# Oracle Life Sciences Data Management Workbench Installation Guide





Oracle Life Sciences Data Management Workbench Installation Guide, Release 3.4.2

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#### **Preface**

The Oracle Life Sciences Data Management Workbench Installation Guide describes how to install and configure the Oracle Life Sciences Data Management Workbench (Oracle DMW) application for use in clinical trials.

- Documentation accessibility
- · Diversity and Inclusion
- Related resources
- Access to Oracle Support
- Revision History

## Documentation accessibility

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### **Diversity and Inclusion**

Oracle is fully committed to diversity and inclusion. Oracle respects and values having a diverse workforce that increases thought leadership and innovation. As part of our initiative to build a more inclusive culture that positively impacts our employees, customers, and partners, we are working to remove insensitive terms from our products and documentation. We are also mindful of the necessity to maintain compatibility with our customers' existing technologies and the need to ensure continuity of service as Oracle's offerings and industry standards evolve. Because of these technical constraints, our effort to remove insensitive terms is ongoing and will take time and external cooperation.

#### Related resources

All documentation and other supporting materials are available on the Oracle Help Center.

# Access to Oracle Support

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



# **Revision History**

Release Month, Version	Description	
July 2025, Version 2	Added the following sections under Deploy Oracle DMW on the WebLogic Server:	
	<ul> <li>Download the Oracle DMW Folder</li> <li>Deploy Oracle DMW with Default Support for HTTPS</li> <li>Deploy Oracle DMW and Disable HTTPS Support</li> </ul>	
April 2025, Version 1	Initial release	



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# System Requirements and Technology Stack

This section includes the following topics:

- System Requirements
- Technology Stack

### System Requirements

This section includes the system requirements for your Oracle Life Sciences Data Management Workbench (Oracle DMW) 3.4.2 installation. Oracle DMW is built on Oracle Life Sciences Data Hub (Oracle LSH). It contains the following topics:

Operating Systems

#### **Operating Systems**

To get the most current information on the technology stack, see My Oracle Support article 180430.1, *Oracle Life Sciences Applications Supported Technology Stack*.

For details on the database and middle tier, see these topics:

- Database Tier
- Middle Tier

#### **Database Tier**

The requirements are the same as for the Oracle LSH database tier:



To get the most current information on the technology stack, see *Oracle Life Sciences Applications Supported Technology Stacks* (Doc ID 180430.1) on My Oracle Support.

- Linux x86-64 (64-Bit):
  - Oracle Enterprise Linux 7.4 or later, and 8.x
  - Red Hat Enterprise Linux 7.4 or later, and 8.x

#### Middle Tier

Oracle DMW requires both an Oracle LSH middle tier and a Oracle DMW middle tier.



To get the most current information on the technology stack, see *Oracle Life Sciences Applications Supported Technology Stacks* (Doc ID 180430.1) on My Oracle Support.

#### **Oracle LSH Middle Tier**

- Linux x86-64 (64-Bit):
  - Oracle Enterprise Linux 7 or 8
  - Red Hat Enterprise 7.x or 8.x

#### **Oracle DMW Middle Tier**

- Linux x86-64 (64-Bit):
  - Oracle Enterprise Linux 7 or 8
  - Red Hat Enterprise Linux 7.x or 8.x

### **Technology Stack**

To get the most current information on the Oracle DMW technology stack, see My Oracle Support article 180430.1.

Oracle DMW has the following requirements:

- Oracle LSH 3.4.2 and its technology stack
- Oracle WebLogic Server 12.2.1.4
- Java Development Kit (JDK) 1.8.0\_281 or later
- Oracle Application Development Framework (ADF) 12.2.1.4
- One of the following:
  - Oracle InForm Adapter 6.3.x with Oracle InForm 6.3.x.
  - Oracle InForm 7.x



There is no separate Oracle InForm Adapter for Oracle InForm 7.0 and above.

For details on browsers, see the following topic:

Supported Browsers

#### **Supported Browsers**

Oracle DMW supports the following browsers on Microsoft Windows operating systems:

Google Chrome: Tested using version 135.0.7049.85 (Official Build) (64-bit).

Version 109.0.5414.120 (Official Build) (64-bit) and later are supported.



- Mozilla Firefox: Tested using version 137.0.1 (64-bit).
   Version 109.0.1 (64-bit) and later are supported.
- Microsoft Edge Chromium: Tested using version 135.0.3179.73 (Official Build) (64-bit).
   Version 111.0.5500.0 (Official Build) (64-bit) and later are supported.



For the best performance, use a minimum screen resolution of 1024 x 768.



# Install Oracle Thesaurus Management System (Optional)

Oracle Thesaurus Management System (Oracle TMS) can be integrated with Oracle Life Sciences Data Management Workbench (Oracle DMW) for use in coding clinical patient data to standard dictionary terms.



If you are using an Oracle TMS release prior to 5.4.1, you must upgrade Oracle TMS to release 5.4.1 by performing the instructions in this chapter.

- Install Oracle Thesaurus Management System
- Edit setDomainEnv.sh
- Run Script dmetmsseeddata.sql

### Install Oracle Thesaurus Management System

Oracle DMW supports Oracle Thesaurus Management System (Oracle TMS) 5.4.1. To install Oracle TMS 5.4.1, see Oracle Thesaurus Management System Installation Guide for release 5.4.1.

#### Edit setDomainEnv.sh

As directed in Edit setDomainEnv.sh add the parameter -DhandleDiscEvent set to True on one and only one application server.

This is required to support multiple middle tiers pointing to the same database. Only the server with this parameter set to True will be able to send data from TMS to InForm.

- Stop the Administration Server.
- 2. Log in to the system, change to the domain\bin directory, and open setDomainEnv.sh in an editing tool.
- On only one application server, add a parameter named -DhandleDiscEvent to JAVA\_OPTIONS and set its value to TRUE.

This is required to support multiple middle tiers pointing to the same database. Only the server with this parameter set to True will be able to send data from Oracle Thesaurus Management System (Oracle TMS) to InForm.

To add the parameter:

- a. Stop the Administration Server.
- Log in to the system, change to the domain\bin directory, and open setDomainEnv.sh in an editing tool.

