

**Oracle Utilities Energy Information
Platform**

Installation Guide

Release 1.6.1.22 for Windows

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Chapter 1

Overview

This chapter provides an overview of the installation of the Oracle Utilities Energy Information Platform, including:

- **Installation Overview**
- **What is this book?**
- **The Oracle Utilities Energy Information Platform Installation Package**

Installation Overview

Installing the Oracle Utilities Energy Information Platform involves the following steps:

- Setup the Energy Information Platform Network Environment and the Oracle Utilities Data Repository as described in **Chapter 2: Setting Up the Network Environment** and **Chapter 3: Oracle Utilities Data Repository Schema Creation** of the *Oracle Utilities Energy Information Platform Installation and Configuration Guide*.
- Install workstation and application server applications used by the Energy Information Platform on server and client machines as described in **Chapter 4: Installing the Oracle Utilities Application Software**.
- Install Energy Information Platform web components on web server as described in **Chapter 4: Installing the Oracle Utilities Application Software**.

What is this book?

This book describes how to install the Oracle Utilities Energy Information Platform, including the following:

- **Chapter 1: Overview** (this chapter) provides an overview of the Energy Information Platform installation and configuration process
- **Chapter 2: Setting Up the Network Environment** describes the hardware components used by Energy Information Platform.
- **Chapter 3: Oracle Utilities Data Repository Schema Creation** describes how to create the Oracle Utilities Data Repository database schema.
- **Chapter 4: Installing the Oracle Utilities Application Software** describes how to install Energy Information Platform application software on an application server, on a web server, and on client machines.

The Oracle Utilities Energy Information Platform Installation Package

There is a separate installation package for the Oracle Utilities Energy Information Platform and for each related product. The table below provides the installation package file names for the Oracle Utilities Energy Information Platform and for each related product.

Product	Installation File Name
Oracle Utilities Energy Information Platform	01.06.10.xx.00.EIP.zip
Oracle Utilities Billing Component	01.06.10.xx.00.BC.zip
Oracle Utilities Load Profiling and Settlement	01.06.10.xx.00.LPS.zip
Oracle Utilities Meter Data Management	01.06.10.xx.00.MDM.zip
Oracle Utilities Quotations Management	01.06.10.xx.00.QM.zip
Oracle Utilities Rate Management	01.06.10.xx.00.RM.zip
Oracle Utilities Transaction Management	01.06.10.xx.00.TM.zip

The Oracle Utilities Energy Information Platform installation package contains the following folders:

- **Install:** Contains the installation program for the Oracle Utilities Energy Information Platform, including:
 - Oracle Utilities EIP 01.06.01.xx.00.msi
 - setup.exe
- **DBScripts:** Contains database creation scripts for the Oracle Utilities Energy Information Platform, including:
 - Buildora.cmd
 - Other database script files
- **Documentation:** Contains documentation for the Oracle Utilities Energy Information Platform, including:
 - Oracle Utilities Energy Information Platform Installation Guide
 - Oracle Utilities Energy Information Platform Configuration Guide
 - Oracle Utilities Energy Information Platform User's Guide
 - Data Manager User's Guide
 - Oracle Utilities Rules Language User's Guide
 - Oracle Utilities Rules Language Reference Guide

Chapter 2

Setting Up the Network Environment

This chapter describes how to set up and configure the network environment in which the Oracle Utilities software will be installed. This includes:

- **Oracle Utilities Platform Components Specifications**
- **Sample Platform Configurations**
- **Application and Web Service Configuration**
- **Installing Relational Database Management System Software**
- **Installing and Configuring Reporting Software**

Oracle Utilities Platform Components Specifications

This section contains options for hardware and software specifications for implementation of the Oracle Utilities Energy Information Platform and related products, including:

- Oracle Utilities Billing Component
- Oracle Utilities Load Analysis
- Oracle Utilities Load Profiling and Settlement
- Oracle Utilities Meter Data Management
- Oracle Utilities Quotations Management
- Oracle Utilities Rate Management
- Oracle Utilities Transaction Management

The Energy Information Platform application architecture comprises all of the components typically found in any n-tier enterprise architecture, including client machines, servers, and the supporting network infrastructure.

