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Upgrade Guide for Oracle Enterprise Repository

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Oracle Fusion Middleware Upgrade Guide for Oracle Enterprise Repository, 11g Release 1 (11.1.1)

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Preface

Oracle Fusion Middleware Upgrade Guide for Oracle Enterprise Repository provides information and instructions for upgrading and troubleshooting the upgrade process for Oracle Enterprise Repository.

Audience

This document is intended for Oracle Enterprise Repository system administrators who are responsible for installing, maintaining, and upgrading Oracle Enterprise Repository instances.

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Related Documents

For more information, see the following documents in the Oracle Enterprise Repository 11g Release 1 (11.1.1) documentation set:

- Oracle Enterprise Repository on OTN - The home page for Oracle Enterprise Repository on Oracle Technology Network (OTN) is:
<http://www.oracle.com/technologies/soa/enterprise-repository.html>
- Architect Center: SOA Governance: Essential to Your Business - Learn how effective SOA governance is an essential element in any enterprise transformation strategy by reading the Architect Center: SOA Governance: Essential to Your Business documents at:
<http://www.oracle.com/technology/architect/soa/soagov/index.html>
- SOA Blog - Keep on top of the latest SOA blogs at:
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Conventions

The following text conventions are used in this document:

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

Upgrading Oracle Enterprise Repository

This chapter provides an overview of the upgrade process tasks and requirements when upgrading from Oracle Enterprise Repository 10g Release 3 (10.3) and ALER 3.x versions. Use the following links for additional instructions specific to your application server.

This chapter contains the following sections:

- [Section 1.1, "Upgrade from Oracle Enterprise Repository 10g R3 to 11g R1"](#)
- [Section 1.2, "Upgrade Oracle Enterprise Repository Workflows"](#)

1.1 Upgrade from Oracle Enterprise Repository 10g R3 to 11g R1

You can upgrade from Oracle Enterprise Repository 10.3 to Oracle Enterprise Repository 11g R1. This section contains the following topics:

- [Section 1.1.1, "Upgrade Process"](#)
- [Section 1.1.2, "Tomcat Application Upgrade"](#)
- [Section 1.1.3, "WebLogic Server Application Upgrade"](#)
- [Section 1.1.4, "WebSphere Application Upgrade"](#)

1.1.1 Upgrade Process

To upgrade from Oracle Enterprise Repository 10.3 to Oracle Enterprise Repository 11g, perform the following steps:

1. Backup the existing Oracle Enterprise Repository database.
2. Encrypt clear text passwords within the existing `database.properties` and `ldap.properties` files by using the Oracle Enterprise Repository diagnostic tool.
 - Also, encrypt the `activemq.xml` and `EndPointEventSubscription.xml` files that contain the password properties and are found at the `oer-app/WEB-INF/classes` directory.
 - If you are upgrading from ALER 3.x, then change the `<sub:uri>` element in the `EndPointEventSubscription.xml` file, which represents the service URI for the supported server, to the following

uncomment the following line:

```
<sub:uri>albpmServices/aler_  
engine/ws/StatusChangeEndpointServiceListener</sub:uri>
```

and comment the following line:

```
<sub:uri>fuegoServices/ws/StatusChangeEndpointServiceListe  
ner</sub:uri>
```

- Encrypt the passwords in the `workflow.xml`, which can be found at `<Oracle_Home>\obpm\enterprise\server\aler_engine`, and then backup this file.
3. Backup existing Oracle Enterprise Repository application deployment:
 - It is recommended that you backup the entire `<BEA_HOME>`. This backup is necessary for some post-installation tasks, in addition to the application server upgrade.
 - For clustered deployments, each node of the cluster should be separately backed up as all nodes would need to have Oracle Enterprise Repository upgraded. For more information, see *Oracle Fusion Middleware Installation Guide for Oracle Enterprise Repository*.
 4. Verify required platforms and version information (including JDBC Driver version support), using [Table 1–1](#), which describes the supported JDBC Driver file names for Oracle Enterprise Repository 11g as well as its mapping to the appropriate application server.

Table 1–1 Oracle Enterprise Repository 11g Supported JDBC Driver Information

| App Server JDK Version | Oracle JDBC | Oracle Driver Version | UDB JDBC | UDB Driver Version | SQL Server JDBC | SQL Driver Version |
|---------------------------|----------------|--------------------------|--|-----------------------|--------------------|-----------------------|
| 1.5.x | ojdbc5.jar | 11.1.0.7.0-Production | db2jcc.jar db2jcc_license_cu.jar db2jcc4.jar | 3.50.152 | sqljdbc4.jar | 2.0.1803.100 |
| 1.6.x | ojdbc6.jar | 11.1.0.7.0-Production | db2jcc.jar db2jcc_license_cu.jar db2jcc4.jar | 3.50.152 | sqljdbc4.jar | 2.0.1803.100 |

Note: A patch would be required for AIX, which would be available in tools/solutions as a zip file that can be dropped on the server.

5. Uninstall Oracle Enterprise Repository 10.3.
6. Run the Oracle Enterprise Repository 11g product installer.

Note: Run the database configuration assistant at the end of the Oracle Enterprise Repository installer process.

For more information about running the product installer, see *Oracle Fusion Middleware Installation Guide for Oracle Enterprise Repository*.

7. Restore the Oracle Enterprise Repository backup files from the previous Oracle Enterprise Repository deployment to the newly installed Oracle Enterprise Repository 11g version, including:
 - The Oracle Enterprise Repository property files

If you are using LDAP, then confirm that the Enable LDAP Login option is set to True and verify the LDAP Configuration settings. If you are using SSO, then confirm that the Enable Advanced Container Login option is set to True and

verify the Advanced Container Configuration settings. If your LDAP or SSO configurations are not set correctly, then you will not be able to authenticate with the Oracle Enterprise Repository application.

The property value for the LDAP authentication feature is:

```
enterprise.authentication.ldap.enabled=true
```

For Container Managed Authentication:

```
enterprise.authentication.container.enabled=true
enterprise.authentication.container.synchroles.enabled=true/false
(dependent on customer need)
```

For SSO:

```
enterprise.authentication.advancedcontainer.enabled=true
```

These properties should be enabled (as appropriate) and saved within the *oer/WEB-INF/classes/enterprise.properties* file.

- Any custom files, such as custom home pages, images, XSLT templates, upload files, and any other customer-related files.

Note:

- For more information about performing encryption for passwords, see [Section 2.6.4, "Creating Encrypted Passwords"](#).
 - If you have moved settings to database, then see [Section 2.3.2, "Move Settings to Database"](#).
-
-

8. Start your application server.
9. Verify the application deployment using Oracle Enterprise Repository diagnostics. For more information about enabling the Oracle Enterprise Repository diagnostics tools, see [Section 2.6.3, "Enable the Oracle Enterprise Repository Diagnostics Tool"](#).

Note: No database operations are required for this upgrade.

1.1.2 Tomcat Application Upgrade

Note: Tomcat is no longer supported in Oracle Enterprise Repository 11g Release 1 (11.1.1). You may upgrade on Tomcat at your own risk. It is suggested that you move to a supported Application Server as soon as reasonable. For a complete list of supported servers, see http://www.oracle.com/technology/software/products/ias/files/fusion_certification.html

These instructions enable you to upgrade from Oracle Enterprise Repository 10.3 to Oracle Enterprise Repository 11g on Tomcat using the Oracle Products installation program.

This section contains the following topics:

- [Section 1.1.2.1, "Prerequisites"](#)

- [Section 1.1.2.2, "Create an Oracle Enterprise Repository Temp Directory"](#)
- [Section 1.1.2.3, "Back Up the Current Oracle Enterprise Repository Webapps"](#)
- [Section 1.1.2.4, "Uninstall AquaLogic Enterprise Repository 3.x or Oracle Enterprise Repository 10.3"](#)
- [Section 1.1.2.5, "Run the Oracle Products Installation Program"](#)
- [Section 1.1.2.6, "Post-Installation Instructions"](#)
- [Section 1.1.2.7, "Restore the Oracle Enterprise Repository Back Up Files"](#)
- [Section 1.1.2.8, "Start Application Server"](#)
- [Section 1.1.2.9, "Test the Application"](#)

1.1.2.1 Prerequisites

To upgrade from ALER 3.x or Oracle Enterprise Repository 10.3 to Oracle Enterprise Repository 11g on Tomcat, you must ensure you have the following prerequisites:

- Refer to the password encryption requirements section prior to performing upgrade steps. For more information, see [Section 2.6.4, "Creating Encrypted Passwords"](#).
- Please reference the Supported Configurations list for the most recent information regarding your application server version.
- Ensure that the application server is stopped.
- If the installed application server version is no longer supported by Oracle Enterprise Repository, or the application server has been upgraded to a newer version, then perform the application upgrade instructions for the application server side.
- The directory where Tomcat is installed on your system is referenced in these instructions as `CATALINA_HOME`.
- The web application context that is being upgraded is referenced in these instructions as `CATALINA_HOME/webapps/oyer`.
- The web content context that is being upgraded is referenced in these instructions as `CATALINA_HOME/webapps/oyer-web`.
- If BPM is in use, then ensure that you backup the BPM Database.
- Backup the existing Oracle Enterprise Repository database

1.1.2.2 Create an Oracle Enterprise Repository Temp Directory

On the Tomcat server, create a directory named `oyer_temp`. This directory will contain the backup copies of the current Oracle Enterprise Repository application. This will also serve as a temporary location for properties files, JDBC drivers, and any customized Oracle Enterprise Repository items (`home.jsp` for example) that are required for the new application.