**c.** Search for the following text:

```
JAVA_OPTIONS="${JAVA_OPTIONS}"
```

**d.** Add the parameter and its value within the quotes. For example:

```
if [ "${WEBLOGIC_EXTENSION_DIRS}" != "" ] ; then
JAVA_OPTIONS="${JAVA_OPTIONS} -Dweblogic.ext.dirs=$
{WEBLOGIC_EXTENSION_DIRS}"
export JAVA_OPTIONS

fi

JAVA_OPTIONS="${JAVA_OPTIONS} -DhandleDiscEvent=TRUE"

export JAVA_OPTIONS
# SET THE CLASSPATH
```

### Run Script dmetmsseeddata.sql

Run dmetmsseeddata.sql to populate Oracle TMS-related seed data required for Oracle DMW.

- Make sure that no Oracle LSH session is up and running.
- Log in to SQL\*Plus as tms. (You created a password for this account when you ran the Installer for the Oracle TMS database.)
- Go to \$CDR\_TOP/patch/115/sql.
- Run dmetmsseeddata.sql.

# Upgrade to Oracle DMW 3.4.2

To upgrade from Oracle DMW releases 3.3.x and 3.4.x to Oracle DMW release 3.4.2, follow instructions in the following topics:

- Upgrade Oracle Life Sciences Data Hub
- Deploy Oracle DMW on the WebLogic Server
- Edit setDomainEnv.sh
- Change the Default Timeout Period (Optional)
- Configure the AppsDataSource in the Administration Console
- Change the Connection Pool Maximum Capacity on DMWServer
- Configure the WebLogic JMS Resources
- Deploy Discrepancies Export and Data Flow Diagram Modules
- Run the Populate Custom Listings Script
- Upgrade Existing Business Area for Custom Listings
- Upgrade File Watcher to Support Archiving Files (Optional)
- Configure for Disaster Recovery
- Install Oracle Thesaurus Management System (Optional)
- Migrate the Editioned Objects

### Upgrade Oracle Life Sciences Data Hub

Follow instructions in the *Oracle Life Sciences Data Hub Installation Guide* chapter on upgrading to Release 3.4.2. The process includes upgrading Oracle database.

# Deploy Oracle DMW on the WebLogic Server

Perform the instructions in the following topics to deploy the new version of Oracle DMW on the WebLogic Server.

- Download the Oracle DMW Folder
- Deploy Oracle DMW with Default Support for HTTPS
- Deploy Oracle DMW and Disable HTTPS Support

#### Download the Oracle DMW Folder

Oracle DMW, Oracle LSH, and their technology stacks are contained on the **Oracle Life Sciences Data Management Workbench 3.4.2** media pack for various platforms.

To receive a physical media pack with all the required DVDs, contact Life Sciences Support. To expedite your request, you can call Oracle Support directly or open a Service Request (SR) selecting problem category: **Version Update Request**.

To download the media pack from eDelivery:

- 1. Go to Oracle Software Delivery Cloud, http://edelivery.oracle.com, click **Sign In**, and log in with your user ID.
- Select Download Package from the All Categories drop-down list (or leave All Categories selected). Enter Oracle Life Sciences Data Management Workbench in the Search field and click Search.
- Select DLP: Oracle Life Sciences Data Management Workbench 3.4.2.0.0 and click Add to Cart.
- 4. Click **Checkout**. You see a list of the selected software:
  - Oracle Life Sciences Data Management Workbench 3.4.2.0.0 (Oracle Standard Terms and Conditions)
  - Oracle Life Sciences Data Hub 3.4.2.0.0
  - Oracle Life Sciences Data Management Workbench 3.4.2.0.0
- **5.** From the **Platform** drop-down list, select the appropriate operating system.
- 6. Click Continue.
- 7. Review the Terms and Restrictions and select I accept the terms in the license agreement to continue. (Click Print from the top-right corner of the screen to print the agreement.) Click Continue. You see a list of zipped files for the Oracle Life Sciences Data Hub <your operating system> 3.4.2 release and Oracle Life Sciences Data Management Workbench <your operating system> 3.4.2 release:
  - Oracle Life Sciences Data Hub 3.4.2
  - Oracle Life Sciences Data Management Workbench 3.4.2
- 8. Leave the list of zipped files selected to download the package of Oracle Life Sciences Data Management Workbench 3.4.2.0.0 files or only select the files you need.
- Click **Download**. Then browse to the location where you want to save the Oracle executable.
- **10.** Double-click the Oracle executable. Leave the default destination or click **Browse** to select another one. Click **Next**. Oracle downloads the zipped files.
- 11. Move the zipped files to a staging area and unzip them. The full release contains a software folder for Oracle DMW (p37117482\_34200\_Generic.zip) and Oracle LSH (p37117489 R12 GENERIC.zip).
- **12.** Unzip the Oracle DMW 3.4.2 ZIP file (**p37117482\_34200\_Generic.zip**) to a temporary directory on the WebLogic Server, creating the software directory containing the following:
  - dmwapp.ear file
  - plan.xml file
  - services folder: This folder contains dmw-dfd-app.ear and dmw-export-app.ear files.

#### Note:

For details on installing Oracle LSH and Oracle TMS, see the *Oracle Life Sciences Data Hub Installation Guide*.



- **13.** Deploy the patch, which contains the entire application. Perform one of the following procedures depending on what you use HTTPS or HTTP:
  - To use HTTPS, follow the steps in Deploy Oracle DMW with Default Support for HTTPS. By default, Oracle DMW supports and requires HTTPS.
  - To use HTTP, follow the steps in Deploy Oracle DMW and Disable HTTPS Support

### Deploy Oracle DMW with Default Support for HTTPS

Deploy the Oracle DMW application tier on the WebLogic Server.

 Log in as the admin user to the WebLogic Administration Console. The URL is: http(s)://host\_name.company\_domain.com:port/console/

For example:

http(s)://machine.example.com:1234/console

#### Note:

**If you have an earlier version of Oracle DMW deployed**, stop it and delete it before deploying the new version.

In the WebLogic Administration Console, select **Deployments** from **Domain Structure**. A list of all deployed applications appears.

