Oracle® Communications Unified Inventory Management

System Administrator's Guide

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Oracle Communications Unified Inventory Management System Administrator's Guide, Release 7.7

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Preface

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.

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1

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.

> **Note:**
>
> For information about administering a UIM cloud native deployment, see "Administering a UIM Cloud Native Deployment".

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.

Table 1-1 Directory Placeholders

Placeholder	Default Directory Path	Directory Description
MW_Home	**/opt/Oracle/Middleware**	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.
WL_Home	**/opt/Oracle/Middleware/wlserver**	The base directory for the WebLogic Server core files. It is located in the *MW_Home* directory.

Table 1-1 (Cont.) Directory Placeholders

Placeholder	Default Directory Path	Directory Description
Domain_Home	**/opt/Oracle/Middleware/user_projects/domains/***domain_name* where *domain_name* is the name assigned to the domain at installation	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.
UIM_Home	**/opt/Oracle/Middleware/user_projects/domains/***domain_name***/UIM** where *domain_name* is the name assigned to the domain at installation	The directory into which UIM was installed. This directory contains various installation-related files.

2
Starting and Stopping UIM

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**.

   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 (7.5.0.0.0)

   mapviewer

   oracle.communications.inventory

   oracle.communications.inventory.cartridgeadapter

   oracle.communications.inventory.customlib(7.5,7.5.0.0.0)

   oracle.communications.inventory.externallib(7.5,7.5.0.0.0)

   oracle.communications.inventory.javadoc

   oracle.communications.platform.cui.webapp(12.2.1.4.0,7.5.0.0.0)

   oracle.communications.platform.ies(12.2.1.4.0,7.5.0.0.0)

   oracle.communications.platform.poms(12.2.1.4.0,7.5.0.0.0)

   oracle.communications.platform.WsFramework(12.2.1.4.0,7.5.0.0.0)

> **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:

