Oracle® Product Data Quality

Oracle DataLens Server Installation Guide

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Oracle Product Data Quality Oracle DataLens Server Installation Guide, Version 5.6

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Preface

The purpose of the Oracle DataLens Server Installation Guide is to describe the installation procedure for the Oracle DataLens Server on Windows and Linux platforms.

Audience

This document is intended for system administrators or application developers who are installing an Oracle DataLens Server. It is assumed that readers have a basic understanding of the DataLens technology and have a general understanding of Windows and Linux platforms.

Related Documents

For more information, see the following documents in the documentation set:

- The *Oracle Product Data Quality Hardware and Software Specification* details the systems software and hardware specifications necessary for the Oracle Product Data Quality software.

- The *Oracle Product Data Quality What's New in OPDQ* describes the features of eachrelease of the product

- The *Oracle Product Data Quality Oracle DataLens Server Administration Guide* provides information about managing an Oracle DataLens Server.

- The *Oracle Product Data Quality COM Interface Guide* provides information about installing and using the Oracle DataLens Server COM APIs.

- The *Oracle Product Data Quality Java Interface Guide* provides information about installing and using the Oracle DataLens Server Java APIs.

- The *Oracle Product Data Quality Application Studio Reference Guide* provides information about creating and maintaining Data Service Applications (DSAs).

- The *Oracle Product Data Quality AutoBuild Reference Guide* provides informationabout creating initial data lens based on existing product information and datalens knowledge

- The *Oracle Product Data Quality Knowledge Studio Reference Guide* provides information about creating and maintaining data lenses.

- The *Oracle Product Data Quality Governance Studio Reference Guide* provides information about creating and maintaining Data Service Applications (DSAs).

- The *Oracle Product Data Quality Glossary* provides definitions to commonly used Oracle Product Data Quality technology terms.

- The *Oracle Product Data Quality Services for Excel Reference Guide* provides information about creating a DSA based on data contained in a Microsoft Excel spreadsheet.

- The *Oracle Product Data Quality Task Manager Reference Guide* provides information about managing tasks created with the Task Manager or Governance Studio applications.

See the latest version of this and all documents listed at the Oracle Product Data Quality Documentation Web site:

http://download.oracle.com/docs/cd/E20593_01/index.htm

The following documents may also be useful:

- *Oracle Fusion Middleware Installation Guide for Oracle WebLogic Server 11g Release 1(10.3.4)*

  http://download.oracle.com/docs/cd/E17904_
  01/doc.1111/e14142/toc.htm

- *Oracle Fusion Middleware Installation Guide for Oracle WebLogic Server 11g Release 1(10.3.3)*

  http://download.oracle.com/docs/cd/E14571_
  01/doc.1111/e14142/toc.htm

- *Oracle Fusion Middleware Installation Guide for Oracle WebLogic Server 11g Release 1(10.3.1)*

  http://download.oracle.com/docs/cd/E15523_
  01/doc.1111/e14142.pdf

  > **Note:** This is the correct installation guide for the 10.3.2 WebLogic version though the title of this document indicates the 10.3.1 version.This versioning issue is explained in the *Oracle Fusion MiddlewareRelease Notes 11g Release 1 (11.1.1)* for your platform.

- *Oracle Fusion Middleware Installation Guide for Oracle WebLogic Server 11g Release 1(10.3.1)*

  http://download.oracle.com/docs/cd/E12839_
  01/doc.1111/e14142.pdf

- *Oracle WebLogic Server Installation Guide 10g Release 3 (10.3)*

  http://download.oracle.com/docs/cd/E12840_
  01/common/docs103/pdf/install.pdf

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.

Convention	Meaning
italic	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.
`monospace`	Boldface, monospace type indicates commands or text that you enter.

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1

Overview

Oracle DataLens Server is built on industry-leading DataLens™ Technology to standardize, match, enrich, and correct product data from different sources and systems. The core DataLens Technology uses patented semantic technology designed from the ground up to tackle the extreme variability typical of product data.

Oracle Product Data Quality uses three core DataLens Technology modules: Governance Studio, Knowledge Studio, and Application Studio. The following figure illustrates the process flow of these modules.
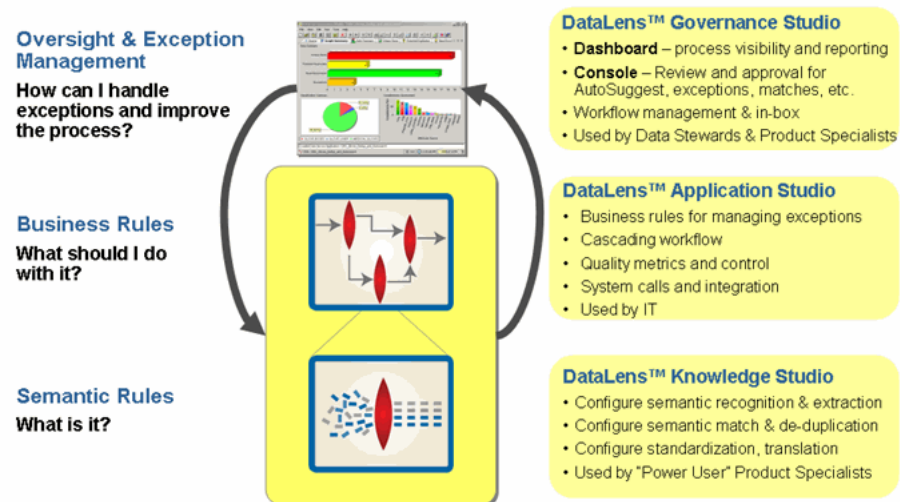
Overview

The Oracle DataLens Server can be configured to run with multiple servers:

- Oracle DataLens Administration Server

- Oracle DataLens Transform Server

The administration of all servers in a multi-server configuration is controlled with the **Oracle DataLens Administration Server**. The purpose of the Administration Server is to manage the various administrative tasks of the servers for the Server Groups (referred to as **Transform Servers**) and can itself serve as its own Transform Server when installed alone in a single node configuration. By spreading the data processing load across multiple servers the Oracle DataLens Server system provides scalability and configuration control over the various functional areas involved in developing, testing, and ultimately executing Oracle data lens jobs.

The type of **Oracle DataLens Server Group** that a Transform Server belongs to controls the individual server functionality. A Server Group may contain one or many physical servers. There are three types of Server Groups:

- Development Server Group

- Production Server Group

- Quality Assurance Server Group

The Server Groups contain individual Oracle DataLens Transform Servers on physical machines that can load balance among servers within the group. The data lenses and DataLens Service Applications (DSAs) are deployed from one group to the next beginning with the development group, then migrating to the Quality Assurance Group for testing before arriving in the Production Group for deployment to production. This multiple group migration function facilitates an enterprise business process where multiple functional areas work on data lens objects in stages before releasing them to production.

Oracle DataLens Server Types

The following sections describe the types of Oracle DataLens Servers.

Oracle DataLens Administration Server

An Oracle DataLens Administration Server is used to:

- create and maintain users, and roles and responsibilities,

- security,

- configure servers, connections, and Web services,

- manage jobs, and

- manage the creation, maintenance, and testing of data lenses, and DSAs.

Knowledge Studio users connect to this server for archiving and versioning, locking for update, and sharing data lenses and DSAs with other Knowledge Studio users. Only one Oracle DataLens Administration Server is allowed per deployment.

Oracle DataLens Transform Servers

An Oracle DataLens Transform Server is used for running jobs and for deploying data lenses and DSAs in a production environment. They are also used for development and testing. Transform Servers do not have administrative privileges.

Server Configuration Example

A Oracle DataLens Server consists of two components: the Administration Server and one or more Transform Servers that reside in one or more Server Groups.

The Oracle DataLens Server loads all data lenses into memory that have been flagged as loaded in the `ServerProfiles` configuration file. This file should never need to be edited manually, but can be modified using the Oracle DataLens Server Administration Web pages.

Enterprise System: Production Configuration

One Administration/Development Server (1)
Administration Server with 8 Cores / 32 GB RAM

One Quality Assurance Server (1)
Quality Assurance Server with 8 Cores / 32 GB RAM

One Server Group with Two Production Servers (2)
Production Servers each with 8 Cores / 32 GB RAM

Oracle recommends that Enterprise Customers proceed with a multi-tiered server environment consisting of one Administration Server, one Quality Assurance Server, and two Production Servers. The Production Servers are recommended to be eight core boxes and will be configured to share processes (multi-threading) with load balancing.

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Preparing for Installation

This chapter describes the server requirements, installation path, and preparation steps that you must follow prior to installing an Oracle DataLens Server and data repository.

Hardware and Software Requirements

You must ensure that the following Oracle DataLens Server hardware and software requirements are observed. These requirements represent the certified and supported server configurations.

- **Hardware**
    - 8 Cores, 2-3 GHz Each (2 GHz minimum speed)
    - 4 GB RAM per Core, 500 MB Free
    - Standard Hard Drive, 100 GB Free
    - Optical Drive
    - Network Connectivity
- **Operating System**
    - Windows Server 2003 64-bit with SP2
    - Windows Server 2008 64-bit with SP1
    - Red Hat Enterprise Linux 4.0 Update 7 or greater (64-bit)
    - Red Hat Enterprise Linux 5.0 Update 3 or greater (64-bit)
- **Application Servers**
    - Apache Tomcat version 6.0.29
        - * Java Development Kit (JDK) 6 Update 21 (1.6.0_21)
    - Oracle WebLogic Suite 10g Release 3 (10.3) and 11g Release 1 (10.3.1, 10.3.2, 10.3.3, or 10.3.4)
        - * Oracle JRockit JDK 28.1 64-Bit

> **Note:** The system has been certified with the preceding software versions. For an updated list of certified platforms and versions for this product prior to installation, refer to the Oracle Product Data Quality Certification Matrix at:
>
> http://www.oracle.com/technetwork/middleware/ias/dow
> nloads/fusion-certification-100350.html
>
> Locate and select the **Oracle Product Data Quality Server System Requirements and Supported Platforms** option.