The Oracle Utilities Energy Information Platform uses five primary types of systems components. Suggested hardware specifications and required software for each component are listed below.

Before installing Oracle Utilities software you should consult with Oracle Utilities Consulting. They will make suggestions for your hardware and network architecture based on your business requirements. You should also consult with Oracle Utilities Consulting if your business requirements change, if your database grows significantly, or if you plan on migrating to a different version of Oracle Utilities software.

Note: Supported software versions are subject to change. Please refer to the Release Notes shipped with the software for the latest supported versions.

Client Workstation - C/S

These are workstations used when running the client/server (C/S) versions of Oracle Utilities applications, such as Data Manager.

Hardware	Minimum Requirements
CPU	Intel® Pentium® series (2 core per CPU, 1.6 GHz minimum)
Memory	2GB or higher
Disk Drive	80GB SATA 7200RPM
Network	100 MB/s or higher

Software for Client Workstation - C/S:

- Supported Operating Systems
 - Microsoft Windows 7 SP1
 - Windows 8.1
 - Windows 10
- Supported Web Browsers
 - Microsoft Internet Explorer 11 with latest security updates
- Relational Database Management System (RDBMS) client with applicable ODBC driver and Data Provider for .NET

Note: When using 64-bit operating systems, the 32-bit version of the database client is required.

- Oracle Utilities Energy Information Platform software
- Microsoft .NET Framework 4.5
- Microsoft Visual C++ Redistributable Packages for Visual Studio 2013 (32-bit)
- Microsoft Data Access Component (MDAC) 2.8 or higher
- Microsoft XML Core Services (MSXML) 6.0 or higher

Client Workstation - Web

These are workstations used when running the web-enabled versions of Oracle Utilities applications only.

Hardware	Minimum Requirements
CPU	Intel® Celeron® series (2 core per CPU, 1.6 GHz minimum)
Memory	1GB or higher
Disk Drive	80GB SATA 7200RPM
Network	100 MB/s

Software for Client Workstation - Web:

- Supported Operating Systems
 - Microsoft Windows 7 SP1
 - Windows 8.1
 - Windows 10
- Supported Web Browsers
 - Microsoft Internet Explorer 11 with latest security updates

Note: For users that require access to both client/server and web browser-based applications, please refer to the requirements listed for "Client Workstations - Thick Client."

Database Server

The database server houses the Oracle Utilities Data Repository. The hardware platform for the database server may be Windows/Intel or UNIX/RISC.

Hardware	Minimum Requirements
CPU	2 x Intel® Xeon® 5000 series or RISC based (2 core per CPU, 2.0 GHz minimum)
Memory	16GB or higher
Disk Drive	2 x 72GB 15k rpm SCSI or better (system disk)
Data Storage	External Network Storage
Disk Controller	RAID
Network	2 x Gigabit Ethernet or higher

Software for Database Server:

- Supported Operating Systems
 - Microsoft Windows Server 2008, Microsoft Windows Server 2012, LINUX (UNIX/Intel), Sun Microsystems Solaris, HP-UX, or IBM AIX (UNIX/RISC) software

Note: Refer to the *Oracle Utilities Energy Information Platform Quick Install Guide* for additional details about supported operating systems.
- RDBMS Server: Oracle

Database Platforms:

- Oracle 11g, Release 2 (11.2.0.4)
- Oracle 12c, Release 1 (12.1.0.2 or 12.2.0.1)

Note: Supported database versions and drivers are subject to change. Please refer to the Oracle Release Notes shipped with the software for the latest compatibility matrix.

Application/Batch Processing Server

Application servers are used when running Windows Services, such as those employed by the Reporting Framework and Adapter components. The application server(s) can also perform batch processes such as meter data upload and validation as well as batch billing and settlements.