1.1.2.3 Back Up the Current Oracle Enterprise Repository Webapps

Navigate to the Tomcat installation location `CATALINA_HOME/webapps` and copy the existing `oyer` and `oyer-web` application directories into the `oyer_temp` directory.

1.1.2.4 Uninstall AquaLogic Enterprise Repository 3.x or Oracle Enterprise Repository 10.3

Use the Oracle Enterprise Repository 10.3 Installer to remove all components of the previous release. For more information, see "Uninstalling the Software" in *Oracle Fusion Middleware Installation Guide for Oracle Enterprise Repository*.

1.1.2.5 Run the Oracle Products Installation Program

To run the Oracle Products Installation program, perform the following steps:

1. When prompted for the Tomcat (Catalina) Home directory, supply the directory where Tomcat has been installed.
2. When prompted for the Repository application name, you can use the same application name that the previous deployment had used.
3. When prompted for the Port number, use the same port number that the previous deployment had used.
4. If you encounter a "One or more installation directories are not empty. Proceed with installation?" message, then select **YES**. This is applicable only when re-installing the same version.

The installer will overwrite the existing deployment with the new files, thus preserving any additional custom files (such as an upload repository directory, custom home pages, etc.). However, if you select No, then the existing deployment is saved to a new context path and the application content is stored in a new directory.

1.1.2.6 Post-Installation Instructions

After the Oracle Enterprise Repository installation is completed, and you have selected to use the Generic Application Server option, then you are left with a `$MIDDLEWARE_HOME/repository111/generic` directory.

You will find the EAR file containing the Oracle Enterprise Repository application within this directory. This file and the contained WAR files have to be unzipped into the `CATALINA_HOME/webapps` directory then renamed to match the previous ALER/OER context name.

1.1.2.7 Restore the Oracle Enterprise Repository Back Up Files

To restore the Oracle Enterprise Repository backup files from Tomcat to your Oracle Enterprise Repository 11g deployment, perform the following steps:

1. Navigate to the `oer_temp` directory.
2. Edit the `oer_temp/oer/WEB-INF/classes/enterprise.properties` file by adding the following properties to the end of the file:


```
enterprise.authentication.ldap.enabled=true
enterprise.authentication.container.enabled=true
enterprise.authentication.advancedcontainer.enabled=true
```
3. Copy the `oer_temp/oer/WEB-INF/classes/*.xml` files to the `OER_DEPLOYMENT_DIRECTORY/oer/WEB-INF/classes` directory. This action overwrites the XML files that are a part of the new install.
4. Copy the `oer_temp/oer/WEB-INF/classes/*.properties` files to the `OER_DEPLOYMENT_DIRECTORY/oer/WEB-INF/classes` directory. This action overwrites the properties files that are a part of the new install.

5. Copy the supported JDBC Driver jar files to the *OER_DEPLOYMENT_DIRECTORY/oeer/WEB-INF/lib* directory.
6. Copy the *oer_temp/oeer/custom/home.jsp* (and/or all of the custom home pages) to the *OER_DEPLOYMENT_DIRECTORY/oeer/custom* directory. This overwrites the existing *home.jsp* file that is part of the new install. In addition, copy any custom images that were included in the custom home page(s) to the appropriate directory.
7. If you are using any custom Type icons, then copy the files from the *oer_temp/oeer-web/images/tree/enterprise/asset* directory to the *OER_DEPLOYMENT_DIRECTORY/oeer-web/images/tree/enterprise/assets* directory.
8. If custom reports were created, then see [Section 2.1, "Migrating Custom Reports"](#).
9. Copy/Move the Upload Repository directory (normally found in *oer_temp/oeer/custom/upload*) into the new *OER_DEPLOYMENT_DIRECTORY/oeer/custom* installation directory.

1.1.2.8 Start Application Server

If you are using LDAP, then confirm that the Enable LDAP Login option is set to True and verify the LDAP Configuration settings. If you are using SSO, then confirm that the Enable Advanced Container Login option is set to True and verify the Advanced Container Configuration settings. If your LDAP or SSO configurations are not set correctly, then you will not be able to authenticate with the Oracle Enterprise Repository application.

1. Navigate to the application server's JSP cache directory and delete the cache for the ALER/Oracle Enterprise Repository application.
2. Start the generic application server.

Note: For more information about performing encryption for passwords, see [Section 2.6.4, "Creating Encrypted Passwords"](#).

1.1.2.9 Test the Application

Oracle Enterprise Repository is now deployed. It is recommended that you test the installation through the use of the Oracle Enterprise Repository Diagnostics page and the recommended tests are as follows:

1. On the Oracle Enterprise Repository Diagnostics page
 - Product Version Information
 - Test Required Libraries
 - Test Database
2. If you are unable to access the Oracle Enterprise Repository login page or application, or if you see an error message of some kind, it may be possible that the *db.password* property in the *database.properties* file was not encrypted. Please check the **cmee.log** file for any messages that explains this behaviour.

For more information about enabling the Oracle Enterprise Repository diagnostics tools, see [Section 2.6.3, "Enable the Oracle Enterprise Repository Diagnostics Tool"](#).

1.1.3 WebLogic Server Application Upgrade

These instructions enable you to upgrade from ALER 3.x to Oracle Enterprise Repository 10.3 on WebLogic Server using the Oracle Enterprise Repository 11g Release 1 (11.1.1) installation program.

This section contains the following topics:

- [Section 1.1.3.1, "Prerequisites"](#)
- [Section 1.1.3.2, "Create Oracle Enterprise Repository Temp Directory"](#)
- [Section 1.1.3.3, "Back Up the Current ALER Webapps"](#)
- [Section 1.1.3.4, "Remove Current Oracle Enterprise Repository Installation Files"](#)
- [Section 1.1.3.5, "Uninstall ALER 3.x/Oracle Enterprise Repository 10.3"](#)
- [Section 1.1.3.6, "Run the Oracle Enterprise Repository Installation Program"](#)
- [Section 1.1.3.7, "Post-Installation Instructions"](#)
- [Section 1.1.3.8, "Restore the Oracle Enterprise Repository Back Up Files"](#)
- [Section 1.1.3.9, "Start WebLogic Server"](#)
- [Section 1.1.3.10, "Test the Application"](#)

1.1.3.1 Prerequisites

To upgrade from ALER 3.x or Oracle Enterprise Repository 10.3 to Oracle Enterprise Repository 11g on WebLogic Server, you must ensure you have the following prerequisites:

- Oracle Enterprise Repository 11g requires WebLogic Server 11g. If the currently installed Oracle Enterprise Repository application is not running on the required version, then upgrade the application server or install the supported version of WebLogic Server into a separate Oracle Home directory.
- It is assumed that the Oracle Enterprise Repository domain is installed within the default location of *BEA_HOME/user_projects/domains/applications/<domain_name>/applications/oe_XXX/oe_app*. If the Oracle Enterprise Repository domain is installed in a different location, then make the appropriate adjustments to these instructions.
- Refer to the password encryption requirements section prior to performing upgrade steps. For more information, see [Section 2.6.4, "Creating Encrypted Passwords"](#).
- Stop the WebLogic server before performing these steps.
- If BPM is in use, then ensure that you backup the BPM Database.
- Backup the existing Oracle Enterprise Repository database

1.1.3.2 Create Oracle Enterprise Repository Temp Directory

To create an Oracle Enterprise Repository temp directory:

On WebLogic Server, create a directory named `oe_temp`. This directory is used to backup the current Oracle Enterprise Repository application. This location is used as a temporary location for properties files, JDBC drivers, and any customized Oracle Enterprise Repository items (`home.jsp`, for example) that are necessary for the new application.

1.1.3.3 Back Up the Current ALER Webapps

Back-up the current Oracle Enterprise Repository domain by navigating to the `BEA_HOME/user_projects/domains/applications/<domain_name>/applications/oyer_XXX/oyer_app` directory and copy the `oyer-app` and `oyer-web` directories to the `oyer_temp` directory.

Note: The Oracle Product installer provides an application template to create a new or extend an existing domain with the Oracle Enterprise Repository 11g application. Therefore, the existing domain will no longer be used.

1.1.3.4 Remove Current Oracle Enterprise Repository Installation Files

Caution: Perform this step only after completing backup of the directory, as described in [Section 1.1.3.3, "Back Up the Current ALER Webapps"](#).

