
<td>Delete a condition from the Condition List page.</td>
</tr>
<tr>
<td>Connectivity</td>
<td>Menu</td>
<td>TDMFacility.ACTIVATE</td>
<td>Activate the Connectivity.</td>
</tr>
<tr>
<td>Connectivity</td>
<td>Menu</td>
<td>TDMFacility.DEACTIVATE</td>
<td>Deactivate the Connectivity.</td>
</tr>
<tr>
<td>Connectivity</td>
<td>Menu</td>
<td>TDMFacility.COMPLETE</td>
<td>Complete the Design version of Connectivity.</td>
</tr>
<tr>
<td>Connectivity</td>
<td>Menu</td>
<td>TDMFacility.CANCEL</td>
<td>Cancel the Design version of Connectivity.</td>
</tr>
<tr>
<td>Connectivity</td>
<td>Button</td>
<td>TDMFacility.DELETE</td>
<td>Delete the connectivity.</td>
</tr>
<tr>
<td>Connectivity</td>
<td>Button</td>
<td>TDMConnectivityDetails.SAVE</td>
<td>Save the TDM Connectivity details.</td>
</tr>
<tr>
<td>Connectivity</td>
<td>Button</td>
<td>TDMConnectivityDetails.SAVE_AND_CLOSE</td>
<td>Save the TDM Connectivity details and navigate back to the view mode.</td>
</tr>
<tr>
<td>Connectivity</td>
<td>Button</td>
<td>TDMConnectivityDetails.EDIT</td>
<td>Edit the TDM Connectivity details.</td>
</tr>
<tr>
<td>Connectivity</td>
<td>Button</td>
<td>TDMConnectivityCreate.SAVE</td>
<td>Create the TDM Connectivity.</td>
</tr>
<tr>
<td>Connectivity</td>
<td>Button</td>
<td>TDMConnectivityCreate.SAVE_AND_CLOSE</td>
<td>Create the TDM Connectivity and navigate back to the Search page.</td>
</tr>
<tr>
<td>Connectivity</td>
<td>Button</td>
<td>TDMConnectivityCreate.EDIT</td>
<td>Open the TDM Connectivity details in the Edit mode in the Create page.</td>
</tr>
<tr>
<td>Connectivity</td>
<td>Button</td>
<td>TDMConnectivityCreate.DELETE</td>
<td>Delete the TDM Connectivity from the New Channelized Connectivity table.</td>
</tr>
<tr>
<td>Connectivity</td>
<td>Menu</td>
<td>TDMFacility.DISCONNECT</td>
<td>Disconnect Connectivity.</td>
</tr>
<tr>
<td>Cross Connect</td>
<td>Button</td>
<td>CrossConnectsView.DELETE</td>
<td>Delete the cross connect from the Cross Connect Visual page.</td>
</tr>
<tr>
<td>Cross Connect</td>
<td>Button</td>
<td>CrossConnectsView.CREATE_CROSSCONNECTS</td>
<td>Create a cross connect in the Cross Connect Visual page.</td>
</tr>
<tr>
<td>Custom Network Address</td>
<td>Button</td>
<td>CustomNetworkAddress.DELETE</td>
<td>Delete a custom network address from search results.</td>
</tr>
<tr>
<td>Custom Network Address</td>
<td>Menu</td>
<td>CustomNetworkAddress.ACTIVATE</td>
<td>Activate a custom network address from the Custom Network Address Summary page.</td>
</tr>
<tr>
<td>Custom Network Address</td>
<td>Menu</td>
<td>CustomNetworkAddress.DEACTIVATE</td>
<td>Deactivate a custom network address from the Custom Network Address Summary page.</td>
</tr>
<tr>
<td>Component</td>
<td>Type</td>
<td>Permission Name</td>
<td>Purpose</td>
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<tr>
<td>Custom Network Address</td>
<td>Menu</td>
<td>CustomNetworkAddress.VALIDATE</td>
<td>Validate a custom network address from the Custom Network Address Summary page.</td>
</tr>
<tr>
<td>Custom Network Address</td>
<td>Menu</td>
<td>CustomNetworkAddress.ASSOCIATE_CNA</td>
<td>Add a child custom network address to the hierarchy in the Custom Network Address Summary page.</td>
</tr>
<tr>
<td>Custom Network Address</td>
<td>Menu</td>
<td>CustomNetworkAddress.DISASSOCIATE_CNA</td>
<td>Remove a child custom network address from the hierarchy in the Custom Network Address Summary page.</td>
</tr>
<tr>
<td>Custom Object</td>
<td>Button</td>
<td>CustomObject.DELETE</td>
<td>Delete a custom object from search results.</td>
</tr>
<tr>
<td>Custom Object</td>
<td>Menu</td>
<td>CustomObject.ACTIVATE</td>
<td>Activate a custom object from the Custom Object Summary page.</td>
</tr>
<tr>
<td>Custom Object</td>
<td>Menu</td>
<td>CustomObject.DEACTIVATE</td>
<td>Deactivate a custom object from the Custom Object Summary page.</td>
</tr>
<tr>
<td>Custom Object</td>
<td>Menu</td>
<td>CustomObject.VALIDATE</td>
<td>Validate a custom object from the Custom Object Summary page.</td>
</tr>
<tr>
<td>Custom Object</td>
<td>Menu</td>
<td>CustomObject.ASSOCIATE_CO</td>
<td>Add a child custom object to the hierarchy in the Custom Object Summary page.</td>
</tr>
<tr>
<td>Custom Object</td>
<td>Menu</td>
<td>CustomObject.DISASSOCIATE_CO</td>
<td>Remove a child custom object from the hierarchy in the Custom Object Summary page.</td>
</tr>
<tr>
<td>Equipment</td>
<td>Button</td>
<td>EquipmentHolder.DELETE</td>
<td>Delete an equipment holder from search results.</td>
</tr>
<tr>
<td>Equipment</td>
<td>Button</td>
<td>Equipment.DELETE</td>
<td>Delete an Equipment entity from search results.</td>
</tr>
<tr>
<td>Equipment</td>
<td>Button</td>
<td>Equipment.DUPLICATE</td>
<td>Duplicate an Equipment entity from search results.</td>
</tr>
<tr>
<td>Equipment</td>
<td>Menu</td>
<td>Equipment.ACTIVATE</td>
<td>Activate an Equipment entity from the Equipment Summary page.</td>
</tr>
<tr>
<td>Equipment</td>
<td>Menu</td>
<td>Equipment.DEACTIVATE</td>
<td>Deactivate an Equipment entity from the Equipment Summary page.</td>
</tr>
<tr>
<td>Equipment</td>
<td>Menu</td>
<td>Equipment.VALIDATE</td>
<td>Validate an Equipment entity from the Equipment Summary page.</td>
</tr>
<tr>
<td>Equipment</td>
<td>Button</td>
<td>Equipment.ASSOCIATE</td>
<td>Associate an entity with Equipment from the Equipment portlet on the Entity Summary Page and/or from the hierarchy in the Physical Device Summary page.</td>
</tr>
</tbody>
</table>
Table 3–2  (Cont.) Resource Permissions

<table>
<thead>
<tr>
<th>Component</th>
<th>Type</th>
<th>Permission Name</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Equipment</td>
<td>Menu Action</td>
<td>Equipment.DISASSOCIATE</td>
<td>Disassociate Equipment from the hierarchy in the Physical Device Summary page.</td>
</tr>
<tr>
<td>Equipment</td>
<td>Button Action</td>
<td>Equipment.DISASSOCIATE</td>
<td>Disassociate the Equipment.</td>
</tr>
<tr>
<td>Ethernet ENNI</td>
<td>Menu Action</td>
<td>EthernetENNIConnectivity.ACTIVATE</td>
<td>Activate the Ethernet ENNI connectivity.</td>
</tr>
<tr>
<td>Ethernet ENNI</td>
<td>Menu Action</td>
<td>EthernetENNIConnectivity.DEACTIVATE</td>
<td>Deactivate the Ethernet ENNI connectivity.</td>
</tr>
<tr>
<td>Ethernet ENNI</td>
<td>Menu Action</td>
<td>EthernetENNIConnectivity.COMPLETETE</td>
<td>Complete the Ethernet ENNI connectivity.</td>
</tr>
<tr>
<td>Ethernet ENNI</td>
<td>Menu Action</td>
<td>EthernetENNIConnectivity.CANCEL</td>
<td>Cancel the Ethernet ENNI connectivity.</td>
</tr>
<tr>
<td>Ethernet ENNI</td>
<td>Menu Action</td>
<td>EthernetENNIConnectivity.DISCONNECT</td>
<td>Disconnect the Ethernet ENNI connectivity.</td>
</tr>
<tr>
<td>Ethernet UNI</td>
<td>Menu Action</td>
<td>EthernetUNIConnectivity.DEACTIVATE</td>
<td>Deactivate the Ethernet UNI connectivity.</td>
</tr>
<tr>
<td>Ethernet UNI</td>
<td>Menu Action</td>
<td>EthernetUNIConnectivity.COMPLETETE</td>
<td>Complete the Ethernet UNI connectivity.</td>
</tr>
<tr>
<td>Ethernet UNI</td>
<td>Menu Action</td>
<td>EthernetUNIConnectivity.CANCEL</td>
<td>Cancel the Ethernet UNI connectivity.</td>
</tr>
<tr>
<td>Ethernet UNI</td>
<td>Menu Action</td>
<td>EthernetUNIConnectivity.DISCONNECT</td>
<td>Disconnect Ethernet UNI connectivity.</td>
</tr>
<tr>
<td>Flow Identifier</td>
<td>Button Action</td>
<td>FlowIdentifier.DELETE</td>
<td>Delete a Flow Identifier entity from the search results.</td>
</tr>
<tr>
<td>Flow Identifier</td>
<td>Button Action</td>
<td>FlowIdentifier.SAVE</td>
<td>Save the Flow Identifier details.</td>
</tr>
<tr>
<td>Flow Identifier</td>
<td>Button Action</td>
<td>FlowIdentifier.SAVE_AND_CLOSE</td>
<td>Create the Flow Identifier and navigate back to the Search page.</td>
</tr>
<tr>
<td>Flow Identifier</td>
<td>Button Action</td>
<td>FlowIdentifier.EDIT</td>
<td>Open the Flow Identifier details in <strong>Edit</strong> mode in the Create page.</td>
</tr>
<tr>
<td>Flow Identifier</td>
<td>Menu Action</td>
<td>FlowIdentifier.DEACTIVATE</td>
<td>Deactivate the flow identifier from the Flow Identifier Summary page.</td>
</tr>
<tr>
<td>Flow Identifier</td>
<td>Menu Action</td>
<td>FlowIdentifier.ACTIVATE</td>
<td>Activate the flow identifier from the Flow Identifier Summary page.</td>
</tr>
<tr>
<td>Flow Interface</td>
<td>Menu Action</td>
<td>FlowInterface.ACTIVATE</td>
<td>Activate the flow interface from the Flow Interface Summary page.</td>
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<tr>
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<td>Menu Action</td>
<td>FlowInterface.DEACTIVATE</td>
<td>Deactivate the flow interface from the Flow Interface Summary page.</td>
</tr>
<tr>
<td>Inventory Group</td>
<td>Button Action</td>
<td>InventoryGroup.DELETE</td>
<td>Delete an inventory group from search results.</td>
</tr>
</tbody>
</table>
### Table 3–2  (Cont.) Resource Permissions

<table>
<thead>
<tr>
<th>Component</th>
<th>Type</th>
<th>Permission Name</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Inventory Group</strong></td>
<td>Button Action</td>
<td><strong>InventoryGroupItem.DELETE</strong></td>
<td>Delete an inventory group from search results.</td>
</tr>
<tr>
<td><strong>Inventory Group</strong></td>
<td>Menu Action</td>
<td><strong>InventoryGroup.ACTIVATE</strong></td>
<td>Activate an inventory group from the Inventory Group Summary page.</td>
</tr>
<tr>
<td><strong>Inventory Group</strong></td>
<td>Menu Action</td>
<td><strong>InventoryGroup.DEACTIVATE</strong></td>
<td>Deactivate an inventory group from the Inventory Group Summary page.</td>
</tr>
<tr>
<td><strong>Inventory Group</strong></td>
<td>Menu Action</td>
<td><strong>InventoryGroup.VALIDATE</strong></td>
<td>Validate an inventory group from the Inventory Group Summary page.</td>
</tr>
<tr>
<td><strong>Inventory Group</strong></td>
<td>Button Action</td>
<td><strong>InventoryGroup.ASSOCIATE</strong></td>
<td>Associate an entity with an inventory group from the Inventory Group portlet on the Entity Summary page.</td>
</tr>
<tr>
<td><strong>Inventory Group</strong></td>
<td>Menu Action</td>
<td><strong>InventoryGroup.ASSOCIATE_IG</strong></td>
<td>Add a child inventory group to the hierarchy in the Inventory Group Summary page and/or add a parent inventorygroup to the Parent Inventory Group section in the Inventory Group Summary page.</td>
</tr>
<tr>
<td><strong>Inventory Group</strong></td>
<td>Menu Action</td>
<td><strong>InventoryGroup.DISASSOCIATE_IG</strong></td>
<td>Remove a child inventory group from the hierarchy in the Inventory Group Summary page and/or remove a parent inventorygroup from the Parent Inventory Group section in the Inventory Group Summary page.</td>
</tr>
<tr>
<td><strong>Inventory Group</strong></td>
<td>Button Action</td>
<td><strong>InventoryGroupItem.ASSOCIATE</strong></td>
<td>Associate inventory group items from the Inventory Group Summary page.</td>
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<td><strong>Involvement</strong></td>
<td>Button Action</td>
<td><strong>Involvement.DELETE</strong></td>
<td>Delete an involvement from an entity Summary page.</td>
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<tr>
<td><strong>IPV4 Network</strong></td>
<td>Button Action</td>
<td><strong>IPv4Network.DELETE</strong></td>
<td>Delete IPv4 Network from the search results.</td>
</tr>
<tr>
<td><strong>IPV4 Network</strong></td>
<td>Button Action</td>
<td><strong>IPv4NetworkCreate.SAVE</strong></td>
<td>Save the IPv4 Network.</td>
</tr>
<tr>
<td><strong>IPV4 Network</strong></td>
<td>Button Action</td>
<td><strong>IPv4NetworkCreate.SAVE_AND_CLOSE</strong></td>
<td>Save the IPv4 Network and navigate back to the Search page.</td>
</tr>
<tr>
<td><strong>IPV4 Network</strong></td>
<td>Button Action</td>
<td><strong>IPv4NetworkDetails.SAVE_AND_CLOSE</strong></td>
<td>Save the changes to the IPv4 Network and navigate back to the Search page.</td>
</tr>
<tr>
<td><strong>IPV4 Network</strong></td>
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<td><strong>IPv4NetworkDetails.SAVE</strong></td>
<td>Save the changes to IPv4 Network.</td>
</tr>
<tr>
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<td>Button Action</td>
<td><strong>IPv4NetworkDetails.EDIT</strong></td>
<td>Edit the IPv4 Network details.</td>
</tr>
<tr>
<td><strong>IPv4 Address</strong></td>
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<td><strong>IPv4Address.DELETE</strong></td>
<td>Delete IPv4 Address from the search results.</td>
</tr>
<tr>
<td>Component</td>
<td>Type</td>
<td>Permission Name</td>
<td>Purpose</td>
</tr>
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<td>Save the changes to the IPv4 Address.</td>
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<tr>
<td>IPv4 Address</td>
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</tr>
<tr>
<td>IPv4 Address</td>
<td>Menu Action</td>
<td>IPv4Address.ACTIVATE</td>
<td>Activate IPv4 Address from IPv4 Address Details page.</td>
</tr>
<tr>
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<td>Menu Action</td>
<td>IPv4Address.DEACTIVATE</td>
<td>Deactivate IPv4 Address from the IPv4 Address Details page.</td>
</tr>
<tr>
<td>IPv4 Subnet</td>
<td>Button Action</td>
<td>IPv4Subnet.ACTIVATE</td>
<td>Activate IPv4 Subnet from the IPv4 Subnet Details page.</td>
</tr>
<tr>
<td>IPv4 Subnet</td>
<td>Button Action</td>
<td>IPv4Subnet.DEACTIVATE</td>
<td>Deactivate IPv4 Subnet from the IPv4 Subnet Details page.</td>
</tr>
<tr>
<td>IPv4 Subnet</td>
<td>Button Action</td>
<td>IPv4SubnetDetails.SAVE</td>
<td>Save the changes to IPv4 Subnet.</td>
</tr>
<tr>
<td>IPv4 Subnet</td>
<td>Button Action</td>
<td>IPv4SubnetDetails.SAVE_AND_CLOSE</td>
<td>Save the changes to the IPv4 Subnet and navigate back to the Search page.</td>
</tr>
<tr>
<td>IPv4 Subnet</td>
<td>Button Action</td>
<td>IPv4SubnetDetails.EDIT</td>
<td>Edit the IPv4 Subnet details.</td>
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<tr>
<td>IPv4 Subnet</td>
<td>Menu Action</td>
<td>IPv4SubnetDetails.PARTITION</td>
<td>Open the Partition popup from the Details page.</td>
</tr>
<tr>
<td>IPv4 Subnet</td>
<td>Menu Action</td>
<td>IPv4SubnetDetails.JOIN</td>
<td>Open the Join popup from the Details page.</td>
</tr>
<tr>
<td>IPv4 Subnet</td>
<td>Button Action</td>
<td>IPv4SubnetPartition.PARTITION</td>
<td>Partition the subnet.</td>
</tr>
<tr>
<td>IPv4 Subnet</td>
<td>Button Action</td>
<td>IPv4SubnetJoin.JOIN</td>
<td>Join the subnet.</td>
</tr>
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<td>IPv6Network.DELETE</td>
<td>Delete IPv6 Network from the search results.</td>
</tr>
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<td>IPv6NetworkCreate.SAVE</td>
<td>Save the IPv6 Network.</td>
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<tr>
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<td>IPv6NetworkCreate.SAVE_AND_CLOSE</td>
<td>Save the IPv6 Network and navigate back to the Search page.</td>
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<td>IPv6NetworkDetails.SAVE</td>
<td>Save the changes to IPv6 Network.</td>
</tr>
<tr>
<td>IPV6 Network</td>
<td>Button Action</td>
<td>IPv6NetworkDetails.SAVE_AND_CLOSE</td>
<td>Save the changes to the IPv6 Network and navigate back to the Search page.</td>
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<tr>
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<td>Permission Name</td>
<td>Purpose</td>
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<td>Edit the IPV6 Network details.</td>
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<td>IPv6Address.DELETE</td>
<td>Delete IPV6 Address from the search results.</td>
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<td>Save the IPV6 Address.</td>
</tr>
<tr>
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<td>IPv6AddressCreate.SAVE_AND_CLOSE</td>
<td>Save the IPV6 Address and navigate back to the Search page.</td>
</tr>
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<td>IPv6AddressDetails.SAVE</td>
<td>Save the changes to IPV6 Address.</td>
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<tr>
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<td>Button</td>
<td>IPv6AddressDetails.SAVE_AND_CLOSE</td>
<td>Save the changes to the IPV6 Address and navigate back to the Search page.</td>
</tr>
<tr>
<td>IPV6 Address</td>
<td>Button</td>
<td>IPv6AddressDetails.EDIT</td>
<td>Edit the IPV6 Address details.</td>
</tr>
<tr>
<td>IPV6 Address</td>
<td>Button</td>
<td>IPv6Address.ACTIVATE</td>
<td>Activate IPV6 Address from the IPV6 Address Details page.</td>
</tr>
<tr>
<td>IPV6 Address</td>
<td>Button</td>
<td>IPv6Address.DEACTIVATE</td>
<td>Deactivate IPV6 Address from the IPV6 Address Details page.</td>
</tr>
<tr>
<td>IPV6 Subnet</td>
<td>Menu</td>
<td>IPv6Subnet.ACTIVATE</td>
<td>Activate IPV6 Subnet from the IPV6 Subnet Details page.</td>
</tr>
<tr>
<td>IPV6 Subnet</td>
<td>Menu</td>
<td>IPv6Subnet.DEACTIVATE</td>
<td>Deactivate IPV6 Subnet from the IPV6 Subnet Details page.</td>
</tr>
<tr>
<td>IPV6 Subnet</td>
<td>Button</td>
<td>IPv6SubnetDetails.SAVE</td>
<td>Save the changes to IPV6 Subnet.</td>
</tr>
<tr>
<td>IPV6 Subnet</td>
<td>Button</td>
<td>IPv6SubnetDetails.SAVE_AND_CLOSE</td>
<td>Save the changes to the IPV6 Subnet and navigate back to the Search page.</td>
</tr>
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<td>IPv6SubnetDetails.EDIT</td>
<td>Edit the IPV6 Subnet details.</td>
</tr>
<tr>
<td>IPV6 Subnet</td>
<td>Button</td>
<td>IPv6SubnetDetails.PARTITION</td>
<td>Open the Partition popup from the Details page.</td>
</tr>
<tr>
<td>IPV6 Subnet</td>
<td>Button</td>
<td>IPv6SubnetDetails.JOIN</td>
<td>Open the Join popup from the Details page.</td>
</tr>
<tr>
<td>IPV6 Subnet</td>
<td>Button</td>
<td>IPv6SubnetPartition.PARTITION</td>
<td>Partition the subnet.</td>
</tr>
<tr>
<td>IPV6 Subnet</td>
<td>Button</td>
<td>IPv6SubnetJoin.JOIN</td>
<td>Join the subnet.</td>
</tr>
<tr>
<td>Logical Device</td>
<td>Button</td>
<td>LogicalDevice.DELETE</td>
<td>Delete a logical device from search results.</td>
</tr>
<tr>
<td>Logical Device</td>
<td>Button</td>
<td>DeviceMapping.DELETE</td>
<td>Map a physical port or connector to a device interface from the Device Interface Summary page.</td>
</tr>
<tr>
<td>Logical Device</td>
<td>Menu</td>
<td>LogicalDevice.ACTIVATE</td>
<td>Activate a logical device from the Logical Device Summary page.</td>
</tr>
<tr>
<td>Component</td>
<td>Type</td>
<td>Permission Name</td>
<td>Purpose</td>
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<td>-------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Logical Device</td>
<td>Menu Action</td>
<td>LogicalDevice.DEACTIVATE</td>
<td>Deactivate a logical device from the Logical Device Summary page.</td>
</tr>
<tr>
<td>Logical Device</td>
<td>Menu Action</td>
<td>LogicalDevice.VALIDATE</td>
<td>Validate a logical device from the Logical Device Summary page.</td>
</tr>
<tr>
<td>Logical Device</td>
<td>Button Action</td>
<td>LogicalDevice.DUPLICATE</td>
<td>Duplicate a logical device from the search results page.</td>
</tr>
<tr>
<td>Logical Device</td>
<td>Menu Action</td>
<td>LogicalDevice.ASSOCIATE_LD</td>
<td>Add a logical device to the hierarchy in the Logical Device Summary page and/or from the hierarchy in the Physical Device Summary page.</td>
</tr>
<tr>
<td>Logical Device</td>
<td>Menu Action</td>
<td>LogicalDevice.DISASSOCIATE_LD</td>
<td>Remove a logical device from the hierarchy in the Logical Device Summary page and/or from the hierarchy in the Physical Device Summary page.</td>
</tr>
<tr>
<td>Logical Device</td>
<td>Menu Action</td>
<td>DeviceInterface.ASSOCIATE_DI</td>
<td>Add a device interface to the hierarchy in the Logical Device Summary page and/or to the hierarchy in the Device Interface Summary page.</td>
</tr>
<tr>
<td>Logical Device</td>
<td>Menu Action</td>
<td>LogicalDevice.MAINTAIN_MAPPINGS</td>
<td>Maintain mappings from the hierarchy in the Logical Device Summary page.</td>
</tr>
<tr>
<td>Logical Device</td>
<td>Menu Action</td>
<td>DeviceInterface.DISASSOCIATE_DI</td>
<td>Remove a device interface from the hierarchy in the Logical Device Summary page and/or from the hierarchy in the Device Interface Summary page.</td>
</tr>
<tr>
<td>Logical Device</td>
<td>Button Action</td>
<td>LogicalDevice.ASSOCIATE</td>
<td>Associate the Logical Device.</td>
</tr>
<tr>
<td>Logical Device Account</td>
<td>Button Action</td>
<td>LogicalDeviceAccount.DELETE</td>
<td>Delete a logical device account from search results.</td>
</tr>
<tr>
<td>Logical Device Account</td>
<td>Menu Action</td>
<td>LogicalDeviceAccount.ACTIVATE</td>
<td>Activate a logical device account from the Logical Device Account Summary page.</td>
</tr>
<tr>
<td>Logical Device Account</td>
<td>Menu Action</td>
<td>LogicalDeviceAccount.DEACTIVATE</td>
<td>Deactivate a logical device account from the Logical Device Account Summary page.</td>
</tr>
<tr>
<td>Logical Device Account</td>
<td>Menu Action</td>
<td>LogicalDeviceAccount.VALIDATE</td>
<td>Validate the logical device account from the Logical Device Account Summary page.</td>
</tr>
<tr>
<td>Logical Device Account</td>
<td>Button Action</td>
<td>LogicalDeviceAccount.ASSOCIATE</td>
<td>Associate an entity with a logical device account from the Logical Device Account portlet on the Entity Summary page.</td>
</tr>
<tr>
<td>Component</td>
<td>Type</td>
<td>Permission Name</td>
<td>Purpose</td>
</tr>
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<td>-------------------------------------------------------------------------</td>
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<tr>
<td>Logical Device Account</td>
<td>Menu</td>
<td>LDAccountConfigurationVersion.APPROVE</td>
<td>Approve a Configuration from LogicalDeviceAccount Configuration Summary page.</td>
</tr>
<tr>
<td>Configuration</td>
<td>Action</td>
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<tr>
<td>Logical Device Account</td>
<td>Menu</td>
<td>LDAccountConfigurationVersion.AUTO_</td>
<td>Auto Configure a Configuration from LogicalDeviceAccount Configuration Summary page.</td>
</tr>
<tr>
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<td>Action</td>
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<td>Menu</td>
<td>LDAccountConfigurationVersion.CANCEL</td>
<td>Cancel a Configuration from LogicalDeviceAccount Configuration Summary page.</td>
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<td>Logical Device Account</td>
<td>Menu</td>
<td>LDAccountConfigurationVersion.COMPLETE</td>
<td>Complete a Configuration from LogicalDeviceAccount Configuration Summary page.</td>
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<td>Configuration</td>
<td>Action</td>
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<tr>
<td>Logical Device Account</td>
<td>Menu</td>
<td>LDAccountConfigurationVersion.CREATE_</td>
<td>Create a new configuration from LogicalDeviceAccount Configuration Summary page.</td>
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<tr>
<td>Logical Device Account</td>
<td>Menu</td>
<td>LDAccountConfigurationVersion.ISSUE</td>
<td>Issue a Configuration from LogicalDeviceAccount Configuration Summary page.</td>
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<tr>
<td>Logical Device Account</td>
<td>Menu</td>
<td>LDAccountConfigurationVersion.RESUME</td>
<td>Resume a Configuration from LogicalDeviceAccount Configuration Summary page.</td>
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<tr>
<td>Logical Device Account</td>
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<td>LDAccountConfigurationVersion.SUSPEND</td>
<td>Suspend a Configuration from LogicalDeviceAccount Configuration Summary page.</td>
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<tr>
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<td>Logical Device Configuration</td>
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<td>LogicalDeviceConfigurationVersion.COMPLETE</td>
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<tr>
<td>Logical Device Configuration</td>
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<td>Component</td>
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<td>Permission Name</td>
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<td>Logical Device</td>
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<tr>
<td>Media</td>
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<td>Media.DELETE</td>
<td>Delete a media file from search results.</td>
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<tr>
<td>Media Stream</td>
<td>Button</td>
<td>MediaStream.DELETE</td>
<td>Delete a media stream from search results.</td>
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<tr>
<td>Media Stream</td>
<td>Button</td>
<td>MediaStream.DUPLICATE</td>
<td>Duplicate a media stream from search results.</td>
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<tr>
<td>Media Stream</td>
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<td>MediaStream.ACTIVATE</td>
<td>Activate a media stream from the Media Stream Summary page.</td>
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<td>Media Stream</td>
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<td>MediaStream.DEACTIVATE</td>
<td>Deactivate a media stream from the Media Stream Summary page.</td>
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<td>MediaStream.VALIDATE</td>
<td>Validate a media stream from the Media Stream Summary page.</td>
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<tr>
<td>Media Resource</td>
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<td>MediaResource.ASSOCIATE</td>
<td>Add a media resource to the Media Resource portlet on the Entity Summary page.</td>
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<tr>
<td>Media Resource</td>
<td>Button</td>
<td>MediaResource.DELETE</td>
<td>Delete a media resource from the Media Resource portlet on the Entity Summary page.</td>
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<tr>
<td>Media Resource</td>
<td>Button</td>
<td>MediaResource.DUPLICATE</td>
<td>Duplicate a media resource from the Media Resource portlet on the Entity Summary page.</td>
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<tr>
<td>Action</td>
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</tr>
<tr>
<td>Network</td>
<td>Button</td>
<td>Network.DELETE</td>
<td>Delete a network from search results.</td>
</tr>
<tr>
<td>Action</td>
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</tr>
<tr>
<td>Network</td>
<td>Menu</td>
<td>Network.ACTIVATE</td>
<td>Activate a network from the Network Summary page.</td>
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<tr>
<td>Action</td>
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<tr>
<td>Network</td>
<td>Menu</td>
<td>Network.DEACTIVATE</td>
<td>Deactivate a network from the Network Summary page.</td>
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<td>Action</td>
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<tr>
<td>Network</td>
<td>Menu</td>
<td>Network.VALIDATE</td>
<td>Validate a network from the Network Summary page.</td>
</tr>
<tr>
<td>Action</td>
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<tr>
<td>Network</td>
<td>Menu</td>
<td>NetworkNodeEdge.DISASSOCIATE</td>
<td>Disassociate a network node/node edge from the Network Map View and Network View.</td>
</tr>
<tr>
<td>Action</td>
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<tr>
<td>Network</td>
<td>Menu</td>
<td>NetworkNodeEdge.UPDATE_ASSOCIATION</td>
<td>Update a network node/node edge association from the Network Map View &amp; Network View.</td>
</tr>
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</table>
### Table 3–2 (Cont.) Resource Permissions