If dmwapp is included in the list, select its checkbox and:

- a. Stop it by selecting Force Stop Now from the Stop drop-down list.
- **b.** Delete it by clicking **Delete**. It no longer appears in the list.
- 2. Click **Install**. The Install Application Assistant opens.
- In the paragraph beginning with Locate deployment to install and prepare for deployment, click upload your file(s).
- 4. In the Deployment Archive line, click **Browse** and select dmwapp.ear from your local computer and click **Open**. The system returns to Install Application Assistant.
- 5. In the Install Application Assistant, click **Next**. This uploads dmwapp.ear to a server directory. This may take some time. When the process completes, the system displays the path to the server directory.
- 6. In Install Application Assistant, click **Next**.
- Select Install this deployment as an application and click Next. The system displays a list of servers.
- 8. Select the managed server where you want to install the application (DMWServer) and click **Next**. Optional settings appear.
- 9. Under General, in the Name field, enter dmwapp and click **Finish**. The system displays a summary of your selections.
- 10. Click Finish. The system deploys the Oracle DMW middle tier on the managed server. After a successful deployment ta new page called Settings for dmwapp appears with the Overview tab displayed.
- 11. Click **Deployments** under **Domain Structure** to verify that dmwapp is included in the Deployments list and its state is Active.
- 12. Go to the login screen to check that the application is running. The URL is:



http://host\_name.company\_domain.com:port/lsw/dme/faces/DmeLogin.jsf

For example:

http://srv123.example.com:1234/lsw/dme/faces/DmeLogin.jsf

#### Deploy Oracle DMW and Disable HTTPS Support

By default, Oracle DMW uses HTTPS. If you intend to use HTTP, you can deploy Oracle DMW using the deployment plan (Plan.xml) that disables HTTPS for Oracle DMW. For further information, see the *Oracle Fusion Middleware Deploying Applications to Oracle WebLogic Server 12c (12.2.1.4)* at https://docs.oracle.com/en/middleware/fusion-middleware/weblogic-server/12.2.1.4/depgd/index.html.

- 1. Log in to the WebLogic Server.
- 2. Open the software directory.
- 3. Copy the dmwapp.ear file and the plan.xml file to the tmp directory and delete the software directory. The tmp directory now contains only the dmwapp.ear and plan.xml files.
- 4. Open a shell window and set up the environment: source WL HOME/server/bin/setWLSEnv.sh

#### For example:

source app/oracle/middleware/Oracle Home/wlserver/server/bin/setWLSEnv.sh

- Change directory to the tmp directory.
- If you have an earlier version of Oracle DMW deployed, stop it and delete it before deploying the new version by entering the following commands.



If you want to store the username and password in a WebLogic configuration file, omit the username and password parameters in the following commands. For more information, see the WebLogic Scripting Tool Command-Line Reference in the Oracle Fusion Middleware Deploying Applications to Oracle WebLogic Server 12c (12.2.1.4) at https://docs.oracle.com/en/middleware/fusion-middleware/ 12.2.1.4/use-weblogic-scripting-tool-tasks.html.

java weblogic.Deployer -adminurl t3://host\_name.your\_company\_domain.com:port\_number
-username WLS\_USER -password WLS\_PASSWORD -stop -targets DMW\_SERVER\_NAME -name
dmwapp

java weblogic.Deployer -adminurl t3://host\_name.your\_company\_domain.com:port\_number
-username WLS\_USER -password WLS\_PASSWORD -undeploy -targets DMW\_SERVER\_NAME name dmwapp

Deploy the new Oracle DMW release by entering the following command. If you stored the username and password in a configuration file, omit the username and password parameters.

java weblogic.Deployer -adminurl t3://host\_name.your\_company\_domain.com:port\_number username WLS\_USER -password WLS\_PASSWORD -targets DMW\_SERVER\_NAME -deploy dmwapp.ear
-name dmwapp -upload -plan Plan.xml

8. Exit the shell by entering:



exit

Go to the login screen to check that the application is running. The URL is: http://host name.company domain.com:port/lsw/dme/faces/DmeLogin.jsf

For example:

http://srv123.example.com:1234/lsw/dme/faces/DmeLogin.jsf

#### Edit setDomainEnv.sh



Do not perform this task (except step 7 to add parameter -DapmHost) if you are upgrading from release 3.4.x to 3.4.2 as you would have already performed it when you had installed or upgraded to release 3.4.x. You must perform step 7 even when you are upgrading from 3.4.x to 3.4.2 release.

Modify the setDomainEnv.sh to configure the WebLogic Administration Server and DMWServer. Oracle recommends the following settings for production use. Be careful to **insert text as directed before or after the located sections**.

- Stop the Administration Server.
- 2. Log in to the system, change to the domain\bin directory, and open setDomainEnv.sh in an editing tool.
- 3. Add a parameter named -DdmwWebService to JAVA\_OPTIONS and set its value to:
  - SSL if you plan to use HTTPS for InForm adapter web service calls.
  - NONSSL if you plan to use HTTP for InForm adapter web service calls.

#### Search for the following text:

```
JAVA_OPTIONS="${JAVA_OPTIONS}"
```

Add the parameter and value within the quotes. For example:

```
if [ "${WEBLOGIC_EXTENSION_DIRS}" != "" ] ; then
JAVA_OPTIONS="${JAVA_OPTIONS} -Dweblogic.ext.dirs=${WEBLOGIC_EXTENSION_DIRS}"
export JAVA_OPTIONS

fi

JAVA_OPTIONS="${JAVA_OPTIONS} -DdmwWebService=SSL"

export JAVA_OPTIONS
# SET THE CLASSPATH
```

4. On one and only one application server, add a parameter named -DhandleDiscEvent to JAVA\_OPTIONS and set its value to TRUE, following the instructions in the previous step.

This is required to support multiple middle tiers pointing to the same database. Only the server with this parameter set to True will be able to send data from Oracle Thesaurus Management System (TMS) to InForm.

5. Add a parameter named -DdrPollingFreq to JAVA\_OPTIONS in all the managed servers and set its value to 6, following the instructions in the step 3.

This property is added to decide the frequency at which the disaster recovery thread should be run. The default value is 6. The disaster recovery will not be functional if this property is not set.

6. Add a parameter named -DenableCSP to JAVA\_OPTIONS in all the managed servers and set its value to TRUE, following the instructions in the step 3.

This property is added to set a security header to all the requests. The default value is true.

