Oracle® Fusion Middleware

Installing and Configuring Oracle Enterprise Data Quality

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Documentation for installers and system administrators that describes how to install, configure, and upgrade Oracle Fusion Middleware.

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Oracle Fusion Middleware Installing and Configuring Oracle Enterprise Data Quality, 12*c* (12.1.3)

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Preface

This document describes how to install and upgrade Oracle Enterprise Data Quality on Linux, UNIX, and Windows platforms. It also provides instructions for configuring EDQ to work with an application server and database.

Audience

This document is intended for system administrators or application developers who are installing Oracle Enterprise Data Quality. It is assumed that you have a basic understanding of application server and web technology and have a general understanding of Linux, UNIX, and Windows platforms. Throughout this guide, it is assumed that you are fully familiar with the components of the supported platform on which you want to install Oracle Enterprise Data Quality.

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Related Documents

For more information about EDQ, see the following documents in the Oracle Enterprise Data Quality documentation set.

EDQ Documentation Library

The following publications are provided to help you install and use EDQ:

- *Oracle Fusion Middleware Release Notes for Enterprise Data Quality*

- *Oracle Fusion Middleware Installing and Configuring Enterprise Data Quality*

- *Oracle Fusion Middleware Administering Enterprise Data Quality*

- *Oracle Fusion Middleware Understanding Enterprise Data Quality*

- *Oracle Fusion Middleware Integrating Enterprise Data Quality With External Systems*

- *Oracle Fusion Middleware Securing Oracle Enterprise Data Quality*

- *Oracle Enterprise Data Quality Address Verification Server Installation and Upgrade Guide*

- *Oracle Enterprise Data Quality Address Verification Server Release Notes*

Find the latest version of these guides and all of the Oracle product documentation at

http://http://docs.oracle.com

Online Help

Online help is provided for all Oracle Enterprise Data Quality user applications. It is accessed in each application by pressing the **F1** key or by clicking the Help icons. The main nodes in the Director project browser have integrated links to help pages. To access them, either select a node and then press **F1**, or right-click on an object in the Project Browser and then select **Help**. The EDQ processors in the Director Tool Palette have integrated help topics, as well. To access them, right-click on a processor on the canvas and then select **Processor Help**, or left-click on a processor on the canvas or tool palette and then press **F1**.

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.
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.

1

Planning an Enterprise Data Quality Installation

This chapter helps to prepare you for your Oracle Enterprise Data Quality (EDQ) installation. Various topics are covered that should be reviewed thoroughly to help ensure that you do not encounter any problems either during or after the product installation and domain configuration.

This chapter includes the following sections:

- Section 1.1, "Overview of EDQ"
- Section 1.2, "Overview of the Installation and Configuration Tasks"
- Section 1.3, "Choosing EDQ Components and Versions"
- Section 1.4, "Satisfying EDQ System Requirements"
- Section 1.5, "Downloading EDQ"

1.1 Overview of EDQ

EDQ provides a comprehensive data quality management environment that is used to understand, improve, protect and govern data quality. The software facilitates best practice master data management, data integration, business intelligence, and data migration initiatives. It provides integrated data quality in customer relationship management (CRM) and other applications.

This documentation guides you through the selection, installation and configuration of the components that are needed to support EDQ.

1.2 Overview of the Installation and Configuration Tasks

This section (Table 1–1) provides an overview of the EDQ installation and configuration tasks that you will perform, in the order that they should be performed.

Table 1–1   EDQ Product Installation Procedure Tasks

Task	Action to Perform
Understand and select the external software components that support EDQ.	See Section 1.3, "Choosing EDQ Components and Versions."
Satisfy EDQ system requirements.	See Section 1.4, "Satisfying EDQ System Requirements"
Obtain an EDQ installation file from Oracle Software Delivery Cloud.	See Section 1.5, "Downloading EDQ."

Table 1–1   (Cont.) EDQ Product Installation Procedure Tasks

Task	Action to Perform
Install the JDK and your chosen application server and database components.	See Chapter 2, "Installing the Required External Software Components."
Install the EDQ software.	See Chapter 3, "Installing Enterprise Data Quality."
Configure EDQ	For instructions see, Chapter 4, "Configuring Enterprise Data Quality with Oracle WebLogic Server" or Chapter 5, "Configuring Enterprise Data Quality with Apache Tomcat."
Set system parameters.	See Chapter 6, "Setting Server Parameters to Support Enterprise Data Quality."
Next Steps	For log in and basic use information, see Section 7, "Next Steps After Configuring Enterprise Data Quality."
(Optional) Upgrade from a previous release of EDQ.	If using Oracle WebLogic Server, see Section 8, "Upgrading Enterprise Data Quality On WebLogic Servers."
	If using Apache Tomcat, see Section 9, "Upgrading Enterprise Data Quality On Tomcat Servers."

1.3 Choosing EDQ Components and Versions

The following sections show you the components that are required to support EDQ and the supported versions of those components and EDQ.

- Choosing the Correct Combination of EDQ Required Components

- Supported Platforms and Component Versions

1.3.1 Choosing the Correct Combination of EDQ Required Components

EDQ is a Java Web Application that uses a Java Servlet Engine, a Java Web Start graphical user interface, and a data repository within a database. As such, it requires access to the following components:

- a Java Development Kit (JDK)

- a Java Application Server to supply web services. Oracle WebLogic Server and Apache Tomcat are supported.

- a structured query language (SQL) relational database management system (RDBMS) to store configuration data, working data, and the results of work performed by the processes. Oracle and PostgreSQL are supported.

The following table shows you the combinations of application server and database that are supported for use with EDQ.

Application Server	Database
WebLogic Server	Oracle
Tomcat	Oracle
Tomcat	PostgreSQL

Instructions for installing these components are in Section 2, "Installing the Required External Software Components." See Section 1.3.2 for supported versions of each of these components.

1.3.2 Supported Platforms and Component Versions

Review the list of certified platforms, JDKs, databases, application servers, and releases for EDQ prior to installation. This information is listed in *Oracle Enterprise Data Quality Certification Matrix* at

http://www.oracle.com/technetwork/middleware/ias/downloads/fusion-certification-100350.html

1.4 Satisfying EDQ System Requirements

This section describes the hardware and software requirements of EDQ. These requirements represent the server configurations that are certified and supported by Oracle for the EDQ product.

1.4.1 Disk and Memory Requirements

Depending on the tasks that EDQ is required to perform, it can place heavy demands on the hardware used to run it. A recommended *minimum* hardware specification for an EDQ server is:

- 8GB physical memory, with 4GB allocated to the EDQ Java Virtual Machine (JVM)
- At least 4 logical CPUs
- At least 500GB of hard disk space on the database server. The EDQ results schema, which contains the working data that EDQ generates, must have enough space to contain at least 20 times the volume of source data that you expect to process through EDQ. This size may increase if there are many EDQ users working on the same projects at the same time. The configuration schema remains small, normally less than 5GB, unless there is a large amount of user-modified reference data and case management data.

> **Note:** These recommendations do not represent sizing advice for any specific deployment, but rather a starting point for testing size requirements in your environment. It may be appropriate to deploy a larger machine or many machines, depending on the processing load placed on EDQ.

1.4.2 EDQ Directory Requirements

EDQ uses an installation directory and two configuration directories. You should record the location of these directories in case you need to apply manual updates to any of their contents.

EDQ Installation Directory

During the installation process, you must specify an installation directory to contain the EDQ installation files. This directory is known as the EDQ Home (*EDQ_HOME*) directory and is named as follows:

- If you are installing EDQ as part of the Oracle Fusion Middleware product stack, you must install the EDQ Home directory as a subdirectory of the Oracle Fusion Middleware home (installation) directory. A typical default Fusion Middleware home directory is as follows, depending on the platform:

  Linux and UNIX:

  ```
  /opt/Oracle/Middleware/FMW_HOME
  ```

Windows:

```
C:\Oracle\Middleware\FMW_HOME
```

> **Note:**   The `Middleware` home directory is referenced as *FMW_HOME* in this guide.

- If you install EDQ as a standalone product, or if you use the Apache Tomcat application server, you can install the EDQ Home directory in any directory.

The EDQ Home directory requires approximately 1GB of hard disk space.

EDQ Configuration Directories

EDQ requires two configuration directories, which are separate from the EDQ Home (installation) directory that contains the program files. The configuration directories are:

- The *base* configuration directory: This directory contains default configuration data. Once EDQ is installed, the files in the base configuration directory must not be altered, renamed, or moved.

- The *local* configuration directory: This directory contains overrides to the default configuration. EDQ looks for overrides in this directory first, before looking in the base configuration directory. Files in the local configuration directory can be modified to customize or extend EDQ.

The names and locations of the configuration directories are as follows:

- If you are using Oracle WebLogic Server, the Oracle installation wizard automatically creates and populates the configuration directories in the EDQ domain with the names of `oedq.home` (base configuration directory) and `oedq.local.home` (local configuration directory). An example installation path is:

  ```
  WLS_HOME/user_projects/domains/edq_domain/edq/oedq.home
  WLS_HOME/user_projects/domains/edq_domain/edq/oedq.local.home
  ```

- If you are using Apache Tomcat, you create the configuration directories manually in any location, with any names, and the configuration utility will populate them. You are prompted to create the directories during the installation instructions.

On a default EDQ installation, the configuration directories occupy approximately 1MB in total, but they will grow in size with the amount of data and files that need to be processed.

1.4.3 UNIX System Resource Requirements (ulimit)

Depending on how the UNIX system that hosts the application server is configured, you may find that the application server cannot create files larger than 1 GB. This restricts your ability to work with large data sets if you intend to use files to transfer data to EDQ for processing.

System resource limits are controlled by the `ulimit` command. Default `ulimit` values exist, which you can view by using the `ulimit -a` command. Look at the settings for file size, process limit, and file handle limits. The hard `ulimit` on file size may need to be adjusted upward or removed for your application server account. Consult your System Administrator for assistance, if needed.

1.4.4 Virtual Hardware

You can install EDQ on virtualized systems using a virtualization tool, such as Oracle VM Server. Both the virtual system and the physical system must fulfill the minimum hardware requirements listed in this documentation.