<table>
<thead>
<tr>
<th>Component</th>
<th>Type</th>
<th>Permission Name</th>
<th>Purpose</th>
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<tbody>
<tr>
<td>Network Address Domain</td>
<td>Button Action</td>
<td>NetworkAddressDomain.DELETE</td>
<td>Delete Network Address Domain from the search results.</td>
</tr>
<tr>
<td>Network Address Domain</td>
<td>Button Action</td>
<td>NetworkAddressDomainDetails.SAVE</td>
<td>Save the changes to Network Address Domain.</td>
</tr>
<tr>
<td>Network Address Domain</td>
<td>Button Action</td>
<td>NetworkAddressDomainDetails.SAVE_AND_CLOSE</td>
<td>Save the changes to the Network Address Domain and navigate back to the Search page.</td>
</tr>
<tr>
<td>Network Address Domain</td>
<td>Button Action</td>
<td>NetworkAddressDomainDetails.EDIT</td>
<td>Edit the Network Address Domain details.</td>
</tr>
<tr>
<td>Network Configuration</td>
<td>Menu Action</td>
<td>NetworkConfigurationVersion.APPROVE</td>
<td>Approve a configuration from the Network Configuration Summary page.</td>
</tr>
<tr>
<td>Network Configuration</td>
<td>Menu Action</td>
<td>NetworkConfigurationVersion.AUTOCONFIGURE</td>
<td>Auto-configure a configuration from the Network Configuration Summary page.</td>
</tr>
<tr>
<td>Network Configuration</td>
<td>Menu Action</td>
<td>NetworkConfigurationVersion.CANCEL</td>
<td>Cancel a configuration from the Network Configuration Summary page.</td>
</tr>
<tr>
<td>Network Configuration</td>
<td>Menu Action</td>
<td>NetworkConfigurationVersion.COMPLETE</td>
<td>Complete a configuration from the Network Configuration Summary page.</td>
</tr>
<tr>
<td>Network Configuration</td>
<td>Menu Action</td>
<td>NetworkConfigurationVersion.CREATE.NEW_VERSION</td>
<td>Create a new configuration from the Network Configuration Summary page.</td>
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<tr>
<td>Network Configuration</td>
<td>Menu Action</td>
<td>NetworkConfigurationVersion.ISSUE</td>
<td>Issue a configuration from the Network Configuration Summary page.</td>
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<td>Network Configuration</td>
<td>Menu Action</td>
<td>NetworkConfigurationVersion.RESUME</td>
<td>Resume a configuration from the Network Configuration Summary page.</td>
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<tr>
<td>Network Configuration</td>
<td>Menu Action</td>
<td>NetworkConfigurationVersion.SUSPEND</td>
<td>Suspend a configuration from the Network Configuration Summary page.</td>
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<tr>
<td>Network Configuration</td>
<td>Menu Action</td>
<td>NetworkConfigurationVersion.VALIDATE</td>
<td>Validate a configuration from the Network Configuration Summary page.</td>
</tr>
<tr>
<td>Network Service</td>
<td>Button Action</td>
<td>NetworkService.DELETE</td>
<td>Delete a Network Service from search results</td>
</tr>
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</table>
### Table 3–2 (Cont.) Resource Permissions

<table>
<thead>
<tr>
<th>Component</th>
<th>Type</th>
<th>Permission Name</th>
<th>Purpose</th>
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<tbody>
<tr>
<td>Party</td>
<td>Button Action</td>
<td>Party.DELETE</td>
<td>Delete a party from search results.</td>
</tr>
<tr>
<td>Party</td>
<td>Button Action</td>
<td>Party.EDIT</td>
<td>Edit a party from Party search results or the Service Summary page.</td>
</tr>
<tr>
<td>Party</td>
<td>Menu Action</td>
<td>Party.ACTIVATE</td>
<td>Activate a party from the Party Summary page.</td>
</tr>
<tr>
<td>Party</td>
<td>Menu Action</td>
<td>Party.DEACTIVATE</td>
<td>Deactivate a party from the Party Summary page.</td>
</tr>
<tr>
<td>Party</td>
<td>Menu Action</td>
<td>Party.VALIDATE</td>
<td>Validate a party from the Party Summary page.</td>
</tr>
<tr>
<td>Party</td>
<td>Button Action</td>
<td>Party.ASSOCIATE</td>
<td>Associate an entity with a party from the Party portlet on the Entity Summary page.</td>
</tr>
<tr>
<td>Physical Device</td>
<td>Button Action</td>
<td>PhysicalDevice.DELETE</td>
<td>Delete a physical device from search results.</td>
</tr>
<tr>
<td>Physical Device</td>
<td>Button Action</td>
<td>PhysicalDevice.DUPLICATE</td>
<td>Duplicate a physical device from search results.</td>
</tr>
<tr>
<td>Physical Device</td>
<td>Menu Action</td>
<td>PhysicalDevice.ACTIVATE</td>
<td>Activate physical device from the Physical Device Summary page.</td>
</tr>
<tr>
<td>Physical Device</td>
<td>Menu Action</td>
<td>PhysicalDevice.DEACTIVATE</td>
<td>Deactivate a physical device from the Physical Device Summary page.</td>
</tr>
<tr>
<td>Physical Device</td>
<td>Menu Action</td>
<td>PhysicalDevice.VALIDATE</td>
<td>Validate a physical device from the Physical Device Summary page.</td>
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<tr>
<td>Physical Device</td>
<td>Menu Action</td>
<td>PhysicalDevice.ASSOCIATE</td>
<td>Add a physical device to the Equipment Summary page and/or to the hierarchy in the Logical Device Summary page and/or to the Physical Device portlet.</td>
</tr>
<tr>
<td>Physical Device</td>
<td>Button Action</td>
<td>PhysicalDevice.ASSOCIATE_PD</td>
<td>Add a physical device to the hierarchy in the Physical Device Summary page.</td>
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<tr>
<td>Component</td>
<td>Type</td>
<td>Permission Name</td>
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<tr>
<td>Physical Device</td>
<td>Menu Action</td>
<td>PhysicalDevice.DISASSOCIATE</td>
<td>Remove a physical device from the Equipment Summary page and/or from the hierarchy in the Logical Device Summary page and/or from the Physical Device portlet.</td>
</tr>
<tr>
<td>Physical Device</td>
<td>Button Action</td>
<td>PhysicalDevice.DISASSOCIATE_PD</td>
<td>Remove a physical device from the hierarchy in the Physical Device Summary page.</td>
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<tr>
<td>Physical Device</td>
<td>Menu Action</td>
<td>PhysicalDevice.MAINTAIN_MAPPINGS</td>
<td>Maintain mappings from the hierarchy in the Physical Device Summary page.</td>
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<tr>
<td>Physical Device</td>
<td>Button Action</td>
<td>PhysicalDevice.ASSOCIATE</td>
<td>Associate the Physical Device in Equipment Summary page.</td>
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<td>Pipe</td>
<td>Button Action</td>
<td>Pipe.DELETE</td>
<td>Delete a pipe from search results.</td>
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<tr>
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<td>Button Action</td>
<td>Pipe.DUPLICATE</td>
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<tr>
<td>Pipe</td>
<td>Menu Action</td>
<td>Pipe.ACTIVATE</td>
<td>Activate a pipe from the Pipe Summary page.</td>
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<td>Pipe</td>
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<td>Pipe.DEACTIVATE</td>
<td>Deactivate a pipe from the Pipe Summary page.</td>
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<tr>
<td>Pipe</td>
<td>Menu Action</td>
<td>Pipe.MAP_SIGNAL_STRUCTURE</td>
<td>Associate a signal structure to a pipe from the Pipe Summary page.</td>
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<tr>
<td>Pipe</td>
<td>Menu Action</td>
<td>Pipe.REMOVE_SIGNAL_STRUCTURE</td>
<td>Disassociate a signal structure from a pipe from the Pipe Summary page.</td>
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<tr>
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<td>Menu Action</td>
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<td>Validate a pipe from the Pipe Summary page.</td>
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<tr>
<td>Pipe</td>
<td>Button Action</td>
<td>Pipe.MAINTAIN_CAPACITY</td>
<td>Update Capacity from Pipe Summary page.</td>
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<td>Button Action</td>
<td>Pipe.MAINTAIN_DIRECTIONALITY</td>
<td>Create Directionality from Pipe Summary page.</td>
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<td>Pipe.MAINTAIN_TERMINATION_RESOURCES</td>
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<td>PipeProvides.DELETE</td>
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<td>Button Action</td>
<td>PipeTrail.ASSOCIATE</td>
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<td>Component</td>
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<tr>
<td>Pipe</td>
<td>Menu Action</td>
<td>Pipe.DISCONNECT</td>
<td>Disconnect Pipe.</td>
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<tr>
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<td>PipeConfigurationVersion.AUTO_CONFIGURE</td>
<td>Auto-configure a configuration from the Pipe Configuration Summary page.</td>
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<td>PipeConfigurationVersion.CREATE_NEW_VERSION</td>
<td>Create a new configuration from the Pipe Configuration Summary page.</td>
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<td>Pipe Configuration</td>
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<td>PipeConfigurationVersion.ISSUE</td>
<td>Issue a configuration from the Pipe Configuration Summary page.</td>
</tr>
<tr>
<td>Pipe Configuration</td>
<td>Menu Action</td>
<td>PipeConfigurationVersion.RESUME</td>
<td>Resume a configuration from the Pipe Configuration Summary page.</td>
</tr>
<tr>
<td>Pipe Configuration</td>
<td>Menu Action</td>
<td>PipeConfigurationVersion.SUSPEND</td>
<td>Suspend a configuration from the Pipe Configuration Summary page.</td>
</tr>
<tr>
<td>Pipe Configuration</td>
<td>Menu Action</td>
<td>PipeConfigurationVersion.VALIDATE</td>
<td>Validate a configuration from the Pipe Configuration Summary page.</td>
</tr>
<tr>
<td>Pipe Configuration</td>
<td>Menu Action</td>
<td>PipeConfigurationVersion.ACTIONS</td>
<td>Actions on the Pipe Config Trail List from the Pipe Configuration Summary page.</td>
</tr>
<tr>
<td>Pipe Configuration</td>
<td>Button Action</td>
<td>PipeConfigurationVersion.ASSOCIATE</td>
<td>Associate a Pipe Config Trail List from the Pipe Configuration Summary page.</td>
</tr>
<tr>
<td>Place</td>
<td>Button Action</td>
<td>Place.DELETE</td>
<td>Delete a place from search results.</td>
</tr>
<tr>
<td>Place</td>
<td>Button Action</td>
<td>Place.EDIT</td>
<td>Edit a place from search results or an entity Summary page.</td>
</tr>
<tr>
<td>Place</td>
<td>Menu Action</td>
<td>Place.ASSOCIATE</td>
<td>Associate a place from the hierarchy in the Place Summary page and/or Place portlet.</td>
</tr>
<tr>
<td>Place</td>
<td>Menu Action</td>
<td>Place.ASSOCIATE_PLACE</td>
<td>Add a child place to the hierarchy in the Place Summary page.</td>
</tr>
<tr>
<td>Place</td>
<td>Menu Action</td>
<td>Place.DISASSOCIATE_PLACE</td>
<td>Remove a child place from the hierarchy in the Place Summary page.</td>
</tr>
<tr>
<td>Place Configuration</td>
<td>Menu Action</td>
<td>PlaceConfigurationVersion.APPROVE</td>
<td>Approve a configuration from the Place Configuration Summary page.</td>
</tr>
<tr>
<td>Component</td>
<td>Type</td>
<td>Permission Name</td>
<td>Purpose</td>
</tr>
<tr>
<td>-----------------</td>
<td>--------------</td>
<td>-----------------------------------------------</td>
<td>-------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Place Configuration</td>
<td>Menu Action</td>
<td>PlaceConfigurationVersion.AUTO_CONFIGURE</td>
<td>Auto-configure a configuration from the Place Configuration Summary page.</td>
</tr>
<tr>
<td>Place Configuration</td>
<td>Menu Action</td>
<td>PlaceConfigurationVersion.CANCEL</td>
<td>Cancel a configuration from the Place Configuration Summary page.</td>
</tr>
<tr>
<td>Place Configuration</td>
<td>Menu Action</td>
<td>PlaceConfigurationVersion.COMPLETE</td>
<td>Complete a configuration from the Place Configuration Summary page.</td>
</tr>
<tr>
<td>Place Configuration</td>
<td>Menu Action</td>
<td>PlaceConfigurationVersion.CREATE_NEW_VERSION</td>
<td>Create a new configuration from the Place Configuration Summary page.</td>
</tr>
<tr>
<td>Place Configuration</td>
<td>Menu Action</td>
<td>PlaceConfigurationVersion.ISSUE</td>
<td>Issue a configuration from the Place Configuration Summary page.</td>
</tr>
<tr>
<td>Place Configuration</td>
<td>Menu Action</td>
<td>PlaceConfigurationVersion.RESUME</td>
<td>Resume a configuration from the Place Configuration Summary page.</td>
</tr>
<tr>
<td>Place Configuration</td>
<td>Menu Action</td>
<td>PlaceConfigurationVersion.SUSPEND</td>
<td>Suspend a configuration from the Place Configuration Summary page.</td>
</tr>
<tr>
<td>Place Configuration</td>
<td>Menu Action</td>
<td>PlaceConfigurationVersion.VALIDATE</td>
<td>Validate a configuration from the Place Configuration Summary page.</td>
</tr>
<tr>
<td>Product</td>
<td>Button Action</td>
<td>Product.DELETE</td>
<td>Delete a product from search results.</td>
</tr>
<tr>
<td>Product</td>
<td>Menu Action</td>
<td>Product.ACTIVATE</td>
<td>Activate a product from the Product Summary page.</td>
</tr>
<tr>
<td>Product</td>
<td>Menu Action</td>
<td>Product.DEACTIVATE</td>
<td>Deactivate a product from the Product Summary page.</td>
</tr>
<tr>
<td>Product</td>
<td>Menu Action</td>
<td>Product.VALIDATE_PRODUCT</td>
<td>Validate a product from the Product Summary page.</td>
</tr>
<tr>
<td>Product</td>
<td>Menu Action</td>
<td>Product.ASSOCIATE_PRODUCT</td>
<td>Associate a product to the hierarchy in the Product Summary page.</td>
</tr>
<tr>
<td>Product</td>
<td>Menu Action</td>
<td>Product.DISASSOCIATE_PRODUCT</td>
<td>Disassociate a product from the hierarchy in the Product Summary page.</td>
</tr>
<tr>
<td>Property Location</td>
<td>Button Action</td>
<td>LocationSearch.CREATE</td>
<td>Create the Property Location.</td>
</tr>
<tr>
<td>Property Location</td>
<td>Button Action</td>
<td>LocationSearch.DELETE</td>
<td>Delete the Property Location.</td>
</tr>
<tr>
<td>Property Location</td>
<td>Button Action</td>
<td>LocationDetails.EDIT</td>
<td>Edit the Location Details.</td>
</tr>
<tr>
<td>Property Location</td>
<td>Button Action</td>
<td>LocationDetails.VALIDATE_ADDRESS</td>
<td>Validate the Address provided in Location Details page.</td>
</tr>
<tr>
<td>Property Location</td>
<td>Button Action</td>
<td>LocationDetails.CREATE_NEC</td>
<td>Create Network Entity Code.</td>
</tr>
</tbody>
</table>
### Table 3–2 (Cont.) Resource Permissions

<table>
<thead>
<tr>
<th>Component</th>
<th>Type</th>
<th>Permission Name</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Property Location</td>
<td>Button</td>
<td>LocationDetails.DELETE_NEC</td>
<td>Delete Network Entity Code.</td>
</tr>
<tr>
<td>Reservation</td>
<td>Button</td>
<td>Reservation.DELETE</td>
<td>Delete a reservation from the Reservations list.</td>
</tr>
<tr>
<td>Role</td>
<td>Button</td>
<td>Role.DELETE</td>
<td>Delete a role from the Roles list in an entity Summary page.</td>
</tr>
<tr>
<td>Role</td>
<td>Button</td>
<td>Role.EDIT</td>
<td>Edit a role from the Roles list in an entity Summary page.</td>
</tr>
<tr>
<td>Ruleset</td>
<td>Button</td>
<td>Rule.DELETE</td>
<td>Delete a ruleset.</td>
</tr>
<tr>
<td>Service</td>
<td>Button</td>
<td>Service.DELETE</td>
<td>Delete a service from search results.</td>
</tr>
<tr>
<td>Service</td>
<td>Menu</td>
<td>Service.ACTIVATE</td>
<td>Activate a service from the Service Summary page.</td>
</tr>
<tr>
<td>Service</td>
<td>Menu</td>
<td>Service.CANCEL</td>
<td>Cancel a service from the Service Summary page.</td>
</tr>
<tr>
<td>Service</td>
<td>Menu</td>
<td>Service.COMPLETE</td>
<td>Complete a service from the Service Summary page.</td>
</tr>
<tr>
<td>Service</td>
<td>Menu</td>
<td>Service.DEACTIVATE</td>
<td>Deactivate a service from the Service Summary page.</td>
</tr>
<tr>
<td>Service</td>
<td>Menu</td>
<td>Service.DISCONNECT</td>
<td>Disconnect a service from the Service Summary page.</td>
</tr>
<tr>
<td>Service</td>
<td>Menu</td>
<td>Service.RESUME</td>
<td>Resume a service from the Service Summary page.</td>
</tr>
<tr>
<td>Service</td>
<td>Menu</td>
<td>Service.SUSPEND</td>
<td>Suspend a service from the Service Summary page.</td>
</tr>
<tr>
<td>Service</td>
<td>Menu</td>
<td>Service.VALIDATE</td>
<td>Validate a service from the Service Summary page.</td>
</tr>
<tr>
<td>Service</td>
<td>Menu</td>
<td>Service.ASSOCIATE</td>
<td>Add a service to the hierarchy in the Service Summary page.</td>
</tr>
<tr>
<td>Service Configuration</td>
<td>Menu</td>
<td>ServiceConfigurationVersion.APPROVE</td>
<td>Approve a configuration from the Service Configuration Summary page.</td>
</tr>
<tr>
<td>Service Configuration</td>
<td>Menu</td>
<td>ServiceConfigurationVersion.AUTO_CONFIGURE</td>
<td>Auto-configure a configuration from the Service Configuration Summary page.</td>
</tr>
<tr>
<td>Service Configuration</td>
<td>Menu</td>
<td>ServiceConfigurationVersion.CANCEL</td>
<td>Cancel a configuration from the Service Configuration Summary page.</td>
</tr>
<tr>
<td>Service Configuration</td>
<td>Menu</td>
<td>ServiceConfigurationVersion.COMplete</td>
<td>Complete a configuration from the Service Configuration Summary page.</td>
</tr>
<tr>
<td>Service Configuration</td>
<td>Menu</td>
<td>ServiceConfigurationVersion.CREATE_NEW_VERSION</td>
<td>Create a new configuration from the Service Configuration Summary page.</td>
</tr>
<tr>
<td>Service Configuration</td>
<td>Menu</td>
<td>ServiceConfigurationVersion.ISSUE</td>
<td>Issue a configuration from the Service Configuration Summary page.</td>
</tr>
<tr>
<td>Component</td>
<td>Type</td>
<td>Permission Name</td>
<td>Purpose</td>
</tr>
<tr>
<td>----------------------------</td>
<td>-------</td>
<td>--------------------------------</td>
<td>-------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Service Configuration</td>
<td>Menu</td>
<td>ServiceConfigurationVersion.RESUME</td>
<td>Resume a configuration from the Service Configuration Summary page.</td>
</tr>
<tr>
<td></td>
<td>Action</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Service Configuration</td>
<td>Menu</td>
<td>ServiceConfigurationVersion.SUSPEND</td>
<td>Suspend a configuration from the Service Configuration Summary page.</td>
</tr>
<tr>
<td></td>
<td>Action</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Service Configuration</td>
<td>Menu</td>
<td>ServiceConfigurationVersion.VALIDATE</td>
<td>Validate a configuration from the Service Configuration Summary page.</td>
</tr>
<tr>
<td></td>
<td>Action</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Specification</td>
<td>Button</td>
<td>Specification.DELETE</td>
<td>Delete a specification from the Specifications list.</td>
</tr>
<tr>
<td></td>
<td>Action</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Specification</td>
<td>Button</td>
<td>SequenceSpecification.DELETE</td>
<td>Delete a Sequence specification.</td>
</tr>
<tr>
<td></td>
<td>Action</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tag</td>
<td>Menu</td>
<td>Tag.DELETE</td>
<td>Delete Tag.</td>
</tr>
<tr>
<td></td>
<td>Action</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Telephone Number</td>
<td>Button</td>
<td>TelephoneNumber.DELETE</td>
<td>Delete a telephone number from search results.</td>
</tr>
<tr>
<td></td>
<td>Action</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Telephone Number</td>
<td>Menu</td>
<td>TelephoneNumber.ACTIVATE</td>
<td>Activate a telephone number from the Telephone Number Summary page.</td>
</tr>
<tr>
<td></td>
<td>Action</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Telephone Number</td>
<td>Menu</td>
<td>TelephoneNumber.DEACTIVATE</td>
<td>Deactivate a telephone number from the Telephone Number Summary page.</td>
</tr>
<tr>
<td></td>
<td>Action</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Telephone Number</td>
<td>Menu</td>
<td>TelephoneNumber.SNAPBACK</td>
<td>Configure the Snapback action on a telephone number from the Telephone Number Summary page.</td>
</tr>
<tr>
<td></td>
<td>Action</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Telephone Number</td>
<td>Menu</td>
<td>TelephoneNumber.VALIDATE</td>
<td>Validate a telephone number from the Telephone Number Summary page.</td>
</tr>
<tr>
<td></td>
<td>Action</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
This chapter provides monitoring and managing activities that you may need to perform after installing or upgrading the Oracle Communications Unified Inventory Management (UIM) software.

**Monitoring and Managing Overview**

The following list includes tasks that you may need to perform on both a single server environment and a clustered server environment.

- Sharing JAR Files
- Disabling the HTTP Port
- Setting the Database Row Prefetch Size
- Modifying the Default File Encoding
- Modifying the Time Zone
- Configuring Your Server’s Timers
- Registering Entities to the LifeCycle Listener
- Configuring Exception-Type-to-Error-Code Mappings
- Localizing UIM Error Messages
- Localizing the UIM Server and the Application Server
- Shutting Down an Application Server
- Deploying the Inventory Enterprise Application
- Configuring the SSL Policy/Certificate
- Resetting/Changing the WebLogic Server’s Database Connections
- Setting the Default Telephone Number Edit Mask
- Setting the Default Place Type
- Load Balancing a Clustered Server
- Configuring Topology Updates
- Configuring a Geocode Service
- Purging UIM Entities
- Configuring Email Addresses and User Data
Sharing JAR Files

After you install UIM, you need to share specific JAR files with Oracle Communications Design Studio for use with cartridges. Each individual UIM system administrator must determine the best method for sharing these JAR files, based on your company’s standard practices.