7. Add a parameter named -DapmHost to JAVA\_OPTIONS in all the managed servers and set its value to https://\*.oci.oraclecloud.com, following the instructions in the step 3. Here, https://\*.oci.oraclecloud.com is just an example for the Application Performance Monitoring (APM) host information. Contact Life Sciences Support or OMCS (CSS) team to get the APM host that is configured for you.

This property is added to configure the APM host.

8. Synchronize the DMW WebLogic server clock with the InFormAdapter server clock by adding a parameter named user.timezone to JAVA\_OPTIONS and set its value to the same timezone used by the InForm Adapter server, using a valid format supported by Java 8; for example:

```
-Duser.timezone=GMT

Or
-Duser.timezone=EST
```

Make sure this parameter is contained within the quotes:

```
JAVA_OPTIONS="${JAVA_OPTIONS} -Duser.timezone=VALID_TIMEZONE"
export JAVA OPTIONS
```

9. Locate the following section:

```
if [ "${USER_MEM_ARGS}" != "" ] ; then
    MEM_ARGS="${USER_MEM_ARGS}"
    export MEM_ARGS
fi
```

and add the following text (which may continue to the next page) **BEFORE** the text shown above:



#### Note:

If you are using names other than "AdminServer" and "DMWServer," change the text accordingly.

#### Note:

Earlier Oracle DMW releases required different arguments: XX:PermSize instead of XX:MetaspaceSize and XX:MaxPermSize instead of XX:MaxMetaspaceSize. JDK 8 ignores the PermSize arguments and requires the MetaspaceSize arguments.

10. Locate the first occurrence of POST\_CLASSPATH and add the following after it:

- 11. Set PRODUCTION MODE=true to run in Server mode.
- 12. If you want to use a date format other than the default format, dd-MMM-yyyy (01-JAN-2016), in the Listings pages, add the parameter -DlistingDateFormat to JAVA\_PROPERTIES and set it to one of the supported values found in https://docs.oracle.com/javase/8/docs/api/java/text/SimpleDateFormat.html.

If the date format has space character in it, you must replace the space with an underscore (\_) character because WebLogic Server on Linux will not start with spaces in a parameter. For example, the following value:

```
-DlistingDateFormat=yyyy.MM.dd_G_'at'_HH:mm:ss_z"
```

#### displays dates as:

```
2001.07.04 AD at 12:08:56 PDT
```

13. To be ready to integrate DMW with an electronic data capture system other than InForm, add parameter -DUseSunHttpHandler to JAVA\_PROPERTIES and set it to True. For example:

**14.** Locate the first occurrence of EXTRA\_JAVA\_PROPERTIES and add the following to enable huge pages after it.

```
EXTRA_JAVA_PROPERTIES="${EXTRA_JAVA_PROPERTIES}} -XX:+UseLargePages" export EXTRA JAVA PROPERTIES
```

15. Set application module properties:



The setting -Djbo.ampool.maxinactiveage=1200000" creates a session timeout value of 20 minutes. If you prefer a different timeout period, see Change the Default Timeout Period (Optional).

```
EXTRA_JAVA_PROPERTIES="${EXTRA_JAVA_PROPERTIES}
-Djbo.ampool.doampooling=true
-Djbo.ampool.maxavailablesize=expected_maximum_number_of_concurrent_users
-Djbo.ampool.initpoolsize=10
-Djbo.ampool.minavailablesize=10
-Djbo.recyclethreshold=same_as_maximum_number_of_concurrent_users
-Djbo.ampool.timetolive=3600000
-Djbo.ampool.maxinactiveage=1200000"
export EXTRA_JAVA_PROPERTIES
```

# Change the Default Timeout Period (Optional)

The default timeout period is 20 minutes. It is set in both setDomainEnv.sh and plan.xml. The values in each place must be equal.



If you change these settings after deploying Oracle DMW, you must redeploy Oracle DMW by following instructions in Deploy Oracle DMW on the WebLogic Server.

To set a different timeout value:

Edit plan.xml, which is located in the top level of the DMW release .zip file. Open plan.xml in an editor, search for SessionTimeout, then change its value, which is in minutes, from 20 to the number of minutes you want.

```
<variable>
<name>SessionTimeout</name>
<value>number_of_minutes</value>
</variable>
```

2. Edit setDomainEnv.sh, which is located in the domain\bin directory, to add a value in milliseconds equal to the number of minutes you entered in plan.xml. For example, 20 minutes is 1200000 milliseconds. Find:

EXTRA JAVA PROPERTIES="\${EXTRA JAVA PROPERTIES}

#### and add or edit the line:

-Djbo.ampool.maxinactiveage=number of milliseconds

# Configure the AppsDataSource in the Administration Console



Perform tasks in this section only when you are upgrading from release 3.3.x to release 3.4.2.

Follow instructions for Step 2.1.5.4 in *Oracle® E-Business Suite Software Development Kit for Java* with the following requirements specific to Oracle DMW for these data sources: lswdbBC4JDS, lswdbDS, lswExtSysDS, lswdbRestDS. See the following sections for details.

- Create Data Source IswdbDfdDS
- Create Data Source IswdbExportDS

#### Create Data Source IswdbDfdDS

Create data source lswdbDfdDS as described. (For more information, see *Oracle® E-Business Suite Software Development Kit for Java*.)

#### To create data source IswdbDfdDS:

In Step 5, enter values exactly as follows:

- Name for the datasource: lswdbDfdDS
- JNDI Name: jdbc/lswdbDfdDS
- Database Driver: Oracle's Driver (Thin) for Instance connections.
   (Note that this driver is a non-XA driver.)
- Driver ClassName: oracle.apps.fnd.ext.jdbc.datasource.AppsDataSource

In Step 8, enter values for your environment:

- Database name: dmwebspr (example name)
- Hostname: your\_hostname
- Port: database\_port\_number
- DB User Name: Enter the username dmwebs@oracle.com, with the assigned role UMX|
   APPS\_SCHEMA\_CONNECT, that your would have already created by following
   instructions in Section 2.1.3, "Set Up Necessary Oracle E-Business Suite Users" in
   Oracle® E-Business Suite Software Development Kit for Java. This is a proxy user
   required to pass the authentication messages.
- Password: Enter the password created for that user.

