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Documentation Accessibility

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## Revision History

The following topics have been updated in this release of the guide:

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<th>Topic</th>
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<tr>
<td>Date, Time, and Number Formatting</td>
<td>Added information that date and time are formatted in the invariant culture.</td>
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<tr>
<td>Creating a Repository</td>
<td>Added a note that it may be necessary to set up the Oracle Data Relationship Management service connection to the repository using the appropriate Fully Qualified Domain Name or the static IP address and the database service identifier.</td>
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<tr>
<td>Installation Prerequisites</td>
<td>Updated PDF Font Requirement for Asian Glyphs section.</td>
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<td>Deployment Prerequisites</td>
<td>Added note saying that only one copy of Oracle Data Relationship Management Analytics instance can be deployed and it can run against a single Data Relationship Management application. Added info about deploying Data Relationship Management Analytics on Windows and Linux to support twodistinct Data Relationship Management applications.</td>
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<tr>
<td>Supported Upgrade Paths</td>
<td>Updated the upgrade information when upgrading from an 11.1.2.x release. Users should uninstall old version first, update Oracle Hyperion Foundation Services, and then install the new Data Relationship Management release.</td>
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<td>Troubleshooting</td>
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<td>Installing and Configuring Data Relationship Management Analytics - System Requirements</td>
<td>Added note to EPM System bullet for case where the WebLogic domain is not named EPMSystem.</td>
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<td>Load Balancing Data Relationship Management Web Applications</td>
<td>Added information about a special situation that may occur if first IIS site is non-HTTP or the Default Website is not IIS Site Number 1.</td>
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<tr>
<td>Testing the Data Relationship Management Web Services Using Oracle Enterprise Manager</td>
<td>Added considerations to step 6</td>
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<tr>
<td>Oracle Database Prerequisites</td>
<td>Added access to ROLE_ROLE_PRIVS is required for database export external connections.</td>
</tr>
<tr>
<td>Installation Prerequisites</td>
<td>Added new section &quot;HTTP Quality of Service Issues&quot;.</td>
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Installing Data Relationship Management

Related Topics
• Installation Prerequisites
• Additional Documentation
• About Middleware Home and EPM Oracle Home
• Foundation Services
• Installing Data Relationship Management
• Installing Data Relationship Management in a Distributed Environment
• Troubleshooting

Installation Prerequisites

Items to check:

• Oracle Data Relationship Management must be installed by a user who is logged in as an administrator. Installers should select to Run As Administrator when launching an installation executable.
• Intended host computers meet or exceed the minimum system requirements.

Note:

• Microsoft .NET Framework 4.0 and 4.5 are required and are a prerequisite only for a machine that does not have an internet connection. If the .NET Framework is not installed and you do have an internet connection, then the Data Relationship Management installer will install them for you.
• Database server is installed and running on the database computer.
• Internet Information Services (IIS) is installed and operational on the Web server.

Note:
MaxFieldLength and MaxRequestBytes need to be set to 32 KB.

• User accounts that can perform these actions are available on the application server:
PDF Font Requirement for Asian Glyphs

To provide multi-language font support for the Download to PDF option in the Data Relationship Management client, the system font “Arial Unicode MS” font must be installed on all Data Relationship Management IIS servers.

Virtual Memory Pagefile Sizing

To ensure proper performance, it is strongly recommended that Windows pagefile size on the Data Relationship Management server be at least 1.5 times system memory with growth allowed up to 2.0 times system memory. When system memory is large (for example, 64 GB and higher) the pagefile can be between 1.0 and 1.5 times system memory. Smaller pagefile sizes can result in serious performance and functional issues.

Oracle Managed Files

Database environments that allow Oracle Managed Files only require CREATE TABLESPACE commands that do not specify a filename when using the DATAFILE directive.

When installing Data Relationship Management in these environments, the tablespace must be manually created before running the Data Relationship Management Repository Wizard. Then, the already-created tablespace names need to be specified when you define the tablespace for the Data Relationship Management application in the Repository Wizard.

As an alternative, you can use the Data Relationship Management Console Repository Wizard to run SQL manually. But the generated SQL must have CREATE TABLESPACE commands that have only the DATAFILE directive with no filename specified, allowing the Oracle RDS to auto-complete the filename value.

You can omit the filename value from these SQL commands by performing either of these tasks:

• Leave the filename fields blank in the Repository Wizard screen where Tablespace options are entered.
• Review and edit the generated SQL as necessary.

HTTP Quality of Service Issues

The Data Relationship Management Client delivers a rich user experience via web browser over HTTP. For customers running the Data Relationship Management Client over a network with extremely high latency, high hop counts, or other low HTTP quality of service, it may be necessary to deliver the Client via browser sessions hosted on a Citrix Server, RDP gateway server, or other comparable UI hosting solution within the Data Relationship Management datacenter to mitigate networking issues.
Architecture Options

The following diagrams depict different scenarios for configuring Oracle Data Relationship Management.

Figure 2-1    Data Relationship Management Architecture

Note:

EPM Foundation must be installed on a Windows server accessible by Data Relationship Management. It can be run locally or on FMW App Server.
Figure 2-4  Data Relationship Management with API Integrations

EPM Foundation must be installed on a Windows server accessible by DRM. Can be run locally or on FMW App Server.
Figure 2-5  Data Relationship Management with EPM Mobile

EPM Foundation must be installed on a Windows server accessible by DRM. Can be run locally or on FMW App Server.
Oracle Database Prerequisites

- Oracle Data Relationship Management requires access to ROLE_ROLE_PRIVS for database export external connections.
- If you are using an Oracle RAC database system, you must create the tablespaces with the appropriate RDBMS software prior to installation.
- Whether the scripts are run automatically or manually, a user with DBA rights must be logged in. When you manually execute the database scripts, the User ID that was designated for Data Relationship Management database connectivity in the Repository Wizard is created in the RDBMS (if it does not already exist). The user is assigned a default tablespace of DRM_DATA and must have access rights to the following items:
  - Default tablespace (usually DRM_DATA)
  - UNLIMITED TABLESPACE
  - CONNECT
  - CREATE ANY SEQUENCE
CREATE USER
ALTER USER

When you manually execute the database scripts, the user is logged in as the schema owner which, has a default tablespace of DRM_DATA. This user must have access rights to the following items:

- Default tablespace (usually DRM_DATA) — this can be done after the install if the tables were not created.
- UNLIMITED TABLESPACE
- DBA
- CONNECT
- CREATE ANY SEQUENCE
- CREATE USER
- ALTER USER

Note:
You can change the schema owner name during the installation process.

SQL Server Database Prerequisites

- If you are using a SQL Server Cluster database system, you must create the database with the appropriate RDBMS software prior to installation.
- If the User ID designated for Oracle Data Relationship Management database connectivity is created manually prior to the installation, it is important to make this user database owner of the Data Relationship Management database.

Additional Documentation

You can find Oracle Enterprise Performance Management System installation documentation in the Oracle Documentation Library on the Oracle Technology Network. The following documentation may be useful for installing and configuring Oracle Data Relationship Management:

- Oracle Enterprise Performance Management System Installation Start Here
- Oracle Enterprise Performance Management System Installation and Configuration Guide
- Oracle Enterprise Performance Management System Installation and Configuration Troubleshooting Guide
- Oracle Enterprise Performance Management System Backup and Recovery Guide
- Oracle Enterprise Performance Management System Security Configuration Guide
About Middleware Home and EPM Oracle Home

Middleware Home

A Middleware home consists of the Oracle WebLogic Server home, and, optionally, one or more Oracle homes, including EPM Oracle home. A Middleware home can reside on a local file system or on a remote shared disk that is accessible through Network File System (NFS).

The Middleware home location is defined during the first product installation on the computer. Subsequent installations on the computer use the previously defined location. The default installation directory is Oracle/Middleware. The Middleware home location is referred to as MIDDLEWARE_HOME throughout this document.

EPM Oracle Home

An Oracle home contains installed files necessary to host a specific product, and resides within the directory structure of the Middleware home. The EPM Oracle home contains files for EPM System products.

Components of EPM System products are installed in the EPM Oracle home directory under the Middleware home. The default EPM Oracle home location is MIDDLEWARE_HOME/EPMSystem11R1. In addition, common internal components used by the products are installed in EPM Oracle home. Choose the location carefully to ensure that the location has enough disk space for all products that you are installing on the machine. You cannot change the location.

The EPM Oracle home location is defined in the system environment variable called EPM_ORACLE_HOME. The EPM Oracle home location is referred to as EPM_ORACLE_HOME throughout this document.

Foundation Services

Oracle Data Relationship Management requires Oracle Hyperion Foundation Services to be installed when the following optional features are used:

- User authentication with external user directories such as LDAP.
- Load balancing Data Relationship Management Web applications
- Using single-sign on with Data Relationship Management
- Integrations with Oracle General Ledger for E-Business Suite and Fusion Accounting Hub
- Integration with Oracle Hyperion EPM Architect
- API programs and SOA-based processes using the Data Relationship Management web service
- Oracle Data Relationship Governance Mobile client—uses the Data Relationship Governance REST Web service and external authentication
Note:

Unsecured Web service connections are not supported in Data Relationship Management.

The Foundation Services installation includes the following components which can be configured to enable these features for Data Relationship Management:

- Oracle WebLogic Server
- Oracle HTTP Server
- Oracle Web Services Manager
- Oracle Hyperion Shared Services

Foundation Services is installed using the EPM System installer. The installation and configuration process for Foundation Services is documented in the *Oracle Enterprise Performance Management System Installation and Configuration Guide*.

**Data Relationship Management CSS Bridge**

The Oracle Data Relationship Management CSS Bridge is used to communicate with Oracle Hyperion Shared Services and must be installed when Oracle Hyperion Foundation Services is used with Data Relationship Management. The following information and requirements are important for understanding the Data Relationship Management CSS Bridge.

- The CSS Bridge Host system can be the Data Relationship Management application server or a different supported Microsoft Windows system.

Note:

The CSS Bridge component is not supported on Unix/Linux systems.

- If the designated CSS Bridge Host is not the Data Relationship Management application server, then the CSS Bridge component must be installed on the CSS Bridge Host. In this scenario, the CSS Bridge can be installed as a standalone component.
- A Foundation Services installation and deployment is required on the Windows system where the CSS Bridge will be installed and running.

For CSS Bridge deployment options, see *Deployment Scenarios for Data Relationship Management and Foundation Services*.

**Deployment Scenarios for Data Relationship Management and Foundation Services**

Review Figure 3 for more information on Oracle Data Relationship Management with Oracle Hyperion Foundation Services. See *Configuring Secondary Foundation Services Hosts*. 
Note:
All systems are Microsoft Windows unless otherwise noted.

<table>
<thead>
<tr>
<th>Scenario</th>
<th>System 1</th>
<th>System 2</th>
<th>System 3</th>
</tr>
</thead>
</table>
| 1        | • Windows Data Relationship Management application server  
          • Windows primary Foundation Services instance  
          • Windows Data Relationship Management CSS Bridge | N/A | N/A |
| 2        | Windows Data Relationship Management application server | • Windows primary Foundation Services instance  
          • Windows Data Relationship Management CSS Bridge | N/A |
| 3        | • Windows Data Relationship Management application server  
          • Windows secondary Foundation Services instance  
          • Windows Data Relationship Management CSS Bridge | Windows primary Foundation Services instance | N/A |
| 4        | • Windows Data Relationship Management application server  
          • Windows secondary Foundation Services instance  
          • Windows Data Relationship Management CSS Bridge | Unix/Linux primary Foundation Services instance | N/A |
| 5        | Windows Data Relationship Management application server | Unix/Linux primary Foundation Services instance | • Windows secondary Foundation Services instance  
          • Windows Data Relationship Management CSS Bridge |
Installing Data Relationship Management

Before installing Data Relationship Management, review Figure 1.

To install Data Relationship Management:

1. Navigate to the directory where you downloaded the installation program, right-click `setup.exe` and select Run as administrator.
2. Select the language for the installation and click OK.
3. If you do not already have Microsoft .NET Framework 4.5 installed, click Install to install it.

**Note:**
You must have an internet connection for the .NET installation to complete.

4. On the Welcome dialog box, read the license agreement and click Next.
5. Click Next to accept the default installation directory for Data Relationship Management files, or click Change, select an installation location and then click Next.
6. On the Setup Type dialog box, select the type of installation to perform and click Next:
   - **Complete** — Installs the Application Server, CSS Bridge, Web Server, Migration Utility, Batch Client, and the documentation.
   - **Custom** — Allows you to select the components to install. You can select from the following components:
     - DRM Application Server—Core engine and server files
     - DRM CSS Bridge—Data Relationship Management connector for Oracle Hyperion Shared Services
     - DRM Web Server—Primary Web application for Data Relationship Management users
     - DRM Migration Utility—Web application for managing application templates
     - DRM Documentation—Links to online documentation
     - DRM Batch Client—Windows console client for running batch operations
7. Do one of the following:
• If you selected Complete, skip to the next step.
• If you selected Custom, on the Custom Setup dialog box select the features to install and click Next.

Note:
All features are selected by default. Deselect the features that you do not want to install.