**Note:** These JAR files change with each new patchset or maintenance release. The JAR files need to be re-distributed each time UIM is upgraded with a patchset or maintenance release and the Design Studio system administrator needs to be notified.

For more information on sharing JAR files with Design Studio, see the chapter on “Using Design Studio to Extend UIM” in *UIM Developer’s Guide*.

Disabling the HTTP Port

After you install UIM, you can disable the HTTP (non-SSL) port if it was enabled during installation.

To disable the HTTP port:
1. Ensure you are logged into the WebLogic Administration Console.
2. Click **Lock & Edit**.
3. In the **Domain Structure** tree, expand **Environment**, and then click **Servers**. The Summary of Servers page appears.
4. Select the AdminServer.
   The Settings for AdminServer page appears.
5. Deselect the **Listen Port Enabled** setting.
   **Note:** If you disable this port, then you must enable the SSL port.
6. Click **Save**.
7. Click **Activate Changes**.

Setting the Database Row Prefetch Size

You can specify the number of result set rows to prefetch.

1. Ensure you are logged into the WebLogic Administration Console.
2. Click **Lock & Edit**.
3. In the **Domain Structure** tree, expand **Services** and then click **Data Sources**. The Summary of JDBC Data Sources page appears.
4. Click the **InventoryDataSource** data source.
The Settings for InventoryDataSource page appears.

5. Under Configuration, click the Connection Pool tab.
6. In the Properties field, enter the following:
   `defaultRowPrefetch=50`
7. Click Save.
8. Repeat steps 3 through 7 for InventoryTxDataSource.
9. Click Activate Changes.
10. Restart the WebLogic Application Server.

### Modifying the Default File Encoding

The UIM installer automatically sets the default file encoding to UTF8 for both full installations and upgrades. Check the startup script to verify that the default file encoding is set to UTF8. If this setting is incorrect, you can manually change the default file encoding setting in the CUSTOM SECTION segment of the startup script.

The following example shows the correct command syntax:

```
JAVA_OPTIONS="${JAVA_OPTIONS}-Dfile.encoding=UTF-8"
```

### Modifying the Time Zone

For full installations and upgrades, the UIM installer automatically sets the time zone for your locale. You should check your startup script to verify that the time zone setting for your locale is correct. If this setting is incorrect, add a line to the CUSTOM SECTION segment of your startup script. Enter the time zone ID in a format that is recognizable by the `java.util.TimeZone` object. The following example shows the command syntax:

```
JAVA_OPTIONS="${JAVA_OPTIONS} -Duser.timezone=Asia/Shanghai"
```

To view a list of valid time zone values, run the following command:

```java
import java.util.*;
public class TimeZoneList {
    public static void main(String[] args) {
        String[] sZoneIds = TimeZone.getAvailableIDs();
        List lZoneIdList = Arrays.asList(sZoneIds);
        Collections.sort(lZoneIdList);
        System.out.println(lZoneIdList);
    }
}
```

**Note:** If your application server and database server are located in different time zones, set the application server’s `user.timezone` value to match the database server’s time zone. The application server and database server time zones must match.
Configuring Your Server’s Timers

You can create and configure timers for:

■ Monitoring whether the server that manages the cluster-aware timers is still running
■ Custom extensions
■ Cleaning up expired reservations
■ Cleaning up expired entity row locks
■ Recalling disconnected IP resources
■ Detecting telephone number jeopardy and publishing notification events

You configure the timers for your servers in the `UIM_Home/config/timers.properties` file. For more information, see the comments in the `timers.properties` file.

Registering Entities to the LifeCycle Listener

You can register all or a subset of entities for create, retrieve, update, and delete (CRUD) events. For example, you can specify that create events are generated when any entity is created. Likewise, you can specify that update events are generated only when Equipment and TelephoneNumber entities are updated.

Configuring Exception-Type-to-Error-Code Mappings

You can map error codes to exception types to help the persistence framework manage validation exceptions. For example, you can map error codes to `DuplicateEntityException` or to `AttributeRequiredException`.

You map error codes to exception types by using the `UIM_Home/config/resources/logging/exception.properties` file. For more information, see the comments in the `exception.properties` file.

Localizing UIM Error Messages

You can localize UIM error messages and items by modifying properties files in the `UIM_Home/config/resources/logging` directory.

Table 4–1 lists each property’s file name, error ID range, and the error messages or items it localizes.
### Table 4–1 Properties Files for Localizing UIM Error Messages and Items.

<table>
<thead>
<tr>
<th>Property File Name</th>
<th>Error ID Range</th>
<th>Error Message or Item It Localizes</th>
</tr>
</thead>
<tbody>
<tr>
<td>addressrange.properties</td>
<td>N/A</td>
<td>Property names for the address range cartridge</td>
</tr>
<tr>
<td>businessInteraction.properties</td>
<td>270000-279999</td>
<td>Error messages generated by the business interaction module</td>
</tr>
<tr>
<td>capacity.properties</td>
<td>320000-329999</td>
<td>Error messages generated by the capacity module</td>
</tr>
<tr>
<td>configaction.properties</td>
<td>240000-249999</td>
<td>Error messages generated by the configuration actions</td>
</tr>
<tr>
<td>configuration.properties</td>
<td>240000-249999</td>
<td>Tree node label names</td>
</tr>
<tr>
<td>connectivity.properties</td>
<td>260000-269999</td>
<td>Error messages generated by the connectivity module</td>
</tr>
<tr>
<td>consumer.properties</td>
<td>220000-229999</td>
<td>Error messages generated by the consumer module</td>
</tr>
<tr>
<td>countries.properties</td>
<td>N/A</td>
<td>Error messages generated by the countries module</td>
</tr>
<tr>
<td>custom.properties</td>
<td>280000-289999</td>
<td>Error messages generated by the custom module</td>
</tr>
<tr>
<td>enum.properties</td>
<td>N/A</td>
<td>Error messages generated by enumeration</td>
</tr>
<tr>
<td>equipment.properties</td>
<td>210000-219999</td>
<td>Error messages generated by the equipment module</td>
</tr>
<tr>
<td>exception.properties</td>
<td>N/A</td>
<td>Error messages generated by the framework module</td>
</tr>
<tr>
<td>extensibility.properties</td>
<td>180000-189999</td>
<td>Error messages generated by the extensibility module</td>
</tr>
<tr>
<td>flowidentifiers.properties</td>
<td>620000-629999</td>
<td>Error messages generated by the packet connectivity module</td>
</tr>
<tr>
<td>importExport.properties</td>
<td>160000-169999</td>
<td>Error messages generated by the import/export module</td>
</tr>
<tr>
<td>inventoryGroup.properties</td>
<td>190000-199999</td>
<td>Error messages generated by the inventory group module</td>
</tr>
<tr>
<td>ip.properties</td>
<td>610000-619999</td>
<td>Error messages generated by the IP address module</td>
</tr>
<tr>
<td>location.properties</td>
<td>420000-420999</td>
<td>Error messages generated by the location module</td>
</tr>
<tr>
<td>logicaldevice.properties</td>
<td>290000-299999</td>
<td>Error messages generated by the logical device module</td>
</tr>
<tr>
<td>media.properties</td>
<td>350000-359999</td>
<td>Error messages generated by the media module</td>
</tr>
<tr>
<td>mediaResource.properties</td>
<td>360000-369999</td>
<td>Error messages generated by the mediaResource module</td>
</tr>
<tr>
<td>network.properties</td>
<td>300000-309999</td>
<td>Error messages generated by the network module</td>
</tr>
<tr>
<td>networkaddress.properties</td>
<td>620000-629999</td>
<td>Error messages generated by the network address module</td>
</tr>
</tbody>
</table>
For more information on how to localize UIM, see *UIM Developer’s Guide*.

**Table 4–1 (Cont.) Properties Files for Localizing UIM Error Messages and Items.**

<table>
<thead>
<tr>
<th>Property File Name</th>
<th>Error ID Range</th>
<th>Error Message or Item It Localizes</th>
</tr>
</thead>
<tbody>
<tr>
<td>number.properties</td>
<td>120000-129999</td>
<td>Error messages generated by the number module</td>
</tr>
<tr>
<td>party.properties</td>
<td>230000-239999</td>
<td>Error messages generated by the party role module</td>
</tr>
<tr>
<td>place.properties</td>
<td>250000-259999</td>
<td>Error messages generated by the place module</td>
</tr>
<tr>
<td>product.properties</td>
<td>390000-399999</td>
<td>Error messages generated by the product module</td>
</tr>
<tr>
<td>project.properties</td>
<td>140000-149999</td>
<td>Error messages generated by the project module</td>
</tr>
<tr>
<td>resource.properties</td>
<td>330000-339999</td>
<td>Resource entity names and resource-related error messages</td>
</tr>
<tr>
<td>role.properties</td>
<td>90000-99999</td>
<td>Error messages generated by the role module</td>
</tr>
<tr>
<td>service.properties</td>
<td>110000-119999</td>
<td>Error messages generated by the service module</td>
</tr>
<tr>
<td>signal.properties</td>
<td>310000-319999</td>
<td>Error messages generated by the connectivity signal module</td>
</tr>
<tr>
<td>specification.properties</td>
<td>130000-139999</td>
<td>Error messages generated by the specification module</td>
</tr>
<tr>
<td>status.properties</td>
<td>N/A</td>
<td>Error messages generated by the status module</td>
</tr>
<tr>
<td>subscriber.properties</td>
<td>150000-159999</td>
<td>Error messages generated by the subscriber module</td>
</tr>
<tr>
<td>system.properties</td>
<td>100000-109999</td>
<td>Error messages generated by the framework module</td>
</tr>
<tr>
<td>topology.properties</td>
<td>340000-349999</td>
<td>Error messages generated by the topology module</td>
</tr>
<tr>
<td>workflow.properties</td>
<td>N/A</td>
<td>Error messages generated by the workflow module</td>
</tr>
<tr>
<td>wsservice.properties</td>
<td>400000-409999</td>
<td>Error messages generated by the wsservice module</td>
</tr>
</tbody>
</table>

**Localizing the UIM Server and the Application Server**

By default, the UIM and application server software display information in English. You can set the software to display information in another language by localizing text strings in the UIM properties files. For more information, see *UIM Developer’s Guide*.

**Shutting Down an Application Server**

UIM provides a script to shut down an application server. Use the following command or the kill command on the machine running the server to be shut down:

```
stopWebLogic.sh AdminUserID AdminPassword ServerName AdminServerURL
```
where AdminServerURL is in the format: t3://ServerName:PortNumber

For example:

stopWebLogic.sh weblogic password server03 t3://wplsnroyall:7101

**Deploying the Inventory Enterprise Application**

UIM’s core functionality runs as an Enterprise Application on the application server under the deployment name oracle.communications.inventory. The application file associated with the inventory enterprise application is the *inventory.ear* file. The following describes the steps for deployment:

---

**Note:** You must ensure the application is un-deployed before doing a deploy. Optionally, ensure the temporary files for the WebLogic Server are cleaned up when the server is shut down, so that they cannot be used as cached information.

---

1. Start the Weblogic administration server.
2. Start the WebLogic Server Administration Console using the following URL:
   
   http://servername:port/console

   where
   
   - **servername** is the host name for UIM
   - **port** is the port number of the machine on which UIM is installed
3. Enter the administration user name and password and click **Login**.
4. In the Change Center of the administration console, click **Lock & Edit**.
5. In the left Domain Structure pane of the console, select **Deployments**.
6. In the right pane under Deployments, click **Install**.
7. In the Install Application Assistant, navigate to or enter the directory path location of the *inventory.ear* file.
8. Click the radio button next to the *inventory.ear* file, and click **Next**.
   
   The Choose targeting style window appears.
9. Select **Install this deployment as an application** and click **Next**.
10. Ensure the deployed name of the application is set to the following:

    
    oracle.communications.inventory

    and click **Next**.
11. Review the configuration settings you have chosen and click **Finish**.

    If you chose to change the deployment configuration later, the console returns to the Deployments table.
12. To activate the changes, under the Change Center area of the console, click **Activate Changes**.
Configuring the SSL Policy/Certificate

This section describes the configuration of SSL with Oracle WebLogic server. You must configure the new self-signed certificate in the WebLogic Administration Console.

To generate a new private key and self-signed certificate:

1. Navigate to the WL_home/server/lib directory and run the following command:
   
   ```bash
   keytool -alias aliasValue -genkey -keypass keypassword -keystore keystore.jks -storepass keystorepass
   
   where:
   - aliasValue is the name
   - keypassword is the password
   - keystore.jks is the key store name
   - keystorepass is the key store password
   
2. For What is your first and last name?, enter the application server IP address.

3. Provide relevant information for the following prompts:
   - What is the name of your organizational unit?
   - What is the name of your organization?
   - What is the name of your City or Locality?
   - What is the name of your State or Province?
   - What is the two-letter country code for this unit?

   A summary is displayed showing the information you entered, as shown in the example below:

   ```text
   Is CN=IPAddressProvided, OU=OrganizationalUnit, O=Organization, L=Locality, ST=State, C=CountryCode correct?
   ```

   Enter Yes.

   The keystore keystore.jks file is created.

To configure the new self-signed certificate in the WebLogic Administration Console:

1. Log in to the WebLogic server Administration Console using the Administrator credentials.

   The Home page appears.

2. Click Lock & Edit.

3. In the Domain Structure tree, expand Environment and then click Servers.

   The Summary of Servers page appears.

4. In the Servers table, click AdminServer.

   The Settings for AdminServer page appears.

   The General tab is displayed by default.

5. Select SSL Listen Port Enabled.

6. In the SSL Listen Port field, update the value as appropriate.

7. Click Save.
8. Click the Keystores tab.

9. Click Change and then from the Keystores list, select Custom Identity and Java Standard Trust.

10. Do the following:
    - In the Custom Identity Keystore field, enter the full path to your JKS file as follows:
      
      WL_Home/server/lib/keystore.jks
    - In the Custom Identity Keystore Type field, enter jks.
    - In the Custom Identity Keystore Passphrase field, enter the keystore password.
    - Leave the Java standard trust key as the default.
    - Click Save.

11. Click the SSL tab.

12. Do the following:
    - From the Identity and Trust Locations list, select Keystores.
    - In the Private Key Alias field, enter the alias name.
    - In the Private Key Passphrase field, enter the private key password.
    - Click Save.
    - Click Advanced.
    - From the Two Way Client Cert Behavior list, select Client Certs Requested But Not Enforced.
    - Click Save.

13. Click Activate Changes in the Change Center in the left pane.

For more information on SSL configuration, see the WebLogic Server Administration Console Help.

---

**Note:** To replace a self-signed certificate with a production-quality certificate, or to import a trusted CA certificate into a keystore, run the following command:

```
keytool -import -alias aliasValue -file cert.pem -keypass keypassword -keystore keystore.jks -storepass keystorepass
```

---

**Note:** If you import a trusted CA certificate, no existing entry for alias should be in the keystore.

While accessing the application, the browser asks to install the certificate. Install the certificate in Trusted Root Certification Authorities.

---

**Resetting/Changing the WebLogic Server’s Database Connections**

You may need to reset the WebLogic server’s database connections when the following occurs:
Setting the Default Telephone Number Edit Mask

The default telephone number edit mask defines the length format for telephone numbers entered into the UIM system. This value is used when a Telephone Number specification does not specify a ruleset extension point to customize the edit mask. See UIM Developer’s Guide for more information on customizing the telephone number edit mask.

The initial default value of ########## (ten digits) is specified in the numbers.properties file, which you can modify.

When a custom ruleset or modified properties file do not specify a default edit mask, UIM uses the initial default edit mask from the number.properties file.

The database goes down while UIM is active
- UIM is started when the database is down

You reset the database connections by resetting the following JDBC data sources in the WebLogic server administration console: InventoryDataSource, InventoryTxDataSource, CMDSInventoryPersistentDS, InventoryMapDataSource, InvJMSPersistentDS, mds-commsRepository, opss-audit-DBDS, opss-audit-viewDS, opss-data-source, LocalSvcTblDataSource, and UIMAdapterDS.

To reset/change the database connections:

1. Log in to the WebLogic server administration console at:
   http://ServerName:PortNumber/console

2. Click Lock & Edit.

3. In the Domain Structure tree, expand Services and then click Data Sources.
   The Summary of JDBC Data Sources page appears.

4. Click InventoryDataSource.
   The Settings for InventoryDataSource page appears.

5. Click the Control tab.

6. Select the check box next to the data source instance that you want to reset.

7. Click Reset.

8. Click Yes.

Note: If you want to change the database connection, perform steps 9 and 10.

9. Click the Connection Pool tab.

10. Modify the following fields to match your environment:
    - URL
    - Properties
    - Password
    - Confirm Password

11. Repeat steps 4 through 10 for all the remaining data sources.
To modify the default telephone number edit mask:

1. Open *UIM_Home/config/resources/logging/number.properties*.
2. Find the following entry:
   
   ```
   number.defaultEditMask=############
   ```
3. Change `############` to the desired length.
   
   For example, enter `############` to set the telephone number length to 12 digits. Each pound sign symbol (#) represents one digit.

---

**Setting the Default Place Type**

Place entities can be of several different types:

- Location
- Address
- Address Range
- Site

You can specify the default type by setting the value of the `place.defaultPlaceType` property in the *place.properties* file. This default value determines which type appears first in the **Place Type** list when you create a Place entity. By default, the value is set to **Address**.

To modify the default place type:

1. Open *UIM_Home/config/resources/logging/place.properties*.
2. Find the following entry:
   
   ```
   place.defaultPlaceType
   ```
3. Change the value to the desired place type.

---

**Load Balancing a Clustered Server**

The two methods for load balancing a clustered server include a hardware-based load balancer and a software-based proxy server.

**Note:** Oracle recommends using the hardware-based load balancer in production environments. Use either the hardware-based load balancer or the software-based proxy server in test or development environments.

Depending on the type of environment being deployed, do one of the following:

- Configure the load balancer
- Configure the proxy server

**Configuring the Load Balancer**

The requirement for the load balancer service is server affinity, also known as a sticky session. For example, a user starts a new session and it is load balanced to server #2. The subsequent HTTP requests in this session is always routed to server #2 until server #2 fails.
For information on load balancer requirements, refer to the WebLogic document: *Using WebLogic Server Clusters* (see *Load Balancing in a Cluster*).

**F5 BIG-IP Configuration**

For information about deploying the BIG-IP system with Oracle WebLogic Server, refer to the deployment guide at the F5 Networks Web site.

**Configuring the Proxy Server**

There are several options available for the proxy server, refer to *Oracle WebLogic Server* documentation for information on configuring the various proxy server options.

**Configuring Topology Updates**

To configure topology updates, see the following topics:

- Configuring Asynchronous Topology Updates
- Turning Off Topology Updates
- Rebuilding Topology

**Configuring Asynchronous Topology Updates**

By default, the UIM topology is updated synchronously with business model changes. The topology and the business model are updated in single transaction to reflect new, changed, and deleted entities. See *UIM Concepts* and *UIM Developer’s Guide* for more information about topology.

You can configure UIM to update the topology asynchronously from business model updates. In this scenario, topology updates are performed in a separate transaction from business model updates. Configuring UIM to update the topology asynchronously can improve performance by reducing the system overhead associated with business model changes.

To configure UIM for asynchronous topology updates:

1. Stop the UIM application server.
2. Open the `UIM_home/config/topologyProcess.properties` file.
3. Change the value of the `processSynchronous` entry to `false`.
4. Save the file.

**Turning Off Topology Updates**

If you use topology infrequently or want to optimize UIM performance, you can turn off topology updates entirely. If updates are turned off and you want to use topology-related features, such as path analysis, you must first rebuild the topology. See "Rebuilding Topology".

To turn off topology updates:

1. Stop the UIM application server.
2. Open the `UIM_home/config/topologyProcess.properties` file.
3. Change the value of the `disableTopology` entry to `true`.
4. Save the file.
Rebuilding Topology

If you have turned off topology updates, you must rebuild the topology before you can use any topology-related features, such as path analysis or visualization. You should schedule this as a maintenance task during a time when no changes to the inventory will take place.

---

**Caution:** When you rebuild, the old topology is deleted and a new one created. You should back up your old topology to ensure that you can return to it if necessary.

---

If UIM is installed in a cluster environment, only one instance can be rebuilt at a time. When a rebuild is in progress on one instance, the rebuild operation is disabled for other instances.

You should schedule topology rebuilds during times when no changes to the inventory will take place.

To rebuild the UIM topology:

1. Log in to UIM.
2. In the Tasks panel, click Rebuild Topology.
   The Rebuild Topology page appears.
3. Click the Rebuild Topology button.
   The topology begins to be rebuilt. You can refresh the page to see status updates. When the process is complete, the page reverts to its original appearance and the Rebuild Topology button becomes available.

   You can check on the success of the rebuild by consulting the log at:

   \`WLServer_Home/user_projects/domains/Domain_Home/uim/logs/**Server_uim_rebuild.log\`

Configuring a Geocode Service

To configure a geocode service, see the following topics:

- About Oracle eLocation
- Using a Geocode Service other than Oracle eLocation

About Oracle eLocation

UIM uses Oracle eLocation as the default geocode service, but you may opt to use a different geocode service. This section describes Oracle eLocation, and provides information about configuring UIM to use a different geocode service.

UIM interfaces with Oracle eLocation through an XML API request that is sent when you click Validate Address from within UIM when creating a location. Oracle eLocation returns an XML API response to UIM, indicating whether or not the address sent in the request was a valid address. For valid addresses, the response includes a geocode, which is a specific latitude and longitude that represents the location.
Using a Geocode Service other than Oracle eLocation

Upon installation, UIM is configured to use the Oracle eLocation geocode service. However, you can configure UIM to use a geocode service other than the default Oracle eLocation. For example, you may opt to use a third-party geocode service, or create a custom geocode service to use.

UIM is tightly coupled with Oracle eLocation. As a result, when you click Validate Address from within UIM when creating a location, UIM creates an XML request based on what the Oracle eLocation geocode service is expecting. Similarly, UIM expects an XML response based on what the Oracle eLocation geocode service returns. You can find detailed information about the eLocation XML request and response structures at the following Web site:

http://elocation.oracle.com/geocoder/concept.html

Using a Third-Party Geocode Service

To use a third-party geocode service, you can host your own eLocation service that:

- Handles the input XML request from UIM
- Creates a new XML request based on what the third-party geocode service is expecting
- Maps the data from the input XML request to the new XML request
- Sends the new XML request to the third-party geocode service
- Handles the response from the third-party geocode service
- Creates a new XML response based on what UIM is expecting
- Maps the data from the XML response to the new XML response
- Sends the new XML response to UIM

In this scenario, the eLocation service is just a middle tier that performs XML mapping, allowing UIM and the third-party geocode service to communicate.

For information on how to host your own eLocation service, see Oracle Spatial eLocation Quick Start Guide:


Using a Custom Geocode Service

To use a custom geocode service, you can host your own eLocation service that:

- Handles the input XML request from UIM
- Performs custom address analysis based on input XML request data to determine the geocode
- Creates an XML response based on what UIM is expecting
- Sends the new XML response to UIM

In this scenario, the eLocation service hosts the custom geocode service.

For information on how to host your own eLocation service, including how to develop the custom geocode service that runs on your eLocation service, see Oracle Spatial eLocation Quick Start Guide:

Configuring UIM
After your eLocation service is up and running, you must configure the UIM_Home/config/system-config.properties file to point to your eLocation service. This file defines several properties related to the geocode service that UIM is using, such as host name, user ID, password, and so forth. See “Setting System Properties” for more information.

Purging UIM Entities
This section describes how to perform an entity purge in UIM. The purge tool is available as part of the ora_uim_dbtools.jar file, located in the UIM_Home/util/ folder.

Note: Oracle recommends that you stop the UIM application before starting the purge process. After the purge process is completed, start the UIM application.

WARNING: Performing a purge deletes database records permanently. You must back up the database before performing any purge operation.

UIM Entity Purge Scripts
This section provides information about the UIM entities that you can purge, and the scripts you use to purge those entities. The entity purge process also purges entities that are referred as entity link characteristics; however, you can prevent the purging of such entities. See "Preventing the Purging of Entities Referred as Entity Link Characteristics" for more information.

The purge functionality enables you to purge the following entities of UIM using purge scripts specific to each entity:

- **Service**: You can purge services that are in Disconnected or Cancelled status, using the following scripts:
  - servicePurge.sh (Linux)
  - servicePurge.cmd (Windows)
  See “UIM Service Purge Scenarios” for more information.

- **Service Configuration Version**: You can purge service configuration versions that are in Cancelled or Completed status, using the following scripts:
  - scvPurge.sh (Linux)
  - scvPurge.cmd (Windows)

- **Logical Device**: You can purge logical devices (including their logical device interfaces) that are in Unassigned and Installed status, and that are not associated, linked, or referenced to any entities, using the following scripts:
  - ldPurge.sh (Linux)
  - ldPurge.cmd (Windows)

- **Logical Device Account**: You can purge logical device accounts that are in Unassigned and Installed status, and that are not associated, linked, or referenced to any entities, using the following scripts:
Purging UIM Entities

- ldaPurge.sh (Linux)
- ldaPurge.cmd (Windows)

**Party:** You can purge parties that are not associated to any entities, using the following scripts:
- partyPurge.sh (Linux)
- partyPurge.cmd (Windows)

**Place:** You can purge places that are not associated to any entities, using the following scripts:
- placePurge.sh (Linux)
- placePurge.cmd (Windows)

**Business Interaction/Engineering Work Order:** You can purge business interactions and engineering work orders that are in Cancelled or Completed status, using the following scripts:
- biPurge.sh (Linux)
- biPurge.cmd (Windows)

### UIM Service Purge Scenarios

The purge tool purges services in the following scenarios:

- Cancelled services without In Service child services.
- Disconnected services without In Service child services.
- Cancelled services with cancelled child services.
- Disconnected services with disconnected child services.
- Cancelled services with disconnected child services.
- Disconnected services with cancelled child services.
- Disconnected or Cancelled services without configuration items in the Transitional or Disconnected status for the following configuration item entities:
  - Telephone Number
  - IPv4Subnet
  - IPv6Subnet
  - IPv4Address
  - IPv6Address

---

**Note:** The purge tool does not purge a child service in Disconnected status whose parent service is in Pending status. However, if the disconnected child service is unassigned from its parent service (in Pending status), the purge tool purges the child service that is in Disconnected status.

---

**Prerequisites**

Before you perform a UIM entity purge do the following:
Gather the statistics of the schema before and after running purge scripts. You use the following command to retrieve the statistics:

```
EXEC DBMS_STATS.gather_schema_stats('uim_db_schema_username');
```

Provide admin privileges to the database user.

Back up the database before executing purge scripts. The purge scripts delete the records matching specified criteria permanently.

Ensure you have the correct version of Java installed. See UIM Installation Guide for software version requirements.

### Configuring the UIM Entity Purge Environment

You set up the entity purge tool environment by performing the following tasks:

1. **Extract Entity Purge Files from ora_uim_dbtools.jar**
2. **Set Up the Entity Purge Tool Script**
3. **Set Up Entity Purge Tables and Procedures**

**Extract Entity Purge Files from ora_uim_dbtools.jar**

Extract the `ora_uim_dbtools.jar` from the UIM Installer. Use the following command to extract contents of the JAR file:

```
nar -xvf ora_uim_dbtools.jar
```

The JAR file contains SQL scripts and also command files for the purge tool. Save the path of these extracted JAR files as the `dbtools_extracted_dir` path value which is referenced in this section for the additional steps.

**Set Up the Entity Purge Tool Script**

After the files are extracted, edit the `entityPurge.sh` file or `entityPurge.cmd` files in the root directory (where `entity` is the name of the entity, such as service, SCV, or party), and set the following variables:

1. Set `JAVA_HOME` to the directory of your JDK.
2. Modify these parameters to point to the database:
   - `DB_HOSTNAME` - host name of the database
   - `DB_PORT` - database port
   - `DB_SERVICE_NAME` - database service name
3. Set the `reportFilePath` variable to the location where you want the purge report files to be generated.

**Set Up Entity Purge Tables and Procedures**

Before you use the purge tool, you must run a SQL script to set up the required new database tables and procedures. Run `PurgeScripts.sql` on the database. This SQL script is located in the `ora_uim_dbtools.jar/sqlscripts` directory. To run this SQL script, use SQL Plus and perform the following steps:

1. Log in to SQL Plus.
2. Execute following command:

```
@dbtools_extracted_dir/sqlscripts/PurgeScripts.sql
```
where `dbtools_extracted_dir` is the directory for the extracted contents of the `ora_uim_dbtools.jar` file.

You can run this SQL script more than once if you want to drop and recreate all the purge audit and error log tables.

Database Tables

The `PurgeScripts.sql` script creates the following tables to capture the purge audit and error details:

- `Purge_Error_Log`
- `Purge_Audit`
- `Purge_Helper` (Internal only)
- `Purge_Log` (Internal only)

**Purge_Error_Log**

This table stores error or failure information from the purge. The purge can create errors. Errors are created if any invalid data is detected and these issues are recorded in this table. Table 4–2 shows the columns in the `Purge_Error_Log` table:

<table>
<thead>
<tr>
<th>Column Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ID</td>
<td>ID for the table entry and primary key.</td>
</tr>
<tr>
<td>ERROR_CODE</td>
<td>Error code for the entry which can be a SQL error code.</td>
</tr>
<tr>
<td>ERROR_MESSAGE</td>
<td>Error message text which can be a SQL error message.</td>
</tr>
<tr>
<td>REPORTED_DATE</td>
<td>Time when the error is recorded or persisted in the table.</td>
</tr>
</tbody>
</table>

**Purge_Audit**

This table records the purge reporting information. Table 4–3 shows the columns in the `Purge_Audit` table:

<table>
<thead>
<tr>
<th>Column Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>JOBID</td>
<td>For every purge, a new record is created in this table. This is primary key for the table.</td>
</tr>
<tr>
<td>PURGETYPE</td>
<td>Valid values: SERVICE, SCV, LD, LDA, PARTY, PLACE, and BI/EWO.</td>
</tr>
<tr>
<td>STARTDATE</td>
<td>The date and time when the purge is initiated. In the case of a scheduled purge, the value is set to the scheduled time and once the process starts the process updates this value with the time when the process is initiated.</td>
</tr>
<tr>
<td>ENDDATE</td>
<td>The date and time when the purge process is completed or cancelled.</td>
</tr>
</tbody>
</table>
The entity purge functionality can be requested with the following operations:

- Report
- Execute
- Status
- Suspend
- Resume
- Cancel
Report
You use the report operation to run a sample version of the purge, but this operation does not delete entities. You specify criteria and the tool determines the number of records that are affected. These records are later deleted with the execute operation. With this number, you can then estimate the amount of freed disk space. This operation provides information, but does not actually purge or delete any records.

See the following sections for information about the arguments that you can use with the report operation for an entity purge:

- Mandatory/Optional Arguments for Entity Purge Types with Report Operation
- Common Arguments for Entity Purge Types with Report Operation

Mandatory/Optional Arguments for Entity Purge Types with Report Operation
This table lists the mandatory and optional arguments for entity purge types when using the report operation.

<table>
<thead>
<tr>
<th>Purge Type</th>
<th>Mandatory Arguments</th>
<th>Optional Arguments</th>
</tr>
</thead>
<tbody>
<tr>
<td>SERVICE</td>
<td>-ed</td>
<td>-sd, -status</td>
</tr>
<tr>
<td>SCV</td>
<td>-sspec, -scvspec, -retain, -status</td>
<td>NA</td>
</tr>
<tr>
<td>LOGICALDEVICE</td>
<td>-ed, -spec or -ldid or -ldname</td>
<td>-sd, -ldpcr</td>
</tr>
<tr>
<td>LOGICALDEVICEACCOUNT</td>
<td>-ed, -ldaspec or -ldaid</td>
<td>-sd</td>
</tr>
<tr>
<td>PARTY</td>
<td>-ed, -spec</td>
<td>-sd</td>
</tr>
<tr>
<td>PLACE</td>
<td>-ed, -spec</td>
<td>-sd</td>
</tr>
<tr>
<td>BI/EWO</td>
<td>-bispec or -ewoworkflow, -ed, -status</td>
<td>-sd</td>
</tr>
</tbody>
</table>

Specifying Entity Specifications and Entity Names Containing Spaces
If the entity specification or the entity name contains a space (for example, "Service Order"), then you must specify the arguments as follows:

On Linux:

```
./biPurge.sh report -bispec 'Service Order' -status completed -ed 02/01/2016
```

On Windows:

```
./biPurge.cmd report -bispec 'Service Order' -status completed -ed 02/01/2016
```
Common Arguments for Entity Purge Types with Report Operation

This section lists and describes the arguments that are common to all the entity purge types for the report operation.

- **status**: Use this argument to specify the status of entities. The purge tool considers only the entities in the specified status for purging. For example:

  ```
  ./entityPurge.sh report -status disconnected -ed 02/21/2012
  ```

  where *entity* is the entity type; for example, servicePurge.sh, scvPurge.sh, or biPurge.sh.

  The following list shows the only entities for which the status argument is applicable to, including the statuses that you can specify for each entity:

  - Services in Disconnected or Cancelled status
  - Service Configuration Versions in Cancelled or Completed status
  - Business interactions and engineering work orders in Cancelled or Completed status

- **ed**: Use this argument to specify an end date. The purge tool considers only the entities with a “last modified date” on or before this end date for purging. You must specify the date with the following format: MM/DD/YYYY. For example:

  ```
  ./entityPurge.sh report -ed 02/21/2012
  ```

- **sd**: Use this argument to specify the start date. The purge tool considers only the entities with a “last modified date” on or after this start date for purging. You must specify the date with the following format: MM/DD/YYYY. For example:

  ```
  ./entityPurge.sh report -ed 02/21/2012 -sd 02/21/2010
  ```

Entity Purge Reports

You use the report operation to generate the following reports for different purge types:

- Service Purge Report
- SCV Purge Report
- Logical Device Purge Report
- Logical Device Account Purge Report
- Party Purge Report
- Place Purge Report
- BI/EWO Purge Report
### Service Purge Report

For information about the arguments that you can use with the report operation for purge type SERVICE, see "Common Arguments for Entity Purge Types with Report Operation".

See "Mandatory/Optional Arguments for Entity Purge Types with Report Operation" for the list of mandatory and optional arguments for entity purge types when using the report operation.

### SCV Purge Report

The following arguments are specific to purge type SCV:

- **-sspec**: Use this argument to specify the Service specification on which the service configuration versions that you want to purge are based on. The purge tool considers all the service configuration versions that are based on the specified Service specification for purging.

- **-scvspec**: Use this argument to specify the Service Configuration specification on which the service configuration versions that you want to purge are based on. The purge tool considers all the service configuration versions that are based on the specified Service Configuration specification for purging.

- **-retain**: Use this argument to specify the number of completed service configuration versions that you want to retain for each service after the purge process is completed. This argument is not applicable for service configuration versions having a status of Cancelled.

The following is an example of using the **sspec**, **scvspec**, and **retain** arguments:

```
./scvPurge.sh report -sspec BATServiceSpec -scvspec BATServiceConfigSpec -status completed -retain 3
```

For information about the other arguments that you can use with the report operation for purge type SCV, see "Common Arguments for Entity Purge Types with Report Operation".

See "Mandatory/Optional Arguments for Entity Purge Types with Report Operation" for the list of mandatory and optional arguments for entity purge types when using the report operation.

### Logical Device Purge Report

By default, the purge process includes logical devices in Unassigned and Installed status. The following arguments are specific to purge type LOGICALDEVICE:

- **-spec**: Use this argument to specify the Logical Device specification on which the logical devices that you want to purge are based on. The purge tool considers all the logical devices that are based on the specified Logical Device specification for purging.

If you specify the **spec** argument before any other argument, then specifying the **ed** argument is mandatory. For example:

```
./ldPurge.sh report -spec LDSpec -ed 01/01/2018
```

- **-ldid**: This argument is mandatory when you do not specify the Logical Device specification (-spec). Use this argument to specify the IDs of the logical devices that you want purged.

If you specify the **ldid** argument before any other argument, then specifying the **spec** and **ed** arguments is optional. For example:
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In addition, if you specify the `ldid` argument before the `spec` argument, then specifying the `ed` argument is optional. For example:

```bash
./ldPurge.sh report -ldid 575001,525004 -spec LDSpec
```

- `ldname`: This argument is mandatory when you do not specify either the Logical Device specification (`-spec`) or the logical device ID (`-ldid`). Use this argument to specify the names of the logical devices that you want purged.

If you specify the `ldname` argument before any other argument, then specifying the `spec` and `ed` arguments is optional. For example:

```bash
./ldPurge.sh report -ldname logicaldevice1
```

In addition, if you specify the `ldname` argument before the `spec` argument, then specifying the `ed` argument is optional. For example:

```bash
./ldPurge.sh report -ldname logicaldevice1 -spec LDSpec
```

If the logical device name contains a space, then you must specify the `ldname` argument as follows:

```bash
./ldPurge.sh report -ldname 'logical device1'
```

- `ldpcr`: This flag indicates whether the logical device parent-child relationship should be considered for the purge operation or not. If you set this flag to `true`, the logical device parent-child hierarchies are also considered for purge. If this flag is set to `false` or if you exclude this flag from the report operation, the logical device parent-child hierarchies are not considered for purge. By default, this flag is set to `false`. For example:

```bash
./ldPurge.sh report -ldname logicaldevice1 -ldpcr true
```

For information about the other arguments that you can use with the report operation for purge type LOGICALDEVICE, see "Common Arguments for Entity Purge Types with Report Operation".

See "Mandatory/Optional Arguments for Entity Purge Types with Report Operation" for the list of mandatory and optional arguments for entity purge types when using the report operation.

Logical Device Account Purge Report

By default, the purge process includes logical device accounts in Unassigned and Installed status. The following arguments are specific to purge type LOGICALDEVICEACCOUNT:

- `ldaspec`: Use this argument to specify the Logical Device Account specification on which the logical devices that you want to purge are based on. The purge tool considers all the logical devices that are based on the specified Logical Device Account specification for purging. For example:

```bash
./ldaPurge.sh report -ldaspec BATLDASpec -ed 01/01/2018
```

- `ldaid`: This argument is mandatory when you do not provide the Logical Device Account specification (`-ldaspec`). Use this argument to specify the IDs of the logical device accounts that you want purged. For example:

```bash
./ldaPurge.sh report -ldaid 575001,525004 -ed 01/01/2018
```
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For information about the other arguments that you can use with the report operation for purge type LOGICALDEVICEACCOUNT, see "Common Arguments for Entity Purge Types with Report Operation".

See "Mandatory/Optional Arguments for Entity Purge Types with Report Operation" for the list of mandatory and optional arguments for entity purge types when using the report operation.

**Party Purge Report**

The following argument is specific to purge type PARTY:

- **-spec**: Use this argument to specify the Party specification on which the parties that you want to purge are based on. The purge tool considers all the party entities that are based on the specified Party specification for purging. For example:

  ```
  ./partyPurge.sh report -spec BATPartySpec -ed 01/01/2018
  ```

For information about the other arguments that you can use with the report operation for purge type PARTY, see "Common Arguments for Entity Purge Types with Report Operation".

See "Mandatory/Optional Arguments for Entity Purge Types with Report Operation" for the list of mandatory and optional arguments for entity purge types when using the report operation.

**Place Purge Report**

The following argument is specific to purge type PLACE:

- **-spec**: Use this argument to specify the Place specification on which the place entities that you want to purge are based on. The purge tool considers all the place entities that are based on the specified Place specification for purging. For example:

  ```
  ./placePurge.sh report -spec BATPlaceSpec -ed 01/01/2018
  ```

For information about the other arguments that you can use with the report operation for purge type PLACE, see "Common Arguments for Entity Purge Types with Report Operation".

See "Mandatory/Optional Arguments for Entity Purge Types with Report Operation" for the list of mandatory and optional arguments for entity purge types when using the report operation.

**BI/EWO Purge Report**

The following argument is specific to purge type BI or EWO:

- **-bispec**: This argument is optional if you specify the ewoworkflow argument. Use the bispec argument to specify the Business Interaction specification on which the business interaction entities that you want to purge are based on. The purge tool considers all the business interaction entities that are based on the specified Business Interaction specification for purging. For example:

  ```
  ./biPurge.sh report -bispec BATBISpec -status completed -ed 01/01/2018
  ```

- **-ewoworkflow**: This argument is optional if you specify the bispec argument. Use the ewoworkflow argument to specify the engineering work order (EWO) workflows for purging. For example:

  ```
  ./biPurge.sh report -ewoworkflow BATWorkFlow -status completed -ed 01/01/2018
  ```
For information about the other arguments that you can use with the report operation for purge type BI/EWO, see "Common Arguments for Entity Purge Types with Report Operation".

See "Mandatory/Optional Arguments for Entity Purge Types with Report Operation" for the list of mandatory and optional arguments for entity purge types when using the report operation.

**Execute**

---

**WARNING:** A purge operation deletes database records permanently. You must back up the database before performing any purge operation.

---

The execute operation enables you to purge entities using the specified criteria. The purge deletes rows from several tables using the specified criteria. The execute operation always creates a report. You are prompted for a confirmation if the purge end date specified is within one year from the current date.

You cannot run more than one execute operation at a time. If you need to start a new execute operation, then the old execute operation must be cancelled or completed. In the case of a suspended purge operation, no new execute operations can be initiated until the suspended operation is also cancelled or completed.

When an execute purge operation is performed, a new record with a status of INPROGRESS is created in the Purge_Audit table. When the execute operation completes successfully, the status is updated to COMPLETED.

See the following sections for information about the arguments that you can use with the execute operation for an entity purge:

- Mandatory/Optional Arguments for Entity Purge Types with Execute Operation
- Common Arguments for Entity Purge Types with Execute Operation

**Mandatory/Optional Arguments for Entity Purge Types with Execute Operation**

This table lists the mandatory and optional arguments for entity purge types when using the execute operation.
### Specifying Entity Specifications and Entity Names Containing Spaces

If the entity specification or the entity name contains a space (for example, "Service Order"), then you must specify the arguments as follows:

On Linux:

<table>
<thead>
<tr>
<th>Table 4–5</th>
<th>Mandatory and Optional Arguments for Entity Purge Types</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Purge Type</strong></td>
<td><strong>Mandatory Arguments</strong></td>
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<td>SCV</td>
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<td>LOGICALDEVICE</td>
<td>-ed</td>
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<td>-spec or -ldid or -ldname</td>
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<td>LOGICALDEVICEACCOUNT</td>
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<td>PLACE</td>
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<tr>
<td>BI/EWO</td>
<td>-bispec or ewoworkflow</td>
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</tbody>
</table>
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./biPurge.sh execute -bispec \'Service Order\' -status completed -ed 02/01/2016

On Windows:

./biPurge.cmd execute -bispec 'Service Order' -status completed -ed 02/01/2016

Common Arguments for Entity Purge Types with Execute Operation

This section lists and describes the arguments that are common to all the entity purge types for the execute operation.

Note: In the examples listed in this section, entity in entityPurge.sh refers to the entity type, such as servicePurge.sh (for service entities), scvPurge.sh (for service configuration versions), ldPurge.sh (for logical devices), and so on.

The following arguments can be used during the execute operation:

■ -status: Use this argument to specify the status of entities. The purge tool considers only the entities in the specified status for purging. For example:

./entityPurge.sh execute -status disconnected -ed 02/21/2012

where entity is the entity type; for example, servicePurge.sh, scvPurge.sh, or biPurge.sh.

The following list shows the only entities for which the status argument is applicable to, including the statuses that you can specify for each entity:

− Services in Disconnected or Cancelled status
− Service Configuration Versions in Cancelled or Completed status
− Business interactions and engineering work orders in Cancelled or Completed status

■ -ed: Use this argument to specify an end date. The purge tool considers only the entities with a “last modified date” on or before this end date for purging. You must specify the date with the following format: MM/DD/YYYY. For example:

./entityPurge.sh execute -ed 02/21/2012

■ -sd: Use this argument to specify the start date. The purge tool considers only the entities with a “last modified date” on or after this start date for purging. You must specify the date with the following format: MM/DD/YYYY. For example:

./entityPurge.sh execute -ed 02/21/2012 -sd 02/21/2010

■ -force: Use this argument to avoid the purge operation prompting you for confirmations. For example:

./entityPurge.sh execute -ed 02/21/2012 -force

■ -s: Use this argument to specify a start date and time for the purge to run. You must specify the date with a format of MM/DD/YYYY:hh:mm:ss. For example:

./entityPurge.sh execute -ed 02/21/2012 -s 06/26/2012:19:30:00

■ -c: Use this argument to set the commit size for the purge. By default, the commit size is set to 1000. The maximum value is 10000. If you specify a value greater than 10000, the purge ignores the argument value and uses the maximum value of
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10000. For example:

```
./entityPurge.sh execute -ed 02/21/2012 -c 200
```

- `-t`: Use this argument to set the number of parallel processes allowed. By default, the number of parallel processes is set to 10. The maximum value you can specify is 100. If you specify a value greater than 100, the purge ignores the argument value and uses the maximum value of 100. For example:

```
./entityPurge.sh execute -ed 02/21/2012 -t 15
```

**Entity Purge Executions**

You use the execute operation to purge entities by running the following entity purge executions:

- Service Purge Execution
- SCV Purge Execution
- Logical Device Purge Execution
- Logical Device Account Purge Execution
- Party Purge Execution
- Place Purge Execution
- BI/EWO Purge Execution

**Service Purge Execution**

The following is the list of tables that are affected by the service purge execution:

- Service
- Service_Char
- Party_ServiceRel
- Place_ServiceRel
- ServiceAssignment
- ServiceConsumer
- ServiceReservation
- ServiceCondition
- ServiceConfigurationVersion
- BusinessInteraction
- ConfigurationInput
- TopologyProfile
- TopologyProfileEdge
- TopologyProfileNode
- ServiceConfigurationItem
- ServiceConfigurationItem_Char
- BusinessInteractionItem
- `EntityConsumer`
- `EntityAssignment`
■ *EntityConfigRef*

where *Entity* is the entity type of the related resource. In the list of affected tables, the *EntityConsumer*, *EntityAssignment*, and *EntityConfigRef* tables are applicable to the following entity resources, which can be consumed by a Service:

■ Custom Network Address
■ Custom Object
■ Device Interface
■ Equipment
■ Equipment Holder
■ Geographic Location
■ Geographic Site
■ Logical Device Account
■ Logical Device
■ Network
■ Physical Connector
■ Physical Device
■ Physical Port
■ Pipe
■ Service
■ Telephone Number

**Service Purge Execution Arguments**

For information about the arguments that you can use with the execute operation for purge type SERVICE, see "Common Arguments for Entity Purge Types with Execute Operation".

See "Mandatory/Optional Arguments for Entity Purge Types with Execute Operation" for the list of mandatory and optional arguments for entity purge types when using the execute operation.

**SCV Purge Execution**

The following is the list of tables that are affected by the SCV purge execution:

■ ServiceConfigurationVersion
■ BusinessInteraction
■ ConfigurationInput
■ TopologyProfile
■ TopologyProfileEdge
■ TopologyProfileNode
■ ServiceConfigurationItem
■ ServiceConfigurationItem_Char
■ BusinessInteractionItem
■ *EntityConsumer*
- **EntityAssignment**
- **EntityConfigRef**

  where *Entity* is the entity type of the related resource. In the list of affected tables, the **EntityConsumer**, **EntityAssignment**, and **EntityConfigRef** tables are applicable to the following entity resources, which can be consumed by a Service:
  - Custom Network Address
  - Custom Object
  - Device Interface
  - Equipment
  - Equipment Holder
  - Geographic Location
  - Geographic Site
  - Logical Device Account
  - Logical Device
  - Network
  - Physical Connector
  - Physical Device
  - Physical Port
  - Pipe
  - Service
  - Telephone Number

**SCV Purge Execution Arguments**

The following arguments are specific to purge type SCV:
- **-sspec**: Use this argument to specify the Service specification on which the service configuration versions that you want to purge are based on. The purge tool considers all the service configuration versions that are based on the specified Service specification for purging.
- **-scvspec**: Use this argument to specify the Service Configuration specification on which the service configuration versions that you want to purge are based on. The purge tool considers all the service configuration versions that are based on the specified Service Configuration specification for purging.
- **-retain**: Use this argument to specify the number of completed service configuration versions that you want to retain for each service after the purge process is completed. This argument is not applicable for service configuration versions having a status of Cancelled.

The following is an example of using the **sspec**, **scvspec**, and **retain** arguments:

```
./scvPurge.sh execute -sspec BATServiceSpec -scvspec BATServiceConfigSpec
-status completed -retain 3
```

For information about the other arguments that you can use with the execute operation for purge type SCV, see "Common Arguments for Entity Purge Types with Execute Operation".
See "Mandatory/Optional Arguments for Entity Purge Types with Execute Operation" for the list of mandatory and optional arguments for entity purge types when using the execute operation.

**Logical Device Purge Execution**

By default, the purge process includes logical devices in Unassigned and Installed status. The following is the list of tables that are affected by the logical device purge execution:

- DEVICEINTERFACECONFIGREF
- DEVICEINTERFACE_CHAR
- DEVICEINTERFACE_CHAR_EXT
- DEVICEINTERFACE
- LOGICALDEVICECONFIGREF
- LOGICALDEVICE_CHAR
- LOGICALDEVICE_CHAR_EXT
- LOGICALDEVICE_LOGICALDEVICEREL (if the ldpcr flag is set to true)
- LOGICALDEVICE

**Logical Device Purge Execution Arguments**

The following arguments are specific to purge type LOGICALDEVICE:

- **-spec**: Use this argument to specify the Logical Device specification on which the logical devices that you want to purge are based on. The purge tool considers all the logical devices that are based on the specified Logical Device specification for purging.

  If you specify the spec argument before any other argument, then specifying the ed argument is mandatory. For example:

  `.ldPurge.sh execute -spec LDSpec -ed 01/01/2018`

- **-ldid**: This argument is mandatory when you do not provide the Logical Device specification (-spec). Use the ldid to specify the IDs of the logical devices that you want purged.

  If you specify the ldid argument before any other argument, then specifying the spec and ed arguments is optional. For example:

  `.ldPurge.sh execute -ldid 575001,525004`

  In addition, if you specify the ldid argument before the spec argument, then specifying the ed argument is optional. For example:

  `.ldPurge.sh execute -ldid 575001,525004 -spec LDSpec`

- **-ldname**: This argument is mandatory when you do not specify either the Logical Device specification (-spec) or the logical device ID (-ldid). Use this argument to specify the names of the names of the logical devices that you want purged.

  If you specify the ldname argument before any other argument, then specifying the spec and ed arguments is optional. For example:

  `.ldPurge.sh execute -ldname logicaldevice1`
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In addition, if you specify the `ldname` argument before the `spec` argument, then specifying the `ed` argument is optional. For example:

```
./1dPurge.sh execute -ldname logicaldevice1 -spec LDSpec
```

If the logical device name contains a space, then you must specify the `ldname` argument as follows:

```
./1dPurge.sh execute -ldname 'logical device1'
```

- `-ldpcr`: This flag indicates whether the logical device parent-child relationship should be considered for the purge operation or not. If you set this flag to `true`, the logical device parent-child hierarchies are also considered for purge. If this flag is set to `false` or if you exclude this flag from the report operation, the logical device parent-child hierarchies are not considered for purge. By default, this flag is set to `false`. For example:

```
./1dPurge.sh execute -ldname logicaldevice1 -ldpcr true -ed 01/01/2018
```

For information about the other arguments that you can use with the execute operation for purge type `LOGICALDEVICE`, see "Common Arguments for Entity Purge Types with Execute Operation".

See "Mandatory/Optional Arguments for Entity Purge Types with Execute Operation" for the list of mandatory and optional arguments for entity purge types when using the execute operation.

**Logical Device Account Purge Execution**

By default, the purge process includes logical device accounts in Unassigned and Installed status. The following is the list of tables that are affected by the logical device account purge execution:

- `LOGICALDEVICEACCOUNTCONFIGREF`
- `LDACCOUNTASSIGNMENT`
- `LDACCOUNTCONSUMER`
- `LDACCOUNT_CHAR`
- `LDACCOUNT_CHAR_EXT`
- `LOGICALDEVICEACCOUNT`

**Logical Device Account Purge Execution Arguments**

The following arguments are specific to purge type `LOGICALDEVICEACCOUNT`:

- `-ldaspec`: Use this argument to specify the Logical Device Account specification on which the logical devices that you want to purge are based on. The purge tool considers all the logical devices that are based on the specified Logical Device Account specification for purging. For example:

```
./1daPurge.sh execute -ldaspec BATLDASpec -ed 01/01/2018
```

- `-ldaid`: This argument is mandatory when you do not provide the Logical Device Account specification (-ldaspec). Use the `ldaid` to specify the IDs of the logical device accounts that you want purged. For example:

```
./1daPurge.sh execute -ldaid 575001,525004 -ed 01/01/2018
```

For information about the other arguments that you can use with the execute operation for purge type `LOGICALDEVICEACCOUNT`, see "Common Arguments for
Entity Purge Types with Execute Operation.

See "Mandatory/Optional Arguments for Entity Purge Types with Execute Operation" for the list of mandatory and optional arguments for entity purge types when using the execute operation.

Party Purge Execution

The following is the list of tables that are affected by the party purge execution:

- PARTYCONFIGREF
- PARTY_CHAR
- PLACE_CHAR_EXT
- PARTY

Party Purge Execution Arguments

The following argument is specific to purge type PARTY:

- **-spec**: Use this argument to specify the Party specification on which the parties that you want to purge are based on. The purge tool considers all the party entities that are based on the specified Party specification for purging. For example:

  ```bash
  ./partyPurge.sh execute -spec BATPartySpec -ed 01/01/2018
  ```

For information about the other arguments that you can use with the execute operation for purge type PARTY, see "Common Arguments for Entity Purge Types with Execute Operation".

See "Mandatory/Optional Arguments for Entity Purge Types with Execute Operation" for the list of mandatory and optional arguments for entity purge types when using the execute operation.

Place Purge Execution

The following is the list of tables that are affected by the place purge execution:

- GEOGRAPHICSITECONFIGREF
- GEOGRAPHICLOCATIONCONFIGREF
- GEOGRAPHICADDRESSCONFIGREF
- GEOADDRESSRANGECONFIGREF
- PLACE_CHAR
- PLACE_CHAR_EXT
- GEOGRAPHICPLACE

Place Purge Execution Arguments

The following argument is specific to purge type PLACE:

- **-spec**: Use this argument to specify the Place specification on which the place entities that you want to purge are based on. The purge tool considers all the place entities that are based on the specified Place specification for purging. For example:

  ```bash
  ./placePurge.sh execute -spec BATPlaceSpec -ed 01/01/2018
  ```

For information about the other arguments that you can use with the execute operation for purge type PLACE, see "Common Arguments for Entity Purge Types with Execute Operation".
with Execute Operation".

See "Mandatory/Optional Arguments for Entity Purge Types with Execute Operation" for the list of mandatory and optional arguments for entity purge types when using the execute operation.

**BI/EWO Purge Execution**
The following is the list of tables that are affected by the BI/EWO purge execution:

- BUSINESSINTERACTIONATTACHMENT
- BUSINESSINTERACTIONITEM*
- BIITEM_BIITEM
- BUSINESSINTERACTION_CHAR
- BUSINESSINTERACTION_CHAR_EXT
- ACTIVITY
- ACTIVITYITEM
- ACTIVITY_CHAR
- ACTIVITY_CHAR_EXT
- BUSINESSINTERACTION

*During the BI purge execute operation, the tables that will be affected depend on the entities/relationships that are created or associated under a BI context. When you create a new entity or add an existing entity under a BI context, UIM creates a version record in the entity tables or relationship tables for that entity.

For example, if you add a custom object entity under a BI context, UIM does the following:

- Creates a record for the custom object in the BUSINESSINTERACTIONITEM table.
- Creates a version record for the custom object in the CUSTOMOBJECT table.

If you add a logical device parent-child hierarchy under a BI context, UIM does the following:

- Creates a record for the logical device parent-child hierarchy in the BUSINESSINTERACTIONITEM table.
- Creates a version record for the logical device parent-child hierarchy in the LOGICALDEVICE_LOGICALDEVICEREL table.

In this case, when you run the BI purge execute operation, the following occurs:

- For the custom object entity, UIM purges the record from the BUSINESSINTERACTIONITEM table and the version record from the CUSTOMOBJECT table.
- For the logical device parent-child hierarchy, UIM purges the record from the BUSINESSINTERACTIONITEM table and the version record from the LOGICALDEVICE_LOGICALDEVICEREL table.

**BI/EWO Purge Execution Arguments**
The following arguments are specific to purge type BI/EWO:

- **-bispec**: This argument is optional if you specify the **ewoworkflow** argument. Use the **bispec** argument to specify the Business Interaction specification on which the business interaction entities that you want to purge are based on. The purge tool
considers all the business interaction entities that are based on the specified Business Interaction specification for purging. For example:

```
./biPurge.sh execute -bispec BATBISpec -status completed -ed 01/01/2018
```

- **-ewoworkflow**: This argument is optional if you specify the **bispec** argument. Use the **ewoworkflow** argument to specify the engineering work order (EWO) workflows for purging. For example:

```
./biPurge.sh execute -ewoworkflow BATWorkFlow -status completed -ed 01/01/2018
```

For information about the other arguments that you can use with the execute operation for purge type BI/EWO, see "Common Arguments for Entity Purge Types with Execute Operation".

See "Mandatory/Optional Arguments for Entity Purge Types with Execute Operation" for the list of mandatory and optional arguments for entity purge types when using the execute operation.

### Status

The status option shows information for in-progress and suspended purge processes. It also provides the following information related to the purge:

- Active purge information.
- Number of entities purged.
- All the jobs related to entity purge.
- Report file name which is generated while entities are purged.

If no active purge processes are present, the Status operation displays the status of the last completed purge.

### Suspend

The suspend operation suspends the purge process and allows active parallel processes to continue to run and complete. No new processes can be created, however. Before suspending an active purge process, the suspend operation provides the following information:

- Active purge information.
- Number of entities purged.
- All the jobs related to entity purge.
- Report file name which is generated while entities are purged.

---

**Note:** One purge operation can create multiple software processes to perform the requested purge.

---

A suspended operation can be cancelled or resumed, but once the purge is suspended, no new purge operations can be initiated. After an execute operation is suspended, the Purge_Audit STATUS record value is updated to COMPLETED and a new record is created with a status of SUSPENDED. The suspend option is not applicable to the purge process that is in POPULATE_INPROGRESS status.

Please note that there are processes which are still in RUNNING status when a purge operation is suspended. After these processes complete execution, the processes
update to DISABLED. When all the processes have changed to DISABLED status, no new processes are created.

Resume
The resume option restarts the purge operation using the specified arguments. In this case, the Purge_Audit STATUS value is updated to INPROGRESS for the record that was suspended. The resume option is not applicable to the purge process that is in POPULATE_INPROGRESS status. The following arguments can be specified when resuming a purge operation:

- **-s**: This argument is optional. Use the \( s \) argument to specify a start date and time for the purge to run. You must specify the date with a format of MM/DD/YYYY:hh:mm:ss. For example:
  
  ```
  ./entityPurge.sh resume -s 06/26/2014:19:30:00
  ```

  where entity is the name of the entity, such as service, SCV, party, and so on.

- **-c**: This argument is optional. Use the \( c \) argument to set the commit size for the purge. By default, the commit size is set to 1000. The maximum value is 10000. If you specify a value greater than 10000, the purge ignores the argument value and uses the maximum value of 10000. For example:
  
  ```
  ./entityPurge.sh resume -c 200
  ```

- **-t**: This argument is optional. Use the \( t \) argument to set the number of parallel processes allowed. By default, the number of parallel processes is set to 10. The maximum value you can specify is 100. If you specify a value greater than 100, the purge ignores the argument value and uses the maximum value of 100. For example:
  
  ```
  ./entityPurge.sh resume -t 15
  ```

Cancel
The cancel option terminates all purge processes with a status of INPROGRESS or SUSPENDED. It also provides the following information related to purge process, before requesting confirmation:

- Active purge operation.
- Number of entities purged.
- All the jobs related to entity purge.
- Report file name which is generated while entities are purged.

After this information is provided, you must confirm the cancellation of in-progress or suspended operations. When the purge process is cancelled, the Purge_Audit STATUS value is updated to CANCELLED for records with an INPROGRESS or SUSPENDED status.

Preventing the Purging of Entities Referred as Entity Link Characteristics
The entities that are considered for purging could be referred as entity link characteristics in other entities. The entity link characteristics purge is applicable to the following entities:

- Logical device
- Logical device account
When you run an entity purge, UIM displays the following warning messages, which inform you that the purge process will permanently delete the entities that are referred as entity link characteristics in other entities:

**Warning Message During Entity Purge Report**

Warning!! Please backup data before executing the purge. All records matching specified criteria will be permanently deleted.

Warning!! Specification provided is referenced as an Entity Link Characteristic. Purge will delete all the instance data which are referred on other entity instances. Refer System Administrator guide, section ‘Purging UIM Entities’ to find out how to avoid the purge of this instance data.

**Warning Message During Entity Purge Execution**

Warning 1: Please backup data before executing the purge. All records matching specified criteria will be permanently deleted.

Warning 2: <entity name, id, spec etc> provided are referenced as an Entity Link Characteristic. Purge will delete all the instance data which are referred on other entity instances. System Administrator guide, section ‘Purging UIM Entities’ to find out how to avoid the purge of this instance data.

Are you sure you want to continue with entity purge? (Y|N)

Clicking **Yes** in the warning message deletes all the entities, including the entities that are referred as entity link characteristics. Clicking **No** terminates the entity purge process.

**Script to Prevent the Purging of Entity Link Characteristics**

UIM provides the `elcharScripts.sql` script, which prevents the deletion of entities that are referred as entity link characteristics.

The `elcharScripts.sql` script is available as part of the `ora_uim_dbtools.jar` file, located in the `UIM_Home/util` folder.

Ensure that you run the `elcharScripts.sql` script before running an entity purge to prevent the deletion of entities that are referred as entity link characteristics.

---

**Configuring Email Addresses and User Data**

To support the message notification functionality, you maintain users and user groups along with their contact information. You manage this information through the embedded Lightweight Directory Access Protocol (LDAP) server within Oracle Weblogic Server or optionally through another LDAP-compliant product. For information about managing the embedded LDAP server within Oracle Weblogic Server, see the following web site:

[https://docs.oracle.com/middleware/12213/wls/SECMG/ldap.htm#SECMG327](https://docs.oracle.com/middleware/12213/wls/SECMG/ldap.htm#SECMG327)

Alternatively, there are additional products such as *Oracle Identity Management - Oracle Internet Directory* that may be chosen depending on the required scale of the installation. For more information about message notification functionality, see *UIM Developer’s Guide*. 
Configuring UIM to Evaluate System Configuration Compliance

UIM includes the UIM compliance tool, which captures a snapshot of your UIM configuration and evaluates it against established rules. These rules are based on best practices and guidelines using which the compliance tool analyzes the UIM configuration and generates an evaluation result that enables you to optimally configure your UIM environment.

The UIM compliance tool captures snapshots of the following:

- WebLogic domain
- UIM configuration parameters
- Database configuration parameters

The compliance tool uses a set of compliance rules to determine if a configuration value is properly set or, if it allows a range of valid values, whether the configured value falls within that range. The tool also verifies that required or recommended patches have been applied.

For every compliance rule, reports include a description of the rule, an indication of whether the rule passed or failed, and the rationale for the compliance rule. For non-compliant results, a severity level and the reason for the failure are also included.

The UIM compliance tool is packaged with the UIM software, which you can download from the My Oracle Support website at:

https://support.oracle.com

Setting Up the UIM Compliance Tool

To set up the UIM compliance tool:

1. Download the compliance-1.2.1.zip file.
2. Create a local directory; for example, Compliance_Home.
3. Extract the contents of the compliance-1.2.1.zip file into the Compliance_Home directory.
4. Download the required third-party software for the compliance tool by doing the following:
   - Navigate to the Compliance_Home/config directory and update the proxy.settings file to include any proxy settings that are required to access the Internet.
   - Add the Ant binary directory to the PATH environment variable by doing one of the following:
     - On Windows, run the following command:
       ```bash
       set %PATH%=%ANT_HOME%/bin;$PATH
       ```
     - On Linux, run the following command:
       ```bash
       export PATH=$ANT_HOME/bin:$PATH
       ```
   - Navigate to the Compliance_Home/bin directory and run the ant command, which downloads the required third-party software for the compliance tool.
5. Generate a wlfullclient.jar file by doing the following:
   - Navigate to the WL_HOME/server/lib directory.
Run the following command to generate the `wlfullclient.jar` file in the `WL_Home/server/lib` directory (where `WL_Home` is the directory in which the WebLogic Server is installed):

```
java -jar wljarbuilder.jar
```

Copy the `wlfullclient.jar` file into the `Compliance_Home/lib` directory.

### Running the UIM Compliance Tool

To run the UIM compliance tool:

1. Navigate to the `Compliance_Home/config` directory
2. Create a new `compliance.properties` file.
3. Copy the contents of the `compliance-sample.properties` file into the `compliance.properties` file.
4. In `compliance.properties` file, update the following properties with the UIM Administration Server details:

   ```
   weblogic.hostname=WL_HostName
   weblogic.port=WL_Port
   weblogic.username=WL_UserName
   ```

   where:
   - `WL_HostName` is the host name of the WebLogic Administration Server.
   - `WL_Port` is the port number of the WebLogic Administration Server.
   - `WL_UserName` is the user name used to log in to the WebLogic Administration Server.
5. Navigate to the `Compliance_Home/bin` directory and do the following:

   On Windows, run the following script:

   ```
   compliance.bat
   ```

   On Linux, run the following script:

   ```
   compliance.sh
   ```

   The compliance tool generates the evaluation results in the `Compliance_Home/result` directory.

---

**Note:** For more information about the compliance tool, see the compliance tool documentation, which becomes available at the following location after you install the compliance tool:

`Compliance_Home/doc/index.html`

---

### Preventing a ZIP Bomb When Uploading Ruleset Files

In some scenarios, you may be required to upload ruleset files in a ZIP file. You use the properties in the `UIM_Home/config/importExport.properties` file to prevent a ZIP bomb when uploading ruleset files in a ZIP file.

Table 4–6 lists and describes the properties in the `importExport.properties` file.
### Table 4–6   Properties in the importExport.properties File

<table>
<thead>
<tr>
<th>Property</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>import.fileUploadWhiteListMimeTypes</td>
<td>This property validates the MIME type of the ZIP file that you are uploading. For example: <code>import.fileUploadWhiteListMimeTypes=text/plain, text/csv,application/zip, application/x-zip-compressed</code></td>
</tr>
<tr>
<td>import.fileUploadMaxSizeAfterUnzip</td>
<td>The property controls the maximum size of the ZIP file that you can upload (in bytes). The default value is 100 MB. For example: <code>import.fileUploadMaxSizeAfterUnzip=104857600</code></td>
</tr>
<tr>
<td>import.fileUploadNestedFileLimit</td>
<td>The property controls the number of nested levels allowed within a ZIP file. The default value is 1. A value of 1 indicates that a ZIP file cannot contain another ZIP file. A value of two indicates that a ZIP file can contain only one ZIP file within it. For example: <code>import.fileUploadNestedFileLimit=1</code></td>
</tr>
<tr>
<td>import.fileUploadZipsLimitPerLevel</td>
<td>This property controls the number of ZIP files allowed at each level within the ZIP file. The default value is 0. A value of 0 indicates that every nested level within the ZIP file can contain only one ZIP file. For example: <code>import.fileUploadZipsLimitPerLevel=0</code></td>
</tr>
</tbody>
</table>
This chapter describes ways to improve Oracle Communications Unified Inventory Management (UIM) performance.

**Improving Performance of Searches That Include Characteristics**

You can add characteristics to search criteria in UIM. For example, if your inventory includes Logical Device entities based on specifications that have a characteristic called Service Provider Name, you can add that characteristic to a logical device search. See UIM Concepts and UIM online Help for more information about adding characteristics to searches.

If you regularly include four or more characteristics in an entity search such as Telephone Number, Logical Device, or Place, you can change properties in the system-config.properties file to improve performance. You must also run scripts to support the database changes for this feature.

Caution: Once you run these database scripts for the performance improvement, you cannot revert the system changes back to its original state. Also, if you enable this feature for individual entities, the SQL script content must be altered to address only those entities.

**Making Changes to the system-config.properties File**

You can change the setting for all entity types or for a selection of entity types.

To improve characteristic search performance and enable this feature:

1. Navigate to UIM_Home/config.
2. Open the system-config.properties file.
3. Set the inv.extendedCharSearchEnabled property to true.
4. Do one of the following:
   - To enable the extended search feature for all entity types, set the inv.extendedCharSearchEnabledForAll property to true.
   - To enable the extended search feature for a selection of entity types, set the inv.extendedCharSearchEnabledForAll property to false and add sequentially numbered properties for the entities you want. For example:

```plaintext
inv.extendedCharSearchEnabledEntities.1=TelephoneNumber
```
Improving Performance of Searches That Include Characteristics

```
inv.extendedCharSearchEnabledEntities.2=LogicalDevice
inv.extendedCharSearchEnabledEntities.3=GeographicPlace
```

**Note:** If you chose the option to specify one or more specific entities, some scripts need to be altered to apply changes only to the desired entities.

5. Save and close the `system-config.properties` file.

### Making Changes to the Database Schema

To improve characteristic search performance, you must perform the following database changes:

1. Back up the UIM database. See "Database Backup and Restore" for more information.
2. Ensure that you have database modification level privileges.
3. Create two temporary directories, `temp_dir` and `temp_dir_schema`.
4. Download the UIM software for your operating system from the Oracle software delivery website and save it to `temp_dir`.
5. From the downloaded ZIP file, extract the `ora_uim_dbtools.jar` file into `temp_dir_schema`.
6. In the `temp_dir_schema` directory, open the `ora_uim_dbtools.jar` file and extract all the contents into `temp_dir_schema`. You can ignore the additional files in this jar. They are used in the upgrade process of the database.
7. The scripts for this feature default to enabling this feature for all entities. If you provided specific entities in the `system-config.properties` file, such as Logical Devices, you need to evaluate the contents of the following scripts and alter them to only apply to the entities you specified:
   - `temp_dir_schema/sqlscripts/B23314430.sql`
   - `temp_dir_schema/sqlscripts/B23318206.sql`
   - `temp_dir_schema/sqlscripts/B23541213.sql`
8. Open a command line window and login to SQL*Plus for the desired database. Run the following SQL scripts providing the full path of the files. For example, use the `@scriptFileName` command where `scriptFileName` is the full path and name of the file.
   - `temp_dir_schema/procs/CREATE_CHAR_EXT_TABLE.sql`
   - `temp_dir_schema/sqlscripts/B23314430.sql`
   - `temp_dir_schema/sqlscripts/B23318206.sql`
   - `temp_dir_schema/sqlscripts/B23541213.sql`
9. (Optional) To verify that these scripts ran successfully, you can verify that the UIM schema includes the following elements:
   - A table named CHARACTERISTICS_TABLE_MAPPINGS
   - A procedure named CREATE_CHAR_EXT_TABLE
   - A trigger named ADD_CHAR_COLUMN_TRIGGER

---

5-2  UIM System Administrator’s Guide
Verifying Areas When this Feature is Enabled

There are a few areas that you need to verify if this feature is enabled. Ensure you review the following areas if you reference characteristic tables directly:

- Determine if there is any impact to custom database queries in custom code such as cartridges and web services.
- Determine if there is any impact to areas where there is direct database access.

Configuring a Shared Index Directory

For multiserver deployment environments (including configurations for multiple single servers, administration/managed servers, and administration/clustered servers), you must deploy a common shared storage, such as a storage area network, for all UIM WebLogic application servers. Without a storage area network, results may vary on different servers because some servers may have different domains.

Changing the Logging Level

UIM is using log4j for the logging services. For details on log4j, refer to:

https://logging.apache.org/log4j/2.x/manual/

The logging level is defined in the `loggingconfig.xml` file.
The file is located in `UIM_Home/config`.

Appender Configuration

Three default appenders are supplied by default:

- **Stdout**
  Console Appender - used to log messages to the standard output

- **rollingFile**
  Rolling File Appender - used to log messages to the rolling file
  `UIM_Home/logs/WebLogic_Name_uim.log`

- **rebuildRollingFile**
  Rolling File Appender - used to log the rebuild topology messages to the rolling file
  `UIM_Home/logs/WebLogic_Name_uim_rebuild.log`

The following is an example of the layout of the appender log message:

```
%d{yyyy-MM-dd HH:mm:ss,SSS} %-5p [%X{userName}] [%X{requestSession}] [%c{1}] %m%n
```

where:

- `%d{yyyy-MM-dd HH:mm:ss,SSS}`
  is the Date in the format yyyy-MM-dd HH:mm:ss,SSS
- `%5p`
  is the priority of the logging event
- `%X{userName}`
  is the user name associated with the thread that generated the logging event
Changing the Logging Level

- **%X{requestSession}**
  is the session ID associated with the thread that generated the logging event. Note that the `requestSession` is not included by default. The layout value needs to be modified to add the `requestSession`.

- **%c{1}**
  is the category of the logging event with the precision specifier (ie: the decimal constant in brackets). The precision specifier corresponds to the right most components of the category name. For example, for the category name `oracle.communications.inventory.techpack.video.impl.VideoManagerImpl` the pattern `%c{1}` outputs `VideoManagerImpl`.

- **%m**
  is the application supplied message associated with the logging event. For example: `[INV-801005] No subscriber is associated to the service.`

- **%n**
  is the platform dependent line separator character or characters

For all parameters, see:


This is a localized logging output message example:

2016-01-03 15:20:22,087 ERROR [uimuser1] [VideoManagerImpl] [INV-801005] No subscriber is associated to the service.

It is possible to filter the logging messages by the UIM user. To enable the UIM user filter, we need to add the following element to the default appender:

```xml
<ContextMapFilter onMatch="ACCEPT" onMismatch="NEUTRAL" operator="or">
  <KeyValuePair key="userName" value=""/>
</ContextMapFilter>
```

The filter is already available, but commented out, in the default appender. To enable the UIM user filter, we can uncomment the filter and add a value to the `userName` parameter. For example:

```xml
<ContextMapFilter onMatch="ACCEPT" onMismatch="NEUTRAL" operator="or">
  <KeyValuePair key="userName" value="Justin"/>
</ContextMapFilter>
```

We can list multiple users in the filter by repeating the param element. For example:

```xml
<ContextMapFilter onMatch="ACCEPT" onMismatch="NEUTRAL" operator="or">
  <KeyValuePair key="userName" value="Lili-Mai"/>
  <KeyValuePair key="userName" value="Marilou"/>
  <KeyValuePair key="userName" value="Ramesh"/>
</ContextMapFilter>
```

**Logger Configuration**

By default the root logger is set to error and logs the messages to the standard output and the UIM rolling file:

```xml
<Root level="error">
  <AppenderRef ref="rollingFile"/>
</Root>
```
Logger levels can be configured. The set of possible levels are (in the order message logging rank):

- **all**: Lowest possible rank and is intended to turn on all logging
- **trace**: Finer-grained informational events than the debug
- **debug**: Fine-grained informational events that are most useful to debug an application
- **info**: Informational messages that highlight the progress of the application at coarse-grained level
- **warn**: Potentially harmful situations
- **error**: Error events that might still allow the application to continue running
- **fatal**: Very severe error events that presumably lead the application to abort
- **off**: Highest possible rank and is intended to turn off logging

Several application loggers are also pre-configured in the `loggingconfig.xml` file. Additional ones may be added as needed. For example, if the root logger level is set to **error**, but we would like to set a UIM technology pack package logger level to **debug**, then we would add the following to the `loggingconfig.xml`:

```xml
<Logger name="oracle.communications.inventory.techpack" additivity="false" level="debug">
  <AppenderRef ref="rollingFile"/>
</Logger>
```

**Connecting debugger to UIM**

**Tip:** To enable debug logging for the UIM Ruleset Extension Point Framework, you can add the following to the `loggingconfig.xml` file:

```xml
<Logger name="RuleSetLogger" additivity="false" level="debug">
  <AppenderRef ref="stderr"/>
  <AppenderRef ref="rollingFile"/>
</Logger>
```

If you add the above, then you can comment out or remove the logger for `oracle.communications.inventory.extensibility.rules.impl`. It'll become redundant because **debug** level is enable on its parent package.
Enabling SQL and Other EclipseLink Logging

If we need to connect a debugger to the UIM WebLogic server, then we would need to edit the file `Domain_Home/bin/setUIMEnv.sh` and add the following string to the `USER_MEM_ARGS` variable:

```
-Xdebug -Xnoagent -Xrunjdwp:transport=dt_socket,address=1234,server=y,suspend=n
-Djava.compiler=NONE'
```

**Example 5–1  USER_MEM_ARGS Before the Change**

```
USER_MEM_ARGS="-Xms1024m -Xmx3000m -Xmn850m -XX:MaxPermSize=1024m -Xrs
-XX:+HeapDumpOnOutOfMemoryError -XX:+UseConcMarkSweepGC
-XX:+CMSClassUnloadingEnabled -XX:+CMSPermGenSweepingEnabled"
```

**Example 5–2  USER_MEM_ARGS After the Change**