Hardware	Minimum Requirements
CPU	2 x Intel® Xeon® 3000 series (2 core per CPU, 2.0 GHz minimum)
Memory	8GB or higher
Disk Drive	2 x 72 GB 10k rpm SCSI or better
Disk Controller	RAID
Network	2x Gigabit Ethernet or higher

Software for the Application/Batch Server:

- Supported Operating Systems
 - Windows 2008 Enterprise Server with Service Pack 2 (SP2) (64-bit)
 - Windows 2008 Enterprise Server R2 SP1 (64-bit)
 - Windows 2012 Server R2
- Supported Web Browsers
 - Microsoft Internet Explorer 11 with latest security updates
- RDBMS client with applicable ODBC driver and Data Provider for .NET

Note: When using 64-bit operating systems, the 32-bit version of the database client is required.
- Oracle Utilities Energy Information Platform software
- Microsoft .NET Framework 4.5
- Microsoft Visual C++ Redistributable Packages for Visual Studio 2013 (32-bit)
- Microsoft Data Access Component (MDAC) 2.8 or higher
- Microsoft XML Core Services (MSXML) 6.0 or higher
- Java Development Kit (JDK) 1.8 or later (for application servers that will be running the Adapter)

Web Server(s)

Web servers run Microsoft Internet Information Service (IIS). These servers may be combined with the application server(s) for combination Web and Application servers.

Hardware	Minimum Requirements
CPU	2 x Intel® Xeon® 3000 series (2 core per CPU, 2.0 GHz minimum)
Memory	8GB or higher
Disk Drive	2 x 72 GB 10k rpm SCSI or better
Disk Controller	RAID
Network	2x Gigabit Ethernet or higher

Software for Web Server(s):

- Supported Operating Systems
 - Windows 2008 Enterprise Server with Service Pack 2 (SP2) (64-bit) with Microsoft Internet Information Service (IIS) 7.5
 - Windows 2008 Enterprise Server R2 SP1 (64-bit) with Microsoft Internet Information Service (IIS) 7.5

Note: The IIS6 Management Capability option (including IIS6 Metabase Compatibility, IIS6 WMI Compatibility, IIS6 Scripting Tools, and IIS6 Management Console) must be installed when using IIS on Windows 2008.

 - Windows 2012 R2 Enterprise Server with Microsoft Internet Information Service (IIS) 8.5
- Supported Web Browsers
 - Microsoft Internet Explorer 11 with latest security updates
- RDBMS client with applicable ODBC driver and Data Provider for .NET

Note: When using 64-bit operating systems, the 32-bit version of the database client is required.
- Oracle Utilities Energy Information Platform software
- Microsoft .NET Framework 4.5
- Microsoft Visual C++ Redistributable Packages for Visual Studio 2013 (32-bit)
- Microsoft Data Access Component (MDAC) 2.8 or higher
- Microsoft XML Core Services (MSXML) 6.0 or higher

Sample Platform Configurations

This section outlines sample platform configurations for several different Oracle Utilities products. Each configuration comprises different sets of the Oracle Utilities system components described above. Note that these are provided as examples only. Listings of client workstations are followed by the types of users expected to use the workstation. This includes End Users and System and Security Administrators.

Oracle Utilities Billing Component, Oracle Utilities Rate Management

This configuration applies to the C/S versions of Oracle Utilities Billing Component or Oracle Utilities Rate Management. It includes only C/S applications, and consists of the following components:

- Database Server
- Application/Batch Processing Server
- One or more Client workstations (C/S) [End users and System Administration]

Oracle Utilities Billing Component with Oracle Utilities Receivables Component

This configuration includes using the C/S version of Oracle Utilities Billing Component with the Oracle Utilities Receivables Component, and consists of the following components:

- Database Server
- Application/Batch Processing Server
- Web Server
- One or more Client workstations (C/S) [End users and System Administrators]
- One or more Client workstations (Web) [End users and Security Administrators]

Oracle Utilities Billing Component Web, Oracle Utilities Quotations Management (web)

This configuration includes primarily web applications, and consists of the following components:

- Database Server
- Application/Batch Processing Server
- Web Server
- One or more Client workstations (Web) [End Users and Security Administrators]
- One or more Client workstations (C/S) [System Administrators]

Application and Web Service Configuration

This section outlines a number of configuration steps that must be performed on application and web servers prior to installing the Oracle Utilities software.

Configuration Steps for Windows 2008

When installing on Windows 2008 (64-bit), you must configure the server to run the Oracle Utilities software in 32-bit mode.

Use the following procedure to perform this configuration.