If load balancing software is used to deploy multiple virtual systems onto a single physical system, care must be taken to ensure that the load balancing software is carefully tuned. In general, EDQ imposes a load similar to an extract, transform and load tool or data warehousing software. Between batches, very little load is imposed on the system. When processing a batch of data, EDQ rapidly drives hardware to be CPU or I/O bound. Unless the virtualized load balancing is correctly configured, suboptimal performance results.

1.4.5 Operating System User

An operating system user account is used to install and upgrade EDQ on your servers and install the application server. This user is required on all platforms. This user *must* have full permissions (read, write and execute) to the EDQ installation (*EDQ_HOME*) directory, configuration directories, and all database directories. This user account is referred to as the *EDQ installation user* in this documentation. For more information about the EDQ directories, see Section 1.4.2, "EDQ Directory Requirements."

> **Note:** When installing on UNIX or Linux operating systems, do *not* use the root user as your EDQ installation user account.

1.5 Downloading EDQ

To download the EDQ installation and configuration files, obtain the generic package installer from the Oracle Software Delivery Cloud website as follows:

1. Enter the Oracle Software Delivery Cloud URL into a web browser:

    http://edelivery.oracle.com/

2. Click **Sign-in/Register**.

    > **Note:** If you are not already logged in, the Oracle Single Sign-On page appears. Enter your Oracle user id and password and click **Sign In**.

    The Terms & Restrictions page appears.

3. Select the **Oracle Software Delivery Cloud Trial License Agreement** and the **Export Restrictions** check boxes, and then click **Continue**.

    The Media Pack Search page appears.

4. On the Media Pack Search page, do the following:

    a. From the **Select Product Pack** drop-down list, select **E-Business Suite** (if you purchased the product from the Application Price List) or **Oracle Fusion Middleware** (if you purchased the product from the Technology Price List).

    b. From the **Platform** drop-down list, select the platform on which you are installing EDQ.

    c. Click **Go**.

The Results list expands to show all available media packs that include your search criteria.

5. Locate and select **Oracle Enterprise Data Quality 12c Media Pack (12.1.3)** (E-Business Suite Product Pack) or **Oracle Enterprise Data Quality 12c (12.1.3) Media Pack** (Oracle Fusion Middleware Product Pack), and then click **Continue**.

6. Click the **Download** button next to **Oracle Enterprise Data Quality 12.1.3**.

7. Browse to the directory where you want to save the file. Click **Save** to start the file download. A ZIP file is downloaded.

8. Extract the ZIP file to a temporary directory.

2

Installing the Required External Software Components

This chapter describes how to install the software components that support EDQ.

This chapter includes the following sections:

- Section 2.1, "Prerequisites for these Procedures"
- Section 2.2, "Installing a Java Development Kit to Support EDQ"
- Section 2.3, "Installing an Application Server to Support EDQ"
- Section 2.4, "Installing a Database to Support EDQ"

> **Note:** These components must be installed prior to installing EDQ.

2.1 Prerequisites for these Procedures

Before performing the procedures in this section, you must first read and satisfy the requirements in Section 1, "Planning an Enterprise Data Quality Installation."

2.2 Installing a Java Development Kit to Support EDQ

EDQ and the application server both rely on the Java Development Kit (JDK). The JDK provides a Java run-time environment (JRE) and tools for compiling and debugging Java applications.

Use the following table to identify the appropriate JDK to install on the platform where you are installing EDQ.

Platform	JDK to Use
AIX	IBM JDK. This is the only supported JDK on AIX.
HP-UX	HP JDK
Solaris	Oracle JDK
Linux	Oracle JDK
Windows	Oracle JDK

For supported JDK versions per platform, see the *Oracle Enterprise Data Quality Certification Matrix* at

http://www.oracle.com/technetwork/middleware/ias/downloads/fusion-certification-100350.html

Download and install the appropriate JDK using the instructions provided at

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

> **Note:** On Solaris systems, you must install both the 32-bit and 64-bit JDKs in order to run Java applications.

Make a note of the directory into which you installed the JDK. You will need to specify this directory during the installation of the application server. The path to this directory is referred to as the *JDK_HOME* directory in this documentation. For example, the JDK_HOME may be like one of the following:

Linux and UNIX:

/opt/jdk1.7.0_45

Windows:

C:\Program Files\Java\jdk1.7.0_45

> **Note:** If your JDK_HOME directory contains spaces, as in the default installation directory of C:\Program Files\Java\jdk1.7.0_45, you must set your JAVA_HOME environment variable to the Windows short name for the directory, as follows: C:\Progra~1\Java\jdk1.7.0_45.

2.3 Installing an Application Server to Support EDQ

Choose and download one of the following application servers:

- Installing Oracle WebLogic Server
- Installing Apache Tomcat

> **Note:** The application server that you choose determines the database that you can use. With Oracle WebLogic Server, you must use Oracle Database, and you must install EDQ within an Oracle Fusion Middleware environment. With Apache Tomcat, you can use either Oracle Database or PostgreSQL Database, and you can install EDQ as a standalone application.

2.3.1 Installing Oracle WebLogic Server

To view the WebLogic Server versions that are supported by EDQ in this release, see Oracle Enterprise Data Quality Certification Matrix at

http://www.oracle.com/technetwork/middleware/ias/downloads/fusion-certification-100350.html

To download and install Oracle WebLogic Server, see *Installing and Configuring Oracle WebLogic Server and Coherence*.

> **Note:** Use the Generic WebLogic Server and Coherence installer. Do not use the free WebLogic Server distribution for developers, because this installer does not contain all of the required files for EDQ.

The directory path to your WebLogic Server installation is referenced as the *WLS_HOME* directory in this documentation.

2.3.2 Installing Apache Tomcat

To view the Tomcat versions that are supported by EDQ in this release, see the Oracle Enterprise Data Quality Certification Matrix at

http://www.oracle.com/technetwork/middleware/ias/downloads/fusion-certification-100350.html

To download and install Apache Tomcat, go to the Apache Software Foundation Server website at

http://tomcat.apache.org

After you install Tomcat, perform the following tasks:

1. Configure Tomcat to use the Java Development Kit (JDK) that you installed in Section 2.2, "Installing a Java Development Kit to Support EDQ." You can do one of the following:

   - Set the path to the JDK executable in the /etc/sysconfig/tomcat7.conf file. For example:

     ```
     JAVA_HOME="/opt/java/jdk1.7.0_45"
     ```

   - Add the JDK path to the local setenv.sh file.

2. (Recommended) Configure Tomcat to start as a service.

3. Create an operating system user who will run Tomcat. This user must own the EDQ installation and configuration directories. This account is used to administer your EDQ domain and to log into the EDQ application. For more information about the EDQ directories, see Section 1.4.2, "EDQ Directory Requirements."

2.4 Installing a Database to Support EDQ

This section contains information that is specific to the installation and configuration of the database that will contain the EDQ repository.

- If using Oracle WebLogic Server as the EDQ application server, you must install Oracle Database.

- If using Apache Tomcat as the application server, you can install either PostgreSQL or Oracle Database.

To view the supported database versions, see

http://www.oracle.com/technetwork/middleware/ias/downloads/fusion-certification-100350.html

> **Note:** You will create two schemas and two users in this database when configuring EDQ in Section 4, "Configuring Enterprise Data Quality with Oracle WebLogic Server" or Section 5, "Configuring Enterprise Data Quality with Apache Tomcat" (depending on the application server you chose).

2.4.1 Installing an Oracle Database to Support EDQ

You can download a supported Oracle Database product and installation instructions from the Oracle Database website at

http://www.oracle.com

2.4.1.1 Configuring Oracle Database to Support EDQ

The following configuration elements are either required or recommended when installing or configuring an Oracle database for use with EDQ.

Required:

- Select the **Create and configure a database** installation option.

- Configure the database to use a Unicode character set to ensure that EDQ is able to capture and process data in the widest range of character sets. For more information, see "Supporting Multilingual Databases with Unicode" in *Oracle Database Globalization Support Guide*.

- EDQ requires a database administrator (DBA) user account in the database. This database account is used to access the database during the installation and configuration processes to create database accounts and objects that are specific to EDQ.

Recommended:

- Oracle recommends making the following configuration selections when specifying the Oracle memory structure and tablespace configuration to support EDQ:

    - 4GB Program Global Area (PGA)

    - 4GB System Global Area (SGA)

    - 20GB undo tablespace

    - 20GB temp tablespace

- You may need to increase the values for the SESSIONS and PROCESSES parameters. The suggested values are as follows, but these parameters may need to be adjusted later for optimal performance:

    SESSIONS=500

    PROCESSES=500

    For more information about setting these values appropriately, contact your database administrator.

2.4.2 Installing a PostgreSQL Database to Support EDQ

You can download the PostgreSQL product and installation instructions from the official PostgreSQL website at

http://www.postgresql.org

> **Note:** If PostgreSQL was distributed with your operating system, verify that the release is one of EDQ supported releases by going to the certification matrix at
>
> http://www.oracle.com/technetwork/middleware/ias/downloads/fusion-certification-100350.html

2.4.2.1 Configuring PostgreSQL Database to Support EDQ

The following configuration elements are either required or recommended when installing or configuring a PostgreSQL database for use with EDQ.

Required:

- Allow 403 maximum connections by editing the `postgresql.conf` file in the PostgreSQL `data` directory (for example, `var/lib/pgsql/data/postgresql.conf`).

- Configure the PostgreSQL database to use a Unicode character set to ensure that EDQ is able to capture and process data in the widest range of character sets. For more information, click the **Documentation** link on the PostgreSQL website at

  http://www.postgresql.org

- To use a PostgreSQL Database with EDQ, you must enable database listening. See Section 2.4.2.2, "Checking Local Database Connections."

- On Linux systems, you must configure PostgreSQL to use password authentication. See Section 2.4.2.3, "Enabling Password Authentication on Linux Systems."

Recommended:

If you are installing on Windows, Oracle recommends that you use the graphical installer that you can download from the PostgreSQL website at

http://www.postgresql.org

Each operating system on the Download page provides a link to the graphical installer.

2.4.2.2 Checking Local Database Connections

This section describes how to ensure that the PostgreSQL database local connections are properly configured to ensure database listening is on and that passwords are accepted for authentication.

1. Log in to the system as the EDQ database user.

2. (Windows only) Locate the MS-DOS Command Prompt (`cmd.exe`), and then run it.

3. Ensure that your database server is running. For more information, see the PostgreSQL documentation for your installed version on the PostgreSQL website at

   http://www.postgresql.org

4. Go to the PostgreSQL `data` directory. For example, `/var/lib/pgsql/data` on Linux or `C:\Program Files\PostgreSQL\9.3\data` on Windows.