Installation Path

The Oracle DataLens Administration Server and data repository installation involves four main stages as shown in the following figure.
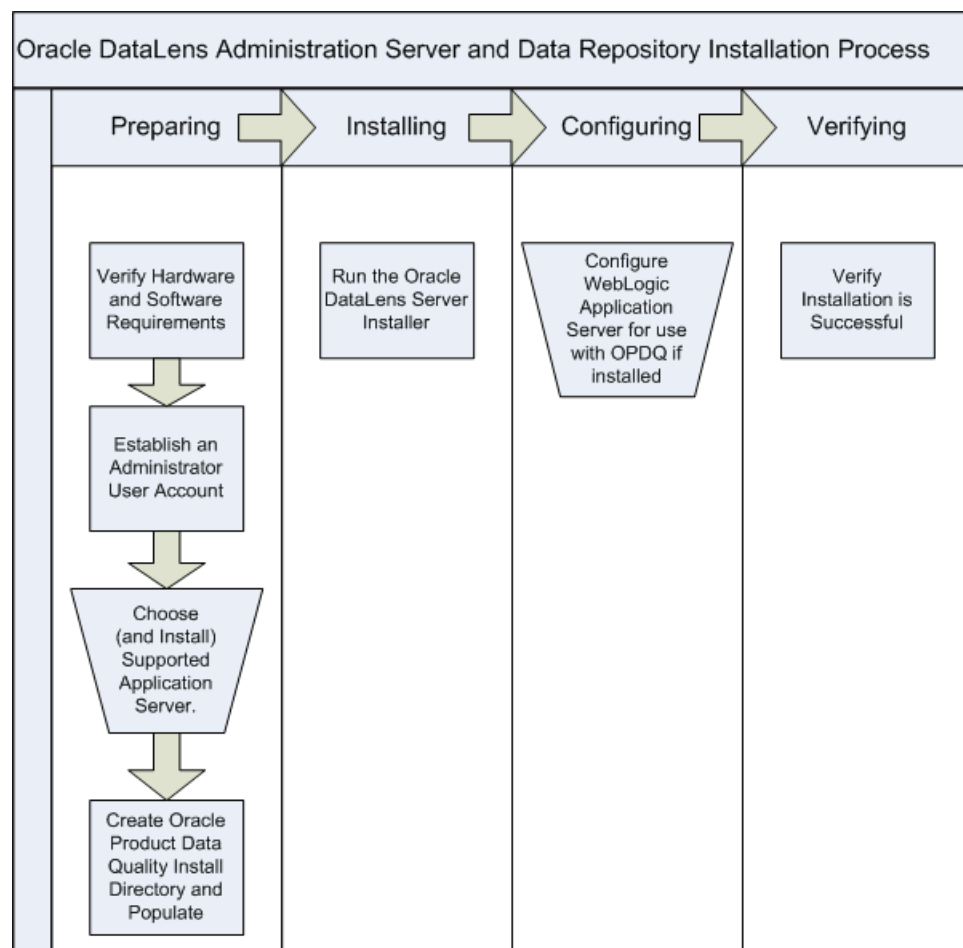
The tasks included in each stage are found as follows:

- Preparing:
  - All preparation tasks are included in the sections in this chapter.
- Installing:
  - To install the Oracle DataLens Server and data repository, including the optional Tomcat Application Server, go to Chapter 3, "Running the Installer."

- Configuring:
  - To configure a WebLogic Application Server, go to Chapter 4, "Configuring a WebLogic Server."
- Verifying:
  - To verify the installation, go to Chapter 5, "Verifying the Server Installation."

Upgrading an Oracle DataLens Administration Server

An upgrade process exists from a earlier 5.x version to version 5.6 and is available from the Oracle Support Web site.

Locate and download the version 5.6 upgrade patch:

1. Browse to the My Oracle Support Web site at:

   https://support.oracle.com

2. Log in or register.

3. Click the **Patches & Updates** tab.

4. Click **Product or Family (Advanced Search)**.

5. Search for Oracle Product Data Quality by beginning to enter the name in the **Product** field and then select it when it is displayed in the list.

6. Select the **Release** list, click the arrow adjacent to the Oracle Product Data Quality folder.

7. Select the **OPDQ 5.6** release and then click **Close**.

8. Click **Search**.

9. Select the current upgrade patch to version 5.6 from the list of patches.

Installation and use instructions are found in the *Readme* file included in the patch.

Oracle recommends that you always create a test environment for an upgrade before attempting to upgrade your production environment.

Note: Assistance for this upgrade can be obtained by contacting Oracle Consulting Services. This should be a planned migration to ensure the retention of your Server Group topology, data repository, DSAs, data lenses, and data.

Establishing an Administrator User Account

An administrator user account (`dlsadmin` for example) is used for all of the servers in the OPDQ Server Topology. You then use this administrative user throughout your Oracle DataLens Server Topology to install or maintain these servers.

Ensure that the UIDs and GUIDs for all of the administrator user accounts match on the Oracle DataLens Administration Server and machines that you want to use as Oracle DataLens Transform Servers. NFS tracks users by the UID, so these *must* match on all servers.

Contact your system administrator for assistance in creating a new or identifying an existing administrator user account (`dlsadmin` or other) on the servers that you want to use in the OPDQ Server Topology. This administrator user *must* have full

permissions (read, write and execute) to the directories that will contain the OPDQ installation files and target installation directory; these default directories are:

On Linux: `/opt/dls_install` and `/opt/Oracle/Middleware/opdq`

On Windows: `C:\dls_install` and `C:\Oracle\Middleware\opdq`

Always use this administrator user when logging into any of the Oracle DataLens Server machines to perform installation, upgrades, or maintenance.

This is applicable to both Linux and Windows.

Creating and Populating the Oracle Product Data Quality Installation Directory

To create an installation directory, download, and unzip the Oracle Product Data Quality product use the following steps:

1. Ensure that your server meets the software and hardware requirements and that you have established an administrative user.

2. Log in to the server as an administrator user.

3. Create the appropriate installation directory as follows:

    On Linux: `/opt/dls_install`

    On Windows: `C:\dls_install`

    > **Note:** Do not use spaces in the directory name as this causes an installation error.

    > **Note:** On some Linux systems, the root file system is configured with minimal disk space. Ensure that there is at least 350 MBs of disk space available in the `/opt/dls_install` file system.
    >
    > It is not recommended to install the Oracle DataLens Server in the `root` ("/") file system.

4. Browse to the Oracle E-Delivery Web site at:

    http://edelivery.oracle.com

5. Click the **Continue** link or click a language.

6. Enter the required information and select a country from the list.

7. Click both check boxes to accept the License Agreement and Export Restrictions.

8. Click **Continue**.

9. From the **Select a Product Pack** list, select **E-Business Suite**.

10. From the **Platform** list, select either **Linux x86-64** or **Microsoft Windows x64 (64-bit)** as appropriate for your OS.

11. Click **Go**.

12. Select the **Oracle Product Data Quality 5.6.nn Media Pack** option and click **Continue**.

13. Click the **Download** button.

14. Save the product zip file, V*nnnnn*.*nn*, to the installation directory you created in Step 3.

15. Unzip V*nnnnn*.*nn* in the same directory to extract `oracle_datalens_server_5_6_0.zip`.

16. Unzip `oracle_datalens_server_5_6_0.zip` in the same directory to extract all files.

The installation directory now contains the `DevToolKit`, `drivers`, `install`, and `server` directories, as well as several other files. You have all of the files necessary to install Oracle Product Data Quality.

> **Note:** Do not place any installation files in the `.../Oracle/Middleware` or `...\Oracle\Middleware\` directories.

Choosing an Application Server

You can choose from two supported application servers, Apache Tomcat or Oracle WebLogic Server. The Tomcat Application server is installed automatically by the Oracle DataLens Server installer though the WebLogic Application Server is installed manually. Either installation must occur prior to installing the Oracle DataLens Server and data repository.

Use one of the following sections to install your application server:

Setting the Tomcat Application Server to Be Installed

The Tomcat Application Server and service can be installed by the Oracle DataLens Server installer.

To obtain the Tomcat supported software and ensure that the installer can locate it for installation:

1. Browse to the Tomcat Web site at:

http://tomcat.apache.org/download-60.cgi

2. Download the Tomcat 6.0.29 zip file appropriate for your OS to the installation directory:

On Linux: `/opt/dls_install`

On Windows: `c:\dls_install`

> **Note:** You must ensure that the Tomcat zip file is one directory above the installer script. Any other location this causes an error and Tomcat will not be installed. For example:
>
> On Linux: Tomcat must be located in `/opt/dls_install/` while the installer is located in `/opt/dls_install/install/dlsintall.sh`.
>
> On Windows: Tomcat must be located in `c:\dls_install\` while the installer is located in `c:\dls_install\install\dlsinstall.bat`.

> **Note:** The location of the installation directory and the destination directory where you want to install your Oracle DataLens Server *must* be on the same drive.

Installing a WebLogic Application Server

To use a WebLogic Application Server, you must first install Oracle JRockit JDK 28.1 64-Bit using the download and installation instructions from:

http://www.oracle.com/technetwork/middleware/jrockit/downloads/index.html

Oracle recommends that you create a domain named `dls_domain` as the name of your domain server on each Oracle DataLens Transform Server installation. You then use this domain throughout your Oracle DataLens Server Topology. This is applicable to both Linux and Windows.