   ```
   ./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.

3

Understanding UIM Security

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.

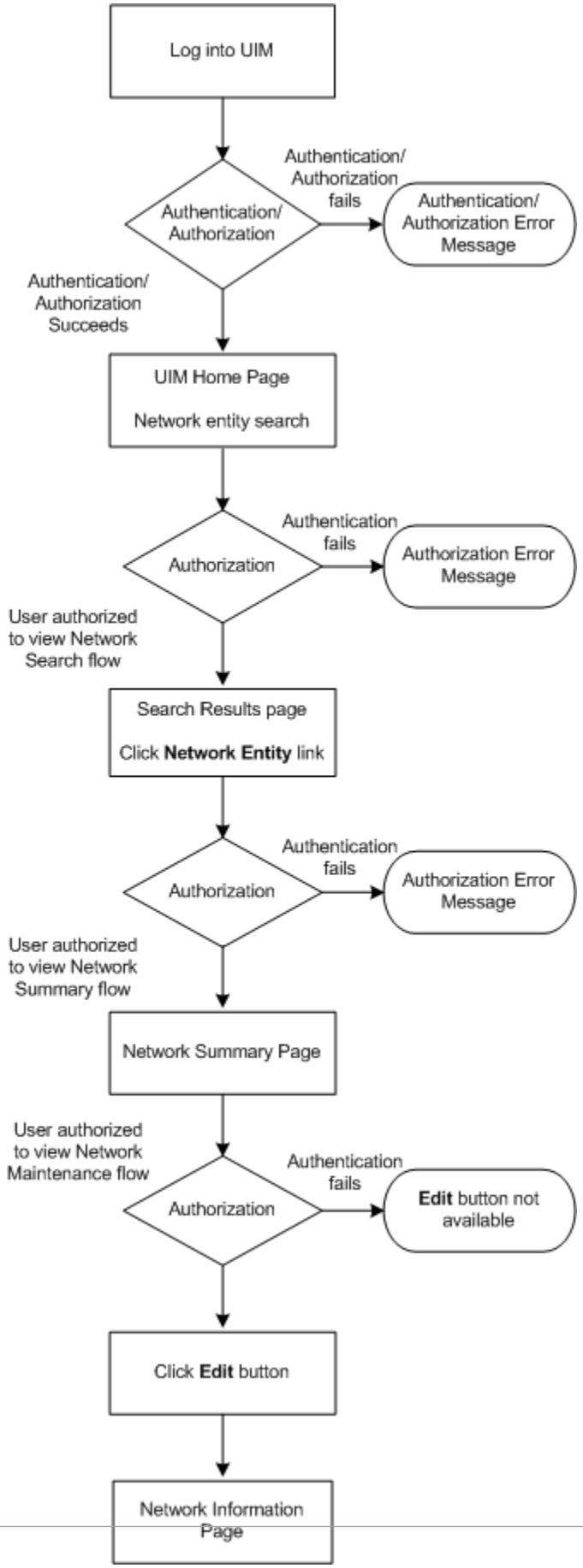
UIM Security Overview

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.

Figure 3-1 Authentication and Authorization Flow



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.

> **Note:**
>
> This chapter includes information about tasks you perform with WebLogic Server Administration Console and Oracle Enterprise Manager, but is not intended to replace the documentation or Online Help for those systems.

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 "Overview" in *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, the `Invalid Credentials` 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.

> **Note:**
>
> Web services are delivered over unencrypted channels, such as HTTP and Java message service (JMS) transports. The user name and password are included in the SOAP headers of the web service messages. When transported over an unencrypted channel, passwords must not be passed as clear text. To avoid this vulnerability, use digest authentication (which includes a cryptographic hash of the password) instead.

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, open the **oracle.communications.inventory** tree.
4. Click **Inventory** link.

   The Inventory Settings for oracle.communications.inventory page appears
5. Click the **Configuration** tab.
6. Click the **Application** sub-tab.
7. In **Session Timeout (in seconds)**, change the value to the desired number of seconds.

8. Click **Save**.
9. In the left panel, under Domain Structure, click **Deployments**.

   The Summary of Deployments page appears.
10. Select the check box for **oracle.communications.inventory**.
11. Click **Update**.

    The Update Application Assistant page appears.
12. Choose **Redeploy this application using the following deployment files**.
13. 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**
14. 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 "Web Services Overview" in *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**.

11. Navigate to the *Domain_Home*/**UIM/app/plan** directory.

12. Click **Finish**.

> **Note:**
>
> See "Web Services Overview" in *UIM Web Services Developer's Guide* for more information on developing custom web services.

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 to 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 "Overview" in *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 "Overview" in *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".

> **Note:**
>
> The roles are displayed according to the rulesets if the following property is set **true** in the **rulesetPermissions.properties** file:
>
> ```
> uim.rulesetRolePermissionsEnabled=true
> ```

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.

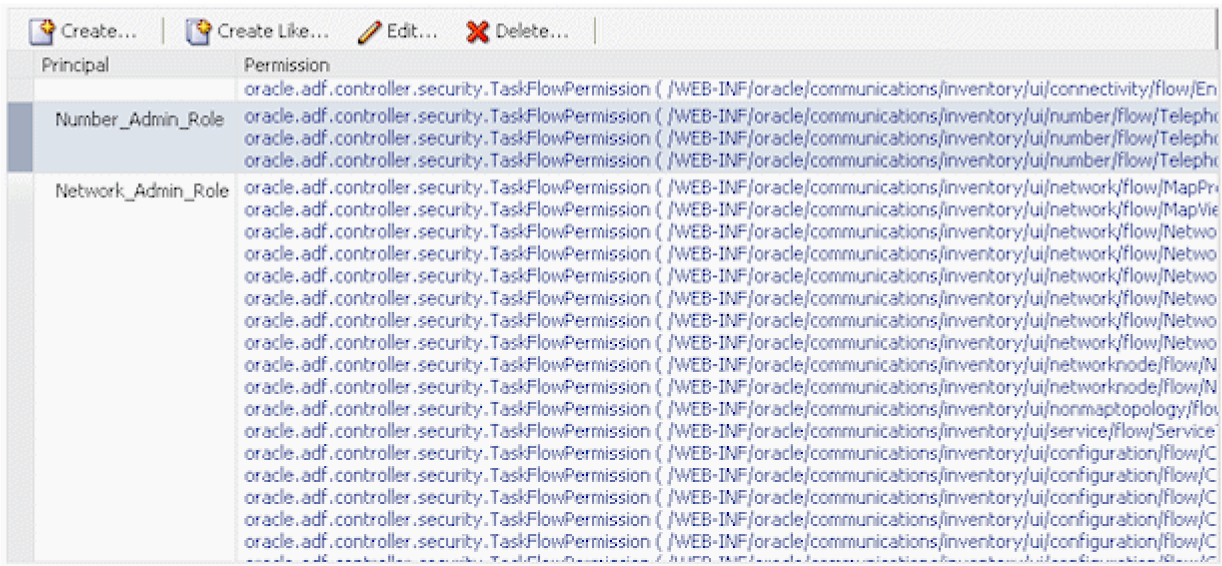
You use Oracle Enterprise Manager to manage policies. To create policies, you gather together the permissions that apply to a role or roles and then associate those permissions to the roles.

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 9.a through 9.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 10.a through 10.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:
   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: **ora_uim_partition#***name*.

> **Note:**
>
> If you do not use the **ora_uim_partition#** prefix, UIM will not recognize the group as a partition and the partitioning will not work.

9. If you have configured a third-party security provider, select it in the **Provider** field.
10. Click **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 **Save**.
16. Click **Release Configuration**.

> **Note:**
>
> Changes made to groups in WebLogic Server are immediate, but you must log out/log back into UIM to pick up the changes.

Enabling Security Filtering in UIM

To enable security filtering in UIM:

1. In the *UIM_Home*/**config** directory, open the **system-config.properties** file.
2. Set the **uim.security.filter.enabled** property value to **True**.

   ```
   uim.security.filter.enabled=true
   ```
3. Save and close the file.

Taskflow Permissions

Table 3-1 lists all of the UIM taskflow permissions, sorted by component name.

Table 3-1 Taskflow Permissions

Component	Access Type	Permission String	Controls the Ability to:
Activity	View	/WEB-INF/oracle/communications/inventory/ui/project/activity/flow/ActivityListFlow.xml#ActivityListFlow	List of Activities.
Activity	View	/WEB-INF/oracle/communications/inventory/ui/project/activity/flow/ActivityItemsListFlow.xml#ActivityItemsListFlow	List of Activity Items and Impact Items.
Activity	View	/WEB-INF/oracle/communications/inventory/ui/project/activity/flow/GroomActivityFlow.xml#GroomActivityFlow	Groom Activity.
Activity	View	/WEB-INF/oracle/communications/inventory/ui/project/activity/flow/RehomeActivityFlow.xml#RehomeActivityFlow	Rehome Activity.
Activity	View	/WEB-INF/oracle/communications/inventory/ui/project/activity/flow/ActivityWorkspaceFlow.xml#ActivityWorkspaceFlow	Activity Workspace.
Activity	View	/WEB-INF/oracle/communications/inventory/ui/project/activity/flow/GroomConnectivitiesFlow.xml#GroomConnectivitiesFlow	Dual Tree View of Source and Target Connectivity involved in Groom operation.
Activity	View	/WEB-INF/oracle/communications/inventory/ui/project/activity/flow/InsertNodeActivityFlow.xml#InsertNodeActivityFlow	Insert Node Activity.

Table 3-1 (Cont.) Taskflow Permissions

Component	Access Type	Permission String	Controls the Ability to:
Activity	View	/WEB-INF/oracle/communications/inventory/ui/project/activity/flow/InsertNodeTrainFlow.xml#InsertNodeTrainFlow	Wizard flow for Insert Node Activity.
Activity	View	/WEB-INF/oracle/communications/inventory/ui/project/activity/flow/RemoveNodeActivityFlow.xml#RemoveNodeActivityFlow	Remove Node Activity.
Activity	View	/WEB-INF/oracle/communications/inventory/ui/project/activity/flow/RemoveNodeTrainFlow.xml#RemoveNodeTrainFlow	Wizard flow for Remove Node Activity.
Activity	View	/WEB-INF/oracle/communications/inventory/ui/project/activity/flow/RehomeConnectivitiesFlow.xml#RehomeConnectivitiesFlow	Dual Tree View of Source and Target Devices involved in Rehome operation.
Activity	View	/WEB-INF/oracle/communications/inventory/ui/admin/flow/ChangePasswordFlow.xml#ChangePasswordFlow	Change the password.
Business Interaction	Edit	/WEB-INF/oracle/communications/inventory/ui/businessinteraction/flow/BusinessInteractionEditFlow.xml#BusinessInteractionEditFlow	Edit a business interaction from search results or the Summary page.
Business Interaction	View	/WEB-INF/oracle/communications/inventory/ui/businessinteraction/flow/BusinessInteractionSearchResultsFlow.xml#BusinessInteractionSearchResultsFlow	Open a Search page for business interactions by clicking the **Business Interactions** link in the **Tasks** panel.
Business Interaction	View	/WEB-INF/oracle/communications/inventory/ui/businessinteraction/flow/BusinessInteractionSummaryFlow.xml#BusinessInteractionSummaryFlow	Open a Business Interaction Summary by clicking on the id (hyperlink) in the **Business Interactions** search results.
Business Interaction	View	/WEB-INF/oracle/communications/inventory/ui/businessinteraction/flow/BusinessInteractionAttachmentSummaryFlow.xml#BusinessInteractionAttachmentSummaryFlow	Open a Business Interaction Attachment Summary page, which displays the XML payload.
Characteristics	View	/WEB-INF/oracle/communications/inventory/ui/characteristic/flow/CharacteristicSpecificationSearchResultsFlow.xml#CharacteristicSearchResultsFlow	View characteristics search results.
Characteristics	View	/WEB-INF/oracle/communications/inventory/ui/characteristic/flow/CharacteristicSpecificationSummaryFlow.xml#CharacteristicSpecificationSummaryFlow	Open a Characteristic Specification Summary page.
Configuration	View	/WEB-INF/oracle/communications/inventory/nso/ui/configuration/flow/ConfigSummaryFlow.xml#ConfigSummaryFlow	View Network Service and VNF configurations.
Custom Network Address	View	/WEB-INF/oracle/communications/inventory/ui/customnetworkaddress/flow/CustomNetworkAddressSearchResultsFlow.xml#CustomNetworkAddressSearchResultsFlow	Open a Search page for custom network addresses by clicking the **Custom Network Address** link in the **Tasks** panel.

Table 3-1 (Cont.) Taskflow Permissions

Component	Access Type	Permission String	Controls the Ability to:
Custom Network Address	View	/WEB-INF/oracle/communications/inventory/ui/customnetworkaddress/flow/CustomNetworkAddressSummaryFlow.xml#CustomNetworkAddressSummaryFlow	Open a Custom Network Address Summary page.
Custom Network Address	Edit	/WEB-INF/oracle/communications/inventory/ui/customnetworkaddress/flow/CustomNetworkAddressEditFlow.xml#CustomNetworkAddressEditFlow	Edit a custom network address from search results or a Summary page.
Condition	Edit	/WEB-INF/oracle/communications/inventory/ui/consumer/flow/ConditionEditFlow.xml#ConditionEditFlow	Edit a condition by opening its page from the **Related Pages** menu in an entity page.
Condition	View	/WEB-INF/oracle/communications/inventory/ui/consumer/flow/ConditionListFlow.xml#ConditionListFlow	Open the list of conditions associated by using the **Related Pages** menu in an entity page.
Configuration	View	/WEB-INF/oracle/communications/inventory/ui/configuration/flow/ConfigurationSummaryFlow.xml#ConfigurationSummaryFlow	Open a Configuration Summary page. (For all configurations except Pipe.)
Configuration	Edit	/WEB-INF/oracle/communications/inventory/ui/configuration/flow/ConfigurationEditFlow.xml#ConfigurationEditFlow	Edit an entity configuration. (For all configurations except Pipe.)
Configuration	Edit	/WEB-INF/oracle/communications/inventory/ui/configuration/flow/ConfigurationItemAddFlow.xml#ConfigurationItemAddFlow	Add a configuration item from a Configuration Summary page. (For all configurations, except Pipe.)
Configuration	Edit	/WEB-INF/oracle/communications/inventory/ui/configuration/flow/ConfigurationItemRenameFlow.xml#ConfigurationItemRenameFlow	Rename a configuration item in a Configuration Summary page.
Configuration	Edit	/WEB-INF/oracle/communications/inventory/ui/configuration/flow/ConfigurationMaintainCharacteristicsFlow.xml#ConfigurationMaintainCharacteristicsFlow	Edit configuration characteristics.
Connectivity	View	/WEB-INF/oracle/communications/inventory/ui/connectivity/flow/TDMConnectivitySearchResultsFlow.xml#TDMConnectivitySearchResultsFlow	View Connectivity Search page.
Connectivity	Edit	/WEB-INF/oracle/communications/inventory/ui/connectivity/flow/TDMConnectivityCreateFlow.xml#TDMConnectivityCreateFlow	Create Connectivity.
Connectivity	View	/WEB-INF/oracle/communications/inventory/ui/connectivity/flow/TDMConnectivityDetailsFlow.xml#TDMConnectivityDetailsFlow	View Connectivity Details page.

Table 3-1 (Cont.) Taskflow Permissions

Component	Access Type	Permission String	Controls the Ability to:
Connectivity	View	/WEB-INF/oracle/communications/inventory/ui/connectivity/flow/TDMConnectivityChannelFlow.xml#TDMConnectivityChannelFlow	View Connectivity Channel page.
Connectivity	View	/WEB-INF/oracle/communications/inventory/ui/connectivity/flow/TDMConnectivityDesignFlow.xml#TDMConnectivityDesignFlow	View Connectivity Design page.
Connectivity	View	/WEB-INF/oracle/communications/inventory/ui/connectivity/flow/MultiplexedFacilityCapacityConfigurationFlow.xml#MultiplexedFacilityCapacityConfigurationFlow	View Capacity Configuration page.
Connectivity	View	/WEB-INF/oracle/communications/inventory/ui/connectivity/flow/ConnectivityGapAnalysisFlow.xml#ConnectivityGapAnalysisFlow	View Gap Analysis.
Connectivity	View	/WEB-INF/oracle/communications/inventory/ui/connectivity/flow/ConnectivityVisualFlow.xml#ConnectivityVisualFlow	Topology view of Connectivity.
Consumer	View	/WEB-INF/oracle/communications/inventory/ui/consumer/flow/ConsumerListFlow.xml#ConsumerListFlow	View telephone number assignments in a Telephone Number Summary page.
Cross Connect	View	/WEB-INF/oracle/communications/inventory/ui/connectivity/interconnection/visualization/flow/CrossConnectsViewFlow.xml#CrossConnectsViewFlow	View Cross Connect Visualization page.
Custom Object	View	/WEB-INF/oracle/communications/inventory/ui/customobject/flow/CustomObjectSearchResultsFlow.xml#CustomObjectSearchResultsFlow	Open a Search page for custom objects by clicking the **Custom Objects** link in the **Tasks** panel.
Custom Object	View	/WEB-INF/oracle/communications/inventory/ui/customobject/flow/CustomObjectSummaryFlow.xml#CustomObjectSummaryFlow	Open a Custom Object Summary page.
Custom Object	Edit	/WEB-INF/oracle/communications/inventory/ui/customobject/flow/CustomObjectEditFlow.xml#CustomObjectEditFlow	Edit a custom object from search results or a Summary page.
Device Interface	View	/WEB-INF/oracle/communications/inventory/ui/deviceinterface/flow/DeviceInterfaceSearchResultsFlow.xml#DeviceInterfaceSearchResultsFlow	Open a Search page for device interfaces by clicking the **Device Interface** link in the **Tasks** panel.
Device Interface	View	/WEB-INF/oracle/communications/inventory/ui/deviceinterface/flow/DeviceInterfaceSummaryFlow.xml#DeviceInterfaceSummaryFlow	Open a Device Interface Summary page.
Device Interface	Edit	/WEB-INF/oracle/communications/inventory/ui/deviceinterface/flow/DeviceInterfaceEditPopupFlow.xml#DeviceInterfaceEditFlow	Edit a device interface from a device interface hierarchy.

Table 3-1 (Cont.) Taskflow Permissions

Component	Access Type	Permission String	Controls the Ability to:
Device Interface	Edit	/WEB-INF/oracle/communications/inventory/ui/deviceinterface/flow/DeviceInterfaceEditFlow.xml#DeviceInterfaceEditFlow	Edit a device interface from a Device Interface Summary page.
Device Interface	Edit	/WEB-INF/oracle/communications/inventory/ui/deviceinterface/flow/DeviceInterfaceBulkEditFlow.xml#DeviceInterfaceBulkEditFlow	Bulk edit the characteristics of one or more Device Interface entities from the Device Interface - Bulk Edit page.
Endpoint	View	/WEB-INF/oracle/communications/inventory/nso/ui/ep/flow/EndPointCreateFlow.xml#EndPointCreateFlow	Open Endpoint Create, View, and Edit tabs.
Equipment	View	/WEB-INF/oracle/communications/inventory/ui/equipment/flow/EquipmentSearchResultsFlow.xml#EquipmentSearchResultsFlow	Open a Search page for equipment by clicking the **Equipment** link in the **Tasks** panel.
Equipment	View	/WEB-INF/oracle/communications/inventory/ui/equipment/flow/EquipmentSpecVisualFlow.xml#EquipmentSpecVisualFlow	Open an Equipment Specification Visual page by using the **Related Pages** menu in the Equipment Specification Summary page.
Equipment	View	/WEB-INF/oracle/communications/inventory/ui/equipment/flow/EquipmentSummaryFlow.xml#EquipmentSummaryFlow	Open an Equipment Summary page.
Equipment	View	/WEB-INF/oracle/communications/inventory/ui/equipment/flow/EquipmentViewFlow.xml#EquipmentViewFlow	Open an Equipment Visual page.
Equipment	Edit	/WEB-INF/oracle/communications/inventory/ui/equipment/flow/EquipmentEditFlow.xml#EquipmentEditFlow	Edit an Equipment entity from search results or a Summary page.
Equipment	Edit	/WEB-INF/oracle/communications/inventory/ui/equipment/flow/EquipmentRangeEditFlow.xml#EquipmentRangeEditFlow	Edit a range of Equipment entities.
Equipment Holder	View	/WEB-INF/oracle/communications/inventory/ui/equipmentholder/flow/EquipmentHolderSearchResultsFlow.xml#EquipmentHolderSearchResultsFlow	Open a Search page for device interfaces by clicking the **Device Interface** link in the **Tasks** panel.
Equipment Holder	View	/WEB-INF/oracle/communications/inventory/ui/equipmentholder/flow/EquipmentHolderSummaryFlow.xml#EquipmentHolderSummaryFlow	Open an Equipment Holder Summary page.
Equipment Holder	Edit	/WEB-INF/oracle/communications/inventory/ui/equipmentholder/flow/EquipmentHolderEditFlow.xml#EquipmentHolderEditFlow	Edit an equipment holder.
Favorite Items	View	/WEB-INF/oracle/communications/platform/cui/flows/FavoriteItemsFlow.xml#FavoriteItemsFlow	View the **Favorites** menu in the UIM main page.
Favorite Items	Edit	/WEB-INF/oracle/communications/platform/cui/flows/ManageFavoritesFlow.xml#ManageFavoritesFlow	Edit the contents of the **Favorites** menu in the UIM main page.

Table 3-1 (Cont.) Taskflow Permissions

Component	Access Type	Permission String	Controls the Ability to:
Flow Identifier	View	WEB-INF/oracle/communications/inventory/ui/flowidentifier/flow/FlowIdentifierSearchResultsFlow.xml#FlowIdentifierSearchResultsFlow	Open a Search page for flow identifiers by clicking the **Flow Identifier** link in the **Tasks** panel.
Flow Identifier	Edit	WEB-INF/oracle/communications/inventory/ui/flowidentifier/flow/FlowIdentifierEditFlow.xml#FlowIdentifierEditFlow	View a Flow Identifier Edit page.
Flow Identifier	View	WEB-INF/oracle/communications/inventory/ui/flowidentifier/flow/FlowIdentifierSummaryFlow.xml#FlowIdentifierSummaryFlow	View a Flow Identifier Summary page.
Flow Interface	View	/WEB-INF/oracle/communications/inventory/ui/flowinterface/flow/FlowInterfaceCreateFlow.xml#FlowInterfaceCreateFlow	View a Flow Interface Create page.
Import	Edit	/WEB-INF/oracle/communications/inventory/ui/admin/flow/ExecuteRuleFlow.xml#ExecuteRuleFlow	View the Inventory Import page.
Inventory Group	View	/WEB-INF/oracle/communications/inventory/ui/inventorygroup/flow/InventoryGroupSearchResultsFlow.xml#InventoryGroupSearchResultsFlow	Open a Search page for inventory groups by clicking the **Inventory Group** link in the **Tasks** panel.
Inventory Group	View	/WEB-INF/oracle/communications/inventory/ui/inventorygroup/flow/InventoryGroupSummaryFlow.xml#InventoryGroupSummaryFlow	View an Inventory Group Summary page.
Inventory Group	Edit	/WEB-INF/oracle/communications/inventory/ui/inventorygroup/flow/InventoryGroupEditFlow.xml#InventoryGroupEditFlow	Edit an inventory group from search results or a Summary page.
Involvement	Edit	/WEB-INF/oracle/communications/inventory/ui/custominvolvement/flow/CustomInvolvementEditFlow.xml#CustomInvolvementEditFlow	Edit a custom involvement from an entity Summary page. The user can edit the custom involvement by clicking **Edit** in the **Custom Involvement** list in the entity Summary page.
IPV4	View	/WEB-INF/oracle/communications/inventory/ui/logicaldevice/flow/IPv4SearchResultsFlow.xml#IPv4SearchResultsFlow	View the IPV4 search page.
IPV4 Network	View	/WEB-INF/oracle/communications/inventory/ui/network/flow/IPv4NetworkSearchResultsFlow.xml#IPv4NetworkSearchResultsFlow	View IPV4 Network search page.
IPV4 Network	View	/WEB-INF/oracle/communications/inventory/ui/ip/flow/IPv4NetworkCreateFlow.xml#IPv4NetworkCreateFlow	View IPV4 Network Create page.
IPV4 Network	View	/WEB-INF/oracle/communications/inventory/ui/ip/flow/IPv4NetworkDetailsFlow.xml#IPv4NetworkDetailsFlow	View IPV4 Network Details page.
IPV4 Address	View	/WEB-INF/oracle/communications/inventory/ui/ip/flow/IPv4AddressSearchResultsFlow.xml#IPv4AddressSearchResultsFlow	View IPV4 Address Search page.

Table 3-1 (Cont.) Taskflow Permissions

Component	Access Type	Permission String	Controls the Ability to:
IPV4 Address	View	/WEB-INF/oracle/communications/inventory/ui/ip/flow/IPv4AddressCreateFlow.xml#IPv4AddressCreateFlow	View IPV4 Address Create page.
IPV4 Address	View	/WEB-INF/oracle/communications/inventory/ui/ip/flow/IPv4AddressDetailsFlow.xml#IPv4AddressDetailsFlow	View IPV4 Address details page.
IPV4 Subnet	View	/WEB-INF/oracle/communications/inventory/ui/ip/flow/IPv4SubnetSearchResultsFlow.xml#IPv4SubnetSearchResultsFlow	View IPV4 Subnet Search page.
IPV4 Subnet	View	/WEB-INF/oracle/communications/inventory/ui/ip/flow/IPv4SubnetDetailsFlow.xml#IPv4SubnetDetailsFlow	View IPV4 Subnet details page.
IPV4 Subnet	View	/WEB-INF/oracle/communications/inventory/ui/ip/flow/IPv4SubnetPartitionFlow.xml#IPv4SubnetPartitionFlow	View IPV4 Subnet Partition page as popup.
IPV4 Subnet	View	/WEB-INF/oracle/communications/inventory/ui/ip/flow/IPv4SubnetJoinFlow.xml#IPv4SubnetJoinFlow	View IPV4 Subnet Join page as popup.
IPV6	View	/WEB-INF/oracle/communications/inventory/ui/ip/flow/IPv6SearchResultsFlow.xml#IPv6SearchResultsFlow	View IPV6 Search page.
IPV6 Network	View	/WEB-INF/oracle/communications/inventory/ui/ip/flow/IPv6NetworkSearchResultsFlow.xml#IPv6NetworkSearchResultsFlow	View IPV6 Network Search page.
IPV6 Network	View	/WEB-INF/oracle/communications/inventory/ui/ip/flow/IPv6NetworkCreateFlow.xml#IPv6NetworkCreateFlow	View IPV6 Network Create page.
IPV6 Network	View	/WEB-INF/oracle/communications/inventory/ui/ip/flow/IPv6NetworkDetailsFlow.xml#IPv6NetworkDetailsFlow	View IPV6 Network Details page.
IPV6 Address	View	/WEB-INF/oracle/communications/inventory/ui/ip/flow/IPv6AddressSearchResultsFlow.xml#IPv6AddressSearchResultsFlow	View IPV6 Address Search page.
IPV6 Address	View	/WEB-INF/oracle/communications/inventory/ui/ip/flow/IPv6AddressCreateFlow.xml#IPv6AddressCreateFlow	View IPV6 Address Create page.
IPV6 Address	View	/WEB-INF/oracle/communications/inventory/ui/ip/flow/IPv6AddressDetailsFlow.xml#IPv6AddressDetailsFlow	View IPV6 Address Details page.
IPV6 Subnet	View	/WEB-INF/oracle/communications/inventory/ui/ip/flow/IPv6SubnetSearchResultsFlow.xml#IPv6SubnetSearchResultsFlow	View IPV6 Subnet Search page.
IPV6 Subnet	View	/WEB-INF/oracle/communications/inventory/ui/ip/flow/IPv6SubnetDetailsFlow.xml#IPv6SubnetDetailsFlow	View IPV6 Subnet Details page.
IPV6 Subnet	View	/WEB-INF/oracle/communications/inventory/ui/ip/flow/IPv6SubnetPartitionFlow.xml#IPv6SubnetPartitionFlow	View IPV6 Subnet Partition page as popup.
IPV6 Subnet Join	View	/WEB-INF/oracle/communications/inventory/ui/ip/flow/IPv6SubnetJoinFlow.xml#IPv6SubnetJoinFlow	View IPV6 Subnet Join page as popup.
IP Resource	View	/WEB-INF/oracle/communications/inventory/ui/common/flow/IPResourceListFlow.xml#IPResourceListFlow	View **IP Resources** list in Details page.
Logical Device	View	/WEB-INF/oracle/communications/inventory/ui/logicaldevice/flow/LogicalDeviceSearchResultsFlow.xml#LogicalDeviceSearchResultsFlow	Open a Search page for logical devices by clicking the **Logical Device** link in the **Tasks** panel.

Table 3-1 (Cont.) Taskflow Permissions

Component	Access Type	Permission String	Controls the Ability to:
Logical Device	View	/WEB-INF/oracle/communications/inventory/ui/logicaldevice/flow/LogicalDeviceSummaryFlow.xml#LogicalDeviceSummaryFlow	Open a Logical Device Summary page.
Logical Device	Edit	/WEB-INF/oracle/communications/inventory/ui/logicaldevice/flow/LogicalDeviceEditFlow.xml#LogicalDeviceEditFlow	Edit a logical device from search results or a Summary page.
Logical Device	Edit	/WEB-INF/oracle/communications/inventory/ui/logicaldevice/flow/LogicalDeviceBulkEditFlow.xml#LogicalDeviceBulkEditFlow	Bulk edit the characteristics of one or more Logical Device entities from the Logical Device - Bulk Edit page.
Logical Device	Edit	/WEB-INF/oracle/communications/inventory/ui/device/MaintainMappingsFlow.xml#MaintainMappingsFlow	Map a device interface to a physical connector or physical port.
Logical Device	View	/WEB-INF/oracle/communications/inventory/ui/logicaldevice/flow/LogicalDeviceRangeEditFlow.xml#LogicalDeviceRangeEditFlow	Create Range of Logical Devices.
Logical Device	View	/WEB-INF/oracle/communications/inventory/ui/logicaldevice/flow/LogicalDeviceCopyFlow.xml#LogicalDeviceCopyFlow	Copy Logical Device.
Logical Device Account	View	/WEB-INF/oracle/communications/inventory/ui/logicaldeviceaccount/flow/LogicalDeviceAccountSearchResultsFlow.xml#LogicalDeviceAccountSearchResultsFlow	Open a Search page for logical device accounts by clicking the **Logical Device Account** link in the **Tasks** panel.
Logical Device Account	View	/WEB-INF/oracle/communications/inventory/ui/logicaldeviceaccount/flow/LogicalDeviceAccountSummaryFlow.xml#LogicalDeviceAccountSummaryFlow	Open a Logical Device Account Summary page.
Logical Device Account	Edit	/WEB-INF/oracle/communications/inventory/ui/logicaldeviceaccount/flow/LogicalDeviceAccountEditFlow.xml#LogicalDeviceAccountEditFlow	Edit a logical device account from search results or a Summary page.
Logical Device Account	Edit	/WEB-INF/oracle/communications/inventory/ui/logicaldeviceaccount/flow/LogicalDeviceAccountRangeEditFlow.xml#LogicalDeviceAccountRangeEditFlow	Edit a range of logical device accounts.
Map Profile	Edit	/WEB-INF/oracle/communications/inventory/ui/network/flow/MapProfileEditFlow.xml#MapProfileEditFlow	Edit the map profile from a Network Summary page.
Map Viewer	View	/WEB-INF/oracle/communications/inventory/ui/network/flow/MapViewFlow.xml#MapViewFlow	Open the Map Viewer application.
Media Resource	View	/WEB-INF/oracle/communications/inventory/ui/mediaresource/flow/MediaResourceLogicalDeviceListFlow.xml#MediaResourceLogicalDeviceListFlow	Open a list of media resources in a Logical Device or Media Stream Summary page.

Table 3-1 (Cont.) Taskflow Permissions

Component	Access Type	Permission String	Controls the Ability to:
Media Stream	View	/WEB-INF/oracle/communications/inventory/ui/mediaresource/flow/MediaStreamSearchResultsFlow.xml#MediaStreamSearchResultsFlow	Open a Search page for media streams by clicking the **Media Streams** link in the **Tasks** panel.
Media Stream	View	/WEB-INF/oracle/communications/inventory/ui/mediaresource/flow/MediaStreamSummaryFlow.xml#MediaStreamSummaryFlow	Open a Media Stream Summary page.
Media Stream	Edit	/WEB-INF/oracle/communications/inventory/ui/mediaresource/flow/MediaStreamEditFlow.xml#MediaStreamEditFlow	Edit a Media Stream entity from search results or a Summary page.
Network	View	/WEB-INF/oracle/communications/inventory/ui/networknode/flow/NetworkNodeSearchResultsFlow.xml#NetworkNodeSearchResultsFlow	Open a Search page for network nodes. The page is opened from the topology visualization.
Network	View	/WEB-INF/oracle/communications/inventory/ui/network/flow/NetworkSearchResultsFlow.xml#NetworkSearchResults	Open a Search page for Network entities by clicking the **Network** link in the **Tasks** panel.
Network	View	/WEB-INF/oracle/communications/inventory/ui/network/flow/NetworkSummaryFlow.xml#NetworkSummaryFlow	View a Network Summary page.
Network	View	/WEB-INF/oracle/communications/inventory/ui/network/flow/NetworkViewFlow.xml#NetworkViewFlow	View a Network Visualization page.
Network	View	/WEB-INF/oracle/communications/inventory/ui/nonmaptopology/flow/NonMapTopologyViewFlow.xml#NonMapTopologyViewFlow	Open the Topological View page.
Network	Edit	/WEB-INF/oracle/communications/inventory/ui/networkedge/flow/NetworkEdgeEditFlow.xml#NetworkEdgeEditFlow	Edit a network edge from Network canvas.
Network	Edit	/WEB-INF/oracle/communications/inventory/ui/network/flow/NetworkEditFlow.xml#NetworkEditFlow	Edit a Network entity from search results or a Summary page.
Network	Edit	/WEB-INF/oracle/communications/inventory/ui/networknode/flow/NetworkNodeEditFlow.xml#NetworkNodeEditFlow	Edit a network node from Network canvas.
Network Address Domain	View	/WEB-INF/oracle/communications/inventory/ui/networkaddress/flow/NetworkAddressDomainSearchResultsFlow.xml#NetworkAddressDomainSearchResultsFlow	View a Network Address Domain Search page.
Network Address Domain	View	/WEB-INF/oracle/communications/inventory/ui/networkaddress/flow/NetworkAddressDomainCreateFlow.xml#NetworkAddressDomainCreateFlow	View a Network Address Domain Create page.
Network Address Domain	View	/WEB-INF/oracle/communications/inventory/ui/networkaddress/flow/NetworkAddressDomainDetailsFlow.xml#NetworkAddressDomainDetailsFlow	View a Network Address Domain details page.

Table 3-1 (Cont.) Taskflow Permissions

Component	Access Type	Permission String	Controls the Ability to:
Network Service	View	/WEB-INF/oracle/communications/inventory/nso/ui/ns/flow/NetworkServiceSearchResultsFlow.xml#NetworkServiceSearchResultsFlow	View Network Service search results.
Network Service	View	/WEB-INF/oracle/communications/inventory/nso/ui/ns/flow/NetworkServiceCreateFlow.xml#NetworkServiceCreateFlow	Open Network Service Create page.
Network Service	View	/WEB-INF/oracle/communications/inventory/nso/ui/ns/flow/NetworkServiceSummaryFlow.xml#NetworkServiceSummaryFlow	Open Network Service Summary page.
Network Service Descriptor	View	/WEB-INF/oracle/communications/inventory/nso/ui/nsd/flow/NSDSearchResultsFlow.xml#NSDSearchResultsFlow	Open Network Service Descriptor Details page.
Network Service Descriptor	View	/WEB-INF/oracle/communications/inventory/nso/ui/nsd/flow/NSDDetailsFlow.xml#NSDDetailsFlow	Open Network Service Descriptor Details page.
Orchestration Request	View	/WEB-INF/oracle/communications/inventory/nso/ui/orchestrationrequest/flow/OrchestrationRequestSearchResultsFlow.xml#OrchestrationRequestSearchResultsFlow	View Orchestration Request Search Results.
Orchestration Request	View	/WEB-INF/oracle/communications/inventory/nso/ui/orchestrationrequest/flow/OrchestrationRequestDetailsFlow.xml#OrchestrationRequestDetailsFlow	Open Orchestration Request Details page.
Orchestration Request	View	/WEB-INF/oracle/communications/inventory/nso/ui/orchestrationrequest/flow/OrchestrationRequestEditFlow.xml#OrchestrationRequestEditFlow	Open Orchestration Request Edit page.
Party	View	/WEB-INF/oracle/communications/inventory/ui/party/flow/PartySearchResultsFlow.xml#PartySearchResultsFlow	Open a Search page for parties by clicking the **Party** link in the **Tasks** panel.
Party	View	/WEB-INF/oracle/communications/inventory/ui/party/flow/PartySummaryFlow.xml#PartySummaryFlow	Open a Party Summary page.
Party	Edit	/WEB-INF/oracle/communications/inventory/ui/party/flow/PartyEditFlow.xml#PartyEditFlow	Edit a party from search results or a Summary page.
Path Analysis	Edit	/WEB-INF/oracle/communications/inventory/ui/connectivity/flow/PathAnalysisFlow.xml#PathAnalysisFlow	Open a Path Analysis page from a Pipe or Pipe Configuration page.
Physical Connector	View	/WEB-INF/oracle/communications/inventory/ui/physicalconnector/flow/PhysicalConnectorSearchResultsFlow.xml#PhysicalConnectorSearchResultsFlow	Open a Search page for physical connectors from a Physical Device or Equipment Summary page.
Physical Connector	View	/WEB-INF/oracle/communications/inventory/ui/physicalconnector/flow/PhysicalConnectorSummaryFlow.xml#PhysicalConnectorSummaryFlow	Open a Physical Connector Summary page from a Physical Device or Equipment Summary page.

Table 3-1 (Cont.) Taskflow Permissions

Component	Access Type	Permission String	Controls the Ability to:
Physical Connector	Edit	/WEB-INF/oracle/communications/inventory/ui/physicalconnector/flow/PhysicalConnectorEditFlow.xml#PhysicalConnectorEditFlow	Edit a physical connector from a Physical Device or Equipment Summary page.
Physical Device	View	/WEB-INF/oracle/communications/inventory/ui/physicaldevice/flow/PhysicalDeviceSearchResultsFlow.xml#PhysicalDeviceSearchResultsFlow	Open a Search page for physical devices by clicking the **Physical Device** link in the **Tasks** panel.
Physical Device	View	/WEB-INF/oracle/communications/inventory/ui/physicaldevice/flow/PhysicalDeviceSummaryFlow.xml#PhysicalDeviceSummaryFlow	Open a Physical Device Summary page.
Physical Device	Edit	/WEB-INF/oracle/communications/inventory/ui/physicaldevice/flow/PhysicalDeviceEditFlow.xml#PhysicalDeviceEditFlow	Edit a physical device from search results or a Summary page.
Physical Jumper	View	/WEB-INF/oracle/communications/inventory/ui/connectivity/interconnection/visualization/flow/PhysicalJumperViewFlow.xml#PhysicalJumperViewFlow	Topology view of Physical Jumper.
Physical Network Function	View	/WEB-INF/oracle/communications/inventory/nso/ui/vnf/flow/PNFSearchResultsFlow.xml#VNFSearchResultsFlow	View PNF Search results.
Physical Network Function	View	/WEB-INF/oracle/communications/inventory/nso/ui/vnf/flow/PNFCreateFlow.xml#VNFCreateFlow	Open PNF Create tab in Network Service Create and Details page.
Physical Network Function	View	/WEB-INF/oracle/communications/inventory/nso/ui/vnf/flow/PNFSummaryFlow.xml#VNFSummaryFlow	Open PNF Summary page.
Physical Port	View	/WEB-INF/oracle/communications/inventory/ui/physicalport/flow/PhysicalPortSearchResultsFlow.xml#PhysicalPortSearchResultsFlow	Open a Search page for physical ports from a Physical Device or Equipment Summary page.
Physical Port	View	/WEB-INF/oracle/communications/inventory/ui/physicalport/flow/PhysicalPortSummaryFlow.xml#PhysicalPortSummaryFlow	Open a Physical Port Summary page from a Physical Device or Equipment Summary page.
Physical Port	Edit	/WEB-INF/oracle/communications/inventory/ui/physicalport/flow/PhysicalPortEditFlow.xml#PhysicalPortEditFlow	Edit a physical port from a Physical Device or Equipment Summary page.
Pipe	View	/WEB-INF/oracle/communications/inventory/ui/connectivity/flow/EnabledbyViewFlow.xml#EnabledbyViewFlow	Open an Enabled by Visualization page from a Pipe Summary page.
Pipe	View	/WEB-INF/oracle/communications/inventory/ui/configuration/flow/PipeConfigurationTrailListFlow.xml#PipeConfigurationTrailListFlow	Open an Enabled By Visualization page in a Pipe Configuration Summary page.
Pipe	View	/WEB-INF/oracle/communications/inventory/ui/connectivity/flow/PipeSearchResultsFlow.xml#PipeSearchResultsFlow	Open a Search page for pipes by clicking the **Pipe** link in the **Tasks** panel.

Table 3-1 (Cont.) Taskflow Permissions

Component	Access Type	Permission String	Controls the Ability to:
Pipe	View	/WEB-INF/oracle/communications/inventory/ui/connectivity/flow/PipeSummaryFlow.xml#PipeSummaryFlow	Open a Pipe Summary page.
Pipe	View	/WEB-INF/oracle/communications/inventory/ui/connectivity/flow/PipeTerminationPointSearchResultsFlow.xml#PipeTerminationPointSearchResultsFlow	Open a Search page for pipe termination points.
Pipe	View	/WEB-INF/oracle/communications/inventory/ui/connectivity/flow/PipeTerminationPointSummaryFlow.xml#PipeTerminationPointSummaryFlow	Open a Pipe Termination Point Summary page from a Pipe Summary page.
Pipe	View	/WEB-INF/oracle/communications/inventory/ui/configuration/flow/PipeConfigurationSummaryFlow.xml#PipeConfigurationSummaryFlow	Open a Pipe Configuration Summary page.
Pipe	Edit	/WEB-INF/oracle/communications/inventory/ui/connectivity/flow/PipeEditFlow.xml#PipeEditFlow	Edit a pipe from search results or a Summary page.
Pipe	Edit	/WEB-INF/oracle/communications/inventory/ui/connectivity/flow/PipeTPDirectionEditPopupFlow.xml#PipeTPDirectionEditPopupFlow	Edit pipe directionality from a Pipe Summary page.
Pipe	Edit	/WEB-INF/oracle/communications/inventory/ui/connectivity/flow/PipeTerminationPointEditFlow.xml#PipeTerminationPointEditFlow	Edit a pipe termination point from a Pipe Summary page.
Place	View	/WEB-INF/oracle/communications/inventory/ui/place/flow/PlaceSearchResultsFlow.xml#PlaceSearchResultsFlow	Open a Search page for places by clicking the **Place** link in the **Tasks** panel.
Place	View	/WEB-INF/oracle/communications/inventory/ui/place/flow/PlaceSummaryFlow.xml#PlaceSummaryFlow	Open a Place Summary page.
Place	Edit	/WEB-INF/oracle/communications/inventory/ui/place/flow/PlaceEditFlow.xml#PlaceEditFlow	Edit a place from search results or a Summary page.
Product	View	/WEB-INF/oracle/communications/inventory/ui/product/flow/ProductSearchResultsFlow.xml#ProductSearchResultsFlow	Open a Search page for products by clicking the **Product** link in the **Tasks** panel.
Product	View	/WEB-INF/oracle/communications/inventory/ui/product/flow/ProductSummaryFlow.xml#ProductSummaryFlow	Open a Product Summary page.
Product	Edit	/WEB-INF/oracle/communications/inventory/ui/product/flow/ProductEditFlow.xml#ProductEditFlow	Edit a product from search results or a Summary page.
Project	View	/WEB-INF/oracle/communications/inventory/ui/project/flow/ProjectSearchResultsFlow.xml#ProjectSearchResultsFlow	Project Search Results.
Project	View	/WEB-INF/oracle/communications/inventory/ui/project/flow/ProjectCreateFlow.xml#ProjectCreateFlow	Create Project.
Project	View	/WEB-INF/oracle/communications/inventory/ui/project/flow/ProjectDetailsFlow.xml#ProjectDetailsFlow	View Project Details.

Table 3-1 (Cont.) Taskflow Permissions

Component	Access Type	Permission String	Controls the Ability to:
PropertyLocation	View	/WEB-INF/oracle/communications/inventory/ui/location/flow/LocationSearchResultsFlow.xml#LocationSearchResultsFlow	View Property Location Search page.
PropertyLocation	Edit	/WEB-INF/oracle/communications/inventory/ui/location/flow/LocationDetailsFlow.xml#LocationDetailsFlow	View Property Location Create/Edit page.
Reservation	View	/WEB-INF/oracle/communications/inventory/ui/consumer/flow/ReservationListFlow.xml#ReservationListFlow	View the reservation list for an entity by selecting from the **Related Pages** menu in an entity Summary page.
Reservation	View	/WEB-INF/oracle/communications/inventory/ui/consumer/flow/ReservationSearchResultsFlow.xml#ReservationSearchResultsFlow	Open a Search page for reservations by clicking the **Reservation** link in the **Tasks** panel.
Reservation	Edit	/WEB-INF/oracle/communications/inventory/ui/consumer/flow/RedeemReservationFlow.xml#RedeemReservationFlow	Open the Redeem Reservation page.
Reservation	Edit	/WEB-INF/oracle/communications/inventory/ui/consumer/flow/ReservationEditFlow.xml#ReservationEditFlow	Edit a reservation.
Role	Edit	/WEB-INF/oracle/communications/inventory/ui/role/flow/InventoryRoleEditFlow.xml#InventoryRoleEditFlow	Edit a role from an entity Summary page.
RuleSet	View	/WEB-INF/oracle/communications/inventory/ui/rule/flow/RuleSearchResultsFlow.xml#RuleSearchResultsFlow	Open a Search page for rulesets by clicking the **Rule Set** link in the **Tasks** panel.
RuleSet	View	/WEB-INF/oracle/communications/inventory/ui/rule/flow/RuleSummaryFlow.xml#RuleSummaryFlow	Open a RuleSet Summary page.
Service	View	/WEB-INF/oracle/communications/inventory/ui/service/flow/ServiceSearchResultsFlow.xml#ServiceSearchResultsFlow	Open a Search page for services by clicking the **Service** link in the **Tasks** panel.
Service	View	/WEB-INF/oracle/communications/inventory/ui/service/flow/ServiceSummaryFlow.xml#ServiceSummaryFlow	Open a Service Summary page.
Service	View	/WEB-INF/oracle/communications/inventory/ui/service/flow/ServiceTopologyViewFlow.xml#ServiceTopologyViewFlow	Open the topology view for a service.
Service	Edit	/WEB-INF/oracle/communications/inventory/ui/service/flow/ServiceEditFlow.xml#ServiceEditFlow	Edit a service from search results or a Summary page.
Service	View	/WEB-INF/oracle/communications/inventory/ui/service/flow/ServiceListFlow.xml#ServiceListFlow	View List of Services.
Signal Structure	View	/WEB-INF/oracle/communications/inventory/ui/connectivity/flow/SignalStructureSummaryFlow.xml#SignalStructureSummaryFlow	Open the Signal Structure page from the **Related Pages** menu of a Pipe Summary page.

Table 3-1 (Cont.) Taskflow Permissions

Component	Access Type	Permission String	Controls the Ability to:
Signal Structure	View	/WEB-INF/oracle/communications/inventory/ui/connectivity/flow/SignalTPSpecificationSearchResultsFlow.xml#SignalTPSpecificationSearchResultsFlow	Open a Search page for Signal Termination Point specifications by selecting **Map Signal Structure** from the **Related Pages** menu of a Pipe Summary page.
Specification	View	/WEB-INF/oracle/communications/inventory/ui/sequencespecification/flow/SequenceSpecificationSearchResultsFlow.xml#SequenceSpecificationSearchResultsFlow	Open a Search page for sequence specifications by clicking the **Sequence Specification** link in the **Tasks** panel.
Specification	View	/WEB-INF/oracle/communications/inventory/ui/sequencespecification/flow/SequenceSpecificationSummaryFlow.xml#SequenceSpecificationSummaryFlow	Open a Sequence Specification Summary page.
Specification	View	/WEB-INF/oracle/communications/inventory/ui/specification/flow/SpecificationSearchResultsFlow.xml#SpecificationSearchResultsFlow	Open a Search page to search for specifications by clicking the **Specification** link in the **Tasks** panel.
Specification	View	/WEB-INF/oracle/communications/inventory/ui/specification/flow/SpecificationSummaryFlow.xml#SpecificationSummaryFlow	Open a Specification Summary page.
Specification	Edit	/WEB-INF/oracle/communications/inventory/ui/specification/flow/SpecificationRelationshipMaintFlow.xml#SpecificationRelationshipMaintFlow	Edit specification relationships.
Tag	View	/WEB-INF/oracle/communications/inventory/ui/tag/flow/TagSearchResultsFlow.xml#TagSearchResultsFlow	Tag Search Results.
Tag	View	/WEB-INF/oracle/communications/inventory/ui/tag/flow/TagSummaryFlow.xml#TagSummaryFlow	View Tag Summary.
Telephone Number	View	/WEB-INF/oracle/communications/inventory/ui/number/flow/TelephoneNumberSearchResultsFlow.xml#TelephoneNumberSearchResultsFlow	Open a Search page for telephone numbers by clicking the **Telephone Number** link in the **Tasks** panel.
Telephone Number	View	/WEB-INF/oracle/communications/inventory/ui/number/flow/TelephoneNumberSummaryFlow.xml#TelephoneNumberSummaryFlow	Open the Telephone Number Summary page.
Telephone Number	Edit	/WEB-INF/oracle/communications/inventory/ui/number/flow/TelephoneNumberEditFlow.xml#TelephoneNumberEditFlow	Edit a telephone number.
Telephone Number	Edit	/WEB-INF/oracle/communications/inventory/ui/number/flow/TelephoneNumberBulkEditFlow.xml#TelephoneNumberBulkEditFlow	Bulk edit the characteristics of one or more Telephone Number entities from the Telephone Number - Bulk Edit page.

Table 3-1 (Cont.) Taskflow Permissions

Component	Access Type	Permission String	Controls the Ability to:
Virtual Network Function	View	/WEB-INF/oracle/communications/inventory/nso/ui/vnf/flow/VNFSearchResultsFlow.xml#VNFSearchResultsFlow	View VNF Search results.
Virtual Network Function	View	/WEB-INF/oracle/communications/inventory/nso/ui/vnf/flow/VNFCreateFlow.xml#VNFCreateFlow	Open VNF Create tab in Network Service Create and Details page.
Virtual Network Function	View	/WEB-INF/oracle/communications/inventory/nso/ui/vnf/flow/VNFSummaryFlow.xml#VNFSummaryFlow	Open VNF Summary page.
Virtual Network Function Descriptor	View	/WEB-INF/oracle/communications/inventory/nso/ui/vnfd/flow/VNFDSearchResultsFlow.xml#VNFDSearchResultsFlow	View Virtual Network Function Descriptor search results.
Virtual Network Function Descriptor	View	/WEB-INF/oracle/communications/inventory/nso/ui/vnfd/flow/VNFDDetailsFlow.xml#VNFDDetailsFlow	View Virtual Network Function Descriptor Details page.

Resource Permissions

Table 3-2 lists all the UIM resource permissions, sorted by component.

Table 3-2 Resource Permissions

Component	Type	Permission Name	Purpose
Activity	Menu Action	Activity.VALIDATE	Validate the Activity.
Activity	Menu Action	Activity.SUBMIT	Submit the Activity.
Activity	Menu Action	Activity.CANCEL	Cancel the Activity.
Activity	Menu Action	Activity.CREATE	Create the Activity.
Activity	Menu Action	Activity.EDIT	Edit the Activity.
Business Interaction	Button Action	BusinessInteraction.DELETE	Delete a business interaction from the search results.
Business Interaction	Button Action	BusinessInteraction.CREATE	Create a business interaction from the search results.
Business Interaction	Button Action	BusinessInteraction.EDIT	EDIT a business interaction from the search results.
Business Interaction	Button Action	BusinessInteractionItem.DELETE	Delete a business interaction item from the Business Interaction Summary page.
Business Interaction	Button Action	BusinessInteractionItem.CREATE	Create a business interaction item from the Business Interaction Summary page.
Business Interaction	Button Action	BusinessInteractionItem.EDIT	Edit a business interaction item from the Business Interaction Summary page.

Table 3-2 (Cont.) Resource Permissions

Component	Type	Permission Name	Purpose
Business Interaction	Button Action	BusinessInteractionItem.TRANSFER	Transfer a business interaction item from the Business Interaction Summary page.
Business Interaction	Menu	BusinessInteraction.ASSOCIATE	Associate a business interaction item from the Business Interaction Summary page.
Business Interaction	Menu Action	BusinessInteraction.ACTIVATE	Activate a business interaction from the Business Interaction Summary page.
Business Interaction	Menu Action	BusinessInteraction.APPROVE_CONFIGURATIONS	Approve a business interaction from the Business Interaction Summary page.
Business Interaction	Menu Action	BusinessInteraction.CANCEL	Cancel a business interaction from the Business Interaction Summary page.
Business Interaction	Menu Action	BusinessInteraction.CANCEL_HIERARCHY	Cancel a business interaction hierarchy from the Business Interaction Summary page.
Business Interaction	Menu Action	BusinessInteraction.COMPLETE	Complete a business interaction from the Business Interaction Summary page.
Business Interaction	Menu Action	BusinessInteraction.COMPLETE_HIERARCHY	Complete a business interaction hierarchy from the Business Interaction Summary page.
Business Interaction	Menu Action	BusinessInteraction.DEACTIVATE	Deactivate a business interaction from the Business Interaction Summary page.
Business Interaction	Menu Action	BusinessInteraction.ISSUE_CONFIGURATIONS	Issue a service configuration from the Business Interaction Summary page.
Business Interaction	Menu Action	BusinessInteraction.SEND_REQUEST	Send a request from the Business Interaction Summary page.
Business Interaction	Menu Action	BusinessInteraction.VALIDATE	Validate a business interaction from the Business Interaction Summary page.
Business Interaction	Menu Action	BusinessInteraction.ASSOCIATE_CHILD_BI	Add a child business interaction to the hierarchy in the Business Interaction Summary page.
Business Interaction	Menu Action	BusinessInteraction.DISASSOCIATE_CHILD_BI	Remove a child business interaction from the hierarchy in the Business Interaction Summary page.
Characteristics	Button Action	CharacteristicSpecification.DELETE	Delete a Characteristic specification from the **Characteristic Specification** list.
Characteristics	Button Action	CharacteristicSpecification.CREATE	Create a Characteristic specification from the **Characteristic Specification** list.

Table 3-2 (Cont.) Resource Permissions

Component	Type	Permission Name	Purpose
Characteristics	Button Action	CharacteristicSpecification.EDIT	Edit a Characteristic specification from the **Characteristic Specification** list.
Common Configuration	Menu Action	Configuration.MAINTAIN_CONFIG_ITEMS	Maintain configuration items from the hierarchy in the Configuration Summary page.
Condition	Button Action	Condition.DELETE	Delete a condition from the Condition List page.
Condition	Button Action	Condition.CREATE	Create a condition from the Condition List page.
Condition	Button Action	Condition.EDIT	Edit a condition from the Condition List page.
Connectivity	Menu Action	TDMFacility.ACTIVATE	Activate the Connectivity.
Connectivity	Menu Action	TDMFacility.DEACTIVATE	Deactivate the Connectivity.
Connectivity	Menu Action	TDMFacility.COMPLETE	Complete the Design version of Connectivity.
Connectivity	Menu Action	TDMFacility.CANCEL	Cancel the Design version of Connectivity.
Connectivity	Button Action	TDMFacility.DELETE	Delete the connectivity.
Connectivity	Button Action	TDMFacility.CREATE	Create the connectivity.
Connectivity	Button Action	TDMFacility.EDIT	Edit the connectivity.
Connectivity	Button Action	TDMConnectivityDetails.SAVE	Save the TDM Connectivity details.
Connectivity	Button Action	TDMConnectivityDetails.SAVE_AND_CLOSE	Save the TDM Connectivity details and navigate back to the view mode.
Connectivity	Button Action	TDMConnectivityDetails.EDIT	Edit the TDM Connectivity details.
Connectivity	Button Action	TDMConnectivityCreate.SAVE	Create the TDM Connectivity.
Connectivity	Button Action	TDMConnectivityCreate.SAVE_AND_CLOSE	Create the TDM Connectivity and navigate back to the Search page.
Connectivity	Button Action	TDMConnectivityCreate.EDIT	Open the TDM Connectivity details in the Edit mode in the Create page.
Connectivity	Button Action	TDMConnectivityCreate.DELETE	Delete the TDM Connectivity from the New Channelized Connectivity table.
Connectivity	Button Action	TDMConnectivityCreate.CREATE	Create a TDM Connectivity from the New Channelized Connectivity table.
Connectivity	Menu Action	TDMFacility.DISCONNECT	Disconnect Connectivity.
Cross Connect	Button Action	CrossConnectsView.DELETE	Delete the cross connect from the Cross Connect Visual page.
Cross Connect	Button Action	CrossConnectsView.CREATE	Create the cross connect from the Cross Connect Visual page.
Cross Connect	Button Action	CrossConnectsView.EDIT	Edit the cross connect from the Cross Connect Visual page.

Table 3-2 (Cont.) Resource Permissions

Component	Type	Permission Name	Purpose
Cross Connect	Button Action	CrossConnectsView.CREATE_CROSS_CONNECTS	Create a cross connect in the Cross Connect Visual page.
Custom Network Address	Button Action	CustomNetworkAddress.DELETE	Delete a custom network address from search results.
Custom Network Address	Button Action	CustomNetworkAddress.CREATE	Create a custom network address from search results.
Custom Network Address	Button Action	CustomNetworkAddress.EDIT	Edit a custom network address from search results.
Custom Network Address	Menu Action	CustomNetworkAddress.ACTIVATE	Activate a custom network address from the Custom Network Address Summary page.
Custom Network Address	Menu Action	CustomNetworkAddress.DEACTIVATE	Deactivate a custom network address from the Custom Network Address Summary page.
Custom Network Address	Menu Action	CustomNetworkAddress.VALIDATE	Validate a custom network address from the Custom Network Address Summary page.
Custom Network Address	Menu Action	CustomNetworkAddress.ASSOCIATE_CNA	Add a child custom network address to the hierarchy in the Custom Network Address Summary page.
Custom Network Address	Menu Action	CustomNetworkAddress.DISASSOCIATE_CNA	Remove a child custom network address from the hierarchy in the Custom Network Address Summary page.
Custom Object	Button Action	CustomObject.DELETE	Delete a custom object from search results.
Custom Object	Button Action	CustomObject.CREATE	Create a custom object from search results.
Custom Object	Button Action	CustomObject.EDIT	Edit a custom object from search results.
Custom Object	Menu Action	CustomObject.ACTIVATE	Activate a custom object from the Custom Object Summary page.
Custom Object	Menu Action	CustomObject.DEACTIVATE	Deactivate a custom object from the Custom Object Summary page.
Custom Object	Menu Action	CustomObject.VALIDATE	Validate a custom object from the Custom Object Summary page.
Custom Object	Menu Action	CustomObject.ASSOCIATE_CO	Add a child custom object to the hierarchy in the Custom Object Summary page.
Custom Object	Menu Action	CustomObject.DISASSOCIATE_CO	Remove a child custom object from the hierarchy in the Custom Object Summary page.
Equipment	Button Action	EquipmentHolder.DELETE	Delete an equipment holder from search results.
Equipment	Button Action	EquipmentHolder.CREATE	Create an equipment holder from search results.

Table 3-2 (Cont.) Resource Permissions

Component	Type	Permission Name	Purpose
Equipment	Button Action	EquipmentHolder.EDIT	Edit an equipment holder from search results.
Equipment	Button Action	Equipment.DELETE	Delete an Equipment entity from search results.
Equipment	Button Action	Equipment.CREATE	Create an Equipment entity from search results.
Equipment	Button Action	Equipment.EDIT	Edit an Equipment entity from search results.
Equipment	Button Action	Equipment.DUPLICATE	Duplicate an Equipment entity from search results.
Equipment	Menu Action	Equipment.ACTIVATE	Activate an Equipment entity from the Equipment Summary page.
Equipment	Menu Action	Equipment.DEACTIVATE	Deactivate an Equipment entity from the Equipment Summary page.
Equipment	Menu Action	Equipment.VALIDATE	Validate an Equipment entity from the Equipment Summary page.
Equipment	Button Action	Equipment.ASSOCIATE	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.
Equipment	Menu Action	Equipment.DISASSOCIATE	Disassociate Equipment from the hierarchy in the Physical Device Summary page.
Equipment	Button Action	Equipment.DISASSOCIATE	Disassociate the Equipment.
Ethernet ENNI Connectivity	Menu Action	EthernetENNIConnectivity.ACTIVATE	Activate the Ethernet ENNI connectivity.
Ethernet ENNI Connectivity	Menu Action	EthernetENNIConnectivity.DEACTIVATE	Deactivate the Ethernet ENNI connectivity.
Ethernet ENNI Connectivity	Menu Action	EthernetENNIConnectivity.COMPLETE	Complete the Ethernet ENNI connectivity.
Ethernet ENNI Connectivity	Menu Action	EthernetENNIConnectivity.CANCEL	Cancel the Ethernet ENNI connectivity.
Ethernet ENNI Connectivity	Menu Action	EthernetENNIConnectivity.DISCONNECT	Disconnect the Ethernet ENNI connectivity.
Ethernet UNI Connectivity	Menu Action	EthernetUNIConnectivity.DEACTIVATE	Deactivate the Ethernet UNI connectivity.
Ethernet UNI Connectivity	Menu Action	EthernetUNIConnectivity.COMPLETE	Complete the Ethernet UNI connectivity.
Ethernet UNI Connectivity	Menu Action	EthernetUNIConnectivity.CANCEL	Cancel the Ethernet UNI connectivity.
Ethernet UNI Connectivity	Menu Action	EthernetUNIConnectivity.DISCONNECT	Disconnect Ethernet UNI connectivity.
Ethernet UNI Connectivity	Menu Action	EthernetUNIConnectivity.ACTIVATE	Activate Ethernet UNI connectivity.

Table 3-2 (Cont.) Resource Permissions

Component	Type	Permission Name	Purpose
Flow Identifier	Button Action	FlowIdentifier.DELETE	Delete a Flow Identifier entity from the search results.
Flow Identifier	Button Action	FlowIdentifier.CREATE	Create a Flow Identifier entity from the search results.
Flow Identifier	Button Action	FlowIdentifier.SAVE	Save the Flow Identifier details.
Flow Identifier	Button Action	FlowIdentifier.SAVE_AND_CLOSE	Create the Flow Identifier and navigate back to the Search page.
Flow Identifier	Button Action	FlowIdentifier.EDIT	Open the Flow Identifier details in **Edit** mode in the Create page.
Flow Identifier	Menu Action	FlowIdentifier.DEACTIVATE	Deactivate the flow identifier from the Flow Identifier Summary page.
Flow Identifier	Menu Action	FlowIdentifier.ACTIVATE	Activate the flow identifier from the Flow Identifier Summary page.
Flow Interface	Menu Action	FlowInterface.ACTIVATE	Activate the flow interface from the Flow Interface Summary page.
Flow Interface	Menu Action	FlowInterface.DEACTIVATE	Deactivate the flow interface from the Flow Interface Summary page.
Inventory Group	Button Action	InventoryGroup.DELETE	Delete an inventory group from search results.
Inventory Group	Button Action	InventoryGroup.CREATE	Create an inventory group from search results.
Inventory Group	Button Action	InventoryGroup.EDIT	Edit an inventory group from search results.
Inventory Group	Button Action	InventoryGroupItem.DELETE	Delete an inventory group from search results.
Inventory Group	Button Action	InventoryGroupItem.CREATE	Create an inventory group from search results.
Inventory Group	Button Action	InventoryGroupItem.EDIT	Edit an inventory group from search results.
Inventory Group	Menu Action	InventoryGroup.ACTIVATE	Activate an inventory group from the Inventory Group Summary page.
Inventory Group	Menu Action	InventoryGroup.DEACTIVATE	Deactivate an inventory group from the Inventory Group Summary page.
Inventory Group	Menu Action	InventoryGroup.VALIDATE	Validate an inventory group from the Inventory Group Summary page.
Inventory Group	Button Action	InventoryGroup.ASSOCIATE	Associate an entity with an inventory group from the Inventory Group portlet on the Entity Summary page.

Table 3-2 (Cont.) Resource Permissions

Component	Type	Permission Name	Purpose
Inventory Group	Menu Action	InventoryGroup.ASSOCIATE_IG	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.
Inventory Group	Menu Action	InventoryGroup.DISASSOCIATE_IG	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.
Inventory Group	Button Action	InventoryGroupItem.ASSOCIATE	Associate inventory group items from the Inventory Group Summary page.
Involvement	Button Action	Involvement.DELETE	Delete an involvement from an entity Summary page.
Involvement	Button Action	Involvement.CREATE	Create an involvement from an entity Summary page.
Involvement	Button Action	Involvement.EDIT	Edit an involvement from an entity Summary page.
IPV4 Network	Button Action	IPv4Network.DELETE	Delete IPv4 Network from the search results.
IPV4 Network	Button Action	IPv4Network.CREATE	Create IPv4 Network from the search results.
IP Subnet	Menu Action	IPSubnet.ACTIVATE	Activate IP Subnet from the IP Subnet Details page.
IP Subnet	Menu Action	IPSubnet.DEACTIVATE	Deactivate IP Subnet from the IP Subnet Details page.
IPV4 Network	Button Action	IPv4Network.EDIT	Edit IPv4 Network from the search results.
IPV4 Network	Button Action	IPv4NetworkCreate.SAVE	Save the IPv4 Network.
IPV4 Network	Button Action	Pv4NetworkCreate.SAVE_AND_CLOSE	Save the IPv4 Network and navigate back to the Search page.
IPV4 Network	Button Action	IPv4NetworkDetails.SAVE_AND_CLOSE	Save the changes to the IPv4 Network and navigate back to the Search page.
IPV4 Network	Button Action	IPv4NetworkDetails.SAVE	Save the changes to IPv4 Network.
IPV4 Network	Button Action	IPv4NetworkDetails.EDIT	Edit the IPv4 Network details.
IPv4 Address	Button Action	IPv4Address.DELETE	Delete IPv4 Address from the search results.
IPv4 Address	Button Action	IPv4Address.CREATE	Create IPv4 Address from the search results.
IPv4 Address	Button Action	IPv4Address.EDIT	Edit IPv4 Address from the search results.
IPv4 Address	Button Action	IPv4AddressCreate.SAVE	Save the IPv4 Address.

Table 3-2 (Cont.) Resource Permissions

Component	Type	Permission Name	Purpose
IPv4 Address	Button Action	IPv4AddressCreate.SAVE_AND_CLOSE	Save the IPv4 Address and navigate back to the Search page.
IPv4 Address	Button Action	IPv4AddressDetails.EDIT	Edit the IPv4 Address details.
IPv4 Address	Button Action	IPv4AddressDetails.SAVE	Save the changes to the IPv4 Address.
IPv4 Address	Button Action	IPv4AddressDetails.SAVE_AND_CLOSE	Save the changes to the IPv4 Address and navigate back to the Search page.
IPv4 Address	Menu Action	IPv4Address.ACTIVATE	Activate IPv4 Address from IPv4 Address Details page.
IPv4 Address	Menu Action	IPv4Address.DEACTIVATE	Deactivate IPv4 Address from the IPv4 Address Details page.
IPV4 Subnet	Button Action	IPv4Subnet.ACTIVATE	Activate IPv4 Subnet from the IPv4 Subnet Details page.
IPV4 Subnet	Button Action	IPv4Subnet.DEACTIVATE	Deactivate IPv4 Subnet from the IPv4 Subnet Details page.
IPV4 Subnet	Button Action	IPv4SubnetDetails.SAVE	Save the changes to IPv4 Subnet.
IPV4 Subnet	Button Action	IPv4SubnetDetails.SAVE_AND_CLOSE	Save the changes to the IPv4 Subnet and navigate back to the Search page.
IPV4 Subnet	Button Action	IPv4SubnetDetails.EDIT	Edit the IPv4 Subnet details.
IPV4 Subnet	Menu Action	IPv4SubnetDetails.PARTITION	Open the Partition popup from the Details page.
IPV4 Subnet	Menu Action	IPv4SubnetDetails.JOIN	Open the Join popup from the Details page.
IPV4 Subnet	Button Action	IPv4SubnetPartition.PARTITION	Partition the subnet.
IPV4 Subnet	Button Action	IPv4SubnetJoin.JOIN	Join the subnet.
IPV6 Network	Button Action	IPv6Network.DELETE	Delete IPv6 Network from the search results.
IPV6 Network	Button Action	IPv6Network.CREATE	Create IPv6 Network from the search results.
IPV6 Network	Button Action	IPv6Network.EDIT	Edit IPv6 Network from the search results.
IPV6 Network	Button Action	IPv6NetworkCreate.SAVE	Save the IPv6 Network.
IPV6 Network	Button Action	IPv6NetworkCreate.SAVE_AND_CLOSE	Save the IPv6 Network and navigate back to the Search page.
IPV6 Network	Button Action	IPv6NetworkDetails.SAVE	Save the changes to IPv6 Network.
IPV6 Network	Button Action	IPv6NetworkDetails.SAVE_AND_CLOSE	Save the changes to the IPv6 Network and navigate back to the Search page.
IPV6 Network	Button Action	IPv6NetworkDetails.EDIT	Edit the IPv6 Network details.
IPV6 Address	Button Action	IPv6Address.DELETE	Delete IPv6 Address from the search results.

Table 3-2 (Cont.) Resource Permissions

Component	Type	Permission Name	Purpose
IPV6 Address	Button Action	IPv6Address.CREATE	Create IPv6 Address from the search results.
IPV6 Address	Button Action	IPv6Address.EDIT	Edit IPv6 Address from the search results.
IPV6 Address	Menu Action	IPv6AddressCreate.SAVE	Save the IPv6 Address.
IPV6 Address	Menu Action	IPv6AddressCreate.SAVE_AND_CLOSE	Save the IPv6 Address and navigate back to the Search page.
IPV6 Address	Button Action	IPv6AddressDetails.SAVE	Save the changes to IPv6 Address.
IPV6 Address	Button Action	IPv6AddressDetails.SAVE_AND_CLOSE	Save the changes to the IPv6 Address and navigate back to the Search page.
IPV6 Address	Button Action	IPv6AddressDetails.EDIT	Edit the IPv6 Address details.
IPV6 Address	Button Action	IPv6Address.ACTIVATE	Activate IPv6 Address from the IPv6 Address Details page.
IPV6 Address	Button Action	IPv6Address.DEACTIVATE	Deactivate IPv6 Address from the IPv6 Address Details page.
IPV6 Subnet	Menu Action	IPv6Subnet.ACTIVATE	Activate IPv6 Subnet from the IPv6 Subnet Details page.
IPV6 Subnet	Menu Action	IPv6Subnet.DEACTIVATE	Deactivate IPv6 Subnet from the IPv6 Subnet Details page.
IPV6 Subnet	Button Action	IPv6SubnetDetails.SAVE	Save the changes to IPv6 Subnet.
IPV6 Subnet	Button Action	IPv6SubnetDetails.SAVE_AND_CLOSE	Save the changes to the IPv6 Subnet and navigate back to the Search page.
IPV6 Subnet	Button Action	IPv6SubnetDetails.EDIT	Edit the IPv6 Subnet details.
IPV6 Subnet	Button Action	IPv6SubnetDetails.PARTITION	Open the Partition popup from the Details page.
IPV6 Subnet	Button Action	IPv6SubnetDetails.JOIN	Open the Join popup from the Details page.
IPV6 Subnet	Button Action	IPv6SubnetPartition.PARTITION	Partition the subnet.
IPV6 Subnet	Button Action	IPv6SubnetJoin.JOIN	Join the subnet.
Logical Device	Button Action	LogicalDevice.DELETE	Delete a logical device from search results.
Logical Device	Button Action	LogicalDevice.CREATE	Create a logical device from search results.
Logical Device	Button Action	LogicalDevice.EDIT	Edit a logical device from search results.
Logical Device	Button Action	DeviceMapping.DELETE	Map a physical port or connector to a device interface from the Device Interface Summary page.
Logical Device	Button Action	DeviceMapping.CREATE	Map a physical port or connector to a device interface from the Device Interface Summary page.

Table 3-2 (Cont.) Resource Permissions

Component	Type	Permission Name	Purpose
Logical Device	Button Action	DeviceMapping.EDIT	Map a physical port or connector to a device interface from the Device Interface Summary page.
Logical Device	Menu Action	LogicalDevice.ACTIVATE	Activate a logical device from the Logical Device Summary page.
Logical Device	Menu Action	LogicalDevice.DEACTIVATE	Deactivate a logical device from the Logical Device Summary page.
Logical Device	Menu Action	LogicalDevice.VALIDATE	Validate a logical device from the Logical Device Summary page.
Logical Device	Button Action	LogicalDevice.DUPLICATE	Duplicate a logical device from the search results page.
Logical Device	Menu Action	LogicalDevice.ASSOCIATE_LD	Add a logical device to the hierarchy in the Logical Device Summary page and/or from the hierarchy in the Physical Device Summary page.
Logical Device	Menu Action	LogicalDevice.DISASSOCIATE_LD	Remove a logical device from the hierarchy in the Logical Device Summary page and/or from the hierarchy in the Physical Device Summary page.
Logical Device	Menu Action	DeviceInterface.ASSOCIATE_DI	Add a device interface to the hierarchy in the Logical Device Summary page and/or to the hierarchy in the Device Interface Summary page.
Logical Device	Menu Action	LogicalDevice.MAINTAIN_MAPPINGS	Maintain mappings from the hierarchy in the Logical Device Summary page.
Logical Device	Menu Action	DeviceInterface.DISASSOCIATE_DI	Remove a device interface from the hierarchy in the Logical Device Summary page and/or from the hierarchy in the Device Interface Summary page.
Logical Device	Button Action	LogicalDevice.ASSOCIATE	Associate the Logical Device.
Logical Device Account	Button Action	LogicalDeviceAccount.DELETE	Delete a logical device account from search results.
Logical Device Account	Button Action	LogicalDeviceAccount.CREATE	Create a logical device account from search results.
Logical Device Account	Button Action	LogicalDeviceAccount.EDIT	Edit a logical device account from search results.
Logical Device Account	Menu Action	LogicalDeviceAccount.ACTIVATE	Activate a logical device account from the Logical Device Account Summary page.
Logical Device Account	Menu Action	LogicalDeviceAccount.DEACTIVATE	Deactivate a logical device account from the Logical Device Account Summary page.

Table 3-2 (Cont.) Resource Permissions

Component	Type	Permission Name	Purpose
Logical Device Account	Menu Action	LogicalDeviceAccount.VALIDATE	Validate the logical device account from the Logical Device Account Summary page.
Logical Device Account	Button Action	LogicalDeviceAccount.ASSOCIATE	Associate an entity with a logical device account from the Logical Device Account portlet on the Entity Summary page.
Logical Device Account Configuration	Menu Action	LDAccountConfigurationVersion.APPROVE	Approve a Configuration from LogicalDeviceAccount Configuration Summary page.
Logical Device Account Configuration	Menu Action	LDAccountConfigurationVersion.AUTO_CONFIGURE	Auto Configure a Configuration from LogicalDeviceAccount Configuration Summary page.
Logical Device Account Configuration	Menu Action	LDAccountConfigurationVersion.CANCEL	Cancel a Configuration from LogicalDeviceAccount Configuration Summary page.
Logical Device Account Configuration	Menu Action	LDAccountConfigurationVersion.COMPLETE	Complete a Configuration from LogicalDeviceAccount Configuration Summary page.
Logical Device Account Configuration	Menu Action	LDAccountConfigurationVersion.CREATE_NEW_VERSION	Create a new configuration from LogicalDeviceAccount Configuration Summary page.
Logical Device Account Configuration	Menu Action	LDAccountConfigurationVersion.ISSUE	Issue a Configuration from LogicalDeviceAccount Configuration Summary page.
Logical Device Account Configuration	Menu Action	LDAccountConfigurationVersion.RESUME	Resume a Configuration from LogicalDeviceAccount Configuration Summary page.
Logical Device Account Configuration	Menu Action	LDAccountConfigurationVersion.SUSPEND	Suspend a Configuration from LogicalDeviceAccount Configuration Summary page.
Logical Device Account Configuration	Menu Action	LDAccountConfigurationVersion.VALIDATE	Validate a Configuration from LogicalDeviceAccount Configuration Summary page.
Logical Device Configuration	Menu Action	LogicalDeviceConfigurationVersion.APPROVE	Approve a configuration from the Logical Device Configuration Summary page.
Logical Device Configuration	Menu Action	LogicalDeviceConfigurationVersion.AUTO_CONFIGURE	Auto-configure a configuration from the Logical Device Configuration Summary page.
Logical Device Configuration	Menu Action	LogicalDeviceConfigurationVersion.CANCEL	Cancel a configuration from the Logical Device Configuration Summary page.
Logical Device Configuration	Menu Action	LogicalDeviceConfigurationVersion.COMPLETE	Complete a configuration from the Logical Device Configuration Summary page.
Logical Device Configuration	Menu Action	LogicalDeviceConfigurationVersion.CREATE_NEW_VERSION	Create a new configuration from the Logical Device Configuration Summary page.

Table 3-2 (Cont.) Resource Permissions

Component	Type	Permission Name	Purpose
Logical Device Configuration	Menu Action	LogicalDeviceConfigurationVersion.ISSUE	Issue a configuration from the Logical Device Configuration Summary page.
Logical Device Configuration	Menu Action	LogicalDeviceConfigurationVersion.RESUME	Resume a configuration from the Logical Device Configuration Summary page.
Logical Device Configuration	Menu Action	LogicalDeviceConfigurationVersion.SUSPEND	Suspend a configuration from the Logical Device Configuration Summary page.
Logical Device Configuration	Menu Action	LogicalDeviceConfigurationVersion.VALIDATE	Validate a configuration from the Logical Device Configuration Summary page.
Media	Button Action	Media.DELETE	Delete a media file from search results.
Media	Button Action	Media.CREATE	Create a media file from search results.
Media	Button Action	Media.EDIT	Edit a media file from search results.
Media Stream	Button Action	MediaStream.DELETE	Delete a media stream from search results.
Media Stream	Button Action	MediaStream.CREATE	Create a media stream from search results.
Media Stream	Button Action	MediaStream.EDIT	Edit a media stream from search results.
Media Stream	Button Action	MediaStream.DUPLICATE	Duplicate a media stream from search results.
Media Stream	Menu Action	MediaStream.ACTIVATE	Activate a media stream from the Media Stream Summary page.
Media Stream	Menu Action	MediaStream.DEACTIVATE	Deactivate a media stream from the Media Stream Summary page.
Media Stream	Menu Action	MediaStream.VALIDATE	Validate a media stream from the Media Stream Summary page.
Media Resource	Button Action	MediaResource.ASSOCIATE	Add a media resource to the Media Resource portlet on the Entity Summary page.
Media Resource	Button Action	MediaResource.DELETE	Delete a media resource from the Media Resource portlet on the Entity Summary page.
Media Resource	Button Action	MediaResource.CREATE	Create a media resource from the Media Resource portlet on the Entity Summary page.
Media Resource	Button Action	MediaResource.DUPLICATE	Duplicate a media resource from the Media Resource portlet on the Entity Summary page.
Media Resource	Button Action	MediaResource.EDIT	Edit a media resource from the Media Resource portlet on the Entity Summary page.

Table 3-2 (Cont.) Resource Permissions

Component	Type	Permission Name	Purpose
Network	Button Action	Network.DELETE	Delete a network from search results.
Network	Button Action	Network.CREATE	Create a network from search results.
Network	Button Action	Network.EDIT	Edit a network from search results.
Network	Menu Action	Network.ACTIVATE	Activate a network from the Network Summary page.
Network	Menu Action	Network.DEACTIVATE	Deactivate a network from the Network Summary page.
Network	Menu Action	Network.VALIDATE	Validate a network from the Network Summary page.
Network	Menu Action	NetworkNodeEdge.DISASSOCIATE	Disassociate a network node/node edge from the Network Map View and Network View.
Network	Menu Action	NetworkNodeEdge.UPDATE_ASSOCIATION	Update a network node/node edge association from the Network Map View & Network View.
Network Address Domain	Button Action	NetworkAddressDomain.DELETE	Delete Network Address Domain from the search results.
Network Address Domain	Button Action	NetworkAddressDomain.CREATE	Create Network Address Domain from the search results.
Network Address Domain	Button Action	NetworkAddressDomain.EDIT	Edit Network Address Domain from the search results.
Network Address Domain	Button Action	NetworkAddressDomainDetails.SAVE	Save the changes to Network Address Domain.
Network Address Domain	Button Action	NetworkAddressDomainDetails.SAVE_AND_CLOSE	Save the changes to the Network Address Domain and navigate back to the Search page.
Network Address Domain	Button Action	NetworkAddressDomainDetails.EDIT	Edit the Network Address Domain details.
Network Configuration	Menu Action	NetworkConfigurationVersion.APPROVE	Approve a configuration from the Network Configuration Summary page.
Network Configuration	Menu Action	NetworkConfigurationVersion.AUTO_CONFIGURE	Auto-configure a configuration from the Network Configuration Summary page.
Network Configuration	Menu Action	NetworkConfigurationVersion.CANCEL	Cancel a configuration from the Network Configuration Summary page.
Network Configuration	Menu Action	NetworkConfigurationVersion.COMPLETE	Complete a configuration from the Network Configuration Summary page.
Network Configuration	Menu Action	NetworkConfigurationVersion.CREATE_NEW_VERSION	Create a new configuration from the Network Configuration Summary page.

Table 3-2 (Cont.) Resource Permissions

Component	Type	Permission Name	Purpose
Network Configuration	Menu Action	NetworkConfigurationVersion.ISSUE	Issue a configuration from the Network Configuration Summary page.
Network Configuration	Menu Action	NetworkConfigurationVersion.RESUME	Resume a configuration from the Network Configuration Summary page.
Network Configuration	Menu Action	NetworkConfigurationVersion.SUSPEND	Suspend a configuration from the Network Configuration Summary page.
Network Configuration	Menu Action	NetworkConfigurationVersion.VALIDATE	Validate a configuration from the Network Configuration Summary page.
Network Service	Button Action	NetworkService.DELETE	Delete a Network Service from search results
Network Service	Button Action	NetworkService.CREATE	Create a Network Service from search results
Network Service	Button Action	NetworkService.EDIT	Edit a Network Service from search results
Packet Network Connectivity	Menu Action	PacketNetworkConnectivity.ACTIVATE	Activate the packet network connectivity.
Packet Network Connectivity	Menu Action	PacketNetworkConnectivity.DEACTIVATE	Deactivate the packet network connectivity.
Packet Network Connectivity	Menu Action	PacketNetworkConnectivity.COMPLETE	Complete the packet network connectivity.
Packet Network Connectivity	Menu Action	PacketNetworkConnectivity.DISCONNECT	Disconnect the packet network connectivity.
Packet Network Connectivity	Menu Action	PacketNetworkConnectivity.CANCEL	Cancel the packet network connectivity.
Packet Virtual Network	Menu Action	PacketVirtualNetwork.ACTIVATE	Activate the packet virtual network.
Packet Virtual Network	Menu Action	PacketVirtualNetwork.DEACTIVATE	Deactivate the packet virtual network
Party	Button Action	Party.DELETE	Delete a party from search results.
Party	Button Action	Party.CREATE	Create a party from search results.
Party	Button Action	Party.EDIT	Edit a party from Party search results or the Service Summary page.
Party	Menu Action	Party.ACTIVATE	Activate a party from the Party Summary page.
Party	Menu Action	Party.DEACTIVATE	Deactivate a party from the Party Summary page.
Party	Menu Action	Party.VALIDATE	Validate a party from the Party Summary page.
Party	Button Action	Party.ASSOCIATE	Associate an entity with a party from the Party portlet on the Entity Summary page.

Table 3-2 (Cont.) Resource Permissions

Component	Type	Permission Name	Purpose
Physical Device	Button Action	PhysicalDevice.DELETE	Delete a physical device from search results.
Physical Device	Button Action	PhysicalDevice.CREATE	Create a physical device from search results.
Physical Device	Button Action	PhysicalDevice.EDIT	Edit a physical device from search results.
Physical Device	Button Action	PhysicalDevice.DUPLICATE	Duplicate a physical device from search results.
Physical Device	Menu Action	PhysicalDevice.ACTIVATE	Activate physical device from the Physical Device Summary page.
Physical Device	Menu Action	PhysicalDevice.DEACTIVATE	Deactivate a physical device from the Physical Device Summary page.
Physical Device	Menu Action	PhysicalDevice.VALIDATE	Validate a physical device from the Physical Device Summary page.
Physical Device	Menu Action	PhysicalDevice.ASSOCIATE	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.
Physical Device	Button Action	PhysicalDevice.ASSOCIATE_PD	Add a physical device to the hierarchy in the Physical Device Summary page.
Physical Device	Menu Action	PhysicalDevice.DISASSOCIATE	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.
Physical Device	Button Action	PhysicalDevice.DISASSOCIATE_PD	Remove a physical device from the hierarchy in the Physical Device Summary page.
Physical Device	Menu Action	PhysicalDevice.MAINTAIN_MAPPINGS	Maintain mappings from the hierarchy in the Physical Device Summary page.
Physical Device	Button Action	PhysicalDevice.ASSOCIATE	Associate the Physical Device in Equipment Summary page.
Physical Jumper	Button Action	PhysicalJumperView.DELETE	Delete a Physical Jumper.
Physical Jumper	Button Action	PhysicalJumperView.CREATE	Create a Physical Jumper.
Physical Jumper	Button Action	PhysicalJumperView.EDIT	Edit a Physical Jumper.
Physical Jumper	Button Action	PhysicalJumperView.CREATE_PHYSICALJUMPER	Create a Physical Jumper.
Pipe	Button Action	Pipe.DELETE	Delete a pipe from search results.
Pipe	Button Action	Pipe.CREATE	Create a pipe from search results.
Pipe	Button Action	Pipe.EDIT	Edit a pipe from search results.
Pipe	Button Action	Pipe.DUPLICATE	Duplicate a pipe from search results.

Table 3-2 (Cont.) Resource Permissions

Component	Type	Permission Name	Purpose
Pipe	Menu Action	Pipe.ACTIVATE	Activate a pipe from the Pipe Summary page.
Pipe	Menu Action	Pipe.DEACTIVATE	Deactivate a pipe from the Pipe Summary page.
Pipe	Menu Action	Pipe.MAP_SIGNAL_STRUCTURE	Associate a signal structure to a pipe from the Pipe Summary page.
Pipe	Menu Action	Pipe.REMOVE_SIGNAL_STRUCTURE	Disassociate a signal structure from a pipe from the Pipe Summary page.
Pipe	Menu Action	Pipe.VALIDATE	Validate a pipe from the Pipe Summary page.
Pipe	Button Action	Pipe.MAINTAIN_CAPACITY	Update Capacity from Pipe Summary page.
Pipe	Button Action	Pipe.MAINTAIN_DIRECTIONALITY	Create Directionality from Pipe Summary page.
Pipe	Button Action	Pipe.MAINTAIN_TERMINATION_RESOURCES	Delete TPs from Pipe TP Summary page.
Pipe	Button Action	PipeProvides.DELETE	Delete on Pipe Provides page.
Pipe	Button Action	PipeProvides.CREATE	Create on Pipe Provides page.
Pipe	Button Action	PipeProvides.EDIT	Edit on Pipe Provides page.
Pipe	Button Action	PipeTrail.ASSOCIATE	Associate a pipe trail from the Manual Configure page.
Pipe	Button Action	PipeTrail.DELETE	Delete a pipe trail from the Manual Configure page.
Pipe	Button Action	PipeTrail.CREATE	Create a pipe trail from the Manual Configure page.
Pipe	Button Action	PipeTrail.EDIT	Edit a pipe trail from the Manual Configure page.
Pipe	Button Action	PipeTrail.UPDATE	Update a pipe trail from the Manual Configure page.
Pipe	Menu Action	Pipe.DISCONNECT	Disconnect Pipe.
Pipe Configuration	Menu Action	PipeConfigurationVersion.APPROVE	Approve a configuration from the Pipe Configuration Summary page.
Pipe Configuration	Menu Action	PipeConfigurationVersion.AUTO_CONFIGURE	Auto-configure a configuration from the Pipe Configuration Summary page.
Pipe Configuration	Menu Action	PipeConfigurationVersion.CANCEL	Cancel a configuration from the Pipe Configuration Summary page.
Pipe Configuration	Menu Action	PipeConfigurationVersion.COMPLETE	Complete a configuration from the Pipe Configuration Summary page.
Pipe Configuration	Menu Action	PipeConfigurationVersion.CREATE_NEW_VERSION	Create a new configuration from the Pipe Configuration Summary page.
Pipe Configuration	Menu Action	PipeConfigurationVersion.ISSUE	Issue a configuration from the Pipe Configuration Summary page.

Table 3-2 (Cont.) Resource Permissions

Component	Type	Permission Name	Purpose
Pipe Configuration	Menu Action	PipeConfigurationVersion.RESUME	Resume a configuration from the Pipe Configuration Summary page.
Pipe Configuration	Menu Action	PipeConfigurationVersion.SUSPEND	Suspend a configuration from the Pipe Configuration Summary page.
Pipe Configuration	Menu Action	PipeConfigurationVersion.VALIDATE	Validate a configuration from the Pipe Configuration Summary page.
Pipe Configuration	Menu	PipeConfigurationVersion.ACTIONS	Actions on the Pipe Config Trail List from the Pipe Configuration Summary page.
Pipe Configuration	Button Action	PipeConfigurationVersion.ASSOCIATE	Associate a Pipe Config Trail List from the Pipe Configuration Summary page.
Place	Button Action	Place.DELETE	Delete a place from search results.
Place	Button Action	Place.CREATE	CREATE a place from search results.
Place	Button Action	Place.EDIT	Edit a place from search results or an entity Summary page.
Place	Menu Action	Place.ASSOCIATE	Associate a place from the hierarchy in the Place Summary page and/or Place portlet.
Place	Menu Action	Place.ASSOCIATE_PLACE	Add a child place to the hierarchy in the Place Summary page.
Place	Menu Action	Place.DISASSOCIATE_PLACE	Remove a child place from the hierarchy in the Place Summary page.
Place Configuration	Menu Action	PlaceConfigurationVersion.APPROVE	Approve a configuration from the Place Configuration Summary page.
Place Configuration	Menu Action	PlaceConfigurationVersion.AUTO_CONFIGURE	Auto-configure a configuration from the Place Configuration Summary page.
Place Configuration	Menu Action	PlaceConfigurationVersion.CANCEL	Cancel a configuration from the Place Configuration Summary page.
Place Configuration	Menu Action	PlaceConfigurationVersion.COMPLETE	Complete a configuration from the Place Configuration Summary page.
Place Configuration	Menu Action	PlaceConfigurationVersion.CREATE_NEW_VERSION	Create a new configuration from the Place Configuration Summary page.
Place Configuration	Menu Action	PlaceConfigurationVersion.ISSUE	Issue a configuration from the Place Configuration Summary page.
Place Configuration	Menu Action	PlaceConfigurationVersion.RESUME	Resume a configuration from the Place Configuration Summary page.

Table 3-2 (Cont.) Resource Permissions

Component	Type	Permission Name	Purpose
Place Configuration	Menu Action	PlaceConfigurationVersion.SUSPEND	Suspend a configuration from the Place Configuration Summary page.
Place Configuration	Menu Action	PlaceConfigurationVersion.VALIDATE	Validate a configuration from the Place Configuration Summary page.
Product	Button Action	Product.DELETE	Delete a product from search results.
Product	Button Action	Product.CREATE	Create a product from search results.
Product	Button Action	Product.EDIT	Edit a product from search results.
Product	Menu Action	Product.ACTIVATE	Activate a product from the Product Summary page.
Product	Menu Action	Product.DEACTIVATE	Deactivate a product from the Product Summary page.
Product	Menu Action	Product.VALIDATE_PRODUCT	Validate a product from the Product Summary page.
Product	Menu Action	Product.ASSOCIATE_PRODUCT	Associate a product to the hierarchy in the Product Summary page.
Product	Menu Action	Product.DISASSOCIATE_PRODUCT	Disassociate a product from the hierarchy in the Product Summary page.
Property Location	Button Action	LocationSearch.CREATE	Create the Property Location.
Property Location	Button Action	LocationSearch.DELETE	Delete the Property Location.
Property Location	Button Action	LocationSearch.EDIT	Edit the Property Location.
Property Location	Button Action	LocationDetails.EDIT	Edit the Location Details.
Property Location	Button Action	LocationDetails.VALIDATE_ADDRESS	Validate the Address provided in Location Details page.
Property Location	Button Action	LocationDetails.CREATE_NEC	Create Network Entity Code.
Property Location	Button Action	LocationDetails.DELETE_NEC	Delete Network Entity Code.
Property Location	Button Action	LocationDetails.CREATE_NEC	Create Network Entity Code.
Property Location	Button Action	LocationDetails.EDIT_NEC	Edit Network Entity Code.
Reservation	Button Action	Reservation.DELETE	Delete a reservation from the **Reservations** list.
Reservation	Button Action	Reservation.CREATE	Create a reservation from the **Reservations** list.

Table 3-2 (Cont.) Resource Permissions

Component	Type	Permission Name	Purpose
Reservation	Button Action	Reservation.EDIT	Edit a reservation from the **Reservations** list.
Role	Button Action	Role.DELETE	Delete a role from the **Roles** list in an entity Summary page.
Role	Button Action	Role.CREATE	Create a role from the **Roles** list in an entity Summary page.
Role	Button Action	Role.EDIT	Edit a role from the **Roles** list in an entity Summary page.
Ruleset	Button Action	Rule.DELETE	Delete a ruleset.
Ruleset	Button Action	Rule.CREATE	Create a ruleset.
Ruleset	Button Action	Rule.EDIT	Edit a ruleset.
Service	Button Action	Service.DELETE	Delete a service from search results.
Service	Button Action	Service.CREATE	Create a service from search results.
Service	Button Action	Service.EDIT	Edit a service from search results.
Service	Menu Action	Service.ACTIVATE	Activate a service from the Service Summary page.
Service	Menu Action	Service.CANCEL	Cancel a service from the Service Summary page.
Service	Menu Action	Service.COMPLETE	Complete a service from the Service Summary page.
Service	Menu Action	Service.DEACTIVATE	Deactivate a service from the Service Summary page.
Service	Menu Action	Service.DISCONNECT	Disconnect a service from the Service Summary page.
Service	Menu Action	Service.RESUME	Resume a service from the Service Summary page.
Service	Menu Action	Service.SUSPEND	Suspend a service from the Service Summary page.
Service	Menu Action	Service.VALIDATE	Validate a service from the Service Summary page.
Service	Menu Action	Service.ASSOCIATE	Add a service to the hierarchy in the Service Summary page.
Service Configuration	Menu Action	ServiceConfigurationVersion.APPROVE	Approve a configuration from the Service Configuration Summary page.
Service Configuration	Menu Action	ServiceConfigurationVersion.AUTO_CONFIGURE	Auto-configure a configuration from the Service Configuration Summary page.
Service Configuration	Menu Action	ServiceConfigurationVersion.CANCEL	Cancel a configuration from the Service Configuration Summary page.

Table 3-2 (Cont.) Resource Permissions

Component	Type	Permission Name	Purpose
Service Configuration	Menu Action	ServiceConfigurationVersion.COMPLETE	Complete a configuration from the Service Configuration Summary page.
Service Configuration	Menu Action	ServiceConfigurationVersion.CREATE_NEW_VERSION	Create a new configuration from the Service Configuration Summary page.
Service Configuration	Menu Action	ServiceConfigurationVersion.ISSUE	Issue a configuration from the Service Configuration Summary page.
Service Configuration	Menu Action	ServiceConfigurationVersion.RESUME	Resume a configuration from the Service Configuration Summary page.
Service Configuration	Menu Action	ServiceConfigurationVersion.SUSPEND	Suspend a configuration from the Service Configuration Summary page.
Service Configuration	Menu Action	ServiceConfigurationVersion.VALIDATE	Validate a configuration from the Service Configuration Summary page.
Specification	Button Action	Specification.DELETE	Delete a specification from the **Specifications** list.
Specification	Button Action	Specification.CREATE	Create a specification from the **Specifications** list.
Specification	Button Action	Specification.EDIT	Edit a specification from the **Specifications** list.
Specification	Button Action	SequenceSpecification.DELETE	Delete a Sequence specification.
Specification	Button Action	SequenceSpecification.CREATE	Create a Sequence specification.
Specification	Button Action	SequenceSpecification.EDIT	Edit a Sequence specification.
Tag	Menu Action	Tag.DELETE	Delete Tag.
Tag	Menu Action	Tag.CREATE	Create Tag.
Tag	Menu Action	Tag.EDIT	Edit Tag.
Telephone Number	Button Action	TelephoneNumber.DELETE	Delete a telephone number from search results.
Telephone Number	Button Action	TelephoneNumber.CREATE	Create a telephone number from search results.
Telephone Number	Button Action	TelephoneNumber.EDIT	Edit a telephone number from search results.
Telephone Number	Menu Action	TelephoneNumber.ACTIVATE	Activate a telephone number from the Telephone Number Summary page.
Telephone Number	Menu Action	TelephoneNumber.DEACTIVATE	Deactivate a telephone number from the Telephone Number Summary page.
Telephone Number	Menu Action	TelephoneNumber.SNAPBACK	Configure the Snapback action on a telephone number from the Telephone Number Summary page.

Table 3-2 (Cont.) Resource Permissions

Component	Type	Permission Name	Purpose
Telephone Number	Menu Action	TelephoneNumber.VALIDATE	Validate a telephone number from the Telephone Number Summary page.

4

Monitoring and Managing Unified Inventory Management

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.

- Managing UIM Metrics
- Managing WebLogic Monitoring Exporter Metrics
- 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
- Configuring UIM to Evaluate System Configuration Compliance
- Preventing a ZIP Bomb When Uploading Ruleset Files

- Importing Inventory Entities in Bulk

Managing UIM Metrics

UIM provides a sample Grafana dashboard that can be used to visualize UIM metrics available from a Prometheus data source. UIM relies on Prometheus to scrape and expose these metrics.

See the following topics for further details:

- Configuring Prometheus for UIM Metrics
- Viewing UIM Metrics Without Using Prometheus
- Viewing UIM Metrics in Grafana
- Exposed UIM Service Metrics

Configuring Prometheus for UIM Metrics

Configure the scrape job in Prometheus for UIM as follows:

```
- job_name: 'job_name'
  #Scheme defaults to 'http'
  metrics_path: '/Inventory/metrics'
  scrape_interval: 5s
  basic_auth:
    username: username
    password: password
  static_configs:
  # Repeat this pattern for each managed server
  - targets: ['MS1_hostname:MS1_port']
    labels:
      namespace: sr
      server_name: ms1
```

where:

- *job_name* refers to a particular job. For example, UIM_Production, UIM_UAT, and so on. Use this to distinguish the various UIM instances such as UIM_Production, UIM_Pre-prod, UIM_QA, UIM_UAT, and so on. Each of these instances will have its own job in the scrape configuration.
- *MS1_hostname* refers to managed server 1.
- The `namespace` label enables multiple related instances to be grouped.
- The `server_name` label must match the server name configured in WebLogic server.

Viewing UIM Metrics Without Using Prometheus

UIM metrics can be viewed at:

`http://hostname:port/Inventory/metrics`

This only provides metrics of the managed server that is serving the request. It does not provide the consolidated metrics for the entire cluster. Only Prometheus Query and Grafana dashboards can provide the consolidated metrics.

Viewing UIM Metrics in Grafana

UIM service metrics scraped by Prometheus can be made available for further processing and visualization.

Exposed UIM Service Metrics

The following UIM metrics are exposed via Prometheus APIs.

> **Note:**
>
> - All metrics are per managed server. Prometheus Query Language can be used to combine or aggregate metrics across all managed servers.
> - All metric values are short-lived and indicate the number of requests in a particular state since the managed server was last restarted.
> - When a managed server restarts, all the metrics are reset to **0**.

Interaction Metrics

Table 4-1 lists interaction metrics exposed via Prometheus APIs.

Table 4-1 Interaction Metrics Exposed via Prometheus APIs

Name	Type	Help Text	Notes
uim_sfws_capture_requests	Summary	Summary that tracks the duration of `sfws` capture requests.	This metric is observed for the **CaptureInteraction** request. The action can be **CREATE** or **CHANGE**.
uim_sfws_process_requests	Summary	Summary that tracks the duration of `sfws` process requests.	This metric is observed for the **ProcessInteraction** request. The action can be **PROCESS**.
uim_sfws_update_requests	Summary	Summary that tracks the duration of `sfws` update requests.	This metric is observed for the **UpdateInteraction** request. The action can be **APPROVE**, **ISSUE**, **CANCEL**, **COMPLETE** or **CHANGE**.
uim_sfws_requests	Summary	Summary that tracks the duration of `sfws` requests.	This metric is observed for the capture, process, and update interaction requests.

Labels For All Interaction Metrics

Table 4-2 lists labels for all interaction metrics.

Table 4-2 Labels for All Metrics

Label Name	Sample Value
action	The values can be **CREATE**, **CHANGE**, **APPROVE**, **CANCEL**, **COMPLETE**, and **CANCEL**.

Service Metrics

Table 4-3 lists the metrics captured for completion of a business interaction.

Table 4-3 Service Metrics Captured for Completion of a Business Interaction

Name	Type	Help Text	Summary
uim_services_processed	Counter	Counter that tracks the number of services processed.	This metric is observed for suspend, resume, complete, and cancel of a service.

Labels for all Service Metrics

A task metric has all the labels that a service metric has. Table 4-4 lists the labels for all service metrics.

Table 4-4 Labels for All Service Metrics

Label	Sample Value	Notes	Source of Label
spec	VoipServiceSpec	The service specification name.	UIM Metric Label Name/Value
status	IN_SERVICE	The service status. The values can be **IN_SERVICE**, **SUSPEND**, **DISCONNECT**, and **CANCELLED**.	UIM Metric Label Name/Value

Generic Labels for all Metrics

Table 4-5 lists the generic labels for all metrics.

Table 4-5 Generic Labels for all Metrics

Label Name	Sample Value	Source of the Label
server_name	ms1	Prometheus Static Configs
job	cmcn	Prometheus Static Configs
namespace	sr	Prometheus Static Configs

Managing WebLogic Monitoring Exporter Metrics

UIM provides a sample Grafana dashboard that you can use to visualize WebLogic server metrics available from a Prometheus data source. You use WebLogic Monitoring Exporter to expose the WebLogic server metrics. WebLogic Monitoring Exporter is part of the WebLogic

Kubernetes toolkit. It is an open source project, based at: https://github.com/oracle/weblogic-monitoring-exporter. While the metrics are available via WME Restful Management API endpoints, UIM relies on Prometheus to scrape and expose these metrics. This version of UIM supports WebLogic Monitoring Exporter 1.3.0. See the WebLogic Monitoring Exporter documentation for details on configuration and the exposed metrics.

The following topics describe a sample integration:

- Deploying WebLogic Monitoring Exporter in UIM
- Configuring the Prometheus Scrape Job for WebLogic Monitoring Exporter Metrics
- Viewing WebLogic Monitoring Exporter Metrics Without Using Prometheus
- Viewing WebLogic Monitoring Exporter Metrics in Grafana

Deploying WebLogic Monitoring Exporter in UIM

To deploy WebLogic Monitoring Exporter:

1. Generate the WebLogic Monitoring Exporter WAR file by running the following command:

```
mkdir -p ~/wme
cd ~/wme

curl -x $http_proxy -L https://github.com/oracle/weblogic-monitoring-
exporter/releases/download/v1.3.0/wls-exporter.war -o wls-exporter.war
curl -x $http_proxy https://raw.githubusercontent.com/oracle/weblogic-
monitoring-exporter/v1.3.0/samples/kubernetes/end2end/dashboard/exporter-
config.yaml -o config.yaml

jar -uvf wls-exporter.ear config.yaml
```

   This command updates the **wls-exporter.war** file with the **exporter-config.yaml** configuration file.

2. Deploy the WAR file by running the following command:

```
java -cp path_to_weblogic_server_lib weblogic.Deployer -adminurl t3://
host_name:adminserver_port -user wls_admin_username -password
wls_admin_password -deploy -name name_of_the WME_WAR_file -source  path_to
MWE_WAR_file -targets wls_server_targets_list

### Example :
java -cp /../../Oracle/WLS/12_2_1_4/wlserver/server/lib/weblogic.jar
weblogic.Deployer -adminurl t3://localhost:7001 -user weblogic -password
password -deploy -name wls-exporter -source  /../../wme/wls-exporter.war -
targets AdminServer,Cluster_Name
```

Configuring the Prometheus Scrape Job for WebLogic Monitoring Exporter Metrics

Configure the scrape job in Prometheus as follows:

```
- job_name: 'wme_job_name'
  metrics_path: wls-exporter/metrics
  basic_auth:
    username: weblogic_username
    password: weblogic_password
  static_configs:
  - targets: [AdminServer_hostname:AdminServer_port]
    labels:
      # The namespace label enables multiple related instances to be grouped.
      # For a given WebLogic server, the namespace used in a WME Prometheus
job must match
      # the namespace used for the corresponding UIM Prometheus job.
      # In a sample Grafana dashboard, the specified namespace is displayed
under the Project
      # drop-down menu.
      namespace: namespace
      # The weblogic_domainUID label uniquely identifies a UIM instance
within a given namespace.
      # For a given WebLogic server, the weblogic_domainUID used in a WME
Prometheus job must match
      # the weblogic_domainUID used for the corresponding UIM Prometheus job.
      # In a sample Grafana dashboard, the specified weblogic_domainUID is
displayed under the
      # Instance drop-down menu.
      weblogic_domainUID: weblogic_domainUID
      # The weblogic_serverName label must match the server name configured
in WebLogic.
      weblogic_serverName: AdminServer

  # Repeat this pattern for each managed server
  - targets: [MSn_hostname:Msn_port]
    labels:
      namespace: namespace
      weblogic_domainUID: weblogic_domainUID
      weblogic_serverName: MSn
```

The `namespace` label enables multiple related instances to be grouped. For a given WebLogic server, the namespace used in a WebLogic Monitoring Exporter Prometheus job must match the namespace used for the corresponding UIM Prometheus job. In a sample Grafana dashboard, the specified namespace is displayed under the Project drop-down menu.

The `weblogic_domainUID` label uniquely identifies a UIM instance within a given namespace. For a given WebLogic server, the `weblogic_domainUID` label used in a WebLogic Monitoring Exporter Prometheus job must match the `weblogic_domainUID` used for the corresponding UIM Prometheus job. In a sample Grafana dashboard, the specified `weblogic_domainUID` is displayed under the Instance drop-down menu.

The `weblogic_serverName` label must match the server name configured in WebLogic server.

To enable correlation with WebLogic Monitoring Exporter metrics, the `namespace` and `weblogic_domainUID` labels have been added to the corresponding scrape job definition for UIM metrics. With these new labels, you can reuse the dashboard's JSON files between UIM traditional and UIM cloud native deployments.

```
- job_name: 'uim_job_name'
  # metrics_path defaults to '/metrics'
  # scheme defaults to 'http'
  metrics_path: Inventory/metrics
  static_configs:
  - targets: [MSn_hostname:Msn_port]
    labels:
      namespace: namespace
      weblogic_domainUID: weblogic_domainUID
```

Viewing WebLogic Monitoring Exporter Metrics Without Using Prometheus

To view WebLogic Monitoring Exporter metrics of the admin server without using Prometheus, access the following URL:

`http://adminserver_host:adminserver_port/wls-exporter/metrics`

To view WebLogic Monitoring Exporter metrics of managed servers without using Prometheus, access the following URL:

`http://managedServerN_host:managedServerN_port/wls-exporter/metrics`

Viewing WebLogic Monitoring Exporter Metrics in Grafana

UIM provides sample Grafana dashboards to get you started with visualizations. The sample **UIM and WebLogic by Server** dashboard provides a combined view of UIM cloud native and WebLogic Monitoring Exporter metrics for one or more managed servers for a given instance in the selected project namespace.

Import the sample **weblogic_dashboard.json** dashboard file from GitHub into your Grafana environment, selecting Prometheus as the data source:

https://github.com/oracle/weblogic-monitoring-exporter/blob/master/samples/kubernetes/end2end/dashboard

Sharing JAR Files

After you install UIM, you need to share specific JAR files with Oracle Communications Service Catalog and Design - 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 "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:

```
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.
> - The application server time zone is defaulted to the underlying operating system time zone. To configure a different time zone for the application server, add the following value to the startup script at *Domain_Home***/bin/setUIMenv.sh**. The valid time zone values are defined in **java.util.TimeZone.**
>
>   ```
>   JAVA_OPTIONS="${JAVA_OPTIONS} -Duser.timezone=timezone"
>   ```
>
>   where *timezone* is a valid string value defining the time zone ID such as GMT or EST.

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.

For UIM cloud native instance, add the timer properties to the **$UIM_CNTK/charts/uim/config/system-config/custom-config.properties** file. See Monitoring and Managing a UIM Cloud Native Deployment for more information.

Restart the corresponding UIM traditional or UIM cloud native application after you update the timer property files.

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 4-6 lists each property's file name, error ID range, and the error messages or items it localizes.

Table 4-6 Properties Files for Localizing UIM Error Messages and Items.

Property File Name	Error ID Range	Error Message or Item It Localizes
addressrange.properties	N/A	Property names for the address range cartridge
businessInteraction.properties	270000-279999	Error messages generated by the business interaction module
capacity.properties	320000-329999	Error messages generated by the capacity module
configaction.properties	240000-249999	Error messages generated by the configuration actions
configuration.properties	240000-249999	Tree node label names
connectivity.properties	260000-269999	Error messages generated by the connectivity module
consumer.properties	220000-229999	Error messages generated by the consumer module
countries.properties	N/A	Error messages generated by the countries module
custom.properties	280000-289999	Error messages generated by the custom module
enum.properties	N/A	Error messages generated by enumeration
equipment.properties	210000-219999	Error messages generated by the equipment module
exception.properties	N/A	Error messages generated by the framework module
extensibility.properties	180000-189999	Error messages generated by the extensibility module
flowidentifiers.properties	620000-629999	Error messages generated by the packet connectivity module
importExport.properties	160000-169999	Error messages generated by the import/export module
inventoryGroup.properties	190000-199999	Error messages generated by the inventory group module
inventoryimport.properties	34000100 - 34000999	Error messages generated by the inventory group module
ip.properties	610000-619999	Error messages generated by the IP address module

Table 4-6 (Cont.) Properties Files for Localizing UIM Error Messages and Items.

Property File Name	Error ID Range	Error Message or Item It Localizes
location.properties	420000-420999	Error messages generated by the location module
logicaldevice.properties	290000-299999	Error messages generated by the logical device module
media.properties	350000-359999	Error messages generated by the media module
mediaResource.properties	360000-369999	Error messages generated by the mediaResource module
network.properties	300000-309999	Error messages generated by the network module
networkaddress.properties	620000-629999	Error messages generated by the network address module
number.properties	120000-129999	Error messages generated by the number module
party.properties	230000-239999	Error messages generated by the party role module
place.properties	250000-259999	Error messages generated by the place module
product.properties	390000-399999	Error messages generated by the product module
project.properties	140000-149999	Error messages generated by the project module
resource.properties	330000-339999	Resource entity names and resource-related error messages
role.properties	90000-99999	Error messages generated by the role module
service.properties	110000-119999	Error messages generated by the service module
signal.properties	310000-319999	Error messages generated by the connectivity signal module
specification.properties	130000-139999	Error messages generated by the specification module
status.properties	N/A	Error messages generated by the status module
subscriber.properties	150000-159999	Error messages generated by the subscriber module
system.properties	100000-109999	Error messages generated by the framework module
topology.properties	340000-349999	Error messages generated by the topology module
workflow.properties	N/A	Error messages generated by the workflow module
wsservice.properties	400000-409999	Error messages generated by the wsservice module

For more information on how to localize UIM, see "Overview" in *UIM Developer's Guide*.

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 "Overview" in *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 pass custom certificates to Weblogic AdminServer:

1. Navigate to the *WL_home*/**server/lib** directory and run the following command to create key and certificate:

    ```
    openssl req -x509 -nodes -days 365 -newkey rsa:2048 -keyout key.pem -out
    cert.pem \
    -subj "/CN=<UIM_HOSTNAME> /ST=TL /L=HYD /O=ORACLE /OU=CAGBU" -extensions
    san \
    -config <(echo '[req]'; echo 'distinguished_name=req'; echo '[san]';echo
    'subjectAltName=@alt_names';echo '[alt_names]';  \
    echo 'DNS.1=localhost'; \
    echo 'DNS.2=<UIM_HOSTNAME>'; \
    echo 'DNS.3=<UIM_HOSTNAME2>'; \
    echo 'DNS.4=<TOPOLOGY_HOSTNAME>'; \
    )
    ```

    > **Note:**
    >
    > You can customize the certificate data entries as per your requirement.

2. Create keyStore using above created key and certificate as follows:

    ```
    #create keystore in pkcs format
    openssl pkcs12 -export -in cert.pem -inkey key.pem -out keyStore.p12 -name
    "<ALIAS_NAME>"

    #convert keystore fromat from pkcs to jks
    keytool -importkeystore -srckeystore keyStore.p12 -srcstoretype PKCS12 -
    destkeystore keystore.jks -deststoretype JKS
    ```

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, you can use production-quality certificate to create KeyStore.p12 and then convert it to JKS format.
- If you have multiple servers such as MS1,MS2,PROXY, and so on. you should add the above created certificate to **cacerts** of **JAVA_HOME** used by the corresponding server:

```
keytool -import -alias <ALIAS_NAME> -
keystore $JAVA_HOME/jre/lib/security/cacerts
```

- If you import a trusted CA certificate, no existing entry for **alias** should be in the truststore. While accessing the application, the browser prompts to install the certificate. Install the certificate in **Trusted Root Certification Authorities**.
- In case of having multiple servers, consider performing above mentioned steps **To configure the new self-signed certificate in the WebLogic Administration Console** for other servers, you must copy the **WL_home/server/lib/keystore.jks** from **AdminServer** to other servers and then add the location to the corresponding servers.

Resetting/Changing the WebLogic Server's Database Connections

You may need to reset the WebLogic server's database connections when the following occurs:

- 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.

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 "Overview" in *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 does not specify a default edit mask, UIM uses the initial default edit mask from the **number.properties** file.

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

By default, the UIM topology is disabled. You must enable it to use the topology UI, maps, Service Topology, and Path Analysis. Messages related to the changes in UIM connectivity, devices, locations, and networks are delivered to the ATA microservice from UIM. See "About Unified Inventory Management" in *UIM Concepts* and "Overview" in *UIM Developer's Guide* for more information about topology.

You can configure UIM to update the topology synchronously or asynchronously.

In the synchronous model, topology updates are performed immediately after the UIM transaction is complete. This synchronous model uses REST APIs to process the business model updates.

The synchronous model:

- Is processed immediately using REST APIs.
- Requires the ATA microservice to be running.
- Does not persist the messages.
- Does not retry in case of a failed transaction.

In the asynchronous model, topology updates are processed as messages immediately after the UIM transaction is complete and utilize Kafka to process the business model updates.

The asynchronous model:

- Is processed immediately but sent to Kafka.
- Does not require the ATA microservice to be running.
- Retries in case of a failed transaction.
- Persists the messages.
- Provides improved scalability

Oracle recommends you to use the asynchronous model.

To configure UIM for asynchronous topology updates:

1. Stop the UIM application server.
2. Open the *UIM_home***/config/topologyProcess.properties** file.
3. The **processSynchronous** value is **false** by default. If the value is **true**, change it to **false**.
4. Save the file.
5. Restart the UIM application server.

Turning Off Topology Updates

You can turn off topology updates entirely if you do not want to use 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.
5. Restart the UIM application server.

Migrating Topology

If you have turned off topology updates, you must migrate 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 perform the migration, the old topology is deleted and a new topology is created. You should back up your old topology to ensure that you can return to it if necessary.

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

See "" in *Unified Inventory and Topology Deployment Guide* for more information on migrating topology.

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*:

http://download.oracle.com/otndocs/products/spatial/pdf/elocation_quickstart.pdf

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*:

http://download.oracle.com/otndocs/products/spatial/pdf/elocation_quickstart.pdf

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:

  - 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)
- **Connectivity Design Version Purge**: You can purge connectivity design versions that are Cancelled or Completed, using the following scripts:
  - connectivityDesignVersionPurge.sh (Linux)
  - connectivityDesignVersionPurge.cmd (Windows)
- **Connectivity Purge**: You can purge connectivities that are not associated, using the following scripts:
  - connectivityPurge.sh (Linux)
  - connectivityPurge.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 the 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. For UIM cloud native, providing admin privileges to the database user is automated.
- Back up the database before running the scripts. The scripts delete the records matching specified criteria permanently.
- Ensure you have the correct version of Java installed. See "UIM Software Compatibility" in *UIM Compatibility Matrix* 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:

```
jar -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 *entity***Purge.sh** file or *entity***Purge.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
- (Optional) DB_USER_NAME – database username
- (Optional) DB_PASSWD – database password

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. Run the 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.
3. Run the corresponding purge scripts for the entities you want to purge. Table 4-7 shows the purge type and the corresponding purge script names.

Table 4-7 Purge Type and Purge Script Names

Purge Type	Purge Script Name
Service or **ServiceConfigurationVersion**	ora_uim_dbtools\sqlscripts\servicePurgeScripts.sql
LogicalDevice	ora_uim_dbtools\sqlscripts\ldPurgeScript.sql
LogicalDeviceAccount	ora_uim_dbtools\sqlscripts\ldaPurgeScripts.sql
Party	ora_uim_dbtools\sqlscripts\partyPurgeScript.sql
Place	ora_uim_dbtools\sqlscripts\placePurgeScript.sql
BI or **EWO**	ora_uim_dbtools\sqlscripts\biPurgeScripts.sql
Connectivity Design Version	ora_uim_dbtools\sqlscripts\connectivityDesignVersionScript.sql
Connectivity	ora_uim_dbtools\sqlscripts\connectivityPurgeScript.sql

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 4-8 shows the columns in the Purge_Error_Log table:

Table 4-8 Purge_Error_Log Columns

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

Purge_Audit

This table records the purge reporting information. Table 4-9 shows the columns in the Purge_Audit table:

Table 4-9 Purge_Audit Columns

Column Name	Description
JOBID	For every purge, a new record is created in this table. This is primary key for the table.
PURGETYPE	Valid values: SERVICE, SCV, LD, LDA, PARTY, PLACE, and BI/EWO.
STARTDATE	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.
ENDDATE	The date and time when the purge process is completed or cancelled.
CRITERIA	The criteria string that is generated by the API using criteria specified by the caller. You can specify information about parallel processes and the batch size. For example: (ADMINSTATE LIKE 'CANCELLED') AND LASTMODIFIEDDATE <= to_date('07/30/2014:23:59:59','mm/dd/yyyy:hh24:mi:ss'):10:1000 In this example the first portion is the search criteria followed by the number of parallel processes 10 and batch size 1000.

Table 4-9 (Cont.) Purge_Audit Columns

Column Name	Description
STATUS	The status of the purge. Has one of the following values: • POPULATE_INPROGRESS: When the purge process starts, the STATUS column is updated to POPULATE_INPROGRESS until all the required data is populated in the Purge_Helper table. After all the data is populated, the STATUS column is updated to SCHEDULED. • SCHEDULED: A purge process is scheduled. **Note:** When a scheduled purge starts, the STATUS and STARTDATE columns are updated to INPROGRESS and the scheduled time. • INPROGRESS: The purge process has started. • CANCELLED: The purge process has been cancelled. • SUSPENDED: The purge process is suspended. • FAILED: The purge process has failed due to errors when one or more entities were not processed. One of the reasons for an error may be inconsistent data values. • COMPLETED: The purge process as completed.
PARENTJOB	The parent JOBID record for each new child purge record. Having a parent and child job exists when a purge is suspended and later resumed. For example, if a purge is started and later suspended, there is a record for this job with a status of SUSPENDED. When the purge is resumed, the original record is updated with a status of COMPLETED. A new record is created which refers to the completed parent job record in the JOBID column. This provides you with a history of the purge requests.
USERNAME	The database schema user name that performs the purge.
REPORTNAME	The report name generated for the purge.

Operations

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 4-10 Mandatory and Optional Arguments for Entity Purge Types

Purge Type	Mandatory Arguments	Optional Arguments
SERVICE	-ed	-sd -status -spec
SCV	-sspec -scvspec -retain -status	-ed -sd
LOGICALDEVICE	-ed -spec or -ldid or -ldname	-sd -ldpcr
LOGICALDEVICEACCOUNT	-ed -ldaspec or -ldaid	-sd
PARTY	-ed -spec	-sd
PLACE	-ed -spec	-sd
BI/EWO	-bispec or -ewoworkflow -ed -status	-sd
CONNECTIVITYDESIGNVERSION	-spec -retain -status	-ed -sd
CONNECTIVITY	-ed	-sd -connectivityIdentifier -spec

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.

> **Note:**
>
> In the examples listed in this section, *entity* in *entity***Purge.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 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
- Connectivity Design Version Purge Report
- Connectivity 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:

  ```
  ./ldPurge.sh report -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 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:

  ```
  ./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:

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

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

  ```
  ./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:

  ```
  ./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:

  ```
  ./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:

  ```
  ./ldaPurge.sh report -ldaid 575001,525004 -ed 01/01/2018
  ```

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.