5. Open the `pg_hba.conf` file by entering the one of the following commands, depending on the platform:

On the Linux command line:

```
tail pg_hba.conf
```

On the Windows command line:

```
TYPE pg_hba.conf
```

The file contents are displayed and the following is an excerpt:

```
# TYPE  DATABASE          USER              ADDRESS                   METHOD
# "local" is for Unix domain socket connnections only
local  all               all                                         ident

# IPv4 local connections:
host    all               all               127.0.0.1/32             md5
# IPv6 local connections:
host    all               all               ::1/128                  md5
```

6. Ensure that the IPv4 and IPv6 local connections are configured as shown in the console output in the previous step. Use the address for your own database in the `ADDRESS` column.

2.4.2.3 Enabling Password Authentication on Linux Systems

On Linux systems, you must configure PostgreSQL to use password authentication by editing the `pg_hba.conf` file in the `data` subdirectory of the PostgreSQL installation directory (for example, `/var/lib/pgsql/data/pg_hba.conf`). Locate the `ident sameuser` entries, and then change them to a value of `md5`.

2.4.2.4 Configuring Remote Connections

If your PostgreSQL database is installed on a different system from the one where EDQ is installed, it must be configured to accept connections from other hosts. This is applicable to all PostgreSQL environments.

1. Locate the `data` directory for your PostgreSQL database.

2. Edit the `postgresql.conf` file.

3. Locate the following line:

```
#listen_addresses = 'localhost'
```

4. Insert the following line to cause PostgreSQL to accept connections from remote hosts:

```
listen_addresses = '*'
```

5. Edit the `pg_hba.conf` file then add the following line using *addr/mask* to identify the subnet of the host running EDQ:

```
host all all addr/mask md5
```

For example, `host all all 192.168.0.0/24 md5` allows connections from all hosts with the IP addresses 192.168.0.0 to 192.168.0.255 while `host all all 0.0.23.56/32 md5` accepts connections only from IP address 10.0.23.56.

3

Installing Enterprise Data Quality

This chapter describes how to start the Enterprise Data Quality installation program in graphical mode. It also describes the sequence of screens that appear in the installation process.

This chapter includes the following sections:

- Section 3.1, "Starting the Installation Program"
- Section 3.2, "Navigating the EDQ Installation Screens"

3.1 Starting the Installation Program

The EDQ installation program is delivered as a generic Java Archive (JAR) file that is used to install all supported operating systems.

To start the installation program, perform the following steps.

1. Log in to the target system as your EDQ installation user. This user must be able to run the command prompt as an administrator.

2. Go to the directory where you downloaded and unzipped the installation program.

3. Launch the installation program by invoking `java -jar` from the JDK installation directory (*JDK_HOME*) directory on your system as follows:

   On UNIX operating systems:

   ```
   JDK_HOME/bin/java -jar edq_generic.jar
   ```

   On Windows operating systems:

   ```
   JDK_HOME\bin\java -jar edq_generic.jar
   ```

When the installation program appears, you are ready to begin the installation. See Section 3.2 for a description of each installation program screen.

3.2 Navigating the EDQ Installation Screens

The installation program displays a series of screens. Complete the installation using the instructions in Section 3–1, " Running the Installation Program."

Table 3–1   Running the Installation Program

Screen	Action to Perform
Welcome	Click **Next** to proceed with the installation.
	You may cancel the installation at any time by clicking **Exit**.
Installation Location	Specify the Middleware installation directory (`FMW_HOME`), which will contain EDQ once installed. See Section 1.4.2, "EDQ Directory Requirements."
	Click **Next** to continue.
Installation Type	Use the default **Installation for WebLogic Server** if this is your installed application server or select **Installation for Other Platforms** if your application server is Tomcat.
	Click **Next** to continue.
Prerequisite Checks	This screen verifies that your system meets the minimum necessary requirements.
	Click **Next** to continue.
Installation Summary	Use this screen to verify the installation options you selected. If you want to save these options to a response file, click **Save Response File** and provide the location and name of the response file. Response files can be used later in a silent installation situation
	Click **Install** to continue.
Installation Progress	This screen allows you to see the progress of the installation.
	When the installation program progress has reached 100%, click **Next** to continue.
Installation Complete	This screen appears when the installation is complete.
	Click **Finish** to exit the installation program.

4

Configuring Enterprise Data Quality with Oracle WebLogic Server

This chapter describes how to create the EDQ database repository, create an Oracle WebLogic Server domain for EDQ, start WebLogic Server, and configure WebLogic Server to provide EDQ web service.

> **Note:** These instructions apply to Oracle WebLogic Server environments only. If you are using Apache Tomcat, you must follow the directions in Section 5, "Configuring Enterprise Data Quality with Apache Tomcat."

This chapter includes the following sections:

- Section 4.1, "Prerequisites for these Procedures"
- Section 4.2, "Creating an EDQ Database Repository"
- Section 4.3, "Creating the WebLogic Server EDQ Domain"
- Section 4.4, "Start Oracle WebLogic Server"
- Section 4.5, "Running Multiple EDQ Servers in the Same Domain"

4.1 Prerequisites for these Procedures

Before performing the procedures in this section, you must first read and satisfy the steps in:

- Chapter 1, "Planning an Enterprise Data Quality Installation"
- Chapter 2, "Installing the Required External Software Components"
- Chapter 3, "Installing Enterprise Data Quality"

4.2 Creating an EDQ Database Repository

EDQ makes use of some database schemas. These schemas are the configuration schema (`EDQCONFIG`) and the results schema (`EDQRESULTS`). You create them with the Oracle Repository Creation Utility (RCU).

The person who runs RCU must be able to log into the database with DBA privileges. If you cannot run with DBA privileges, RCU can create a script for a DBA to run later.

> **Note:** Do not use RCU to upgrade EDQ; use the instructions in
> Section 8, "Upgrading Enterprise Data Quality On WebLogic Servers."

To run RCU:

1. Make certain the repository database is running.

2. Run the command shell or console of the operating system.

3. Start RCU from the `FMW_HOME/oracle_common/bin` directory, where `FMW_HOME` is the Oracle Fusion Middleware installation directory.

   On Linux:

   `./rcu`

   On Windows:

   `rcu.bat`

Complete the RCU configuration screens by following the instructions in Table 4–1.

Table 4–1   Running the RCU Program

Screen	Action to Perform
Welcome	Click **Next** to proceed with the installation.
	You may cancel the installation at any time by clicking **Exit**.
Create Repository	Click **Next** to continue.
	This uses the default **Create Repository** and **System Load and Product Load** options. This requires the person running RCU to have DBA privileges.
Database Connection Details	Select **Oracle Database** from the Database Type list.
	Specify the host name where your Oracle database is running.
	Enter the port number for your database. The default port number for Oracle Database is 1521.
	Specify the service name for the database. Typically, the service name is the same as the global database name. For example, `orcl.example.com`.
	Enter the user name for your database. The default user name is `SYS`.
	Enter the password for your database user.
	Select **SYSDBA** from the Role: list. This is automatically selected when the user is `SYS`.
	Click **Next** to continue.
Checking Global Prerequisites	When the prerequisites checking progress has reached completion, click **OK** to continue.
Select Components	Select **Create new prefix** and enter a prefix name for the database schemas you are creating. For example, `edqprod` or the default of `DEV`.
	Select the **Oracle AS Repository Components** check box. The Oracle EDQ check boxes that create the EDQ configuration and results schemas in the database repository are then automatically selected.
	Click **Next** to continue.
Checking Component Prerequisites	When the prerequisites checking progress has reached completion, click **OK** to continue.

Table 4–1 (Cont.) Running the RCU Program

Screen	Action to Perform
Schema Passwords	Ensure that **Use same passwords for all schemas** is selected.
	Enter the password that you want to use for all of the EDQ database schemas in both password fields, then click **Next** to continue.
Map Tablespaces	The default EDQ tablespaces that will be created by RCU are displayed by component.
	You can change the tablespaces by clicking **Manage Tablespaces** and then modifying the information. Oracle recommends using one user tablespace for the EDQCONFIG schema, and a different user tablespace for the EDQRESULTS schema.
	Click **Next** to continue.
Map Tablespaces	Click **OK** to create any non-existent tablespaces in your schema, then click **OK** when the operation completes.
Summary	Review the database details, then click **Create** to continue.
	A status screen is displayed that shows the progress of creating the repository components.
Completion Summary	Click **Close** to exit the RCU program.

4.3 Creating the WebLogic Server EDQ Domain

These instructions use the Configuration Wizard to create a Basic WebLogic Server domain for EDQ, with the following:

- One Administration Server and one managed server (no additional managed servers or clusters).

- One (non-RAC) data source for the EDQ configuration schema and one data source for the results schema. You can convert the datasources to RAC data sources with the Configuration Wizard, or you can do so later through the WebLogic Server Administration Console.

- A Node Manager configuration that is predefined within the EDQ domain as edq/nodemanager. You cannot edit the Node Manager home in this configuration. You can change this configuration during this procedure, if desired.

> **Note:** Oracle recommends the use of managed servers that are administered by Oracle WebLogic Node Manager. You can configure Managed Servers, Clusters, and other advanced features through the Configuration Wizard, but it may be more practical to do so by using the WebLogic Server Administration Console after the initial configuration process. For more information, see Section 4.5, "Running Multiple EDQ Servers in the Same Domain."

4.3.1 Starting the WebLogic Server Domain Configuration Wizard

To start the Domain Configuration wizard, follow these steps. You will run the configuration wizard in graphical mode.

1. Log in to the system as the EDQ installation user that you created in Section 1.4.5, "Operating System User."

2. Go to `FMW_HOME/oracle_common/common/bin` directory, where `FMW_HOME` is the Fusion Middleware installation directory.

3. Start the wizard by entering the following command:

On Linux or UNIX operating systems:

```
./config.sh
```

On Microsoft Windows operating systems:

```
config.cmd
```

The WebLogic Server Configuration Wizard is displayed.

4.3.2 Navigating the Domain Configuration Wizard Screens

Table 4–2 describes the screens in the configuration wizard. Certain screens are displayed only in certain situations depending on your selections. For help with any screen, click the **Help** button.