In Step 10, enter values exactly as follows:

• Driver Class Name: oracle.apps.fnd.ext.jdbc.datasource.AppsDataSource

In Step 11, enter the full path of the desktop dbc file in the Properties field. For example:



- user=dmwebs@domain.com
- dbcFile=<Full path to DBC file>/<DBC File Name>.dbc

Select the target server. If you have created the new server, target the datasource to the new server. Else, target the datasource to the existing server.

#### Create Data Source IswdbExportDS

Create data source IswdbExportDS as described. (For more information, see *Oracle® E-Business Suite Software Development Kit for Java*.)

#### To create data source IswdbExportDS:

In Step 5, enter values exactly as follows:

- Name for the datasource: lswdbExportDS
- JNDI Name: jdbc/lswdbExportDS
- Database Driver: Oracle's Driver (Thin) for Instance connections. (Note that this driver is a non-XA driver.)
- Driver ClassName: oracle.apps.fnd.ext.jdbc.datasource.AppsDataSource

In Step 8, enter values for your environment:

- Database name: dmwebspr (example name)
- Hostname: your\_hostname
- Port: database\_port\_number
- DB User Name: Enter the username dmwebs@oracle.com, with the assigned role UMX|
   APPS\_SCHEMA\_CONNECT, that your would have already created by following
   instructions in Section 2.1.3, "Set Up Necessary Oracle E-Business Suite Users" in
   Oracle® E-Business Suite Software Development Kit for Java. This is a proxy user
   required to pass the authentication messages.
- Password: Enter the password created for that user.

In Step 10, enter values exactly as follows:

 Driver Class Name: oracle.apps.fnd.ext.jdbc.datasource.AppsDataSource

**In Step 11**, enter the full path of the desktop dbc file in the Properties field. For example:

- user=dmwebs@domain.com
- dbcFile=<Full path to DBC file>/<DBC File Name>.dbc

Select the target server. If you have created the new server, target the data source to the new server. Else, target the data source to the existing server.

# Change the Connection Pool Maximum Capacity on DMWServer

In the WebLogic Server Console:

- 1. Navigate to Services, then Data Sources, then IswdbDS, then the Connection Pool tab.
- Change the Maximum Capacity setting from 15 to the number you entered (Edit setDomainEnv.sh, Step 12) for the maximum number of concurrent users during peak time plus 15%.



3. Repeat these steps for these data sources: lwsdbDS (if not done already), lswExtSysDS, lswdbRestDS, lswdbDfdDS, and lswdbExportDS.

#### Note:

- Set Maximum Capacity for the IswdbDfdDS and IswdbExportDS data sources higher than the DfdMaxThreadsConstraint and ExportMaxThreadsConstraint values (that were set to 20).
- Do not perform this task for the lswdbBC4JDS data source.

# Configure the WebLogic JMS Resources



Perform tasks in this section only when you are upgrading from release 3.3.x to release 3.4.2.

The following sections contain instructions to configure the WebLogic JMS resource for the Data Flow Diagram and discrepancies export:

- Configure the WebLogic JMS Resource for Data Flow Diagram
- Configure the WebLogic JMS Resource for Discrepancies Export

#### Configure the WebLogic JMS Resource for Data Flow Diagram

In the WebLogic Server Console:

- Configure the JMS server.
  - Navigate to DMWDomain > Services > Messaging > JMS Servers.
  - b. Click New.
  - c. In the Name field, enter DfdJMSServer.
  - d. Click Next.
  - e. From the Leave Persistent Store drop-down, select (none).
  - Click Next.
  - g. From the Targets drop-down, select the target server that you had configured for the "IswdbDfdDS" data source.
  - h. Click Finish.
- Configure the JMS module.
  - a. Navigate to DMWDomain > Services > Messaging > JMS Modules.
  - b. Click New.
  - c. In the Name field, enter DfdSystemModule.
  - d. Click Next.



- e. From the list of Targets options, select the target server that you had configured for the "IswdbDfdDS" data source.
- f. Click Finish.
- Configure the foreign server.
  - a. Click DfdSystemModule that you created in step 2.
  - b. Click New.
  - Select the Foreign Server option.
  - d. Click Next.
  - e. In the Name field, enter DfdForeignServer.
  - f. Click Next.
  - g. From the list of Targets options, select the target server that you had configured for the "IswdbDfdDS" data source.
  - Click Finish.
  - Click DfdForeignServer.
  - j. In the JNDI Initial Context Factory field, enter oracle.jms.AQjmsInitialContextFactory.
  - k. In the JNDI Properties field, enter datasource=jdbc/lswdbDfdDS.
  - I. Click Save.
- Configure the destination.
  - a. Click DfdForeignServer that you created in step 3.
  - b. Click the **Destinations** tab.
  - Click New.
  - d. In the Name field, enter DfdForeignDestination.
  - e. In the Local JNDI Name field, enter aq-jms/DataFlowAQ.
  - f. In the Remote JNDI Name field, enter Queues/CDR HEALTH METRICS Q.
  - g. Click OK.
- 5. Configure the connection factory.
  - a. Click DfdForeignServer that you created in step 4.
  - b. Click the Connection Factories tab.
  - c. Click New.
  - d. In the Name field, enter DataFlowConnectionFactory.
  - e. In the Local JNDI Name field, enter aq-jms/DataFlowConnectionFactory.
  - f. In the Remote JNDI Name field, enter ConnectionFactory.
  - q. Click OK.
- Configure the maximum thread constraint for the work manager.
  - a. Navigate to DMWDomain > Environment > Work Managers.
  - b. Click New.
  - Select the Maximum Threads Constraint option.



- d. Click Next.
- e. In the Name field, enter DfdMaxThreadsConstraint.
- f. In the Count field, enter 20.
- click Next.
- h. From the list of Targets check boxes, select the target server that you had configured for the "lswdbDfdDS" data source.
- i. Click Finish.
- Configure the work manager.
  - a. Navigate to DMWDomain > Environment > Work Managers.
  - b. Click New.
  - c. Select the Work Manager option.
  - d. Click Next.
  - e. In the Name field, enter DfdWorkManager.
  - Click Next.
  - g. Select the required server check box.
  - h. Click Finish.
  - Click DfdWorkManager.
  - j. From the Maximum Threads Constraint drop-down, select DfdMaxThreadsConstraint that you created in step 6.
  - k. Click Save.