If you wish to use the same domain name, then rename /remove the current Oracle Enterprise Repository domain. For example, `BEA_HOME/user_projects/domains/<domain_name>` to `BEA_HOME/user_projects/domains/old_<domain_name>`.

1.1.3.5 Uninstall ALER 3.x/Oracle Enterprise Repository 10.3

Use the ALER 3.x or Oracle Enterprise Repository 10.3 removal tool to remove all components of the previous release. For more information, see "Uninstalling the Software" in *Oracle Fusion Middleware Installation Guide for Oracle Enterprise Repository*.

1.1.3.6 Run the Oracle Enterprise Repository Installation Program

To run the Oracle Enterprise Repository Installation program, perform the following steps:

1. When prompted for the Middleware Home directory, supply the directory where the WebLogic Server 11g is installed.
2. When prompted for the Fully qualified server name, supply the fully qualified host name of the server that this domain is being installed on.
3. When prompted for the Repository application name, you can use the same application name that the previous deployment had used.
4. When prompted for the Port number, you can use the same port number that the previous deployment had used.

1.1.3.6.1 Oracle Enterprise Repository Database Installation

When the installer prompts for database installation, choose the option to NOT configure the database.

1.1.3.7 Post-Installation Instructions

The Oracle Enterprise Repository application is now distributed as a bundled WLS application domain template. To deploy the Oracle Enterprise Repository application template, perform the following tasks:

1. Start the WLS Domain Configuration Wizard using `BEA_HOME/wlserver_10.3/common/bin/config.sh` or `.cmd`
2. Create a new WebLogic Domain, and then click **Next**.
3. Choose Generate a domain configured automatically to support the following products. Check Oracle Enterprise Repository 11.1.1.2.0, and then click **Next**.
4. Enter an appropriate domain name. Use the default locations for the domain and application locations unless you are experienced with these types of definitions. Click **Next**.
5. Supply the Appropriate user credentials required to start/stop the domain processes, and then click **Next**.
6. Select the appropriate JDK and production mode (defaults to JRockit JDK in production mode) for this domain, and then click **Next**.
7. There is no need to modify the optional configuration elements if Oracle Enterprise Repository is a standalone domain (not extending an existing domain - recommended). Click **Next**.
8. Review the configuration information for this new Oracle Enterprise Repository domain, and then click the **Create** button.

The Oracle Enterprise Repository application is deployed within the newly created domain in the directories specified in step 4. This directory path will be referenced later to restore existing property and JDBC Driver files.

1.1.3.8 Restore the Oracle Enterprise Repository Back Up Files

To restore the Oracle Enterprise Repository backup files from WebLogic to your Oracle Enterprise Repository 11g deployment, perform the following steps:

1. Navigate to the `oer_temp` directory.
2. Edit the `oer_temp/oer/WEB-INF/classes/enterprise.properties` file by adding the following properties to the end of the file:


```
enterprise.authentication.ldap.enabled=true
enterprise.authentication.container.enabled=true
enterprise.authentication.advancedcontainer.enabled=true
```
3. Copy the `oer_temp/oer-app/WEB-INF/classes/*.xml` files to the `BEA_HOME/user_projects/applications/<domain>/oer_11.1.1.2.0/applications/oer-app/WEB-INF/classes` directory. This action overwrites the XML files that are a part of the new install.
4. Copy the `oer_temp/oer-app/WEB-INF/classes/*.properties` files to the `BEA_HOME/user_projects/applications/<domain>/oer_11.1.1.2.0/applications/oer-app/WEB-INF/classes` directory. This action overwrites the `.properties` files that are a part of the new install. If a `.properties` file exists in the new deployment, and does not exist in the backup, then this may indicate a "Move Setting to Database" operation in the past. These `.properties` files should be deleted from the upgraded instance. For more information about moving settings to database, see [Section 2.3.2, "Move Settings to Database"](#).
5. Copy the `oer_temp/oer/custom/home.jsp` (and/or all of the custom home pages) to the `BEA_HOME/user_projects/applications/<domain>/oer_11.1.1.2.0/applications/oer-app/custom` directory. This overwrites the existing `home.jsp` file that is part of the new install. In addition, copy any custom images that were included in the custom home page(s) to the appropriate directory.

6. If using any custom Type icons, copy the files from the `oer_temp/oer-web/images/tree/enterprise/asset` directory to the `BEA_HOME/user_projects/applications/<domain>/oer_11.1.1.2.0/applications/oer-web/images/tree/enterprise/asset` directory.
7. If custom reports were created, see the [Section 2.1, "Migrating Custom Reports"](#) section.
8. Copy/Move the Upload Repository directory (normally found in `oer_temp/oer/custom/upload`) into the new `BEA_HOME/user_projects/applications/<domain>/oer_11.1.1.2.0/applications/oer-app/custom/upload` installation directory.

1.1.3.9 Start WebLogic Server

If you are using LDAP, then confirm that the Enable LDAP Login option is set to `True` and verify the LDAP Configuration settings. If you are using SSO, then confirm that the Enable Advanced Container Login option is set to `True` and verify the Advanced Container Configuration settings. If your LDAP or SSO configurations are not set correctly, then you will not be able to authenticate with the Oracle Enterprise Repository application.

1. Start the WebLogic Administration Server (required to be running before the Oracle Enterprise Repository managed server can be started):

```
BEA_HOME/user_projects/domains/<domain>/startWebLogic.sh or *.cmd
```

2. Start the Oracle Enterprise Repository Managed Server:

```
BEA_HOME/user_projects/domains/<domain>/bin/startManagedWebLogic.sh oer_server1 http://localhost:7001
```

1.1.3.10 Test the Application

Oracle Enterprise Repository 11g is now deployed. It is recommended that you test the installation through the use of the Oracle Enterprise Repository Diagnostics page and the recommended tests are:

1. On the Oracle Enterprise Repository Diagnostics page
 - Product Version Information
 - Test Required Libraries
 - Test Database
2. Update the following Oracle Enterprise Repository properties that reference the application server file system paths:

```
cmee.asset.xml.paths.export-destination
```

```
cmee.asset.xml.paths.xsl-source
```

```
cmee.asset.xml.paths.out-destination
```

```
cmee.server.paths.upload
```

```
cmee.extframework.export.tempfile
```

Additional properties that are effected by the deployment of Oracle Enterprise Repository are:

```
cmee.server.paths.upload-registrar
```

The application server based FTP, HTTP, HTTPS and SMB/CIFS artifact store definitions are also effected by the change in paths based on the WLS application template configuration process.

Ensure you take a special note of these types of artifact stores and update the configurations appropriately.

3. If you are unable to access the Oracle Enterprise Repository login page or application, or if you see an error message of some kind, it may be possible that the `db.password` property in the `database.properties` file was not encrypted. Please check the `cmee.log` file for any messages that explains this behaviour.

For more information about enabling the Oracle Enterprise Repository diagnostics tools, see [Section 2.6.3, "Enable the Oracle Enterprise Repository Diagnostics Tool"](#).

1.1.4 WebSphere Application Upgrade

These instructions enable you to upgrade from Oracle Enterprise Repository 10.3 to Oracle Enterprise Repository 11g on WebSphere using the Oracle Products installation program. These instructions assume use of the Application Server profile type. For other profile types, modify the configuration according to your environment's requirements.

This section contains the following topics:

- [Section 1.1.4.1, "Prerequisites"](#)
- [Section 1.1.4.2, "Create Oracle Enterprise Repository Temp Directory"](#)
- [Section 1.1.4.3, "Back Up the Current Oracle Enterprise Repository Webapps"](#)
- [Section 1.1.4.4, "Remove Current ALER/OER Installation Files"](#)
- [Section 1.1.4.5, "Uninstall Oracle Enterprise Repository 10.3"](#)
- [Section 1.1.4.6, "Run the Oracle Enterprise Repository Installation Program"](#)
- [Section 1.1.4.7, "Install New Application Files"](#)
- [Section 1.1.4.8, "Restore the Oracle Enterprise Repository Back Up Files"](#)
- [Section 1.1.4.9, "Start WebSphere"](#)
- [Section 1.1.4.10, "Test the Application"](#)

1.1.4.1 Prerequisites

To upgrade from Oracle Enterprise Repository 10.3 to Oracle Enterprise Repository 11g on WebSphere, you must ensure you have the following prerequisites:

- When using WebSphere 6.1.0.5 with Oracle 11g database server, ensure that you use the `ojdbc5.jar` JDBC driver for Oracle Database servers in order to maintain compatibility with the IBM WebSphere 1.5.x JDK.
- Oracle Enterprise Repository requires WebSphere version 6.1.0.5. If the currently installed Oracle Enterprise Repository application is not running on the required version, then upgrade the application server as appropriate.
- The current deployment directory containing the Oracle Enterprise Repository application is referred to as `oer_current` (this directory will normally be located in the following directory:

```
WAS_  
HOME/AppServer/profiles/AppSrv01/installedApps/localhostNode0  
1Cell/installedApps/oe.r.ear.
```

- Once the upgrade process is complete, the Oracle Enterprise Repository property files, XML files, and JDBC driver files will be located within a new `BEA_HOME/repositoryXXX/websphere` directory.
- Backup the existing ALER database

1.1.4.2 Create Oracle Enterprise Repository Temp Directory

On the WebSphere server, create a directory named `oer_temp`. This directory will contain backups of the current Oracle Enterprise Repository application properties files, JDBC drivers, and any customized Oracle Enterprise Repository items (`home.jsp` for example) that are necessary for the new application.