8. Click Install.
9. Click Finish.

Note:
To create and configure Data Relationship Management applications, select the option to launch the Data Relationship Management Configuration Console.

Installing Data Relationship Management in a Distributed Environment

Installing Secondary Data Relationship Management Web Server Hosts
To install a secondary Oracle Data Relationship Management Web Server computer, install the Data Relationship Management Web Server component on the secondary computer. See Configuring Foundation Services for Data Relationship Management.

Installing Secondary Foundation Services Hosts
The following Oracle Hyperion Foundation Services components must be installed on the secondary Foundation Services instance using the EPM System Installer:
• Foundation Services Web Applications
• Static Content Files
• WebLogic Application Server

Troubleshooting
For information on installation troubleshooting, see the Oracle Enterprise Performance Management System Installation and Configuration Troubleshooting Guide.
Configuring Data Relationship Management

The Oracle Data Relationship Management Configuration Console is an application server configuration utility and is installed automatically when you install the application server component. You can open the console at the end of the installation program.

Note:

All Data Relationship Management servers and related servers must be configured to actively synchronize to a common time source on the network. Unsynchronized servers will lead to Web Services failures for packaged integrations and other Data Relationship Management API usage. It will also increase the complexity for deployment and operation of Data Relationship Management with its partner systems.

Caution:

All Data Relationship Management servers and related servers must be configured to use the same the keystore in the same path on every server.

Configuring Foundation Services for Data Relationship Management

The Oracle Hyperion Foundation Services installation includes several components which must be deployed and configured using the EPM Configurator tool before Oracle Data Relationship Management can use them.

See the "Configuration Sequence" section of the Oracle Enterprise Performance Management System Installation and Configuration Guide for information on the order in which components should be configured. Refer to the "Configuring EPM System Products" section for instructions for performing the configuration of Foundation Services components.

Configuring Shared Services for Single Sign On (SSO)

Configuring CSS Mode for Data Relationship Management

The Data Relationship Management server must be configured for CSS Authentication mode or Mixed mode in order to authenticate users using Oracle Hyperion Shared Services. See Configuring the CSS Bridge and Configuring Authorization Policies.

Configuring Secondary Foundation Services Hosts

- The Windows Oracle Data Relationship Management service must be started and running on the CSS Bridge Host computer before starting the Data Relationship Management service on the application server.

- If a secondary Oracle Hyperion Foundation Services instance is utilized for the CSS Bridge, then:
  - The following Foundation Services components must be configured on the secondary Foundation Services instance using the EPM System Configurator:
    * Configure Common Settings
    * Configure Oracle Configuration Manager
    * Configure Database
    * Deploy to Application Server
  - For the Select the EPM Oracle Instance to which the configuration would be applied configuration, use the default or custom path for Home directory for EPM Oracle instances; use the default for EPM Oracle instance name.
  - For the Set up Shared Services and Registry Database associated with the instance home configuration, select the Connect to a previously configured Shared Services database option, and provide the connection information for the database configured for the primary Foundation Services instance.
  - For the Deploy to Application Server/Specify WebLogic Domain configuration, select the Deploy Web applications to a new domain option.
  - After installation and configuration, the EPM Web Application Server does not need to be started or running on the secondary computer.

See Data Relationship Management CSS Bridge.

Configuring Shared Services with an External Provider

To configure Oracle Hyperion Shared Services, see "Configuring OID, Active Directory, and Other LDAP-based User Directories" in the Oracle Enterprise Performance Management System User Security Administration Guide.

For development purposes, Shared Services can be configured to use the WebLogic embedded LDAP server as an external directory. For information, go to: http://www.oracle.com/technetwork/middleware/bi-foundation/resource-library-090986.html and select EPM System Tips & Tricks 1-72 (PDF). In that document, see "Is it possible to use the WebLogic embedded LDAP server as an external directory for EPM System 11.1.2 products?".
Configuring Shared Services with Data Relationship Management

User Roles

You add Oracle Data Relationship Management roles in Oracle Hyperion Shared Services by running one of the SQL scripts provided with the Data Relationship Management installation.

To add Data Relationship Management roles in Shared Services:

1. On the server where Data Relationship Management is installed, navigate to the server\config folder, which is typically:

   C:\Oracle\Middleware\EPMSystem11R1\products\DataRelationshipManagement\server\config.

2. Run the appropriate SQL script for the Shared Services database which was configured in the EPM configuration process: drm_roles_oracle.sql or drm_roles_sql_server.sql.
   a. Log into the database server as a user with database administrator privileges.
   b. Run the script against the Shared Services database.

Starting the Data Relationship Management Configuration Console

To open the Oracle Data Relationship Management Configuration Console, select Start, then Programs, then Oracle EPM System, then Data Relationship Management, then Configuration Console.

Configuring Data Relationship Management Applications

Oracle Data Relationship Management uses applications to manage data and serve user requests for accessing data. You can run one or more Data Relationship Management applications on a single machine. Each application and repository can be accessed by only one active instance of Data Relationship Management application server.

Before configuring multiple Data Relationship Management applications, review Figure 2.

Creating an Application

Oracle Data Relationship Management applications are created in the Configuration Console. At least one application must be created.

To create a Data Relationship Management application:

1. In the Data Relationship Management Configuration Console, click Add to create a new application.
2. On the Configuration tab, configure the repository.
Note:
If you have not created a repository, or need to upgrade the repository, you need to use the Repository Wizard. See Creating a Repository.

3. Click **Save Configuration**.

4. From the **Local Service** menu, click **Start** to start the Data Relationship Management service.

When you add a new application, the application is created with standard default parameters. The default application name is generated from the computer name.

**Setting the Application Default Culture**

You can set the default culture used for each Oracle Data Relationship Management application. The default culture is used for localization of the Web client if the setting cannot be determined from the Web browser.

To set the default culture for an application:

1. In the Data Relationship Management Configuration Console, select an application.
2. From Default Culture select an option:
   - en-US – English
   - fr-FR – French
   - de-DE – German
   - ko-KR – Korean
   - zh-CHS – Simplified Chinese

**Date, Time, and Number Formatting**

Date and time values are formatted in the invariant culture. This allows for a predictable response and action can be taken to re-format the result, if desired.

Formatting of number property data values in the Oracle Data Relationship Management user interface is determined by two factors:

- The language setting of the Data Relationship Management client computer's browser
- The Regional Options settings defined for the Data Relationship Management service logon account on the Data Relationship Management application server computer.

The Data Relationship Management Web Client session information includes the user's culture as defined in the browser's language setting. The data value formatting displayed at the client for the requested culture is determined by how the corresponding culture formatting is defined on the Data Relationship Management server for the Regional Options of the DRM service logon account. The client
operating system's Regional Options settings do not affect data formatting in the user interface.

Similarly, the Data Relationship Management Batch Client parameter "/CultureName" allows you to specify the culture format as you would via the browser language. And as with the Web client, the data value formatting is determined by how the corresponding culture is defined on the Data Relationship Management server for the Data Relationship Management service logon account.

Note:
The default logon account for the Data Relationship Management Server Processes service is "Local System". To view or customize the Regional Options used by Data Relationship Management, the Data Relationship Management service logon account should be changed from Local System to a local Administrator account. This enables you to log onto the server as the service account and view or modify the Regional Options that the Data Relationship Management service uses.

Creating a Repository

The Repository Wizard in the Configuration Console allows you to create a new repository or upgrade a repository. For information on upgrading, see Upgrading an Existing Data Relationship Management Application.

Caution:
Each Oracle Data Relationship Management application needs it own repository. Two applications should never be configured to use the same repository.

Note:
Depending on the configuration of the network, DNS setup and IPv4/IPv6 configuration and localhost settings, and since these settings vary widely across implementation topologies, it may be necessary to set up the Data Relationship Management service connection to the repository using the appropriate Fully Qualified Domain Name or the static IP address and the database service identifier.

To create a new repository:

1. Click the Repository Wizard button.
2. Select Create a new repository.
   - Optional: Select Estimate size based on existing repository to create a new repository based on the size of an existing repository.
• **Optional:** Select **Generate SQL scripts** to create and download database creation scripts to run at a later time

3. Click **Next**.

4. Do one of the following:
   • If you are generating scripts, go to **Generating SQL Scripts**.
   • If you selected any other option in the previous step, continue to the next step.

5. Do the following:
   • Select the database provider: Oracle or SQL Server.
   • Enter the connection to the target database where the new repository will reside.
   • Enter the user ID and password for an administrator who has rights to create a database schema and data files.

   **Note:**
   For SQL Server, only SQL accounts are supported.

   • **Optional:** For **Connection Timeout**, enter the number of seconds to wait for a connection to open before canceling the attempt and generating an error. The default is 60 seconds. For **Command Timeout**, enter the number of seconds to wait for a command to execute before canceling the command and generating an error. The default is 900 seconds.

   **Note:**
   Setting the timeout value to zero indicates no timeout is used. These settings are saved in the drm-config.xml and are used by the engines when they start. To perform large operations (such as a large version delete), set the Command Timeout to a larger value than the default.

   • Click **Test Connection**.

6. Click **Next**.

7. Do one of the following:
   • For an Oracle database, continue to the next step.
   • For a SQL Server database, go to **Creating a SQL Server Database**.

8. Enter the user id and password which will be created as the schema owner for the Data Relationship Management repository.

9. Accept the default tablespace settings or make changes and click **Next**.
Note:

It is highly recommended that dedicated tablespaces be used for Data, Indexes, Transactions, and Properties. The default tablespace names may already be in use, and will be re-used if a new tablespace name is not specified.

10. On the **Application Administrator Creation** page, enter a password for the Administrator user and click **Next**.

11. On the **Create Repository Confirmation** page, review the settings and click **Next** to start the creation process.

   When the database has been created a success message is displayed.

12. Click **Next**.

   **Tip:**

   Repository creation, copy, and upgrade information is written to the Repository Wizard log. Click **Save Log** on the **Repository Operation Complete** page of the wizard to save the log file.

13. On the **Repository Operation Complete** screen, click **Finish**.

   You are returned to the main screen of the console where you can review the settings.

Note:

If you entered the Repository Wizard from the menu bar, Finish returns you to the first page of the wizard. If you entered the wizard from the button on the application tab, clicking Finish applies the settings to the selected application. If you click Cancel, the repository is still created, but the settings are not applied to any application. The new database is applied when you save the configuration.

14. Click **Save Configuration**, otherwise connection information is lost when the console is closed.

Creating a SQL Server Database

To configure a SQL Server database for the Oracle Data Relationship Management repository:

1. Enter the user id and password which will be created as the login for the Data Relationship Management database.
Caution:
When creating a database user name or password, you cannot use the following symbols: at (@), slash (/), comma (,), and colon (:).

2. Enter the name of the database to create to hold the Data Relationship Management repository.

Caution:
Database names cannot begin with a number.

3. Do one of the following and then click Next:
   - Select **Use server defaults for data files** to use default settings for the path to and size for the database and log file.
   - Enter the path to and size for the data file and log file.

4. On the **Application Administrator Creation** page, enter a user name and password for the Administrator user and then click **Next**.

5. On the **Create Configuration** page, review the target repository information, and then click **Next**.

   **Note:**
   After the repository is created, you can save the log.

6. Do one of the following:
   - Click **Finish** to apply the changes to the current application.
     You are returned to the main screen of the console where you can review the settings.
   - Click **Cancel** to exit the wizard.

7. Click **Save Configuration**, otherwise connection information is lost when the console is closed.

**Generating SQL Scripts**

You can generate SQL scripts from which you can manually create a repository. When you save the scripts, you are not required to provide repository connection information.

To generate SQL scripts:

1. Click the **Repository Wizard**.
2. Select **Generate SQL scripts** and click **Next**.
3. Select the **Oracle** or **SQL Server** tab and enter repository information.
4. Click **Next**.
5. On the **Repository Creation Script** screen, click **Save to File** and navigate to a folder in which to save the file.

   ![Note]
   The file name for both Oracle and SQL Server databases is `drm-create-database.sql`.

6. Click **Next**.
7. On the **Repository Object Creation Script** screen, click **Save to File** and navigate to a folder in which to save the `drm-create-schema-objects.sql` file.
8. Click **Next**.
9. Click **Finish**.

### Manually Running Database Scripts

Based on your local security procedures, creating a new database may require a level of access that is not available to the user installing Oracle Data Relationship Management. Thus, during the installation, there is an option to save the database scripts to disk rather than running them automatically. The scripts can then be run separately by the appropriate database administrator.

To manually run scripts:

1. Log into the database server as a user with database administrator privileges.
2. Run the scripts in the following order:
   - `drm-create-database.sql`
   - `drm-create-schema-objects.sql`
3. After all scripts have been successfully run, open the Data Relationship Management Configuration Console.
4. Click **Add**.
5. On the **Repository Configuration** tab, enter the service connection information and click **Save Configuration**.

   ![Note]
   You can click **Test Connection** to verify connectivity.

This completes the manual creation of the Data Relationship Management repository.

6. Select the application from the **Applications** list.
   The database is automatically initialized the first time the application is started.
Copying a Repository

The Repository Wizard in the Configuration Console provides the ability to copy a repository from a current release to a different repository running on the same or a different database provider.