#### Configure the WebLogic JMS Resource for Discrepancies Export

In the WebLogic Server Console:

- Configure the JMS server.
  - a. Navigate to DMWDomain > Services > Messaging > JMS Servers.
  - b. Click New.
  - c. In the Name field, enter ExportJMSServer.
  - d. Click Next.
  - e. From the Leave Persistent Store drop-down, select (none).
  - Click Next.
  - g. From the Targets drop-down, select the target server that you had configured for the "IswdbExportDS" datasource.
  - h. Click Finish.
- Configure the JMS module.
  - Navigate to DMWDomain > Services > Messaging > JMS Modules.
  - b. Click New.
  - c. In the Name field, enter ExportSystemModule.
  - d. Click Next.



- **e.** From the list of Targets options, select the target server that you had configured for the "IswdbExportDS" datasource.
- Click Finish.
- Configure the foreign server.
  - a. Click ExportSystemModule that you created in step 2.
  - b. Click New.
  - Select the Foreign Server option.
  - d. Click Next.
  - e. In the Name field, enter ExportForeignServer.
  - f. Click Next.
  - g. From the list of Targets options, select the target server that you had configured for the "IswdbExportDS" data source.
  - h. Click Finish.
  - i. Click ExportForeignServer.
  - j. In the JNDI Initial Context Factory field, enter oracle.jms.AQjmsInitialContextFactory.
  - k. In the JNDI Properties field, enter datasource=jdbc/lswdbExportDS.
  - I. Click Save.
- Configure the destination.
  - a. Click ExportForeignServer that you created in step 3.
  - b. Click the **Destinations** tab.
  - c. Click New.
  - d. In the Name field, enter ExportForeignDestination.
  - e. In the Local JNDI Name field, enter aq-jms/ExportAQ.
  - f. In the Remote JNDI Name field, enter Queues/DME DISC EXP TO MT Q.
  - g. Click OK.
- **5.** Configure the connection factory.
  - a. Click ExportForeignServer that you created in step 4.
  - **b.** Click the **Connection Factories** tab.
  - c. Click New.
  - d. In the Name field, enter ExportConnectionFactory.
  - e. In the Local JNDI Name field, enter aq-jms/ExportConnectionFactory1.
  - f. In the Remote JNDI Name field, enter ConnectionFactory.
  - q. Click OK.
- Configure the maximum thread constraint for the work manager.
  - a. Navigate to DMWDomain > Environment > Work Managers.
  - b. Click New.
  - c. Select the Maximum Threads Constraint option.



- d. Click Next.
- e. In the Name field, enter ExportMaxThreadsConstraint.
- f. In the Count field, enter 20.
- click Next.
- h. From the list of Targets check boxes, select the target server that you had configured for the "lswdbExportDS" datasource.
- i. Click Finish.
- Configure the work manager.
  - a. Navigate to DMWDomain > Environment > Work Managers.
  - b. Click New.
  - c. Select the Work Manager option.
  - d. Click Next.
  - e. In the Name field, enter ExportWorkManager.
  - Click Next.
  - g. Select the required server check box
  - h. Click Finish.
  - Click ExportWorkManager.
  - j. From the Maximum Threads Constraint drop-down, select ExportMaxThreadsConstraint that you created in step 6.
  - k. Click Save.

### Deploy Discrepancies Export and Data Flow Diagram Modules

Copy the services/dmw-dfd-app.ear and services/dmw-export-app.ear files
to the tmp directory and delete the software directory.

The tmp directory now contains dmw-dfd-app.ear and dmw-export-app.ear files.

Open a shell window and set up the environment:

source WL HOME/server/bin/setWLSEnv.sh

#### For example:

source app/oracle/middleware/Oracle\_Home/wlserver/server/bin/setWLSEnv.sh

- 3. Change the directory to the tmp directory.
- 4. Deploy dmw-dfd-app.ear and dmw-export-app.ear by entering the following command. If you stored the username and password in a configuration file, omit the username and password parameters.



#### Note:

Deploy both the ear files on the same target where you have targeted the lswdbDfdDS and lswdbExportDS data sources.

In the following command, replace the variable DMW\_NEW\_SERVER\_NAME with the recommened new server name DMWServicesServer.

```
java weblogic.Deployer -adminurl t3://
host_name.your_company_domain.com:port_number -username WLS_USER -password
WLS_PASSWORD -targets DMW_NEW_SERVER_NAME -deploy dmw-dfd-app.ear -name
dmw-dfd-app
java weblogic.Deployer -adminurl t3://
host_name.your_company_domain.com:port_number -username WLS_USER -password
WLS_PASSWORD -targets DMW_NEW_SERVER_NAME -deploy dmw-export-app.ear -name
dmw-export-app
```

If you had not created the DMW\_NEW\_SERVER\_NAME (**DMWServicesServer**) due to any constraint, then deploy dmw-dfd-app.ear and dmw-export-app.ear by entering the following command:

#### Note

In the following command, replace the variable DMW\_SERVER\_NAME with the recommend server name DMWServer.

```
java weblogic.Deployer -adminurl t3://
host_name.your_company_domain.com:port_number -username WLS_USER -password
WLS_PASSWORD -targets DMW_SERVER_NAME -deploy dmw-dfd-app.ear -name dmw-
dfd-app
java weblogic.Deployer -adminurl t3://
host_name.your_company_domain.com:port_number -username WLS_USER -password
WLS_PASSWORD -targets DMW_SERVER_NAME -deploy dmw-export-app.ear -name dmw-
export-app
```

5. Exit the shell by entering:

exit

**6.** Go to the WebLogic console screen to check that the deployments are successful.

# Run the Populate Custom Listings Script



Do not perform this task if you are upgrading from release 3.4.x to 3.4.2 as you would have already performed it when you had installed or upgraded to release 3.4.x.

Run the dmepopqbenablestat.sql script to ensure that Oracle DMW populates the new custom listing status tracking table with the status for the custom listings you created in an earlier versions of Oracle DMW. Plan a maintenance window to run the script.



Run this script only if you are upgrading to Oracle DMW 3.4.2 from a release prior to 3.3.