1. Select **Start→Administrative Tools→Internet Information Services (IIS) Manager**.
2. Click on the plus (+) sign next to your server to expand your server.
3. Expand **Web Sites** by clicking on the plus (+) sign.
4. Select **Default Web Site**.
5. Click **Basic Settings** in the **Actions** box in the upper right of the page.
The **Edit Site** dialog opens.
6. Click **Select**.
The **Select Application Pool** dialog opens.
7. Select **ASP.NET v4.0 Classic** from the Application Pool drop-down list.
8. Click OK to close the **Select Application Pool** dialog.
9. Click OK to close the **Edit Site** dialog.
10. Select **Application Pools** on the Internet Information Services Manager screen (under your server).
11. Select **ASP.NET v4.0 Classic** from the list of application pools in the center of the screen.
12. Click **Advanced Settings** in the **Edit Application Pool** box in the upper right of the page.
The **Advanced Settings** dialog opens.
13. Set **Enable 32-bit Applications** to **True** (in the General section of the dialog).
14. Click OK to close the **Advanced Settings** dialog.
15. Exit the Internet Information Services (IIS) Manager.

Configuration Steps for Windows 2012

When installing on Windows 2012 (64-bit), you must configure the server to run the Oracle Utilities software in 32-bit mode.

Use the following procedure to add required roles and install required services:

1. Select **Start→Control Panel**. Click **Turn Windows feature on or off**.
The **Add Roles and Features Wizard** window opens. Click **Next**.
2. On the **Select installation type** screen, select **Role-based or feature-based installation** (the default) as your Installation Type. Click **Next**.
3. On the **Select destination server** screen, select **Select a server from the server pool** (the default) as your Server Selection.
The current machine (Name, IP Address and Operating System) should appear in the **Server Pool** list and should be highlighted. Click **Next**.

4. On the **Select server roles** screen, select **Web Server (IIS)**. The **Add features that are required for Web Server (IIS)?** dialog opens. Click **Add Features**.
The **Web Server (IIS)** Server Role is now selected. Click **Next**.
5. By default some of the .NET Framework 3.5 and 4.5 Features are already installed. Click **Next**.
6. The **Web Server Role (IIS)** page opens. Click **Next**.
7. The **Select role services** page opens. By default, certain role services are already selected. Select the following role services or verify that the following role services are selected (select those not selected by default):

- Common HTTP Features:
 - Default Document
 - Directory Browsing
 - HTTP Errors
 - Static Content
- Health and Diagnostics
 - HTTP Logging
 - Request Monitor.
- Performance
 - Static Content Compression
- Security
 - Request Filtering
 - Basic Authentication
 - Windows Authentication
- Application Development
 - All role services
- Management Tools
 - All role services

Click **Next**.

8. The **Confirm installation selections** page opens. Review the values and click **Install**.
When the **Installation succeeded** message is displayed on the Installation progress page, click **Close**.

Use the following procedure to define additional configuration settings for Internet Information Services (IIS).

1. Select **Start→Administrative Tools→Internet Information Services (IIS) Manager**.
2. Click on the plus (+) sign next to your server to expand your server in the **Connections** pane.
3. Select **Application Pools** beneath your server in the **Connections** pane.
4. Select **.NET 4.5 Classic** in the **Application Pools** pane.
5. Select **Basic Settings...** in the **Actions** pane.
6. The **Edit Application Pool** dialog opens.

Select **.NET CLR Version v4.0.30319** from the **.NET CLR version** drop-down list and click **OK**.

7. Select **Advanced Settings...** in the **Actions** pane.

8. The **Advanced Settings** dialog opens.

In the **General** section, set the **Enable 32-Bit Applications** value to **True** and click **OK**.

9. In the **Connections** pane, expand the **Sites** node and select **Default Web Site**.

10. Select **Advanced Settings...** in the **Actions** pane.

11. The **Advanced Settings** dialog opens.

In the **General** section, select **Application Pool** and click on the ellipse [...].

12. The **Select Application Pool** dialog opens.

Select **.NET v4.5 Classic** from the **Application Pool** drop-down list and click **OK**.

13. Click **OK** on the **Advanced Settings** dialog.

14. Double-click on **Authentication** in the **Default Web Site Home** pane.

Verify that **Anonymous Authentication** is **Enabled**.