- Copy path option 1:
  - Run the Create a New Repository and Copy or Upgrade an Existing Repository options simultaneously.

  **Note:**
  Refer to the description on the Repository Wizard Source Connection page for important information on the different copy methods for a current release repository.

- Copy path options 2:
  1. Run the Create a New Repository option or manually run the create repository SQL scripts.
  2. Run the Copy or Upgrade an Existing Repository option using the new repository created in step 1 as the target connection.

Configuring Host Computers

Oracle Data Relationship Management server components can operate on one or more host computers. The Configuration Console enables you to configure host computers for each server component. For configuration details, refer to the applicable host computer section:

- Configuring an Engine Host
- Configuring the API Adapter
- Configuring Web Servers
- Configuring the CSS Bridge
- Configuring an SMTP Server

Configuring an Engine Host

To configure an engine host computer:

1. In the Configuration Console, select Host Machines and on the Engine tab, enter the computer name and port number.
2. For Engine Startup Timeout, enter the number of seconds to wait when starting a Oracle Data Relationship Management engine process.
Configuring the API Adapter

The API Adapter component is included with the Oracle Data Relationship Management Application Server installation component.

**Note:**

If the engine does not respond within the number of seconds, an error is logged in the Windows Event Log.

To enable the API adapter host:

1. In the Configuration Console, select **Host Machines** and then **API Adapter**.
2. Do the following:
   - Select **Enable API Adapter**.
   - Enter the port number for the host.
   - Enter the SSL certificate name.
3. Click the **Test URL** link to verify that the link is valid.

Configuring Web Servers

On the UI Web Servers tab, list the servers that are configured to run the Oracle Data Relationship Management Web client application.

On this tab, you can also:

- Configure additional Web server attributes for calculating node URLs on the **Web Farm** tab.
- Set up anonymous profiles which allow access to the Web client via a custom URL without the user having to log in on the **Anonymous Profiles** tab.

To configure Web Servers:

1. In the Configuration Console, select **Host Machines** and then **UI Web Servers**.
2. On the **Host Servers** tab, enter the name of the server(s) that are configured to run the Data Relationship Management Web client application.
3. On the **Web Farm** tab, do the following:
   a. In **Host Name**, enter the computer name to be used for all calculated node URLs.
   b. Enter the host port number.
   
   ![Note:]
   
   The default is 80.
   
   c. In **Path**, enter the directory application path for the Data Relationship Management logon page.
   
   ![Note:]
   
   The default is http://localhost/drm-web-client.
   
   d. Select **Uses SSL** to use “https://” computed URLs. Otherwise, “http://” is used.
   e. Click the **Test URL** link to verify that the link is valid.

4. On the **Anonymous Profiles** tab, do the following:
   a. Enter a name in the **Add Profile** text box.
   b. Click the plus sign ( + ) to add the profile to the list of profiles.
   c. Enter login credentials for the profile.
   d. Click **Save Profile** to validate and save the new profile in memory.
   e. Click **Save Configuration** to permanently save the profile to the Data Relationship Management configuration.
   
   ![Note:]
   
   All profiles on this tab are saved to the servers on the Host Servers tab.

The **anonymous access URL is created in this format:**


**For example,**

http://localhost/drm-web-client/Logon.aspx?
app=DRMApp1&login=AnonUser1
Configuring Hosted Help

Online help content for Oracle Data Relationship Management is served from a central Oracle download location, which reduces the download and installation time for Data Relationship Management.

If users will not have internet access, you can choose to install and configure the Help feature in your own environment. During the installation process, select the "DRM Documentation" component to install the Help feature on the Data Relationship Management Web server.

Note:
If you require accessible Help that is Section 508 compliant, you must install and configure Help to run locally.

To configure the Help feature to run on the Data Relationship Management Web server:

1. In the Configuration Console, select Host Machines and then select UI Web Servers.
2. On the Hosted Help tab, select Use Locally Hosted Help.
3. In Help Base URL, enter the URL as http://Web_Server_Name/drm-web-client/documentation where Web_Server_Name is the name of the host machine.

Note:
The Help Base URL points to the root of the virtual folder on a Web server where the help can be accessed internally. The documentation folder can be transferred manually to another Web server, and the Help Base URL would need to be updated to point to the correct root URL.

4. Click the test URL to verify the link.
5. Save the changes to the console.

Configuring the CSS Bridge

To configure the CSS Bridge:

1. In the Configuration Console, select Host Machines and then CSS.
2. On the General tab, configure the following options:
   • Enable CSS Bridge – Select to enable CSS
   • Enable SSO – Select to enable Single Sign On.
Note:
For information on SSO, see Using Single Sign On with Data Relationship Management. For information on setting authentication settings, see Configuring Authorization Policies.

- **CSS Bridge Host** – Enter the name of the Shared Services computer that will be running the Data Relationship Management CSS Bridge component that is required for Data Relationship Management to communicate with Shared Services. For more information, see Data Relationship Management CSS Bridge and Configuring Secondary Foundation Services Hosts.

  When properly configured, the `drm-netjnibridge-host.exe` process will be launched on the CSS Bridge Host. Refer to the Windows event logs on the CSS Bridge Host and Oracle Data Relationship Management computers to troubleshoot configuration issues.

- **JVM Path** – The path to the java virtual machine (`jvm.dll`). Default location for 64-bit is `C:\Oracle\Middleware\jdk160_35\jre\bin\server\jvm.dll`. Default location for 32-bit is `C:\Oracle\Middleware\EPMSystem11R1\common\JRE\Sun\1.6.0\bin\server\jvm.dll`.

- **Oracle Instance** – The path for the EPM instance. Default location is `C:\Oracle\Middleware\user_projects\epmsystem1`.

Note:
All settings on the General and Class Path tabs are relative to the CSS Bridge Host computer which is not necessarily the Data Relationship Management application server.

3. On the **Class Path** tab, enter the paths to the required `.jar` files. These paths must be modified for the user's environment. Examples of class paths are:

   C:\Oracle\Middleware\EPMSystem11R1\products\DataRelationshipManagement\server\jar\awbutil.jar

   C:\Oracle\Middleware\EPMSystem11R1\products\DataRelationshipManagement\server\jar\cassecurity.jar

   C:\Oracle\Middleware\EPMSystem11R1\products\DataRelationshipManagement\server\jar\drm-epm-registry.jar

   C:\Oracle\Middleware\EPMSystem11R1\common\jlib\11.1.2.0\epm_j2se.jar

   C:\Oracle\Middleware\wlserver_10.3\server\lib\wlsqserver.jar

   C:\Oracle\Middleware\modules\javax.servlet_1.0.0.0_2-5.jar

**Configuring an SMTP Server**

The Data Relationship Governance feature uses email notifications to notify governance users and data managers of requests activities. You must enable and configure SMTP Server settings for Data Relationship Governance notifications to work.
To configure an SMTP server:

1. In the Configuration Console, select **Host Machines** and then **SMTP Server**.
2. Select **Enable SMTP**.
3. Specify the host name of the SMTP server and the port number.
4. Specify the SMTP port number.
5. **Optional**: Select **Use SSL** to use "https://" computed URLs. Otherwise, "http://" is used.
6. **Optional**: Select **Requires SMTP Authentication** and enter the user name and password for the SMTP server.
7. Enter the sender name which will display in the email From field.
8. Enter the sender email address.

**Configuring Analytics URL**

To be able to drill through from the Oracle Data Relationship Management Analytics module to Oracle Data Relationship Management you must configure.

To configure the Analytics URL:

1. In the Configuration Console, select **Host Machines** and then **Analytics URL**.
2. On the **Analytics URL tab** tab, do the following:
   a. In **Host Name**, enter the computer name of load balancer or web farm to use when generating URLs.
   b. Enter the host port number.
   c. In **Path**, enter the directory application path for the Data Relationship Management Analytics component.
   d. Select **Uses SSL** to use "https://" computed URLs. Otherwise, "http://" is used.
   e. Click the **Test URL** link to verify that the link is valid.
Configuring Authorization Policies

On the Authorization Policies tab, you can select the user authentication type, modify internal authentication policies, and set lockout parameters for users.

To configure authorization policies:

1. In the Configuration Console, select Security Settings and then select Authorization Policies.
2. Click Load Settings to populate the current settings as saved in the Oracle Data Relationship Management system preferences.
3. Select the method for authentication:
   - **Internal** – Managed fully by Data Relationship Management.
   - **CSS (Common Security Services)** – Centralized support for external user directories using Oracle Hyperion Shared Services.
   - **Mixed** – Allows authentication option (Internal or CSS) to be specified by the user.
4. Set password preferences:
   - **Expiration Period (days)** – Number of days that a user's password is valid.
   - **Maximum Length** – Maximum length for user passwords; zero indicates no maximum.
   - **Minimum Length** – Minimum length for user passwords; zero indicates no minimum
   - **Warning Period** – Positive or negative number to indicate how many days before (-) or after (+) the password expiration date to warn users to change their password before no longer allowing them to log in.
5. Set user lockout preferences:
   - **Inactivity Threshold** – Maximum number of days of inactivity before a user is locked out.
   - **Invalid Logins Allowed** – Maximum number of invalid log in attempts before a user is locked out.
6. Click Save Settings.

Configuring EPM Registry Settings

Oracle Data Relationship Management application settings must be registered in the Oracle Hyperion Shared Services EPM Registry to enable the following optional features:

- Integration with EPM Architect
- Integration with EPM Mobile
- Common User Provisioning

The Data Relationship Management application and Oracle Hyperion EPM Architect must be registered to the same Shared Services instance.
To register a Data Relationship Management application:

1. Ensure that you have enabled the API adapter and CSS bridge for the Data Relationship Management application and set the authentication setting to CSS or Mixed.
   
   See Configuring API Adapter Hosts, Configuring the CSS Bridge, and Configuring Authentication Settings.

2. In the Configuration Console, select EPM Registry and then on the Application tab specify the Data Relationship Management Web service by providing this information:
   
   • HTTP or HTTPS protocol
   • Host computer name of the Web service
   • Port number
   • Application context — Name of the WebLogic application for the Web service

   **Note:**

   This information is combined into a URL; for example, `http://servername:managedServerPort/oracle-epm-drm-webservices`

   where http is the protocol, `servername` is the host computer name of the Web service, `managedServerPort` is the port number of the managed server, and `oracle-epm-drm-webservices` is the name of the WebLogic application for the Web service.

3. Specify the Data Relationship Management user credentials used for the integration.

4. Click Register.

To register a Data Relationship Management Web application for EPM Mobile:

1. Ensure that you have done the following:
   
   • Deploy the `oracle-epm-drm-rest-webservice.ear` file to a managed server; in most cases the Web application can be deployed to the EPMServer0 managed WebLogicserver.

   • Enable the API adapter and CSS bridge for the Data Relationship Management application and set the authentication setting to CSS or Mixed.
     
     See Configuring API Adapter Hosts, Configuring the CSS Bridge, and Configuring Authentication Settings.

   • Register the Data Relationship Management Application with the EPM Registry.
2. In the Configuration Console, select **EPM Registry** and then select **Web Application**.

3. Provide the following information:
   - Select http or https protocol
   - Enter the host computer name of the REST Web Services application and the port number to which oracle-epm-drm-rest-webservice is deployed. In most cases, the service will be deployed to the managed server EPMServer0; supply the port for this managed server.

   **Note:**
   
   If the EPMServer has been configured with a logical address then supply the port number that was used during that configuration.

   - In most cases, the Application Context can be left to the default: oracle-epm-drm-rest-webservices.

   **Note:**
   
   This information is combined into a URL; for example http://servername:logicalPortNumber/oracle-epm-drm-rest-webservices where http is the protocol selected, servername is the host computer name of the Web service, logicalPortNumber is the port number that was configured for the EPM Workspace application, and oracle-epm-drm-rest-webservices is the name of the WebLogic application for the Web service.

4. Click **Register**.

### Configuring Common User Provisioning

The Common User Provisioning feature enables users and groups to be provisioned to Oracle Data Relationship Management applications using Oracle Hyperion Shared Services. This configuration allows Data Relationship Management users to be provisioned in a common location along with other Oracle EPM applications. Common User Provisioning also eliminates the need to separately provision users in the Data Relationship Management application. Provisioning information can be synchronized from Shared Services to Data Relationship Management on-demand or a scheduled basis. Common User Provisioning is disabled by default.
Caution:

Before enabling Common User Provisioning for a Data Relationship Management application, Data Relationship Management roles must be added to Shared Services and the Data Relationship Management application must be registered with Shared Services. See "Managing Common User Provisioning" in Oracle Data Relationship Management Administrator's Guide.

To enable Common User Provisioning:

1. In the Configuration Console, select Security Settings and then CSS Synchronization.
2. Select Enable Common User Provisioning.

To schedule daily synchronization from Shared Services:

1. In the Configuration Console, select Security Settings and then CSS Synchronization.
2. Select Enable Common User Provisioning.
3. Select Auto Synchronize and then enter a start time.
4. Enter the username and password for a user with the Shared Services Provisioning Manager role.