Follow these steps to run the script on a computer with an Oracle client that can connect to the Oracle DMW database server using SQLPlus:

- 1. Download the file from \$CDR TOP/patch/115/sql/dmepopqbenablestat.sql.
- Log in to SQLPlus (not SQLDeveloper) as the APPS database user.
- 3. Invoke the script from your download directory:

<download directory>/dmepopqbenablestat.sql

### **Upgrade Existing Business Area for Custom Listings**



Do not perform this task if you are upgrading from release 3.4.x to 3.4.2 as you would have already performed it when you had installed or upgraded to release 3.4.x.

Business area for the custom listing was redesigned in Oracle DMW 3.3. Existing business area that was created prior to release 3.3 are not compatible. Hence, you must upgrade the business area to align with the redesigned custom listing.

If you are upgrading from an existing Oracle DMW release 3.3.x to Oracle DMW release 3.4.2, upgrade the existing business area for custom listing.

- Copy the file \$CDR\_TOP/patch/115/sql/cdrupgradeclba.sql to a download directory.
- 2. Log in to SQL\*Plus as the APPS database user.
- 3. Execute the script from the download directory:

```
<download_directory>/cdrupgradeclba.sql
```

When prompted, enter the application user name. For example, Enter application user name:user1@oracle.com.

This script submits the CDR\_UPGRADE\_CLBA job.

4. To track if the CDR\_UPGRADE\_CLBA job is created:

```
select job_name, state from DBA_SCHEDULER_JOBS where
job_name='CDR_UPGRADE_CLBA';
```

5. To monitor the running status of the job while it is executing:

```
SELECT job_name, session_id, running_instance FROM DBA SCHEDULER RUNNING JOBS WHERE JOB NAME = 'CDR UPGRADE CLBA';
```

**6.** After the job execution completes, to check the status of the job:

```
select job_name, status, error#, additional_info from
dba_scheduler_job_run_details where job_name='CDR_UPGRADE_CLBA'
order by actual start date desc;
```

7. To extract the log file from the CDR\_EXE\_DEBUG table:

```
select logentry from cdr_exe_debug where
location='CDR UPGRADE CLBA' order by seq;
```

### Upgrade File Watcher to Support Archiving Files (Optional)

File Watcher now supports automatically archiving loaded data files. To archive loaded files, you must set up the folders in which to store them the same way you do the folders where you put files to be loaded: create a specified directory structure and register the path for each as Oracle LSH profile values.

To archive files in an existing, pre-release 3.4.2 study, edit the study File Watcher and click **Regenerate** to enable archiving for the study.

For more information, see Oracle Life Sciences Data Management Workbench Administration Guide.

### Configure for Disaster Recovery

For information on how to configure for the disaster recovery, see Configuration for Disaster Recovery (Document ID 3045426.1) on My Oracle Support.

# Install Oracle Thesaurus Management System (Optional)

If you plan to use Oracle Thesaurus Management System (TMS) as a coding tool integrated with Oracle DMW, follow instructions in Install Oracle Thesaurus Management System (Optional).

### Migrate the Editioned Objects



Do not perform this task if you are upgrading from release 3.4.x to 3.4.2 as you would have already performed it when you had installed or upgraded to release 3.4.x.

#### Note:

- For fresh installation, migrating the editioned objects is not required.
- For an upgrade, migrate the editioned objects after Oracle DMW 3.4.2 upgrade in the next downtime.

For information on how to run the script to migrate the editioned objects, see *Migration Script of Editioned Objects to Non-Editioned Objects* (Document ID 2979606.1) on My Oracle Support.

4

### What's Next

After you have finished all the installation tasks in this book, you must do the following tasks before you can begin to use the Oracle Life Sciences Data Management Workbench (Oracle DMW).

You perform most of the following tasks in Oracle Life Sciences Data Hub (Oracle LSH):

- Set Up System Security
- Set Up User Security
- · Set Up Oracle LSH Services
- Assign User Group to InForm Family Adapter
- Set Up OAuth for InForm and Oracle DMW Integration
- Enable rng-tools to Avoid Performance Issues While Sending Discrepancies
- Set Required Profile and Lookup Settings
- Create Study and Library Categories in Oracle LSH
- · Set Up File Watcher
- Set Up Logging
- Integrate Other Applications (Optional)

### Set Up System Security

For information on securing your system, see *Oracle Life Sciences Warehouse Security Guide* and the *Secure Configuration Guide for Oracle E-Business Suite Release 12* (My Oracle Support document 403537.1.)

# Set Up User Security

Oracle DMW uses the Oracle LSH security system, which uses the user security features of the Oracle E-Business Suite. See the *Oracle Life Sciences Data Management Workbench Administration Guide*.

# Set Up Oracle LSH Services

Define Oracle LSH service locations and service instances to support Oracle DMW features as follows, following instructions in the *Oracle Life Sciences Data Hub System Administrator's Guide*.

This section contains details to do the following:

- Distributed Processing Services for File Watcher
- PLSQL Service Instances

#### Distributed Processing Services for File Watcher

You need the following service types to support Oracle DMW File Watcher:

- Text for SQL Loader if you are loading text files from labs or elsewhere.
- SAS if you are loading SAS files from labs or elsewhere.

#### **PLSQL** Service Instances

InForm and Clinical One metadata and data loading use the PLSQL service. Oracle LSH installation automatically creates a service location with the database SID as its name and creates the PLSQL service under it in the Oracle LSH user interface with three service instances, which allows concurrent processing of three PL/SQL jobs.

In Oracle DMW, these jobs include:

- Loading metadata and data for InForm and Clinical One studies
- Executing a PL/SQL custom program for a transformation
- Executing a generated transformation
- Executing a validation check batch

Increase the number of PLSQL service instances to support the number of PL/SQL jobs you are likely to run concurrently. Oracle recommends a setting of 100.

# Assign User Group to InForm Family Adapter

Assign appropriate user group(s) to the InForm Adapter family as described in the *Oracle Life Sciences Data Hub System Administrator's Guide*.

# Set Up OAuth for InForm and Oracle DMW Integration

For information on how to set up the OAuth for InForm and Oracle DMW integration, see Oracle Life Sciences Data Management Workbench and InForm OAuth Set Up Prerequisites (Document ID 2924826.1) on My Oracle Support.



OAuth setup is applicable only for integration of Oracle DMW with InForm 7.0.1 and higher versions.