```
USER_MEM_ARGS="-Xms1024m -Xmx3000m -Xmn850m -XX:MaxPermSize=1024m -Xrs
-XX:+HeapDumpOnOutOfMemoryError -XX:+UseConcMarkSweepGC
-XX:+CMSClassUnloadingEnabled -XX:+CMSPermGenSweepingEnabled -Xdebug -Xnoagent
-Xrunjdwp:transport=dt_socket,address=1234,server=y,suspend=n
-Djava.compiler=NONE'
```

You can adjust the port by changing `address=1234`.

**Enabling SQL and Other EclipseLink Logging**

To enable SQL and other EclipseLink logging, perform the following:

1. Open a command window.
2. Navigate to the `MW_Home/oracle_common/common/bin` directory.
3. Start the WebLogic Scripting Tool (WLST) using the following command:
   ```
   ./wlst.sh
   ```
4. Connect to the server on which you want to change the logging level, use the following command:
   ```
   connect(userid,password,'t3://hostname:port')
   ```
5. Go to Custom settings using the following command:
   ```
   custom()
   ```
   **Note:** `custom()` can take a while to execute, approximately 5 minutes or more.

6. Go to TopLink using the following command:
   ```
   cd('TopLink')
   ```
7. List the sessions at this level using the following command:
   ```
   ls()
   ```
8. Copy the session and go to that session using the following command:
   
   \texttt{cd('session')}  

9. Change the EclipseLink logging level using the following command:
   
   \texttt{set('CurrentEclipseLinkLogLevel',newLevel)}  

   EclipseLink provides nine logging levels, refer to Table 5–1 for a list of the different logging levels and a brief description of each.

### Table 5–1 EclipseLink Logging Levels

<table>
<thead>
<tr>
<th>Level</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>OFF</td>
<td>This setting disables the generation of the log output. You may want to set logging to OFF during production to avoid the overhead of logging.</td>
</tr>
<tr>
<td>SEVERE</td>
<td>This level enables reporting of failure cases only. Usually, if the failure occurs, the application stops.</td>
</tr>
<tr>
<td>WARNING</td>
<td>This level enables logging of issues that have a potential to cause problems. For example, a setting that is picked by the application and not by the user.</td>
</tr>
<tr>
<td>INFO</td>
<td>This level enables the standard output. The contents of this output is very limited. It is the default logging level if a logging level is not set.</td>
</tr>
<tr>
<td>CONFIG</td>
<td>This level enables logging of such configuration details as your database login information and some metadata information. You may want to use the CONFIG log level at deployment time.</td>
</tr>
<tr>
<td>FINE</td>
<td>This level enables logging of the first level of the debugging information and SQL. You may want to use this log level during debugging and testing, but not at production.</td>
</tr>
<tr>
<td>FINER</td>
<td>This level enables logging of more debugging information than the FINE setting. For example, the transaction information is logged at this level. You may want to use this log level during debugging and testing, but not at production.</td>
</tr>
<tr>
<td>FINEST</td>
<td>This level enables logging of more debugging information than the FINER setting, such as a very detailed information about certain features (for example, sequencing). You may want to use this log level during debugging and testing, but not at production.</td>
</tr>
<tr>
<td>ALL</td>
<td>This level currently logs at the same level as FINEST.</td>
</tr>
</tbody>
</table>

10. To enable SQL logging use the following command:
   
   \texttt{set('CurrentEclipseLinkLogLevel','FINE')}  

### Updating the System Configuration Files

You use files to control many aspects of UIM performance and configuration. These system configuration files are located in \texttt{UIM\_Home/config}. Each file includes properties for which you can set values.

This section includes reference information and examples for the following configuration files:

- \texttt{config-reload.properties}. See "Controlling Automatic Inventory Reloading".
- **consumer.properties.** See "Controlling Entity Consumption".

- **inventoryBulkProcess.properties.** See "Controlling Telephone Number Bulk Operations".

- **importEntity.properties.** See "Defining Column Headers in Spreadsheets for Importing Entities".

- **reference.properties.** See "Controlling Reference Properties".

- **ruleProcess.properties.** See "Controlling the Work Manager".

- **system-config.properties.** See "Setting System Properties".

- **timers.properties.** See "Controlling System Timer Events".

- **telephoneNumberBulk.properties.** See "Controlling Ported-In Telephone Number Consumption".

- **topologyProcess.properties.** See "Controlling Topology".

### Controlling Automatic Inventory Reloading

You use the **config-reload.properties** file to control automatic inventory reloading. **Table 5–2** lists and describes the properties in the file.

**Table 5–2 Properties in the config-reload.properties file**

<table>
<thead>
<tr>
<th>Property</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>inventory.auto.reload.enabled</td>
<td>This property enables and disable the automatic reloading of system configuration properties. The default value is <strong>true</strong>. For example: inventory.auto.reload.enabled=true</td>
</tr>
<tr>
<td>inventory.auto.reload.interval</td>
<td>This property sets the reload interval in milliseconds. The default value is 3000 milliseconds. For example: inventory.auto.reload.interval=3000</td>
</tr>
</tbody>
</table>

### Controlling Entity Consumption

You use the **consumer.properties** file to control entity consumption. The **tn.*** properties pertain to the telephone number aging process and the telephone number lifecycle process. **Table 5–3** lists and describes the properties in the **consumer.properties** file.
Table 5–3 Properties in the consumer.properties file

<table>
<thead>
<tr>
<th>Property</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>deleteReservation.batchsize</code></td>
<td>This property controls the number of expired reservation records to be deleted for each execution of the Cleanup Expired Reservation timer process. The default value is 1000 records. For example: deleteReservation.batchSize=1000</td>
</tr>
<tr>
<td><code>tn.defaultDisconnectedStateExpiry</code></td>
<td>This property controls the expiration period for transitioning telephone number assignment states from Disconnected to Transitional state. The default value is 30 days. For example: tn.defaultDisconnectedStateExpiry=30</td>
</tr>
<tr>
<td><code>tn.enableTNDeletion</code></td>
<td>This property controls whether telephone numbers that are not consumed but were previously assigned to services can be deleted. When the property is absent (the default) or set to <code>false</code>, these telephone numbers cannot be deleted. When set to <code>true</code>, they can be deleted. For example: tn.enableTNDeletion= false</td>
</tr>
<tr>
<td><code>tn.defaultTransitionalStateExpiry</code></td>
<td>This property controls the expiration period for transitioning telephone number assignment states from Transitional to Unassigned. The default value is 30 days. For example: tn.defaultTransitionalStateExpiry=30</td>
</tr>
<tr>
<td><code>tn.portabilityCharacteristicName</code></td>
<td>This property specifies the telephone number characteristic that is used in portability logic. The default value is <code>tnType</code>. For example: tn.portabilityCharacteristicName=tnType</td>
</tr>
<tr>
<td><code>tn.recallTNSearchResultsLimit</code></td>
<td>This property controls the number of telephone number assignment records selected for the TN Aging and Recall Timer process. The default value is 500. For example: tn.recallTNSearchResultsLimit=500</td>
</tr>
<tr>
<td><code>tn.winbackCharacteristicName</code></td>
<td>This property specifies the telephone number characteristic used in winback (stealback) logic. The default value is <code>winback</code>. For example: tn.winbackCharacteristicName=winback</td>
</tr>
<tr>
<td><code>tn.defaultTransitionalStateExpiryForSnapback</code></td>
<td>This property specifies the aging period (for Transitional status) for a Ported telephone number in a snapback scenario. This value is the number of days it will remain in Transitional status before moving to Unassigned. The default value is 0. For example: tn.defaultTransitionalStateExpiryForSnapback=0</td>
</tr>
</tbody>
</table>

Controlling Telephone Number Bulk Operations

You use the `inventoryBulkProcess.properties` file to control how telephone number bulk operations in UIM.

Table 5–4 lists and describes the properties in the file.
You use the `importEntity.properties` files to specify entity information in column headers in spreadsheets that enable you to import entities into UIM to process telephone number bulk operations.

**Example 5–3** shows the `UIM_Home/config/importEntity.properties` file, which defines column headers for the different spreadsheets that you use to import entities into UIM to process telephone number bulk operations.

**Example 5–3  importEntity.properties File**

```properties
#SHEET NAMES
importentity.tn.sheetName=TelephoneNumber
importentity.tnsa.sheetName=TNServiceAssignment
importentity.sim.sheetName=SIM
importentity.imsi.sheetName=IMSI
importentity.simMapping.sheetName=SimMapping

#TelephoneNumber SHEET COLUMN HEADERS
importentity.tn.action=action
importentity.tn.id=telephoneNumber
importentity.tn.specification=specification
importentity.tn.description=description
importentity.tn.characteristic=characteristic

#TNServiceAssignment SHEET COLUMN HEADERS
importentity.tnsa.action=action
importentity.tnsa.tnId=telephoneNumber
importentity.tnsa.serviceSpecification=serviceSpecification
importentity.tnsa.serviceName=serviceName
importentity.tnsa.serviceConfigurationSpecification=serviceConfigurationSpecification
importentity.tnsa.serviceDescription=serviceDescription
importentity.tnsa.serviceCharacteristic=serviceCharacteristic