Use one of the following installation guides to install a supported WebLogic release:

- *Oracle® Fusion Middleware Installation Guide for Oracle WebLogic Server 11g Release 1 (10.3.4)*

  http://download.oracle.com/docs/cd/E15586_01/doc.1111/e14142/toc.htm

- *Oracle® Fusion Middleware Installation Guide for Oracle WebLogic Server 11g Release 1 (10.3.3)*

  http://download.oracle.com/docs/cd/E14571_01/doc.1111/e14142/toc.htm

- *Oracle® Fusion Middleware Installation Guide for Oracle WebLogic Server 11g Release 1 (10.3.1)*

  http://download.oracle.com/docs/cd/E15523_01/doc.1111/e14142.pdf

  > **Note:** This is the correct installation guide for the 10.3.2 WebLogic version though the title of this document indicates the 10.3.1 version. This versioning issue is explained in the *Oracle® Fusion Middleware Release Notes 11g Release 1 (11.1.1)* for your platform.

- *Oracle® Fusion Middleware Installation Guide for Oracle WebLogic Server11g Release 1 (10.3.1)*

  http://download.oracle.com/docs/cd/E12839_01/doc.1111/e14142.pdf

- *Oracle® WebLogic Server Installation Guide 10g Release 3 (10.3)*

  http://download.oracle.com/docs/cd/E12840_01/common/docs103/pdf/install.pdf

Next Step

The next task in the installation process is to install the Oracle DataLens Administration Server and data repository. Continue to Chapter 3, "Running the Installer."

3

Running the Installer

This chapter describes how to run the Oracle DataLens Server installer on Linux and Windows.

You should observe the following before attempting this installation:

■ Ensure that any firewall installations are not blocking port 2229 or the port you setup for the Oracle DataLens Server. The installation will not work if firewall is blocking the port that has been chosen for Oracle DataLens Server.

■ A minimum of 1 GB of disk space and 2 GB of RAM for the installation. Additional space will be required for data service applications and data lenses.

> **Note:** You can ensure that the Tomcat Application Server is installed and configured during the installation (Linux or Windows) using the information in "Setting the Tomcat Application Server to Be Installed" on page 2-5.

Installing on Linux

To install an Oracle DataLens Administration Server on a Linux machine:

1. Ensure that you have followed the instructions in "Choosing an Application Server" on page 2-5.

2. Log in to the server as an administrator user. For more information, see "Establishing an Administrator User Account" on page 2-3.

3. Go to the installation directory:

   cd /opt/dls_install/install

4. Change the permissions of the .sh files in the directory so that they are executable:

   chmod +x *.sh

5. Execute the Oracle DataLens Server install script from the install directory:

   ./dlsinstall.sh

> **Note:** If you are logged in as `root`, the following message is displayed:
>
> ```
> You are installing as root. Do you want to continue? [Y/N] (Y):
> ```
>
> Enter **Y** to continue or **N** to exit and log in as a different administrative user.

```
Welcome to the Oracle Product Data Quality 5.6 Installation.
Will this be a Tomcat Server based installation? [Y/N]: (Y)
```

6. If you want to install the Tomcat Application Server, enter **Y**. Otherwise, enter **N** and continue to the next step.

```
Please make sure that your existing Tomcat server is not running.
Enter Y to continue or N to exit and manually stop your Tomcat server [Y/N]:
(Y)
```

7. If you have Tomcat installed and the server is running, enter **N** to exit and stop your server. Otherwise, enter **Y** to continue with the installation.

```
Please enter your DataLens Server Home directory (/opt/Oracle/Middleware/opdq/:
```

8. Press **Enter** to accept the default product home directory or enter a different home directory for your Oracle DataLens Server (for example, `/opt/opdq`) then press **Enter**.

   If the directory does not exist, it is created.

```
Will this be an Admin or Transform server [A/T]: ()
```

9. Enter **A** and press **Enter** to install an Oracle DataLens Administration Server.

```
Please enter your DataLens Server Data directory
(/opt/Oracle/Middleware/opdq/data):
```

10. Press **Enter** to use the default data directory, which is the home directory path you identified in Step 8.

    If the directory does not exist, it is created. Messages similar to the following are displayed:

```
Copying the Server Files to /opt/Oracle/Middleware/opdq/...
Created directory /opt/Oracle/Middleware/opdq/data
Please enter the location for JDK installation (/opt/Java):
```

11. Press **Enter** to use the default Java directory or enter the directory path to your JDK installation then press **Enter**.

    If you did *not* install Tomcat, then messages similar to the following are displayed:

```
Installing 64-bit JDK... This may take a few minutes...
Please enter DataLens Server port number (2229):
```

    Otherwise, the installer begins to install Tomcat and messages similar to the following are displayed:

```
Installing 64-bit JDK... This may take a few minutes...
Installing Tomcat...
Please enter the Tomcat server port number:  (2229)
```

12. Press **Enter** to use the standard 2229 port or enter the port number you want your application server to run on.

Messages similar to the following are displayed:

```
Configuring the SvrPaths file...
.
.
Copying the WAR file to /opt/Oracle/Middleware/opdq/datalens.war
.
.
.
```

The JDK is installed, if set to do so, Tomcat is installed, the Oracle DataLens Administration Server and data repository are created.

If Tomcat was installed, the OPDQ Web Archive (WAR) file has been automatically configured and deployed. The Tomcat service is running.

If WebLogic was installed, the OPDQ WAR file is now ready for deployment to a WebLogic Application Server.

13. Set the OPDQ home environment variable:

export OPDQ_HOME=*home_directory*

Where *home_directory* is the home directory path you identified in Step 8.

Configuring Run Levels for Tomcat Automatic Restart

A runlevel script is available to automatically start the Tomcat application server and your Oracle DataLens Server (dls-tomcat) after a system reboot. The basic steps required to setup the dls-tomcat runlevels after a successful Oracle DataLens Server installation are as follows:

> **Note:** These steps require root or administrative permissions to complete. Contact your system administrator for assistance.

1. Create a symbolic link to the Oracle DataLens Server start script as follows:

ln -s */opdq_home_directory*/tomcat/bin/dls-tomcat.sh /etc/init.d/dls-tomcat

Where *opdq_home_directory* is the home directory of your Oracle Datalens Server.

2. Run chkconfig to add dls-tomcat to the list of services to be started with the specified runlevels. If a different runlevel scheme is required then the dls-tomcat.sh script will have to be adjusted accordingly.

chkconfig --add dls-tomcat

Installing on Windows

To install an Oracle DataLens Administration Server on a Windows machine:

1. Ensure that you have followed the instructions in "Choosing an Application Server" on page 2-5.

2. Log on to the server as an administrator user.

3. Locate the MS-DOS Command Prompt (`cmd.exe`), right-click on it, and then select **Run as administrator**.

4. Change directories to `c:\dls_install\install\`.

5. Run the command:

dlsinstall.bat

```
Welcome to the Oracle Product Data Quality 5.6 Installation.
Will this be a Tomcat Server based installation? [Y/N]: (Y)
```

6. If you want to install the Tomcat Application Server, enter **Y**. Otherwise, enter **N** and continue to the next step.

```
Please make sure that your existing Tomcat server is not running.
Enter Y to continue or N to exit and manually stop your Tomcat server [Y/N]:
(Y)
```

If you have Tomcat installed and the server is running, enter **N** to exit and stop your server. Otherwise, enter **Y** to continue with the installation.

```
Please enter your DLS Server Home directory: (C:\Oracle\Middleware\opdq)
```

7. Press **Enter** to accept the default product home directory or enter a different home directory for your Oracle DataLens Server (for example, `C:\opdq`) then press **Enter**.

If the directory does not exist, it is created.

```
Will this be an Admin or Transform server [A/T]:  (A)
```

8. Enter **A** to install an Oracle DataLens Administration Server.

```
Please enter your DLS Server Data directory: (C:\Oracle\Middleware\opdq\data)
```

9. Press **Enter** to use the default data directory, which is the home directory path you identified in Step 7.

If the directory does not exist, it is created.

If you did *not* install Tomcat, then the installation completes and messages similar to the following are displayed:

```
Copying the Server Files to C:\Oracle\Middleware\opdq...
.
.
.
Please enter the DataLens Server port number:  (2229)
```

Otherwise, the installer begins to install Tomcat and the following prompt is displayed:

```
Copying the Server Files to C:\Oracle\Middleware\opdq...
Installing Tomcat...
.
.
.
Please enter the Tomcat server port number:  (2229)
```

10. Press **Enter** to use the standard 2229 port or enter the port number you want your application server to run on.

Messages similar to the following are displayed:

```
Configuring the SvrPaths file...
```

```
.
.
.
Copying the WAR file to C:\Oracle\Middleware\opdq\datalens.war
Starting the Tomcat6opdq service...
.
.
.
Finished the Oracle Product Data Quality 5.6 Installation. (Return to Exit)
```

The JDK is installed, the Oracle DataLens Administration Server and data repository are created.

If Tomcat was installed, the OPDQ Web Archive (WAR) file has been automatically configured and deployed, and the Tomcat service is started.

If WebLogic was installed, the OPDQ WAR file is now ready for deployment to your WebLogic Application Server.

11. Press **Enter** to exit the installation script.

12. Set the OPDQ home environment variable:

    a. Right-click **Computer**, and then select **Properties**.

    b. Click **Advanced system settings**.

    c. Click **Environment Variables**.

    d. From the **System variables** section, click **New**.

    e. Enter **OPDQ_HOME** as the **Variable name**.

    f. Enter is the home directory path you identified in Step 7 as the **Variable value**.

    g. Click **OK** to close all dialogs.

Next Step

The next task in the installation process is to configure your either configure your WebLogic application server or to verify your installation if you installed a Tomcat application server. Continue to the appropriate chapter, Chapter 4, "Configuring a WebLogic Server" or Chapter 5, "Verifying the Server Installation."