# Enable rng-tools to Avoid Performance Issues While Sending Discrepancies

The rngd service uses multiple entropy sources to constantly refresh the system entropy pool. To avoid any system performance issues while sending discrepancies, install the rng-tools and enable rngd.

 If rng-tools is not installed on the system, install it by executing the following command using Linux:

- \$ yum install rng-tools
- 2. To check if the rng-tools is enabled, execute the following command:
  - \$ systemctl status rngd
- 3. If the rng-tools is disabled, execute the following command to enable it:
  - \$ systemctl enable --now rngd

### Set Required Profile and Lookup Settings

Oracle DMW uses Oracle Applications profiles and lookups to determine some aspects of system behavior. See the *Oracle Life Sciences Data Management Workbench Administration Guide* for information.

# Create Study and Library Categories in Oracle LSH

After finishing the installation, create subdomains within the shipped Oracle DMW domain to organize your company's studies and libraries. See the *Oracle Life Sciences Data Management Workbench Administration Guide* for information.

### Set Up File Watcher

For details on setting up File Watcher, see the *Oracle Life Sciences Data Management Workbench Administration Guide*.

## Set Up Logging

After you deploy the Oracle DMW application (dmwapp), perform the following steps to enable logging for dmwapp at the INFO level.



Ensure that you perform these steps whenever you need to restart the managed server. The system you use depends on where you deployed Oracle DMW (for example, WebLogic Server or Oracle Enterprise Manager). This procedure uses Oracle Enterprise Manager (OEM).

- Log in to the managed server where you deployed Oracle DMW (for example, OEM).
- 2. From the Server section, select the managed server where you deployed Oracle DMW.
- 3. From the WebLogic Server menu, select Logs > Log Configuration.
- **4.** Expand Root Logger, locate **dmwapp**, and select **Notification: <#> (INFO)** from the Oracle Diagnostic Logging Level (Java Level) column.
- Click Apply. If you deployed Oracle DMW to more managed servers, repeat steps 2 through 4 for each server.



# Integrate Other Applications (Optional)

If you plan to use Oracle or third-party applications with Oracle DMW, follow instructions in the Oracle Life Sciences Data Hub Installation Guide and Oracle Life Sciences Data Hub System Administrator's Guide to integrate them with Oracle LSH, including defining Distributed Processing Services for them. Applications must be purchased and licensed separately.

You can use Oracle Business Intelligence Enterprise Edition (OBIEE) for data visualizations

If you plan to integrate with Oracle Identity Cloud Services (IDCS) for the single sign-on solution, follow instructions in *Oracle Life Sciences Data Hub and Oracle Life Sciences Data Management Workbench SSO Configuration with IDCS* (Doc ID 2862928.1) on My Oracle Support.



### **Architecture**

The following figure shows the architecture described in this section.

**Data Management Workbench** rsync/port - 22 Generic Adapter DB Replication(ADG)/port 1521 https/443 https/443 Internet https IDCS Replication Data Center https/443 (If SSO) VPN/ SFTP/22 SFTP/22 UI User https/443 SFTP/22 F-Tier https/443 https/443 SFTP/22 **Outbound Proxy** Data File Upload Load Balancer SFTP/22 https/443 SFTP **DP Server** LSH TMS DMW File Watcher SQL\*Loader Server Server Servers https - SOAP/443 InForm (GBUCS) OEL 7.x WLS 10.3.6 OA Fwk. Java JDK 1.8 (If SSO) OEL 7.x Generic MicroSoft Windows Server 2012 M-Tier Visualization WLS 12.2.1.4 Java JDK 1.8 ttps – REST API Clinical One (CNE Adapter Admin https - REST API eneric connecto JDBC Sqlnet / 1521 https - REST API **Customer Premises** IDCS DB -Tier sqlnet (GBUCS) sqlnet ClinicalOne DataHub **Oracle Data Center** (CNE)

Figure 5-1 Oracle Life Sciences Data Management Workbench Architecture

This section contains the following topics:

- Client Tier
- Application Tier
- Database Tier

### **Client Tier**

There are two ways to set up a client, depending on the type of user:

**Most Users**: Users who do not write custom programs for transformations and validation checks, require the following on their personal computers:

A web browser

Java Virtual Machine (JVM)

Administrators require JVM to use any of the Oracle Forms screens related to security, including setting up user accounts, and to run the post-installation jobs.

**Programmers**: Users who write custom programs in an integrated development environment from Oracle LSH require additional software:

- One or more integrated development environments, such as PC SAS, SQL\*Plus, or SQL Developer
- Oracle LSH plug-in for launching Integrated Development Environments (IDEs)
- WinZip
- Web browser

### **Application Tier**

Oracle DMW has two distinct application tiers:

- Oracle LSH Application Tier
- Oracle DMW Application Tier

#### Oracle LSH Application Tier

In addition to standard Oracle Applications components, the Oracle LSH application tier includes the following:

**Oracle LSH Application Server**: The Oracle LSH application srver renders the user interface using the Oracle Applications Framework and handles the communication between the user interface and the database using the Java Runtime Environment.

**Oracle LSH Distributed Processing (DP) Server**: The Oracle LSH DP server handles the communication between Oracle LSH and the external processing systems required to support the IDEs.

**Processing Systems**: XML Publisher is required for internal Oracle LSH processing. The other systems are required only if you are developing Oracle LSH Programs in those technologies:

SAS executes user-developed SAS Programs.

#### **Oracle DMW Application Tier**

The Oracle DMW-specific application tier requires Oracle WebLogic Server and Oracle Applications Developer.

#### **Database Tier**

Oracle DMW uses the Oracle LSH database tier that includes:

**Oracle Enterprise Edition RDBMS**: All of Oracle LSH's database tier components use the Oracle Enterprise Edition database server and database.

**Oracle Applications Schema**: The Oracle Applications Schema is the schema installed as part of the Oracle Applications installation. It contains the Oracle LSH schema.



**Oracle LSH Database Server and Schema**: These include Oracle LSH's business logic in PL/SQL packages, internal Oracle LSH tables and views, security, adapters, and APIs; as well as Oracle LSH user-developed metadata tables and packages.

**Oracle Thesaurus Management System (Oracle TMS)**: Oracle LSH classification system is based on Oracle TMS.