Connectivity Design Version Purge Report

The following arguments are specific to purge type CONNECTIVITYDESIGNVERSION:

- **-sspec**: This argument is mandatory as the Purge tool considers only the PCVs of the Connectivity with the given Pipe Specification for purging.
- **-status**: This argument is mandatory. You use this argument to get the Pipe Configuration Admin status. The PCVs with **COMPLETED** or **CANCELLED** status are considered for purging.

- **-retain**: This argument is mandatory if `status` is **completed**. It provides the number of **COMPLETED** PCVs to be retained in the final purge for each pipe. This argument is not applicable if the status is **CANCELLED**.

For information about the other arguments that you can use with the report operation for purge type CONNECTIVITYDESIGNVERSION, 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.

Connectivity Purge Report

The following argument is specific to purge type CONNECTIVITY:

- **-sspec**: This argument is mandatory as the Purge tool considers only the PCVs of the Connectivity with the given Pipe Specification for purging.
- **-connectivityIdentifier**: This argument is mandatory as the Purge tool considers only the PCVs of the Connectivity with the given Connectivity Identifier for purging.

For information about the other arguments that you can use with the report operation for purge type CONNECTIVITY, 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.

Table 4-11 Mandatory and Optional Arguments for Entity Purge Types

Purge Type	Mandatory Arguments	Optional Arguments
SERVICE	-ed	-status -sd -s -c -t -force
SCV	-sspec -scvspec -retain -status	-s -c -t -force
LOGICALDEVICE	-ed -spec or -ldid or -ldname	-ldpcr -sd -s -c -t -force
LOGICALDEVICEACCOUNT	-ed -ldaspec or -ldaid	-sd -s -c -t -force
PARTY	-ed -spec	-sd -s -c -t -force
PLACE	-ed -spec	-sd -s -c -t -force
BI/EWO	-bispec or ewoworkflow -ed -status	-sd -s -c -t -force

Table 4-11 (Cont.) Mandatory and Optional Arguments for Entity Purge Types

Purge Type	Mandatory Arguments	Optional Arguments
CONNECTIVITYDESIGNVERSION	-spec -retain -status	-ed -sd -s -c -t -force
CONNECTIVITY	-spec -connectivityIdentifier -ed	-sd -s -c -t -force

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 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 *entity***Purge.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 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
- Connectivity Design Version Purge Execution
- Connectivity 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
- *Entity*Consumer
- *Entity*Assignment
- *Entity*ConfigRef

  where *Entity* is the entity type of the related resource. In the list of affected tables, the *Entity*Consumer, *Entity*Assignment, and *Entity*ConfigRef 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
- *Entity*Consumer
- *Entity*Assignment
- *Entity*ConfigRef

  where *Entity* is the entity type of the related resource. In the list of affected tables, the *Entity*Consumer, *Entity*Assignment, and *Entity*ConfigRef 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
  ```

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

  ```
  ./ldPurge.sh execute -ldname logicaldevice1 -spec LDSpec
  ```

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

  ```
  ./ldPurge.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:

  ```
  ./ldPurge.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:

  ```
  ./ldaPurge.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:

  ```
  ./ldaPurge.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:

  ```
  ./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:

```
./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".

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.

Connectivity Design Version Purge Execution

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

- PIPECONFIGREF
- PIPECONFIGURATIONITEM
- BUSINESSINTERACTIONITEM
- PIPE
- PIPECONFIGITEM_CHAR
- PIPE_CHAR
- PIPETERMINATIONPOINT_CHAR
- PIPECONFIGURATIONVERSION
- CONFIGURATIONINPUT
- TOPOLOGYPROFILEEDGE
- TOPOLOGYPROFILENODE
- TOPOLOGYPROFILE
- Pipe Assignment Tables
- PipeTerminationPoint Assignment Tables

Connectivity Design Version Purge Execution Arguments

The following arguments are specific to purge type CONNECTIVITYDESIGNVERSION:

- **-spec**: This argument is mandatory as the Purge tool considers only the PCVs of the Connectivity with the given Pipe Specification for purging.

- **-status**: This argument is mandatory. You use this argument to get the Pipe Configuration Admin status. The PCVs with **COMPLETED** or **CANCELLED** status are considered for purging.
- **-retain**: This argument is mandatory if `status` is **completed**. It provides the number of **COMPLETED** PCVs to be retained in the final purge for each pipe. This argument is not applicable if the status is **CANCELLED**.

For information about the other arguments that you can use with the report operation for purge type CONNECTIVITYDESIGNVERSION, 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.

Connectivity Purge Execution

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

- PIPE
- PLACE_PIPEREL
- PIPE_CHAR
- PIPEROLE
- PIPEREL
- PIPETPPIPETPREL
- Pipe Assignment Tables
- PipeTerminationPoint Assignment Tables
- DEVICEINTERFACE
- PIPEPIPETPREL
- PLACE_PIPETERMINATIONPOINTREL
- PARTY_PIPETPREL
- PIPETERMINATIONPOINT_CHAR
- PIPEDIRECTIONALITY
- PIPETERMINATIONPOINT
- PIPECAPACITYCONSUMPTION
- PIPECAPACITYREQUIRED
- PIPECAPACITYPROVIDED
- ATTACHMENT
- PIPEREL
- PIPETPPIPETPREL
- TRAILPIPERELPIPEREL
- TRAILPIPERELTRAILPATHREL
- TRAILPATH
- TRAILPIPEREL
- PIPECONFIGURATIONITEM

- BUSINESSINTERACTIONITEM
- PIPECONFIGURATIONVERSION
- BUSINESSINTERACTION
- CONNECTIONTERMINATIONPOINT
- PROCESSINGSIGNAL
- TRAILTERMINATIONPOINT
- SIGNALTERMINATIONPOINT
- INTERFACE_INTERCONNECTION

Connectivity Purge Execution Arguments

The following arguments are specific to purge type CONNECTIVITY:

- **-spec** or **-connectivityIdentifier**: The Purge tool considers the Connectivity with a given Pipe Specification (`-spec`) for purging. Otherwise, you can specify comma separated list of Connectivity IDs to be purged. When you provide both `-spec` and `-connectivityIdentifier`, `-connectivityIdentifier` is be used for filtering Connectivity entities.

  > **Note:**
  >
  > The given Connectivity must be in `UNAVAILABLE` state. Otherwise, purge tool does not consider it for purging.

- **-ed**: Use this argument to specify an end date. The purge tool considers only the entities with the last modified date on or before this end date, for purging. You must specify the date in the format: `MM/DD/YYYY`.

For information about the other arguments that you can use with the report operation for purge type CONNECTIVITY, 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.

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
- Party
- Place

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/en/middleware/fusion-middleware/weblogic-server/12.2.1.4/secmg/ldap.html

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 "Overview" in *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:

     ```
     set %PATH%=%ANT_HOME%/bin;$PATH
     ```

     – On Linux, run the following command:

     ```
     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 c**ompliance-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 4-12 lists and describes the properties in the **importExport.properties** file.

Table 4-12 Properties in the importExport.properties File

Property	Description
import.fileUploadWhiteListMimeTypes	This property validates the MIME type of the ZIP file that you are uploading. For example: `import.fileUploadWhiteListMimeTypes=text/plain, text/csv,application/zip, application/x-zip-compressed`
import.fileUploadMaxSizeAfterUnzip	The property controls the maximum size of the ZIP file that you can upload (in bytes). The default value is 100 MB. For example: `import.fileUploadMaxSizeAfterUnzip=104857600`
import.fileUploadNestedFileLimit	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: `import.fileUploadNestedFileLimit=1`

Table 4-12 (Cont.) Properties in the importExport.properties File

Property	Description
import.fileUploadZipsLimitPerLevel	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: `import.fileUploadZipsLimitPerLevel=0`
outage.fileTempLocation	This property provides the location for the outage file. For example: `outage.fileTempLocation`

Importing Inventory Entities in Bulk

Entity bulk operations enable you to perform various bulk operations on entities at a time, based on the data you provide as input in a spreadsheet file. You can use different tabs in the spreadsheet for each entity bulk operation. You provide the required entity information in the spreadsheet, upload it into UIM, and subsequently UIM processes the spreadsheet file and completes the bulk operation.

You can create the following entities in bulk by specifying the required information in the spreadsheet file:

- Property locations
- Network entity codes
- Logical devices
- Physical devices
- Equipment
- Connectivities
- Networks
- Places
- Pipes
- Complete device assemblies, which include logical device, physical device and equipment at the same time.

You can perform the following entity-specific actions in bulk by specifying the required information in the spreadsheet file:

- Map physical devices to equipment and map physical devices to logical devices at the same time
- Add shelves in racks
- Add cards in shelves
- Map physical devices to logical devices
- Map device interfaces to ports
- Add connectivities to networks

- Add network nodes
- Add network edges

For entity bulk operations, UIM provides a sample spreadsheet file that contains the following worksheet tabs:

- **Locations:** Use this tab to create property locations. See Table 4-13 for more information.
- **NetworkEntityCodes:** Use this tab to create network entity codes. See Table 4-14 for more information.
- **LogicalDevices:** Use this tab to create logical devices. See Table 4-15 for more information.
- **PhysicalDevices:** Use this tab to create physical devices. See Table 4-16 for more information.
- **Equipments:** Use this tab to create equipment. See Table 4-17 for more information.
- **DeviceMappings:** Use this tab to map a physical device to equipment, and map a physical device to a logical device. See Table 4-18 for more information.
- **Devices:** Use this tab to build the entire device assembly at one time, which includes physical devices, logical devices and equipment. The name, network location, and NEC are shared between the physical device, logical device and equipment. See Table 4-19 for more information.
- **InsertShelfs:** Use this tab to add shelves in a rack. See Table 4-20 for more information.
- **InsertCards:** Use this tab to add cards in a shelf. See Table 4-21 for more information.
- **PortMappings:** Use this tab to create ports and interfaces, and to map the ports to the interfaces. See Table 4-22 for more information.
- **Connectivities:** Use this tab to create connectivities. See Table 4-23 for more information.
- **Networks:** Use this tab to create networks. See Table 4-24 for more information.
- **AddConnectivityEdges:** Use this tab to create connectivity edges. See Table 4-25 for more information.
- **NetworkNodes:** Use this tab to create network nodes. See Table 4-26 for more information.
- **NetworkEdges:** Use this tab to create network edges. See Table 4-27 for more information.
- **AssociatePlace:** Use this tab to associate places. See Table 4-28 for more information.
- **Pipes:** Use this tab to create pipes. See Table 4-29 for more information.
- **Places:** Use this tab to create places. See Table 4-30 for more information.
- **ConnectivityPipeEnablement:** Use this tab to enable pipes and connectivities. See Table 4-31 for more information.

> **Note:**
>
> You have the option of including only the mandatory columns within various tabs in the spreadsheet. If a column is not required and you do not want to enter a value, then you can remove that column from the spreadsheet. This allows you to build your own custom spreadsheet templates based on your business requirements.

Table 4-13 describes the columns defined for the **Locations** worksheet tab.

Table 4-13 Locations Worksheet Tab Column Headers

Column Header	Description
Action	This column must have the value of CREATE.
PropertyName	Name of the property location.
Street	The street address of the property location.
City	The city of the property location.
State	The state of the property location.
PostalCode	The postal code of the property location.
Country	The country of the property location.
NetworkLocationCode	An alphanumeric string that uniquely identifies a property location in a network.
GeoCodeAddress	Valid values: **true** or **false**.
IsServiceLocation	Valid values: **true** or **false**.
IsNetworkLocation	Valid values: **true** or **false**.

Table 4-14 describes the columns defined for the **NetworkEntityCodes** worksheet tab.

Table 4-14 NetworkEntityCodes Worksheet Tab Column Headers

Column Header	Description
Action	This column must have the value of CREATE.
NetworkLocationCode	An alphanumeric string that uniquely identifies a property location in a network.
NetworkEntityCode	A string that uniquely identifies a network entity (such as a logical device) within a network location.

Table 4-15 describes the columns defined for the **LogicalDevices** worksheet tab.

Table 4-15 LogicalDevices Worksheet Tab Column Headers

Column Header	Description
Action	This column must have the value of CREATE.
Name	The name of the logical device.
Specification	The specification used to create the logical device.
NetworkLocation	The network location associated to the Logical Device entity.
NetworkEntityCode	A string that uniquely identifies a logical device within a network location.
DeviceIdentifier	Displays the device identifier of the logical device associated with the network entity code.
LDcharacteristic	The characteristic name/value pair per cell for the Logical Device entities you are creating. You can specify any number of characteristics. You can add any number of column headers for specifying multiple characteristics for an entity. For example, LDcharacteristic1, LDcharacteristic2,.....LDcharacteristic*N*. Valid format: LD_Char1=*value*, LD_Char2=*value*,....LD_Char*N*=*value*.

Table 4-16 describes the columns defined for the **PhysicalDevices** worksheet tab.

Table 4-16 PhysicalDevices Worksheet Tab Column Headers

Column Header	Description
Action	This column must have the value of CREATE.
Name	The name of the physical device.
Specification	The specification used to create the physical device.
NetworkLocation	The network location associated to the Physical Device entity.
SerialNumber	The serial number of the physical device.
PDcharacteristic	The characteristic name/value pair per cell for the Physical Device entities you are creating. You can specify any number of characteristics. You can add any number of column headers for specifying multiple characteristics for an entity. For example, PDcharacteristic1, PDcharacteristic2,.....PDcharacteristic*N*. Valid format: PD_Char1=*value*, PD_Char2=*value*,....PD_Char*N*=*value*.

Table 4-17 describes the columns defined for the **Equipments** worksheet tab.

Table 4-17 Equipments Worksheet Tab Column Headers

Column Header	Description
Action	This column must have the value of CREATE.
Name	The name of the equipment.
Specification	The specification used to create equipment.
NetworkLocation	The network location associated to the Equipment entity.
SerialNumber	The serial number of the equipment.
EQcharacteristic	The characteristic name/value pair per cell for the Equipment entities you are creating. You can specify any number of characteristics. You can add any number of column headers for specifying multiple characteristics for an entity. For example, EQcharacteristic1, EQcharacteristic2,.....EQcharacteristicN. Valid format: EQ_Char1=*value*, EQ_Char2=*value*,....EQ_Char*N*=*value*.

Table 4-18 describes the columns defined for the **DeviceMappings** worksheet tab.

Table 4-18 DeviceMappings Worksheet Tab Column Headers

Column Header	Description
PhysicalDevice	The name of the physical device.
LogicalDevice	The name of the logical device.
Equipment	The name of the equipment.

Table 4-19 describes the columns defined for the **Devices** worksheet tab.

Table 4-19 Devices Worksheet Tab Column Headers

Column Header	Description
Action	This column must have the value of CREATE.
Name	The generic name for logical device, physical device, and equipment.

Table 4-19 (Cont.) Devices Worksheet Tab Column Headers

Column Header	Description
DeviceIdentifier	Specify the device identifier in the format: NetworkLocation.NetworkEntityCode.
LogicalDeviceSpecification	The specification used to create the logical devices.
PhysicalDeviceSpecification	The specification used to create the physical devices.
EquipmentSpecification	The specification use to create the equipment.
NetworkLocation	A property location that has been assigned a network location code.
NetworkEntityCode	A string that uniquely identifies a network entity (such as a logical device) within a network location.
SerialNumber	The serial number for the physical device, logical device, and equipment.
MACAddress	The MAC address that uniquely identifies a device.
PDcharacteristic	The characteristic name/value pair per cell for the Physical Device entities you are creating. You can specify any number of characteristics. You can add any number of column headers for specifying multiple characteristics for an entity. For example, PDcharacteristic1, PDcharacteristic2,.....PDcharacteristic*N*.
LDcharacteristic	The characteristic name/value pair per cell for the Logical Device entities you are creating. You can specify any number of characteristics. You can add any number of column headers for specifying multiple characteristics for an entity. For example, LDcharacteristic1, LDcharacteristic2,.....LDcharacteristic*N*.
EQcharacteristic	The characteristic name/value pair per cell for the Equipment entities you are creating. You can specify any number of characteristics. You can add any number of column headers for specifying multiple characteristics for an entity. For example, EQcharacteristic1, EQcharacteristic2,.....EQcharacteristic*N*.

Table 4-20 describes the columns defined for the **InsertShelfs** worksheet tab.

Table 4-20 InsertShelfs Worksheet Tab Column Headers

Column Header	Description
Action	This column must have the value of CREATE.
RackName	The name of the rack in which you want to create a shelf.
ShelfSpecification	The specification used to create the shelf.
ShelfName	The name of the shelf.
SerialNumber	The serial number of the Equipment entity (that represents the shelf).
ShelfCharacteristic	The characteristic name/value pair per cell for the Equipment entities (that represent shelves) you are creating. You can specify any number of characteristics. You can add any number of column headers for specifying multiple characteristics for an entity. For example, ShelfCharacteristic1, ShelfCharacteristic2,.....ShelfCharacteristic*N*. Valid format: Shelf_Char1=*value*, Shelf_Char2=*value*,....Shelf_Char*N*=*value*.

Table 4-21 describes the columns defined for the **InsertCards** worksheet tab.

Table 4-21 InsertCards Worksheet Tab Column Headers

Column Header	Description
Action	This column must have the value of CREATE.

Table 4-21 (Cont.) InsertCards Worksheet Tab Column Headers

Column Header	Description
ShelfName	The name of the shelf in which you want to create a card.
CardSpecification	The specification used to create the card.
Slot	The slot number on the shelf to install the card, based on the equipment holder position number.
Name	The name of the card.
Abbreviation	The abbreviation for the card (for example, PWR) used to derive the names of the ports.
CardCharacteristic	The characteristic name/value pair per cell for the Equipment entities (that represent cards) you are creating. You can specify any number of characteristics. You can add any number of column headers for specifying multiple characteristics for an entity. For example, CardCharacteristic1, CardCharacteristic2,.....CardCharacteristicN. Valid format: Card_Char1=*value*, Card_Char2=*value*,....Card_Char*N*=*value*.

Table 4-22 describes the columns defined for the **PortMappings** worksheet tab.

Table 4-22 PortMappings Worksheet Tab Column Headers

Column Header	Description
Action	This column must have the value of CREATE.
Type	Valid values: • PhysicalDevice • Equipment
Name	Name of the physical device or equipment.
PortSpecification	The specification used to create the port.
PortName	The name of the port.
InterfaceSpecification	The specification used to create the device interface.
InterfaceName	The name of the device interface.
LogicalDeviceName	The logical device to which the device interface is associated.

Table 4-23 describes the columns defined for the **Connectivities** worksheet tab.

> **Note:**
>
> The valid values for Rate Code, Technology, Function, and so on, are determined based on the Connectivity Summary or Connectivity Search pages in the UIM application.

Table 4-23 Connectivities Worksheet Tab Column Headers

Column Header	Description
Action	This column must have the value of CREATE.
Technology	The technology that applies to this connectivity.

Table 4-23 (Cont.) Connectivities Worksheet Tab Column Headers

Column Header	Description
Specification	The specification used to create the connectivity.
Format	The identification format for this connectivity. Specify only the identification formats that are valid for the connectivity specification. Valid values: • LOCATION_BASED • SERVICE_BASED
ALocation	The network location code or network entity code for the A side of the connectivity.
ZLocation	The network location code or network entity code for the Z side of the connectivity.
RateCode	The rate code that applies to the connectivity.
OverSubscription	The oversubscription value for the connectivity.
Function	The function that applies to the connectivity.
Identifier	You can leave this column blank.
Concharacteristic	The characteristic name/value pair per cell for the Connectivity entities you are creating. You can specify any number of characteristics. You can add any number of column headers for specifying multiple characteristics for an entity. For example, Concharacteristic1, Concharacteristic2,.....Concharacteristic*N*. Valid format: Con_Char1=*value*, Con_Char2=*value*,....Con_Char*N*=*value*.
AutoTermination	Specify a value of **true** or **false**. If you specify **true**, UIM searches for the logical device with network entity code specified in the ALocation and ZLocation columns and terminates with the device interface if an interface with the same rate code exists.
Adevice	Name of the logical device for the A side of the connectivity.
Zdevice	Name of the logical device for the Z side of the connectivity.
GapMessage	Specify a message for accepted connectivity gaps.

Table 4-24 describes the columns defined for the **Networks** worksheet tab.

Table 4-24 Networks Worksheet Tab Column Headers

Column Header	Description
Action	This column must have the value of CREATE.
NetworkName	The name of the network you want to create.
NetworkSpecification	The specification used to create the network.
Topology	The network topology.
NWCharacteristic	The characteristic name/value pair per cell for the Network entities you are creating. You can specify any number of characteristics. You can add any number of column headers for specifying multiple characteristics for an entity. For example, NWCharacteristic1, NWCharacteristic2,.....NWCharacteristicN. Valid format: NW_Char1=*value*, NW_Char2=*value*,....NW_CharN=*value*.

Table 4-25 describes the columns defined for the **AddConnectivityEdges** worksheet tab.

Table 4-25 AddConnectivityEdges Worksheet Column Headers

Column Header	Description
Action	This column must have the value of CREATE.
NetworkName	The name of the network in which you want to create the connectivity.
EntityType	Valid value: CONNECTIVITY
EntityName	The name of the connectivity.

Table 4-26 describes the columns defined for the **NetworkNodes** worksheet tab.

Table 4-26 NetworkNodes Worksheet Tab Column Headers

Column Header	Description
Action	This column must have the value of CREATE.
NetworkName	The name of the network in which you want to create the network node.
EntityType	Valid value: LOGICAL_DEVICE
EntityName	The name of the logical device.

Table 4-27 describes the columns defined for the **NetworkEdges** worksheet tab.

Table 4-27 NetworkEdges Worksheet Tab Column Headers

Column Header	Description
Action	This column must have the value of CREATE.
NetworkName	The name of the network in which you want to create the network edge.
EntityType	Valid value: CONNECTIVITY
EntityName	The name of the connectivity.
FromNode	The originating logical device name for the connectivity that the network edge represents.
ToNode	The terminating logical device name for the connectivity that the network edge represents.

Table 4-28 describes the columns defined for the **AssociatePlace** worksheet tab.

Table 4-28 Column Headers in the AssociatePlace Worksheet

Column Header	Description
Action	This column must have the value of CREATE.
PlaceType	Valid values: • Address • AddressRange • Location • Site
PlaceName	A generic name for the place.

Table 4-28 (Cont.) Column Headers in the AssociatePlace Worksheet

Column Header	Description
EntityType	The type of entity that you want to associate with the place. Valid values: • PhysicalDevice • LogicalDevice • Equipment • PropertyLocation
EntityName	A generic name of the entity that you want to associate with the place.

Table 4-29 describes the columns defined for the **Pipes** worksheet tab.

Table 4-29 Column Headers in the Pipes Worksheet

Column Header	Description
Action	This column must have the value of CREATE.
Specification	The corresponding specification used to create the pipe.
Name	A generic name for the pipe.
Medium	The connection medium. **Note**: The default value is **Fiber** for CWDM and DWDM pipes.
TransmissionSignalType	The type of signal to use. For example, specify Optical to use optical transmission signal type. **Note**: The default value is **Optical** for CWDM and DWDM pipes.
ParentPipe	The name of the parent pipe. Note: This is required for creating child pipes only.
StartingWavelength	The starting wavelength for the CWDM pipe.
StartingFrequency	The starting frequency for the DWDM pipe.
NumOfChannels	Number of channels (child pipes) to be created.
AutoTermination	The option to terminate a pipe automatically, after it is created. Valid values: • TRUE • FALSE **Note**: Auto-termination of a parent pipe does not terminate the associated child pipes.
AEntityType	The entity type for the A side of the pipe. Valid values: • PhysicalDevice • LogicalDevice • Equipment • PhysicalPort • DeviceInterface **Note**: Ignore this if **AutoTermination** is **FALSE**

Table 4-29 (Cont.) Column Headers in the Pipes Worksheet

Column Header	Description
ZEntityType	The entity type for the Z side of the pipe. Valid values: • PhysicalDevice • LogicalDevice • Equipment • PhysicalPort • DeviceInterface **Note**: Ignore this if **AutoTermination** is **FALSE**
AEntityId	The entity ID for the A side of the pipe. **Note**: Ignore this if **AutoTermination** is **FALSE**
ZEntityId	The entity ID for the Z side of the pipe. **Note**: Ignore this if **AutoTermination** is **FALSE**
AEntityName	The entity name for the A side of the pipe. **Note**: Ignore this if **AutoTermination** is **FALSE**
ZEntityName	The entity name for the Z side of the pipe. **Note**: Ignore this if **AutoTermination** is **FALSE**
Pipecharacteristic	The characteristic name/value pair for the pipe. You can specify any number of characteristics. You can add any number of columns for specifying multiple characteristics for a pipe with the column name **Pipecharacteristic**.

Table 4-30 describes the columns defined for the **Places** worksheet tab.

Table 4-30 Column Header in the Places Worksheet

Column Header	Description
Action	This column must have the value of CREATE.
PlaceType	Valid values: • Address • Address Range • Location • Site
Specification	The specification to be used for creating places.
Name	A generic name for the place.
Latitude	The corresponding latitude of the place, which is between -90.0000 and 90.0000 decimal degrees.
Longitude	The corresponding longitude of the place, which is between -180.0000 and 180.0000 decimal degrees.
Vertical	The North American V & H system vertical coordinate with a positive or negative numeric value.
Horizontal	The North American V & H system horizontal coordinate with a positive or negative numeric value.
PlaceCharacteristic	The characteristic name/value pair for the place. You can specify any number of characteristics. You can add any number of column headers for specifying multiple characteristics for a place with the column name **PlaceCharacteristic**.

Table 4-30 (Cont.) Column Header in the Places Worksheet

Column Header	Description
GridType	The type of the grid. Valid values are: • FIXED • FLEX_GRID This is a mandatory field for DWDM optical fiber.
FlexGridChannelSize	The Flex Grid channel size.

Table 4-31 describes the columns defined for the **ConnectivityPipeEnablement** worksheet tab.

Table 4-31 Column Headers in the ConnectivityPipeEnablement Worksheet

Column Header	Description
Action	This column must have the value of CREATE.
TrailType	The type of the trail you want to associate. Valid values: • Pipe • Connectivity
TrailName	The name or identifier of the pipe or connectivity that you want it to be enabled by the pipe or connectivity mentioned in the **TDMFacility** column.
TDMFacility	The name or identifier of the pipe or connectivity with which you want to enable the pipe or connectivity mentioned in the **TrailName** column. You should provide the values in this column as follows: • For pipe, enter Pipe=<*pipe name*> • For connectivity, enter Connectivity=<*connectivity identifier*>

5

Improving Unified Inventory Management Performance

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 "About Unified Inventory Management" in *UIM Concepts* and "About UIM" in *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:

     ```
     inv.extendedCharSearchEnabledEntities.1=TelephoneNumber
     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. 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**
6. 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 CHARACTERTICS_TABLE_MAPPING

- A procedure named CREATE_CHAR_EXT_TABLE
- A trigger named ADD_CHAR_COLUMN_TRIGGER

Verifying Areas When this Feature is Enabled

There are a few area 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 muiltiserver 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**

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

- *%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:

https://logging.apache.org/log4j/2.x/manual/layouts.html#PatternLayout

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:

```
<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:

```
<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:

```
<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:

```
<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 quit
- **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:

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

> **Note:**
>
> Appender Additivity
>
> The output of a log statement of logger C goes to all the appenders in C and its ancestors. This is the meaning of the term **appender additivity**.
>
> However, if an ancestor of logger C, say P, has the additivity flag set to **false**, then C's output is directed to all the appenders in C and its ancestors up to and including P but not the appenders in any of the ancestors of P.
>
> Loggers have their additivity flag set to **true** by default.
>
> Source: http://logging.apache.org/log4j/2.x/manual/index.html

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:
>
> ```
> <Logger name="RuleSetLogger" additivity="false" level="debug">
>     <AppenderRef ref="stdout"/>
>     <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 is redundant because **debug** level is enable on its parent package.

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 process, 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()
   ```

> **Note:**
>
> The following is an example of a TopLink session:
>
> 'TopLink:Name=Session(file/share/uimcluster/domains/clusterUim 720b1357/ servers/uim_ms1/tmp/_WL_user/ oracle.communications.inventory/b0t675/APP-INF/lib/uim-entities.jar_default'

8. Copy the session and go to that session using the following command:

   ```
   cd('session')
   ```

9. Change the EclipseLink logging level using the following command:

   ```
   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

Level	Description
OFF	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.
SEVERE	This level enables the reporting of failure cases only. Usually, if the failure occurs, the application stops.
WARNING	This level enables the 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.
INFO	This level enables the standard output. The contents of this output are very limited. It is the default logging level if a logging level is not set.
CONFIG	This level enables the 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.
FINE	This level enables the 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.
FINER	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.
FINEST	This level enables the 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.
ALL	This level currently logs at the same level as FINEST.

10. To enable SQL logging, use the following command:

```
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 *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:

- **config-reload.properties**. See "Controlling Automatic Inventory Reloading".
- **consumer.properties**. See "Controlling Entity Consumption".
- **inventoryBulkProcess.properties**. See "Controlling Bulk Operations".
- **importEntity.properties**. See "Defining Column Headers in Spreadsheets for Importing Entities".
- **inventoryImport.properties**. See "Defining Column Headers in Spreadsheets for Importing Entities in Bulk".
- **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".
- **outageReport.properties**. See "Monitoring Outage Impacts".

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

Property	Description
inventory.auto.reload.enabled	This property enables and disables the automatic reloading of system configuration properties. The default value is **true**. For example: `inventory.auto.reload.enabled=true`
inventory.auto.reload.interval	This property sets the reload interval in milliseconds. The default value is 3000 milliseconds. For example: `inventory.auto.reload.interval=3000`

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

Property	Description

consumer.resourcesWithQuarantinePeriod.1
consumer.resourcesWithQuarantinePeriod.2
consumer.resourcesWithQuarantinePeriod.3
consumer.resourcesWithQuarantinePeriod.4
	These properties assign the Quarantine Periods for the corresponding entities.
	For example:
	`consumer.resourcesWithQuarantinePeriod.1= TelephoneNumber`
	`consumer.resourcesWithQuarantinePeriod.2= IPSubnet`
	`consumer.resourcesWithQuarantinePeriod.3= IPv4Address`
	`consumer.resourcesWithQuarantinePeriod.4= IPv6Address`

deleteReservation.batchsize	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`
tn.defaultDisconnectedStateExpiry	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`
tn.enableTNDeletion	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 **false**, these telephone numbers cannot be deleted. When set to **true**, they can be deleted. For example: `tn.enableTNDeletion= false`
tn.defaultTransitionalStateExpiry	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`
tn.portabilityCharacteristicName	This property specifies the telephone number characteristic that is used in portability logic. The default value is **tnType**. For example: `tn.portabilityCharacteristicName=tnType`
tn.recallTNSearchResultsLimit	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`

Table 5-3 (Cont.) Properties in the consumer.properties file

Property	Description
tn.winbackCharacteristicName	This property specifies the telephone number characteristic used in winback (stealback) logic. The default value is **winback**. For example: `tn.winbackCharacteristicName=winback`
tn.defaultTransitionalStateExpiryForSnapback	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`

Controlling Bulk Operations

You use the **inventoryBulkProcess.properties** file to control the bulk operations in UIM.