Table 4–2   Configuration Screens for Creating a New EDQ WebLogic Server Domain

Screen	Action to Perform
Configuration Type	Select **Create a new domain**.
	In the **Domain Location** box, enter the path to the new domain (for example, *FMW_HOME*/user_projects/domains/edq_domain) or click **Browse** to create the domain directory.
	Click **Next** to continue.
Templates	Select **Oracle Enterprise Data Quality – 12.1.3 (edq)**. Keep all default selections.
	Click **Next** to continue.
Application Location	Specify the directory in which the applications of the EDQ domain are to be stored.
	Click **Next** to continue.
Administrator Account	Specify the user name and password for the EDQ domain's administrator account. This account is used to administer the domain and to log into the EDQ application.
	Click **Next** to continue.
Domain Mode and JDK	**Domain Mode:** Select the startup operation mode for your domain from the following options:
	■ **Development Mode**—In this mode, the security configuration is relatively relaxed, allowing you to auto-deploy applications.
	■ **Production Mode**—In this mode, the security configuration is relatively stringent, requiring a username and password to deploy applications. Before putting a domain into production, familiarize yourself with procedures for securing a production environment. For more information, see *Securing a Production Environment for Oracle WebLogic Server*.
	JDK: From the Available JDKs list, select the JDK that you installed in Section 2.2, "Installing a Java Development Kit to Support EDQ."
	Click **Next** to continue.

Table 4–2 (Cont.) Configuration Screens for Creating a New EDQ WebLogic Server

Screen	Action to Perform
JDBC Data Sources	Default values are shown for the JDBC data sources for the EDQ configuration schema (`edqConfigDS`) and the EDQ results schema (`edqResultsDS`) in the repository. Leave the Oracle RAC options blank. These are advanced configurations, and you can convert to them later as you gain experience with WebLogic Server.
	Click **Next** to continue.
JDBC Data Sources Test	Click **Test Selected Connections** to ensure that the configuration tool can connect to the data sources. To test connections, the targeted database must be running. To skip the test, deselect the check boxes.
	Click **Next** to continue.
Database Configuration Type	Ensure that **RCU Data** is selected. This populates the connection information you supplied when you ran the Repository Creation Utility (see Section 4–1, " Running the RCU Program").
	If you must change any of these fields, ensure that you use the schema prefix (`DEV` by default) and password that you specified when you ran RCU.
	When done, click **Get RCU Configuration** to connect to the Oracle Database and bind the EDQ schemas.
	Click **Next** to continue.
JDBC Component Schema	Accept the defaults to include the EDQ configuration and results schemas, and then click **Next**.
JDBC Test	All schemas are selected and automatically tested.
	Return to the previous screen to alter the connection configuration if necessary.
	Click **Next** to continue.
Advanced Configuration	
Configuration Summary	Review the configuration for your domain by selecting a view and then selecting individual items in the list for that view.
	If the domain is configured as you want it, click **Create** to create the domain.
	If you need to make changes to the configuration, click **Back** to return to the appropriate screen for the settings you want to change.
Configuration Progress	Shows the progress of the domain creation.
	When the process completes, click **Next**.
Configuration Success	Review the domain creation results.
	Click **Finish** to exit the Configuration Wizard.

4.4 Start Oracle WebLogic Server

You must start your Administration Server, Managed Servers, and clusters to complete the installation. For information about starting managed servers using Node Manager and Administration Servers, see "Starting and Stopping Oracle WebLogic Server Instances" in *Oracle Fusion Middleware Administering Server Startup and Shutdown for Oracle WebLogic Server*.

See also Section 6, "Setting Server Parameters to Support Enterprise Data Quality" for important information about setting server parameters for startup.

4.5 Running Multiple EDQ Servers in the Same Domain

To support high availability scenarios, Oracle recommends that you configure a cluster of multiple EDQ servers to share the incoming load (for example, from a large number of simultaneous web service requests), and to provide continuous service in the event of failure of an individual server. This section provides some basic guidance about how to configure EDQ to support such a model using Oracle WebLogic Server.

Multiple EDQ managed servers can be configured to run in the same WebLogic Server domain either in a cluster or not, provided that *each* server has the following items that are separate and dedicated:

- `EDQCONFIG` and `EDQRESULTS` schemas: Separate schemas can be created for different EDQ instances by re-running the Repository Creation Utility (RCU) and using different prefixes for the schema names (for example, `DEV2` and so on).

- JDBC data sources: You must create corresponding JDBC data sources for each of the schemas, each with different JNDI names. The WebLogic Server Configuration Wizard only creates the JDBC data sources for the first server. The remaining data sources must be created manually using the WebLogic Server Administration Console.

- Configuration directories (base and local): The WebLogic Server Configuration Wizard creates the configuration directories for the first EDQ server, but you must copy the local configuration directory (`oedq.local.home`) from the first server to the other servers. The base configuration directory (`oedq.home`) can be shared across all managed servers. For more information about these directories, see Section 1.4.2, "EDQ Directory Requirements."

- `director.properties` files: The `director.properties` file in each subsequent EDQ server's new configuration directory must be edited to point to the new JNDI names of the new data sources you created. You must also assign different management, FTP, and SSHD ports, because these ports are not defined in the managed server settings.

- server listening port. Each server must listen on a different port.

The Java Required Files (JRF) Template *must* be applied to any managed servers that were created using the WebLogic Server Administration Console. This is equivalent to the library targeting performed automatically by the WebLogic Server Configuration Wizard.

The final step are:

- Use the WebLogic Server Administration Console to modify the managed server settings for the additional EDQ servers.

- Update the `edq.config.path` by configuring the server startup **Arguments** option in the **Server Start** tab to point to the relevant new configuration directories.

Once multiple EDQ servers have been configured, you can leave them un-clustered and accessed directly using their respective Launchpad URLs to the relevant port, or you can configure them as part of a cluster using standard WebLogic Server practices. You can configure a separate front-end load balancer to handle incoming web service requests through a single cluster URL.

Note: Do not attempt to access the EDQ Launchpad using a load balanced cluster URL because it will be unclear which EDQ server is actually being accessed. Instead, log in to one of the servers directly using its dedicated port, and use the EDQ or WebLogic Server Console to connect to all servers in the cluster.

5

Configuring Enterprise Data Quality with Apache Tomcat

This chapter describes how to configure EDQ and the database to operate with a Tomcat Application Server and perform the necessary additional configuration steps.

> **Note:** These instructions apply to Apache Tomcat environments only. If you are using Oracle WebLogic Server, you must follow the directions in Section 4, "Configuring Enterprise Data Quality with Oracle WebLogic Server."

This chapter includes the following sections:

- Section 5.1, "Prerequisites for these Procedures"
- Section 5.2, "Creating the EDQ Database Objects"
- Section 5.3, "Configuring Tomcat Application Server"
- Section 5.4, "Creating Directories for Use With Tomcat Application Server"
- Section 5.5, "Configuring EDQ to work with Tomcat Application Server"
- Section 5.6, "Verifying EDQ Functional Packs"
- Section 5.7, "Deploying the EDQ Application on a Tomcat Application Server"

5.1 Prerequisites for these Procedures

Before performing the procedures in this section, you must first read and satisfy the steps in:

- Chapter 1, "Planning an Enterprise Data Quality Installation"
- Chapter 2, "Installing the Required External Software Components"
- Chapter 3, "Installing Enterprise Data Quality"

5.2 Creating the EDQ Database Objects

EDQ requires two database accounts and two schemas. One of these schemas contains configuration data and the other contains results data. These objects must be created in the database that you installed as the EDQ repository in Chapter 2, "Installing the Required External Software Components."

5.2.1 Creating an EDQ Repository in an Oracle Database

This procedure configures an Oracle database as the repository for EDQ.

1. Create two database accounts named `edqconfig` and `edqresults` or other names of your choosing. When selecting names, consider that one schema will be the configuration schema and the other will be the results schema.

2. Grant the following privileges to each of these accounts:

   - `CREATE TABLE` and `CREATE INDEX`

   - `DROP TABLE` and `DROP INDEX`

   - `CONNECT`

   - `RESOURCE`

5.2.2 Creating an EDQ Repository in a PostgreSQL Database

This procedure configures a PostgreSQL database as the repository for EDQ.

1. Create two EDQ users named `edqconfig` and `edqresults` or other names of your choosing.

2. Grant the database administrator (DBA) privilege to the users that you created.

3. Create the following schemas:

   - A schema named `edqconfig` or another name of your choosing. This schema must be owned by one of the users you created and will contain the configuration data.

   - A schema named `edqresults` or another name of your choosing. This schema must be owned by the other user that you created and will contain the results data.

4. Test your database configuration by logging out, then back in, using the credentials for the new EDQ users.

5.3 Configuring Tomcat Application Server

Create the necessary Oracle Application Development Framework (ADF) shared library:

1. Create a `lib.adf` ADF shared directory in your Tomcat directory.

2. Unzip the `adf-essentials.zip` file, delivered with the EDQ product, into the `lib.adf` directory. The JAR files in this zip file must be in the `lib.adf` directory, not the `adf-essentials` directory that it unzips to by default.

3. Configure the Tomcat `common.loader` property (typically located in the `catalina.properties` file) to load Oracle ADF from their respective shared library paths. For example:

```
common.loader=${catalina.base}/lib,${catalina.base}/lib/*.jar,
${catalina.home}/lib,${catalina.home}/lib/*.jar,
${catalina.home}/lib.adf/*.jar
```

5.4 Creating Directories for Use With Tomcat Application Server

Create two empty directories to contain your EDQ configuration files. For example:

On Linux and UNIX operating systems:

```
/opt/edqconfig/oedqhome
```

```
/opt/edqconfig/oedqlocalhome
```

On the Windows operating system:

```
C:\edqconfig\oedqhome
```

```
C:\edqconfig\oedqlocalhome
```

The first directory (oedqhome) is the base configuration directory and will contain the configuration files that should not be changed post-installation. The second directory (oedqlocalhome) is the local configuration directory and will contain any custom settings that you create. Ensure that your application server user has read and write access to the two directories you create. For more information about these directories, see Section 1.4.2, "EDQ Directory Requirements."

5.5 Configuring EDQ to work with Tomcat Application Server

Follow these steps to run the EDQ Configuration Application (configapp) to configure EDQ to work with Apache Tomcat and to populate the repository schemas with the required EDQ objects.