4

Configuring a WebLogic Server

The Oracle Product Data Quality WAR file is a fully integrated J2EE Application Server component compatible with WebLogic Application Servers. This chapter describes how to configure an to use a WebLogic Server and deploy the Oracle Product Data Quality WAR file to it for use on a Oracle DataLens Server.

Creating a WebLogic 11g Domain on Linux

Use the following steps to create a WebLogic 11g (10.3.1, 10.3.2, 10.3.3, or 10.3.4) domain on a Linux platform:

1. Log in to the server as an administrator user. For more information, see "Establishing an Administrator User Account" on page 2-3.

2. Go to the /common/bin subdirectory of the WebLogic installation directory.

3. Start the Fusion Middleware Configuration Wizard:

   ./config.sh

   The **Fusion Middleware Configuration Wizard Welcome** screen is displayed.

4. Enter **1** to select the **Create a new WebLogic domain** option.

   The **Select Domain Source** screen is displayed.

5. Enter **1** to select **Choose Weblogic Platform components**.

   The **Application Template Selection** screen is displayed.

6. Enter **next** to select the **Basic WebLogic Server Domain** option.

   The **Edit Domain Information** screen is displayed.

7. Enter a domain name, and then enter **next**. For example, dls_domain.

   Note: A domain name must not start with a number.

   The **target domain directory** screen is displayed.

8. Enter the domain directory or **next** to use the default directory displayed.

   The **Configure Administrator User Name and Password** screen is displayed.

9. Enter **1**, and then enter a user name. For example, dlsadmin.

10. Enter **2**, and enter a password.

11. Enter **3**, and enter the password again confirm it.

12. Enter **4**, and then a description for this administrative user.

13. Enter **next** to save your changes.

    The **Domain Mode Configuration** screen is displayed.

14. Enter **next** to select the **Development Mode** option.

    The **Java SDK Selection** screen is displayed.

15. Enter the number for JRockit JDK 28.1 64-Bit that was installed on your Oracle DataLens Server by OPDQ.

    > **Important:** Ensure that you select JRockit JDK 28.1 64-Bit because this is the only supported version and other versions may be installed.

    The **Select Optional Configuration** screen is displayed.

16. Enter **1** to select **Administration Server**, and then enter **next**.

    The **Configure the Administration Server** screen is displayed.

17. Enter **1**, and then the name of your Oracle DataLens Administration Server. For example, dlsserver.

    > **Note:** The default **Listen address** and **SSL enabled** settings should not be changed.

18. Enter **3**, and then **2229** as the listen port or the port number for your Oracle DataLens Administration Server if you installed it on a different port.

19. Enter **next** to save the changed domain information and continue creating the domain.

    The domain is created and a progress indicator is displayed. Upon completion the configuration wizard exits.

    Any errors encountered during the domain creation are displayed. You must resolve any errors prior to continuing with the domain configuration. For information, see the installation guide for the version of WebLogic that you installed in "Installing a WebLogic Application Server" on page 2-6.

Creating a WebLogic 10g Domain on Linux

Use the following steps to create a WebLogic 10g (10.3) domain on a Linux platform:

1. Log in to the server as an administrator user.

2. Go to the /common/bin subdirectory of the WebLogic installation directory.

3. Start the Fusion Middleware Configuration Wizard:

   ./config.sh

   The **Oracle WebLogic Configuration Wizard Welcome** screen is displayed.

4. Enter **1** to select the **Create a new WebLogic domain** option.

   The **Select Domain Source** screen is displayed.

5. Enter **1** to select **Choose Weblogic Platform components**.

The **Application Template Selection** screen is displayed.

6. Enter **next** to select the default **WebLogic Server** option.

The **Configure Administrator User Name and Password** screen is displayed.

7. Enter **1**, and then enter a user name. For example, `dlsadmin`.

8. Enter **2**, and then a password.

9. Enter **3**, and then enter the password again to confirm it.

10. Enter **4**, and then a description for this administrative user.

11. Enter **next** to save your changes.

The **Domain Mode Configuration** screen is displayed.

12. Enter **1** to select the **Development Mode** option.

The **Java SDK Selection** screen is displayed.

13. Enter the number for JRockit JDK 28.1 64-Bit that you installed on your Oracle DataLens Server.

> **Important:** Ensure that you select Oracle JRockit JDK 28.1 64-Bit because this is the only supported version and other versions may be installed.

The **Choose Configuration Option** screen is displayed.

14. Enter **1** to select **Yes**.

The **Configure RDBMS Security Store Options** screen is displayed.

15. Enter **1** to select no changes.

The **Configure the Administration Server** screen is displayed.

16. Enter **1**, and then the name of your Oracle DataLens Administration Server. For example, `dlsserver`.

> **Note:** The default **Listen address** and **SSL enabled** settings should not be changed.

17. Enter **3**, and then **2229** as the listen port or the port number for your Oracle DataLens Administration Server if you installed it on a different port.

18. Enter **next** to save the changes.

The **Configure Managed Servers** screen is displayed.

19. Enter **next** to save the changes.

The **Configure Clusters** screen is displayed.

20. Enter **next** to advance to the next screen.

The **Configure Machines** screen is displayed.

21. Enter **next** to advance to the next screen.

The **Configure Unix Machines** screen is displayed.

22. Enter **next** to advance to the next screen.

The **target domain directory** screen is displayed.

23. Enter **next** to use the default target directory value or enter the directory that you want the domain created in.

24. Enter **1** and enter a domain name. For example, dls_domain.

> **Note:** A domain name must not start with a number.

25. Enter **next** to modify the name and continue creating the domain.

The domain is created and a progress indicator is displayed. Upon completion the wizard exits.

Any errors encountered during the domain creation are displayed. You must resolve any errors prior to continuing with the domain configuration. For information, see *Oracle WebLogic Server Creating WebLogic Domains Using the Configuration Wizard 10g Release 3 (10.3).*

Creating a WebLogic 11g Domain on Windows

Use the following steps to create a WebLogic 11g (10.3.1, 10.3.2, 10.3.3, or 10.3.4) domain on a Windows platform:

1. Click **Start** > **All Programs** > **Oracle WebLogic** > **WebLogic Server 11gR1** > **Tools** > **Configuration Wizard** to start the WebLogic Configuration Wizard.

The **Fusion Middleware Configuration Wizard Welcome** screen is displayed.

2. Select **Create a new WebLogic domain** option, and then click **Next**.

The **Select Domain Source** screen is displayed.

3. Click **Next** to retain the default selection.

The **Specify Domain Name and Location** screen is displayed.

4. Enter a domain name (for example, dls_domain), retain the default domain location, and then click **Next**.

> **Note:** A domain name must not start with a number.

The **Configure Administrator User Name and Password** screen is displayed.

5. Enter a user name. For example, dlsadmin.

6. Enter a password, and then enter it again to confirm this password.

7. Enter a description for this administrative user.

8. Click **Next**.

The **Configure Server Start Mode and JDK** screen is displayed.

9. Select the **Development Mode** option.

10. Ensure that **Development Mode** option is selected.

11. Select the JRockit JDK 28.1 64-Bit that was installed on your Oracle DataLens Server by OPDQ.

> **Important:** Ensure that you select Oracle JRockit JDK 28.1 64-Bit because this is the only supported version and other versions may be installed.

12. Click **Next**.

The **Select Optional Configuration** screen is displayed.

13. Select **Administration Server**, and then click **Next**.

The **Configure the Administration Server** screen is displayed.

14. Enter the name of your Oracle DataLens Administration Server. For example, `dlsserver`.

15. Enter **2229** as the listen port or the port number for you Oracle DataLens Administration Server if you installed it on a different port.

> **Note:** The default **Listen address** and **SSL enabled** settings should not be changed.

16. Click **Next**.

The **Configuration Summary** screen is displayed.

17. Retain all the domain defaults and click **Create**.

The domain is created and a progress indicator is displayed.

Any errors encountered during the domain creation are displayed. You must resolve any errors prior to continuing with the domain configuration. For information, see the installation guide for the version of WebLogic that you installed in "Installing a WebLogic Application Server" on page 2-6.

18. Ensure that the **Start Admin Server** check box is not selected, and click **Done**.

Creating a WebLogic 10g Domain on Windows

Use the following steps to create a WebLogic domain on a Windows platform:

1. Click **Start** > **All Programs** > **Oracle WebLogic** > **WebLogic Server 10gR3**> **Tools** > **Configuration Wizard** to start the Fusion Middleware Configuration Wizard.

The **Oracle WebLogic Configuration Wizard Welcome** screen is displayed.

2. Select **Create a new WebLogic domain** option, and then click **Next**.

The **Select Domain Source** screen is displayed.

3. Click **Next** to retain the default selection.

The **Configure Administrator User Name and Password** screen is displayed.

4. Enter a user name. For example, `dlsadmin`.

5. Enter a password, and then enter it again to confirm this password.

6. Enter a description for this administrative user.

7. Click **Next**.

The **Configure Server Start Mode and JDK** screen is displayed.

8. Select the JRockit JDK 28.1 64-Bit that you installed on your Oracle DataLens Server.

> **Important:** Ensure that you select Oracle JRockit JDK 28.1 64-Bit because this is the only supported version and other versions may be installed.

9. Click **Next**.

   The **Customize Environment and Services Settings** screen is displayed.

10. Select **Yes,** and the click **Next** to configure your domain.

    The **Configure RDBMS Security Store Database** screen is displayed.

11. Click **Next** to retain the default selection and advance to the next screen.

    The **Configure the Administration Server** screen is displayed.

12. Enter the name of your Oracle DataLens Administration Server. For example, `dlsserver`.

13. Enter **2229** as the listen port or the port number for you Oracle DataLens Administration Server if you installed it on a different port.