1.1.4.3 Back Up the Current Oracle Enterprise Repository Webapps

To back up the current Oracle Enterprise Repository webapps, perform the following steps:

1. Copy the contents of the current `OER_HOME` shared library directory contents to the `oer_temp` directory. The `oer_temp` directory should then contain all of the original Oracle Enterprise Repository properties files, XML files, and your current JDBC driver JAR files.
2. Edit the `oer_temp/oe/WEB-INF/classes/enterprise.properties` file by adding the following properties to the end of the file:

```
enterprise.authentication.ldap.enabled=true  
enterprise.authentication.container.enabled=true  
enterprise.authentication.advancedcontainer.enabled=true
```
3. Refer to the password encryption requirements section prior to performing upgrade steps. For more information, see [Section 2.6.4, "Creating Encrypted Passwords"](#).
4. If you have a customized Oracle Enterprise Repository home page, navigate to the `oer_current/oe-app.war/custom` directory and copy the `home.jsp` file to the `oer_temp` directory. If you have used the Role or Department based home pages, then copy those files from the directory that is indicated within the `oer_current/oe-app.war/WEB-INF/classes/homepages.xml` file.
5. Copy any custom images that are used in the custom home page file(s) to the `oer_temp` directory.
6. If you have any custom Asset Type icons, navigate to the `oer_current/oe-web.war/images/tree/enterprise/asset` directory and copy the images to the `oer_temp` directory.
7. Optionally, copy all XSLT templates from the PDF Printing web-application to the `oer_temp` directory. This web application is bundled directly into the core of the Oracle Enterprise Repository product.
8. Copy any additional files or directories that were included or modified from the base Oracle Enterprise Repository installation into the `oer_temp` directory.

1.1.4.4 Remove Current ALER/OER Installation Files

To remove the current Oracle Enterprise Repository installation files, perform the following steps:

1. Start the WebSphere 6.1.0.5 Administrative Console.
2. Expand the **Applications** -> **Enterprise Applications** folder and select the **ALER/OER** option.
3. Click **Stop**.
4. Select the **ALER/OER** option.
5. Click **Uninstall**.
6. Select the **ALER/OER** option.
7. Click **Remove**.
8. Repeat the above steps to remove the PDF Printing web-application (if present). This feature has been bundled within the Oracle Enterprise Repository base application.
9. Save the changes to the Master Configuration when prompted.
10. Stop WebSphere Server.
11. Associate Shared Libraries with Oracle Enterprise Repository 11g, as follows:
 - a. Expand the **Applications, Enterprise Applications** folder and click the **Oracle Enterprise Repository 11g** installation.
 - b. Choose the **Shared Library References** link.
 - c. Select the **oer-app.war** application.
 - d. Click the **Reference Shared Libraries** button.
 - e. Select the appropriate shared library definitions.
 - f. Click the Right Arrow button to move the definitions to the selected box on the right.
 - g. Click **OK** to save the selected references.

Edit the path of the existing Oracle Enterprise Repository shared library containing the property files. The new path for this library will be *BEA_HOME/repository111/websphere*.

The existing property files are copied into this location once the Oracle Enterprise Repository 11g installation is completed.

Note: For more information about configuring workflows, see *Oracle Fusion Middleware Configuration Guide for Oracle Enterprise Repository*.

1.1.4.5 Uninstall Oracle Enterprise Repository 10.3

Use the Oracle Enterprise Repository 10.3 Installer to remove all components of the previous release. For more information, see "Uninstalling the Software" in *Oracle Fusion Middleware Installation Guide for Oracle Enterprise Repository*.

1.1.4.6 Run the Oracle Enterprise Repository Installation Program

To run the Oracle Products Installation program, perform the following steps:

1. When prompted for the Repository application name, use the same application name that the previous deployment had used.
2. When prompted for the Port number, use the same port number that the previous deployment had used.

The Oracle Products installer will generate a deployable EAR file, thus allowing you to quickly and easily install the updated version of the application directly from the application server's file system. It will also create and deploy the Oracle Enterprise Repository Workflow application components appropriately.

1.1.4.7 Install New Application Files

To install new application files in Oracle Enterprise Repository, perform the following steps:

1. Start WebSphere Server.
2. Start the WebSphere Administrative Console.
3. Expand the **Applications** -> **Enterprise Applications** folder and click **Install**.
4. Choose the option to select a Remote Filesystem (this option is relative to the application server), browse to the `BEA_HOME/repository111/websphere` directory, and select the `oer.ear` file.
5. Select the Prompt me only when additional information is required option and click **Next** to continue.
6. On the Select Installation Options page, click **Next** to continue after making the appropriate changes.
7. On the Map modules to servers page, click **Next** to continue after making the appropriate changes.
8. On the Map virtual hosts for Web modules page, click **Next** after making the appropriate changes.
9. On the Deployment summary page, click **Finish** to deploy the EAR file.

Note: This process may take several minutes.

10. After the installation is finished, the Application installed successfully message is displayed.
11. Click **Save** to Master Configuration when prompted.
12. Stop WebSphere Server.

1.1.4.8 Restore the Oracle Enterprise Repository Back Up Files

These steps will modify files deployed by the newly installed version of Oracle Enterprise Repository with files from the backup and the previously installed version.

1. If you have a customized Oracle Enterprise Repository home page(s), use the Update feature of WebSphere to replace the deployed `custom/home.jsp` file with the customized version of `home.jsp` in the backup.
2. Copy any custom images that may be part of the `home.jsp` file to the appropriate directory.
3. If you use custom asset icon images, then use the Update feature.
4. If custom reports were created, then see the [Section 2.1, "Migrating Custom Reports"](#) section.
5. If additional files were included or modified in the original Oracle Enterprise Repository install, consult Oracle Technical Support for assistance with inclusion of these additions into Oracle Enterprise Repository 10.3.

6. Copy all previous property files from the oer_temp to the BEA_HOME/repository111/websphere directory.
7. Copy all previous XML files from the oer_temp to the BEA_HOME/repository111/websphere directory.
8. Copy the currently supported JDBC Driver files into the BEA_HOME/repository111/websphere directory.

1.1.4.9 Start WebSphere

If you are using LDAP, then confirm that the Enable LDAP Login option is set to True and verify the LDAP Configuration settings. If you are using SSO, then confirm that the Enable Advanced Container Login option is set to True and verify the Advanced Container Configuration settings. If your LDAP or SSO configurations are not set correctly, then you will not be able to authenticate with the Oracle Enterprise Repository application.

1. Navigate to the WebSphere_HOME/AppServer/temp/ directory and delete the cache for the Oracle Enterprise Repository application.
2. Restart WebSphere.

1.1.4.10 Test the Application

Oracle Enterprise Repository is now deployed. It is recommended that you test the installation through the use of the Oracle Enterprise Repository Diagnostics page and the recommended tests are as follows:

1. On the Oracle Enterprise Repository Diagnostics page
 - Product Version Information
 - Test Required Libraries
 - Test Database
2. Update the following Oracle Enterprise Repository properties that reference the application server file system paths:

```
cme.asset.xml.paths.export-destination
```

```
cme.asset.xml.paths.xsl-source
```

```
cme.asset.xml.paths.out-destination
```

```
cme.server.paths.upload
```

```
cme.extframework.export.tempfile
```

Additional properties that are effected by the deployment of Oracle Enterprise Repository are:

```
cme.server.paths.upload-registrar
```

The application server based FTP, HTTP, HTTPS and SMB/CIFS artifact store definitions are also effected by the change in paths based on the WLS application template configuration process.

Ensure you take a special note of these types of artifact stores and update the configurations appropriately.

3. If you are unable to access the Oracle Enterprise Repository login page or application, or if you see an error message of some kind, it may be possible that the db.password property in the database.properties file was not

encrypted. Please check the `cmee.log` file for any messages that explains this behaviour.

1.2 Upgrade Oracle Enterprise Repository Workflows

It is highly recommended that the currently delivered workflows be deployed instead of using the versions delivered in a previous release. The previous version of workflows are not supported with Oracle Enterprise Repository 11g.