> **Note:**   These instructions assume you have created the required database schemas as directed in Section 2, "Installing the Required External Software Components."

To start the EDQ Configuration Application, follow these steps:

1. Log in to the system as your EDQ installation user.

2. Go to your *FMW_HOME*/edq/oracle.edq directory.

3. Start the Configuration Application by entering the following command:

   ```
   java -jar configapp.jar
   ```

   The EDQ Configuration Application is displayed.

Use Table 5–1, " Running the EDQ Configuration Application" to configure EDQ:

Table 5–1   Running the EDQ Configuration Application

Screen	Action to Perform
EDQ Configuration Application Completion	Click **Begin** to proceed with the configuration.
	You may cancel the installation at any time by clicking **Cancel**.
Configuration Directory	Specify the two empty directories that you created in Section 5.4 to contain your EDQ configuration files.
	Click **Next** to continue.
Functional Packs	Select the functional packs you want and are licensed to use.
	Click **Next** to continue.

Table 5–1 (Cont.) Running the EDQ Configuration Application

Screen	Action to Perform
Configure the Configuration Schema	From the Selection Type list, select the correct option for the *configuration* schema that you created in Section 5.2.
	■ *Do not* use the **JNDI Connection** option.
	■ For PostgreSQL, you may want to use the **Properties** option.
	Enter the user name and password for the configuration schema.
	Select the option for the type of database, either **Oracle** or **Postgres**.
	Enter the host name of the system that contains the database, its port number, and the database unique id. (For Oracle the unique id is the SID not the service name. If you want to use a pluggable database, which requires a service name, you must use a raw JDBC URL or JNDI source.)
	Ensure that you configured the connection to the database correctly by clicking **Test**.
	Click **Next** to continue.
Configure the Results Schema	From the Selection Type list, select the correct option for the *results* schema that you created in Section 5.2.
	■ *Do not* use the **JNDI Connection** option.
	■ For PostgreSQL, you may want to use the **Properties** option.
	Enter the user name and password for the results schema.
	Select the option for the type of database, either **Oracle** or **Postgres**.
	Enter the host name of the system that contains the database, its port number, and the database unique id. (For Oracle the unique id is the SID not the service name. If you want to use a pluggable database, which requires a service name, you must use a raw JDBC URL or JNDI source.)
	Ensure that you have configured the connection to the database correctly by clicking **Test**.
	Click **Next** to continue.
Selected Options	Review the summary of your selections. Use **Back** to modify any of your selections.
	Click **Finish** to complete the configuration and continue.
EDQ Configuration Application Completion	Click **Done** to exit the installation program.

5.6 Verifying EDQ Functional Packs

You can verify which EDQ functional packs have been installed by using the EDQ Configuration Application as described in Section 5.5, "Configuring EDQ to work with Tomcat Application Server." Additionally, you should be aware of the following:

■ All Functional Packs are needed if you want to install the EDQ Customer Data Services Pack on your EDQ server, such as for integration with Siebel Customer Relationship Management or Universal Customer Master.

■ All Functional Packs are needed if you want to install Oracle Watchlist Screening on your EDQ server.

5.7 Deploying the EDQ Application on a Tomcat Application Server

The EDQ application must be manually deployed on Tomcat Application Servers.

1. Stop the application server.

2. Deploy the `edq.war` file on your application server.

   See the *Tomcat Web Application Deployment* web page at

   http://tomcat.apache.org/tomcat-6.0-doc/deployer-howto.html

3. To link EDQ to the base and local configuration directories that you created in Section 5.4, you can do one of the following:

   - On any of the EDQ-supported platforms, you can use a Java property named `Dedq.config.path` that specifies the paths to those directories. The syntax is as follows, where *path_to_base_config* is the path to the base configuration directory and *path_to_local_config* is the path to the local configuration directory.

     Linux and UNIX (colon separates the paths):

     ```
     -Dedq.config.path=path_to_base_config:path_to_local_config
     -Doracle.mds.cache=simple
     ```

     Windows (semi-colon separates the paths):

     ```
     Dedq.config.path=path_to_base_config;path_to_local_config
     -Doracle.mds.cache=simple
     ```

   - On Windows, you can append an environment variable named `EDQ_CONFIG_PATH` to your `JAVA_OPTS` environment variable, as shown in the following, where *path_to_base_config* is the path to the base configuration directory and *path_to_local_config* is the path to the local configuration directory.

     ```
     EDQ_CONFIG_PATH="path_to_base_config;path_to_local_config"
     ```

   For more information about setting Java parameters, see the Apache Tomcat Documentation website at

   http://tomcat.apache.org/

4. Restart your application server service and ensure that `edq.war` is successfully deployed.

6

Setting Server Parameters to Support Enterprise Data Quality

This chapter contains recommended Managed Server parameter settings for the framework that supports EDQ. These settings apply to both Oracle WebLogic Server and Apache Tomcat application server environments.

This chapter contains the following topics:

- Section 6.1, "How to Set the Server Parameters"
- Section 6.2, "Recommended Parameter Values"
- Section 6.3, "Example of Parameter Settings"

6.1 How to Set the Server Parameters

This section describes how to set the recommended server parameters for WebLogic Server and Tomcat domains. Follow the guidelines that are appropriate for your EDQ installation.

6.1.1 How to Set Server Parameters in a WebLogic Server Domain

When you start a Managed Server in a WebLogic Server domain, the startup passes a set of configuration parameters to initialize a Java Virtual Machine (JVM). These parameters include, but are not limited to, the server's JVM settings and the path to the server configuration directories.

The method of setting the required server configuration parameters for EDQ varies, depending on the method that you use to start the Managed Servers. The following points explain the differences:

- When starting an EDQ Managed Server from the WebLogic Server Administration Console, the configuration settings for the Managed Server are pre-defined as server startup arguments, because they were set by the domain Configuration Wizard (see Section 4.3). When starting the server, these arguments are applied by default, but you can change them to the recommended settings described in Section 6.2.

- When starting an EDQ Managed Server by using a startup script, the server startup arguments that are defined in the WebLogic Server Administration Console are ignored. However, when the domain Configuration Wizard was run, it created an `edq_server1` Managed Server that contains default JVM settings. These settings are stored in the `setDomainEnv.cmd` (Windows) or `setDomainEnv.sh` (Linux) script in `edq_server1`. You can edit this script to add or change the name of the Managed Server and to apply the recommended JVM settings described in

6.1.2 How to Set Server Parameters in a Tomcat Domain

Consult the Tomcat documentation for your version of the application server. Documentation for all versions of Tomcat are at

http://tomcat.apache.org

6.2 Recommended Parameter Values

This section describes the recommended server parameter settings.

6.2.1 Setting JVM Parameters

You must set the following parameters for the Java Virtual Machine (JVM) that runs the EDQ environment. Most of these parameters apply to the HotSpot JVM, which is the central JVM of the Java Development Kit (JVM) from Oracle. This is the preferred JVM because it yields the best performance for EDQ.

- Maximum heap memory, `-Xmx`, should normally be set to approximately 50% of available physical memory on the host server. For example, on a server with 32GB of RAM, start by setting it to 16GB with `-Xmx16384m`. Depending on the relative usage of memory between the JVM and native processing, you may need to be adjust this setting. This parameter is common to most JVMs.

- Maximum Permgen space should be set to 512m, `-XX:MaxPermSize=512m`, unless otherwise advised. This parameter is specific to HotSpot JVM.

- Reserved Code Cache size should be set to 128m, `-XX:ReservedCodeCacheSize=128m`, unless otherwise advised. This parameter is specific to HotSpot JVM.

  If you increase the `MaxPermSize` parameter value, you should increase the `ReservedCodeCacheSize` value proportionally.

- Soft Reference Flush Interval should always be set to 1, `-XX:SoftRefLRUPolicyMSPerMB=1`. This parameter is specific to HotSpot JVM.

6.2.2 Setting Other Parameters

The following additional parameter settings are recommended.

- Oracle JDBC Maximum Cached Buffer Size should always be set to 0, `-Doracle.jdbc.maxCachedBufferSize=0`. This parameter is specific to the Oracle JDBC driver.

- Headless mode should always be set to true on UNIX systems, `-Djava.awt.headless=true`. This parameter is specific to the Java Abstract Window Toolkit (AWT) library. Setting this is recommended because some of the graphic drawing routines (such as around graphs) will attempt to connect to the display device on a client to size fonts and other attributes. If the machine does not have a display device, this may interfere with operation. The `headless=true` setting directs the graphics library to operate without connecting to a display.

6.3 Example of Parameter Settings

The following is an example of the full set of recommended parameter options for a typical UNIX or Linux server with 32GB of RAM:

```
-Xmx16384m
-XX:MaxPermSize=512m
-XX:ReservedCodeCacheSize=128m
-Doracle.jdbc.maxCachedBufferSize=0
-XX:SoftRefLRUPolicyMSPerMB=1
-Djava.awt.headless=true
```

7

Next Steps After Configuring Enterprise Data Quality

This chapter describes how to start using EDQ and is intended to help you become familiar with the main components of EDQ.

This chapter includes the following sections:

- Section 7.1, "Logging Into EDQ"
- Section 7.2, "The EDQ Launchpad"

7.1 Logging Into EDQ

You can access the EDQ Launchpad and client applications by starting a supported browser and enter the following URL:

```
http://server_name:port_number/edq
```

where *server_name* is the name of the server onto which you installed EDQ and *port_number* is the HTTP or HTTPS port that your application server is running against (8001 on WebLogic Server by default, 8080 on Tomcat). If you deployed the application server to run against a different port, you should use that port number.

Enter your login credentials for the appropriate application server:

WebLogic Server Login
Use the WebLogic Server user that you created in Section 4.3.2, "Navigating the Domain Configuration Wizard Screens."

Tomcat Login
Use the default EDQ administrator account `dnadmin` with the password `dnadmin`. You are prompted to change the password the first time you log in. This password must meet the default security standards.

7.2 The EDQ Launchpad

The Launchpad provides access to the EDQ client applications, services, and system management. The following may be displayed on the Launchpad when EDQ is installed:

Director	Starts the Director client application, which is the main configuration application.