15. Exit the **Internet Information Services (IIS) Manager**.

Installing Relational Database Management System Software

This section describes installation and setup of Relational Database Management System (RDBMS) application software on the database server, application server, and client machine(s), including:

- **Setting Up the Relational Database Connection**
- **Oracle Database Connectivity**
- **Specifying the Time Zone for Oracle Database Servers (optional)**
- **Oracle Real Application Cluster (RAC)**

The Oracle Utilities Energy Information Platform supports the following RDBMS:

- 11gR2 (11.2.0.4), 12c (12.1.0.1 and 12.2.0.1)

Later versions of these RDBMS are generally supported when proven stable through Quality Assurance testing at Oracle. Please contact technical support for information on which RDBMS versions are currently supported.

Setting Up the Relational Database Connection

Before the Oracle Utilities application software can be installed, a relational database connection must be established between the database server and the application server and client machines. This section explains how to set up this connection.

Important Note!

Setting up the relational database connection is a critical step in installing and implementing Oracle Utilities software. Without a working database connection, the software cannot function properly. **Consult with your IT department and Database Administrator (DBA) when performing the following steps.**

How to set up a relational database connection for Oracle Utilities software:

1. Install the appropriate RDBMS server software on the database server. Refer to installation information for your RDBMS for more information.
2. Install the RDBMS client software on the application server and client machines.

Note: When using 64-bit operating systems, the 32-bit version of the database client is required.

3. Create a database connection between the database server and a client machine using RDBMS client software.
4. Create the Oracle Utilities Data Repository schema on the database server. See **Chapter 3: Oracle Utilities Data Repository Schema Creation** for more information.
5. Create user IDs for each client you need in the database, and assign PWRLINE_USER roles to each.

Note: The PWRLINE_USER role is created when you create the Oracle Utilities schema on the database server.

6. Create Data Source Names (DSNs) for the Oracle Utilities Data Repository schema on each machine and test the connection to the server.

Oracle Database Connectivity

This release uses both Oracle Data Provider (ODP) and ODBC for database connectivity.

- ODBC is required when running database creation and/or upgrade scripts.
- ODP is required for all other database connectivity.

Oracle Data Provider (ODP) Information

This release requires Oracle Data Provider for .NET 4.5. The specific version for each Oracle version is as follows:

Oracle Database Version	Oracle Data Provider for .NET Version	Oracle Data Access Version
11gR2 (11.2.0.4)	11.2.0.4.0	4.112.4.0
12c (12.1.0.2)	12.1.0.2	4.121.2.0
12c (12.2.0.1)	12.2.0.1	4122.1.0

ODBC Driver Information

Below is a matrix of the ODBC driver versions, database versions and the operating systems supported by the Oracle Utilities products included in this release:

Oracle Database Version	ODBC Version
11gR2 (11.2.0.4)	11.2.0.4
12c (12.1.0.2)	12.1.0.1
12c (12.2.0.1)	12.2.0.1

ODBC Driver Configuration

ODBC Data Source names must match the name defined in the tnsnames.ora file *exactly*.

To properly configure your Oracle ODBC driver, open the Data Sources (ODBC) Control Panel, select the System DSN tab, and double-click on the appropriate data source (DSN). Select the Application tab, see to it that "Enable Query Timeout" is not selected.

Note: ODBC drivers must be configured using the 32-bit obdcad32.exe program. This is usually located in the ..\windows\sysWOW64 folder.

Specifying the Time Zone for Oracle Database Servers (optional)

Oracle database servers can be configured to specify the time zone used by the applications. This can be used in situations where users are located in a different time zone than the application and database servers.

When using this feature, dates/times calculated by the system will reflect the time zone specified for the database and application servers.

Note: This feature is available for Oracle databases only, and should ONLY be used when ALL users are located in the same time zone, and the application and database servers are located in a different time zone.

When using this feature, the time zones specified on the database server should also be specified on **ALL** application and web servers that will access the database server.

To specify the time zone used by the Oracle database server, you must define the time zone for the Oracler user used by the Energy Information Platform applications to access the database.