Table 5-4 lists and describes the properties in the file.

Table 5-4 Properties in the inventoryBulkProcess.properties File

Property	Description
chunkSizeInThread	This property defines the number of entities that you want processed in a thread bulk operation. A larger number of chunks per transaction means that fewer transactions are required to process the bulk operation. For example: `chunkSizeInThread=50`
chunkSizeInThreadForAddEdges	This property defines the number of connectivity edges that you want to process in a thread in bulk operation. For example: `chunkSizeInThreadForAddEdges=1`
MANAGED_EXECUTOR_SERVICE_NAME	This property setting is specifies the managed executor service name. For example: `MANAGED_EXECUTOR_SERVICE_NAME=inventoryMES`
MANAGED_EXECUTOR_SERVICE_JNDI	This property is a setting only for WebLogic. For example: `MANAGED_EXECUTOR_SERVICE_JNDI=java:comp/env/inventoryMES`

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.

Example 5-3 importEntity.properties File

```
#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
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 5-5 TelephoneNumber Spreadsheet Column Headers

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

Table 5-6 describes the columns defined for the TNServiceAssignment spreadsheet in the **importEntity.properties** file.

Table 5-6 TNServiceAssignment Spreadsheet Column Headers

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

Table 5-7 describes the columns defined for the SIM spreadsheet in the **importEntity.properties** file.

Table 5-7 SIM Spreadsheet Column Headers

Column Header	Description
action	This column must have the value **CREATE**.

Table 5-7 (Cont.) SIM Spreadsheet Column Headers

Column Header	Description
name	The name of the SIM (represented by logical device) that you are creating.
specification	The specification used to create the SIM (logical device).
description	The description for the SIM.
characteristic	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.
deviceIdentifier	The device identifier of the SIM (logical device) associated with the network location.
networkLocation	The network location with which the SIM is associated.

Table 5-8 describes the columns defined for the IMSI spreadsheet in the **importEntity.properties** file.

Table 5-8 IMSI Spreadsheet Column Headers

Column Header	Description
action	This column must have the value **CREATE**.
name	The name of the IMSI (represented by logical device account) that you are creating.
specification	The specification used to create the IMSI (logical device account).
description	The description for the IMSI.
characteristic	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.
SIMName	The name of the SIM (logical device) that manages the IMSI that you are creating.
SIMId	The ID of the SIM that manages the IMSI that you are creating.

Table 5-9 describes the columns defined for the SimMapping spreadsheet in the **importEntity.properties** file.

Table 5-9 SimMapping Spreadsheet Column Headers

Column Header	Description
action	This column must have the value **ASSOCIATE**.
MSISDN	Specify the MSIDN (represented by telephone number) that you want to associate with the SIM.
SIMName	Specify the name of the SIM (represented by logical device) that you want to associate with MSISDN and IMSI.
IMSIName	Specify the name of the IMSI (represented by logical device account) that you want to associate with the SIM.

Defining Column Headers in Spreadsheets for Importing Entities in Bulk

You use the **inventoryimport.properties** files to specify entity information in column headers in spreadsheets that enable you to import entities into UIM to process the corresponding bulk operations.

Example 5-4 shows the *UIM_Home*/**config/inventoryimport.properties** file, which defines column headers for the different spreadsheets that you use to import entities into UIM to process the corresponding bulk operations. See "Importing Inventory Entities in Bulk" for descriptions on each worksheet and the corresponding column headers.

Example 5-4 inventoryimport.properties File

```
inventoryimport.con.diRowLockexpiryTime=30000
# SHEET NAMES
inventoryimport.loc.sheetname=Locations
inventoryimport.nec.sheetname=NetworkEntityCodes
inventoryimport.place.sheetname=Places
inventoryimport.assocPlace.sheetname=AssociatePlace
inventoryimport.ld.sheetname=LogicalDevices
inventoryimport.pd.sheetname=PhysicalDevices
inventoryimport.eq.sheetname=Equipments
inventoryimport.devicemapping.sheetname=DeviceMappings
inventoryimport.device.sheetname=Devices
inventoryimport.shelf.sheetname=InsertShelfs
inventoryimport.card.sheetname=InsertCards
inventoryimport.portmap.sheetname=PortMappings
inventoryimport.con.sheetname=Connectivities
inventoryimport.pipe.sheetname=Pipes
inventoryimport.connPipeEn.sheetname=ConnectivityPipeEnablement
inventoryimport.nw.sheetname=Networks
inventoryimport.addcon.sheetname=AddConnectivityEdges
inventoryimport.node.sheetname=NetworkNodes
inventoryimport.edge.sheetname=NetworkEdges
inventoryimport.tn.sheetname=TelephoneNumber
inventoryimport.tnsa.sheetname=TNServiceAssignment
inventoryimport.sim.sheetname=SIM
inventoryimport.imsi.sheetname=IMSI
inventoryimport.simmapping.sheetname=SimMapping

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

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

#SIM SHEET COLUMN HEADERS
inventoryimport.sim.action=action
inventoryimport.sim.name=name
inventoryimport.sim.specification=specification
inventoryimport.sim.description=description
inventoryimport.sim.characteristic=characteristic
inventoryimport.sim.deviceIdentifier=deviceIdentifier
inventoryimport.sim.networkLocation=networkLocation

#IMSI SHEET COLUMN HEADERS
inventoryimport.imsi.action=action
inventoryimport.imsi.name=name
```

```
inventoryimport.imsi.specification=specification
inventoryimport.imsi.description=description
inventoryimport.imsi.characteristic=characteristic
inventoryimport.imsi.simName=SIMName
inventoryimport.imsi.simId=SIMId

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

#LOCATION CREATION SHEET COLUMN HEADERS
inventoryimport.loc.action=Action
inventoryimport.loc.propertyname=PropertyName
inventoryimport.loc.street=Street
inventoryimport.loc.city=City
inventoryimport.loc.state=State
inventoryimport.loc.postalcode=PostalCode
inventoryimport.loc.country=Country
inventoryimport.loc.networklocationcode=NetworkLocationCode
inventoryimport.loc.longitude=Longitude
inventoryimport.loc.latitude=Latitude
inventoryimport.loc.geocodeaddress=GeoCodeAddress
inventoryimport.loc.isnetworklocation=IsNetworkLocation
inventoryimport.loc.isservicelocation=IsServiceLocation

#NETWORKENTITYCODE CREATION SHEET COLUMN HEADERS
inventoryimport.nec.action=Action
inventoryimport.nec.networklocationcode=NetworkLocationCode
inventoryimport.nec.networkentitycode=NetworkEntityCode

#PLACE HEADERS
inventoryimport.place.action=Action
inventoryimport.place.specification=Specification
inventoryimport.place.placeType=PlaceType
inventoryimport.place.name=Name
inventoryimport.place.latitude=Latitude
inventoryimport.place.longitude=Longitude
inventoryimport.place.vertical=Vertical
inventoryimport.place.horizontal=Horizontal
inventoryimport.place.Address=Address
inventoryimport.place.AddressRange=AddressRange
inventoryimport.place.Location=Location
inventoryimport.place.Site=Site
inventoryimport.place.placeCharacteristic=PlaceCharacteristic

#ASSOCIATE PLACE HEADERS
inventoryimport.assocPlace.action=Action
inventoryimport.assocPlace.placeName=PlaceName
inventoryimport.assocPlace.placeType=PlaceType
inventoryimport.assocPlace.entityType=EntityType
inventoryimport.assocPlace.entityName=EntityName
inventoryimport.assocPlace.Address=Address
inventoryimport.assocPlace.AddressRange=AddressRange
inventoryimport.assocPlace.Location=Location
inventoryimport.assocPlace.Site=Site
inventoryimport.assocPlace.EQUIPMENT=Equipment
inventoryimport.assocPlace.LOGICAL_DEVICE= LogicalDevice
inventoryimport.assocPlace.PHYSICAL_DEVICE= PhysicalDevice
inventoryimport.assocPlace.PROPERTY_LOCATION= PropertyLocation
```

```
#LOGICAL DEVICE COLUMN HEADERS
inventoryimport.ld.action=Action
inventoryimport.ld.name=Name
inventoryimport.ld.specification=Specification
inventoryimport.ld.networklocation=NetworkLocation
inventoryimport.ld.networkentitycode=NetworkEntityCode
inventoryimport.ld.deviceidentifier=DeviceIdentifier
inventoryimport.ld.characteristic=LDcharacteristic

#PHYSICAL DEVICE COLUMN HEADERS
inventoryimport.pd.action=Action
inventoryimport.pd.name=Name
inventoryimport.pd.specification=Specification
inventoryimport.pd.networklocation=NetworkLocation
inventoryimport.pd.serialnumber=SerialNumber
inventoryimport.pd.characteristic=PDcharacteristic

#EQUIPMENT COLUMN HEADERS
inventoryimport.eq.action=Action
inventoryimport.eq.name=Name
inventoryimport.eq.specification=Specification
inventoryimport.eq.networklocation=NetworkLocation
inventoryimport.eq.serialnumber=SerialNumber
inventoryimport.eq.characteristic=EQcharacteristic

#DEVICE MAPPING COLUMN HEADERS
inventoryimport.devicemapping.physicaldevice=PhysicalDevice
inventoryimport.devicemapping.logicaldevice=LogicalDevice
inventoryimport.devicemapping.equipment=Equipment


#DEVICE CREATION COLUMN HEADERS
inventoryimport.device.action=Action
inventoryimport.device.name=Name
inventoryimport.device.deviceidentifier=DeviceIdentifier
inventoryimport.device.logicaldevicespecification=LogicalDeviceSpecification
inventoryimport.device.physicaldevicespecification=PhysicalDeviceSpecification
inventoryimport.device.equipmentspecification=EquipmentSpecification
inventoryimport.device.networklocation=NetworkLocation
inventoryimport.device.networkentitycode=NetworkEntityCode
inventoryimport.device.serialnumber=SerialNumber
inventoryimport.device.macaddress=MACAddress
inventoryimport.device.pdcharacteristic=PDcharacteristic
inventoryimport.device.ldcharacteristic=LDcharacteristic
inventoryimport.device.eqcharacteristic=EQcharacteristic

#INSERT SHELF CREATION COLUMN HEADERS
inventoryimport.shelf.action=Action
inventoryimport.shelf.rackname=RackName
inventoryimport.shelf.specification=ShelfSpecification
inventoryimport.shelf.name=ShelfName
inventoryimport.shelf.serialnumber=SerialNumber
inventoryimport.shelf.characteristic=ShelfCharacteristic

#INSERT CARD CREATION COLUMN HEADERS
inventoryimport.card.action=Action
inventoryimport.card.shelfname=ShelfName
inventoryimport.card.specification=CardSpecification
inventoryimport.card.slot=Slot
inventoryimport.card.name=Name
inventoryimport.card.abbreviation=Abbreviation
inventoryimport.card.characteristic=CardCharacteristic
```

```
#PORT MAPPINGS COLUMN HEADERS
inventoryimport.portmap.action=Action
inventoryimport.portmap.type=Type
inventoryimport.portmap.name=Name
inventoryimport.portmap.portspecification=PortSpecification
inventoryimport.portmap.portname=PortName
inventoryimport.portmap.interfacespecification=InterfaceSpecification
inventoryimport.portmap.interfacename=InterfaceName
inventoryimport.portmap.ldname=LogicalDeviceName

#CONNECTIVTY CREATE COLUMN HEADERS
inventoryimport.con.action=Action
inventoryimport.con.technology=Technology
inventoryimport.con.specification=Specification
inventoryimport.con.format=Format
inventoryimport.con.alocation=ALocation
inventoryimport.con.zlocation=ZLocation
inventoryimport.con.ratecode=RateCode
inventoryimport.con.oversubscription=Oversubscription
inventoryimport.con.function=Function
inventoryimport.con.identifier=Identifier
inventoryimport.con.characteristic=Concharacteristic
inventoryimport.con.autotermination=AutoTermination
inventoryimport.con.adevice=ADevice
inventoryimport.con.zdevice=ZDevice
inventoryimport.con.gapmessage=GapMessage
#Additional UNI Connectivity Attributes
inventoryimport.con.servicemultiplexing=ServiceMultiplexing
inventoryimport.con.bundling=Bundling
inventoryimport.con.alltoonebundling=AllToOneBundling
inventoryimport.con.valanbased=VLANBased
inventoryimport.con.maxpvncount=MaxPacketVirtualNetworkCount
#Additional INNI Connectivity Attributes
inventoryimport.con.internetwork=Internetwork
#Additional ENNI Connectivity Attributes
inventoryimport.con.otherserviceprovidername=OtherServiceProvider
inventoryimport.con.otherproviderdemarcationpoint=OtherProviderDemarcationPoint
inventoryimport.con.exprRateCode=ExpressToRateCode

#PIPE CREATE COLUMN HEADERS
inventoryimport.pipe.action=Action
inventoryimport.pipe.specification=Specification
inventoryimport.pipe.name=Name
inventoryimport.pipe.autotermination=AutoTermination
inventoryimport.pipe.medium=Medium
inventoryimport.pipe.transmissionSignalType=TransmissionSignalType
inventoryimport.pipe.parentPipe=ParentPipe
inventoryimport.pipe.startingWavelength=StartingWavelength
inventoryimport.pipe.startingFrequency=StartingFrequency
inventoryimport.pipe.numOfChannels=NumOfChannels
inventoryimport.pipe.aEntityType=AEntityType
inventoryimport.pipe.zEntityType=ZEntityType
inventoryimport.pipe.aEntityId=AEntityId
inventoryimport.pipe.zEntityId=ZEntityId
inventoryimport.pipe.aEntityName=AEntityName
inventoryimport.pipe.zEntityName=ZEntityName
inventoryimport.pipe.characteristic=Pipecharacteristic
inventoryimport.pipe.EQUIPMENT=Equipment
inventoryimport.pipe.LOGICAL_DEVICE= LogicalDevice
inventoryimport.pipe.PHYSICAL_DEVICE= PhysicalDevice
inventoryimport.pipe.DEVICE_INTERFACE= DeviceInterface
```

```
inventoryimport.pipe.PHYSICAL_PORT= PhysicalPort
inventoryimport.pipe.gridType=GridType
inventoryimport.pipe.flexGridChannelSize=FlexGridChannelSize


#PIPE CONNECTIVITY ENABLE COLUMN HEADERS
inventoryimport.connPipeEn.action=Action
inventoryimport.connPipeEn.trailType=TrailType
inventoryimport.connPipeEn.trailName=TrailName
inventoryimport.connPipeEn.TDMFacility=TDMFacility
inventoryimport.connPipeEn.pipe=Pipe
inventoryimport.connPipeEn.connectivity=Connectivity

# Network COLUMN HEADERS
inventoryimport.nw.action=Action
inventoryimport.nw.name=NetworkName
inventoryimport.nw.specification=NetworkSpecification
inventoryimport.nw.topology=Topology
inventoryimport.nw.characteristic=NWCharacteristic

# ADD Network NODES COLUMN HEADERS
inventoryimport.node.action=Action
inventoryimport.node.nwname=NetworkName
inventoryimport.node.entitytype=EntityType
inventoryimport.node.entityname=EntityName

# Add Connectivity Edges to Network
inventoryimport.addcon.action=Action
inventoryimport.addcon.nwname=NetworkName
inventoryimport.addcon.entitytype=EntityType
inventoryimport.addcon.entityname=EntityName

# ADD Network EDGES CUCOLUMN HEADERS
inventoryimport.edge.action=Action
inventoryimport.edge.nwname=NetworkName
inventoryimport.edge.entitytype=EntityType
inventoryimport.edge.entityname=EntityName
inventoryimport.edge.fromnode=FromNode
inventoryimport.edge.tonode=ToNode

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

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

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

Property	Description
AllowCancelReferencedBusinessInteraction	This property controls the cancellation of referenced business interactions. The default value is **true**. For example: `AllowCancelReferencedBusinessInteraction=true`
AllowDeactivateReferencedCustomNetworkAdrress	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`
AllowedDeactivateReferencedLogialDevice	This property controls the deactivation of referenced logical devices. The default value is **false**. For example: `AllowDeactivateReferencedLogicalDevice=false`
AllowDeactivateReferencedLogialDeviceAccount	This property controls the deactivation of referenced logical device accounts. The default value is **false**. For example: `AllowDeactivateReferencedLogicalDeviceAccount=false`
AllowDeactivateReferencedNetwork	This property controls the deactivation of referenced networks. The default value is **false**. For example: `AllowDeactivateReferencedNetwork=false`
AllowDeactivateReferencedPhysicalDevice	This property controls the deactivation of referenced physical devices. The default value is **false**. For example: `AllowDeactivateReferencedPhysicalDevice=false`
AllowDeactivateReferencedPipe	This property controls the deactivation of referenced pipes. The default value is **false**. For example: `AllowDeactivateReferencedPipe=false`
AllowSuspendReferencedService	This property controls the suspension of referenced services. The default value is **true**. For example: `AllowSuspendReferencedService=true`

Table 5-10 (Cont.) Properties in the reference. properties file

Property	Description
AllowDisconnectReferencedService	This property controls the disconnect of referenced services. The default value is **true**. For example: `AllowDisconnectReferencedService=true`
AllowCancelReferencedService	This property controls the cancellation of referenced services. The default value is **true**. For example: `AllowCancelReferencedService=true`
AllowDeactivateReferencedTelephoneNumber	This property controls the deactivation of referenced telephone numbers. The default value is **false**. For example: `AllowDeactivateReferencedTelephoneNumber=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 5-11 Properties in the ruleProcess.properties File

Property	Description
WORK_MANAGER_JNDI	This property applies only to WebLogic. For example: `WORK_MANAGER_JNDI=java:comp/env/wm/ruleWorkManager`
timeOutSec	This property sets the timeout in WorkManager during cartridge install. The default value is 10000 milliseconds. For example: `timeOutSec=10000`

Setting System Properties

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

Table 5-12 lists the system configuration properties. Some related properties are grouped together.

Table 5-12 Properties in the system-config.properties File

Property	Description
billofmaterial.currency	This property determines the currency that is used in bills of material (BOMs) generated from engineering work orders, business interactions, and projects. The default value is **USD** (US dollar). Change the value to another ISO-standard currency abbreviation to specify that currency. For example, to use the Euro in BOMs: `billofmaterial.currency=EUR` See "About Unified Inventory Management" in *UIM Concepts* for more information about BOMs.
adminServerListenerPort **adminServerListenerSSLPort**	These properties set the AdminServer ports. Setting the ports allows you to change the LDAP user password from UIM UI using the **Change Password** field under the **Administration** section. The default value is 0 if nothing is specified.
businessInteraction.allowCancelWithCompletedChild	This property controls whether a business interaction can be canceled if it has completed children. For example: `businessInteraction.allowCancelWithCompletedChild=false`
businessInteraction.allowCancelWithCompletedConfiguration	This property controls whether a business interaction can be canceled if it is associated to a completed configuration version. For example: `businessInteraction.allowCancelWithCompletedConfiguration=false`
cmws.asynch.mode	This property sets the cartridge deployment mode to either synchronous or asynchronous. The default value is **true** (asynchronous). For example: `cmws.asynch.mode=true`
connectivity.capactityVariant	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: `connectivity.capacityVariant=4`
connectivity.skipSameRateCodeValidationFor	Skips certain rate codes for SameRateCode validation. For example: `connectivity.skipSameRateCodeValidationFor=ODU4`
createIPAddress.flushSize	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 **500**. For example: `createIPAddress.flushSize=500`

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

Property	Description
createIPSubnets.flushSize	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 500. For example: `createIPSubnets.flushSize=500`
createIPAddress.maxLimit	This property controls the number of IP Address entities to create in one transaction. For example: `createIPAddress.maxLimit=20000`
createIPSubnets.maxLimit	This property controls the number of IP Subnet entities to create in one transaction. For example: `createIPSubnets.maxLimit=20000`
createTN.flushSize	This property controls the number of telephone number entities to create before calling the flush transaction. Do not set the **createTN.flushSize** property to a value greater than **500**. The default value is **500**. For example: `createTN.flushSize=500`
db.sequence.cacheSize	This property sets the cache size for Oracle Sequence used for Auto ID generation. The default value is **75000**. For example: `db.sequence.cacheSize=75000`

default.connectivity.color
default.gap.color
default.crossconnect.color
default.jumper.color
default.pipe.color
selected.connectivity.patchcolor
	These properties control the colors used in the connectivity schematic view. Colors are expressed in standard RGB values. For example:
	`default.connectivity.color=0,0,153`
	`default.gap.color=165,165,165`
	`default.crossconnect.color=0,204,255`
	`default.jumper.color=84,141,212`
	`default.pipe.color=165,165,165`
	`selected.connectivity.patchcolor=0,175,0`

domainName.1
domainName.2
	This property sets the list of all domain names that are allowed.
	For example:
	`domainName.1=oracle`
	`domainName.2=cloud.oracle`

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

Property	Description
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 "Overview" in *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
eLocation.http.proxyHost
eLocation.http.proxyPort
eLocation.http.proxyUser
eLocation.http.proxyPassword
	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`

fiber.maxDWDMChannelsLimit
fiber.maxCWDMChannelsLimit
fiber.DWDMStartingFrequency
fiber.DWDMMaxFrequencyLimit
fiber.CWDMStartingWavelength
fiber.CWDMMaxWavelengthLimit
	These properties control number of channels, frequency, and wavelength of the corresponding optical fiber.
	`fiber.maxDWDMChannelsLimit=2`
	`fiber.maxCWDMChannelsLimit=2`
	`fiber.DWDMStartingFrequency=1270`
	`fiber.DWDMMaxFrequencyLimit=1810`
	`fiber.CWDMStartingWavelength=190.1`
	`fiber.CWDMMaxWavelengthLimit=197.3`

inv.extendedCharSearchEnabled **inv.extendedCharSearchEnabledForAll** **inv.extendedCharSearchEnabledEntities**	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.
ip.defaultTransitionalStateExpiry	This property controls the number of days IP resources should be in the **TRANSITIONAL** state before moving to **UNASSIGNED** state. The default value is **30**. For example: `ip.defaultTransitionalStateExpiry=30`

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

Property	Description
ipAddress	This property specifies the possible ipv4/ipv6 initial pattern that are allowed. If **127.10.** is specified, the system allows all ipv4 addresses starting **127.10.**. For example: `ipAddress=127.10.`
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
feedmessage.logexactlocation
	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`

logicalDevice.alertConsumptionPercent	This property alerts when the consumption percentage is above or equal to the value you enter. The default value is **80**. For example: `logicalDevice.alertConsumptionPercent=80`
logicalDevice.warnConsumptionPercent	This property warns when the consumption percentage is above or equal to the value you enter. The default value is **60**. For example: `logicalDevice.warnConsumptionPercent=60`
logicalDevice.alertConsumptionPercentColor	This property displays the consumption percentage for alerts in the color you specify. The default value is **#940000**. For example: `logicalDevice.alertConsumptionPercentColor=#940000`
logicalDevice.warnConsumptionPercentColor	This property displays the consumption percentage for warnings in the color you specify. The default value is **#ff7300**. For example: `logicalDevice.warnConsumptionPercentColor=#ff7300`

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

Property	Description
logicalDevice.alertConsumptionPercentTextColor	This property displays the text in the consumption percentage alert in the color you specify. The default value is **#ffffff**. For example: `logicalDevice.alertConsumptionPercentTextColor=#ffffff`
logicalDevice.warnConsumptionPercentTextColor	This property displays the text in the consumption percentage warning in the color you specify. The default value is **#000000**. For example: `logicalDevice.warnConsumptionPercentTextColor=#000000`

topLevelDomainName.1
topLevelDomainName.2
	This property sets the list of all top-level domain names that are allowed.
	For example:
	`topLevelDomainName.1=.com`
	`topLevelDomainName.2=.co.uk`

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`

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.lastSavedSearch	This property enables or disables the last saved search. The default value is **true**. For example: `ui.lastSavedSearch=true`
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`

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

Property	Description
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 **500**. For example: `ui.search.pageSize=500`
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.queryLimit	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.queryLimit=10000`
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`

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

Property	Description
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.characteristic.p_wdType.mask	This property avoids hard coding of the value for password type characteristic. For example: `uim.characteristic.p_wdType.mask=******`

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

Property	Description
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 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.defaultSenderEmail	This property sets the default email id of the sender, for email notifications.
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`
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 "About Unified Inventory Management "in *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`

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

Property	Description

uim.*entityName***Search.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.*entityName***summary.***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: `ui.partysummary.rolesportlet.deactivate=true` This property setting is not user-specific, but applies to all the UIM users.
uim.flowidentifier.id.delimiter	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=`

uim.host.*	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 "Overview" in *UIM Developer's Guide* for more information about properties for UIM notifications.

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

Property	Description
uim.mpcenabled	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 "About Unified Inventory Management" in *UIM Concepts Guide* for more information about multiple pending configuration functionality.
uim.query.cache.hint.entitylist	This property adds the RESULTS_CACHE hint to queries involving entities. For example: `uim.query.cache.hint.entitylist=CharacteristicSpecUsageDAO`

uim.query.MaxSearchResults	This property sets a limit on the number of entities retrieved for a search. You can set the value to **-1** to set no limit; search result pages display all retrieved entities (unless a range is explicitly set on the finder).
	By default the value is **50000**. You can increase the limit more than the default value. However, you must restart the system to get the limit value updated. If you want to set to a value that is less than the default value, you must test the value before setting.
	Examples:
	`uim.query.MaxSearchResults=-1`
	`uim.query.MaxSearchResults=50000`

uim.rest.dateFormat	This property sets the default date format to ISO8601 standard data format. Any changes need the application to restart and the date format should be compatible with **SimpleDateFormat**. The default value is **yyyy-MM-dd'T'HH:mm:ss.SSS'Z'**. For example: `uim.rest.dateFormat=yyyy-MM-dd'T'HH:mm:ss.SSS'Z'`
uim.rest.limitRange	This property sets the default limit to 200, if the limit is not specified in the URL. Value of this should be <=10000. For example: `uim.rest.limitRange=200`
uim.rest.includeTotalCount	This property is used for pagination and it can be disabled for better performance. The default value is **true**. For example: `uim.rest.includeTotalCount=true`

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

Property	Description

uim.rest.logicalDevice.category
uim.rest.telephoneNumber.category
uim.rest.service.category
	These properties set names for the **Category** fields of the corresponding specifications. You can set a generic category name for all the specifications. For example:
	`uim.rest.logicalDevice.category=category`
	`uim.rest.telephoneNumber.category=category`
	`uim.rest.service.category=category`
	If the category name is different for each specification, include separate properties for each specification. For example:
	`uim.rest.logicalDevice.BATLDSpec.category=ldcategory`

uim.rest.service.relationshipPrefix
uim.rest.service.relationshipTypePrefix
	These properties set names for the service relationships. For example:
	`uim.rest.service.relationshipPrefix=serviceRel`
	`uim.rest.service.relationshipTypePrefix=serviceRelType`

uim.security.filter.enabled	This property sets security access to allow for the configuring of partitions. For example: `uim.security.filter.enabled=false`
uim.serverName **uim.serverPort**	These properties set server name and port for triggering email notifications, when the request comes from a web service.
uim.serverAccessProtocol	This property sets the server access protocol. The valid values are **http** and **https**. The default value is **https**. For example: `uim.serverAccessProtocol=https`
uim.supportedImageExtensions	This property defines the image extensions that are allowed. The default values are **gif**, **png**, **bmp**, **dib**, **jpg**, **jpeg**, **jpe**, **jfif**, **tif**, **tiff**, **heic**, and **svg**. For example: `uim.supportedImageExtensions=gif,png,bmp,dib,jpg,jpeg,jpe,jfif,tif,tiff,heic,svg`
uim.telephonenumber.validation.leadingzeros.included	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`
uim.telephonenumber.search.invGroup.enable	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`

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

Property	Description
uim.ui.equipment.search.level	This property filters equipment results based on the child hierarchy level. You can set this value to any desired equipment hierarchy level. For example: `uim.ui.equipment.search.level=2`

uim.ui.hierarchyTrailColor
uim.ui.hierarchyTrailStyle
uim.ui.hierarchyInterconnectionColor
uim.ui.hierarchyInterconnectionStyle
uim.ui.hierarchyConnectivityExpandedColor
uim.ui.hierarchyPipeExpandedColor
uim.ui.hierarchyConnectivityExpandedStyle
uim.ui.hierarchyPipeExpandedStyle
uim.ui.hierarchyGapColor
uim.ui.hierarchyGapStyle
	These properties assigns the style and color parameters that can be customized. The available values for style are **solid**, **dot**, **dash**, and **dashDot**. For color, you can choose any color in the CSS format. For example:
	`uim.ui.hierarchyTrailColor=Blue`
	`uim.ui.hierarchyTrailStyle=Solid`
	`uim.ui.hierarchyInterconnectionColor=Blue`
	`uim.ui.hierarchyInterconnectionStyle=Solid`
	`uim.ui.hierarchyConnectivityExpandedColor=Green`
	`uim.ui.hierarchyPipeExpandedColor=Green`
	`uim.ui.hierarchyConnectivityExpandedStyle=solid`
	`uim.ui.hierarchyPipeExpandedStyle=solid`
	`uim.ui.hierarchyGapColor=Red`
	`uim.ui.hierarchyGapStyle=dash`

uim.ui.propertyLocation.displayInfo	This property displays the Property Name as **DisplayInfo** instead of the default display information. The default value is **false**. For example: `uim.ui.propertyLocation.displayInfo=false`
uim.ui.propertyLocation.renderCity	This property is defined to not render the **City** field in the Property Location pages. The default value is **true**. For example: `uim.ui.propertyLocation.renderCity=true` To disable the field, set the value to **false**.
uim.ui.propertyLocation.renderState	This property is defined to not render the **State** field in the Property Location pages. The default value is **true**. For example: `uim.ui.propertyLocation.renderState=true` To disable the field, set the value to **false**.
uim.ui.propertyLocation.renderCountry	This property is defined to not render the **Country** field in the Property Location pages. The default value is **true**. For example: `uim.ui.propertyLocation.renderCountry=true` To disable the field, set the value to **false**.