Server Console	Allows you to perform the following tasks: ■ Schedule jobs ■ View current tasks ■ View the event log ■ View job results
Dashboard	Starts the Dashboard, where published data quality metrics are displayed.
Match Review	Starts the Match Review application, which allows users to view an overview of the reviews assigned to them and to launch the review application.
Case Management	Case Management is an application designed to support the manual investigation of results from data quality processes. It is also used as the main investigation application in Oracle Watchlist Screening, for both batch and real time screening results. Using Case Management, privileged users can manage and review matching results using highly configurable workflows with a comprehensive audit history of all investigation work.
Case Management Administration	Case Management Administration provides the following areas of functionality: ■ Workflow Administration—allows you to create, edit, copy, import, export and delete workflows. ■ Case Source Administration—allows you to import, export and delete case source definitions. ■ Permission Administration—allows you to define and manage the data that users have permission to access.
Administration	This application allows a sufficiently privileged user to configure EDQ users, permission groups, password and security rules, extensions, the applications that appear on the launchpad, and the ability to view and monitor sessions.
Web Services	Displays details of the web services configured in the EDQ server.
Change Password	Allows users to change their passwords. A user must log in with the existing password and then provide and confirm the new password. This option is not available when using a WebLogic Server.
Help	Allows you to retrieve information about how to use each EDQ application.

An Administrator can reconfigure the Launchpad to define the user applications and links that are displayed to users by using the Administration pages. For more information, see the *Oracle Enterprise Data Quality Online Help*.

8

Upgrading Enterprise Data Quality On WebLogic Servers

This chapter describes how to upgrade EDQ running on WebLogic Servers from Release 11*g* to Release 12*c* (12.1.3) of EDQ.

> **Note:** The topics in this document must be followed in the order presented.

This chapter includes the following sections, presented in order of their intended execution:

- Section 8.1, "Preparing for an Enterprise Data Quality Upgrade"
- Section 8.2, "Migrating a File-Based Keystore to an OPSS Security Store"
- Section 8.3, "Upgrading the EDQ and OPSS Schemas"
- Section 8.4, "Creating the Required 12c Schemas"
- Section 8.5, "Reconfiguring the EDQ Domain"
- Section 8.6, "Applying the Upgrade Changes to the Base Domain"
- Section 8.7, "Troubleshooting The Upgrade"

> **Note:** If upgrading EDQ on Apache Tomcat, see Chapter 9, "Upgrading Enterprise Data Quality On Tomcat Servers."

8.1 Preparing for an Enterprise Data Quality Upgrade

These instructions provide an overview of the preparatory work you must do before running any upgrade programs.

Table 8–1   Steps to Prepare for an EDQ Upgrade (in their required order)

Step	Action to Perform
Review Oracle Fusion Middleware upgrade documentation.	Read *Planning an Upgrade of Oracle Fusion Middleware* for additional guidelines for preparing to upgrade to Oracle Fusion Middleware Release 12*c* (12.1.3). This documentation also includes descriptions of terminology changes that you must understand to move forward to a 12*c* environment.
Determine whether your current EDQ version is a valid upgrade starting point.	An *upgrade starting point* is a specific version of EDQ that you must be running in order to upgrade directly to Release 12*c* (12.1.3) with the Oracle Fusion Middleware Upgrade Assistant. **Valid starting point:** EDQ version 11.1.1.7 or later that was installed with Oracle Universal Installer (OUI). If your current version satisfies this requirement, you can use the Upgrade Assistant to upgrade your installation directly to Release 12*c* (12.1.3). OUI was first available to EDQ in that release. **Action:** *Proceed with the steps in this documentation.* **Invalid starting point:** Any version of EDQ earlier than Release 11*g* (11.1.1.7). **Action:** First upgrade your software to at least version 11.1.1.7, and then return to this documentation to upgrade that environment to Release 12*c* (12.1.3). To upgrade to version 11.1.1.7, see *Oracle Enterprise Data Quality Installation and Upgrade Guide Release 11g R1 (11.1.1.7)* at http://docs.oracle.com/cd/E48549_01/doc.11117/e40040/upgrade.htm#CIABBCGE
Back up your 11*g* Fusion Middleware environment.	Before you begin, Oracle recommends that you make a complete backup of your 11*g* environment, including your EDQ domain. For instructions, see "Backup and Recovery Strategies for Upgrade" in the *Planning an Upgrade of Oracle Fusion Middleware*.
Stop all EDQ servers and components in the current EDQ domain.	See "Starting and Stopping Oracle Fusion Middleware" in *Administering Oracle Fusion Middleware*. **All EDQ components must remain shut down until you are prompted to start them at the end of these upgrade instructions.**
Run the WebLogic Server Administration Server	Keep the WebLogic Server Administration Server running until you are prompted to shut it down. You will be performing tasks from the Administration Server.
Download EDQ Release 12*c* (12.1.3)	Follow the instructions in Section 1.5, "Downloading EDQ."
Install EDQ Release 12*c* (12.1.3)	Install the 12c software. See Section 3, "Installing Enterprise Data Quality."
Upgrade EDQ version 12.1.3.	After satisfying all of the steps in this checklist, you may upgrade to Release 12*c* (12.1.3) by following these instructions in the order shown: Section 8.2, "Migrating a File-Based Keystore to an OPSS Security Store" Section 8.3, "Upgrading the EDQ and OPSS Schemas" Section 8.5, "Reconfiguring the EDQ Domain" Section 8.6, "Applying the Upgrade Changes to the Base Domain" Section 8.7, "Troubleshooting The Upgrade"

8.2 Migrating a File-Based Keystore to an OPSS Security Store

All Oracle Fusion Middleware products must now store their security credentials within an Oracle Platform Security Services (OPSS) schema in an Oracle database. The Oracle term for this is *security store*. If you were using a file-based keystore in the configuration directories, you must now use an OPSS DB-based security store.

To convert to an OPSS DB-based security store, you create the OPSS, Audit Services, and Audit Services Viewer schemas. The Audit Services and Audit Services Viewer schemas are required by the Oracle Platform Security Services schema. After creating

these schemas, you then create a WebLogic Server data source for the OPSS schema, and then reassociate the EDQ keystore to the OPSS schema.

- Task 1, "Creating the OPSS Schema"

- Task 2, "Creating a JDBC Data Source for the OPSS Schema"

- Task 3, "Reassociating the File-based Keystore to a DB-based Security Store"

Task 1 Creating the OPSS Schema

Run the Fusion Middleware 11*g* Repository Creation Utility (RCU) to create the OPSS schema. For assistance or more information on any screen, click **Help**.

1. Download the 11*g* Repository Creation Utility (RCU) from Oracle. For instructions, see

   http://docs.oracle.com/cd/E23104_01/download_readme_ps6/download_
   readme_ps6.htm#BABHDBJC

2. Extract the contents to a directory of your choice; this directory will be referred to as the RCU_HOME directory. On Windows operating systems, make sure that you do *not* unzip the RCU file to a directory name that contains spaces.

3. Start the WebLogic Server Administration Server.

4. Run the command shell or console of the operating system.

5. Start RCU from the bin directory inside the RCU_HOME directory.

   Note: If you are running RCU using a non-English database, set the following environment variables:

   setenv LANG en_US.UTF8

   setenv LC_ALL $LANG

   setenv NLS_LANG american_america

   On Linux:

   ./rcu

   On Windows:

   rcu.bat

6. Click **OK** to pass through the Welcome screen.

7. On the Create Repository screen, select **Create**, then click **Next**.

8. On the Database Connection Details screen, enter the connection details for the EDQ repository database and the login credentials of the EDQ database user.

9. On the Select Components screen, choose to use an existing schema prefix or create a new prefix. Under Oracle AS Repository Components, expand **AS Common Schemas** and then select **Oracle Platform Security Services**.

10. On the Schema Passwords screen, supply passwords for the schema owner.

11. On the Map Tablespaces screen, use one default tablespace and one temporary tablespace. The default tablespace names are displayed.

12. On the Summary screen, click **OK** to complete the creation of the schema.

Task 2 Creating a JDBC Data Source for the OPSS Schema

Use the WebLogic Server Administration Console to create a generic JDBC data source for the OPSS schema. For assistance or more information on any screen, click **Help**.

1. In the Domain Structure tree, expand **Services**, then select **Data Sources**.

2. On the Summary of Data Sources screen, click **New** and select **Generic Data Source**.

3. On the JDBC Data Sources Properties screen, enter the data source name and the JNDI name of the OPSS schema that you created with the 11*g* RCU in Task 1. The OPSS DataSources name is `opss-data-source` and the JNDI name is similar to this example: `jdbc/OpssDataSource`. Select the database type as **Oracle**, and then press **Next**.

4. On the Create a New JDBC Data Source screen, the default JDBC driver that is required for the Oracle database is displayed and selected. Click **Next**.

    > **Note:** Note: You must install JDBC drivers before you can use them to create database connections. Some JDBC drivers are installed with WebLogic Server, but many are not installed.

5. On the Transaction Options screen, keep the Supports Global Transactions box selected, and then click **Next**.

6. On the Connection Properties screen, enter the connection details and credentials to connect to the OPSS schema that you created with the 11*g* RCU in Task 1.

7. On the Test Database Connection screen, review the connection parameters and click **Test Configuration**. Results from the connection test are displayed at the top of the page. If the test is unsuccessful, correct any configuration errors and retry the test. If the JDBC driver you selected is not installed on the WebLogic Server Administration Server, click **Next** to skip this step. Install the driver after finishing this procedure.

8. On the Select Targets page, select the WebLogic Server servers or clusters on which you want to deploy the data source.

9. Click **Finish** to save the JDBC data source configuration and deploy the data source to the targets that you selected.

10. To activate these changes, click **Activate Changes** in the Change Center of the Administration Console. Not all changes take effect immediately, but all will take effect when you restart the server at the end of the EDQ upgrade process.

Task 3 Reassociating the File-based Keystore to a DB-based Security Store

Use the WebLogic Server Scripting Tool (WLST) to reassociate the file-based keystore to the OPSS data source that you created with the WebLogic Server Administration Console.

1. From the 11*g* `$EDQ_HOME`/oracle_common/common/bin directory, issue the following command to run the WebLogic Server Scripting Tool (WLST).

    UNIX/Linux:

    ```
    ./wlst.sh
    ```

    Windows:

    ```
    wlst.cmd
    ```

2. In WLST, connect to the Oracle database where you want to create the security store.

```
connect('username', 'password', 'host:port')
```

Where:

username is the name of the admin user.

password is the admin user's password.

host is the name of the database host.

port is the connection port to the database.