The Oracle Enterprise Repository version 11g contains new and updated workflows that require the use of Oracle BPM Enterprise version 10.3.1. The earlier versions of the Oracle Enterprise Repository had been delivered with a runtime edition of OBPM 10g R3. The currently delivered version of the workflows are incompatible with the OBPM 10g R3 engine and, therefore, requires a new installation of OBPM Enterprise version 10.3.1 or upgrading existing OBPM installation to version 10.3.1 using BPM or upgrading existing OBPM installation to version 10.3.1 using Standard BPM upgrade procedure.

1.2.1 Upgrading Existing Oracle Enterprise Repository Workflows

You can upgrade existing Oracle Enterprise Repository workflows and these workflows contain all of the Oracle Enterprise Repository workflow processes in addition to new processes surrounding UDDI operations. If customized workflows have been deployed for use with Oracle Enterprise Repository, then it is recommended that these customizations be upgraded using OBPM 10.3 studio.

It is recommended that you regenerate `workflow.xml` after Oracle Enterprise Repository 11g is deployed. This ensures that generated `workflow.xml` contains correct metadata, for example, categorizations, users etc. Once generated, it should be updated for correct registrar credentials and correct Oracle Enterprise Repository URL. Lastly, it should be updated for any custom event wiring, which is a manual step. It is also recommended that you thoroughly test it before deployment.

For information about installation of the workflows within OBPM 10.3, see *Oracle Fusion Middleware Configuration Guide for Oracle Enterprise Repository*.

Note: The deployment of custom or customized workflows is outside the scope of this document.

Post Installation Tasks

This chapter provides an overview of the upgrade process tasks and requirements when upgrading from Oracle Enterprise Repository 10.3 to Oracle Enterprise Repository 11g.

This chapter contains the following sections:

- [Section 2.1, "Migrating Custom Reports"](#)
- [Section 2.2, "Configuring Oracle Enterprise Repository Reports"](#)
- [Section 2.3, "Customizations"](#)
- [Section 2.4, "Oracle Enterprise Repository Legacy Eclipse Plug-in Uninstallation"](#)
- [Section 2.5, "Install Oracle Enterprise Repository Eclipse Plug-in on Client Workstations"](#)
- [Section 2.6, "Utilizing the Diagnostic Testing Tool"](#)

2.1 Migrating Custom Reports

You need to edit the `CustomReports.xml` file, as mentioned in the steps below:

1. Navigate to the `./WEB-INF/config/reports/` directory on the application server.
2. Open the `customreports.xml` file in a text editor.
3. Edit the meta-tags for report name, display name, description, and external to reference a custom report.

2.2 Configuring Oracle Enterprise Repository Reports

This section describes an overview of Business Intelligence (BI) Publisher and the process of installing it.

Oracle Business Intelligence Publisher is required by Oracle Enterprise Repository to run the reports, which are available on the Oracle Enterprise Repository reports page.

You can install the BI Publisher Enterprise Server with the default installation option, which installs a OC4J server. You can also deploy the BI Publisher Enterprise Server on your other application servers, such as WebLogic, WebSphere, etc. The recommended BI Publisher version is 10.1.3.4.1.

If BI Publisher is used only with Oracle Enterprise Repository, then the Oracle Enterprise Repository pre-configured BI Publisher content is used. The Basic type of BI

Publisher installation is recommended. For information about installing BI Publisher, see http://download.oracle.com/docs/html/B25825_01/toc.htm.

Note: The patch 9021224 is also required and must be applied to the BI Publisher server.

Oracle Enterprise Repository includes a collection of pre-configured BI Publisher content. This content needs to be deployed and configured prior to running any Oracle Enterprise Repository reports.

For more information about deploying Oracle Enterprise Repository pre-configured BI Publisher content, see the "Configuring BI Publisher Enterprise Server" in the *Oracle Fusion Middleware Configuration Guide for Oracle Enterprise Repository*.

2.3 Customizations

An installation of Oracle Enterprise Repository 10.3 may have several customizations that are unique to that installation. These are not limited to, but may include:

- Open API programs written against the REX interface
- BPM Workflows
- Endpoint Event Subscriptions
- Eventing for WebSphere Application Server
- Clustering
 - See [Section 2.3.2, "Move Settings to Database"](#)
- Application Properties Moved to Database

2.3.1 General Instructions

For all of the customizations mentioned in the Overview section, the customization should be repeated on Oracle Enterprise Repository 11g, following the successful upgrade.

2.3.2 Move Settings to Database

As part of clustering configuration and some other customizations, the Move Settings to Database option in Oracle Enterprise Repository copies the System Settings out of the property files in to the Database. During the Upgrade process some property files have been restored to their default configuration. These should be removed from the upgraded Oracle Enterprise Repository instance again.

The Oracle Enterprise Repository System Settings section contains all of the configuration options for the application deployment. When the Oracle Enterprise Repository application starts, the **database.properties** file is loaded and a connection to the database configured is established, allowing the application to load additional configuration settings. Oracle Enterprise Repository then opens a specific set of properties files found within the application's classpath. The system settings found within the files overwrite those that had been loaded from the database. The changes to system settings, when saved through the Oracle Enterprise Repository Web interface, are stored in the location from which the property had been loaded upon startup. Those properties that had been loaded from the database and not subsequently loaded from a properties file are again stored to the database.

Oracle Enterprise Repository supports and provides the option of moving settings to the database. This option is performed for the following purposes:

- Configuration of Oracle Enterprise Repository for deployment into a clustered application server configuration. For more information, see "Configuring and Clustering Oracle Enterprise Repository" in the *Oracle Fusion Middleware Installation Guide for Oracle Enterprise Repository*.
- A heightened security environment where an application EAR file is used for the deployment of Oracle Enterprise Repository. If the Oracle Enterprise Repository properties files are included within the EAR file upon deployment and the EAR is not exploded during deployment, then the Oracle Enterprise Repository properties are set in a read-only state since the Oracle Enterprise Repository application is unable to write to files located within the application EAR file

In the en-exploded EAR deployment option, the best practice instructions in order to configure Oracle Enterprise Repository and allow system settings to be modifiable are as follows:

1. Explode the application EAR file and the **oer-app.war** file contained within the EAR.
2. Add the correctly configured Oracle Enterprise Repository properties files into the *oer-app/WEB-INF/classes* directory.
3. (Optional) You may also add the JDBC Driver jar file(s) to the *oer-app/WEB-INF/lib* directory.
4. Use a ZIP or JAR program to re-create the **oer-app.war** file.
5. Use a ZIP or JAR program to re-create the **oer.ear** file (containing the **oer-app.war** and **oer-web.war** files).
6. Deploy the **oer.ear** file into your application server.
7. Start the Oracle Enterprise Repository application/server.
8. Access the Oracle Enterprise Repository application's Web interface, select **Admin** and **System Settings**. The Move Settings to Database link appears at the bottom of the System Settings page. Click the **Move Settings to Database** link.
9. Stop the Oracle Enterprise Repository application and undeploy the application EAR file.
10. Explode the Oracle Enterprise Repository EAR file and the **oer-app.war** file contained within the EAR.
11. Remove all properties files (except **database.properties**) from the *oer-app/WEB-INF/classes* directory.
12. Use a ZIP or JAR program to re-create the **oer-app.war** file.
13. Use a ZIP or JAR program to re-create the **oer.ear** file (containing the **oer-app.war** and **oer-web.war** files).
14. Deploy the **oer.ear** file into your application server.
15. Start the Oracle Enterprise Repository application/server.
16. Access the Oracle Enterprise Repository application's Web interface, select **Admin**, **System Settings**.
17. Change a setting within the system settings, for example, `enterprise.defaults.displayname.field = emailaddress`.

18. Save the change and confirm that the setting has been retained when the System Settings page reloads.
19. Change the setting, which had been change tested to its previous value and save the settings again.
20. Make any additional system settings changes as necessary within the Oracle Enterprise Repository Admin Web interface.

The application is now configured to be utilized within the secure EAR deployed environment.

Note: If these files listed in the Clustering Guide exist in the backup of the `WEB-INF/classes` directory, then do not remove the file. We need to remove those files that do not exist in the backup and were delivered by the upgrade process.

2.4 Oracle Enterprise Repository Legacy Eclipse Plug-in Uninstallation

To uninstall Oracle Enterprise Repository eclipse plug-in, perform the following steps:

1. In Eclipse, click **Help**.
2. Click **Software Updates**.
3. Click **Manage Configuration**.
4. Select **Show Disabled Features**.
5. Select the **Oracle Enterprise Repository** feature.
6. Click **Disable Feature**.

Note: Unless the feature is properly disabled prior to uninstallation, some Oracle Enterprise Repository files may remain in the Eclipse plugins directory. These files must be manually deleted.

7. Follow the prompts to restart Eclipse.
8. After restart, select **Manage Configuration** in the Help menu.
9. Select the **Oracle Enterprise Repository** feature.
10. Select **Uninstall**.
11. Follow the prompts to restart Eclipse.