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

Property	Description

uim.default.autosuggest.rowlimit
uim.default.autosuggest.disable
	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`

uim.networkentitycode.maxlength
uim.networklocation.code.minlength
uim.networklocation.code.maxlength
uim.networkentitylocation.code.delimiter.enabled
uim.propertylocation.name.maxlength
uim.propertylocation.name.delimiter
poms.cache.coordination.enabled
	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.networkentitylocation.code.delimiter.enabled=true`
	`uim.propertylocation.name.delimiter=`
	`poms.cache.coordination.enabled=false`

uim.ws.search.query.range	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: `uim.ws.search.query.range=100`
uim.ws.*entityName*.search.query.range	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: `uim.ws.telephonenumber.search.query.range=100`
groom.items.per.transaction	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: `groom.items.per.transaction=5`
system.exception.writableStackTrace	This property is used to reduce CPU usage. For example: `system.exception.writableStackTrace=false`
ws.includeEntityFromAssignment	This property determines whether to include the entity in web service requests from an assignment or reference. The default value is **false**. `ws.includeEntityFromAssignment=false`

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

Property	Description

workflow.defaultUserSpecification.<user1>	This property sets the default Engineering Work Order page. There can be multiple users and every user can optionally set their own default value from the Multiple Workflow template, in the properties file. For example:
	`workflow.defaultUserSpecification.<user1> = <defaultWorkflowTemplateName>`
	`workflow.defaultUserSpecification.<user2> = <defaultWorkflowTemplateName>`

uim.monitoring.prometheus.enabled	This property is used to enable or disable the UIM Prometheus metrics. The default value is **false**. To enable UIM Prometheus metrics, set this property to **true**. Any change to this property requires a restart of the managed server or an update of the application.
uim.monitoring.prometheus.jvm.enabled	This property is used to enable or disable the JVM metrics. The default value is **false**. To enable JVM metrics, set this property to **true**. Any change to this property requires a restart of the managed server or an update of the application.
uim.monitoring.prometheus.sfws.enabled	This property is used to enable or disable the Service Fulfillment Web Service (SFWS) metrics. The default value is **false**. To enable sfws metrics, set the value to **false**. Any change to this property affects run-time and does not require a restart or application update.
uim.monitoring.prometheus.service.enabled	This property is used to enable or disable service metrics. The default value is **false**. To enable service metrics, set the value to **false**. Any change to this property affects run-time and does not require a restart or application update.
uim.ui.search.SearchINOperatorEnable	This property is used to enable **IN Operator** for the String type text fields in **EntitySearch** screens. The default value is **false**. To enable, set the value to **true**. For example: `uim.ui.search.SearchINOperatorEnable=false` **Note**: If you enable this property, you may experience performance issues.
uim.ui.search.SearchTextMaxlen	When you set the **uim.ui.search.SearchINOperatorEnable** value to **true**, use this property to set **Maximum Text Field** length in the UI search screens. The default value is **100** characters length. For example: `uim.ui.search.SearchTextMaxlen=100`

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

Property	Description
uim.ui.showDeletedEnabled	This property enables or disables the values of **Deleted Entities** in **Search Results**. The default value is **false**. To enable, set the value to **true**. Enabling this property displays the details of pipes or connectivities that are **Disconnected** or **Deleted** under the business interaction context. For example: `uim.ui.showDeletedEnabled=false`
uim.ui.showDeletedEnabledEntitiesList	When **uim.showDeletedEnabled** is set to **true**, this property specifies comma separated list of entities that have the values of **Deleted Entities** enabled in **Search Results**. For example: `uim.ui.showDeletedEnabledEntitiesList.1=Pipe,Connectivity`
uim.mpcTimeStampenabled	This property specifies whether the MPC feature is enabled on the same day. The default value is **false** and therefore MPC on the same day is disabled by default. To enable this, set the value to **true**. For example: `uim.mpcTimeStampenabled=false`
uim.LGCLDeletePerfEnabled	This property enables the HighPerforming API while deleting a logical device that has a large number of device interfaces. This API works only in the live business interaction context. The default value is **false**. To enable this, set the value to **true**. For example: `uim.LGCLDeletePerfEnabled = false`
uim.ui.charDefaultValue	This property sets a default value for the **String** datatype characteristics that are created under the service configuration items. For example: `uim.ui.charDefaultValue = <value>`
uim.topology.equipment.enabled	This property enables or disables the display of equipments when you perform a property location search on the Topology page. For example: `uim.topology.equipment.enabled = true`
uim.ui.mapViewEnabled	This property enables map view for ATA microservice enabled environment. The default value is **false**. To enable this, set the value to **true**. For example: `uim.ui.mapViewEnabled = false`

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

Property	Description

microServiceEnabled
microServiceUrl
microServiceDateFormat
	The **microServiceEnabled** property enables the ATA microservice. The default value is **true**
	For example:
	`microServiceEnabled=true`
	`microServiceDateFormat=yyyy-MM-dd'T'HH:mm:ss.SSS'Z'`
	`microServiceUrl=http://<hostIP>:<port>/<topology-project>/<topology-instance>/topology/v2/`
	After you enable the microservice using **microServiceEnabled**, you must set the URL, date format, and login credentials to use the microservice.

bootstrap.server.url	This property sets a list of host/port pairs to use for establishing the initial connection to the Kafka cluster.
kafka.acks.config	This property sets the number of acknowledgments that source requires the leader to have received before considering a request complete. If this property is set to **0** then the source will not wait for any acknowledgements from the server. The record will be immediately added to the buffer and considered as sent. If this property is set to **all** then the target will wait for the total set of in-sync replicas to acknowledge the record. The record will be immediately added to the buffer and considered as sent. For example: `kafka.acks.config=0`
kafka.retries.config	Setting a value greater than zero causes the client to resend any record whose send fails with a potentially transient error.
kafka.batch.size.config	This parameter helps performance on both the client and the server and controls the default batch size in bytes. No attempt will be made to batch records larger than this size. **Note:** A batch size of **0** will disable batching entirely.
transaction.timeout.ms	The maximum amount of time in ms that the transaction coordinator will wait for a transaction status update from the source before proactively cancelling an ongoing transaction. This property is commented out by default. To customize, uncomment it. **Note:** If this value is larger than the **transaction.max.timeout.ms** value, the request will fail with `InvalidTxnTimeoutException` error.
kafka.producer.transaction.bi.hashing	If this parameter is set to **true**, all the messages will use the same key and reach the same partition and therefore these messages will be processed in serial order. This property is commented out by default. To customize, uncomment it. For example: `kafka.producer.transaction.bi.hashing=true`

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

Property	Description
kafka.producer.source.system.id	This property is commented out by default. To customize, uncomment it.
kafka.client.id.config	An ID string to pass to the server while making requests. The purpose of this is to be able to track the source of requests along with IP or port by allowing a logical application name to be included in server-side request logging.
oauth.enabled	This property enables OAuth. Set this property to **true** to enable OAuth. For example: `oauth.enabled=true`
oauth.token.endpoint.uri	This property sets the OAuth endpoint URI. For example: `oauth.token.endpoint.uri=https://<oam-instance>.<oam-project>.ohs.<oam-host-suffix>:<loadbalancerport>/oauth2/rest/token`
oauth.client.id	This property sets the OAuth client ID. For example: `oauth.client.id=topologyClient`
oauth.client.secret	This property sets the OAuth client user ID. For example: `oauth.client.secret=<client user ID>`
messagebus.tls.enabled	This property must be initialized when Kafka is SSL enabled. Set this property to **true** if Kafka is SSL enabled. For example: `messagebus.tls.enabled=true`
oauth.client.secret.isEncrypted	This property enables the decryption of secret or truststore password. By default this property is set to **false**, which means the secret or password is not encrypted. If the secret or password is encrypted, set this value to **true** so that the value will be decrypted. `oauth.client.secret.isEncrypted=false`
topology.ui.host **topology.ui.port** **topology.ui.path**	These properties define the host, port, and path for the ATA microservice UI.

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

Property	Description
uim.rest.filter.CORSAllowedOrigin	CORS support for TMF web services. This property represents the client address which is added to the response header attribute **Access-Control-Allow-Origin**. For example: `uim.rest.filter.CORSAllowedOrigin = http://<host IP>:<Port>`
microservice.pathAnalysis.allAlgorithm.maxHops	This property sets the value for maximum hops considered in path analysis when the algorithm **All** is selected. For example: `microservice.pathAnalysis.allAlgorithm.maxHops=10`
microService.pathAnalysis.maxPathsForTopKAlgorithm	This property sets the value for maximum number of paths considered when **Top K Shortest** or **Top K Cheapest** algorithm is selected. For example: `microService.pathAnalysis.maxPathsForTopKAlgorithm=5`
uim.connectivity.virtualConnectivity.signalAddress.startWithone	This property modifies the virtual connectivity signal address **j** value which is set as 0 by default. To modify it, uncomment the property and set the value to 1. For example: `uim.connectivity.virtualConnectivity.signalAddress.startWithone=1`
uim.ui.networkPlanAndBuild.canvas.enabled	This property enables and disables the Network Visualization page view in the Visualization tab under Network Summary in UIM. The default value is **true**. To disable, set the value to **false**. Disabling this property brings back the Network Topological page view. For example: `uim.ui.networkPlanAndBuild.canvas.enabled=true`
uim.ui.disableBIContext	This property allows switching between Business Interaction and current contexts. The default value of this property is **false**. To enable it, set the value to **true**. Enabling this property will allow switching between business interaction and current context unless you manually switch to business interaction context. For example: `uim.ui.disableBIContext=false`
uim.ui.confirmSearchWarning	This property allows the system to display a warning when you are searching for an entity without mentioning any specification value. By default, the value is set to **false**, which means the warning will not be displayed. To enable it, set the value to **true**. For example: `uim.ui.confirmSearchWarning=false`

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

Property	Description
uim.ui.pipeEnablement.alwaysGap	This property automatically resolves connectivity gap and create trail-bound cross-connect/trail-bound jumper in certain situations. By default the value is set to **false**, which means that connectivity gap is resolved. To disable it, set the value to **true**. Disabling this property always creates a connectivity gap in pipe enablement. For example: `uim.ui.pipeEnablement.alwaysGap=false`
uim.ui.showConnectivityInFlowIdentifierSearchResult	This property toggles the appearance of the three columns in Flow Identifier search result page: Connectivity Identifier, Network Element Z and Network Element A associated to the Flow Identifier. By default the value is set to **true**. To not display the connectivity details, you can disable the property by setting the value to **false**. For example: `uim.ui.showConnectivityInFlowIdentifierSearchResult=true`
npd.ui.path=/apps/ata-ui/vp/landingpagewithaskoracle	This property defines the path of Network Canvas in Topology UI Microservice.
uim.ui.searchResults.exportType	This property sets export Type of ADF export in Search Results pages and other pages in UIM UI. The possible values for this property are **hssfExcel** and **excelHTML**. By default, the property is set to **excelHTML** which provides HTML tabular data in an xls file, while **hssfExcel** provides out xls files that are readable through Apache POI, MS Excel, etc. For example: `uim.ui.searchResults.exportType=excelHTML`
uim.mpcTimeStampFormat	This property allows you to choose a time gap as once in an hour (HH), once in a minute (HH:mm), or once in a second (HH:mm:ss) for every new pending service configuration created in the same day. The valid values are **HH**, **HH:mm**, or **HH:mm:ss**. By default, the value is set to **HH:mm:ss**. For example: `uim.mpcTimeStampFormat=HH:mm:ss`
uim.ip.subnet.allowPartitionOnAssignedSubnet	This property allows any assigned IPv4 subnet to be further partitioned. If the property is set to **false**, this feature will be disabled. To enable this property, set the value to **true**. For example: `uim.ip.subnet.allowPartitionOnAssignedSubnet=true`

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

Property	Description
uim.ip.network.allowPublicIPRangeInPrivateDomain	This property enables only IPv4 networks in the public IP ranges to be assigned to the private domain. If the property is set to **false**, this feature will be disabled. To enable this property, set the value to **true**. For example: `uim.ip.network.allowPublicIPRangeInPrivateDomain=true`

uim.ui.SFPPortCOSpecification
uim.ui.SFPCustomInvolvmentSpec
	These properties model SFP Port. The properties represent the **SFPPort** CustomObject and the CustomInvolvement specifications. The Model cartridge (ora_uim_sfpport) has these properties that are populated with the same names. You can customize to have your own specifications and update these properties with the new custom specifications.
	For example:
	`uim.ui.SFPPortCOSpecification = SFPPort`
	`uim.ui.SFPCustomInvolvmentSpec = SFPPortInvolvement`

uim.ui.devicesHierarchyTreeLabel.localize	This property configures the localization of physical device and equipment specification names. To enable this, set the value to **true**. Setting the value to **false** allows the usage of extension point (such as APIs) for generating custom physical device and equipment specification names. For example: `uim.ui.devicesHierarchyTreeLabel.localize=true`
uim.ui.configNodeDisplayLabelFromBundle	This property displays the configuration item label from the bundle. By default the value is set to **true**. To disable this property, set it to **false**. For example: `uim.ui.configNodeDisplayLabelFromBundle=true`

oauth.scope
oauth.audience
	These properties enable you to configure SSO using any identity provider that is available in the market.
	The examples for IDCS are as follows:
	`oauth.scope=https://quick.sr.topology.uim.org:30443/ataScope`
	`oauth.audience=https://quick.sr.topology.uim.org:30443/`

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

Property	Description
npd.createNetwork.ui.permissibleImportFileSize	This property defines the maximum file size allowed for an Excel file during import. You use this property for importing locations, resources, and connectivities. By default the value is set to **25600**. For example: `npd.createNetwork.ui.permissibleImportFileSize=25600`
npd.createNetwork.ui.maxPatchLimit	This property defines the maximum number of entities that can be added to the network in one search operation. By default the value is set to **100**. For example: `npd.createNetwork.ui.maxPatchLimit=100`
npd.createNetwork.ui.paginationFetchLimit	This property defines the maximum number of rows searched for each scroll on the table. By default the value is set to **50**. For example: `npd.createNetwork.ui.paginationFetchLimit=50`
npd.createNetwork.ui.limitRange	This property defines the maximum number of response objects searched for each GET call. By default the value is set to **200**. For example: `npd.createNetwork.ui.paginationFetchLimit=200`
npd.createNetwork.ui.defaultCreateLocationCountry	This property sets the default country for a dropdown list of countries you choose from. By default the value is set to **US**. You use this property while creating a location. For example: `npd.createNetwork.ui.defaultCreateLocationCountry=US`
npd.createNetwork.ui.enniPartySpecification	This property defines the default specification for Party entities in Network Topology. By default the value is set to **Organization**. You use this property while creating a connectivity. For example: `npd.createNetwork.ui.enniPartySpecification=Organization`

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

Property	Description
npd.createNetwork.ui.enniPartyRole	This property defines the default role for Party entities in Network Topology. By default the value is set to **Service Provider**. You use this property while creating a connectivity. For example: `npd.createNetwork.ui.enniPartyRole=Service Provider`
uim.ui.createNetworkGuidedFlow.canvas.enabled	This property enables the new Create Network guided flow page in UIM. The default value is **true**. To use the existing Create Network page, set the value to **false**. For example: `uim.ui.createNetworkGuidedFlow.canvas.enabled=true`
smartSearch.host	This property defines the host of the Smart Search service. Use this property only if SmartSearch service is deployed in a different namespace. This is an optional property.
smartSearch.port	This property defines the port of the Smart Search UI service. Use this property only if SmartSearch service is deployed in a different namespace. This is an optional property.
smartSearch.version	This property defines the version of the Smart Search UI service. It is a mandatory property.
topology.api.host	This property defines the host of topology API service. Use this property only if the Topology service is deployed in a different namespace. This is an optional property.
topology.api.port	This property defines the port of topology API service. Use this property only if the Topology service is deployed in a different namespace. This is an optional property.
npd.getNetwork.ui.maxConcurrentRequests	This property defines the maximum number of concurrent GET Requests triggered to fetch the Network Details.
npd.getNetwork.ui.batchSizeToFetchNetwork	This property defines the size of one batch triggered in parallel while fetching Network Details.
smartSearch.url.enable	This property defined as **true**, only if SmartSearch service is running in an environment other than the UIM cluster.

Controlling System Timer Events

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 processed 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 processed when the timer expired.

  There is no default. This property must be specified.

- **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 **clusterTimeMonitor**, which should be run individually on every server in a cluster.

The properties for the **timers.properties** file are:

Table 5-13 Properties in the timers.properties file

Property	Description

cleanReservation	This property controls the timer for cleaning up expired reservations. There should be only one instance of this timer in the cluster. For example:
	`timer.cleanReservation.firstTime=600`
	`timer.cleanReservation.period=600`
	`timer.cleanReservation.listener=oracle.communications.inventory.api.consumer.impl.ReservationManagerImpl`

clusterTimerMonitor	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:
	`timer.clusterTimerMonitor.firstTime=10`
	`timer.clusterTimerMonitor.period=10`
	`timer.clusterTimerMonitor.listener=oracle.communications.inventory.api.framework.timer.TimerController`
	`timer.clusterTimerMonitor.cluster=false`

customTimer	This property controls a timer for custom extensions. There should be only one instance of this timer in the cluster. For example:
	`timer.customTimer.firstTime=300`
	`timer.customTimer.period=600`
	`timer.customTimer.listener=oracle.communications.inventory.api.common.TimeoutEventListener`

ipAddressAging	This property controls a timer for recalling disconnected IP resources. For example:
	`timer.ipAddressAging.firstTime=600`
	`timer.ipAddressAging.period=600`
	`timer.ipAddressAging.listener=oracle.communications.inventory.api.ip.IPResourceTimerListener`

Table 5-13 (Cont.) Properties in the timers.properties file

Property	Description

outageAging	This property controls a timer that reloads the Outage tables automatically. These timer values are commented by default. And therefore, you can uncomment and set the corresponding values to reload the Outage tables automatically. For example:
	`timer.outageAging.firstTime=0`
	`timer.outageAging.period=0`
	`timer.outageAging.listener=oracle`
	
	Note: You can manually reload the Outage reports using the **Reload Outage Tables** option from the UIM application.

rowLockExpiration	This controls the timer for cleaning up expired entity row locks. For example:
	`timer.rowLockExpiration.firstTime=120`
	`timer.rowLockExpiration.period=600`
	`timer.rowLockExpiration.listener=oracle.communications.inventory.api.common.impl.RowLockExpiryTimerListener`

telephoneNumberAging	This property controls a timer for recalling disconnected telephone numbers. For example:
	`timer.telephoneNumberAging.firstTime=600`
	`timer.telephoneNumberAging.period=600`
	`timer.telephoneNumberAging.listener=oracle.communications.inventory.api.number.TelephoneNumberHelper`
	
	For more information on telephone number aging and telephone number life cycles, see "About Unified Inventory Management" in *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

Property	Description
tn.import.fileUploadWhiteListMimeTypes	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`
tn.import.portin.reason	This property specifies the reason for porting in the telephone numbers. For example: `tn.import.portin.reason=Reservation for portin number`
tn.import.portin.reservationType	This property specifies the duration of the validity for ported-in telephone number. For example: `tn.import.portin.reservationType=SHORTTERM`

Table 5-14 (Cont.) Properties in the telephoneNumberBulk.properties file

Property	Description
tn.import.portin.reservedFor	This property specifies the person who is making the reservation for the ported-in telephone number. For example: `tn.import.portin.reservedFor=portedIn user`
tn.import.portin.reservedForType	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`
tn.import.portin.quarantinePeriod	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`
tn.import.portin.serviceConifgItemNameForTN	This property specifies the name of the service configuration item configured for the telephone number entity. For example: `tn.import.portin.serviceConifgItemNameForTN=TelephoneNumber`

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

Property	Description
disableTopology	This property turns topology refresh On or Off. The default value is **true**. For example: `disableTopology=true`
processSynchronous	This property refreshes the topology immediately after the UIM transaction is complete. For synchronous updates, the value is **true** and for asynchronous updates the value is **false**. See "Configuring Asynchronous Topology Updates" for more information. The default value is **false**. For example: `processSynchronous=false`

Table 5-15 (Cont.) Properties in the topologyProcess.properties file

Property	Description
WORK_MANAGER_CLASS **WORK_MANAGER_NAME** **WORK_MANAGER_THREADS**	These properties are no longer used.
WORK_MANAGER_JNDI	This property is no longer used.

defaultBaseMap
defaultApplicationDatasource
defaultMapTileServerUrl
defaultMapCopyright
	These properties define set map profile settings. These are the default settings:
	`defaultBaseMap=ELOCATION_MAP`
	`defaultApplicationDatasource=UIMDATA`
	`defaultMapTileServerUrl=http://elocation.oracle.com/mapviewer/mcserver`
	`defaultMapCopyright=Copyright \u00a9 2007, 2020 Oracle Corp`
	If you use a third-party geocoding service, change these values. See "Configuring a Geocode Service" for more information.

MapViewerUrl	This property specifies the map viewer URL if it is running in a separate domain. To specify the URL, enter the URL in the following format: `mapviewerUrl=http://`*`hostname`*`:`*`port`*`/mapviewer`
simpleLinearMode **simpleLinearModeMaxCycles** **continueProcessingIndicator**	These properties are no longer used.

Monitoring Outage Impacts

You use **outageReport.properties** file to control the outage reports. Outage report provides the list of outages happened.

> **Note:**
>
> If you set any property value as **False**, the report does not include the corresponding information.

Table 5-16 lists and describes the properties in the file.

Table 5-16 Properties in the outageReport.properties File

Property	Description

outagereport.display.pipe_entity_id
outagereport.display.pipe_id
outagereport.display.pipe_name
	These properties set the Pipe information in the outage report. For example:
	`outagereport.display.pipe_entity_id=true`
	`outagereport.display.pipe_id=true`
	`outagereport.display.pipe_name=true`

Table 5-16 (Cont.) Properties in the outageReport.properties File

Property	Description

outagereport.display.a.place
outagereport.display.a.coordinates
outagereport.display.a.device
outagereport.display.a.parentdevice
	These properties set the **A side** information of the pipe or connectivity in the outage report. For example:
	`outagereport.display.a.place=true`
	`outagereport.display.a.coordinates=true`
	`outagereport.display.a.device=true`
	`outagereport.display.a.parentdevice=true`

outagereport.display.z.place
outagereport.display.z.coordinates
outagereport.display.z.device
outagereport.display.z.parentdevice
	These properties set the **Z side** information of the pipe or connectivity in the outage report. For example:
	`outagereport.display.z.place=true`
	`outagereport.display.z.coordinates=true`
	`outagereport.display.z.device=true`
	`outagereport.display.z.parentdevice=true`

outagereport.display.capacity	These properties set the Capacity information in the outage report. For example: `outagereport.display.capacity=true`

outagereport.display.service_entity_id
outagereport.display.service_id
outagereport.display.service_name
	These properties set the Service information in the outage report. For example:
	`outagereport.display.service_entity_id=true`
	`outagereport.display.service_id=true`
	`outagereport.display.service_name=true`

outagereport.display.lda_entity_id
outagereport.display.lda_id
outagereport.display.lda_name
	These properties set the Logical Device information in the outage report. For example:
	`outagereport.display.lda_entity_id=true`
	`outagereport.display.lda_id=true`
	`outagereport.display.lda_name=true`

outagereport.display.customer	These properties set the customer information in the outage report. For example: `outagereport.display.customer=true`
outagereport.display.email	These properties set the Email information in the outage report. For example: `outagereport.display.email=true`
outagereport.display.contact	These properties set the contact information in the outage report. For example: `outagereport.display.contact=true`

Customizing ATA Service Topology Configurations from UIM

From UIM, you can customize the ATA service topology configurations. You update the required properties from a JSON file, `ServiceTopologyConfiguration_<serviceSpecName>.json`, that customize the service topology configurations in ATA.

This service topology configuration JSON file is located in *UIM_Home*/**config/topologyMappings**.

The table lists the service topology configuration properties.

Table 5-17 Properties in the ServiceTopologyConfiguration_<serviceSpecName>.json File

Property	Description
configurationItemLabel	This property sets the service item name for which a resource is assigned or referenced. Setting this property creates a node or edge for the resource. For any service item, this property is mandatory. For a **TopologyOnly** node, the item lable is `TopologyOnly + <uniqueId>`
configurationItemParent	This property sets the child service item. If the service item is not under a child service, you do not set this property.
customLabelClass	This property sets the custom class. Using this, you can customize the label of a node or an edge. This custom class overrides the values set by **getNodeLabel** and **getEdgeLabel** methods.
exclude	By default, all the service nodes and edges are added to the topology in ATA. To exclude any of these nodes and edges from being displayed, set this property to **true**.
icon	This property enables you to customize an icon.
customType	This property sets the custom type for a node. For **TopologyOnly** nodes, set the **customType** value as `CustomDeviceDAO/CustomNetworkDAO/CustomLocationDAO/CustomNECDAO`.
sourceNode	This property sets the source node for a **TopologyOnly** edge. The value for this property can be the name or label of the node.
targetNode	This property sets the target node for a **TopologyOnly** edge. The value for this property can be the name or label of the node.
lineStyle	This property sets the line style. The available values are **solid**, **dot**, and **dash**.
lineColor	This property sets the line color.

Setting Timeout Values for UIM

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 5-18 describes the options available for the Query Behavior and Row Limit parameters.

Table 5-18 Query Behavior and Row Limit Parameters

Behavior (option #)	Row Limit	Count	Scrolling
FULL_COUNT_FULL_QUERY (1)	N/A	The exact count is displayed.	User can scroll through the entire result set.
NO_COUNT_FULL_QUERY (2)	N/A	Not displayed.	User can scroll through the entire result set.
LIMIT_COUNT_FULL_QUERY (3)	Used for count only	If total count < row limit, then total count is displayed, else the following is displayed: Total count: row limit (Limit Reached)	User can scroll the results up to the row limit.
LIMIT_COUNT_LIMIT_QUERY (4)	Used for count and query	If total count < row limit, then total count is displayed, else the following is displayed: Total count: row limit (Limit Reached)	User can scroll the results up to the row limit.
NO_COUNT_LIMIT_QUERY (5)	Used for query only	Not displayed.	User can scroll the results up to the row limit.
FULL_COUNT_LIMIT_QUERY (6)	Used for query only	The exact count is displayed.	User can scroll the results up to the row limit.

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 5-19 for a description of the pros and cons of the parameter options.
5. Save and close the **system-config.properties** file.

Table 5-19 Parameter Options Pros and Cons

Behavior	Advantages	Disadvantages
FULL_COUNT_FULL_QUERY(1)	You know the exact count of rows satisfying the criteria. You can scroll through the entire result set.	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. If the database is not tuned correctly, sorting the entire data set may take a while.
NO_COUNT_FULL_QUERY(2)	The query for finding the total count is not performed. So it helps the performance of the pages.	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. If the database is not tuned correctly, sorting the entire data set may take a while.

Table 5-19 (Cont.) Parameter Options Pros and Cons

Behavior	Advantages	Disadvantages
LIMIT_COUNT_FULL_QUERY(3)	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). Better performance compared to Behavior (1), as the count query is limited. Results are more accurate compared to Behavior (4).	User cannot scroll to the rows past the row limit.
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. 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.