For Oracle databases run on Linux, this is done by changing the TZ variable in the **.bash_profile** file. The syntax for this is as follows:

```
TZ='<TIMEZONE>' ; export TZ
```

where:

- **<TIMEZONE>** is the time zone you wish to specify for the database user and server.

Example:

```
TZ='GMT+2' ; export TZ
```

Note: Log files display date and time information based on the server/operating system time zone, and will ignore the time specified for the Oracle user.

Oracle Real Application Cluster (RAC)

This release supports the use of Oracle Real Application Clusters (RAC) with the database servers running Oracle 11g Release 2 (11gR2) and Oracle 12c. This section outlines specific steps involved in configuring your environment to work with Oracle RAC.

Installing Oracle RAC

Install the Oracle RAC software as described in the *Oracle Database Oracle Clusterware and Oracle Real Application Clusters Installation Guide*.

Application/Web Server Configuration for Oracle RAC

This section outlines application/web server configuration tasks required when using Oracle RAC.

TNS Names File

The TNS Names file (tnsnames.ora) on each application server, web server, and client workstation must specify the RAC node names within the TNS entry being referenced by the Energy Information Platform software. Specifically, the HOST attributes (within the ADDRESS attributes) must be set to the machine name of the nodes (database servers) in the cluster. The following example illustrates how you might specify the node names for 2 nodes in a cluster (node1 and node2).

```
racdb =
  (DESCRIPTION =
    (LOAD_BALANCE = ON)
    (ADDRESS = (PROTOCOL = TCP) (HOST = node1-vip) (PORT = 1521))
    (ADDRESS = (PROTOCOL = TCP) (HOST = node2-vip) (PORT = 1521))
    (CONNECT_DATA =
      (SERVER = DEDICATED)
      (SERVICE_NAME = racdb)
    )
  )
```

In addition, a “failover” entry with the same SERVICE_NAME attribute must also be included in the TNS Names file. The following example illustrates how you specify the node names for 2 nodes in a cluster (node1 and node2) in the “failover” entry.

```
failover =
  (DESCRIPTION =
    (enable=broken)
    (LOAD_BALANCE = ON)
    (ADDRESS = (PROTOCOL = TCP) (HOST = node1-vip) (PORT = 1521))
    (ADDRESS = (PROTOCOL = TCP) (HOST = node2-vip) (PORT = 1521))
    (CONNECT_DATA =
      (SERVER = DEDICATED)
      (SERVICE_NAME = racdb)
      (failover_mode=(type=select) (method=basic))
    )
  )
```

Hosts File

The Hosts file on each application server, web server, and client workstation must be edited to specify the RAC node names. This file is located in the C:\Windows\System32\drivers\etc directory. Each node should be listed in the following format at the bottom of the file:

```
<virtual_ip> <node_name>-vip
```

where:

- **<virtual_ip>** is the virtual IP address of the node, as defined in the RAC installation
- **<node_name>** is the name of the node (database server) in the cluster that are to be accessed by the Adapter.

The following example illustrates how node names for 2 nodes in a cluster (node1 and node2) might be listed in this file.

```
# Copyright (c) 1993-1999 Microsoft Corp.
#
# This is a sample HOSTS file used by Microsoft TCP/IP for Windows.
#
# This file contains the mappings of IP addresses to host names. Each
# entry should be kept on an individual line. The IP address should
# be placed in the first column followed by the corresponding host name.
# The IP address and the host name should be separated by at least one
# space.
#
# Additionally, comments (such as these) may be inserted on individual
# lines or following the machine name denoted by a '#' symbol.
#
# For example:
#
#       102.54.94.97       rhino.acme.com           # source server
#       38.25.63.10      x.acme.com               # x client host

127.0.0.1       localhost
10.159.172.22  node1-vip
10.159.172.23  node2-vip
```

Energy Information Platform Configuration for Oracle RAC

This section outlines Energy Information Platform configuration tasks required when using Oracle RAC.