Configuring Scheduled Tasks

The Task Runner component handles the execution of scheduled processes which run in the background on the Data Relationship Management application server. The Configuration Console enables you to define settings for scheduled tasks.

Purging Deleted Version Records

Database records for deleted versions are permanently removed from the Oracle Data Relationship Management repository as a scheduled task. This process reduces the impact on performance of other system operations by allowing the delete process to be run during periods of low system usage. An administrator can configure frequency and blackout settings for the purge process.

To permanently delete all version-related records for versions that have been marked for deletion:

1. In the Configuration Console, select an application and then select Scheduled Tasks.
2. Click Load Settings to populate the current settings as saved in the Data Relationship Management system preferences.
3. Enter a number for the frequency of the purge and then select the unit of time as hours, minutes, or seconds.
4. Optional: To set a blackout window when scheduled purges should not run, enter the start time for the blackout and then select how long (in hours) the blackout should last.
5. Click **Save Settings**.

Removing an Application

You can remove an application when it is no longer useful.

To remove an application, right-click the application and select **Remove**.

Saving Configuration Settings and Starting the Service on the Application Server

Changes made in the Configuration Console must be saved and the Oracle Data Relationship Management service must be restarted for these changes to take effect.

**Note:**

The configuration console runs on the application server.

To save settings and start the Data Relationship Management service on the application server:

1. In the Configuration Console, click **Save Configuration**.
2. From the **Local Service** menu, click **Start**.

**Caution:**

The "Oracle DRM Server Processes" service on all secondary servers **MUST** be started and running **BEFORE** starting the "Oracle DRM Server Processes" service on the application server.

Launching Data Relationship Management in a Web Browser

To launch Oracle Data Relationship Management in a Web browser:

1. Click **Start**, then **Programs**, then **Oracle EPM System**, then **Data Relationship Management**, and then **Web Client**
2. Log in with the ADMIN user ID and password defined during the Repository Wizard process, or an existing user in an upgraded repository.

**Note:**

If you manually created the repository from scripts, the password is "Welcome!".
Disabling Compatibility View Mode in Internet Explorer

Data Relationship Management does not support Compatibility View mode offered in Microsoft Internet Explorer.

To disable this feature:

1. In Internet Explorer, select **Tools**, and then **Compatibility View Settings**.
2. Make sure that the following options are not selected:
   - Display intranet sites in Compatibility View
   - Display all websites in Compatibility View
3. Click **Close**.

Configuring the Migration Utility

The following table describes Migration Utility configuration settings in the appSettings section of the web.config file. This file is located in the following directory by default: C:/Oracle/Middleware/EPMSsystem11R1/products/DataRelationshipManagement/client/migration-client

Note:

Any changes made to the web.config file will require a restart of the Web site in IIS to take effect.

<table>
<thead>
<tr>
<th>Key</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>configuredServers</td>
<td>Specifies the admin-configured connections. Default value is net.tcp://localhost:5210/Oracle/Drm/ProcessManager where localhost is the computer and 5210 is the configured process manager port.</td>
</tr>
<tr>
<td>maximumExceptionsOnImport</td>
<td>If the Continue After Error option is selected, specifies the maximum number of exceptions that can be generated during a load. Specify an integer greater than 0. The default value is 1000.</td>
</tr>
</tbody>
</table>
### Table 3-1 (Cont.) Configuration Settings

<table>
<thead>
<tr>
<th>Key</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>showExceptionDetail</td>
<td>Specifies whether detailed exception information is displayed on the error page.</td>
</tr>
<tr>
<td></td>
<td><strong>Caution:</strong> Showing full details may present a security risk, as the detailed information may include file paths or other sensitive information. This setting should only be enabled for debugging or testing.</td>
</tr>
<tr>
<td></td>
<td>Specify True to enable exception detail or False to display detail according to the log4net settings. The default value is False.</td>
</tr>
<tr>
<td>enableAboutPage</td>
<td>Specifies whether the About page is enabled. The About page displays the version of the Migration Utility and system components; for greater security, this page is disabled by default. To check the version of the Migration Utility you can enable this page. To enable the page but restrict access to administrators, edit the Discretionary Access Control List (DACL) on the /Forms/About.aspx file. See the IIS documentation for more information about how DACLS, Directory Security, and anonymous access interact to control access to Web pages. Specify True to show the About page. The default value is False.</td>
</tr>
</tbody>
</table>