#SIM SHEET COLUMN HEADERS
importentity.sim.action=action
importentity.sim.name=name
importentity.sim.specification=specification
```

## Defining Column Headers in Spreadsheets for Importing Entities

You use the `importEntity.properties` files to specify entity information in column headers in spreadsheets that enable you to import entities into UIM to process telephone number bulk operations.

**Example 5–3** shows the `UIM_Home/config/importEntity.properties` file, which defines column headers for the different spreadsheets that you use to import entities into UIM to process telephone number bulk operations.
importentity.sim.description=description
importentity.sim.characteristic=characteristic
importentity.sim.deviceIdentifier=deviceIdentifier
importentity.sim.networkLocation=networkLocation

#IMSI SHEET COLUMN HEADERS
importentity.imsi.action=action
importentity.imsi.name=name
importentity.imsi.specification=specification
importentity.imsi.description=description
importentity.imsi.characteristic=characteristic
importentity.imsi.simName=SIMName
importentity.imsi.simId=SIMId

#SimMapping SHEET COLUMN HEADERS
importentity.simMapping.action=action
importentity.simMapping.msisdn=MSISDN
importentity.simMapping.simName=SIMName
importentity.simMapping.imsiName=IMSIName

#Specification for creating custom involvements between SIM and MSISDN
importentity.simMapping.custInvSpecName=PreconfigureSpec

#FileUpload content types
importentity.fileUploadWhiteListMimeTypes=application/vnd.openxmlformats-officedocument.spreadsheetml.sheet

Table 5–5 describes the columns defined for the TelephoneNumber spreadsheet in the importEntity.properties file.

<table>
<thead>
<tr>
<th>Column Header</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>action</td>
<td>This column must have one of the following values:</td>
</tr>
<tr>
<td></td>
<td>■ Port In: Creates multiple ported-in telephone numbers.</td>
</tr>
<tr>
<td></td>
<td>■ Port Out: Transitions multiple port-out telephone numbers.</td>
</tr>
<tr>
<td></td>
<td>■ Snapback: Transitions multiple snapback telephone numbers.</td>
</tr>
<tr>
<td></td>
<td>■ Winback: Transitions multiple snapback telephone numbers.</td>
</tr>
<tr>
<td>telephoneNumber</td>
<td>The telephone numbers that you want to create or transition.</td>
</tr>
<tr>
<td>specification</td>
<td>The Telephone Number specification.</td>
</tr>
<tr>
<td>description</td>
<td>When creating entities in bulk, all telephone numbers are created with the same name. Specifying a description is optional.</td>
</tr>
<tr>
<td>characteristic</td>
<td>Characteristic specifies the characteristic name/value pair per cell for the telephone number entities you are creating. You can specify any number of characteristics.</td>
</tr>
</tbody>
</table>

Table 5–6 describes the columns defined for the TNServiceAssignment spreadsheet in the importEntity.properties file.
Table 5–6  **TNServiceAssignment Spreadsheet Column Headers**

<table>
<thead>
<tr>
<th>Column Header</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>action</td>
<td>This column must have one of the following values:</td>
</tr>
<tr>
<td></td>
<td>￭ <strong>Port In</strong>: Creates services and service configurations and assigns the ported-in telephone numbers as configuration items to the service configurations of the services.</td>
</tr>
<tr>
<td></td>
<td>￭ <strong>Winback</strong>: Creates services and service configurations and assigns the winback telephone numbers as configuration items to the service configurations of the services.</td>
</tr>
<tr>
<td>telephoneNumber</td>
<td>The telephone numbers that you want to create/transition and assign.</td>
</tr>
<tr>
<td>serviceSpecification</td>
<td>The Service specification used to create the services.</td>
</tr>
<tr>
<td>serviceName</td>
<td>The name of the service that you want to create.</td>
</tr>
<tr>
<td>serviceConfigurationSpecification</td>
<td>The Service Configuration specification used to create the service configurations.</td>
</tr>
<tr>
<td>serviceDescription</td>
<td>The description for the service.</td>
</tr>
<tr>
<td>serviceCharacteristic</td>
<td>Characteristic specifies the characteristic name/value pair per cell for the services you are creating.</td>
</tr>
</tbody>
</table>

Table 5–7 describes the columns defined for the SIM spreadsheet in the `importEntity.properties` file.

**Table 5–7  SIM Spreadsheet Column Headers**

<table>
<thead>
<tr>
<th>Column Header</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>action</td>
<td>This column must have the value <strong>CREATE</strong>.</td>
</tr>
<tr>
<td>name</td>
<td>The name of the SIM (represented by logical device) that you are creating.</td>
</tr>
<tr>
<td>specification</td>
<td>The specification used to create the SIM (logical device).</td>
</tr>
<tr>
<td>description</td>
<td>The description for the SIM.</td>
</tr>
<tr>
<td>characteristic</td>
<td>Characteristic specifies the characteristic name/value pair per cell for the SIM that you are creating. You can add any number of column headers named characteristic for specifying multiple characteristics.</td>
</tr>
<tr>
<td>deviceIdentifier</td>
<td>The device identifier of the SIM (logical device) associated with the network location.</td>
</tr>
<tr>
<td>networkLocation</td>
<td>The network location with which the SIM is associated.</td>
</tr>
</tbody>
</table>

Table 5–8 describes the columns defined for the IMSI spreadsheet in the `importEntity.properties` file.

**Table 5–8  IMSI Spreadsheet Column Headers**

<table>
<thead>
<tr>
<th>Column Header</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>action</td>
<td>This column must have the value <strong>CREATE</strong>.</td>
</tr>
<tr>
<td>name</td>
<td>The name of the IMSI (represented by logical device account) that you are creating.</td>
</tr>
<tr>
<td>specification</td>
<td>The specification used to create the IMSI (logical device account).</td>
</tr>
<tr>
<td>description</td>
<td>The description for the IMSI.</td>
</tr>
</tbody>
</table>
Table 5–9 describes the columns defined for the SimMapping spreadsheet in the importEntity.properties file.

<table>
<thead>
<tr>
<th>Column Header</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>characteristic</td>
<td>Characteristic specifies the characteristic name/value pair per cell for the IMSI that you are creating. You can specify any number of characteristics. You can add any number of column headers named characteristic for specifying multiple characteristics.</td>
</tr>
<tr>
<td>SIMName</td>
<td>The name of the SIM (logical device) that manages the IMSI that you are creating.</td>
</tr>
<tr>
<td>SIMId</td>
<td>The ID of the SIM that manages the IMSI that you are creating.</td>
</tr>
</tbody>
</table>

Table 5–9 SimMapping Spreadsheet Column Headers

<table>
<thead>
<tr>
<th>Column Header</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>action</td>
<td>This column must have the value ASSOCIATE.</td>
</tr>
<tr>
<td>MSISDN</td>
<td>Specify the MSIDN (represented by telephone number) that you want to associate with the SIM.</td>
</tr>
<tr>
<td>SIMName</td>
<td>Specify the name of the SIM (represented by logical device) that you want to associate with MSISDN and IMSI.</td>
</tr>
<tr>
<td>IMSIName</td>
<td>Specify the name of the IMSI (represented by logical device account) that you want to associate with the SIM.</td>
</tr>
</tbody>
</table>

Controlling Reference Properties

You use the reference.properties file to control referenced properties.

Table 5–10 lists and describes the properties in the file. The properties are listed in order by entity type.

Table 5–10 Properties in the reference.properties file

<table>
<thead>
<tr>
<th>Property</th>
<th>Description</th>
</tr>
</thead>
</table>
| AllowCancelReferencedBusinessInteraction      | This property controls the cancellation of referenced business interactions.  
The default value is true. For example:  
AllowCancelReferencedBusinessInteraction=true|
| AllowDeactivateReferencedCustomNetworkAddress | This property controls the deactivation of referenced custom network addresses.  
The default value is false. For example:  
AllowDeactivateReferencedCustomNetworkAddress=false |
| AllowDeactivateReferencedCustomObject         | This property controls the deactivation of referenced custom object property:  
The default value is false. For example:  
AllowDeactivateReferencedCustomObject=false |
| AllowDeactivateReferencedEquipment            | This property controls the deactivation of referenced equipment.  
The default value is false. For example:  
AllowDeactivateReferencedEquipment=false |
| AllowedDeactivateReferencedLogicalDevice      | This property controls the deactivation of referenced logical devices.  
The default value is false. For example:  
AllowedDeactivateReferencedLogicalDevice=false |
Controlling the Work Manager

You use the `ruleProcess.properties` file to control Work Manager. Work Manager is used to compile rulesets during cartridge compilation.

Table 5–11 lists and describes the properties in the file.

<table>
<thead>
<tr>
<th>Property</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>WORK_MANAGER_JNDI</td>
<td>This property applies only to WebLogic. For example:</td>
</tr>
<tr>
<td></td>
<td><code>WORK_MANAGER_JNDI=java:comp/env/wm/ruleWorkManager</code></td>
</tr>
<tr>
<td>timeOutSec</td>
<td>This property sets the timeout in WorkManager during cartridge install.</td>
</tr>
<tr>
<td></td>
<td>The default value is 10000 milliseconds. For example:</td>
</tr>
<tr>
<td></td>
<td><code>timeOutSec=10000</code></td>
</tr>
</tbody>
</table>

Setting System Properties

You use the `system-config.properties` file to control system configuration properties.

Table 5–12 lists the system configuration properties in alphabetical order. Some related properties are grouped together out of order.

---

**Table 5–11 (Cont.) Properties in the `ruleProcess.properties` File**

<table>
<thead>
<tr>
<th>Property</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AllowDeactivateReferencedLogicalDeviceAccount</td>
<td>This property controls the deactivation of referenced logical device accounts.</td>
</tr>
<tr>
<td></td>
<td>The default value is false. For example:</td>
</tr>
<tr>
<td></td>
<td><code>AllowDeactivateReferencedLogicalDeviceAccount=false</code></td>
</tr>
<tr>
<td>AllowDeactivateReferencedNetwork</td>
<td>This property controls the deactivation of referenced networks.</td>
</tr>
<tr>
<td></td>
<td>The default value is false. For example:</td>
</tr>
<tr>
<td></td>
<td><code>AllowDeactivateReferencedNetwork=false</code></td>
</tr>
<tr>
<td>AllowDeactivateReferencedPhysicalDevice</td>
<td>This property controls the deactivation of referenced physical devices.</td>
</tr>
<tr>
<td></td>
<td>The default value is false. For example:</td>
</tr>
<tr>
<td></td>
<td><code>AllowDeactivateReferencedPhysicalDevice=false</code></td>
</tr>
<tr>
<td>AllowDeactivateReferencedPipe</td>
<td>This property controls the deactivation of referenced pipes.</td>
</tr>
<tr>
<td></td>
<td>The default value is false. For example:</td>
</tr>
<tr>
<td></td>
<td><code>AllowDeactivateReferencedPipe=false</code></td>
</tr>
<tr>
<td>AllowSuspendReferencedService</td>
<td>This property controls the suspension of referenced services.</td>
</tr>
<tr>
<td></td>
<td>The default value is true. For example:</td>
</tr>
<tr>
<td></td>
<td><code>AllowSuspendReferencedService=true</code></td>
</tr>
<tr>
<td>AllowDisconnectReferencedService</td>
<td>This property controls the disconnect of referenced services.</td>
</tr>
<tr>
<td></td>
<td>The default value is true. For example:</td>
</tr>
<tr>
<td></td>
<td><code>AllowDisconnectReferencedService=true</code></td>
</tr>
<tr>
<td>AllowCancelReferencedService</td>
<td>This property controls the cancellation of referenced services.</td>
</tr>
<tr>
<td></td>
<td>The default value is true. For example:</td>
</tr>
<tr>
<td></td>
<td><code>AllowCancelReferencedService=true</code></td>
</tr>
<tr>
<td>AllowDeactivateReferencedTelephoneNumber</td>
<td>This property controls the deactivation of referenced telephone numbers.</td>
</tr>
<tr>
<td></td>
<td>The default value is false. For example:</td>
</tr>
<tr>
<td></td>
<td><code>AllowDeactivateReferencedTelephoneNumber=false</code></td>
</tr>
</tbody>
</table>

---

**Table 5–10 (Cont.) Properties in the `reference.properties` File**

<table>
<thead>
<tr>
<th>Property</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AllowDeactivateReferencedLogialDeviceAccount</td>
<td>This property controls the deactivation of referenced logical device accounts.</td>
</tr>
<tr>
<td></td>
<td>The default value is false. For example:</td>
</tr>
<tr>
<td></td>
<td><code>AllowDeactivateReferencedLogicalDeviceAccount=false</code></td>
</tr>
<tr>
<td>AllowDeactivateReferencedNetwork</td>
<td>This property controls the deactivation of referenced networks.</td>
</tr>
<tr>
<td></td>
<td>The default value is false. For example:</td>
</tr>
<tr>
<td></td>
<td><code>AllowDeactivateReferencedNetwork=false</code></td>
</tr>
<tr>
<td>AllowDeactivateReferencedPhysicalDevice</td>
<td>This property controls the deactivation of referenced physical devices.</td>
</tr>
<tr>
<td></td>
<td>The default value is false. For example:</td>
</tr>
<tr>
<td></td>
<td><code> AllowDeactivateReferencedPhysicalDevice=false</code></td>
</tr>
<tr>
<td>AllowDeactivateReferencedPipe</td>
<td>This property controls the deactivation of referenced pipes.</td>
</tr>
<tr>
<td></td>
<td>The default value is false. For example:</td>
</tr>
<tr>
<td></td>
<td><code>AllowDeactivateReferencedPipe=false</code></td>
</tr>
<tr>
<td>AllowSuspendReferencedService</td>
<td>This property controls the suspension of referenced services.</td>
</tr>
<tr>
<td></td>
<td>The default value is true. For example:</td>
</tr>
<tr>
<td></td>
<td><code>AllowSuspendReferencedService=true</code></td>
</tr>
<tr>
<td>AllowDisconnectReferencedService</td>
<td>This property controls the disconnect of referenced services.</td>
</tr>
<tr>
<td></td>
<td>The default value is true. For example:</td>
</tr>
<tr>
<td></td>
<td><code>AllowDisconnectReferencedService=true</code></td>
</tr>
<tr>
<td>AllowCancelReferencedService</td>
<td>This property controls the cancellation of referenced services.</td>
</tr>
<tr>
<td></td>
<td>The default value is true. For example:</td>
</tr>
<tr>
<td></td>
<td><code>AllowCancelReferencedService=true</code></td>
</tr>
<tr>
<td>AllowDeactivateReferencedTelephoneNumber</td>
<td>This property controls the deactivation of referenced telephone numbers.</td>
</tr>
<tr>
<td></td>
<td>The default value is false. For example:</td>
</tr>
<tr>
<td></td>
<td><code>AllowDeactivateReferencedTelephoneNumber=false</code></td>
</tr>
</tbody>
</table>
### Table 5–12  Properties in the `system-config.properties` File

<table>
<thead>
<tr>
<th>Property</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>billofmaterial.currency</code></td>
<td>This property determines the currency that is used in bills of material (BOMs) generated from engineering work orders, business interactions, and projects. The default values is <strong>USD</strong> (US dollar). Change the value to another ISO-standard currency abbreviation to specify that currency. For example, to use the Euro in BOMs: <code>billofmaterial.currency=EUR</code> See <strong>UIM Concepts</strong> for more information about BOMs.</td>
</tr>
<tr>
<td><code>businessInteraction.allowCancelWithCompletedChild</code></td>
<td>This property controls whether a business interaction can be cancelled if it has completed children. For example: <code>businessInteraction.allowCancelWithCompletedChild=false</code></td>
</tr>
<tr>
<td><code>businessInteraction.allowCancelWithCompletedConfiguration</code></td>
<td>This property controls whether a business interaction can be cancelled if it is associated to a completed configuration version. For example: <code>businessInteraction.allowCancelWithCompletedConfiguration=false</code></td>
</tr>
<tr>
<td><code>cmws.asynch.mode</code></td>
<td>This property sets the cartridge deployment mode to either synchronous or asynchronous. The default value is <strong>true</strong> (asynchronous). For example: <code>cmws.asynch.mode=true</code></td>
</tr>
<tr>
<td><code>createIPAddress.flushSize</code></td>
<td>This property controls the number of IP Address entities to create before flushing transactions. Do not set the value of the property to a value greater than <strong>500</strong>. For example: <code>createIPAddress.flushSize=500</code></td>
</tr>
<tr>
<td><code>createIPSubnets.flushSize</code></td>
<td>This property controls the number of IP Subnet entities to create before flushing transactions. Do not set the value of the property to a value greater than <strong>500</strong>. For example: <code>createIPSubnets.flushSize=500</code></td>
</tr>
<tr>
<td><code>createIPAddress.maxLimit</code></td>
<td>This property controls the number of IP Address entities to create in one transaction. For example: <code>createIPAddress.maxLimit=20000</code></td>
</tr>
<tr>
<td><code>createIPSubnets.maxLimit</code></td>
<td>This property controls the number of IP Subnet entities to create in one transaction. For example: <code>createIPSubnets.maxLimit=20000</code></td>
</tr>
<tr>
<td><code>createTN.flushSize</code></td>
<td>This property controls the number of telephone number entities to create before calling the flush transaction. Do not set the <code>createTN.flushSize</code> property to a value greater than <strong>500</strong>. The default value is <strong>500</strong>. For example: <code>createTN.flushSize=500</code></td>
</tr>
<tr>
<td><code>db.sequence.cacheSize</code></td>
<td>This property sets the cache size for Oracle Sequence used for Auto ID generation. The default value is <strong>75000</strong>. For example: <code>db.sequence.cacheSize=75000</code></td>
</tr>
<tr>
<td><code>default.connectivity.color</code></td>
<td>These properties control the colors used in the connectivity schematic view. Colors are expressed in standard RGB values. For example: <code>default.connectivity.color=0,0,153</code></td>
</tr>
<tr>
<td><code>default.gap.color</code></td>
<td></td>
</tr>
<tr>
<td><code>default.crossconnect.color</code></td>
<td></td>
</tr>
<tr>
<td><code>default.jumper.color</code></td>
<td></td>
</tr>
<tr>
<td><code>default.pipe.color</code></td>
<td></td>
</tr>
<tr>
<td><code>selected.connectivity.patchcolor</code></td>
<td></td>
</tr>
</tbody>
</table>
### Table 5-12 (Cont.) Properties in the system-config.properties File

<table>
<thead>
<tr>
<th>Property</th>
<th>Description</th>
</tr>
</thead>
</table>
| eLocation.defaultCountry    | This property is used to select the default country in the Country drop-down list while creating a property location. You set the value to one of the two-character ISO country abbreviations listed in the country.properties file. For example, the following entry defines the default country as the US:  
  eLocation.defaultCountry=US  
  For detailed information about eLocation configuration, see UIM Developer’s Guide. |
| eLocation.URL               | This property defines the eLocation URL. The default value is:  
  eLocation.URL=http://eLocation.oracle.com/eLocation/lbs  |
| eLocation.matchMode         | This property determines the eLocation match mode. The default value is:  
  eLocation.matchMode=Default  
  See the eLocation documentation for more information about match mode. |
| eLocation.http.proxyExists  | UIM allows for a proxy server to be used to connect to the Oracle eLocation Service used for displaying base maps in UIM.  
  If you connect to the eLocation through a proxy server, set eLocation.http.proxyExists to true, then set the other values based on the proxy server you are using. For example:  
  eLocation.http.proxyExists=true  
  eLocation.http.proxyHost=www-proxy.xyz.sample.com  
  eLocation.http.proxyPort=80  
  eLocation.http.proxyUser=user  
  eLocation.http.proxyPassword=password  |
| inv.extendedCharSearchEnabled | These properties control the extended characteristic search feature. This feature improves performance for searches for entities that include characteristics.  
  See “Improving Performance of Searches That Include Characteristics” for more information. |
| inv.extendedCharSearchEnabledForAll |  |
| inv.extendedCharSearchEnabledEntities |  |
| ip.defaultTransitionalStateExppiry | This property controls the number of days IP resources should be in the transition state.  
  The default value is 30. For example:  
  ip.defaultTransitionalStateExpiry=30  |
| lockPolicy.defaultRowLockExpirationDuration | This property sets the default row lock expiration duration for the entity. The value is defined in milli seconds. This value should be defined as that it should be less than or equal to transaction time out.  
  The default value is 30000. For example:  
  lockPolicy.defaultRowLockExpirationDuration=30000  |
| lockPolicy.MaxSupportedRowLocks | This property sets the default maximum number of entities to be row locked. This should be in sync with the maximum number or range.  
  The default value is 100. For example:  
  lockPolicy.MaxSupportedRowLocks=100  |
| logfactory.logexactclass    | These properties control whether the exact location and class name are included in the log when an exception occurs. For example:  
  logfactory.logexactclass=false  
  feedmessage.logexactlocation=false  |
| feedmessage.logexactlocation |  |
| securityViolationLoggingEnabled | This property enables and disables security access violation logging. For example:  
  securityViolationLoggingEnabled=true  |
| system.*                    | These properties are used for setting system-specific settings:  
  system.minDate=0  
  system.maxDate=2147483647000  
  system.lastModifiedDateThreshold=15  |
### Table 5–12 (Cont.) Properties in the system-config.properties File

<table>
<thead>
<tr>
<th>Property</th>
<th>Description</th>
</tr>
</thead>
</table>
| system.auth.debug | This property is used to enable and disable system authentication when debugging. For example:  
  `system.auth.debug=false` |
| ui.custominvolvement.setDefaultSpec.name | This property sets a default specification used when creating Custom Involvement entities. The property is commented out by default. To set a default Custom Involvement specification, uncomment the property and add a specification name. For example:  
  `ui.custominvolvement.setDefaultSpec.name = DefCustInv` |
| ui.ldsummary.portlets.disableCount | This property disables the count that appears in the Total Results field in Logical Device Summary page portlets (sections). This property is commented out by default.  
  To disable the count, uncomment the property set to `true`. For example:  
  `ui.ldsummary.portlets.disableCount=true` |
| ui.logicaldevicesummary.logicaldeviceaccountportlet.deactivate  
ui.logicaldevicesummary.rolesportlet.deactivate  
ui.logicaldevicesummary.mediaportlet.deactivate  
ui.logicaldevicesummary.biportlet.deactivate  
ui.logicaldevicesummary.networknodesportlet.deactivate  
ui.logicaldevicesummary.serviceportlet.deactivate | These properties control whether particular portlets (sections) are displayed in Logical Device Summary pages. These properties are commented out by default. To deactivate a portlet, uncomment the relevant property. For example:  
  `ui.logicaldevicesummary.serviceportlet.deactivate=true` |
| ui.search.pageSize | This property sets the number of rows shown in UIM search results pages. Search results are displayed one page at a time. When you scroll beyond the results in a page the next page is automatically retrieved from the database.  
  The default value is 200. For example:  
  `ui.search.pageSize=200` |
| ui.search.queryBehavior | This property determines the query behavior. There are various choices presented to the system about how much data is queried from the database and whether the count is retrieved for the UI.  
  Based on performance evaluations, one of the following values can be picked:  
  - `FULL_COUNT_FULL_QUERY(1)`  
  - `NO_COUNT_FULL_QUERY(2)`  
  - `LIMIT_COUNT_FULL_QUERY(3)`  
  - `LIMIT_COUNT_LIMIT_QUERY(4)`  
  - `NO_COUNT_LIMIT_QUERY (5)`  
  - `FULL_COUNT_LIMIT_QUERY (6)` (This is the default value)  
  See "Changing the Query Behavior and Row Limit Parameters" for more information about these query behaviors, including the pros and cons to consider when using them.  
  The default value is 6. For example:  
  `ui.search.queryBehavior=6` |
| ui.search.limit | This property sets a limit to UIM query results. The default value is 10000, which indicates that a maximum of 10000 rows will be retrieved and displayed in the UIM query results. You can also set this property to `-1`, which indicates that no limit is applied to the query results.  
  See "Changing the Query Behavior and Row Limit Parameters" for more information on how this query limit is used.  
  For example:  
  `ui.search.limit=10000` |
**Table 5–12 (Cont.) Properties in the system-config.properties File**

<table>
<thead>
<tr>
<th>Property</th>
<th>Description</th>
</tr>
</thead>
</table>
| uim.attachment.ws.log.information.enabled | This property controls logging for web service request attachments. The default value is false, which disables information logging for the attachment if the resource to be preconfigured is blocked or reserved. For example:  
  uim.attachment.ws.log.information.enabled=false |
| uim.cache.config.customization.enabled | Automatically set to true if Eclipse Link cache configuration customization has been enabled.  
  **Caution:** Do not change this setting manually. |
| uim.characteristic.readonly.enabled | This property is used for read-only characteristics. The default value is true, which validates for read only characteristics. Set the value to false to bypass the CharacteristicManagerImpl.validateReadOnly method.  
  The default value is true. For example:  
  uim.characteristic.readonly.enabled=true |
| uim.characteristic.entitylink.rowlimit | This property sets a limit for the number of rows returned by an entity link query. The default value is 500.  
  uim.characteristic.entitylink.rowlimit=500 |
| uim.characteristic.entitylink.executeQueryWithoutValues | This property controls whether a child drop-down is populated if the parent is not present in entity-link search criteria. For example, the City characteristic is characteristics on the State characteristic.  
  If this property is set to false and you add the City characteristic to the search criteria, the drop-down is empty because State is not included in the criteria. If the property is set to true, the drop-down includes all values for City, unconstrained by State values.  
  uim.characteristic.entitylink.executeQueryWithoutValues=false |
| uim.characteristic.entitylink.maxSuggestedItems | This property sets the maximum number of suggested results when entity-link drop-down lists are also auto-suggest fields. For example:  
  uim.characteristic.entitylink.maxSuggestedItems=25 |
| uim.characteristic.dropdown.entitylink.width | This property sets the width of the field in the UIM user interface for entity-link characteristic fields. For example:  
  uim.characteristic.dropdown.entitylink.width=28 |
| uim.characteristic.addCharacteristicsToResultsTable | This property determines whether entity-link characteristics are included as columns in the search results. For example:  
  uim.characteristic.addCharacteristicsToResultsTable=true |
| uim.characteristic.entitylink.dropDown.includeID | This property determines whether ID values are displayed in entity-link drop-down lists. For example:  
  uim.characteristic.entitylink.dropDown.includeID=true |
| uim.connectivityresultstable.pendingBiInfo.enable | This property determines whether connectivities in pending business interactions are displayed in connectivity search results. The default value is true.  
  uim.connectivityresultstable.pendingBiInfo.enable=true |
| uim.default.paging.query.hint | This property defines a default query hint that is used to improve performance of the finder APIs when invoked from Web Services. When a search query is fired from a web service without a SearchPolicy, then the API sets this default query hint.  
  For example:  
  uim.default.paging.query.hint=FIRST_ROWS(25) |
| uim.entity.autoCreateDefaultVersion | This property controls the creation of default configuration versions for Service entities. If this property is enabled, and if there is only a single specification option for the service, a version is created during service creation.  
  The default value is false. For example:  
  uim.entity.autoCreateDefaultVersion=false |
### Table 5–12 (Cont.) Properties in the system-config.properties File

<table>
<thead>
<tr>
<th>Property</th>
<th>Description</th>
</tr>
</thead>
</table>
| `uim.entity.autoCreateDefaultVersion`        | This property controls whether a service configuration version is created automatically when you create a Service entity. This behavior applies only when the Service specification is associated to one and only one service configuration specification. The default value is false.  
For example, to enable the creation of a default service configuration version when you create a service:  
uim.entity.autoCreateDefaultVersion=true  
For more information, see UIM Concepts. |
| `uim.disable.entity.event.listeners`         | This property enables and disables entity-level listeners. The default value is true, which disables the event listeners. To enable event listeners, set this property value to false. For example:  
uim.disable.entity.event.listeners=true |
| `uim.entity.maxCreateRange`                  | This property controls the maximum number of entities that can be created at once for entities that allow bulk creation.  
The default value is 10000. For example:  
uim.entity.maxCreateRange=10000 |
| `uim.entity.flushTriggerBufferSize`         | This property defines the number of entities created in memory for bulk entity creation. The default value is 1000, which is equal to the EclipseLink batch writing size as defined in the poms.properties file. The value determines the number of persistent entities held in memory before being persisted to the database. The value should be less than or equal to the batch writing size. For example:  
uim.entity.flushTriggerBufferSize=1000 |
| `uim.entityNameSearch.operators`            | This property enables you to choose which search operators should be displayed in the search page for the following entities:  
- Service  
- Physical Device  
- Party  
- Logical Device  
- Custom Object  
- Inventory Group  
You can set the following values for this property:  
- EQUALS  
- CONTAINS  
- STARTS_WITH  
- ENDS_WITH  
For example, if you want only the EQUALS search operator to be displayed in the Service Search page, set this property as follows:  
uim.serviceSearch.operators=EQUALS  
Similarly, if you want both the EQUALS and CONTAINS operators displayed in the Physical Device Search page, set this property as follows:  
uim.physicalDeviceSearch.operators=EQUALS, CONTAINS |
| `ui.entityNameSummary.portletName.deactivate` | This property enables you to personalize entity Summary pages by specifying the portlet name and the name of the entity Summary page within which you want to show or hide the portlet.  
For example, to hide the Roles portlet in the Party Summary page, set this property as follows:  
u1.partysummary.rolesportlet.deactivate=true  
This property setting is not user-specific, but applies to all the UIM users. |
### Updating the System Configuration Files

#### Table 5–12 (Cont.) Properties in the system-config.properties File

<table>
<thead>
<tr>
<th>Property</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>uim.flowidentifier.id.delimiter</td>
<td>This property defines the delimiter to be used while concatenating the domain name to the identifier value while building the ID of a flow identifier. The default value is #. For example: uim.flowidentifier.id.delimiter=</td>
</tr>
<tr>
<td>uim.host.*</td>
<td>These properties are added to provide server host and port information to support UIM notification functionality. For example, to set the host name and port for the URL in notifications: uim.host.name=uimserver uim.host.port=7001 See UIM Developer’s Guide for more information about properties for UIM notifications.</td>
</tr>
<tr>
<td>uim.mpcenabled</td>
<td>This property determines whether multiple pending configuration functionality is enabled or not. The default value is true. For example, to disable this functionality, set this property to false: uim.mpcenabled=false See UIM Concepts Guide for more information about multiple pending configuration functionality.</td>
</tr>
<tr>
<td>uim.query.cache.hint.entitylist</td>
<td>This property adds the RESULTS_CACHE hint to queries involving entities. For example: uim.query.cache.hint.entitylist=CharacteristicSpecUsageDAO</td>
</tr>
<tr>
<td>uim.query.MaxSearchResults</td>
<td>This property sets a limit on the number of entities retrieved for a search. The default value is -1, which sets no limit; search result pages display all retrieved entities (unless a range is explicitly set on the finder). For example: uim.query.MaxSearchResults=-1</td>
</tr>
<tr>
<td>uim.security.filter.enabled</td>
<td>This property sets security access to allow for the configuring of partitions. For example: uim.security.filter.enabled=false</td>
</tr>
<tr>
<td>uim.telephonenumber.validation.leadingzeros.included</td>
<td>This property controls validation settings for creating telephone numbers with leading zeros. Setting the property to false (the default setting) means that leading zeroes are stripped before checking for duplicate numbers. Setting the property to true allows leading zeroes. For example: uim.telephonenumber.validation.leadingzeros.included=false</td>
</tr>
<tr>
<td>uim.telephonenumber.search.invGroup.enable</td>
<td>This property determines whether inventory groups are included in telephone number search results. The default value is true. For example: uim.telephonenumber.search.invGroup.enable=true</td>
</tr>
<tr>
<td>uim.default.autosuggest.rowlimit</td>
<td>These properties control the behavior of auto-suggest in UIM. You can disable auto-suggest and set a limit for the number of rows it displays. For example: uim.default.autosuggest.rowlimit=20 uim.default.autosuggest.disable=false</td>
</tr>
<tr>
<td>uim.networkentitycode.maxlength</td>
<td>The following properties are used for setting Property Location settings: uim.networkentitycode.maxlength=10 uim.propertylocation.name.maxlength=255 uim.networklocation.code.minlength=3 uim.networklocation.code.maxlength=20 uim.propertylocation.name.delimiter.enabled=true uim.propertylocation.name.delimiter= poms.cache.coordination.enabled=false</td>
</tr>
</tbody>
</table>
You use the `timers.properties` file to control system timer events.

Each timer can be defined by five properties:

- **firstTime**: The first time to call the listener. If it is specified as relative time (without ":"), such as 600 (in seconds), then the listener is called 10 minutes after the system is started.
  
  If it is specified as absolute time, such as 12:00:00(noon), or 23:00:00(11PM), then the listener is called at the specified time after the system is started.

  If it is specified as "onTheHour", then the listener is executed on the next hour (for example 08:00:00) after the system is started (for example 07:28:34).

  The default is 60 seconds in relative time.

- **period**: After the listener is called the first time, the number of seconds between repeating expiration intervals. The listener is called when the timer expires.

  The default is 600 seconds.

- **fixedRate**: This is not used.

- **listener**: The listener’s class name. The listener’s timerExpired (Timer timer) method is executed when the timer expired.

  There is no default. This property must be specified.

---

**Table 5–12 (Cont.) Properties in the system-config.properties File**

<table>
<thead>
<tr>
<th>Property</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>uim.ws.search.query.range</code></td>
<td>This property sets the default maximum number of entities returned for the findEntity web service operation. This maximum can also be specified for a specific entity. The default value is 1000, if this property isn't specified, and the minimum value is 10. For example: <code>uim.ws.search.query.range=100</code></td>
</tr>
<tr>
<td><code>uim.ws.entityName.search.query.range</code></td>
<td>This property sets the default maximum number of records returned for the findEntity web service operation for a specific entity. This maximum can also be specified for all entities. The default value is 1000 and the minimum value is 10. For example: <code>uim.ws.entityName.search.query.range=100</code></td>
</tr>
<tr>
<td><code>connectivity.capacityVariant</code></td>
<td>Defines the percentage by which pipe capacity can vary from a rate code and still be validated successfully. The default value is 4. For example: <code>connectivity.capacityVariant=4</code></td>
</tr>
<tr>
<td><code>groom.items.per.transaction</code></td>
<td>This property defines the number of riders having COMPLETED pipe configuration versions that are to be processed per transaction. The default value is 5. For example: <code>groom.items.per.transaction=5</code></td>
</tr>
<tr>
<td><code>system.exception.writableStackTrace</code></td>
<td>This property is used to reduce CPU usage. For example: <code>system.exception.writableStackTrace=false</code></td>
</tr>
<tr>
<td><code>ws.includeEntityFromAssignment</code></td>
<td>This property determines whether to include the entity in web service requests from an assignment or reference. The default value is false. <code>ws.includeEntityFromAssignment=false</code></td>
</tr>
</tbody>
</table>
Updating the System Configuration Files

- **cluster**: The flag indicates whether this timer is cluster aware. If it is set to true, then there is only one instance of this timer running in the cluster. If it is set to false, then each server has this timer instance running locally. The default value is true.

  You normally use the default value for all timers except **clusterTimerMonitor**, which should be run individually on every server in a cluster.

The properties for the timers.properties file are:

<table>
<thead>
<tr>
<th>Property</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>cleanReservation</td>
<td>This property controls the timer for cleaning up expired reservations. There should be only one instance of this timer in the cluster. For example:    cleanReservation.firstTime=600    cleanReservation.period=600    cleanReservation.listener=oracle.communications.inventory.api.consumer.impl.ReservationManagerImpl</td>
</tr>
<tr>
<td>clusterTimerMonitor</td>
<td>This property controls the timer that monitors whether the current server that manages the cluster-aware timers is still alive. This timer should be running on every server in the cluster. For example:     clusterTimerMonitor.firstTime=10     clusterTimerMonitor.period=10     clusterTimerMonitor.listener=oracle.communications.inventory.api.framework.timer.TimerController     clusterTimerMonitor.cluster=false</td>
</tr>
<tr>
<td>customTimer</td>
<td>This property controls a timer for custom extensions. There should be only one instance of this timer in the cluster. For example:            customTimer.firstTime=300            customTimer.period=600            customTimer.listener=oracle.communications.inventory.api.common.TimeoutEventListener</td>
</tr>
<tr>
<td>ipAddressAging</td>
<td>This property controls a timer for recalling disconnected IP resources. For example:                                                                 ipAddressAging.firstTime=600 ipAddressAging.period=600 ipAddressAging.listener=oracle.communications.inventory.api.ip.IPResourceTimerListener</td>
</tr>
<tr>
<td>rowExpiration</td>
<td>This controls the timer for cleaning up expired entity row locks. For example:                                                                 rowExpiration.firstTime=120 rowExpiration.period=600 rowExpiration.listener=oracle.communications.inventory.api.common.impl.RowExpirationTimerListener</td>
</tr>
<tr>
<td>telephoneNumberAging</td>
<td>This property controls a timer for recalling disconnected telephone numbers. For example:                                                   telephoneNumberAging.firstTime=600 telephoneNumberAging.period=600 telephoneNumberAging.listener=oracle.communications.inventory.api.number.TelephoneNumberHelper</td>
</tr>
</tbody>
</table>

For more information on telephone number aging and telephone number life cycles, see **UIM Concepts**.

---

### Controlling Ported-In Telephone Number Consumption

You use the telephoneNumberBulk.properties file to control the consumption of the ported-in telephone numbers.

**Table 5–14** lists and describes the properties in the telephoneNumberBulk.properties file.
Table 5–14  Properties in the telephoneNumberBulk.properties file

<table>
<thead>
<tr>
<th>Property</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>tn.import.fileUploadWhiteListMimeTypes</td>
<td>This property validates the MIME type of the spreadsheet file that you are uploading. For example: tn.import.fileUploadWhiteListMimeTypes=application/vnd.openxmlformats-officedocument.spreadsheetml.sheet</td>
</tr>
<tr>
<td>tn.import.portin.reason</td>
<td>This property specifies the reason for porting in the telephone numbers. For example: tn.import.portin.reason=Reservation for portin number</td>
</tr>
<tr>
<td>tn.import.portin.reservationType</td>
<td>This property specifies the duration of the validity for ported-in telephone number. For example: tn.import.portin.reservationType=SHORTTERM</td>
</tr>
<tr>
<td>tn.import.portin.reservedFor</td>
<td>This property specifies the person who is making the reservation for the ported-in telephone number. For example: tn.import.portin.reservedFor=portedIn user</td>
</tr>
<tr>
<td>tn.import.portin.reservedForType</td>
<td>This property specifies the type of entity or process for which the ported-in telephone number reservation is made. For example: tn.import.portin.reservedForType=CUSTOMER</td>
</tr>
<tr>
<td>tn.import.portin.quarantinePeriod</td>
<td>Ported-in telephone numbers are subject to a quarantine period (in days). After the telephone numbers are ported in, the telephone numbers are reserved and quarantined, which means that those ported-in telephone numbers cannot be assigned to a service until the quarantine period is completed. This property controls the quarantine period for ported-in telephone numbers. For example: tn.import.portin.quarantinePeriod=10</td>
</tr>
<tr>
<td>tn.import.portin.serviceConfigItemNameForTN</td>
<td>This property specifies the name of the service configuration item configured for the telephone number entity. For example: tn.import.portin.serviceConfigItemNameForTN=TelephoneNumber</td>
</tr>
</tbody>
</table>

Controlling Topology

You use the topologyProcess.properties file to control how topology is managed in UIM.

Table 5–15 lists and describes the properties in the file.

Table 5–15  Properties in the topologyProcess.properties file

<table>
<thead>
<tr>
<th>Property</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>disableTopology</td>
<td>This property turns topology refresh on or off. The default value is false. For example: disableTopology=false</td>
</tr>
<tr>
<td>processSynchronous</td>
<td>This property refreshes the topology as part of the transaction (true) or asynchronously in a separate transaction (false). The default value is true. For example: processSynchronous=true</td>
</tr>
<tr>
<td>mapperClass</td>
<td>This property defines the class that maps the business model to the topology. For example: mapperClass=oracle.communications.inventory.api.topology.mapper.impl.TopologyMapperImpl</td>
</tr>
</tbody>
</table>
The WebLogic server supports distributed transactions, which are transactions that update multiple resource managers, such as an application server and a database, in a single transaction. This guarantees data integrity by ensuring that transactional updates are either committed or rolled back in all of the participating databases.

This section explains how to set transaction timeouts for the Oracle database and JTA. In general, the JTA timeout should be less than or equal to the Oracle database timeout:

JTA timeout <= database timeout

Oracle recommends setting the transaction timeouts to 1800 seconds.

### Setting the Oracle Database Timeout

The `DISTRIBUTED_LOCK_TIMEOUT` is a parameter of the database. There are two ways to change this parameter. You can use Oracle Enterprise Manager or use sql.

To change the `DISTRIBUTED_LOCK_TIMEOUT` parameter using sql:

1. Open SQL Plus.
2. Connect to the database.
3. Enter:

   `alter system set distributed_lock_timeout=1800 scope=spfile`
The default value for this parameter is 60 seconds, but Oracle recommends setting this parameter to 1800 seconds.

---

**Note:** Oracle recommends setting the database timeout value higher than the XA transaction timeout value. Otherwise, in-doubt table locks can occur on the database side before the WebLogic server JTA or JDBC XA can close the transaction.

---

4. Exit SQL Plus.

### Setting the JTA Timeout

You specify how long a transaction can remain in the Active state until the transaction is rolled back by using the WebLogic server administration console.

To set the JTA timeout value:

1. Log in to the WebLogic server administration console at:
   
   http://ServerName:PortNumber/console

2. Click **Lock & Edit**.

3. In the **Domain Structure** tree, expand **Services**, and then click **JTA**.

   The Settings for **Domain_Name** pane appears.

4. Update the value in the **Timeout Seconds** field and then click **Save**.

5. Click **Activate Changes**.

### Changing the Query Behavior and Row Limit Parameters

The query behavior and row limit parameters are defined in the `system-config.properties` file.

The file is located in the `UIM_Home/config/system-config.properties`.

This example shows the default options:

- `ui.search.queryLimit=10000`
- `ui.search.queryBehavior=6`
- `ui.search.pageSize=200`

The queryLimit parameter adds the rownum clause to the search query unless it is a -1 value, which indicates that no limit is applied. The pageSize parameter is for pagination on the search results page in the UI.

**Table 5–16** describes the options available for the Query Behavior and Row Limit parameters.
To change the Query Behavior and Row Limit parameters, perform the following:

1. Open a command window.
2. Navigate to the `UIM_Home/config/system-config.properties` file.
3. Open the `system-config.properties` file and scroll down to the `ui.search.queryLimit`, `ui.search.queryBehavior` and `ui.search.pageSize` entries.
4. Change the parameters as required, to meet the specific needs of your deployment. Refer to Table 5–17 for a description of the pros and cons of the parameter options.
5. Save and close the `system-config.properties` file.

---

<table>
<thead>
<tr>
<th>Behavior (option #)</th>
<th>Row Limit</th>
<th>Count</th>
<th>Scrolling</th>
</tr>
</thead>
<tbody>
<tr>
<td>FULL_COUNT_FULL_QUERY (1)</td>
<td>N/A</td>
<td>The exact count is displayed.</td>
<td>User can scroll through the entire result set.</td>
</tr>
<tr>
<td>NO_COUNT_FULL_QUERY (2)</td>
<td>N/A</td>
<td>Not displayed.</td>
<td>User can scroll through the entire result set.</td>
</tr>
<tr>
<td>LIMIT_COUNT_FULL_QUERY (3)</td>
<td>Used for count only</td>
<td>If total count &lt; row limit, then total count is displayed, else the following is displayed: Total count: row limit (Limit Reached)</td>
<td>User can scroll the results up to the row limit.</td>
</tr>
<tr>
<td>LIMIT_COUNT_LIMIT_QUERY (4)</td>
<td>Used for count and query</td>
<td>If total count &lt; row limit, then total count is displayed, else the following is displayed: Total count: row limit (Limit Reached)</td>
<td>User can scroll the results up to the row limit.</td>
</tr>
<tr>
<td>NO_COUNT_LIMIT_QUERY (5)</td>
<td>Used for query only</td>
<td>Not displayed.</td>
<td>User can scroll the results up to the row limit.</td>
</tr>
<tr>
<td>FULL_COUNT_LIMIT_QUERY (6)</td>
<td>Used for query only</td>
<td>The exact count is displayed.</td>
<td>User can scroll the results up to the row limit.</td>
</tr>
</tbody>
</table>
### Table 5–17  Parameter Options Pros and Cons

<table>
<thead>
<tr>
<th>Behavior</th>
<th>Advantages</th>
<th>Disadvantages</th>
</tr>
</thead>
<tbody>
<tr>
<td>FULL_COUNT_FULL_QUERY(1)</td>
<td>You know the exact count of rows satisfying the criteria.</td>
<td>If the user does not give meaningful criteria, and the number of rows matching the criteria is large, it may take a while to calculate the count.</td>
</tr>
<tr>
<td></td>
<td>You can scroll through the entire result set.</td>
<td>If the database is not tuned correctly, sorting the entire data set may take a while.</td>
</tr>
<tr>
<td>NO_COUNT_FULL_QUERY(2)</td>
<td>The query for finding the total count is not performed. So it helps the performance of the pages.</td>
<td>Usability of the page is not as good. The scrollbar in the page is not representative of the number of rows satisfying the data and so user never knows how much he needs to scroll.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>If the database is not tuned correctly, sorting the entire data set may take a while.</td>
</tr>
<tr>
<td>LIMIT_COUNT_FULL_QUERY(3)</td>
<td>If the criteria is meaningful, and the number of rows satisfying the criteria is less than the row limit, there is no difference in the results brought back and usability of the pages compared to Behavior (1) or Behavior (4).</td>
<td>User cannot scroll to the rows past the row limit.</td>
</tr>
<tr>
<td></td>
<td>Better performance compared to Behavior (1), as the count query is limited.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Results are more accurate compared to Behavior (4).</td>
<td></td>
</tr>
</tbody>
</table>
Disabling Sorting for Selected Entities

By default sorting entities in UIM is enabled and entities are ordered by their identifier or ID. In calling APIs, you can set a value in the InventorySearchCriteria interface to disable sorting for selected entities. The method to disable sorting is setDisableOrdering() and you set the value to true. The default value is set to false. You can disable ordering on the following selected entities:

- Logical Devices
- Physical Devices
- Services

By disabling the sorting, you can improve the performance of the entity retrievals. See the UIM Javadoc for more detailed information on the InventorySearchCriteria interface.

Using Hints for Improving Performance in Querying

By default including conditions and reservation are included in an entity query. In calling APIs, you can set query hints in the InventorySearchCriteria interface to disable these being included which can improve performance. The method to add hints on the

| Table 5–17  (Cont.) Parameter Options Pros and Cons |
|-----------------------------|---------------------------------|----------------------------------------|
| Behavior                    | Advantages                      | Disadvantages                          |
| LIMIT_COUNT_LIMIT_QUERY(4)  | If the criteria is meaningful, and the number of rows satisfying the criteria is less than the row limit, there is no difference in the results brought back and usability of the pages compared to Behavior (1) or Behavior (3). Better performance compared to Behavior (1), as the count query is limited. Better performance compared to Behavior (3), as the query is limited. | User cannot scroll to the rows past the row limit. If the number of rows matching the criteria is more than the row limit, the row limit is applied before the ordering, so the first rows displayed may not be the first in the sort order of the entire dataset. |
| NO_COUNT_LIMIT_QUERY (5)    | The query for finding the total count is not performed. This helps the performance of the pages. And the number of rows queried is limited. Better performance compared to Behavior (2), as the query is limited. | User cannot scroll to the rows past the row limit. If the number of rows matching the criteria is more than the row limit, the row limit is applied before the ordering, so the first rows displayed may not be the first in the sort order of the entire dataset. |
| FULL_COUNT_LIMIT_QUERY(6)   | You know the exact count of rows satisfying the criteria. Better performance compared to Behavior (1), as the query is limited. | If the user does not give meaningful criteria, and the number of rows matching the criteria is large, it may take a while to calculate the count. User cannot scroll to the rows past the row limit. If the number of rows matching the criteria is more than the row limit, the row limit is applied before the ordering, so the first rows displayed may not be the first in the sort order of the entire dataset. |
search criteria is the addHint() method and you set the hint type and the value to true. You can add hints for the following:

- **EXCLUDE_CONDITIONS_IN_UNASSIGNED_QUERY**
- **EXCLUDE_RESERVATIONS_IN_UNASSIGNED_QUERY**

Example 5–4 shows sample code using the addHint() method on the LogicalDeviceSearchCriteria class. The LogicalDeviceSearchCriteria class extends InventorySearchCriteria interface.

**Example 5–4  Sample Code Using the addHint Method on InventorySearchCriteria**

```java
LogicalDevice ld = null;

Collection<CriteriaItem> criteriaItems = new ArrayList<CriteriaItem>();
LogicalDeviceManager ldManager = PersistenceHelper.makeLogicalDeviceManager();
LogicalDeviceSearchCriteria ldCriteria =
    ldManager.makeLogicalDeviceSearchCriteria();
LogicalDeviceSpecification ldSpec =
    (LogicalDeviceSpecification) findAndValidateSpecification(specName);
if (ldSpec != null)
    ldCriteria.setLogicalDeviceSpecification(ldSpec);
ldCriteria.setAssignmentState(AssignmentState.UNASSIGNED);
ldCriteria.setDistinct(true);
ldCriteria.setDisableOrdering(true);
ldCriteria.addHint(
    InventorySearchCriteriaHints.EXCLUDE_CONDITIONS_IN_UNASSIGNED_QUERY, "true");
ldCriteria.addHint(
    InventorySearchCriteriaHints.EXCLUDE_RESERVATIONS_IN_UNASSIGNED_QUERY, "true");

List<LogicalDevice> ldList =
    ldManager.findLogicalDevice(ldCriteria);

By adding these hints to the query criteria, any existing conditions or reservations are excluded from the query. Using these hints you can improve the performance of the retrievals. See the UIM javadoc for more detailed information on the InventorySearchCriteria interface and the LogicalDeviceSearchCriteria class.
This chapter describes how to backup and restore Oracle Communications Unified Inventory Management (UIM) data.