2.5 Install Oracle Enterprise Repository Eclipse Plug-in on Client Workstations

You can install Eclipse 3.5 (Galileo) from the standard Eclipse download site. The Oracle Enterprise Repository plugin included the necessary Oracle Enterprise Pack for Eclipse (OEPE) plug-in dependencies with it. You can find the OEPE package at

http://www.oracle.com/technology/software/products/oepe/oepe_11113.html

To install workspace studio on client workstations, see

http://download-llnw.oracle.com/docs/cd/E12840_01/common/docs103/install/index.html.

2.6 Utilizing the Diagnostic Testing Tool

The Diagnostics tool allows testing and troubleshooting of certain aspects of Oracle Enterprise Repository application. This section contains the following topics:

- [Section 2.6.1, "Launching the Diagnostic Tool"](#)
- [Section 2.6.2, "Navigating the Diagnostics Tool"](#)
- [Section 2.6.3, "Enable the Oracle Enterprise Repository Diagnostics Tool"](#)
- [Section 2.6.4, "Creating Encrypted Passwords"](#)
- [Section 2.6.5, "Checking Product Version Information"](#)
- [Section 2.6.6, "Test Servlet Functionality"](#)
- [Section 2.6.7, "Test Required Libraries"](#)
- [Section 2.6.8, "Test Database Connectivity"](#)
- [Section 2.6.9, "List System Paths"](#)
- [Section 2.6.10, "Run Pre-Compile Servlet"](#)
- [Section 2.6.11, "Additional Functionalities"](#)

2.6.1 Launching the Diagnostic Tool

To launch the Oracle Enterprise Repository Diagnostics tool, navigate to

`http://host_name:port_number/application_name/diag/index.jsp`

2.6.2 Navigating the Diagnostics Tool

In addition to the Diagnostics Home and Oracle Enterprise Repository links, the left sidebar of the Diagnostics tool (the gray area in the image above) includes links to several tests that can be run to check your installation of Oracle Enterprise Repository. Click any of these links to display the available tests in the main pane of the Diagnostics tool.

- Generic Web App
 - Installation Tests
 - * Product Version Information

Provides information on the installed version of the Oracle Enterprise Repository, the version of the installed Oracle Enterprise Repository database, upgrade dates, and the maintenance mode setting for the database.
 - * Snoop Servlet

Provides an output listing of all cookies, headers, CGI-Variables, Servlet Context Attributes, Session information and Session values set as a part of the request to the application server.
 - * Test Required Libraries

Provides information about the application server's configuration regarding required JAR library files, installed XML parsers, and the presence of the minimally required Oracle Enterprise Repository properties files.
 - * Run Active Diagnostic Test

Runs a JUnit test against the installed Oracle Enterprise Repository application. Many of these tests are required to allow Oracle Enterprise Repository to build and parse XML data.

- * Test Database

Provides insight into the JDBC driver functionality, including the number of database side functions that are expected to be supported. Also tests the connection string set in the database.properties file, provides additional information regarding the version of the JDBC driver, and may also indicate deficiencies within the database tables.

- * List System Paths

Lists the pathways (local and absolute URL's) configured within the cmee.properties file as well as those stored within the database. Also helps to indicate why some parts of the application deployment function while others do not (such as images not loading).

- Tools

- * JSP Precompiler

Forces the application server to perform an immediate JIT compile of JSP pages within the Oracle Enterprise Repository application. This process greatly improves the performance of page loads if performed after each application server restart

- * Encrypt Strings for Passwords

Performs a Hash on a clear-text password string supplied in the text field. This feature is used for encrypting passwords to be stored within application properties files. This tool should not be used to encrypt user passwords. Please contact Oracle Support for the proper procedure to update a password in the database.

- Oracle Enterprise Repository Repository Tests

- Runtime - Configuration

- * List Enabled System Settings

Lists all values set in the Oracle Enterprise Repository database as well as those set in properties files.

- * Edit System Paths

Allows an administrator to make permanent changes to the cmee.properties file on the application server.

- Runtime - Assets

- * List Types

Produces XML output that describes all Asset Types stored within the Oracle Enterprise Repository database.

- * Edit Asset Custom Data

Allows a registrar to modify XML data contained within an asset in the event that an asset's metadata is otherwise uneditable. Do not use this tool unless specifically directed by Oracle Support personnel.

- * Get XML: Show Type ID

- Produces the XML description of a specific Asset Type based on the unique ID of the Asset Type record.
- * Get XML: Type ID As String
 - Produces the XML description of a specific Asset Type based on the unique ID of the Asset Type record as one continuous string.
- * Get XML: Type XML Schema
 - This tool produces the XML schema of a specific Asset Type based on the unique ID of the Asset Type record.
- * Get XML: Type XML Schema as String
 - This tool produces the XML schema of a specific Asset Type based on the unique ID of the Asset Type record as one continuous string.
- * Get XML: Asset ID
 - Produces the XML data of an Asset based on the unique ID of the Asset.
 - The include extended metadata option produces additional information related to Policies and other data.
- * Get XML: Asset ID as String
 - Produces the XML data of an Asset based on the unique ID of the Asset as one continuous string.
- Runtime - Security
- Optional Tests
 - SOAP Services
 - Test the SOAP URL for Rex API service using
 - http://server:port/oes_app_name/service/FlashlineRegistry?wsdl*
 - This process produces the Oracle Enterprise Repository Web Service WSDL file.
 - Logging Options
- To access the Oracle Enterprise Repository login page, click the **Oracle Enterprise Repository** link in the sidebar of the Diagnostics page.
- To activate the debugging mode for the current session, click the turning logging on link in the main pane.

2.6.3 Enable the Oracle Enterprise Repository Diagnostics Tool

Starting with Oracle Enterprise Repository 11g Release 1 (11.1.1), the diagnostics pages are disabled, by default. To enable this feature, you must pass a JVM parameter, during the application server startup.

If you are using WebLogic, then the parameter is provided as a part of the *Oracle_HOME/user_projects/domains/DOMAIN_NAME/bin/setOERDomainEnv.sh* or *.cmd file. Uncomment the OER_DIAG_OPTION environment variable and restart the oer_server.

If you are using WebSphere, then you must add the following JVM Parameter to the server(s) running Oracle Enterprise Repository:

```
-DdiagPagesEnabled=true
```

This parameter should be appended to any existing values within the WebSphere administration server path of:

Application servers > server1 > Process Definition > Java Virtual Machine -> Generic JVM Arguments field

2.6.4 Creating Encrypted Passwords

Oracle Enterprise Repository 11g Release 1 (11.1.1) requires that all cleartext passwords are encrypted. The existing ALER/Oracle Enterprise Repository installations support but do not mandate encrypted passwords in property files.

Oracle Enterprise Repository is now distributed with a password encryption command-line tool, which is useful in encrypting passwords for the Oracle Enterprise Repository REX OpenAPI processes as well as for updating properties files.

This utility can be found in *BEA_HOME/repositoryXXX/core/tools/solutions/XX.X.X.X-OER-PasswordTools.zip*.

This zip file has two scripts (for windows and unix/linux):

- **encrypt.bat(.sh)** - encrypt an xml configuration file's password elements
- **encryptpassword.bat(.sh)** - encrypt a single password from the command line

An example xml file for use with the encrypt.bat/.sh file is:

```
<passwords>
<!-- database.properties -->
<password>example_db.password</password>
<!-- ldap.properties -->
<password>example_ldap.bindPassword</password>
<!-- activemq.xml -->
<password>activemq</password>
<!-- EndPointEventSubscription.xml -->
<password>aler_workflow_pass</password>
</passwords>
```

The output of either of these utilities must be used within the appropriate properties or xml configuration file instead of the clear-text password that are present currently. This restriction is applicable to the Oracle Enterprise Repository server-side application deployment as well as Oracle Enterprise Repository included in client-side packages such as the Harvester and Exchange Utility.

There is a utility included within the ALER/Oracle Enterprise Repository diagnostics page that allows you to encrypt existing passwords to allow the upgrade process to proceed without issues when this utility is unavailable.

To create encrypted passwords, perform the following steps:

1. Navigate to the Diagnostics page using *http://host_name:port_number/application_name/diag/index.jsp*. The Oracle Enterprise Repository Diagnostics page is displayed.
2. Click **Tools, Encrypt Strings for Passwords**. The Oracle Enterprise Repository Diagnostics Password Encryption page is displayed.
3. Open the Oracle Enterprise Repository **database.properties** file within your existing Oracle Enterprise Repository deployment and enter the **db.password** property value into the diagnostics page, and click the **Submit Query** button.

The resulting string should replace the `db.password` field value. You must escape the '=' symbols within the encrypted password value. This is accomplished by using the backslash character immediately before the equals character. For example,

Cleartext:

```
db.password=example_word
```

Encrypted:

```
db.password=v2_1.16MCs4Mc8hfvRvVS/WaEhQ\=\=
```

Repeat these steps for the `ldap.properties` file for the `ldap.bindPassword` property, if this property contains a value.