### Increasing Upload File Size

The default limit for uploaded files is 4 MB. To change the default limit to 20 MB, add this setting in the `<system.web>` element of the `web.config` file:

```xml
<httpRuntime maxRequestLength="20480" executionTimeout="3600" />```
Load Balancing Data Relationship Management Web Applications

You can configure Oracle HTTP Server to provide load balancing support to two or more Oracle Data Relationship Management Web applications. You set up Oracle HTTP Server to redirect requests to the IIS servers hosting the Data Relationship Management Web client. This procedure assumes that the Oracle HTTP Server installed by the EPM System Installer is the logical host. The EPM System Installer performs the necessary prerequisite checks for Oracle HTTP Server. For more information, see the Oracle Enterprise Performance Management System Installation and Configuration Guide.

To set up Oracle HTTP Server as a load balancer for the Data Relationship Management Web client:

1. Install the Data Relationship Management Web Server component on two or more computers running IIS.

   The Data Relationship Management Installer is generally designed to install the Data Relationship Management client applications to the Default Website, where the Default Website's IIS Site Number is 1. In special circumstances where the first IIS site is non-HTTP, or the Default Website is not IIS Site Number 1, the Data Relationship Management client applications may need to undergo a one-time manual installation into IIS. For any customer impacted with this special situation, contact Support for assistance if needed.

2. Configure Data Relationship Management applications and host computers using the procedure described in Configuring Data Relationship Management Applications.

3. Open the httpd.conf file for Oracle HTTP Server found in the following location:

   MIDDLEWARE_HOME/user_projects/epmsystem1/httpConfig/ohs/config/OHS/ohs_component/httpd.conf

4. Ensure that the following directives exist and are enabled. Add the directives if they do not exist.

   LoadModule proxy_balancer_module "${ORACLE_HOME}/ohs/modules/mod_proxy_balancer.so"
   LoadModule headers_module "${ORACLE_HOME}/ohs/modules/mod_headers.so"

5. Create a proxy balancer definition for the Data Relationship Management Web client by adding a BalanceMember directive for each IIS server that hosts the Data Relationship Management Web Server component.

   #Configure members for cluster
   <Proxy balancer://iisdrm>
BalancerMember http://Machine1:80/drm-web-client route=server1
BalancerMember http://Machine2:80/drm-web-client route=server2
</Proxy>

6. Enable sticky load balancing by adding the following directives. These sample directives instruct Oracle HTTP Server to insert a cookie that keeps track of the route for sticky load balancing of the proxy balancers defined in the previous step.

   Header add Set-Cookie "BALANCEID= iisdrm.%{BALANCER_WORKER_ROUTE}e; path=/drm-web-client;" env=BALANCER_ROUTE_CHANGED

7. Add the following Forward and Reverse Proxy directives.

   # The actual ProxyPass
   ProxyPass /drm-web-client balancer://iisdrm stickysession=BALANCEID
   nofailover=Off

   # Do not forget ProxyPassReverse for redirects

8. Save the httpd.conf file and restart the Oracle Process Manager server for the Oracle HTTP Server instance.

   After configuration, the Data Relationship Management web application can be accessed using the following URL: http://<ohs_server>:<port>/drm-web-client.

Terminating SSL at the Web Server

You can use SSL secure communication from a client’s Web browser and the IIS Oracle Data Relationship Management Web application drm-web-client using Oracle HTTP Server (OHS). In this configuration, the client’s browser communicates with OHS via the HTTPS protocol and OHS acts as a proxy and communicates with the Data Relationship Management Web application via HTTP. See “Terminating SSL at the Web Server” in the Oracle Enterprise Performance Management System Security Configuration Guide.

Using Single Sign On with Data Relationship Management

Single Sign On (SSO) for Oracle Data Relationship Management requires various components to be installed and configured. In a typical Web SSO environment, a Web identity management solution controls authentication and authorization for one or more independent software systems. The goal of SSO is to allow a user to gain access to the various independent systems without being prompted for a login for each system.

Data Relationship Management implements SSO by utilizing Oracle Hyperion Shared Services, a web identity management solution (such as Oracle Access Manager), and an external user directory (such as Oracle Internet Directory or Microsoft Active Directory).

Note:

A mix of SSO and non-SSO applications is not supported on a single server.

Use the following steps to install and configure SSO:
<table>
<thead>
<tr>
<th>Task</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Prerequisite</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Data Relationship Management</strong></td>
<td></td>
</tr>
<tr>
<td>3. Install Data Relationship Management.</td>
<td>See Installing Data Relationship Management.</td>
</tr>
<tr>
<td>4. In the Data Relationship Management Configuration Console, configure Data Relationship Management for CSS authentication mode and enable SSO.</td>
<td>See Configuring Host Computers.</td>
</tr>
<tr>
<td>5. Configure a Web identity management solution to protect the Data Relationship Management Web application and use the same external user directories configured in Shared Services.</td>
<td>See Web Access Management.</td>
</tr>
<tr>
<td>6. Install and configure IIS OAM Webgate</td>
<td>See “Installing and Configuring IIS 11g WebGate for OAM” in Oracle Fusion Middleware Installing WebGates for Oracle Access Manager</td>
</tr>
</tbody>
</table>

**Note:**
Oracle Access Manager Patch 20216345 is required. For more information, go to Oracle Support.

| Data Relationship Management Analytics |  |
| 1. Ensure that the Oracle EPM Foundation Server has been configured with Oracle HTTP Server. This can be accomplished by configuring the Web Server in the EPM System Configurator. |  |
### Task

2. Manually configure the following directive in the file `mod_wl_ohs.conf` (assuming default port of 9800 for the DRMServer managed server and replacing HOST with the host name). File can be found at:

   ```
   <MW_HOME>\user_projects\epmsystem1\httpConfig\ohs\config\OHS\ohs_component
   <LocationMatch>/oracle-epm-drm-analytics>
   SetHandler weblogic-handler WeblogicHost HOST WeblogicPort 9800 WLIOTimeoutSecs 6000 Idempotent OFF WLSocketTimeoutSecs 600
   </LocationMatch>
   ```

3. Install 11.1.2.2 Webgate for OHS

4. Deploy and configure webgate instance using tool deployWebGate

5. Register Webgate

6. Configure the OAM Identity Asserter

7. Configure external authentication provider for WebLogic domain

8. Configure the default authenticator

9. Restart Weblogic Admin and DRM Managed Servers

10. Restart Oracle Process Manager (Oracle HTTP Server)

### Reference

See "Installing Oracle HTTP Server 11g Webgate" in *Oracle Fusion Middleware Installing WebGates for Oracle Access Manager*

See "Post-Installation Steps for Oracle HTTP Server 11g Webgate" in *Oracle Fusion Middleware Installing WebGates for Oracle Access Manager*

See "Getting started with a New Oracle HTTP Server 11g Webgate" in *Oracle Fusion Middleware Installing WebGates for Oracle Access Manager*

See "Configuring the OAM Identity Asserter" in *Oracle Fusion Middleware Administrator’s Guide for Oracle WebCenter Portal*

See "Configuring LDAP Authentication Providers" in *Oracle Fusion Middleware Securing Oracle WebLogic Server 10.3.6*

See "Configuring the Default Authenticator and Provider Order" in *Oracle Fusion Middleware Administrator’s Guide for Oracle WebCenter Portal*

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**Web Access Management**

The Oracle Data Relationship Management Web application resources must be protected so that any request to the Web application is redirected to a Web access management application, such as Oracle Access Manager. After a user authenticates with the security agent using basic authentication, the agent forwards the request to the Data Relationship Management Web application where HTTP header information is passed to the Data Relationship Management server for authentication.
Oracle Access Manager

Oracle Access Manager (OAM) provides authentication and authorization for the Oracle Data Relationship Management Web applications. In this documentation, it is assumed that OAM has been installed and configured with access policies for the Data Relationship Management Web application. For more information, see "Managing Policies to Protect Resources and Enable SSO" in the Oracle Fusion Middleware Administrator's Guide for Oracle Access Management.

Data Relationship Management can be configured with Oracle Access Manager using one of the following options:

- Install and configure Oracle Access Manager 10g or 11g Webgate for IIS on the Data Relationship Management Web server. For the Oracle Access Manager 10g Webgate for IIS download, see the Readme file for “Oracle Access Manager 10g – non OHS 11g Webgates and 3rd Party Integrations”.

  Note:

  Oracle Access Manager Patch 20216345 is required. For more information, go to Oracle Support.

- Set up Oracle HTTP Server for load balancing the Data Relationship Management Web server and install Oracle Access Manager 11g Webgate for OHS. See “Installing and Configuring Oracle HTTP Server 11g WebGate for OAM” in Oracle Fusion Middleware Installing WebGates for Oracle Access Manager.

Oracle Data Relationship Management Analytics can be configured with Oracle Access Manager by installing and configuring Oracle Access Manager 11g webgate for OHS. See “Installing and Configuring Oracle HTTP Server 11g WebGate for OAM” in Oracle Fusion Middleware Installing WebGates for Oracle Access Manager.

The WebGate module intercepts HTTP requests for Web content on the web server and forwards the requests to Oracle Access Manager.

The following graphic depicts the process flow with Oracle Access Manager using the 10g Webgate for IIS on the Data Relationship Management Web server:
Deploying and Configuring the Data Relationship Management Web Services API

The Oracle Data Relationship Management Enterprise Archive Application (oracle-epm-drm-webservices.ear) includes Web service modules that provide integration with the Data Relationship Management server. The application archive contains the DrmService and DrmGovernanceService Web services modules which can be accessed over HTTP using the SOAP protocol. The Web services are implemented in Java and are deployed to the WebLogic application server. Both services communicate internally with the Data Relationship Management API Adapter service.

The Web services require users to be authenticated using an external user directory which is accessible by both Weblogic and Oracle Hyperion Shared Services.

Before deploying the Data Relationship Management Web Service API, review Figure 4 and Figure 5.

System Requirements

- Oracle WebLogic Server 11g
- Oracle Data Relationship Management API Adapter
- Oracle Web Services Manager (OWSM)
- Oracle Hyperion Shared Services
- An external user directory such as Oracle Internet Directory or Microsoft Active Directory

**Note:**

See the Oracle Hyperion Enterprise Performance Management System Certification Matrix (http://www.oracle.com/technetwork/middleware/bi-foundation/oracle-hyperion-epam-system-certific-131801.xls) for the latest system requirements.

Deployment Prerequisites

**Related Topics**

- Installing and Configuring Foundation Services
- Installing Metadata Services Schema for Oracle Web Services Manager
- Configuring Oracle Web Services Manager
Installing and Configuring Foundation Services

To support HTTP Basic Authentication and Web Services (WS) Security for the Oracle Data Relationship Management Web Service applications, Oracle Hyperion Foundation Services must be installed and Data Relationship Management must be configured to use Oracle Hyperion Shared Services for authentication. Oracle Web Services Manager (OWSM) is required for the oracle-epm-drm-webservice application but is not required for the oracle-epm-drg-rest-webservice application. OWSM is installed when you install Foundation Services but it may need to be configured if it hasn't already been done. For information on installing Foundation Services, see Oracle Enterprise Performance Management System Installation and Configuration Guide.

Installing Metadata Services Schema for Oracle Web Services Manager

Oracle Web Services Manager requires a database in order to function. Requirements and instructions on how to install the Metadata Services Schema for Oracle Web Services Manager can be found here:

- "Creating Infrastructure Schemas Using Repository Creation Utility" in Oracle Enterprise Performance Management Installation and Configuration Guide
- "Repository Creation Utility (RCU) Requirements" in Oracle Fusion Middleware System Requirements and Specifications

Note:


Configuring Oracle Web Services Manager

You configure Oracle Web Services Manager by running the Oracle Fusion Middleware Configuration Wizard and configuring a WebLogic domain. You then select the products that you want to configure in that domain.

To configure Oracle Web Services Manager, refer to "Configuring Oracle Web Services Manager" in the Oracle Enterprise Performance Management System Deployment Options Guide.

Configuring WebLogic with an External Provider

The Oracle Data Relationship Management Web Service application deployed on Weblogic must be configured to access the same user directory that is configured with Oracle Hyperion Shared Services for externally authenticating users.
To configure WebLogic, see “Configuring the WebLogic Domain to OID, MSAD, SunOne” in the Oracle Enterprise Performance Management System Deployment Options Guide.

### Configuring the API Adapter

The API Adapter must be configured using the Oracle Data Relationship Management Configuration Console. When you configure a Data Relationship Management application, you set up API Adapter Hosts on the Host Machines tab. For more information, see Configuring Host Computers.

**Note:**
The API Adapter is used for internal communication with the Web Service and should not be used directly by custom API programs.

### Deploying the Web Services Applications

The Oracle Data Relationship Management Web service applications oracle-epm-drm-webservices.ear and oracle-epm-drm-rest-webservices.ear should be deployed to an existing WebLogic domain and managed server. For example, the Web services can be deployed to the EPMServer0 managed server on the EPMSystem domain within the EPM Foundation Server. Both .ear files are located in the %EPM_ORACLE_HOME% \products\DataRelationshipManagement\api directory of the application server machine.

Instructions for installing a Web application can be found in Deploying Web Services Applications in Oracle Fusion Middleware Security and Administrator's Guide for Web Services.

**Note:**

### Securing the Data Relationship Management Web Services

It is important to protect the DrmService and DrmGovernanceService Web services using a security policy in Oracle Web Services Manager. Different policies may be attached depending on usage.

The following policies can be used with the Oracle Data Relationship Management Web services:
<table>
<thead>
<tr>
<th>Purpose</th>
<th>Policy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Integration with Oracle Hyperion Financial Data Quality Management, Enterprise Edition</td>
<td>oracle/wss_username_token_service_policy or oracle/wss_username_token_service_policy (applies to DrmService only)</td>
</tr>
<tr>
<td>Integration with Oracle Hyperion EPM Architect</td>
<td>oracle/wss11_saml_or_username_token_with_message_protection (applies to DrmService only)</td>
</tr>
<tr>
<td>Integration with E-Business Suite General Ledger</td>
<td>oracle/wss_username_token_service_policy (applies to DrmService only)</td>
</tr>
<tr>
<td>Integration with Oracle Fusion Accounting Hub</td>
<td>oracle/wss11_saml_or_username_token_service_policy (applies to DrmService only)</td>
</tr>
<tr>
<td>Workflow Development Kit</td>
<td>oracle/wss11_saml_or_username_token_with_message_protection (applies to DrmService only)</td>
</tr>
<tr>
<td>Custom API Programs or Integrations</td>
<td>One of the following (applies to DRMService and DRMGovernanceService):</td>
</tr>
<tr>
<td></td>
<td>• oracle/wss11_saml_or_username_token_with_message_protection</td>
</tr>
<tr>
<td></td>
<td>• oracle/wss_username_token_service_policy</td>
</tr>
<tr>
<td></td>
<td>• oracle/wss_username_token_service_policy</td>
</tr>
<tr>
<td></td>
<td>• oracle/wss11_saml_or_username_token_service_policy</td>
</tr>
<tr>
<td></td>
<td>• oracle/wss_http_token_service_policy</td>
</tr>
</tbody>
</table>


Configuring Policies in Oracle Web Services Manager

To configure policies for the DrmService and DrmGovernanceService modules in Oracle Web Services Manager, see "Configuring Policies" in the Oracle Fusion Middleware Security and Administrator's Guide for Web Services.

When configuring a web service security policy that uses message protection, a keystore must be configured to be used for encryption purposes. To configure a keystore, refer to "Setting Up the Keystore for Message Protection" in the Oracle Enterprise Performance Management System Deployment Options Guide.

Testing the Data Relationship Management Web Services Using Oracle Enterprise Manager

To test the Web Services using Oracle Enterprise Manager:

1. Ensure that the Oracle Data Relationship Management Web Service has an Oracle Web Services Manager security policy attached. A local or global policy can be attached.

   For example: oracle/wss_username_token_service_policy
2. In Enterprise Manager, select the domain to which the Data Relationship Management Web Service is deployed, then select Web Services/Test Web Service from the domain context menu or the WebLogic Domain menu in the right pane.

3. Enter the WSDL for the Data Relationship Management Web Service in the WSDL text box.
   For example: http://localhost:28080/oracle-epm-drm-webservices/DrmService?wsdl

4. From Operation, select an operation; for example getSysPrefs.

5. On the Request tab, select WSS Username Token and enter a username and password with which to authenticate.

6. Expand Input Arguments, from the drop-down list select XML View, and paste the following soap header argument (exactly as formatted) before the "<soap:Body xmlns:ns1="http://drm.webservices.epm.oracle">" tag.

   When copying the argument below, there cannot be a line break or space between tags/elements.

   ```xml
   <soap:Header>
   <AppParameters xmlns="http://drm.webservices.epm.oracle">
   </AppParameters>
   </soap:Header>
   ```

**Considerations**

- An AppParameters element must occur in the header for the message to process correctly at the Data Relationship Management and Oracle Data Relationship Governance Web services.

- When using Stateful Sessions in the Data Relationship Management and Data Relationship Governance Web services, the SessionMaintainParams element must occur before the AppParameters element in the SOAP header, otherwise, the Stateful Session ID will not be recognized and will not be processed.
• Required parameters must be populated for the selected Data Relationship Management operations otherwise an error occurs.

7. In the soap header argument in step 6, modify the serverUrl to the appropriate host name and port for the Data Relationship Management API adapter.

8. Click **Test Web Service**.

![Note:]

If successful, the **Response** tab includes the response from the Web Service. If unsuccessful, an error message is displayed.

9. After testing is complete, re-attach the required production policy.

### Configuring Logging for the Web Service Applications

Optionally, Oracle Diagnostics Logging (ODL) can be configured to log specific logging levels to a log file that is specific for one or more logger names. To configure logging, the Weblogic Scripting Tool (WLST) can configure the logger names specific to the Oracle Data Relationship Management Web services:

- oracle.epm.drg
- oracle.epm.drm
- oracle.epm.webservices.drm
- oracle.epm.webservices.drg

See **setLogLevel** and **configureLogHandler** commands in the *Oracle Fusion Middleware WebLogic Scripting Tool Command Reference*.

### Troubleshooting

<table>
<thead>
<tr>
<th>Error</th>
<th>Possible Cause</th>
<th>Recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oracle EPM Foundation Agent Error in request: begin session (message: Cannot begin session. EPMCSS-00301: Failed to authenticate user. Invalid credentials. Enter valid credentials.)</td>
<td>Oracle Hyperion Shared Services doesn’t contain the user identity.</td>
<td>Ensure Oracle Data Relationship Management is configured with the same User directory as used by the WebLogic realm.</td>
</tr>
<tr>
<td>javax.xml.ws.soap.SOAPFaultException: FailedAuthentication: The security token cannot be authenticated.</td>
<td>User identity is not present in WebLogic security realm.</td>
<td>Configure the WebLogic Realm with the appropriate authentication provider for the realm. Ensure that it is configured to point to the same provider with which Shared Services is configured.</td>
</tr>
<tr>
<td>javax.xml.ws.WebServiceException: Failed to access the WSDL at: <a href="http://localhost:7001/oracle-epm-drm-webservices/DrmService?WSDL">http://localhost:7001/oracle-epm-drm-webservices/DrmService?WSDL</a>.</td>
<td>Host or port is incorrect. The Web service is not running on the WebLogic domain.</td>
<td>Verify the Data Relationship Management Web service is deployed and running on the WebLogic domain. Modify the host/port reference in the WSDL URL.</td>
</tr>
<tr>
<td>Error</td>
<td>Possible Cause</td>
<td>Recommendation</td>
</tr>
<tr>
<td>-------</td>
<td>---------------</td>
<td>----------------</td>
</tr>
<tr>
<td>Error while trying to communicate with DRM API Adapter at: <a href="http://localhost:5240/Oracle/Drm/APIAdapter/">http://localhost:5240/Oracle/Drm/APIAdapter/</a>.</td>
<td>Host or port is incorrect. The API adapter is not running or configured correctly.</td>
<td>Verify the API adapter is configured and running. Change the API adapter URL in the client program/application to the correct value.</td>
</tr>
<tr>
<td>javax.xml.ws.soap.SOAPFaultException: SOAP must understand error: {<a href="http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-wssecurity-secext-1.0.xsd%7DSecurity">http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-wssecurity-secext-1.0.xsd}Security</a>, {<a href="http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-wssecurity-secext-1.0.xsd%7DSecurity">http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-wssecurity-secext-1.0.xsd}Security</a>.</td>
<td>No OWSM policy is attached to the Data Relationship Management Web service or, if a policy exists, the policy is disabled. OWSM is not configured correctly and is not functioning. Ensure that the servlet can be reached and that the Policy Manager Status is &quot;Operational&quot;</td>
<td>Attach either a global or local policy to the Data Relationship Management Web service. Follow the steps in the OWSM troubleshooting section: <a href="http://download.oracle.com/docs/cd/E12839_01/web.1111/b32511/diagnosing.htm#CHDIDCHA">http://download.oracle.com/docs/cd/E12839_01/web.1111/b32511/diagnosing.htm#CHDIDCHA</a></td>
</tr>
</tbody>
</table>
Installing and Configuring Data Relationship Management Analytics

The Oracle Data Relationship Management Analytics module provides dashboards for change tracking, growth analysis, request monitoring, workflow model performance, and participant and user group performance. The module supports Single Sign On and provides the ability to drill to and from Oracle Data Relationship Management.

System Requirements

- Oracle Database—Set open_cursors to a value greater than or equal to 600 for the database hosting the Oracle Data Relationship Management application schema.

  **Note:**

  SQL Server is not supported.

- EPM Foundation Server

  **Note:**

  For LDAP instructions see “Configuration OID, Active Directory and other LDAP-based user directories” in Oracle Enterprise Performance Management System Security Configuration Guide.

- Data Relationship Management
  - Application schema hosted on Oracle database
  - Oracle Data Relationship Management Analytics users must be defined in an External Directory available for user authentication in both WebLogic and Oracle Hyperion Shared Services

- EPM System—A configured EPM Instance, on the same release level with Data Relationship Management, where the “DRMServer” WL Managed Server can be created for Analytics deployment in either a Windows or Linux WL Domain configured within the EPM Instance.
For Data Relationship Management Analytics deployments, the default name of the WebLogic domain is EPSystem and is hardcoded into the createDrmSvc.cmd file. If your domain is not named EPSystem then, before running an installation or upgrade, you must edit the createDrmSvc.cmd file to change EPSystem to the name of your domain. Edit the following lines in the createDrmSvc.cmd file.