    > **Note:** The default **Listen address** and **SSL enabled** settings should not be changed.

14. Click **Next**.

    The **Configure Managed Servers** screen is displayed.

15. Click **Next** to advance to the next screen.

    The **Configure Machines** screen is displayed.

16. Click **Next** to advance to the next screen.

    The **Review WebLogic Domain** screen is displayed.

17. Ensure that **Deployment** is selected in the **Summary View** list, and then click **Next** to advance to the next screen.

    The **Create WebLogic Domain** screen is displayed.

18. Enter a domain name (for example, `dls_domain`), retain the default domain location, and then click **Create**.

    > **Note:** A domain name must not start with a number.

    The domain is created and a progress indicator is displayed.

    Any errors encountered during the domain creation are displayed. You must resolve any errors prior to continuing with the domain configuration. For information, see *Oracle WebLogic Server Creating WebLogic Domains Using the Configuration Wizard 10g Release 3 (10.3)*.

19. Ensure that the **Start Admin Server** check box is not selected, and click **Done**.

Configuring the Domain Variables

You must configure the memory and internal database variables for the dls_domain server to operate properly as follows:

1. Go to the same directory as the one that contains your installation of WebLogic installation. For example, if you selected the default directory when configuring your domain on Linux you would go to the `/opt/Oracle/Middleware` directory.

2. Change directories to the `bin` directory of your domain.

   On Linux: `/user_projects/domains/dls_domain/bin/`

   On Windows: `\user_projects\domains\dls_domain\bin\`

3. Edit the WebLogic environment script:

   On Linux: `setDomainEnv.sh`

   On Windows: `setDomainEnv.cmd`

4. Change the memory variable to the minimum value *or* to the recommended value, which is 80% of the server's total available memory:

   For 11g (Linux or Windows):

   Minimum: `WLS_MEM_ARGS_64BIT="-Xms1024m -Xmx2048"`

   Recommended Example: `WLS_MEM_ARGS_64BIT="-Xms1024m -Xmx26624m"`

   Where the `-Xmx26624` value is set to 80% of the total amount of memory for a 32GB machine.

   For 10g (Linux and Windows):

   Minimum: `MEM_ARGS="-Xms1024m -Xmx2048m"`

   Recommended Example: `MEM_ARGS="-Xms1024m -Xmx26624m"`

   Where the `-Xmx26624` value is set to 80% of the total amount of memory of 32GB machine.

5. Set the permanent memory size variables:

   For 11g (Linux and Windows):

   `MEM_PERM_SIZE_64BIT="-XX:PermSize=1024m"`

   `MEM_MAX_PERM_SIZE_64BIT="-XX:MaxPermSize=2048m"`

   For 10g (Linux and Windows):

   `MEM_PERM_SIZE="-XX:PermSize=512m"`

   `MEM_MAX_PERM_SIZE="-XX:MaxPermSize=512m"`

   These are the lowest settings that will allow the dls_domain to operate properly. You can set these variables higher if additional memory is available on the server.

6. For WebLogic 11g 10.3.3 and later *only*, change the internal database settings so that the OPDQ internal database is used rather than the WebLogic Derby Libraries to as follows:

   a. Find the following lines in this file:

   ```
   if "%DERBY_FLAG%"=="true" (
       set DATABASE_CLASSPATH=%DERBY_CLASSPATH%
   ) else (
   ```

```
              set DATABASE_CLASSPATH=%DERBY_CLIENT_CLASSPATH%
          )
```

b. Add the following lines immediately after the lines located in the preceding step:

```
set DATABASE_CLASSPATH=""
```

c. Find the DERBY_FLAG value and ensure that it is set to false (this is the default) as follows:

```
set DERBY_FLAG=false
```

Important: You must set these OPDQ internal database settings correctly for the Oracle DataLens Server to start.

---

7. Save and close the file.

Starting the WebLogic Domain

The WebLogic domain must be started before the Oracle DataLens Server WAR file can be deployed. To start the domain:

On Linux

1. Go to the /user_projects/domains/dls_domain/bin/ subdirectory of the WebLogic installation directory.

2. Start the domain:

./startWebLogic.sh

On Windows

Click **Start** > **All Programs** > **Oracle WebLogic** >**User Projects** >**dls_domain** >**Start Admin Server for Weblogic Server Domain**.

Deploying the WAR File into the WebLogic Domain

You must modify the dls_domain domain to set the deployment location of the Oracle Product Data Quality WAR file.

1. Start the WebLogic Server Administration Console by browsing to:

```
http://server:2229/console
```

Where *server* is the name of your Oracle DataLens Server.

The **WebLogic Server Administration Console Log in** Web page is displayed.

2. Enter the dls_domain user name and password, and then click **Log In**.

The **Oracle WebLogic Server Administration Console** home page is displayed.

3. Click **Deployments** from the Domain Structure tree.

The **Summary of Deployments** page is displayed.

4. Click the **Install** button.

The **Install Application Assistant** screen is displayed.

5. Enter or locate the path to the WAR file.

   By default, the WAR file is located in:

   On Linux: `/opt/Oracle/Middleware/opdq/`*server*`/datalens.war`.

   On Windows: `C:\Oracle\Middleware\`*server*`\datalens.war`.

   Where *server* is the name of your Oracle DataLens Server.

6. Select the **datalens.war** option, and click **Next**.

7. Click **Next** to install the deployment as an application.

   The optional settings are displayed in the **Install Application Assistant** screen.

8. Retain the page defaults, and click **Finish**.

   The WAR file is deployed and confirmation message that the deployment was successful is displayed in the Summary of Deployments page, which can take several minutes.

   The **Summary of Deployments** page is displayed.

9. Select the check box adjacent to **datalens**.

10. Click **Start** and select **Servicing all requests** to ensure that all requests are sent to the datalens WAR deployment.

Next Step

The final step in the installation process is to verify the installation. Continue to Chapter 5, "Verifying the Server Installation".

5

Verifying the Server Installation

This chapter describes how to verify the Oracle DataLens Server installation on either Linux or Windows servers. To fully verify the successful installation of your Oracle DataLens Server, you should execute both of the following sections.

Verifying Using the Oracle DataLens Server Administration Web Page

Verify that the server is up and running correctly by browsing to the Oracle DataLens Server Administration Web site at:

`http://server:2229/datalens`

Where *server* is the name of the host where the Oracle Datalens Server was installed.

If your browser displays, "The page cannot be displayed", then the problem could be one of the following:

■ The Tomcat Server service or the WebLogic domain has not been started.

■ The Oracle DataLens Server repository was removed or corrupted.

After logging in for the first time using admin/admin1 you will be prompted to change the login password for the Administration Web pages. Change the password and login. After logging in, the Oracle Product Data Quality Administration home page is displayed and is similar to the following:

Ensure that the Oracle DataLens Server configuration parameters on the Oracle DataLens Administration Server home page are correct. The JSP Server indicates the type of application server you have installed, WebLogic or Tomcat.

Check the log file to verify that the server came up with no errors. To view the server log file click the **View DataLens Log** button from the home page.

Review the log for any error messages. A normal, clean installation is similar to the following in which only `INFO` messages appear:

If no server startup errors have been recorded, then the Oracle DataLens Administration Server installation was successful. For more information about the Oracle DataLens Administration Web pages, see the *Oracle Product Data Quality Oracle DataLens Server Administration Guide*.

Verifying Using the OPDQ File Audit
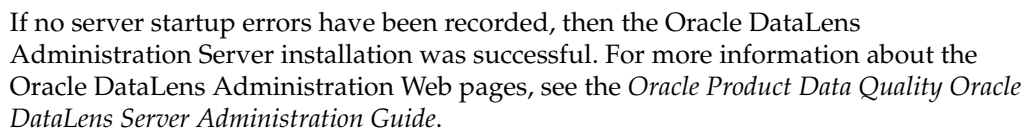
Verify that all OPDQ files have been installed correctly by using the OPDQ `audit` script. Based on the type of installation you selected, WebLogic or Tomcat, all directories and files are inspected to ensure that the structure is correct and that there are no missing files.

The `audit` script uses the following two parameters to define the type of verification that will be executed:

- **tc**

  Used for Tomcat Application Server installations.

- **wls**

  Used for WebLogic Application Server installations.

Verify the OPDQ file structure:

On Linux: `/opt/dls_install/install/audit/audit.sh` *parameter*

On Windows: `C:\dls_install\install\audit\audit.bat` *parameter*

Where *parameter* indicates the verification type, `tc` or `wls`.

Upon completion, a successful verification is indicated by the `Finished` message. If errors are detailed, you should copy the files indicted into the proper directory, and then rerun the `audit` script until a successful verification is accomplished.

Next Steps

Now that you have successfully installed your Oracle DataLens Server, you should install the Oracle Product Data Quality client software by continuing to Chapter 6, "Installing the Client Software."

In addition, you can do the following:

- Install an Oracle DataLens Transform Server
- Install Oracle Product Data Quality Services for Excel including AutoBuild application. For more information, see the *Oracle Product Data Quality Services for Excel Reference Guide* and the *Oracle Product Data Quality AutoBuild Reference Guide*.

6

Installing the Client Software

This chapter describes how to install the Oracle Data Product Quality client software on your client machines. You must have an Oracle DataLens Server installed and running.

You must ensure that the following prerequisites are observed including any software that must be preinstalled.

Oracle DataLens Client Software and Hardware Requirements

You must ensure that the following Oracle Product Data Quality client machine hardware and software requirements are observed. These requirements represent the certified and supported server configurations.