2.6.5 Checking Product Version Information

To check the product version information, perform the following steps:

1. Click **Installation Tests** under Generic Web App.
2. Click **Product Version Information** in the main pane.

A new browser window opens to display information on the internal product version, database schema version, and information about the most recent upgrade/install.

2.6.6 Test Servlet Functionality

To test the servlet functionality in Oracle Enterprise Repository, perform the following steps:

1. Click **Installation Tests** under Generic Web App.
2. Click **Snoop Servlet** in the main pane.

A new browser window opens to display information on the parameters passed from the Web client to server.

2.6.7 Test Required Libraries

To test the required libraries, perform the following steps:

1. Click **Installation Tests** under Generic Web App.
2. Click **Test Required Libraries** in the main pane.

A new browser window opens to display information on the property files and system properties essential to proper functionality.

2.6.8 Test Database Connectivity

To test the database connectivity in Oracle Enterprise Repository, perform the following steps:

1. Click **Installation Tests** under Generic Web App.
2. Click **Test Database** in the main pane.

A new browser window opens to display information on container access, the availability of JDBC drivers and the presence of important Oracle Enterprise Repository data tables.

2.6.9 List System Paths

To list the system paths in Oracle Enterprise Repository, perform the following steps:

1. Click **Installation Tests** under Generic Web App.
2. Click **List System Paths** in the main pane.

A new browser window opens to display all Oracle Enterprise Repository paths.

2.6.10 Run Pre-Compile Servlet

To run the pre-compiler servlet, perform the following steps:

1. Click **Tools** under Generic Web App.
2. Click **JSP Precompiler** in the main pane..

A new browser window opens to display a list of system JSPs that have been pre-compiled for speedier first time access.

Note: This servlet produces errors within the error log; please reset logs before starting the application server.

2.6.11 Additional Functionalities

The additional Diagnostics testing tool functionality includes:

- Testing browser redirection compatibility to both a standard URL or local file.
- Listing all enabled Oracle Enterprise Repository Settings.
- Listing all Types in the system.
- Displaying XML for a specific Type (both editor and viewer).
- Displaying xml for a specific asset.
- Clustering Status shows a list of all nodes in the cluster.

Ensure that client browser and JRE installations have appropriately supported versions for Oracle Enterprise Repository.

Note: According to Sun Microsystems, the Firefox 3.6 browser requires Java SE 6 Update 10 or later. Otherwise, Java-based web applications will not work. For more information, see http://www.java.com/en/download/faq/firefox_newplugin.xml.

Data Migration Tool

This chapter describes how to use the data migration utility to migrate assets from the earlier versions of Oracle Enterprise Repository.

This chapter contains the following sections:

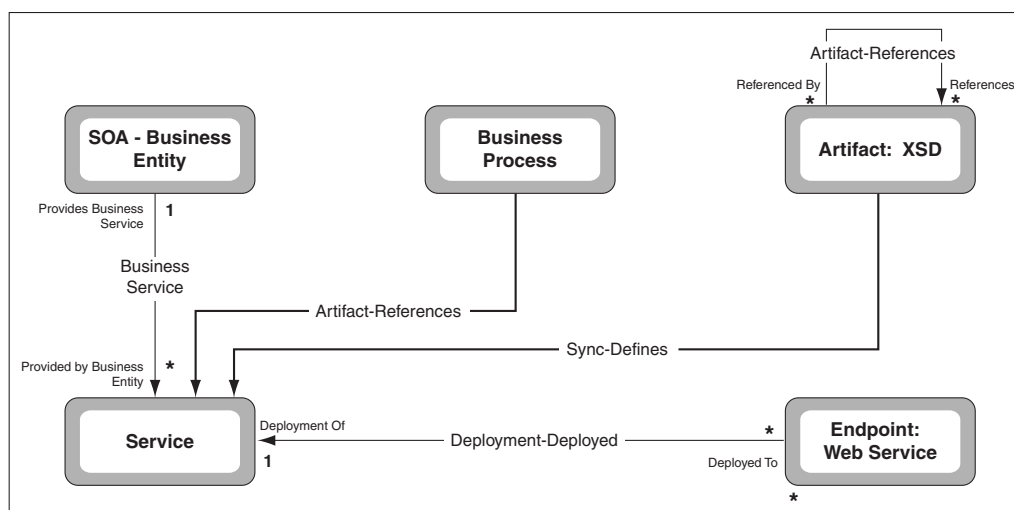
- [Section 3.1, "Overview"](#)
- [Section 3.2, "Using the Data Migration Tool"](#)
- [Section 3.3, "Configuring the Data Migration Tool"](#)

3.1 Overview

Oracle Enterprise Repository is Oracle's solution for storing and governing SOA metadata.

In the past, Oracle Enterprise Repository had a variety of tools for importing metadata. In version 3.x of ALER, these included Web and Open API (REX) utilities for importing from WSDL, BPEL, and UDDI and the command-line RRXU tool. These import service metadata into an asset model called the ALER 3.x Asset Model, as shown in [Figure 3-1](#).

Figure 3-1 ALER 3.x Asset Model



In Oracle Enterprise Repository 10.3 release, there were two main tools to import metadata, the Harvester and Exchange Utility tools. The Oracle Enterprise Repository Harvester imported metadata from Oracle BPEL PM 10g and standards-based files

such as WSDLs, XSDs, XSLT, and BPELs. The Exchange Utility (XU) imported metadata into Oracle Enterprise Repository from UDDI registries. These imported metadata into a particular asset model called the Oracle Enterprise Repository 10g Asset Model.

In Oracle Enterprise Repository 11g R1 release, the harvester has been extended to support Oracle SOA Suite 11g and Oracle Service Bus 10g. The Exchange Utility is also enhanced to support Oracle Service Bus. The Enterprise Manager Integration utility is added to integrate with metrics in Enterprise Manager 10g. To support these products, the Oracle Enterprise Repository asset model is also extended, which is known as the 11g R1 Asset Model.

3.1.1 Prerequisites

Before using the migration tool, you must perform the following prerequisites:

- The Oracle Enterprise Repository server instance must first be upgraded to 11g R1, and must be started.
- The Oracle Enterprise Repository database must be backed up, so it can be restored if there are any problems with the migration.
- The migration tool requires the Java JRE or JDK version 6 or higher.
- The migration tool connects to Oracle Enterprise Repository using its WebService API. So it can be run on any machine that can access the Oracle Enterprise Repository server. It will run much faster if run on the same machine as the Oracle Enterprise Repository server.
- The Oracle Enterprise Repository System Setting, `cmee.extframework.enabled`, must be set to `true`. This can be set from the Web UI in the Admin, System Settings page.

3.1.2 High Level Use Cases

You can use the migration tool to:

- Migrate assets that were imported into Oracle Enterprise Repository via the ALER 3.x WSDL importer in the Web console.
- Migrate assets that were imported into Oracle Enterprise Repository via the ALER 3.x UDDI importer in the Web console.
- Migrate assets that were imported into Oracle Enterprise Repository via the ALER 3.x BPEL importer in the Web console.
- Migrate assets that were imported into Oracle Enterprise Repository via the ALER 3.x ALRR-XU (version 3.x).
- Migrate assets that were imported into Oracle Enterprise Repository via the ALER 3.x ad-hoc "Submit an Asset" functionality in the Web console.
- Migrate assets that were imported into Oracle Enterprise Repository via the 10g R3 Harvester.
- Migrate assets that were imported into Oracle Enterprise Repository via the 10g R3 Exchange Utility.
- Migrate WSDL assets that were imported into Oracle Enterprise Repository via the Open API (REX) WSDL import functionality.
- Preview the results of a migration, without committing any changes to Oracle Enterprise Repository.

3.1.3 Migration Tool Functionality

This section describes the migration tool functionality for ALER 3.x assets and Oracle Enterprise Repository 11g assets. This section contains the following topics:

- [Section 3.1.3.1, "Migration Tool Functionality - ALER 3.x Assets"](#)
- [Section 3.1.3.2, "Migration Tool Functionality - Oracle Enterprise Repository 10g R3 Assets"](#)

3.1.3.1 Migration Tool Functionality - ALER 3.x Assets

Service Assets

The contents of the WSDL that is pointed to by the Service FileInfo is introspected from its download URI. An interface asset is created, and related to the service. An Artifact: WSDL asset is introspected from its download URI. An Artifact: WSDL asset is created and related to the endpoint.

Business Process Assets

The contents of the BPEL that is pointed to by a business process asset is introspected from its download URI. An Artifact: BPEL asset is created and related to the business process. The business process asset will have its asset type changed to Business Process: BPEL.

Imports

Any WSDLs or XSDs imported by the WSDL will result in new artifact assets and relationships, as in the Harvester (or will point to existing assets if their fingerprints match).

PartnerLinks

Any WSDLs used by a BPEL in partnerlinks will result in new artifact assets and relationships, as in the Harvester.