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

Example 5-5 Sample Code Using the addHint Method on InventorySearchCriteria

```
        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.

Customizing Visualization for Equipment View

In the equipment view, the different colors representing ports can be set based on their assignment state. Similarly, the colors for sub-cards and sub-holders that are present on a card can also be set. This customization can be done by using the properties present in the *visualization.properties* file, present in **UIM_HOME/config** folder.

Table 5-20 lists the properties present in the *visualization.properties* file.

Table 5-20 Equipment visualization properties in the visualization.properties file

Property	Description
equipment.visual.port.assignmentState.assigned	The Assigned port color property can be set by providing the hexadecimal value of the color you want to use. Its default value is set to **#DC2020**. Example: `equipment.visual.port.assignmentState.assigned=#DC2020`
equipment.visual.port.assignmentState.unassigned	The Unassigned port color property can be set by providing the hexadecimal value of the color you want to use. Its default value is set to **#00C04B**. Example: `equipment.visual.port.assignmentState.unassigned=#00C04B`
equipment.visual.port.assignmentState.pendingAssign	The Pending Assign port color property can be set by providing the hexadecimal value of the color you want to use. Its default value is set to **#FFFF00**. Example: `equipment.visual.port.assignmentState.pendingAssign=#FFFF00`
equipment.visual.port.assignmentState.pendingUnassign	The Pending Unassign port color property can be set by providing the hexadecimal value of the color you want to use. Its default value is set to **#FFFF00**. Example: `equipment.visual.port.assignmentState.pendingUnassign=#FFFF00`
equipment.visual.subCard	The Sub-Card color property can be set by providing the hexadecimal value of the color you want to use. Its default value is set to **#02181F**. Example: `equipment.visual.subCard=#02181F`
equipment.visual.subHolder	The Sub-Holder color property can be set by providing the hexadecimal value of the color you want to use. Its default value is set to **#02181F**. Example: `equipment.visual.subHolder=#06485F`
equipment.visual.card.maxPortsToRender	This property configures the number of ports visible on a card in equipment visualization. Its default value is set to **30**. Example: `equipment.visual.card.maxPortsToRender=30`

Changing the uim.query.MaxSearchResults Parameter

In UIM, the default value of **uim.query.MaxSearchResults** from the **system-config.properties** is set to **50000**. This restricts the total number of fetch records that are returned by any of the FinderAPIs, which are used in the implementation code. This avoids the problems related to JVM Heap Memory that may arise because of insufficient search criteria in Finder APIs or null-valued search criteria parameters in any Finder APIs. If you are altering the default value, test in the corresponding environments before moving to the production environment.

For the corresponding use case, if your requirement is to fetch records other than the configured **uim.query.MaxSearchResults**, you can pass minimum and maximum range using `setRange (min,max)` API. The following example will search for 121 service objects of the specification **Ethernet Hub Service**:

```
  try {

                ServiceSpecification
svSpecification=findServSpecification("Ethernet Hub
Service");

                ServiceManager servMan =
PersistenceHelper.makeServiceManager();

                ServiceSearchCriteria criteria =
servMan.makeServiceSearchCriteria();


criteria.setServiceSpecification(svSpecification);

/* this will over ride the default MaxSearchResults configured in the
Properties file */

                 criteria.setRange(0, 120);

                 servList = servMan.findServices(criteria);

            }catch(Exception e){

                ut.rollback();

                e.printStackTrace();

}
```

6

Unified Inventory Management Backup and Restore

This chapter describes how to back up 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.

https://docs.oracle.com/en/middleware/fusion-middleware/12.2.1.4/asadm/introduction-backup-and-recovery.html#GUID-28E7916E-0A6C-4CD3-BA29-B7DDDE7E1724

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:

  https://docs.oracle.com/en/middleware/fusion-middleware/weblogic-server/12.2.1.4/start/failures.html

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".

   https://docs.oracle.com/middleware/1221/wls/SECMG/ldap.htm

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/en/database/oracle/oracle-database/19/racad/configuring-recovery-manager-and-archiving.html

> **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.

7

Working with Reports

Oracle Communications Unified Inventory Management (UIM) supports Oracle Analytics Server, which is the reporting standard for UIM. Through a downloadable patch, UIM provides sample reports that you can run in Oracle Analytics Server.

Installing and Configuring Oracle Analytics Server

The following sections provide information on installing and configuring Oracle Analytics Server.

This chapter assumes you are familiar with Oracle Analytics Server and its documentation, which is available on the Oracle documentation website:

https://docs.oracle.com/en/middleware/bi/analytics-server/index.html

Installing Oracle Analytics Server

Oracle Analytics Server is not part of UIM Installer. To use Oracle Analytics Server for UIM reporting, you must install it manually. See "UIM Software Compatibility" in *UIM Compatibility Matrix* for information about which versions of Oracle Analytics Server work with this release of UIM.

To install Oracle Analytics Server, follow the instructions in *Installing and Configuring Oracle Analytics Server*, located here:

https://docs.oracle.com/en/middleware/bi/analytics-server/install-config-oas/installing-product-software.html

Configuring Oracle Analytics Server

After you have successfully installed Oracle Analytics Server, you need to configure it by performing the following tasks:

- Start the Oracle Analytics Server WebLogic server. See "Getting Started".
- Add a data source and establish a database connection. See "Adding a Data Source and Establishing a Database Connection".
- Add users. See "Adding Users".

Getting Started

To get started with configuring Oracle Analytics Server, do the following:

1. Start the Oracle Analytics Server WebLogic server by following the instructions in Oracle Analytics Server documentation located here:

   https://docs.oracle.com/en/middleware/bi/analytics-server/administer-oas/start-and-stop-your-system.html

2. Ensure you have privileges to log in to Oracle Analytics Server as an administrator.

Adding a Data Source and Establishing a Database Connection

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

To add a data source and establish a database connection:

1. Log in to Oracle Analytics Server as an administrator.
2. Follow the instructions for creating data sources in *Administering Oracle Analytics Publisher in Oracle Analytics Server*:

   https://docs.oracle.com/en/middleware/bi/analytics-server/administer-publisher-oas/set-data-sources.html

Adding Users

To provide users with view access, Oracle Analytics Server offers several security options.

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

1. Log in to Oracle Analytics Server as an administrator.
2. Determine the security model option to use from the administrator's overview. Follow the instructions for granting permissions in *Administering Oracle Analytics Publisher in Oracle Analytics Server*, located here:

   https://docs.oracle.com/en/middleware/bi/analytics-server/administer-publisher-oas/configure-users-roles-and-data-access.html

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 (**OASSampleReports.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 Oracle Analytics Server Repository
- Uploading the Sample Reports from within Oracle Analytics Server

Copying the ZIP file to the Oracle Analytics Server Repository

To install the sample reports by copying the ZIP file to the Oracle Analytics Server 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*/**OASSampleReports.zip** file.

3. Extract the **OASSampleReports** folder to the *OAS_HOME*/**repository**/**Reports** directory.
4. Log in to Oracle Analytics Server.
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.
7. Change the data model file to point it to the data source you created earlier.

   See "Changing the Data Model Source" for instructions.

> **Note:**
>
> Regarding the Oracle Analytics Server 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 Oracle Analytics Server

To install the sample reports by uploading them from within Oracle Analytics Server:

1. Log in to Oracle Analytics Server.
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.

17. Navigate to *tempDir*/**BIPubReports/Data Models**.
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.

    The sample reports are located in the **BIPubReports** folder.
21. 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
- 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.

Connectivity Activation Report for Project Activity

> **Note:**
>
> Within the Oracle Analytics Server 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.

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.

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.

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.

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.

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.

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.

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.

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.

- **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.

- **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.

- **Utilization Report by Category for Toll Free Numbers**

  This report shows the assignment status, reservation type and condition type for toll free numbers.

Running the Sample Reports

To run the sample reports:

1. Log in to Oracle Analytics Server.
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".

   > **Note:**
   >
   > For generating IPv6 sample reports, you must run the **BIPubReports\functions.txt** file in the database of the UIM data 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

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 in to Oracle Analytics Server.
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 in to Oracle Analytics Server.
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.
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.
11. From the View Actions menu, select **Edit Data Set**.

    The Edit Data Set dialog box appears.
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 in to Oracle Analytics Server.
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.
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. Log in to Oracle Analytics Server.
3. 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.
4. From the **Default Data Source** list, select a data source.
5. Expand **Data Model** and select **Data Sets**.

   The **Diagram** tab for the selected data set appears.
6. Click the **New Data Set** list menu and select **SQL Query**.

   The New Data Set - SQL dialog box opens.
7. 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.
8. Click **OK** to close the New Data Set - SQL dialog box.
9. Click the **Save** icon to save the data set.
10. Click the **View Data** tab located next to the **Save** icon.
11. From the **Number of rows to return** list, select the number of rows to return.
12. Click **View**.
13. Select **Save as Sample Data** to save the data.

    The **Diagram** tab for the new data set appears.
14. 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.
15. Select the data model and choose **Guide Me** and then click **Next**.
16. Select **Page Options as Portrait** and **Layout** as table and then click **Next**.

17. From the Available Columns on the left side, select the columns that you want to appear in your report and click **Next**.
18. Click **Finish** and save the report.
19. To edit the report, click on the **Actions** icon located in the right corner of the report and select **Edit Report**.
20. On the **Edit** tab, use the listed components to create data tables, bar charts, and so on..
21. On the **Page Layout** tab, format your report by specifying portrait or landscape, headers and footers, and so on.
22. 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 in to Oracle Analytics Server.
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.
9. From the View Actions menu, select **Edit Data Set**.

   The Edit Data Set dialog box appears, showing the query.

Troubleshooting Oracle Analytics Server

Refer to the Oracle Analytics Server forum for troubleshooting information:

https://community.oracle.com/tech/developers/categories/oracle-analytics-server

8

Administering a UIM Cloud Native Deployment

Perform UIM cloud native deployment administration tasks.

This chapter provides information about UIM cloud native deployment administration tasks.

Overview of UIM Cloud Native Deployment Administration Tasks

UIM cloud native deployment administration tasks include day-to-day tasks of maintaining and managing UIM cloud native instances and its users. The tasks also include managing UIM and other related components in your cloud native environment.

You perform the following tasks as an administrator:

- Start, stop, and restart a UIM cloud native instance. See "Starting, Stopping, and Restarting a UIM Cloud Native Instance" for more information.
- Upgrade a UIM cloud native instance. See "Upgrading Your UIM Cloud Native Instance" for more information.
- Manage UIM cloud native security. See "Securing Your UIM Cloud Native Deployment" for more information.
- Monitor and manage a UIM cloud native deployment. See "Monitoring and Managing a UIM Cloud Native Deployment" for more information.
- Improve the performance of UIM. See "Improving the Performance of a UIM Cloud Native Deployment" for more details.

Starting, Stopping, and Restarting a UIM Cloud Native Instance

The UIM cloud native toolkit provides scripts for managing your UIM cloud native instances.

- To create or start a UIM cloud native instance, run the following script:

```
$UIM_CNTK/scripts/create-instance.sh -i instance -p project -s $SPEC_PATH
```

> **Note:**
>
> Run this command only when an instance is completely down. For details about verifying if the instance started, see "Verifying the UIM Server Started".

- To stop all the UIM instances, including the administrator instance, run the following command:

```
$UIM_CNTK/scripts/delete-instance.sh -i instance -p project -s $SPEC_PATH
```

- To restart the UIM managed server, run the following command:

```
$UIM_CNTK/scripts/restart-instance.sh -i instance -p project -s $SPEC_PATH
-r ms
```

> **Note:**
>
> For details about verifying if the instance started, see "Verifying the UIM Server Started".

- To restart the UIM administration server, run the following command:

```
$UIM_CNTK/scripts/restart-instance.sh -i instance -p project -s $SPEC_PATH
-r admin
```

- To restart all the servers (UIM managed servers and the administration server), run the following command:

```
$UIM_CNTK/scripts/restart-instance.sh -i instance -p project -s $SPEC_PATH
-r full
```

Upgrading Your UIM Cloud Native Instance

You upgrade your UIM cloud native instance in the following scenarios:

- To scale down. The instances in the environment would be reduced according to the `clusterSize` value specified in the *instance***.yaml** file.
- To scale up. The instances in the environment would be increased according to the `clusterSize` value specified in the *instance***.yaml** file.
- To upgrade the UIM Docker image to a newer image.
- To install updates to system configuration properties or log_level changes.
- To use WDT extensions.

To upgrade a UIM cloud native instance, run the following command:

```
$UIM_CNTK/scripts/upgrade-instance.sh -i instance -p project -s $SPEC_PATH
```

For details about upgrading your cloud native environment, see "Upgrading the UIM Cloud Native Environment" in *UIM Cloud Native Deployment Guide*.

Securing Your UIM Cloud Native Deployment

You manage most aspects of UIM security externally rather than in the application itself. For detailed information about how you perform application security tasks in external systems, see the corresponding product documentation for these systems. For information about UIM security, see "UIM Security Overview".

As part of authenticating users for access to a UIM cloud native deployment, you do the following configuration tasks:

- Set the session timeout. See "Setting Session Timeout for UIM Cloud Native Instances".

- Authenticate web services. See "Authenticating Web Services for a UIM Cloud Native Deployment".
- Authorization. See "Authorization in UIM Cloud Native Deployment".

Setting Session Timeout for UIM Cloud Native Instances

To set session timeout for your cloud native instances, you add the following session timeout details in the **inventory-clusterPlan.xml** file.

```
// Add below in variable-definition block, change session time out value to
desired number of seconds.
<variable>
   <name>SessionDescriptor_TimeoutSecs_16315175580860</name>
   <value>1800</value>
 </variable>

// Add below in inventory.ear module-override block
 <module-descriptor external="false">
   <root-element>weblogic-application</root-element>
   <uri>META-INF/weblogic-application.xml</uri>
   <variable-assignment>
     <name>SessionDescriptor_TimeoutSecs_16315175580860</name>
     <xpath>/weblogic-application/session-descriptor/timeout-secs</xpath>
   </variable-assignment>
 </module-descriptor>
```

For more details about updating the **inventory-clusterPlan.xml** file, see "Customizing Images" in *UIM Cloud Native Deployment Guide*.

Authenticating Web Services for a UIM Cloud Native Deployment

To secure custom web services, update your deployment plan with the required policies. You can use the security policy that is available with the **Auth.xml** UIM instance file, the security policy that is available with the **SampleAuth.xml** Reference Web Service ZIP file, or create your own security policy file. Custom policies are generally available in the *custom webservice war*/**WEB-INF/policies** folder. For more details about authentication, see "Authentication".

The following example shows an update to the **inventory-clusterPlan.xml** file with default Auth.xml policy:

```
<module-override>
  <module-name>ReferenceUim.war</module-name>
  <module-type>war</module-type>
  <module-descriptor external="false">
    <root-element>weblogic-web-app</root-element>
    <uri>WEB-INF/weblogic.xml</uri>
  </module-descriptor>
  <module-descriptor external="false">
    <root-element>web-app</root-element>
    <uri>WEB-INF/web.xml</uri>
  </module-descriptor>
  <module-descriptor external="false">
    <root-element>weblogic-webservices</root-element>
    <uri>WEB-INF/weblogic-webservices.xml</uri>
```

```
  </module-descriptor>
  <module-descriptor external="false">
    <root-element>webservices</root-element>
   <uri>WEB-INF/webservices.xml</uri>
  </module-descriptor>
  <module-descriptor external="false">
    <root-element>webservice-policy-ref</root-element>
    <uri>WEB-INF/weblogic-webservices-policy.xml</uri>
    <variable-assignment>
      <name>WsPolicy_policy:Auth.xml_Direction_13075993400140</name>
      <xpath>/webservice-policy-ref/port-policy/[port-
name="UIMReferenceUimHTTPPort"]/ws-policy/[uri="policy:Auth.xml"]/direction</
xpath>
    </variable-assignment>
    <variable-assignment>
      <name>WsPolicy_policy:Auth.xml_Direction_13075993400140</name>
      <xpath>/webservice-policy-ref/port-policy/[port-
name="UIMReferenceUimJMSPort"]/ws-policy/[uri="policy:Auth.xml"]/direction</
xpath>
    </variable-assignment>
  </module-descriptor>
</module-override>
```

Authorization in UIM Cloud Native Deployment

Authorization can be achieved using Application roles and Application polices. All the operations performed using Oracle Enterprise Manager Console for managing roles and policies are persisted in the database. A UIM cloud native deployment does not require specific actions to be performed for authorization. See "Authorization" for more details.

Monitoring and Managing a UIM Cloud Native Deployment

You perform monitoring and managing activities after deploying or upgrading your UIM cloud native instance.

The tasks you perform include the following:

- Setting the Database Row Prefetch Size
- Modifying the Default File Encoding
- Modifying the Time Zone for a Cloud Native Deployment
- Configuring Timers
- Controlling Application Metrics
- Registering Entities to the LifeCycle Listener
- Configuring Exception-Type-To-Error-Code Mappings in a Cloud Native Deployment
- Localizing Error Messages
- Localizing the UIM Server and the Application Server
- Configuring the SSL Policy/Certificate for a UIM Cloud Native Deployment
- Configuring Custom Trust Store
- Resetting the WebLogic Server's Database Connections

- Setting the Default Telephone Number Edit Mask in a Cloud Native Deployment
- Setting the Default Place Type In a Cloud Native Deployment
- Configuring Topology Updates in a Cloud Native Deployment
- Configuring a Geocode Service in a Cloud Native Deployment
- Purging UIM Entities in a Cloud Native Deployment
- Configuring Email Addresses and User Data
- Configuring UIM to Evaluate System Configuration Compliance
- Preventing a ZIP Bomb When Uploading Ruleset Files in a Cloud Native Deployment
- Importing Inventory Entities in Bulk
- Customizing UIM Functionality

For information about the following, see "Overview of the UIM Cloud Native Deployment" in *UIM Cloud Native Deployment Guide*:

- Managing UIM cloud native metrics using Prometheus and Grafana
- Managing WebLogic Monitoring Exporter metrics

Setting the Database Row Prefetch Size in a Cloud Native Deployment

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

To set the database row prefetch size:

1. Update the value for the `rowPrefetchSize` parameter in the respective *shape*.**yaml** file.

```
jdbc:
  rowPrefetchSize: 50
```

2. Run the following command:

```
$UIM_CNTK/scripts/upgrade-instance.sh -i instance -p project -s $SPEC_PATH
```

Modifying the Default File Encoding for a Cloud Native Deployment

To modify the default file encoding:

1. Update the value for the `java_options` parameter in the **project.yaml** file.

```
managedServers:
  project:
    #JAVA_OPTIONS for all managed servers at project level
    java_options: "-Dfile.encoding=UTF-8"
```

2. Run the following command:

```
$UIM_CNTK/scripts/upgrade-instance.sh -i instance -p project -s $SPEC_PATH
```

Modifying the Time Zone for a Cloud Native Deployment

To modify the time zone:

1. Update the value for the `java_options` parameter in the **project.yaml** file:

```
managedServers:
  project:
    #JAVA_OPTIONS for all managed servers at project level
    java_options: "-Duser.timezone=Asia/Shanghai"
```

2. Run the following command:

```
$UIM_CNTK/scripts/upgrade-instance.sh -i instance -p project -s $SPEC_PATH
```

For more details about modifying the time zone, see "Modifying the Time Zone ".

Configuring Timers in a Cloud Native Deployment

To configure timers:

1. Add the timer property to the **$UIM_CNTK/charts/uim/config/system-config/custom-config.properties** file.
2. Run the following command:

```
$UIM_CNTK/scripts/restart-instance.sh -i instance -p project -s $SPEC_PATH
-r full
```

See "Configuring Your Server's Timers" for more details.

Controlling Application Metrics

You use the **custom-config.properties** file to control application metrics.

To control application metrics:

1. Add the property with the desired value in the **$UIM_CNTK/charts/uim/config/system-config/custom-config.properties** file.
2. Do the following:
   - To update sfws and service metrics property values, run the following command:

     ```
     $UIM_CNTK/scripts/upgrade-instance.sh -i instance -p project -
     s $SPEC_PATH
     ```

   - To update jvm metrics property value, run the following command:

     ```
     $UIM_CNTK/scripts/restart-instance.sh -i instance -p project -
     s $SPEC_PATH -r full
     ```

See "Setting System Properties" for details about the properties you can configure.

Configuring Exception-Type-To-Error-Code Mappings in a Cloud Native Deployment

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**.

To configure exception-type-to-error-code mappings:

1. Map the error codes to exception types by using the **ora_uim_localization_reference** cartridge in the

model\content*product_home*\config\resources\logging\exception.properties file. For more information, see the comments in the **exception.properties** file.

2. Build the UIM Docker image. See the section about "Customizing Images" in *UIM Cloud Native Deployment Guide* for more details.
3. Run the following command:

```
$UIM_CNTK/scripts/upgrade-instance.sh -i instance -p project -s $SPEC_PATH
```

Localizing UIM Error Messages

You can localize UIM error messages and items by modifying the properties files in the **ora_uim_localization_reference** cartridge located in the **model\content\product_home\config\resources\logging** directory. See the table in "Localizing UIM Error Messages" for details about each property's file name, error ID range, and the error messages or items it localizes.

After modifying the properties files, build the UIM Docker image and run the following command:

```
$UIM_CNTK/scripts/upgrade-instance.sh -i instance -p project -s $SPEC_PATH
```

Localizing the UIM Server and the Application Server

By default, the UIM server and the 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 "Overview" in *UIM Developer's Guide*.

Configuring SSL Policy for a UIM Cloud Native Deployment

This section describes how to configure SSL in a UIM cloud native deployment. In a UIM cloud native deployment, you enable SSL in Ingress Controller. The following procedures provide information about configuring SSL in Traefik.

Enabling SSL

To enable SSL in Traefik:

1. Generate the key pairs for each hostname corresponding to an endpoint that UIM cloud native exposes to the outside world.

```
# Create a directory to save your keys and certificates. This is for
sample only. Proper management policies should be used to store private
keys.
mkdir $SPEC_PATH/ssl

# Generate key and certificates
openssl req -x509 -nodes -days 365 -newkey rsa:2048 -keyout $SPEC_PATH/ssl/
uim.key -out $SPEC_PATH/ssl/uim.crt -subj "/ CN=instance.project.uim.org"
openssl req -x509 -nodes -days 365 -newkey rsa:2048 -keyout $SPEC_PATH/ssl/
admin.key -out $SPEC_PATH/ssl/admin.crt -subj "/
CN=admin.instance.project.uim.org"
openssl req -x509 -nodes -days 365 -newkey rsa:2048 -keyout $SPEC_PATH/ssl/
t3.key -out $SPEC_PATH/ssl/t3.crt -subj "/ CN=t3.instance.project.uim.org"

# Create secrets to hold each of the certificates. The secret name must be
in the following format. Do not change the secret names.
```

```
kubectl create secret -n project tls project-instance-uim-tls-cert --
key $SPEC_PATH/ssl/uim.key --cert $SPEC_PATH/ssl/uim.crt
kubectl create secret -n project tls project-instance-admin-tlscert --
key $SPEC_PATH/ssl/admin.key --cert $SPEC_PATH/ssl/admin.crt
kubectl create secret -n project tls project-instance-t3-tls-cert --
key $SPEC_PATH/ssl/t3.key --cert $SPEC_PATH/ssl/t3.crt
```

2. In the instance specification, for `ssl`, set `incoming` to `true`:

```
ssl:
  incoming: true
```

3. Create Ingress by running the following command:

```
$UIM_CNTK/scripts/create-ingress.sh -i instance -p project -s $SPEC_PATH
```

4. Validate the configuration by describing the ingress controller for your instance. You should see each of the certificates you generated, terminating one of the hostnames:

```
kubectl get ingressroute -n project

NAME                                AGE
project-instance-traefik            13d
project-instance-traefik-admin-tls  13d
project-instance-traefik-t3-tls     13d
project-instance-traefik-uim-tls    13d
```

5. Create your instance by running the following command:

```
$UIM_CNTK/scripts/create-instance.sh -i instance -p project -s $SPEC_PATH
```

Configuring TLS Versions

The sample Ingress charts (**$UIM_CNTK/samples/charts/ingress-per-domain/templates/traefik-ingress.yaml**) do not restrict the TLS version. Update the charts to configure the minimum and maximum TLS versions using `TLSOptions`.

For more details, see the Routing Configuration section in the Traefik Labs web site: https://doc.traefik.io/traefik/routing/providers/kubernetes-crd/#kind-tlsoption

Configuring Incoming HTTPS Requests: Configure the external web clients that connect to UIM cloud native to accept the certificates from UIM cloud native. The clients then connect using the HTTPS endpoint and port 30443.

Configuring Incoming JMS Requests: For external servers that are connected to UIM cloud native through SAF, copy the certificate for the t3 endpoint to the host where the external domain is running.

If your external WebLogic configuration uses Custom Identity and Java Standard Trust, to upload the certificate to the Java Standard Trust, run the following command:

`/keytool -importcert -v -trustcacerts -alias alias -file /path_to_copied_t3_certificate/t3.crt -keystore /path_to_jdk/jre/lib/security/cacerts -storepass default_password`

If, however, you are using a CustomTrust, then upload the certificate into the custom trust keystore. The keytool is found in the bin directory of your jdk installation. The alias should uniquely describe the environment where this certificate is from.

Configuring Custom Trust Store

You should load the UIM cloud native domain with the required certificates into the trust store to communicate to an SSL configured external system. You should also configure custom trust store.

To configure custom trust store for the UIM cloud native domain:

1. Load the certificate from your remote server (external system) into a trust store and make it available to the UIM cloud native instance. Use the Java keytool to create a jks file (truststore) that holds the certificate from your SSL server:

   ```
   keytool -importcert -v -alias alias -file /path-to/certificate.cer -
   keystore /path-to/truststore.jks -storepass password
   ```

   > **Note:**
   >
   > Repeat this step to add as many trusted certificates as required.

2. Create a Kubernetes secret to hold the truststore file and the passphrase by running the following command. The secret name should match the truststore name.

   ```
   # manually
   kubectl create secret generic trust_secret_name -n project --from-
   file=trust_secret_name.jks=path_to_truststore.jks --from-
   literal=passphrase=password

   # verify
   kubectl get secret -n project trust_secret_name -o yaml
   ```

3. Set the trust name in the instance specification YAML file:

   ```
       # SSL trust and identity
       ssl:
         trust:
           name: trust_secret_name    # The name of the secret holding the
   remote server truststore contents and passphrase
         identity:
           useDemoIdentity: true
   ```

4. Create the UIM cloud native instance by running the following command:

   ```
   $UIM_CNTK/scripts/create-instance.sh -i instance -p project -s $SPEC_PATH
   ```

Resetting the WebLogic Server's Database Connections

You may need to reset the WebLogic server's database connections in the following situations:

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

You reset the database connections by running the **manage-instance-credentials.sh** script with the **update** option.

```
#Run the following script to update the database schema details in Kubernetes
secretes
$UIM_CNTK/scripts/manage-instance-credentials.sh -i instance -p project
update uimdb,rcudb
```

When you reset the database connections, the following are updated:

- InventoryDataSource
- InventoryTxDataSource
- CMDSInventoryPersistentDS
- InventoryMapDataSource
- InvJMSPersistentDS
- mds-commsRepository
- opss-audit-DBDS
- opss-auditviewDS
- opss-data-source
- LocalSvcTblDataSource
- UIMAdapterDS
- JDBC data sources

To pick the latest secrets, run the following command:

```
#Run the following script to upgrade the UIM instance to pick the latest
secrets
$UIM_CNTK/scripts/upgrade-instance.sh -i instance -p project -s $SPEC_PATH
```

Setting the Default Telephone Number Edit Mask in a UIM Cloud Native Deployment

To modify the default telephone number edit mask:

1. Update the **number.properties** file in the ora_uim_localization_reference cartridge in the **model/content/product_home/config/resources/logging** directory. See "Setting the Default Telephone Number Edit Mask" for more details about the default telephone number edit mask.
2. Build custom UIM Docker image and run the following command:

   ```
   $UIM_CNTK/scripts/upgrade-instance.sh -i instance -p project -s $SPEC_PATH
   ```

   See "Overview of the UIM Cloud Native Deployment" in *UIM Cloud Native Deployment Guide* for information about building custom images.

Setting the Default Place Type in a Cloud Native Deployment

To set the default place type in a cloud native deployment:

1. Add or update the property in the **$UIM_CNTK/charts/uim/config/system-config/custom-config.properties** file. See "Setting the Default Place Type" for details about the default place type property.
2. Run the following command:

```
$UIM_CNTK/scripts/restart-instance.sh -i instance -p project -s $SPEC_PATH
-r full
```

Configuring Topology Updates in a Cloud Native Deployment

To configure topology updates in a cloud native deployment:

1. Add the property in the **$UIM_CNTK/charts/uim/config/system-config/custom-config.properties** file. See "Configuring Topology Updates" for more details about topology updates.
2. Run the following command:

```
$UIM_CNTK/scripts/restart-instance.sh -i instance -p project -s $SPEC_PATH
-r full
```

Configuring a Geocode Service in a Cloud Native Deployment

To configure a Geocode service in a cloud native deployment:

1. Add the property in the **$UIM_CNTK/charts/uim/config/system-config/custom-config.properties** file. See "Configuring a Geocode Service" for more details about Geocoding service.
2. Run the following command:

```
$UIM_CNTK/scripts/restart-instance.sh -i instance -p project -s $SPEC_PATH
-r full
```

Purging UIM Entities in a Cloud Native Deployment

For UIM cloud native deployments, the purge tool is part of the DB image. The purge tool supports various operations. See "Purging UIM Entities" for more details about purging.

> **Note:**
>
> To view the purge reports and logs, ensure that Persistent Volume Mounts is enabled.

To install or update the purge utility, run the following command:

```
$UIM_CNTK/scripts/install-uimdb.sh -i instance -p project -s $SPEC_PATH -c 9
```

To purge UIM schema in a UIM cloud native environment:

1. In the *instance*.**yaml** file, set the value for `purge` to `true`. The following example shows the purge command for purging logical devices:

```
purge:
  enabled: true
  purgeCommand: ./ldPurge.sh report -spec LDSpec -ed 01/01/2021
```

   See "Operations" for information about purge operations.

2. Run the following command:

> **Note:**
>
> The purge operation deletes the database records permanently. You must back up the database before performing any purge operation.

```
$UIM_CNTK/scripts/install-uimdb.sh -i instance -p project -s $SPEC_PATH -c
4
```

> **Note:**
>
> The purge `execute` command needs to be run with the `-force` option for purge to be run successfully.

You can also run the **install-uimdb.sh** script without changing the *instance*.**yaml** file. You can use this option for scheduling using the cron job:

```
$UIM_CNTK/scripts/install-uimdb.sh -i instance -p project -s $SPEC_PATH -c 4 -
u "./ldPurge.sh report -spec LDSpec -ed mm/dd/yyyy"
```

Preventing a ZIP Bomb When Uploading Ruleset Files in a Cloud Native Deployment

In some scenarios, you may be required to upload ruleset files in a ZIP file.

To prevent a ZIP bomb when uploading ruleset files in a cloud native deployment:

1. Add the property in the **$UIM_CNTK/charts/uim/config/system-config/custom-config.properties** file. See "Preventing a ZIP Bomb When Uploading Ruleset Files" for the list of properties.
2. Run the following command:

```
$UIM_CNTK/scripts/upgrade-instance.sh -i instance -p project -s $SPEC_PATH
```

Customizing UIM Functionality

You can customize UIM functionality by extending the following:

- CLASSPATH
- EXT_PRE_CLASSPATH

To extend CLASSPATH:

1. Update the value for `classpath` in the *project*.**yaml** file.

```
managedServers:
  project:
    #CLASSPATH for all managed servers at project level, separate the jars
with colon(:)
    classpath: "/UIM/lib/MetasolvPersistent.jar"
```

2. Run the following command:

```
$UIM_CNTK/scripts/upgrade-instance.sh -i instance -p project -s $SPEC_PATH
```

To extend EXT_PRE_CLASSPTH:

1. Update the value for `extPreClasspath` in the *project*.**yaml** file.

```
managedServers:
  project:
    #EXT_PRE_CLASSPATH for all managed servers at project level, separate
the jars with colon(:)
    extPreClasspath: "/UIM/lib/MetasolvPersistent.jar"
```

2. Run the following command:

```
$UIM_CNTK/scripts/upgrade-instance.sh -i instance -p project -s $SPEC_PATH
```

Improving the Performance of a UIM Cloud Native Deployment

This section describes ways to improve the performance of a UIM cloud native deployment.

You perform the following tasks to improve UIM performance:

- Improving Performance of Searches That Include Characteristics
- Changing the Logging Level
- Enabling SQL and Other EclipseLink Logging
- Updating the System Configuration Files
- Changing the Query Behavior and Row Limit Parameters
- Disabling Sorting for Selected Entities
- Using Hints for Improving Performance in Querying

Improving Performance of Searches That Include Characteristics in a Cloud Native Deployment

To improve the performance of searches that include characteristics:

1. Add the properties to the **$UIM_CNTK/charts/uim/config/system-config/custom-config.properties** file.
2. Run the following command:

```
$UIM_CNTK/scripts/upgrade-instance.sh -i instance -p project -s $SPEC_PATH
-r full
```

See "Improving Performance of Searches That Include Characteristics" for more details.

Changing the Logging Level in a Cloud Native Deployment

UIM uses log4j for logging the services. For more details about log4j, see: https://logging.apache.org/log4j/2.x/manual/.

The logging level is defined in the **$UIM_CNTK/charts/uim/config/logging/loggingconfig.xml** file.

See the Appender Configuration, Logger Configuration, and Connecting debugger to UIM sub-sections in "Changing the Logging Level" for more details.

Enabling SQL and Other EclipseLink Logging in a Cloud Native Deployment

To enable SQL and Other EclipseLink logging:

1. Log in to Oracle Enterprise Manager Console.
2. Navigate to the `oracle.communication.inventory` application deployment and choose the managed server for which you want to enable logging.
3. Edit **Current Log Level** to choose FINEST.

Updating the System Configuration Files in a Cloud Native Deployment

You use files to control many aspects of UIM performance and configuration. These system configuration files are packaged in the UIM docker image and are available in the **UIM/config** folder in the runtime container. Each file includes properties for which you can set values. See "Updating the System Configuration Files" for the list of files and available properties in each of the files.

To override the value for any property in the configuration files:

1. Add the property with the new value in the **$UIM_CNTK/charts/uim/config/system-config/custom-config.properties** file.
2. Do any one of the following:
   - If the added property is dynamic in nature, then run the following command:

     ```
     $UIM_CNTK/scripts/upgrade-instance.sh -i instance -p project -
     s $SPEC_PATH
     ```

   - If the added property is static in nature and if restarting the server is required, then run the following command:

     ```
     $UIM_CNTK/scripts/restart-instance.sh -i instance -p project -
     s $SPEC_PATH -r full
     ```

Changing the Query Behavior and Row Limit Parameters in a Cloud Native Deployment

To change the query behavior and row limit parameters:

1. Update the **$UIM_CNTK/charts/uim/config/system-config/custom-config.properties** file.
2. Run the following command:

   ```
   $UIM_CNTK/scripts/upgrade-instance.sh -i instance -p project -s $SPEC_PATH
   ```

See "Changing the Query Behavior and Row Limit Parameters" for more details about the parameters you can change.