It is important to understand how to back up critical data to protect the system against different failures. You can save backup artifacts in various ways—by using periodic backups to tape or fault-tolerant disks, or by manually copying files to another machine.

WebLogic Server Related Artifacts

The following sections describe the artifacts that you should back up.

Static Artifacts

Static artifacts are those that change less frequently. These include:

- **MW_Home** (except user_projects/domains/domain_name) for the Administration Server and all the Managed Servers
- **WL_Home** (by default, it resides in MW_Home and it can be configured by the user to point to a different location) for the Administration Server and all the Managed Servers

This data is changed only while patching or upgrading the environment.

Runtime Artifacts

Runtime artifacts are those that change more frequently. These include:

- **Domain_Home** and **UIM_Home** directories in all the servers (by default, it resides in Domain_Home, but it can be configured by the user to point to a different location.)
- UIM Application artifacts (EAR files, WAR files, PROPERTIES files) which reside outside of the domain directory on each of the servers (in case of no_stage or external_stage application staging modes)

This data changes frequently while updating the domain configurations, deploying an application, and while performing other administrative changes.

Persistent Stores

A persistent store provides a built-in, high-performance storage solution for WebLogic Server subsystems and services that require persistence. For example, it can store
persistent JMS (Java Messaging Service) messages or durable subscriber information, as well as temporarily store messages sent to an unavailable destination using the Store-and-Forward feature. The persistent store supports persistence to a file-based store (File Store) or to a JDBC enabled database (JDBC Store). The default store maintains its data in the `Domain_Home/servers/AdminServer/data/store/default` directory inside the servername subdirectory of a domain’s root directory.

**Using a Shared File System to Backup the Artifacts**

The best practice is to store snapshots of the above artifacts either at the file system level, or using one of the models suggested below in "Using the WebLogic Backup Utility" and "Using the Pack and Unpack Utility", onto a Storage Area Network (SAN). This would ensure the local machine failure at the physical level doesn’t impact the backups.

It is best to take backups before configuration changes are done.

---

**Note:** Verify that the file/folder being backed up meets the file size or pathname length requirements for the backup utility being used. For example, the maximum pathname length for the tar application is 256 characters.

---

**Using the WebLogic Backup Utility**

You can configure Oracle WebLogic Server to make backup copies of the configuration files. This facilitates recovery in cases where configuration changes need to be reversed or in the unlikely case that configuration files become corrupted. When the Administration Server starts up, it saves a JAR file named `config-booted.jar` that contains the configuration files. When you make changes to the configuration files, the old files are saved in the `configArchive` directory under the `Domain_Home` directory, in a JAR file with a sequentially numbered name such as `config-1.jar`. The configuration archive is always local to the Administration Server host. It is a best practice to back up the archives to an external location.

**Using the Pack and Unpack Utility**

This utility provides a way to define templates and use the template to pack a domain for unpacking later or to unpack in another node. Please note that the domain UIM is deployed in, may contain other applications and the administrator needs to ensure the UIM specific components are packed, if the upgrade or patch is happening in UIM. You can use a template that contains a subset of a domain to create a Managed Server domain directory hierarchy on a remote machine. It would ensure that when unpacked only the UIM artifacts are restored.

Refer to the Oracle WebLogic Server documentation for more details.

**Restoring WebLogic Related Configurations and Artifacts**

The following link describes the different scenarios and what needs to be restored in each of the scenarios.

Embedded LDAP

If any of your security realms use the Default Authentication, Authorization, Credential Mapping, or Role Mapping providers, you should maintain an up-to-date backup of the following directory tree:

```
Domain_Home/servers/AdminServer/data/ldap
```

In the preceding directory, `Domain_Home` is the domain root directory and `AdminServer` is the directory in which the Administration Server stores run-time and security data.

For more information backing up the embedded LDAP server data, see the following topics:

- “Configure backups for embedded LDAP servers” in the Oracle WebLogic Server Administration Console Help
- “Back Up LDAP Repository” in Managing Server Startup and Shutdown for Oracle WebLogic Server located at the following link:
  
  http://docs.oracle.com/cd/E21764_01/web.1111/e13708/failures.htm#START172

If the embedded LDAP server file becomes corrupt or unusable, the Administration Server will generate a NumberFormatException and fail to start. This situation is rare but can occur if the disk becomes full and causes the embedded LDAP file to enter into an invalid state.

Do not update the configuration of a security provider while a backup of LDAP data is in progress. If a change is made—for instance, if an administrator adds a user—while you are backing up the ldap directory tree, the backups in the ldapfiles subdirectory could become inconsistent. If this does occur, consistent, but potentially out-of-date, LDAP backups are available, because once a day, a server suspends write operations and creates its own backup of the LDAP data. It archives this backup in a ZIP file below the `ldap/backup` directory and then resumes write operations. This backup is guaranteed to be consistent, but it might not contain the latest security data.

Restoring Embedded LDAP Server File

To recover from an unusable embedded LDAP server file, complete the following steps:

1. Change to the following directory:
   
   ```
   Domain_Home/servers/AdminServer/data
   ```

2. Rename the embedded LDAP server file, as in the following example:
   
   ```
   mv ldap ldap.old
   ```
   
   where `mv` is the Unix command used to rename the file.

   By renaming the file, and not deleting it completely, it remains available to you for analysis and potential data recovery.

3. Start the Administration Server.

   When the Administration Server starts, a new embedded LDAP server file is created.

4. Restore any data to the new embedded LDAP server that was added since the time the WebLogic domain was created.
If you have configured a backup of the embedded LDAP server, you can restore the backed up data by importing it. For information, see “Exporting and Importing Information in the Embedded LDAP Server”.

http://docs.oracle.com/cd/E24329_01/web.1211/e24422/ldap.htm#SECMG331

Export and Import of LDAP Data

Alternatively the export and import functions could also be used as described in Exporting and Importing Information in the Embedded LDAP Server.

Database Backup and Restore

Use Recovery Manager (RMAN) to back up, restore, and recover data files, control files, server parameter files (SPFILEs) and archived redo log files. You can use RMAN with a media manager to back up files to external storage. You can also configure parallelism when backing up or recovering Oracle RAC databases. In Oracle RAC, RMAN channels can be dynamically allocated across all of the Oracle RAC instances. Channel failover enables failed operations on one node to continue on another node. You can start RMAN from Oracle Enterprise Manager Backup Manager or from the command line.

For more information about using RMAN, see “Configuring Recovery Manager and Archiving”, at the following link:

https://docs.oracle.com/database/121/RACAD/rman.htm#RACAD320

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**Note:** In addition to the UIM schema the MDS schema which was used in the installation process should also be backed up for failure handling.

---

Backup SerializedSystemIni.dat and Security Certificates

Each server instance creates a file named `SerializedSystemIni.dat` and locates it in the `Domain_Home/security` directory. This file contains encrypted security data that must be present to boot the server. You must back up this file.

If you configured a server to use SSL, you must also back up the security certificates and keys. The location of these files is user-configurable.
Oracle Communications Unified Inventory Management (UIM) supports Oracle Business Intelligence Publisher (BI Publisher), which is the reporting standard for UIM. Through a downloadable patch, UIM provides sample reports that you can run in BI Publisher.

Installing and Configuring BI Publisher

The following sections provide information on installing and configuring BI Publisher. This chapter assumes you are familiar with BI Publisher and its documentation, which is available on the Oracle documentation website:

http://docs.oracle.com/middleware/12213/bip/index.html

Installing BI Publisher

BI Publisher is not part of UIM Installer. To use BI Publisher for UIM reporting, you must install it manually. See the discussion about system requirements in UIM Installation Guide for information about which versions of BI Publisher work with this release of UIM.

BI Publisher is installed as part of Oracle Business Intelligence. So, to install BI Publisher, install Business Intelligence by following the instructions in Installing and Configuring Oracle Business Intelligence, located here:

https://docs.oracle.com/middleware/12213/lcm/BIEIG/BIEIG.pdf

Configuring BI Publisher

After you have successfully installed BI Publisher, you need to configure BI Publisher by performing the tasks described in this section.

Getting Started
To get started with configuring BI Publisher, do the following:

1. Start the BI Publisher WebLogic server by following the instructions in Fusion Middleware User’s Guide for Oracle Business Intelligence Publisher, located here:

http://docs.oracle.com/middleware/12213/bip/BIPUG/toc.htm

2. Ensure you have privileges to log in to BI Publisher as an administrator.
Adding a Data Source and Establishing a Database Connection

To run reports against UIM data using BI Publisher, you must add UIM as a data source to BI Publisher and establish a database connection to UIM.

To add a data source and establish a database connection:

1. Log in to BI Publisher as an Administrator.
2. Follow the instructions for creating data sources in Chapter 9 of the Fusion Middleware Administrator’s Guide for Oracle Business Intelligence Publisher, located here:
   
   http://docs.oracle.com/middleware/12213/bip/BIPAD/toc.htm

Adding Users

To provide users with view access, BI Publisher offers several security options to provide access.

To add a user and a role, and assign the role to the user:

1. Log into BI Publisher as Administrator.
2. Determine the security model option to use from the administrator’s overview. Follow the instructions for granting permissions in Fusion Middleware Administrator’s Guide for Oracle Business Intelligence Publisher, located here:
   
   http://docs.oracle.com/middleware/12213/bip/BIPAD/toc.htm

Downloading and Installing the Sample Reports

This section provides information on downloading and installing the UIM sample reports, which are described later in this chapter.

Downloading the Sample Reports

The UIM sample reports are delivered in a separate ZIP file (BIPubReports.zip), which you can download from the UIM software on the Oracle Software Delivery Cloud:

https://edelivery.oracle.com

Installing the Sample Reports

You can install the sample reports by using one of the following methods:

- Copying the ZIP file to the BI Publisher Repository
- Uploading the Sample Reports from within BI Publisher

Copying the ZIP file to the BI Publisher Repository

To install the sample reports by copying the ZIP file to the BI Publisher Repository:

1. If you have not already done so, download the sample reports. See “Downloading the Sample Reports” for more information.
2. Open the tempDir/BIPubReports.zip file.
3. Extract the BIPubReports folder to the BIPublisher_HOME/repository/Reports directory.
4. Log in to BI Publisher.
5. In the upper right corner of the Home page, click the **Catalog** link.
   The Catalog appears.

6. Expand **Shared Folders**, and select the **BIPubReports** folder.
   The sample reports are located in the **BIPubReports** folder, as shown in **Figure 7–1**.

7. Change the data model file to point it to the data source you created earlier.
   See "Changing the Data Model Source" for instructions.

---

**Figure 7–1  Sample Reports in the BI Publisher Catalog**

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**Note:** Regarding the BI Publisher Catalog, files in **Shared Folders** are accessible to other users, while files in **My Folder** are user-specific and are not accessible to other users.
Uploading the Sample Reports from within BI Publisher
To install the sample reports by uploading them from within BI Publisher:

1. Log in to BI Publisher.
2. In the upper right corner of the Home page, click the Catalog link. The Catalog appears.
3. Select Shared Folder.
4. Create a new folder named BIPubReports under Shared Folder.
5. Select the BIPubReports folder.
6. Create a new folder named Data Models under BIPubReports.
7. Select the BIPubReports folder.
8. Click the Upload Resource icon. The Upload dialog box appears.
9. Click Browse. The Choose File to Upload window appears.
10. Navigate to tempDir/BIPubReports.
11. Select an XDOZ file and click Open. (These are the report files.) The Upload dialog box appears.
12. Click Upload.
13. Repeat steps 7 through 12 to upload each XDOZ file.
14. Select the Data Models folder.
15. Click the Upload Resource icon. The Upload dialog box appears.
16. Click Browse. The Choose File to Upload window appears.
18. Select an XDMZ file and click Open. (These are the data model files.) The Upload dialog box appears.
19. Click Upload.
20. Repeat steps 14 through 19 to upload each XDMZ file.
21. The sample reports are located in the BIPubReports folder, as shown in Figure 7–1, “Sample Reports in the BI Publisher Catalog”.
22. Change the data model file to point it to the data source you created earlier. See “Changing the Data Model Source” for instructions.

Understanding the Sample Reports
This section describes the following sample reports:

- Connectivity Report
- Connectivity Activation Report for Project Activity
Understanding the Sample Reports

- Customer Service Resource Allocation Report
- Customer Services Supported by Logical Device Report
- Device Utilization Report
- IPv4 Utilization Report
- IPv6 Utilization Report
- Pipe Capacity by Terminating Place Report
- Services In Progress Report
- Telephone Number Reports

See "Running the Sample Reports" for information on how to run the sample reports that are described in the following sections.

Connectivity Report

This report lists available channelized connectivities based on the location provided. Also, based on the selected connectivity, the report shows Channelized Connectivity, its riders, capacity consumed by riders, and the service and party associated with the rider.

When running this report, you select a location or locations from the Location list. The Connectivity list is then populated with channelized connectivities that are present at the selected locations. You can then select a connectivity from the Connectivity list to view its riders.

Figure 7–2 shows an example of the Connectivity Report:

![Connectivity Report](image)

Connectivity Activation Report for Project Activity

**Note:** Within the BI Publisher Catalog, this report name is listed as Project Activation Report. However, when the report runs, the title of the report is Connectivity Activation Report.

This report provides the activation details to provision the connectivity that has been redesigned as part of a Project Activity that may involve Grooming, Rehoming, Insert Node, or Remove Node operation. This report contains various sections that provide necessary information to provision the changes in the network that have been planned in the inventory project.
You can select project, activity, and impacted connectivity from the respective lists to view Connectivity Activation for a project Activity. Current version and previous versions will be populated automatically.

- **General Information**
  This section provides the details about the connectivity and the corresponding Project and Activity that is making changes in the connectivity.

- **Cross-Connect**
  This section provides the details of the cross connects needs to be activated or deactivated in the devices to provision the connectivity.

- **Jumper**
  This section provides the details of the jumpers needs to be created or removed by the field engineer in the devices to provision the connectivity.

- **Reference**
  This section provides the design details the connectivity before and after the completion of the Project Activity. This section is not directly used in the provisioning but rather serves as a reference to see the end to end design of the connectivity and understand what has changed in the project Activity.

When running this report, you select project, activity, and impacted connectivity. Current version and previous versions are automatically populated.

*Figure 7–3* shows an example of the Connectivity Activation Report for Project Activity:
Customer Service Resource Allocation Report

This report shows all services and allocated resources for a particular customer. You select a customer name to initiate the report.

When running the report, you select a customer name.

Figure 7-4 shows an example of the Customer Service Resource Allocation Report:
**Figure 7–4 Customer Service Resource Allocation Report**

![Customer Service Resource Allocation Report](image)

**Customer Services Supported by Logical Device Report**

This report shows all services and associated customers for a particular logical device such as router. This report is designed for service impact analysis based on a specific logical device.

When running the report, you select a logical device.

*Figure 7–5 shows an example of the Customer Services Supported by Logical Device Report:*

**Figure 7–5 Customer Services Supported by Logical Device Report**

![Customer Services Supported By Logical Device Report](image)

**Device Utilization Report**

This report shows the capacity consumed for logical devices. It shows logical devices, assigned device interface specifications, and utilization of the device interfaces for a given location or logical device.

When running the report, you enter a location or a device ID, or both.

*Figure 7–6 shows an example of the Device Utilization Report:*

![Device Utilization Report](image)
IPv4 Utilization Report

This report shows all IPv4 networks, subnets, and hosts, and the respective utilization, for a particular IP address domain.

When running the report, you select an IP address domain name.

Figure 7–7 shows an example of the IPv4 Utilization Report:

IPv6 Utilization Report

This report shows all IPv6 networks, subnets, and hosts, and the respective utilization, for a particular IP address domain.

When running the report, you select an IP address domain name.

Figure 7–8 shows an example of the IPv6 Utilization Report:
Pipe Capacity by Terminating Place Report

This report shows pipe capacity information based on the terminating place.

When running the report, you select a terminating place to see all the pipes and their capacity for that place.

Figure 7–9 shows an example of the Pipe Capacity by Terminating Place Report:

Services In Progress Report

This report shows all service instances for a particular service specification where a service configuration is in progress.

When running the report, you select a service specification to show the services in progress.

Figure 7–10 shows an example of the Services in Progress Report:
Telephone Number Reports

A set of predefined utilization reports shows the numbers of telephone numbers within a pre-defined range. These reports can be used to determine which telephone numbers are assigned and which are still available for consumption. In addition, this view provides categorization based on the consumer, such as reservation, assignment, or condition. Below is a description of each report:

- **Utilization Report by 1K Block**

  This report shows the number of assigned, reserved, and available telephone numbers for a block of 1,000 numbers. The report also shows the utilization percentage.

  When running the report, you select the telephone number specification to view utilization for the blocks created using that specification.

  Figure 7–11 shows an example of the Utilization Report by 1K Block:

- **Utilization Report by 10K Block**

  This report shows the number of assigned, reserved, and available telephone numbers for a block of 10,000 numbers. The report also shows the utilization percentage.
When running the report, you select the telephone number specification to view utilization for the blocks created using that specification.

Figure 7–12 shows an example of the Utilization Report by 10K Block:

Figure 7–12  Utilization Report by 10K Block

- Utilization Report for 1K/10K Block by Category

  This report shows the assignment status, reservation type, and condition type for telephone numbers within a block of 1,000 or 10,000.

  When running the report, you select the block to view utilization of the numbers in that block.

  Figure 7–13 shows an example of the Utilization Report for 1K/10K Block by Category:

Figure 7–13  Utilization Report for 1K/10K Block by Category

- Utilization Report by Category for Toll Free Numbers

  This report shows the assignment status, reservation type and condition type for toll free numbers.

  Figure 7–14 shows an example of the Utilization Report by Category for Toll Free Numbers:
Running the Sample Reports

To run the sample reports:

1. Log into BI Publisher.
2. In the upper right corner of the Home page, click the **Catalog** link.
   
   The Catalog appears.
3. If this is the first time you are running the sample reports, edit the data model to point to a data source. For instructions on how to do this, see "Changing the Data Model Source".
4. Expand **Shared Folders**, and select the **BIPubReports** folder.
5. Click the **Open** link for the report you want to run.
   
   Depending on the report you opened, a list or lists from which to select data appears.
6. Select data from the list or lists that are present for the report you are running.
7. Click **Apply** to apply your data selections and run the report.

The report appears.

Modifying Existing Sample Reports

You can modify the existing sample reports by:

- **Editing Existing Sample Reports** to alter the report format
- **Changing the Data Model Source** to alter the data that appears in existing sample reports
- **Setting Default Parameter Values** to alter the data that appears in the report

\[\text{Figure 7–14  Utilization Report by Category for Toll Free Numbers}\]
Any reports you create by modifying the existing sample reports can be run in the same manner as the sample reports. See “Running the Sample Reports” for more information.

**Editing Existing Sample Reports**

To edit an existing sample report:
1. Log into BI Publisher.
2. In the upper right corner of the Home page, click the **Catalog** link.
   The Catalog appears.
3. Expand **Shared Folders**, and select the **BIPubReports** folder.
4. Click the **Edit** link for the report you want to edit.
5. Edit the report format.
   For detailed information on editing the report format, click the Help icon on this page.
6. Click the **Save** icon.

**Changing the Data Model Source**

To change the Data Model Source:
1. Log into BI Publisher.
2. In the upper right corner of the Home page, click the **Catalog** link.
   The Catalog appears.
3. Expand **Shared Folders**.
4. Expand **BIPubReports**, and select the **Data Models** folder.
5. Click the **Edit** link for the data model you want to edit.
6. Click **Data Model**.
   The Properties page for the selected data model appears.
7. From the **Default Data Source** list, select a different data source, as shown in Figure 7–15.

**Figure 7–15  Data Model Properties Page**

8. Expand **Data Model**, and select **Data Sets**.
9. Select a data set.
   The **Diagram** tab for the selected data set appears.
10. Click the View Actions list menu located in right corner of the data set, as shown in Figure 7–16.

**Figure 7–16 View Actions Menu**

11. From the View Actions menu, select Edit Data Set.

The Edit Data Set dialog box appears, as shown in Figure 7–17.

**Figure 7–17 Edit Data Set Dialog Box**

12. Change Data Source.

13. Close the Edit Data Set dialog box.

14. Click the Save icon.

**Setting Default Parameter Values**

To set default parameter values:
1. Log into BI Publisher.
2. In the upper right corner of the Home page, click the Catalog link.
   The Catalog appears.
3. Expand Shared Folders.
4. Expand BIPubReports, and select the Data Models folder.
5. Click the Edit link for the data model you want to edit.
6. Expand Data Model, and select Parameters.
7. Select a parameter.
   The Parameters page for the selected parameter appears, as shown in Figure 7–18.

8. Set or change the value in the Default Value field.
9. Click the Save icon.

Creating New Reports

You can create a new data model to create a new report. To view example queries when creating new reports, see "Viewing Example Queries".

To create a new report:
1. Understand the data model entities you intend to use in your custom report.
2. In the upper right corner of the Home page, click the New icon, and select Data Model.
   The Properties page for the new data model appears.
3. From the Default Data Source list, select a data source.
4. Expand Data Model and select Data Sets.
   The Diagram tab for the selected data set appears.
5. Click the New Data Set list menu and select SQL Query, as shown in Figure 7–19.
Figure 7–19  Data Model

The Create Data Set - SQL dialog box opens.

6. Do one of the following:
   - Click Query Builder, select the appropriate tables, and build the query to populate the SQL Query field.
   - Copy and paste a pre-written query directly into the SQL Query field.

7. Click OK to close the Create Data Set - SQL dialog box.

8. Click the Save icon to save the data set.

9. Click the Get XML Output icon located next to the Save icon.

10. From the Number of rows to return list, select the number of rows to return.

11. Click Run.

12. Open the list menu located in the upper right corner of the page, and select Save as Sample Data to save the data.

   The Diagram tab for the new data set appears.

13. In the upper right corner of the page, click the New icon, then select Report, then select the Using Existing Data Model link.

   The Create Report window appears.

14. Select the data model and click Next.

15. Choose Guide Me and click Next.

16. From the Available Columns on the left side, select the columns that you want to appear in your report.

17. Click Finish.

18. On the Insert tab, use the listed Components to create data tables, bar charts, and so forth.

19. On the Page Layout tab, format your report by specifying portrait/landscape, headers/footers, and so forth.

20. Click the Save icon.
Any custom reports you create can be run in the same manner as the sample reports. See "Running the Sample Reports" for more information.

Viewing Example Queries

You can view the queries from any of the sample reports to use an example to follow when creating custom reports.

To view example queries:

1. Log into BI Publisher.
2. In the upper right corner of the Home page, click the Catalog link.
   The Catalog appears.
3. Expand Shared Folders.
4. Expand BIPubReports, and select the Data Models folder.
5. Click the Edit link for the applicable data model.
6. Expand Data Model, and select Data Sets.
7. Select a data set.
   The Diagram tab for the selected data set appears.
8. Click the View Actions list menu located in right corner of the data set, as shown in Figure 7–20.

![Figure 7–20 View Actions Menu](image)

9. From the View Actions menu, select Edit Data Set.
   The Edit Data Set dialog box appears, as shown in Figure 7–21.
   Here, you can view the query.
Figure 7–21  Edit Data Set Dialog Box

Troubleshooting BI Publisher

Refer to BI Publisher forum for troubleshooting information.

https://community.oracle.com/community/developer/english/business_intelligence/business_intelligence_forum/bi_publisher