3. Reassociate the OPSS schema from the file-based format to the database format.

```
reassociateSecurityStore(domain="upgradeDomain",
servertype="DB_ORACLE", jpsroot="cn=jpsroot",
datasourcename="jdbc/OpssDataSource", join="false");
```

Where:

datasourcename is the name of the new OPSS JNDI data source that you created in the WebLogic Server Administration Console in Task 2. For more information about this script, see

http://docs.oracle.com/cd/E29542_
01/core.1111/e10043/cfgauthr.htm#JISEC2675

> **Note:** Do not restart the EDQ server or managed servers yet. Complete the rest of the upgrade steps. The changes you made are stored on the server and will propagate to the rest of the servers when you restart the servers after upgrade.

8.3 Upgrading the EDQ and OPSS Schemas

Follow the instructions in this section to upgrade your EDQCONFIG (configuration), EDQRESULTS (results), and OPSS schemas in the EDQ database repository.

- Task 1, "Starting the Upgrade Assistant"
- Task 2, "Reviewing Important Reminders before Proceeding"
- Task 3, "Selecting an Upgrade Operation"
- Task 4, "Selecting Component Schemas"
- Task 6, "Verifying Prerequisites"
- Task 7, "Specifying Database and Schema Credentials"
- Task 8, "Completing the Upgrade Validation"
- Task 9, "Initiating the Upgrade"

> **Note:** The Upgrade Assistant requires that you shut down all servers in the domain for the duration of the schema upgrade.

Task 1 Starting the Upgrade Assistant

1. Go to the following directory, where *12c_FMW_HOME* is the version 12*c* Oracle home directory.

    On UNIX operating systems:

    12_FMW_HOME/oracle_common/upgrade/bin

    On Windows operating systems:

    12_FMW_HOME\oracle_common\upgrade\bin

2. Run the following program:

    On Linux or UNIX operating systems:

    ./ua

    On Windows operating systems:

    ua.bat

Task 2 Reviewing Important Reminders before Proceeding

The Welcome screen contains important reminders to consider before proceeding with your upgrade. Make sure you read these and verify that you are ready to proceed. For assistance or more information on any screen, click **Help**.

> **Note:**   For more information about the following screens, see "Upgrading Schemas with the Upgrade Assistant" in *Upgrading with the Upgrade Assistant*.

Task 3 Selecting an Upgrade Operation

Select **Schemas**. The Upgrade Assistant will list the schemas available for upgrade on the next screen.

The title of the screen changes to "Schemas" when you select **Schemas**.

Task 4 Selecting Component Schemas

The Available Components screen lists the schemas that are available for upgrade.

Select **Oracle Enterprise Data Quality** and then make certain that all of the following schemas are selected:

- Oracle Enterprise Data Quality Configuration Schema

- Oracle Enterprise Data Quality Results Schema

- Oracle Platform Security Services Schema

Task 5 Specifying the 11*g* Base Domain Directory

On the Domain Directory screen, enter the directory for your version 11*g* EDQ domain. For example, C:\Oracle\Middleware\FMW_HOME\user_projects\domains\edq_domain.

You must check the boxes before you can continue. The Upgrade Assistant will not verify that the prerequisites have been met.

Task 6 Verifying Prerequisites

On the Prerequisites screen, check and verify the items. The Upgrade Assistant does not verify that the prerequisites have been met.

Task 7 Specifying Database and Schema Credentials

The EDQ Results schema, OPSS, and EDQ Configuration schema screens are displayed in succession.

On the first screen, specify connection details for the database that contains the EDQ Results (EDQRESULTS) schema, and then Click **Connect**. You are then prompted for the password for the schema user.

These remaining screens are automatically populated with the database connection and schema credentials that you supplied on the EDQ Results Schema screen. If these entries are not correct for either schema, change the entries and ensure that a database connection is made.

Task 8 Completing the Upgrade Validation

On the Examine screen, the Upgrade Assistant performs a series of validations before upgrading the selected components. Ensure that all validations have succeeded.

Task 9 Initiating the Upgrade

Click **Upgrade** on the Upgrade Summary screen to initiate the upgrade. The Upgrade Progress screens shows information about the progress of the upgrade, and the Upgrade Success screen summarizes the upgrade.

8.4 Creating the Required 12*c* Schemas

Oracle Fusion Middleware Release 12*c* (12.1.3) introduces new schemas and tables that must be created with the Release 12*c* (12.1.3) version of the Oracle Repository Creation Utility (RCU). This step of the upgrade must be performed before Reconfiguring the EDQ Domain.

To create the required 12*c* schemas, see Section 4.2, "Creating an EDQ Database Repository" and follow all of those instructions, but only select the following schemas on the **Select Components** screen:

■ Audit Services

■ Audit Services Viewer

■ Audit Service Append

■ Common Infrastructure Services Schema

> **Note:** *Do not* select the OPSS schema on the Select Components screen. You already created this schema with the 11*g* RCU in Section 8.2, "Migrating a File-Based Keystore to an OPSS Security Store" and updated it with the Upgrade Assistant (UA) utility in Section 8.3, "Upgrading the EDQ and OPSS Schemas."

8.5 Reconfiguring the EDQ Domain

Run the Oracle Fusion Middleware reconfiguration wizard to complete the upgrade of your WebLogic Server domain environment.

For assistance with any screen, click **Help**.

■ Task 1, "Setting the Staging Mode to Nostage"

■ Task 3, "Starting the Reconfiguration Wizard"

Task 1 Setting the Staging Mode to Nostage

This task sets the staging mode to the required setting of **nostage**.

1. Log in to the WebLogic Server Administration Server console from any web browser.

2. In the left pane, expand **Environment**.

3. Under Servers, select edq_server1.

4. Select the **Configuration** tab, then the **Deployment** tab.

5. From the Staging Mode menu, select **nostage**. Do not change any other server settings.

6. Click **Save**.

Task 2 Start and Stop Node Manager

This task ensures that Node Manager has been started at least once since it was installed. Starting Node Manager creates a set of script files that must be moved from the old domain to the version 12*c* domain. Performing this task eliminates the need for extra steps when upgrading your domain.

1. From the EDQ 11*g* domain, run the following command to start Node Manager. For *hostname*, specify the name of the system where Node Manager is installed, and for *port* specify the port number on which it runs.

    Windows:

    ```
    startNodeManager.cmd hostname port
    ```

    UNIX:

    ```
    sh startNodeManager.sh hostname port
    ```

2. Stop Node Manager by closing the command shell from which it is running.

Task 3 Starting the Reconfiguration Wizard

This task upgrades the EDQ domain.

1. Stop the WebLogic Server Administration Server and all managed servers.

2. Go to the following directory, where *12c_FMW_HOME* is the version 12*c* Fusion Middleware home directory.

    On UNIX operating systems:

12c_FMW_HOME/oracle_common/common/bin

On Windows operating systems:

12c_FMW_HOME\oracle_common\common\bin

3. Start the domain reconfiguration wizard.

On UNIX operating systems:

`./reconfig.sh -log=log_file`

On Windows operating systems:

`reconfig.cmd -log=log_file`

Specify the full path and file name in place of *log_file*. Creating a log file can be helpful if you need to troubleshoot the reconfiguration process.

> **Note:** If the following error message is displayed, it indicates that the default cache directory is not valid:
>
> `*sys-package-mgr*: can't create package cache dir`
>
> You can change the cache directory by setting the environment variable `CONFIG_JVM_ARGS`. For example:
>
> `CONFIG_JVM_ARGS=-Dpython.cachedir=valid_directory`

Task 4 Specifying the 11*g* Domain

On the Select Domain screen, specify the full path to the location of the 11*g* EDQ domain (`FMW_HOME/user_projects/domains/base_domain` or `FMW_HOME\user_projects\domains\base_domain`). You can also click **Browse** and use the file manager window to help you select the domain location.

Task 5 Viewing the Reconfiguration Setup Progress

The Reconfiguration Setup Progress displays the reconfiguration progress and verifies whether the base domain that you selected can be reconfigured to the 12*c* domain. The message "Core WLS Infrastructure Reconfigured Successfully!" indicates that the domain can be reconfigured to the 12*c* domain, and you can click **Next** to go to the next step. If this message is not returned, the domain cannot be reconfigured to the 12*c* domain. If this happens, check to see if the EDQ version is earlier than version 11*g*; if so, then you must first upgrade to EDQ 11*g* and then upgrade to version 12*c*. See Section 8.1, "Preparing for an Enterprise Data Quality Upgrade."

Task 6 Selecting the Domain Mode and JDK

Domain Mode cannot be changed.

On the Domain Mode and JDK screen, specify the location of the Java Development Kit (JDK) to use in the domain. This must be the JDK that you installed in Section 2.2, "Installing a Java Development Kit to Support EDQ."

Task 7 Configuring the JDBC Data Sources

On the JDBC Data Sources screen, the JDBC data sources associated with the 11*g* EDQ domain are listed in the lower half of the screen. These data sources should be the EDQ configuration and results schemas. If you need to make changes, select the check box next to the data source name and then make the changes.

Task 8 Testing the JDBC Data Sources

On the JDBC Data Sources Test screen, test the data source connections that were detected. Select the schemas that you want to test and then click **Test Selected Connections**.

> **Note:**   To test a connection, the database to which you are connecting must be running.

Task 9 Specifying the Required 12*c* Schemas

On the Database Configuration Type screen, select the **RCU Data** option to get the database connection information for the schemas that you created when you ran the 12.1.3 RCU. The domain configuration wizard will use the connection information to configure the data sources for these components.

Task 10 Configuring JDBC Component Schema

On the JDBC Component Schema screen, select the **OPSS** schema and specify the 11*g* data source settings for that schema at the top of the screen.

Task 11 Testing the JDBC Component Schema Connections

On the JDBC Component Schema Test screen, select all of the schemas, and then click **Test Selected Connections**.

> **Note:**   To test a connection, the database to which you are connecting must be running.

Task 12 Migrating the Node Manager Configuration

On the Node Manager screen, you will migrate the Node Manager configuration and, optionally, modify advanced options. Select **Per Domain Default Location** under Node Manager Type and **Migrate Existing Configuration** under Node Manager Configuration. Provide Node Manager login credentials, and then click **Next**.

Task 13 Selecting Optional Advanced Configuration Options

On the Advanced Configuration Screen, you can select additional domain options.