```plaintext
set USERDOMAIN_HOME=%MW_HOME%\user_projects\domains\EPSystem
call"%MW_HOME%\user_projects\domains\EPSystem\bin\setDomainEnv.cmd"
```

- **Hardware**—The DRMServer that will be created requires at least 4096 MB of RAM in a production environment.

**Note:**

The Windows file startDRMServer.cmd, the Windows Service "Oracle DRM Managed Server (DRMServer)," and the Linux file startStopDRMServer.sh set memory to 4096 MB by default. When sizing hardware, these settings, as well as the minimum required memory for non-production environments, should be considered.

- If you are configuring Data Relationship Management and Data Relationship Management Analytics for Single Sign On, see Using Single Sign On with Data Relationship Management.

## Deployment Prerequisites

If you are configuring Oracle Data Relationship Management and Oracle Data Relationship Management Analytics for single sign on, also see Using Single Sign On with Data Relationship Management.

**Note:**

Only one copy of Data Relationship Management Analytics can be deployed, and it can only start up and run against a single Data Relationship Management application.

The only supported way to deploy more than one copy of Data Relationship Management Analytics is if you are running the EPM Instance on both Windows and Linux. In this scenario, each operating system has its own WebLogic domain and one copy of Data Relationship Management Analytics can be deployed per WebLogic domain, supporting up to a total of two distinct Data Relationship Management applications.

In the Data Relationship Management Console, select the application configure the following:
• Use the Repository Wizard to configure the Data Relationship Management schema—See Creating a Repository
• Set authentication mode to Mixed or CSS—See Configuring Authentication Settings.
• Enable the CSS Bridge—See Configuring the CSS Bridge
• Configure Web Farm settings to enable drill through between Data Relationship Management and Data Relationship Management Analytics—See Configuring Web Servers
• Configure the Analytics URL settings to enable drill through between Data Relationship Management and Data Relationship Management Analytics—Configuring Analytics URL
• Data Relationship Management Analytics users must be defined in an External Directory that is configured for user authentication in both WebLogic and Oracle Hyperion Shared Services

Installing and Configuring Data Relationship Management Analytics

⚠️ Caution:
Make sure that EPMServer and Weblogic AdminServer are shut down before starting the installation.

📝 Note:
The installation script for Windows is installConfigureAnalytics.cmd. The installation script for Linux is installConfigureAnalytics.sh.

To install Oracle Data Relationship Management Analytics:

1. Download the Analytics zip file to the server where Oracle EPM Foundation Server is installed.
2. Unzip the file into a temporary folder.
3. Run the script installConfigureAnalytics.* to install the Analytics package and initiate the Fusion Middleware Configuration Wizard to configure and deploy the Analytics application. When prompted, enter the following information in the scripting console.

📝 Note:
Linux users complete the first 2 steps only. Windows users complete all steps.
a. Oracle Middleware Home directory and then press Enter.

b. EPM Domain name and press Enter.
   For Linux only, the Fusion Middleware Configuration Wizard will start.

c. Weblogic administrator username and then press Enter.

d. Weblogic administrator password and then press Enter.

e. AdminServer Host name and then press Enter.

f. AdminServer Port and then press Enter.
   For Windows only, the Fusion Middleware Configuration Wizard will start.

4. In the Fusion Middleware Configuration Wizard, select **Extend an existing WebLogic domain** and then click **Next**.

5. Select the domain directory for the target WebLogic domain within the EPM Instance (Windows or Linux) for DRMServer and then click **Next**.

6. Under **Extend my domain automatically to support the following added products** select **Oracle Data Relationship Management Analytics - 11.1.2.4 [EPMSystem11R1]** and then click **Next**.

7. Click **Next** on the **Configure EPMSystemRegistry JDBC Data Sources** screen to skip the configuration.

8. Click **Next** on the **Test EPMSystemRegistry JDBC Data Sources** screen to skip testing.

9. Enter the following on the **Configure JDBC Component Schema** screen for the DRM Schema and then click **Next**:
   - Schema Owner
   - Schema Password
   - DBMS/Service
   - Host Name
   - Port

10. On the **Test JDBC Component Schema** screen, ensure that the test is successful for the DRM Schema.

11. On the **Select Optional Configuration** page, select both check boxes: **Select Managed Servers, Clusters and Machines** and **Deployments and Services** and then click **Next**.

12. On the **Configure Managed Servers** screen, view the DRMServer, change the port if necessary, and then click **Next**.

13. Click **Next** on the **Configure Clusters** screen to skip.

   **Note:**
   Do not move the DRMServer under the existing EPMServer or FoundationServer depending on configuration.

14. On the **Assign to Clusters** screen click **Next** and accept the defaults on the next few screens until you get to the **Assign Servers to Machines** screen.
15. On the **Assign Server to Machines** screen, select the DRMServer and move it under the appropriate machine.

16. On the **Target Deployments to Clusters or Servers** screen, ensure that the `oracle-epm-drm-web-applications` application is set only on the target DRMServer and then click **Next**.

   **Note:**
   
   To verify, click on the Cluster and Server nodes on the left target pane to see if the `oracle-epm-drm-web-applications` deployment is selected for the DRMServer.

17. On the **Target Services to Clusters or Servers** screen, ensure that the **DRM JDBC Datasource** is only targeted to the DRMServer and then click **Next**.

   **Note:**
   
   To verify, click on the Cluster and Server nodes on the left target pane to see if the DRM data source is selected only for the DRMServer.

18. Click **Extend** on the **Configuration Summary** screen, and when complete click **Done** to exit the wizard.


   AdminServer can be started on Windows by running the command file, for example
   
   `C:\Oracle\Middleware\user_projects\domains\EPMSystem\bin\startWebLogic.*`.

   **Note:**
   
   Ensure AdminServer has completely started before starting the DRMServer.

20. Start DRMServer.

   • **Windows Only**—DRMServer Managed Server can be started by starting the Windows Service "Oracle DRM Managed Server (DRMServer)" or by using the `startDRMServer.cmd` file.

   **Note:**
   
   It is recommended that you use the Windows Service if you are running the Managed Server in the background.

   • **Linux Only**—DRMServer Managed Server can be started by using the `startStopDRMServer.sh` script in the domain bin folder. For example:

   `<MiddlewareHome>\user_projects\domains\EPMSystem\bin\startStopDRMServer.sh`
To start the DRMServer, issue the following command: `startStopDRMServer.sh start`. To stop the DRMServer, issue the following command: `startStopDRMServer.sh stop`.

**Note:**
During the initial installation, ensure that the AdminServer has completely started before attempting to start the DRMServer Managed Server.


**Note:**
Ensure that you configure the same external directory that is configured for the EPM Foundation Server.

## Upgrading Data Relationship Management Analytics

To update an existing Oracle Data Relationship Management Analytics application:

1. Obtain the updated Analytics zip file.
2. Unzip the zip file.
3. For Linux, complete steps 4-6. For Windows, complete steps 4-10.
4. Run the script `upgrade.*` in the upgrade folder to initiate an upgrade.
5. Enter Oracle Middleware Home directory and then press Enter.
6. Enter the EPM Domain name and then press Enter.
   For Linux only, the upgrade is complete and you are prompted to restart DRMServer.
7. Enter the Weblogic administrator username and then press Enter.
8. Enter the Weblogic administrator password and then press Enter.
9. Enter the AdminServer Host name and then press Enter.
10. Enter the AdminServer Port and then press Enter.
   For Windows only, the upgrade is complete and you are prompted to restart DRMServer.

**Caution:**
The AdminServer and DRMServer should not be running when performing the upgrade.
Logging

A persistent ODL logger is automatically configured for the Oracle Data Relationship Management Analytics application. Manual configuration of the managed server is not necessary. However, by default the logger level is set to the NOTIFICATION:1 level. If tracing is desired then set the level to TRACE:1 by navigating to Enterprise Manager and turning on debugging levels using the Configure Logging menu for the application.

Troubleshooting

When importing (impdp) an Oracle dump file for a Oracle Data Relationship Management Analytics schema to an Oracle database instance where another Data Relationship Management Analytics schema already exists, the following error may occur:

Example 5-1   Error

ORA-39083: Object type TYPE failed to create with error:
ORA-02304: invalid object identifier literal
Failing sql is: CREATE TYPE "<schemaName>"."FILTERVALUES_TABLE_TYPE" OID 'BD565ED4E4D844C69B73A972C29FE5A9' as TABLE of varchar2 (255)

The error occurs if the dump file includes the Data Relationship Management Analytics 'TYPE' object with a specific Oracle identifier (OID). As a result of the error condition, the imported Data Relationship Management Analytics schema will not function properly.

Workaround

To resolve the error during import, include parameter/value "TRANSFORM=oid:n" in the Data Pump Import command or script. Refer to Oracle Database documentation for details on the Data Pump Import TRANSFORM parameter.
Configuring Data Relationship Management for EPM Mobile

You can use the Oracle Data Relationship Governance module in the EPM Mobile Application to participate in or monitor the progress of governance requests from a mobile device such as a smart phone or tablet. The EPM Mobile Application module relies on the Oracle Data Relationship Management REST Web Service for connectivity to Data Relationship Management.

The Data Relationship Management REST Web Services application (oracle-epm-drm-rest-webservices.ear) is installed with Data Relationship Management and must be deployed to an Oracle WebLogic server. The REST Web Services require users to be authenticated using an external user directory which is accessible by both WebLogic and Oracle Hyperion Shared Services.

Deployment Requirements

Following are the requirements for deploying and configuring Oracle Data Relationship Governance for the EPM Mobile module:

1. Install and Configure Foundation Server—See Installing and Configuring Foundation Services
2. Configure External Directory—See Configuring WebLogic with an External Provider
3. Install Oracle Data Relationship Management—See Installing Data Relationship Management
4. Deploy the REST Web Services Application—See Deploying the Web Services Application
5. Configure Data Relationship Management for REST Web Service
   a. Enable API adapter—See Configuring the API Adapter
   b. Enable the CSS Bridge—See Configuring the CSS Bridge
   c. Set authentication mode to Mixed or CSS—See Configuring Authentication Settings

   **Note:**

   All Data Relationship Management users must exist in an External Directory. Users cannot be Data Relationship Management internal or HSS native.

   d. Start Data Relationship Management Service—See Saving Configuration Settings and Starting the Service
   e. Register a Data Relationship Management Application for EPM Registry—See Configuring EPM Registry Settings.
6. Configure proxy requests—See Configuring Proxy Requests from Oracle HTTP Server to Oracle WebLogic
7. Configure the REST Web Service for SSL (Optional)—See Configuring the REST Web Server for SSL

Configuring Proxy Requests

If the EPMServer has been configured for a logical address, then Oracle HTTP Server will need to be modified to proxy requests to the managed server. For example, the following mod_wls_ohs directive can be used as an example to proxy any request for the oracle-epm-drm-rest-webservices (adjusting for HOST and MANAGED_SERVER_PORT for the environment):