- **Hardware**
  - Intel Pentium IV or newer
  - 2.8 - 3.0 GHz (recommended)
  - 1 GB RAM
  - Hard Drive - 1 GB free
  - Network connectivity
- **32-bit Operating System**
  - Windows XP SP2 or newer
  - Windows Vista
  - Windows 7
- **64-bit Operating System**
  - Windows Vista
  - Windows 7
- **Java Runtime Environment**
  - Java Runtime Environment (JRE) 6 Update 21 (1.6.0_21)
- **Internet Browser**
  - Microsoft Internet Explorer 6 or newer

Client Software

Once you have deployed the Oracle Product Data Quality WAR file to your application server (as described in the previous chapters), you or other users are ready to download and install the Oracle Product Data Quality client software that contains the various client applications. Oracle Product Data Quality uses Java Web Start technology to install and maintain the current version of the client applications.

Oracle recommends that you provide the information (using e-mail or other medium) in the "Installing the Client Applications" section to users who want to use Oracle Product Data Quality to ensure a standard, successful installation process.

> **Note:** Ensure that your Oracle DataLens Server is running before any attempts to download and install the client applications occurs to avoid errors.

Installing the Client Applications

Oracle Product Data Quality uses a concept called Java Web Start to initially install and maintain the current version of the software on your client desktop. The process requires you to access the Oracle DataLens Server to initiate the connection and download the software.

You download and install the Oracle Product Data Quality client applications using Java Web Start by browsing to the installation page for your Oracle DataLens Server as follows:

1. Ensure that you have the Java SE Runtime Environment (JRE) 6 Update 21 installed. You can download the JRE and obtain the installation instructions by browsing to:

   http://www.oracle.com/technetwork/java/javase/downloads/index.html

2. Start Microsoft Internet Explorer.

3. Initiate a connection and download the client software by browsing to:

   http://*server*:2229/datalens/datalens.jnlp

   Where *server* is the hostname of the Oracle DataLens Server.

   > **Note:** If you have setup a different port number for your application server other than 2229, you must use that port number in the following URL when browsing to the Oracle DataLens Server to download the client applications.

   The application download and verification begins.
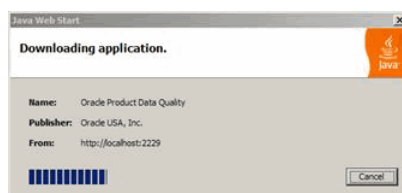
> **Note:** If you receive a **File Download** message indicating that the
> .jnlp file is not associated with a program, you do not have the
> supported JRE installed. Click **Cancel** and return to Step

After the verification completes, the installation begins. Oracle Product Data
Quality files are digitally signed by a trusted source so the following security
warning is displayed:

> **Tip:** To avoid this security dialog in the future, select the **Always
> trust content from this publisher** check box.

4. Click **Run** to continue and complete the installation.

   The Oracle Product Data Quality log on dialog is displayed.

Next Steps

The Oracle Data Product Quality Knowledge Studio, Governance Studio, and Task
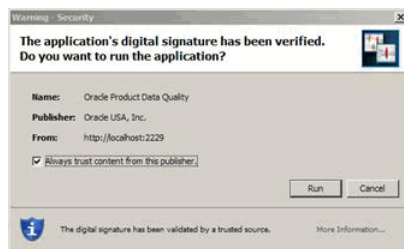Manager applications are ready for use. For more information about how to use each
application, see "Related Documents" on page -vii.

Create users and perform other administrative tasks. For more information, see the
Oracle Product Data Quality Oracle DataLens Server Administration Guide.

Create an Oracle DataLens Transform Server as described in Chapter 7, "Installing an
Oracle DataLens Transform Server."

7

Installing an Oracle DataLens Transform Server

This chapter describes how to install an Oracle DataLens Transform Server in Development, Production, or QA environments on Windows and Linux.

Transform Servers are also installed using the OPDQ installer by using a different option to specify the you are installing a Transform Server.

For a description of Oracle DataLens Administration and Transform Servers, see "Oracle DataLens Server Types" on page 1-2.

Preparing to Install

Before you start the installation process, ensure that the following prerequisites are met:

- You have installed an Oracle DataLens Administration Server on another server in the OPDQ Server Topology. For more information about how to install an Oracle DataLens Administration Server, see Chapter 2 through Chapter 5.

- Obtain Oracle Product Data Quality as described in "Creating and Populating the Oracle Product Data Quality Installation Directory" on page 2-4 as appropriate for the OS on your Transform Server.

- Identify the hostname or IP address and the port number of server on which you will install your Transform Server.

- Identify the location of the Data Directory on your Oracle DataLens Administration Server. For example, on a Linux server using the default installation paths it would be `/opt/Oracle/Middleware/opdq/`.

Installation Path

The Oracle DataLens Transform Server configuration and installation involves three stages as follows:

1. Configuring the Oracle DataLens Administration Server to integrate with Transform Servers thus augmenting the OPDQ Server Topology.

2. Configuring the Data Directory of the Oracle DataLens Administration Server to become shared so that Transform Servers can access it.

3. Installing an Oracle DataLens Transform Server.

Configuring the OPDQ Server Topology

The OPDQ Server Topology defines one of three server group types, Development, QA, and Production. It depicts the Oracle DataLens Transform Servers assigned to each server group. You can run OPDQ jobs on just one Oracle DataLens Transform Server in one server group or multiple server groups with multiple Oracle DataLens Transform Servers in each.

Complete the following tasks to configure your OPDQ Server Topology in preparation for installing your Transform Server:

1. Go to your Oracle DataLens Administration Server Web page and login.

2. View your OPDQ Server Groups by clicking **Server Groups**.

3. Create a new Server Group by clicking **Create a New Server Group**.

4. Enter the appropriate information for the server group (Development, Production, or QA), and then click **Save**.

   You are returned to the Server Groups page.

5. Add your Transform Server to your Server Group by clicking **Add a new Oracle DataLens Server**.

6. Enter the appropriate information including hostname, port number, and server alias, and then select the server group from the **Oracle DataLens Server Group** list.

   > **Note:** The hostname, port number, and server alias must be consistent with the information that you provide during the installation.

7. Click **Submit**.

   This new Transform Server is immediately added to the selected Server Group.

8. View your OPDQ Server Groups by clicking **Platform Topology**.

9. View your new Server Group by clicking on it's icon.

   The topology for the selected Server Group is displayed. The Transform Server that you added with the preceding tasks is displayed as "DOWN" because it has not been installed so it cannot respond to the queries from the Oracle DataLens Administration Server.

Configure and Install an Oracle DataLens Transform Server

This section explains how to configure and install an Oracle DataLens Transform Server on Linux or Windows.

Configuring and Installing on Linux

This section describes how to install an Oracle DataLens Transform Server on a Linux server.

> **Note:** Throughout this section */admin_server_directory* is used to indicate the home directory path to the Oracle DataLens Administration Server. For example, /opt/Oracle/Middleware/opdq/ is the default directory created by the OPDQ installer.

Confirming Consistent Administrator Privileges for Access to the Data Directory

An administrator user account (for example, dlsadmin) is used for all of the servers in the OPDQ Server Topology and was configured as part of preparing to install the Oracle DataLens Administration Server. For more information, see "Establishing an Administrator User Account" on page 2-3.

Ensure that the UIDs and GUIDs for all of the administrator user accounts match on the Oracle DataLens Administration Server and machines that you want to use as Oracle DataLens Transform Servers. NFS tracks users by the UID, so these *must* match on all servers.

Contact your system administrator for assistance in setting up and configuring administrator user accounts (dlsadmin or other) on the servers that you want to use in the OPDQ Server Topology.

Issuing the ls -l command followed by the ls -n command on one of the directories in the OPDQ installation hierarchy lists the group and user IDs that own the files as in the following example:

The administrator user account owns the files and both the UID and GID values are 500. These settings must be the same on all servers in the OPDQ Server Topology for NFS file sharing to be configured properly.

Configuring the Oracle DataLens Administration Server Mount

This section describes how to configure the necessary shared file system using the root user and NFS as an example file sharing method.

> **Note:** Other network file sharing configurations can be used as long as the shared data directory on the Oracle DataLens Administration Server is accessible by the Transform Servers.

The NFS daemon must be running prior to setting up NFS mount points.

1. On the Oracle DataLens Administration Server, execute:

    ```
    /etc/init.d/nfs status
    ```

The response shows whether the `nfs` daemon is running.

2. If no results are returned, you must add the `nfs` binary manually by executing the following command:

   `chkconfig --add nfs`

   If `nfs` is stopped or you just added the binary, you must start the `nfs` daemon by executing the following command:

   `/etc/init.d/nfs start`

   Once `nfs` is running, the `/admin_server_directory/data/shared` directory can be shared.

3. Edit the `/etc/exports` file and add the `/admin_server_directory/data/shared` directory to the list of exports, and then add the following line:

   `/admin_server_directory/data/shared`   `192.168.0.0/16(ro)`

   Where the IP address shown is the IP address or hostname of your Oracle DataLens Administration Server.

   If the hostname of the Oracle DataLens Administration Server does not resolve on the Transform Server, use the IP address. Contact your system administrator for assistance in setting up a domain name server on your Transform Servers or finding the IP address of the Oracle DataLens Administration Server.

   In this case, the file system is mounted in read-only mode for the shared data files in the Oracle DataLens Administration Server file repository to make it available to the Transform Servers. The Transform Servers need access to this directory to load data lenses and DSAs that have been deployed. Transform Servers do not write to this directory so it should be mounted read only.

4. Export the shared file system using the following command:

   `exportfs -a`

5. Verify that the `/etc/exports` file was edited correctly by executing the **`exportfs`** command.

   The following should be displayed:

   `/admin_server_directory/data/shared`   `192.168.0.0/16`

Configure the Oracle DataLens Transform Server Mount

The Transform Servers must mount the Oracle DataLens Administration Server shared directory.