FileInfos

The FileInfo is removed from the service and endpoint assets. The new Artifact: WSDL asset will contain the updated FileInfo.

Fingerprints

The SFID (fingerprint) is removed from the service and endpoint assets. Any Artifact: WSDL assets and Artifact: XSD assets will contain a new SFID, using the Harvester's SFID algorithm.

Internal Names

Any non-artifact asset that is migrated will get a new internal name, which is used for duplicate checking.

Names

Pre-existing service, endpoint, and business process assets will keep their original name. New assets are named according to the Harvester's naming rules.

WSDL Summary

WSDL Summary metadata entries are created on the migrated assets, as in Harvester.

Manifest Metadata

Manifest metadata entries are created on the migrated assets, as in Harvester, to support the new download functionality in Oracle Enterprise Repository.

Ad-hoc Assets (via "Submit an Asset"): Limited Support

Assets that were imported into Oracle Enterprise Repository in an ad-hoc manner are migrated as described in [Section 3.3.2.1, "Asset Types to Migrate"](#), only if they conform to the ALER 3.x Asset model. For example, if an ad-hoc service asset contains a FileInfo that points to a WSDL, it is migrated as described above. But an asset of another type, for example, "TestCase", will not be migrated.

3.1.3.2 Migration Tool Functionality - Oracle Enterprise Repository 10g R3 Assets

Fingerprints

Recalculates and store the SFID for artifact assets from the original artifact files, using the 11gR1 fingerprinting code.

Manifests

Updates the `internal.introspector.manifest.store` CMF entry and FileInfo with the correct artifact location according to following 11g R1 harvester rules:

- Artifacts that were harvested from remote URLs have the FileInfo updated to point to the remote location (to match the Manifest).
- Artifacts that were harvested from local files have the Manifest updated to point to the repository download URL (to match the FileInfo).
- Deletes obsolete `internal.artifact.store` CMF entries for artifacts that were harvested from remote URLs.

Exchange Stores

Updates the `internal.alrr.exchange.store` CMF entry to conform to the latest Exchange Utility rules.

- Sets `<tmodel>` entries in the `internal.alrr.exchange.store` CMF entry on Service and Endpoint assets, with the UDDI keys of porttype and binding TModels. (Connects to the UDDI registry to get these).
- Sets the `<uddiRegistries>` custom data table on Endpoint assets, including the `registry-name`, `registry-url`, and `service-key` elements. The `registry-name` and `registry-url` elements are set from the original `internal.alrr.exchange.store` CMF entry. The `service-key` is read from the UDDI registry during migration.
- Sets the `<uddi>` custom data elements on Service assets, including the `business-key` and `service-key` elements. These are read from the UDDI registry during migration.
- Sets the `<uddi>` custom data elements on Business Entity assets, specifically the `business-key` element. This is read from the UDDI registry during migration.

Harvester Properties

Converts the `internal.introspector.store` CMF entry to the new format used by 11gR1 harvester.

- Sets the `inname` harvester property for abstract assets, according to the 11gR1 harvester rules.

- Calculates and sets the following harvester properties, which are automatically set by 11gR1 harvester, on the appropriate assets: Namespace, Short Name, SCA Name, Endpoint URI, Deployment URL, Transport Type, Interface Type, Service Type.
- Updates the wsdlLocation element in the WSDLSummary, based on the download URL calculated in "Manifests" on page 3-4.

Asset Type

Updates the asset types according to the 11g R1 model:

- Changes Endpoint: WebService assets to Endpoint
- Changes Interface: WebService assets to Interface

3.2 Using the Data Migration Tool

This section contains the following topics:

- [Section 3.2.1, "Running from Command Line"](#)

3.2.1 Running from Command Line

The migration tool is available in the 11.1.1.2.0-OER-10gMigrate.zip file. Unzip this file to a directory on your machine. The migration tool can be run in the command line using the **migrate.bat** utility (for Windows) or **migrate.sh** (for Linux and Unix).

Before running migrate.bat or migrate.sh, ensure that the environment variables mentioned in [Table 3-1](#) are set. In Windows, from a command window, you can type "set X" to see the value of the variable X, and "set X=abc" to set the value of FOO to "abc".

Table 3-1 *Comman Line Script*

| Environment Variable | Description |
|----------------------|--|
| JAVA_HOME | Ensure that the JAVA_HOME environment variable points to an installed java runtime (JRE) or SDK. This must be Java version 5 or higher. |
| JAVA_OPTS | <p>Ensure that you set your JAVA_OPTS parameter as follows:</p> <pre>set JAVA_OPTS=-Dhttp.proxyPort=80 -Dhttp.proxyHost=www-proxy.us.oracle.com -Dhttp.nonProxyHosts= "*.oracle.com localhost"</pre> <p>JAVA_OPTS refers to the extra options to the java executable. In normal cases, there is no need to set this variable. However, a common exception when you need to set this variable is when your machine is inside a firewall, and you need to use an HTTP proxy to access external servers.</p> <p>See Also: http://java.sun.com/javase/6/docs/technotes/guides/net/proxies.html</p> |

You can preview the results of a migration in the Data Migration tool, without committing any changes to Oracle Enterprise Repository, by using the command-line options. [Table 3-2](#) describes the command-line options for the Data Migration tool.

Table 3–2 Command Line Options for the Data Migration Tool

| Environment Variable | Description |
|----------------------|--|
| -preview | <p>If true, the data migration tool runs in the preview mode. A detailed information about successes and failures are logged. No changes are committed to Oracle Enterprise Repository.</p> <p>If false, the data migration tool runs in the production mode. A detailed information about successes and failures are logged, and the changes are committed to Oracle Enterprise Repository.</p> |

3.3 Configuring the Data Migration Tool

This section contains the following topics:

- [Section 3.3.1, "Setting the Repository Connection Information for the Command-line Utility"](#)
- [Section 3.3.2, "Advanced Configuration"](#)
- [Section 3.3.3, "Known Issues"](#)

3.3.1 Setting the Repository Connection Information for the Command-line Utility

Open the `HarvesterSettings.xml` file located at `<Data Migration Home>` and modify the following XML chunk to point to the Oracle Enterprise Repository instance with the right credentials.

```
<repository>
  <uri>http://localhost:8080/oer/services/FlashlineRegistry</uri>
  <credentials>
    <user>admin</user>
    <password>*****</password>
    <enableTransaction>>false</enableTransaction>
    <triggerEvent>>false</triggerEvent>
  </credentials>
  <timeout>120000</timeout>
</repository>
```

Note: It is recommended that you run the Migration Tool as a user with the Basic Access Settings for Assets - View, Edit, Accept, and Register.

The passwords in this file must be encrypted before running the migrate script. To encrypt the passwords, use the `encrypt.bat/encrypt.sh` script, which is located in `<Oracle_home>/tools/solutions/11.1.1.2.0-OER-PasswordTools.zip`.

3.3.2 Advanced Configuration

The section describes the following advanced configuration options for the migration tool:

- [Section 3.3.2.1, "Asset Types to Migrate"](#)
- [Section 3.3.2.2, "Logging"](#)

3.3.2.1 Asset Types to Migrate

By default, the migration tool is configured to migrate the assets of the types that are created by default by the ALER 3.x and 10g R3 tools. However, these legacy importers can be configured to use different asset types, through the `types.properties` file.

If the assets were imported using non-default asset types, you must configure the migration tool to use the same non-default asset types. These can be configured by editing the following XML chunk in the `HarvesterSettings.xml` file:

```
<query>
  <repositoryQuery>
    <typesToMigrate>
      <assetType.service>Service</assetType.service>
      <assetType.endpoint>Endpoint: Web Service</assetType.endpoint>
      <assetType.endpoint>Endpoint</assetType.endpoint>
      <assetType.interface>Interface: Web Service</assetType.interface>
      <assetType.interface>Interface</assetType.interface>
      <assetType.process>Business Process: BPEL</assetType.process>
      <assetType.process>Business Process</assetType.process>
      <assetType.processDeployment>Deployment:
      BPEL</assetType.processDeployment>
      <assetType.xsd>Artifact: XSD</assetType.xsd>
      <assetType.wsdl>Artifact: WSDL</assetType.wsdl>
      <assetType.bpel>Artifact: BPEL</assetType.bpel>
      <assetType.xslt>Artifact: XSLT</assetType.xslt>
    </typesToMigrate>
  </repositoryQuery>
```

Note: It is recommended that all the Assets be migrated during single run of migration tool. Individually migrating specific Asset types might cause some problems such as having same internal names, etc.

3.3.2.2 Logging

The migration tool uses log4j for logging the detailed tasks performed and the log file is placed in the `<Migration Tool Home>`. The logging options can be changed by updating the `log4fl.properties` file located in the `<Migration Tool Home>`.

3.3.3 Known Issues

The Data Migration tool will not support assets that are created using the ALSync framework, from ALSB or ALDSP. ALSB assets must be re-introspected using Harvester. Harvesting from ALDSP is currently not supported.

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