```xml
<LocationMatch ^/oracle-epm-drm-rest-webservices>
  SetHandler weblogic-handler
  WeblogicCluster <HOST>:<MANAGED_SERVER_PORT>
  WLITimeoutSecs 6000
  Idempotent OFF
  WLSocketTimeoutSecs 600
</LocationMatch>
```

See Configuring the mod_wl_ohs Plug-In for Oracle HTTP Server in "Fusion Middleware Using Web Server 1.1 Plug-Ins with Oracle WebLogic Server".

Configuring the REST Web Service for SSL (Optional)


Testing the REST Web Service

A Web browser can be used to test the Oracle Data Relationship Governance REST service using a URL in the address bar. After the URL is entered and the user is authenticated, results should show up in the browser.

Note:

Browser plug-ins are available for most browsers for json formatting; this makes the response easier to read.

Enter the following URL in a browser and provide user credentials when prompted.

http://HOST:PORT/oracle-epm-drm-rest-webservices/rest/

Replace HOST and PORT with values according to environment; the result should include items indicating the service version as well as links.
Upgrading is the process of deploying a new software release and moving applications and data from the earlier deployment to the new deployment.

It is important that you review the Data Analysis and Data Conversion sections to have a complete understanding of how data is affected during an upgrade from an Oracle Data Relationship Management release prior to 11.1.2.

**Note:**

Before upgrading to a new release or updating the repository, stop Data Relationship Management services on all machines that point to the source repository. Otherwise, the Data Relationship Management application schema may contain stale Engine Info records, causing the Data Relationship Management application to fail to start afterward.

**Architecture Comparison**

This release of Oracle Data Relationship Management offers a streamlined application server architecture optimized for single machine, multi-processor deployments on 64-bit hardware. Each application utilizes a single engine and server, instead of the multiple engine and server configuration used in previous releases. These improvements result in higher concurrency of read operations, eliminate event traffic between engines, and reduce connections to and data transferred from the repository.

**Table 7-1 Architecture Comparison**

<table>
<thead>
<tr>
<th>Release 11.1.2.3</th>
<th>Release 11.1.2.4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application startup loads process manager, event manager, and multiple engines</td>
<td>Application startup loads a single engine</td>
</tr>
<tr>
<td>Load version from database for each engine (RW, SRO, RV, LRO)</td>
<td>Load a version only once from database</td>
</tr>
<tr>
<td>Each engine utilizes a single processor for handling multiple threads. Multiple engines used for increased concurrency and processor utilization.</td>
<td>High-concurrency for read operations. Full-utilization of multiple processors when available.</td>
</tr>
<tr>
<td>Long read operations may be blocked by changes waiting in queue.</td>
<td>All read operations are non-blocking.</td>
</tr>
<tr>
<td>Long read operations may have to wait for LRO engine to start up and/or version to be loaded</td>
<td>Long read operations are run immediately.</td>
</tr>
</tbody>
</table>
Supported Upgrade Paths

To upgrade to the current release of Oracle Data Relationship Management, manually uninstall the old release, update Oracle Hyperion Foundation Services, and then install Release 11.1.2.4.346.

You can upgrade to this release from the following releases:

- Release 11.1.2.x
- Release 11.1.1.4.x
- Release 11.1.1.0 to 11.1.1.2.x

**Note:**

If you are starting from an earlier release, Oracle recommends that you upgrade to the highest level release that directly supports upgrade from your starting release.

The Repository Wizard in the Data Relationship Management Configuration Console provides various options for upgrading a Data Relationship Management repository from an earlier release.

For detailed instructions, see Upgrading an Existing Data Relationship Management Application.

Repository Upgrade Paths for 11.1.2.x

**Note:**

When upgrading an Oracle Data Relationship Management repository, the DBMS_XMLGEN package is required to use release 11.1.2.4.346 with an Oracle repository. The schema owner for the Data Relationship Management repository must have Execute privilege to this package. The following statement can be used to grant this privilege to the database schema user:

```
GRANT execute ON dbms_xmlgen TO <DRM_schema>;
```

- Upgrade path option 1:
  1. Add a new application and specify the repository connection information for an existing 11.1.2.x repository.
  2. Run *Apply Updates* on the application.

- Upgrade path option 2: Run the *Create a New Repository* and *Copy or Upgrade an Existing Repository* options simultaneously.

- Upgrade path option 3:
  1. Run the *Create a New Repository* option or manually run the repository creation SQL scripts.
2. Run the Copy or Upgrade an Existing Repository option using the new repository created in step 1 as the target connection.

Repository Upgrade Paths for 11.1.1.x

- Upgrade path option 1: Run the Create a New Repository and Copy or Upgrade an Existing Repository options simultaneously.
- Upgrade path option 2:
  1. Run the Create a New Repository option or manually run the create repository SQL scripts.
  2. Run the Copy or Upgrade an Existing Repository option using the new repository created in step 1 as the target connection.

Upgrading Checklist

The following table identifies the high-level tasks that you perform to upgrade Oracle Data Relationship Management.
Table 7-2  Upgrading Checklist

<table>
<thead>
<tr>
<th>Task</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Review release compatibility, system requirements, and other</td>
<td>• Installation Prerequisites</td>
</tr>
<tr>
<td>prerequisites for this release.</td>
<td>• Oracle Hyperion Enterprise Performance Management System Certification</td>
</tr>
<tr>
<td>If your database environment needs to be upgraded, perform the</td>
<td>Matrix (<a href="http://www.oracle.com/technetwork/middleware/bi-foundation/oracle-">http://www.oracle.com/technetwork/middleware/bi-foundation/oracle-</a></td>
</tr>
<tr>
<td>database upgrade before you proceed. See the database</td>
<td>hyperion-epm-system-certific-131801.xls)</td>
</tr>
<tr>
<td>documentation for details.</td>
<td>• Oracle Hyperion Enterprise Performance Management System Installation</td>
</tr>
<tr>
<td></td>
<td>Start Here</td>
</tr>
</tbody>
</table>

**Note:**

If you are using Oracle Hyperion Shared Services, you must upgrade the Shared Services installation before upgrading the Data Relationship Management. For more information, see the Oracle Enterprise Performance Management System Installation and Configuration Guide.

<table>
<thead>
<tr>
<th>Task</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Back up the earlier release.</td>
<td>Before you proceed with an upgrade, ensure that you have backed up</td>
</tr>
<tr>
<td></td>
<td>information from the earlier release including databases, applications,</td>
</tr>
<tr>
<td></td>
<td>and other files. Back up the drm-config.xml file before upgrading. This</td>
</tr>
<tr>
<td></td>
<td>file is not backward compatible with earlier releases.</td>
</tr>
<tr>
<td>3. Download and prepare the installation files.</td>
<td>Download files for this release and extract the zip file contents.</td>
</tr>
<tr>
<td>4. Stop Data Relationship Management services.</td>
<td>If you are installing this release on the same machine as the earlier</td>
</tr>
<tr>
<td></td>
<td>release installation, stop the Data Relationship Management services.</td>
</tr>
</tbody>
</table>
### Table 7-2  (Cont.) Upgrading Checklist

<table>
<thead>
<tr>
<th>Task</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>5. Uninstall the earlier release of Data Relationship Management.</td>
<td>If you are upgrading from release 11.1.2, you do not need to uninstall the earlier release. Install this release over the earlier release. If you are upgrading from a release before 11.1.2, you must first manually uninstall the old release and then install the new release.</td>
</tr>
<tr>
<td>6. Install this release of Data Relationship Management</td>
<td>Installing Data Relationship Management</td>
</tr>
<tr>
<td>7. Configure Data Relationship Management.</td>
<td>Use the Data Relationship Management Configuration Console to configure the new installation. See Upgrading an Existing Data Relationship Management Application.</td>
</tr>
<tr>
<td>8. Redeploy the Web Service for this Data Relationship Management.</td>
<td>The name of the Web service application in WebLogic is “oracle-epm-drm-webservices” by default.</td>
</tr>
</tbody>
</table>
Upgrading an Existing Data Relationship Management Application

You must update the repository information for all existing applications. You can upgrade applications from prior Oracle Data Relationship Management releases and copy applications from the current release.

Note:

The following procedure documents a common upgrade path. Because there are several paths for upgrade, not all of the steps below are applicable to some of the upgrade paths.

For release-specific upgrading information, see Repository Upgrade Paths for 11.1.1.x and Repository Upgrade Paths for 11.1.2.x.

To upgrade an existing Data Relationship Management application:

1. Select Start, then Programs, then Oracle EPM System, then Data Relationship Management, and then Configuration Console.
2. Select an application to upgrade or add a new application to upgrade.

Note:

You must update repository information for all existing applications before starting the Data Relationship Management service.

4. Select these options and click Next:
   a. Create a New Repository
   b. Copy or Upgrade an Existing Repository
5. On the Source Connection page, do the following:
   a. Select a database provider: Oracle or SQL Server.
   b. Enter the connection to the source repository. This is the database from which data is copied. Nothing is changed in this database.
   c. Enter a user ID and password for a user who can read from this database.
   d. Optional: For Connection Timeout, enter the number of seconds to wait for a connection to open before canceling the attempt and generating an error. The default is 15 seconds. For Command Timeout, enter the number of seconds to wait for a command to execute before canceling the command and generating an error. The default is 900 seconds.
e. Click **Test Connection**.

6. Click **Next**.

7. On the **Target Connection** page, do the following:
   - Select the database provider: Oracle or SQL Server.
   - Enter the connection to the target database where the upgraded repository will reside.
   - Enter the user ID and password for an administrator who has rights to create a database schema and data files.
   - **Optional**: For **Connection Timeout**, enter the number of seconds to wait for a connection to open before canceling the attempt and generating an error. The default is 60 seconds. For **Command Timeout**, enter the number of seconds to wait for a command to execute before canceling the command and generating an error. The default is 900 seconds.

   - **Caution**: To ensure that a timeout does not occur, set the **Command Timeout** to zero.

   - **Note**: Setting the timeout value to zero indicates no timeout is used. These settings are saved in the `drm-config.xml` and are used by the engines when they start. To perform large operations (such as a large version delete), set the **Command Timeout** to a larger value than the default.

8. Click **Test Connection**.

9. Click **Next**.

On the **Repository Analysis** screen, review and make changes to:

   - **Versions** — Select the versions to upgrade; de-select versions that should not be included in the upgrade.
   - **Exports** — Set up file connections, database connections, and include connections for the exports to be upgraded. You can make changes at the top of the screen for all exports or make changes to individual exports.
   - **Books** — Set up pre file connections, post file connections, and combined file connections for the books to be upgraded. You can make changes at the top of the screen for all books or make changes to individual books.
• **Imports** — Set up import file connections for the import to be upgraded. You can make changes at the top of the screen for all imports or make change to individual imports.

• **Invalid Property References** — These property references are invalid and may result in unexpected behavior after upgrade.

![Note:](Image)

For additional information on these objects and how data conversion works during upgrade, see Data Analysis and Data Conversion.

10. Click **Next**.

11. Do one of the following:
   • For an Oracle database, continue to the next step.
   • For a SQL Server database, go to Creating a SQL Server Database.

12. On the **Repository User and Data File Settings** page, enter the user id and password which will be created as the schema owner for the Data Relationship Management repository.

13. Accept the default tablespace settings or make changes and click **Next**. For information on default sizing of the repository, see Data Analysis.

![Note:](Image)

It is highly recommended that dedicated tablespaces be used for Data, Indexes, Transactions, and Properties. The default tablespace names may already be in use, and will be re-used if a new tablespace name is not specified.

14. On the **Application Administrator Creation** page, enter a password for the Administrator user and click **Next**.

![Note:](Image)

The default Administrator user is ADMIN but you can change the default Admin user.

![Caution:](Image)

If you are upgrading 11.1.2.x applications, the password for an existing ADMIN user is **not** overwritten with the password entered here.

15. On the **Create Repository Confirmation** page, review the settings and click **Next** to start the creation process.

When the database has been created a success message is displayed.
16. Click **Next**.

17. On the **Copy Repository Confirmation** page, review the settings and click **Next** to start the copy process.

When the database has been copied a success message is displayed.

18. Click **Next**.

---

**Tip:**

Repository creation, copy, and upgrade information is written to the Repository Wizard log. Click **Save Log** on the **Repository Operation Complete** page of the wizard to save the log file.

19. On the **Repository Operation Complete** screen, click **Finish**.

You are returned to the main screen of the console where you can review the settings.

20. Click **Save Configuration**, otherwise connection information is lost when the console is closed.

For additional application configuration tasks, see:

- Configuring Host Computers
- Configuring Authentication Settings
- Saving Configuration Settings and Starting the Service

---

**Data Analysis**

The Repository Analysis page provides information about the source repository so that decisions can be made that affect size and objects in the new repository. The Analysis Summary section provides an overview of the analysis. The space requirements are broken down into different segments and are given as a whole so that the user can better understand the space requirements for the new repository. Sizing found here is automatically applied to the Repository User and Data File settings page when the calculated space requirements are greater than 200 MB for each default tablespace in an Oracle repository, or greater than 5 MB for the data and log files in a SQL Server repository. The Object Analysis section displays outstanding issues that need to be addressed prior to moving on with the upgrade.

- **Versions** — Displays the versions and provides the opportunity to deselect versions that should not be included in the upgrade. Deselecting a version affects the space and count values in the Summary section.

- **Exports** — Displays any exports that need special attention. Exports that require an External Connection for results or other external files are included here. Exports that are no longer supported, such as custom exports, are included here as well. If no External Connection is provided, the export is configured as a client file export. For more information on External Connection, see Working with External Connections.

- **Books** — Displays books that require an External Connection for combined files, Pre files, and or Post files. If no External Connection is provided, the export is configured without utilizing a combined file. For more information on External Connections, see Working with External Connections.
• **Imports** — Displays imports that require an External Connection for its input file. If no External Connection is specified, the import is configured as using a client input file. For more information on External Connections, see *Working with External Connections*.

• **Invalid Property References** — Displays property references that may cause unexpected behavior in the Oracle Data Relationship Management system. These invalid references are generally only caused by updating the Data Relationship Management database directly. The following scenarios are included here.

For the following two scenarios, during repository analysis, the property definition is flagged and its data values that can no longer be referenced are considered abandoned. When upgrading an 11.1.1.x source, the abandoned records are not copied to the new repository. When upgrading an 11.1.2.x source, the abandoned records are copied to the new repository but are not displayed in the Web Client UI and a warning is displayed in the Windows Event Viewer Application log on the application server when the Data Relationship Management service is started.

  – A global property that has been referenced as a local property in the Property_Local or RM_Node_Prop_Local tables.

  – A local property that has been referenced as a global property in the Property_Global or RM_Node_Prop_Global tables.

For example, records in the 11.1.1.x Property_Local table will not be copied for property definitions that are now set as global. Likewise, records in the 11.1.1.x Property_Global table will not be copied for property definitions that are now set as local.

For the following scenarios, during repository analysis, the property definition is flagged to alert the user only. The property definition is copied to the upgraded database as it exists in the source database but should be reviewed for validity.

  – A derived global property that contains a deriver parameter that references a local property

  – A global formula property that contains a formula that references a local property in one of the following formula methods:

    * IsRangeListSubset

    * NodePropValue

    * OrigPropValue

    * ParentPropValue

    * PropControllingHier

    * PropMaxValue

    * PropMinValue

    * PropValue

    * RangeListContains

    * ReplacePropValue

    * Stuff

  – A global lookup property that points to a local property as the lookup property
Working with External Connections

External Connections are used to access server file locations, FTP locations, and database tables. You can create and apply default connections and you can apply connections individually. After you create a file connection, it can be referenced by any object that requires a file connection. For example, if you create a connection for an export, that connection is also available in the imports section. You can multi-select and apply or you can select all and apply.

For more information, see:

- Creating External Connections
- Applying External Connections

Creating External Connections

You can create external connections on a specific row in the analysis or at the top of the analysis screen in the File Connections field. In both places, you click to open the Create Connection dialog box. When you create external connections at the row level, the connection is automatically applied to the row.

To create an external connection to a server file:

1. In the File Connections field, click .
2. Enter a name for the connection and, optionally, a description.
3. For Connection Type, select Server File.
4. Enter the UNC path to the server file. Click to test the server connection.
5. Click OK.

To create an external connection to an FTP file:

1. In the File Connections field, click .
2. Enter a name for the connection and, optionally, a description.
3. For Connection Type, select FTP.
4. Enter the host server. Click to select a test the server connection.
5. Enter a valid User ID and Password for the server.
6. Click OK.

To create an external connection to a database table:

1. In the File Connections field, click .
2. Enter a name for the connection and, optionally, a description.
3. Select the database provider: Oracle or SQL Server.
4. Enter the connection string to the database server.
5. Enter a User ID and Password for the server.

Note:
You can click to test the connection to the database.

6. Click to load database tables.
7. Select database tables for the external connection.
8. Click OK.

**Applying External Connections**

Note:
When you create external connections at the row level, the connection is automatically applied to the row. For information, see Creating External Connections.

To apply external connections to objects:

1. In the File Connections field, click and select an external connection to apply.
2. Select rows to which to apply the external connection.

Note:
You can use Shift + Click and Alt + Click to select multiple rows. To apply the selected external connection to all rows, click Select All.

**Data Conversion**

The following sections describe how data is converted during an upgrade:

- Users
- Transactions
- Exports
- Imports
- External Connections
- Properties
Users

The role assigned to an ADMIN user is reset to all roles. Also, the password expiration date is reset to the current date plus the duration set in system preferences.

⚠️ Caution:

If you are upgrading 11.1.2.x applications, the password for an existing ADMIN user is not overwritten with the password entered here.

<table>
<thead>
<tr>
<th>Old User Type</th>
<th>Assigned Functional Roles</th>
</tr>
</thead>
<tbody>
<tr>
<td>System</td>
<td>Access Manager</td>
</tr>
<tr>
<td></td>
<td>Application Administrator</td>
</tr>
<tr>
<td></td>
<td>Data Manager</td>
</tr>
<tr>
<td></td>
<td>Workflow User</td>
</tr>
<tr>
<td>Functional</td>
<td>Data Manager</td>
</tr>
<tr>
<td></td>
<td>Workflow User</td>
</tr>
<tr>
<td>Security</td>
<td>Access Manager</td>
</tr>
<tr>
<td>User</td>
<td>Interactive User</td>
</tr>
<tr>
<td></td>
<td>Workflow User</td>
</tr>
</tbody>
</table>

Transactions

- The Oracle Data Relationship Management user interface displays date and time in local time and format according to the user's session. When converting timestamp values from releases prior to 11.1.2, the following rules apply:
  - Timestamps are converted to UTC using the offset of the time zone in which the Data Relationship Management Configuration Console is running. If the console is running in a time zone that is different than the time zone in which the pre-11.1.2 release source data was written, then the converted dates could be earlier or later by one or more hours.
  - Releases prior to 11.1.2 did not consistently apply daylight savings time, therefore all transaction dates are converted using the appropriate offset dictated by the time zone in which the Data Relationship Management Configuration Console is running. If the date falls in a standard time period for the time zone of the console, then the standard UTC offset is applied. If the date falls in a daylight savings time period for the time zone of the console, then the daylight savings UTC offset is applied. For example, in the Eastern time zone, the standard UTC offset is -5 hours; during daylight savings time periods, the offset is -4 hours. For all new data added after the repository is upgraded, the stored dates also reflect the applicable standard and daylight savings UTC offsets.
- Transaction records for deleted versions in the source repository are not copied to the target repository, thus the number of Transaction History records copied may not match the row count in the target RM_Transaction table.
- If you deselect versions, transactions belonging to those versions are not copied.
The Export Run transaction type stores the export name in the Object Name field instead of the Property Abbrev field.

The Data Relationship Management upgrade process uses the following transaction name mappings:

<table>
<thead>
<tr>
<th>Old Transaction Name</th>
<th>New Transaction Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Automator Run</td>
<td>Action Script Run</td>
</tr>
<tr>
<td>Migration Extract</td>
<td>Migration Export</td>
</tr>
<tr>
<td>Migration Load</td>
<td>Migration Import</td>
</tr>
<tr>
<td>Add System Category</td>
<td>Admin Add Hierarchy Group</td>
</tr>
<tr>
<td>Update System Category</td>
<td>Admin Update Hierarchy Group</td>
</tr>
<tr>
<td>Delete System Category</td>
<td>Admin Delete Hierarchy Group</td>
</tr>
</tbody>
</table>

Exports

The following sections explain how exports are upgraded:

Preview Exports

Exports that have the output mode of Preview are directly migrated to a Client File target device.

Database Exports

To use database exports, updated database connection information is required to create new External Connections. You can provide connection information for each database export, which facilitate the creation of new External Connections. If you choose to skip this step during the upgrade process, the database parameter information for the export is retained and migrated, but the output mode is set to Client File so that the export is in working order. After the system is up and running, new connections can be created and the exports can be configured to use them.

File Exports

File locations in systems prior to this release are configured in context of the client. Since the new system is a Web application, exports need to generate files based on the context of the server. For exports with the File output mode, the upgrade process allows you to provide file location information to facilitate new External Connections that map to a UNC path. If you choose to skip this step during the upgrade process, the filename is retained and migrated, but the output mode of the export is set to Client File. After the upgrade process, a proper External Connection can be created, and the export can be configured to use it.

Ancestor Exports

Ancestor exports are converted to Generation exports with appropriate settings to return the equivalent results as in the original Ancestor export.

Export Books

Export books containing file information are treated much like File Exports. During the upgrade process, you can create external connections to be used for the combined
file, Pre file and Post file for the book. If you choose to skip this step during the upgrade process, the book is set to output to a client file.

Imports

Systems prior to this release allowed users to save import file locations and log file locations in context of the client application. In this release, file locations are now saved in context of the server using an External Connection, or an import can be saved to be able to choose a local file at runtime. During the upgrade process, you are given the opportunity to supply connection information that is used to create new External Connections. If you choose to skip this step during the upgrade process, the import requires that you choose a local import file at runtime. The log file is no longer saved to a file. The import results are rendered on the page, and if desired, you can download the results.

External Connections

External connections that were added on the Analysis page are inserted in to the new database and referenced by the metadata objects for which they were selected.

Properties

The Oracle Data Relationship Management 11.1.2.1 release introduced namespaces for property definitions. The upgrade process for a pre-11.1.2.1 application automatically converts derived property formulas with explicit property name references to use the appropriate namespace prefix (Custom for user-defined properties or Core for system-defined properties).

Applying Updates to an Application

To apply updates to an existing 11.1.2.x repository:

1. Create a new application.
2. On the Repository Configuration tab, specify repository connection information for an existing 11.1.2.x repository.
3. Select the application from the Applications list.
4. From the Application menu, select Apply Updates.

Note:

The Apply Updates option is not applicable to any release prior to 11.1.2.0.x.

Manual Upgrade Tasks

Related Topics

- Upgrading Properties with Derived Property References
- Upgrading Batch Client Scripts
Upgrading API Programs

Upgrading Properties with Derived Property References

For derived property formulas from a pre-11.1.2.1 application that reference a calculated property name based on the value of other properties at run time, the formulas must be manually edited to insert the namespace prefix (Custom or Core) using the Concat function. The application upgrade process cannot identify or automatically convert derived properties of this nature since the referenced property names are only calculated during the evaluation of the formula for a node.

For example, a formula which derives the value of the property returned from the MyPropName property before upgrade:

\[ \text{PropValue(PropValue(MyPropName))} \]

The explicit property reference is updated to Custom.MyPropName after upgrade:

\[ \text{PropValue(PropValue(Custom.MyPropName))} \]

However, the value returned from the Custom.MyPropName property at runtime also needs to be identified in a particular namespace. The formula needs to be manually edited to concatenate the appropriate namespace in order for the outer PropValue function to evaluate correctly:

\[ \text{PropValue(Concat(Custom.,PropValue(Custom.MyPropName)))} \]

Upgrading Batch Client Scripts

To function properly, you must manually upgrade Batch Client scripts from releases before 11.1.2 by making these changes:

- Change the Batch Client program name to drm-batch-client.exe
- Change the URL to the Oracle Data Relationship Management application (refer to the Process Manager URL on the Host Machines tab of the Configuration Console).

See the Oracle Data Relationship Management User’s Guide for information on Batch Client parameters.

Upgrading API Programs

API programs using the 11.1.2.1 Web service API can be manually upgraded to work with the Web service API in this release. To manually upgrade, you must regenerate proxy classes, rebuild projects, and resolve build errors that may arise from changes to previously used methods and types. See "Upgrading 11.1.2.1 API Programs" in the Oracle Data Relationship Management API Guide for a list of API changes between product releases and for instructions on regenerating Web service proxy classes.

API programs used with Oracle Data Relationship Management releases prior to 11.1.2 must be manually modified to use the Web service API offered in this release. Enhancements that have been made to the Web service API are covered in the Oracle Data Relationship Management New Features. For more information on using the Web service API, see the Oracle Data Relationship Management API Guide. See "Upgrading Pre-11.1.2 API Programs" in the Oracle Data Relationship Management...
Troubleshooting

API Guide for a mapping of pre-11.1.2 API operations to those available in the Web service API for this release.

<table>
<thead>
<tr>
<th>Error</th>
</tr>
</thead>
<tbody>
<tr>
<td>DRM-61043: The following error occurred registering the application with HSS: Can't find 'com/oracle/drm/EpmRegistryclient'</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Cause</th>
</tr>
</thead>
<tbody>
<tr>
<td>In Oracle Data Relationship Management 11.1.2.2, the JAR .. \DataRelationshipManagement\server\jar\drm-epm-registry.jar was not part of the release. This was added later to provide expanded EPM Registry integration. In Data Relationship Management 11.1.2.4.x, this entry must exist in the Class Path list below the CSS Tab in the Data Relationship Management Console, and the upgrade will not auto-insert that Class Path line into the Data Relationship Management Config XML file.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Workaround</th>
</tr>
</thead>
<tbody>
<tr>
<td>Add the additional Class Path manually to the 11.1.2.4.x config in the Data Relationship Management Console. You must restart Data Relationship Management to propagate the Class Path update completely. Restarting the Data Relationship Management Console executable alone is not sufficient for the change to take effect.</td>
</tr>
</tbody>
</table>
Monitoring Data Relationship Management Applications

Oracle Data Relationship Management applications can be monitored using the Configuration Console.

Application Status

Application status information is located on the following tabs:

• **Running Processes** – You can view the computer name, name and port number of each process, the start time of the process, and memory and CPU usage for the process.

• **Loaded Versions** – You can view the name of each version, the computer name, and the engine for each version.

• **Current Sessions** – You can view the user names logged into the application, including the time of login and the time of last activity.

To view application status information:

1. Open the Oracle Data Relationship Management Configuration Console by selecting **Start**, then **Programs**, then **Oracle EPM System**, then **Data Relationship Management**, and then **Configuration Console**.

2. Select an application and then click **Application Status**. Use the tabs noted above to view information for the application.

Computer Status

Computer status information is located on the following tabs:

• **Machine Information** – You can view the computer name, operating system, version, time the computer started running, and the Oracle Data Relationship Management Windows account.

• **Running Processes** – You can view the name and port number of each process, the start time of the process, and memory and CPU usage for the process.

• **Windows Event Log** – You can view recent events, such as warnings, the source of the event, and the event message.

To view computer status information:

1. Open the Data Relationship Management Configuration Console by selecting **Start**, then **Programs**, then **Oracle EPM System**, then **Data Relationship Management**, and then **Configuration Console**.

2. Expand an application and select the computer name. Use the tabs noted above to view information for the computer.