1. Log in to the server that you want to install as an Oracle DataLens Transform Server as an administrator user.

2. Create the mount point:

   `mkdir -p /admin_server_directory/data/shared`

3. Edit `/etc/fstab`.

4. Add the following line to the end of the file:

   `datalens:/admin_server_directory/data/shared nfs defaults 0 0`

5. Mount the file system as defined in `/etc/fstab` to the newly created mount point:

```
mount -a
```

> **Note:** If you have problems with the mount command on the Transform Server, you may need to flush the firewall rules using the iptables -F command. Contact your IT Department for help resolving firewall issues that might be preventing the Transform Server from mounting the */admin_server_directory*/data/shared directory from the Oracle DataLens Administration Server.

6. Verify that the */admin_server_directory*/data/shared directory is mounted correctly on the Transform Server:

   ls */admin_server_directory*/data/shared

   ```
   common   devdata   proddata   qadata
   ```

Running the Installer

To install an Oracle DataLens Transform Server on a Linux server:

1. Log in to the server that you want to install as an Oracle DataLens Transform Server as an administrator user.

2. Go to the installation directory:

   cd /opt/dls_install/install

3. Change the permissions of the .sh files in the directory so that they are executable:

   chmod +x *.sh

4. Change the permissions of the .sh files in the directory so that they are executable:

   chmod +x *.sh

5. Execute the Oracle DataLens Server install script from the install directory:

   ./dlsinstall.sh

   > **Note:** If you are logged in as root, the following message is displayed:
   >
   > ```
   > You are installing as root. Do you want to continue? [Y/N] (Y):
   > ```
   > Enter **Y** to continue or **N** to exit and log in as a different administrative user.

   ```
   Welcome to the Oracle Product Data Quality 5.6 Installation.
   Will this be a Tomcat Server based installation? [Y/N]: (Y)
   ```

6. If you want to install the Tomcat Application Server, enter **Y**. Otherwise, enter **N** and continue to the next step.

   ```
   Please make sure that your existing Tomcat server is not running.
   Enter Y to continue or N to exit and manually stop your Tomcat server [Y/N]:
   (Y)
   ```

7. If you have Tomcat installed and the server is running, enter **N** to exit and stop your server. Otherwise, enter **Y** to continue with the installation.

   ```
   Please enter your DataLens Server Home directory (/opt/Oracle/Middleware/opdq/:
   ```

8. Press **Enter** to accept the default product home directory or enter a different home directory for your Oracle DataLens Server (for example, /opt/opdq) then press **Enter**.

   If the directory does not exist, it is created.

   ```
   Will this be an Admin or Transform server [A/T]: ()
   ```

9. Enter **T** to install an Oracle DataLens Transform Server.

   ```
   This server should be added to a server group in the server topology before
   executing the install script.
   Enter Y to continue or N to exit and complete the server topology configuration
   [Y/N]: (Y)
   ```

10. If you have not added your Oracle DataLens Transform Server to your server topology, enter **N** to exit the installer, and then return to "Configuring the OPDQ Server Topology" on page 7-2. Otherwise, enter **Y** and continue to the next step.

    ```
    Please enter the path to your existing DataLens Server Shared Data directory:
    ```

11. Enter the directory path to your Data Directory, which is the directory you set to be shared previously, /admin_*server_directory*/data/shared

    > **Note:** You *must* include the /data/shared directory in this path otherwise the installer will repeat the query until the path is correct.

    Messages similar to the following are displayed:

    Press **Enter** to accept the default product home directory or enter a different home directory for your Oracle DataLens Server (for example, /opt/opdq) then press **Enter**.

    ```
    Copying the Server Files to /opt/Oracle/Middleware/opdq/...
    Created directory /opt/Oracle/Middleware/opdq/data
    Please enter the location for JDK installation (/opt/Java):
    ```

12. Press **Enter** to use the default Java directory or enter the directory path to your JDK installation then press **Enter**.

    If you did *not* install Tomcat, then the installation completes and messages similar to the following are displayed:

    ```
    Installing 64-bit JDK... This may take a few minutes...
    Please enter DataLens Server port number (2229):
    ```

    Otherwise, the installer begins to install Tomcat and messages similar to the following are displayed:

    ```
    Installing 64-bit JDK... This may take a few minutes...
    Installing Tomcat...
    Please enter the Tomcat server port number:  (2229)
    ```

13. Press **Enter** to use the standard 2229 port or enter the port number you want your application server to run on.

Messages similar to the following are displayed:

```
Configuring the SvrPaths file...
.
.
.
Copying the WAR file to /opt/Oracle/Middleware/opdq/datalens.war
.
.
.
```

The JDK is installed, if set to do so, Tomcat is installed, the Oracle DataLens Administration Server and data repository are created.

If Tomcat was installed, the OPDQ Web Archive (WAR) file has been automatically configured and deployed. The Tomcat service is running.

> **Note:** To ensure an automatic restart of your Oracle DataLens Server after a system reboot, see "Configuring Run Levels for Tomcat Automatic Restart" on page 3-3.

If WebLogic was installed, the OPDQ WAR file is now ready for deployment to a WebLogic Application Server.

14. Set the OPDQ environment variable:

export OPDQ_HOME=*home_directory*

Where *home_directory* is the home directory path you identified in Step 8.

You can verify successful installation by viewing the OPDQ Server Topology and ensure that the server is *not* designated as "DOWN" as it was when it was added to the topology in "Configuring the OPDQ Server Topology" on page 7-2

Additionally, you can view the log file for the Transform Server to ensure that no errors were encountered. For more information, see the *Oracle Product Data Quality Oracle DataLens Server Administration Guide*.

Configuring and Installing on Windows

This section describes how to install an Oracle DataLens Transform Server on a Windows server.

> **Note:** Throughout this section the *\admin_server_directory* is used to indicate the directory path to the Oracle DataLens Administration Server. For example, C:\Oracle\Middleware\opdq is the default directory created by the OPDQ installer.

Confirming Consistent Administrator Privileges for Access to the Data Directory

Ensure that there is a network administrator user account, dlsadmin for example, for use by all the servers in the OPDQ Server Topology. This network account will be used for the following:

- Running the Java Web Server, especially if using a Tomcat service needs to use the same user across all servers in the OPDQ topology.

- Transform Server remote access to the Oracle DataLens Administration Server for shared file system access.

- Derby database updates written to log files that need the same ownership from all users.

Contact your system administrator for assistance in setting up and configuring OPDQ user accounts on your servers.

Sharing the Data Directory

The Data Directory must be shared with your administrator user. For example, the dlsadmin.

1. On the Oracle DataLens Administration Server, start **Windows Explorer**.

2. Locate the Data Directory directory, right-click it, and then select the share option. For example, your Data Directory may be located in *admin_server_directory*\data or it could be located on a network drive.

3. Share this directory with everyone with read-only permissions. For more information about file sharing, contact your system administrator or see *Windows Help*.

   You need to ensure that your Transform Server can access the Oracle DataLens Administration Server shared directory.

4. On the Transform Server, start **Windows Explorer**.

5. Locate the Data Directory that was shared. For example, *server**admin_server_directory*\data\ directory where *server* is the name of the server on which the Data Directory resides.

6. Verify that you see these directory folders:

   ```
   common
   devdata
   proddata
   qadata
   ```

Upon completion of your Transform Server installation, you can change the share permissions to share only with the dlsadmin or your administrator user as this is the only user that requires access to this directory.

Running the Installer

To install an Oracle DataLens Transform Server on a Windows server:

1. Log on to the Transform Server as an administrator user.

2. Locate the MS-DOS Command Prompt (cmd.exe), right-click on it, and then select **Run as administrator**.

3. Run the command:

   c:\dls_install\install\dlsinstall.bat

   ```
   Welcome to the Oracle Product Data Quality 5.6 Installation.
   Will this be a Tomcat Server based installation? [Y/N]: (Y)
   ```

4. If you want to install the Tomcat Application Server, enter **Y**. Otherwise, enter **N** and continue to the next step.

   ```
   Please make sure that your existing Tomcat server is not running.
   Enter Y to continue or N to exit and manually stop your Tomcat server [Y/N]:
   ```

```
(Y)
```

If you have Tomcat installed and the server is running, enter **N** to exit and stop your server. Otherwise, enter **Y** to continue with the installation.

```
Please enter your DLS Server Home directory: (C:\Oracle\Middleware\opdq\)
```

5. Press **Enter** to accept the default product home directory or enter a different home directory for your Oracle DataLens Server (for example, `C:\opdq`) then press **Enter**.

If the directory does not exist, it is created.

```
Will this be an Admin or Transform server [A/T]:  ()
```

6. Enter **T** to install an Oracle DataLens Transform Server.

```
This server should be added to a server group in the server topology before
executing the install script.
Enter Y to continue or N to exit and complete the server topology configuration
[Y/N]: (Y)
```

7. If you have not added your Oracle DataLens Transform Server to your server topology, enter **N** to exit the installer, and then return to "Configuring the OPDQ Server Topology" on page 7-2. Otherwise, enter **Y** and continue to the next step.

```
Please enter the path to the OPDQ Shared Data directory:  ()
```

8. Enter the directory one directory above your Data Directory, which is the directory you set to be shared previously, `\\server\admin_server_directory\data\shared`.