LTMH.CFG.XML Configuration File

The LTMH.CFG.XML configuration file on each application server and web server that will be running the Energy Information Platform Adapter must be edited to specify the TNS entry for the RAC connection in the JDBC connection section. The following example illustrates the specific elements and attributes that must be populated.

```
<LTMH JMSENABLED="false">
...
  <!-- Connection for an Oracle database -->
  <JDBC URL="jdbc:oracle:thin:@(DESCRIPTION = (LOAD_BALANCE =
ON) (ADDRESS = (PROTOCOL = TCP) (HOST = <HOST_NAME>) (PORT = <PORT>)) (ADDRESS =
(PROTOCOL = TCP) (HOST = <HOST_NAME>) (PORT = <PORT>)) (CONNECT_DATA =
(SERVICE_NAME = racdb)))">
    <DRIVER TYPE="ORACLE">oracle.jdbc.OracleDriver</DRIVER>
    <QUALIFIER>tr450</QUALIFIER>
    <USERNAME>tr450</USERNAME>
    <PASSWORD>password</PASSWORD>
  </JDBC>
...
</LTMH>
```

where:

- **<HOST_NAME>**: is the name of the node (database server) in the cluster that are to be accessed by the Adapter.
- **<PORT>** is the port the database connection will use. Default is 1521.

See **LTMH.CFG.XML** on page 2-46 in the *Oracle Utilities Energy Information Platform Configuration Guide* for more information about this configuration file.

LSReportMonitor.CFG.XML Configuration File

The LSReportMonitor.CFG.XML configuration file on each application server and web server that will be running BI Publisher reports must be edited to specify the TNS entry for the RAC connection in the Alternate database connection section. The following example illustrates the specific elements and attributes that must be populated.

```
<LSREPORTMONITOR>
  <DATASOURCE>
    <NAME>QA Only</NAME>
    <CONNECTSTRING>Data Source=racdb;User
ID=ls106d;Password=lodestar;LSProvider=ODP;</CONNECTSTRING>
    <QUALIFIER>ls106d</QUALIFIER>
  </DATASOURCE>
  <ALTERNATES>
    <CONNECTSTRING NAME="QA Only" REPORTTYPE="BIPublisher">(DESCRIPTION =
(Load_Balance = ON) (Address = (Protocol = TCP) (Host = <HOST_NAME>) (Port =
<PORT>)) (Address = (Protocol = TCP) (Host = <HOST_NAME>) (Port =
<PORT>)) (CONNECT_DATA = (Server = Dedicated) (Service_Name = racdb)))</
CONNECTSTRING>
  </ALTERNATES>
  ...
</LSREPORTMONITOR>
```

where:

- **<HOST_NAME>**: is the name of the node (database server) in the cluster that is to be accessed by the Reporting Framework.
- **<PORT>** is the port the database connection will use. Default is 1521.

See **LSREPORTMONITOR.CFG.XML** on page 2-36 in the *Oracle Utilities Energy Information Platform Configuration Guide* for more information about this configuration file.

Oracle BI Publisher Configuration for Oracle RAC

This section outlines Oracle BI Publisher configuration tasks required when using Oracle RAC.

Data Source Connection String

The Connection String of the Data Source must specify the TNS entry for the RAC connection. The following example illustrates the correct syntax for the Connection String:

```
jdbc:oracle:thin:@(DESCRIPTION = (LOAD_BALANCE = ON) (ADDRESS = (PROTOCOL =
TCP) (HOST = <HOST_NAME>) (PORT = <PORT>)) (ADDRESS = (PROTOCOL = TCP) (HOST =
<HOST_NAME>) (PORT = <PORT>)) (CONNECT_DATA = (SERVICE_NAME = racdb)))
```

where:

- **<HOST_NAME>** is the name of the node(s) (database servers) in the cluster that are to be accessed by the Adapter.
- **<PORT>** is the port the database connection will use. Default is 1521.

Installing and Configuring Reporting Software

This release of the Energy Information Platform provides reporting capabilities through Oracle Business Intelligence Publisher version 10.1.3.4 or 11.1.1. This section provides information related to installing and configuring these reporting packages to work with the Energy Information Platform, including:

- **Installing Oracle Business Intelligence Publisher**
- **Configuring Oracle BI Publisher**

Installing Oracle Business Intelligence Publisher

When using Oracle Business Intelligence Publisher (Oracle BI Publisher), you install the Oracle BI Publisher software on a single application server. The Energy Information Platform application and web servers that will be used to generate reports are configured to communicate with the report server.