■   To make changes to the Managed Server configuration, select **Managed Servers, Clusters and Coherence**. For help with any of the options, click the **Help** button.

■   To skip making these changes, click **Next**.

Task 14 Initiating the Domain Reconfiguration

On the Configuration Summary screen, review the configuration and then click **Reconfig** to start the reconfiguration process, or click **Back** to make changes.

Task 15 Finishing the Reconfiguration

Wait for the message that states, "Domain Reconfiguration Applied Successfully" and then click **Next**.

A check mark and the message "Oracle WebLogic Server Reconfiguration Succeeded" indicate that the reconfiguration was successful. View the results, and then click **Finish** to dismiss the reconfiguration wizard.

8.6 Applying the Upgrade Changes to the Base Domain

These steps apply the changes that you made during the upgrade of the EDQ domain to the base domain.

1. Start the WebLogic Server Administration Server from the upgraded EDQ domain. If it is running, stop and then restart it.

    (UNIX) `DOMAIN_HOME/bin/startWebLogic.sh`

    (Windows) `DOMAIN_HOME\bin\startWebLogic.cmd`

2. Log in to the WebLogic Server Administration Server console from any web browser.

3. Navigate to **Deployments**.

4. Under Deployments, select **EDQ** and then click **Update**.

5. Click **Next**.

6. Click **Finish**.

7. Start the EDQ managed server. This is required to complete the upgrade.

8.7 Troubleshooting The Upgrade

If the upgrade process fails while running the Upgrade Assistant, close the Upgrade Assistant, correct the issue if you can, and then restart the Upgrade Assistant.

If you migrated a file-based keystore to an OPSS security store, one problem that can occur is if the WebLogic Server Administration Server is restarted after the migration and reassignment (see Section 8.2, "Migrating a File-Based Keystore to an OPSS Security Store" for the steps). This causes an error because the EDQ secret key is not copied to the database security store. If this may be the cause of the failure, run the WebLogic Scripting Tool (wlst) and issue the following commands:

```
connect("user", "password", "localhost:7001")
getOpssService("KeyStoreService").deleteKeyStore("edq", "default", "")
```

Where: *user* is the EDQ database user and *password* is the password for that user.

Upon successful completion, a message of "Keystore deleted" is returned.

If the cause of a problem is not immediately apparent, or if the upgrade fails after running the Upgrade Assistant, see "Troubleshooting Your Upgrade" in *Upgrading with the Upgrade Assistant*.

9

Upgrading Enterprise Data Quality On Tomcat Servers

This chapter describes how to upgrade EDQ running on Tomcat Servers from Release 11g to Release 12*c* (12.1.3) of EDQ.

> **Note:** The topics in this document must be followed in the order presented.

This chapter includes the following sections:

- Section 9.1, "Preparing for your Oracle Enterprise Data Quality Upgrade"
- Section 9.2, "Upgrading Enterprise Data Quality"

> **Note:** If upgrading EDQ on Oracle WebLogic Server, see Section 8, "Upgrading Enterprise Data Quality On WebLogic Servers."

9.1 Preparing for your Oracle Enterprise Data Quality Upgrade

Before performing the upgrade, perform these pre-upgrade steps.

1. You can perform a direct upgrade to version 12c of EDQ on Tomcat only from Tomcat version 7. If you are running Tomcat 6, you must upgrade Tomcat to version 7 before proceeding with the EDQ upgrade. See the Apache Tomcat documentation at

   `http://tomcat.apache.org`

2. Before you begin, Oracle recommends that you make a complete backup of your 11*g* environment.

9.2 Upgrading Enterprise Data Quality

These steps perform the upgrade of EDQ. They assume that you have Tomcat 7 installed. See Section 9.1, "Preparing for your Oracle Enterprise Data Quality Upgrade" if this is not the case.

The steps in the upgrade are as follows:

- Section 1, "Install EDQ Release 12c (12.1.3)"
- Section 2, "Performing the Premigration Check."
- Task 3, "Migrating the configuration schema"

- Task 5, "Running the Configuration Application"
- Task 6, "Finishing the Upgrade"

Task 1 Install EDQ Release 12*c* (12.1.3)

This task installs the product files for EDQ Release 12*c* (12.1.3).

1. Stop EDQ 11.1.1.7 server.

2. Install the EDQ 12*c* files. See Chapter 3, "Installing Enterprise Data Quality."

Task 2 Performing the Premigration Check.

This task verifies whether the 11*g* configuration schema can be migrated to the 12*c* version.

1. Navigate to the EDQ 12.1.3 directory.

2. Ensure that the path to your JDK executable is set correctly to the JDK you installed for EDQ.

3. Run the pre-migration report by running the following command.

   ```
   java -jar migration.jar premigrate dbtype:dbid@host:port/user/password
   ```

   where:

   - *dbtype* is pgsql for PostgreSQL or oracle for Oracle.
   - *dbid* is the database name for PostgreSQL or the SID for Oracle.
   - *host* is the name of the database host machine.
   - *port* is optional and should be used if the database is running on a port number other than the default port number. If no value is specified, the default port for the database type is assumed.
   - *user* is the user ID that EDQ uses to connect to the Director database.
   - *password* is the password of the database user.

4. Examine the pre-migration report. If any issues are reported, you must resolve them before proceeding with Task 3.

Task 3 Migrating the configuration schema

This task migrates the EDQ Release 11*g* (11.1.1.7) configuration schema to the EDQ Release 12*c* (12.1.3) configuration schema. EDQ automatically migrates the results schema on startup, and it is not touched in this procedure.

1. From the EDQ version 12.1.3 installation directory (*EDQ_HOME*), run the migration.jar file. Use one of the following commands (all on one command line), depending on the database you are using:

   - PostgreSQL database:

     ```
     $FMW_HOME\edq\oracle.edq -jar migration.jar migrate
     postgres:databaseName@machinename:port/user/password
     ```

   - Oracle database:

     ```
     $FMW_HOME\edq\oracle.edq -jar migration.jar migrate
     oracle:sid@machinename:port/user/password
     ```

   For a description of the input variables of this command, see Task 2.

Task 4 Upgrading the Case Management Schema

This task migrates the EDQ Release 11*g* (11.1.1.7) Case Management schema to the EDQ Release 12*c* (12.1.3) Case Management schema.

1. From the EDQ version 12.1.3 installation directory (*EDQ_HOME*), run the `migration.jar` file with the `cm` parameter. Use one of the following commands (all on one command line), depending on the database you are using:

   - PostgreSQL database:

     ```
     $FMW_HOME\edq\oracle.edq -jar migration.jar cm
     postgres:databaseName@machinename:port/user/password
     ```

   - Oracle database:

     ```
     $FMW_HOME\edq\oracle.edq -jar migration.jar cm
     oracle:sid@machinename:port/user/password
     ```

   For a description of the input variables of this command, see Task 2.

Task 5 Running the Configuration Application

This task updates the base and local configuration directories, updates the EDQ connections to the repository databases, and modifies the functional packs that you are using in your EDQ configuration.

1. Run the `configapp.jar` file from the version 12.1.3 EDQ installation directory (*EDQ_HOME*).

   ```
   $FMW_HOME\edq\oracle.edq -jar configapp.jar
   ```

   The EDQ Configuration Application starts.

2. On the first screen, click **Begin** to start the upgrade steps.

3. On the Configuration Directory screen, select **Update an existing configuration directory**. Either accept the default EDQ base and local configuration directory locations, or browse to the correct ones.

4. On the Functional Packs screen, select the functional packs that you want to use in this installation of EDQ. Make certain to select a pack if you plan to use any configuration packages that use the processors in that pack.

5. On the Configure Config repository database screen, specify the connection details for the configuration schema or accept the defaults shown.

6. On the Configure Results repository database screen, specify the connection details for the results schema or accept the defaults shown.

7. On the Selected options screen, review the configuration that you specified. Click **Back** to make changes to your specifications, or click **Finish** to accept the upgrade selections.

8. On the EDQ Configuration Application screen, wait until the configuration details are applied, and then click **Close**. If you want to do the configuration over again, click **Restart** to launch the configuration application again.

Task 6 Finishing the Upgrade

This task performs the steps that complete the upgrade.

1. Deploy the ADF library that supports EDQ Release 12*c* (12.1.3). For more information, see Section 5.3, "Configuring Tomcat Application Server."

2. Update the library path for Tomcat.

3. Redeploy the `edq.war` file from the EDQ 12*c* installation directory (*EDQ_HOME*). For more information, see Section 5.7, "Deploying the EDQ Application on a Tomcat Application Server."

4. Start the Tomcat application server.

5. Make certain that the version is correct by checking the EDQ logs, the launch pad, and the EDQ clients.

10

Removing Enterprise Data Quality from a System

This chapter describes how to remove EDQ from Linux, UNIX, and Windows.

This chapter includes the following sections:

- Section 10.1, "Removing EDQ from a Linux or UNIX System"
- Section 10.2, "Removing EDQ from a Windows System"

> **Note:** These procedures remove the EDQ files that were installed by Oracle Universal Installer (OUI). They do not remove the EDQ application from Oracle WebLogic Server. Follow the instructions in "Removing Your Domain and Application Data" in *Oracle® Fusion Middleware Installing and Configuring Oracle WebLogic Server and Coherence*.

10.1 Removing EDQ from a Linux or UNIX System

To remove EDQ from a Linux or UNIX system, follow these steps:

1. Log in to the target system as your EDQ installation user.

2. Go to the directory, *EDQ_HOME*/oui/bin.

   > **Note:** Ensure that all files in the directory have executable permissions for the user you logged in with before continuing.

3. Run the following command to start the `deinstall.sh` program:

   `./deinstall.sh`

   The EDQ deinstallation program is displayed.

4. Select Enterprise Data Quality 12.1.3 as the distribution to remove, and then click **Uninstall**.

5. Click **Finish** to complete the removal of EDQ from the system.

10.2 Removing EDQ from a Windows System

To remove EDQ from a Windows system, follow these steps:

1. Log in to the target Windows system as your EDQ installation user.

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

3. Go to the installation directory *EDQ_HOME*`\oui\bin`.

4. Enter the following command:

```
deinstall.cmd -deinstall
```

The EDQ deinstallation program is displayed.

5. Select Enterprise Data Quality 12.1.3 as the distribution to remove, and then click **Uninstall**.

6. Click **Finish** to complete the removal of EDQ from the system.