If you did *not* install Tomcat, then the installation completes and messages similar to the following are displayed:

```
Copying the Server Files to C:\Oracle\Middleware\opdq...
.
.
.
Please enter the DataLens Server port number:  (2229)
```

Otherwise, the installer begins to install Tomcat and the following prompt is displayed:

```
Copying the Server Files to C:\Oracle\Middleware\opdq...
Installing Tomcat...
.
.
.
Please enter the Tomcat server port number:  (2229)
```

9. Press **Enter** to use the standard 2229 port or enter the port number you want your application server to run on.

Messages similar to the following are displayed:

```
Configuring the SvrPaths file...
.
.
.
Copying the WAR file to C:\Oracle\Middleware\opdq\datalens.war
Starting the Tomcat6opdq service...
.
.
```

```
.
Finished the Oracle Product Data Quality 5.6 Installation. (Return to Exit)
```

10. Press **Enter** to exit the installation script.

    Your Oracle DataLens Transform Server installation completes. If your Transform Server is using a Tomcat Application Server, then it automatically started.

    If your Transform Server is using a WebLogic Application Server, then you must start the your domain.

11. Set the OPDQ home environment variable:

    a. Right-click **Computer**, and then select **Properties**.

    b. Click **Advanced system settings**.

    c. Click **Environment Variables**.

    d. From the **System variables** section, click **New**.

    e. Enter **OPDQ_HOME** as the **Variable name**.

    f. Enter is the home directory path you identified in Step 5 as the **Variable value**.

    g. Click **OK** to close all dialogs.

You can verify successful installation by viewing the OPDQ Server Topology and ensure that the server is *not* designated as "DOWN" as it was when it was added to the topology in "Configuring the OPDQ Server Topology" on page 7-2

Additionally, you can view the log file for the Transform Server to ensure that no errors were encountered. For more information, see the *Oracle Product Data Quality Oracle DataLens Server Administration Guide*.

Next Step

Deploy data lenses for use in transforming data, and then select those data lenses for the Transform Server to load so that they are available for processing data by completing the following tasks:

1. Go to your Oracle DataLens Administration Server Web page and login.

2. View your OPDQ Server Topology Web page by clicking **Platform Topology**.

3. View the Server Group that contains your Transform Server by clicking the appropriate icon.

4. View your Transform Server Configuration Information Web page by clicking it's icon.

5. Deploy your choice of data lenses available to your Transform Server by selecting one or more check boxes, and then clicking **Submit**.

> **Caution:** You must complete this task list or your Transform Server will be unable to process any of the data on that Transform Server.

For detailed information, see the *Oracle Product Data Quality Oracle DataLens Server Administration Guide*

A

Known Issues

This appendix describes known issues with the Oracle DataLens Servers installation and configuration.

Debugging Installation Problems

The following sections are known issues with installation.

Firewall is Preventing Access to Port 2229

Windows servers by default have the Microsoft firewall disabled. However, in some environments, there may be firewalls preventing access to the server. If the Tomcat server shows that the server started properly, but you are unable to access the Oracle DataLens Administration console from a client workstation, contact your Information Security department (or the equivalent) to have them open this port for user access.

In Red Hat Enterprise Linux 5, the firewall is enabled by default. Use the system-config-securitylevel tool to customize the settings, opening up port 2229 for external access.

In order for production nodes to access the Oracle DataLens Administration Server, they will need to be able to connect to JavaDB on port 1527. In addition, to reach a windows share, nodes will need to be able to access ports 135, 139, and 445. To reach an NFS share, ports 111 and 2049 will need to be opened.

Oracle DataLens Server Port Number

The Oracle DataLens Server uses port 2229 by default. On a standard installation with a dedicated server, this should not pose any problems. If there is a problem with this port, then the port number can be changed.

If there is a clash with the default port number (2229), then change to port 8089 or another unused port number. You can do this by stopping the Tomcat service and then editing the `server.xml` file located in the Tomcat installation directory (for example, `c:\Program Files\Apache Group\Tomcat 6.0\config\`) as follows:

```
<!-- Define a non-SSL HTTP/1.1 Connector on port 8080 -->
<Connector className="org.apache.catalina.connector.http.HttpConnector"
           port="8080" minProcessors="5" maxProcessors="75"
           enableLookups="true" redirectPort="8443"
           acceptCount="10" debug="0" connectionTimeout="60000"/>
```

Restart the Tomcat service, and then ensure that the server is running without errors.

Privilege Problems

On Linux, verify that the entire OPDQ directory structure (by default, this is `/opt/Oracle/Middleware/opdq/...`) is owned by the administration user you use to administer your Oracle DataLens Server. For more information, see "Establishing an Administrator User Account" on page 2-3.

On Windows, the share rights and folder rights must be set so that the administration user you use to administer your Oracle DataLens Server can access the repository share.

Sun JDK Directory Not Found

If you server is unable to locate the directory in which you installed Sun JDK, you must create a `%JAVA_HOME%` environment or path variable and set it to the directory where you installed JDK.

For example, if the default installation directory of JDK 6 Update 21 are set to one of the following:

On Linux: `/opt/java/jdk1.6.0_21`

On Windows: `c:\Program Files\Java\jdk1.6.0_21`

Use the documentation included with the Sun JDK product you installed to set this variable to ensure that the Sun JDK files are always found on your server.

Internal Database Connection Errors

Errors similar to the following indicate that the OPDQ internal database is not in use:

```
1802: Server is unavailable - Server failed to start
ERROR 05 Nov 2010 10:48:18 [main] - Failed to ping internal data storage
after 20 attempts
ERROR 05 Nov 2010 10:48:18 [main] - Failed to initialize internal data
storage
com.onerealm.solx.minicore.SaDetailException: 1324: Failed to do connect to
internal data storage - Failed to ping internal data storage after 20
attempts. URL is: ap6022fems:1527. Error is: Can't find bundle for base name
org.apache.derby.loc.drda.messages, locale en
Code: 1324


INFO 09 Dec 2010 12:36:20 [main] - Initialized Logging facility
INFO 09 Dec 2010 12:36:23 [main] - The Oracle DataLens Administrator is starting.
INFO 09 Dec 2010 12:36:23 [main] - Version 5.6.0.0, build 2,570, on Dec 9, 2010 at
9:05 AM
INFO 09 Dec 2010 12:36:29 [main] - Internal data storage started
```

These errors indicate that the WebLogic Derby Libraries are in use rather than the OPDQ internal database so the Oracle DataLens Server cannot work properly. Ensure that you have configured WebLogic as described in "Configuring the Domain Variables" on page 4-7.

B

Metro Web Services

This appendix describes how to use install and enable the use of Metro 2.0 Web Services with Oracle DataLens Servers.

Installing and Enabling Metro 2.0 Web Services

To install and enable the use of Metro 2.0 Web Services, use the following steps:

1. Download the Metro 2.0 ZIP file from the GlassFish Metro 2.0 Web site at:

   https://metro.dev.java.net/2.0/

2. Unzip the Metro 2.0 release package into a separate directory.

3. Create a temporary directory in which to update the `datalens.war` file.

4. Copy the `datalens.war` file to the temporary directory.

5. Create a subdirectory structure named, `WEB-INF/lib`, in the temporary directory.

6. Copy the JAR files from the `metro/lib` directory that were unzipped into `WEB-INF/lib`.

7. Update the WAR file with the latest Metro JAR files:

   > **Note:**   You must have a JDK installed and in your path to complete this step.

   jar -uf datalens.war WEB-INF

8. Delete the `WEB-INF` directory tree from the temporary directory.

9. Extract the WAR file:

   jar xf datalens.war

10. Edit the `web.xml` file to remove the comments surrounding the `WSServlet` tag:

    cd WEB-INF

    notepad web.xml

11. Near the beginning of the `web.xml` file, remove the comments surrounding the `listener` tag as the comments suggest:

    ```
    NOTE- There is another block to uncomment farther down in this file...
        <listener>
    ```

```
<listener-class>com.sun.xml.ws.transport.http.servlet.WSServletContextListener<
/listener-class>
    </listener>

    <servlet>
        <servlet-name>WSServlet</servlet-name>

<servlet-class>com.sun.xml.ws.transport.http.servlet.WSServlet</servlet-class>
        <load-on-startup>10</load-on-startup>
    </servlet>
-->

<!-- Uncomment these lines if the METRO (doc-lit) lib is used for Web Services
```

12. Near the middle of the `web.xml` file and just under the `SERVLET MAPPINGS` section, remove the comments surrounding the `servlet-mapping` tag as indicated:

```
<!-- _____ SERVLET MAPPINGS _____ -->

<!-- Uncomment these lines if the METRO (doc-lit) lib is used for Web Services
    <servlet-mapping>
        <servlet-name>WSServlet</servlet-name>
        <url-pattern>/ws/*</url-pattern>
    </servlet-mapping>
-->
```

13. Close and save the `web.xml` file.

14. Repack the WAR file using these steps:

    a. Delete the existing `datalens.war` file.

    b. Create the new WAR file with the Metro Web Services JAR files and update the `web.xml` file.

    jar cf ..\datalens.war *

    Note: You can substitute the `..\` in the `jar` command with a directory to locate the updated WAR file.

    ---

15. Deploy the repackaged WAR file, including the Metro Web Service JAR files, to your WebLogic or Tomcat server.

C

Starting and Stopping the Tomcat Server

This appendix describes how to start and stop the Tomcat server from a command line prompt as follows:

1. Go to the appropriate subdirectory of the OPDQ Tomcat installation directory. The default directories are:

   On Linux: `/opt/Oracle/Middleware/opdq/`*server*`/tomcat/bin`

   On Windows: `c:\Oracle\Middleware\opdq\`*server*`\tomcat\bin`

   Where *server* is the name of your Oracle DataLens Server.

2. Run the startup command:

   On Linux: **`./startup.sh`**

   On Windows: **`% startup.bat`**

Verify that the service was started correctly by looking for the final server startup messages.

Likewise, the Tomcat Server can be stopped from the command line with the following command:

On Linux: **`./shutdown.sh`**

On Windows: **`% shutdown.bat`**

This command line service directly corresponds to the Tomcat Server service that is used in the Services Tool. Any combination of dialog and command line commands can be used to start and stop the service.