Note: The Oracle BI Publisher application can be installed either on an Energy Information Platform application or web server, or on a “stand-alone” server.

Oracle BI Publisher Installation

Download the Oracle BI Publisher installation program and documentation from the Oracle eDelivery website (<http://edelivery.oracle.com>).

Note: Oracle Business Intelligence Publisher must be licensed separately.

Install the Oracle BI Publisher software as described in the *Oracle Business Intelligence Publisher Installation Guide* (for the version being used, 10.1.3.4 or 11.1.1).

During the installation:

- Make a note of the name and path of the directory where the application is installed.
For example: BIPHome1 / c:\OraHome_1
- Select the “Basic” installation type.
- Set your OC4J Administrator (oc4jadmin) password. Passwords must be a minimum of 5 characters, maximum of 30 characters, and include at least one digit.

Example: Lodestar1

- Review your installation summary information:
 - Install Directory: c:\OraHome_1
 - Install Type: Oracle BI Publisher Basic
 - Installed Components: Oracle BI Publisher
 - Administrator Username: oc4jadmin
- Make a note of the URL used to access the Oracle BI Publisher application.

Example: <http://MADEV2K3ORVM01:9704/xmlpserver>

Configuring Oracle BI Publisher

This section outlines Oracle Business Intelligence Publisher configuration tasks required to enable Oracle Business Intelligence Publisher to generate and display reports run through the Energy Information Platform, including:

- **Start the Oracle BI Publisher Software**
- **Log In to the Oracle BI Publisher Software**
- **Create User for Reporting Framework**
- **Set Report Path**
- **Create Data Source for Oracle Utilities Data Repository**

Note: if installing Oracle BI Publisher on the same machine as the Energy Information Platform application server or web server software, install the Energy Information Platform software before proceeding with the following tasks.

Start the Oracle BI Publisher Software

The first step in configuring the Oracle BI Publisher software is to start the application.

To start the application, select **Start->All Programs->Oracle-BIPHome1->Start BI Publisher**.

A console (DOS) window opens on the desktop. Leave this window open in the background.

Log In to the Oracle BI Publisher Software

Once the Oracle BI Publisher software is running, you must log in to the application to continue the configuration tasks.

1. Launch the BI Publisher application using one of the following methods:

From the Start menu, select **Start->All Programs->Oracle - <ORACLE_HOME_NAME> ->BI Publisher Server**

where:

- **<ORACLE_HOME_NAME>** is the name you gave the Oracle Home where you installed Oracle BI Publisher.

From your browser, open your browser to `http://<hostname>:<port>/xmlpserver`

where:

- **<hostname>** is the name of the server
- **<port>** is the port where you installed Oracle BI Publisher

For example:

`http://localhost:9704/xmlpserver`

2. Log in to the Oracle BI Publisher server using the default administrator user name and password:

- User Name: Administrator
- Password: Administrator

Create User for Reporting Framework

You must create a BI Publisher administrator user on the Oracle BI Publisher server that the Reporting Framework will use to connect to the BI Publisher server when users create, run, and view BI Publisher reports.

To create a user, use the following procedure:

1. Navigate to the Admin tab, and click **Users** (under Security Center).
The User tab of the Security Center screen opens.
2. Click **Create User**.
The Create User screen opens.
3. Enter the User ID and Password for the user and click **Apply**.
The User tab of the Security Center screen now displays the new user.
4. Click the **Assign Roles** icon.
The Assign Roles screen opens.
5. Select **BI Publisher Administrator** in the Available Roles box, and click **Move**.
The BI Publisher Administrator role now appears in the Assigned Roles box.
6. Click **Apply**.

Refer to the Oracle BI Publisher documentation for more information about users and roles.

The User ID and Password for this user should be specified in the BI_PUBLISHER/CONNECTSTRING element in the LSReportMonitor.cfg.xml configuration file on each application or web server on which the Reporting Framework will generate Oracle BI Publisher reports.

Set Report Path

You must set the path to the directory where the report template files are stored on the server.

To set the report path, use the following procedure:

1. Identify the report templates folder on the Oracle BI Publisher server.
 - If the Energy Information Platform (and related products) is installed on this machine, this is “C:\lodestar\bip.”
 - If Oracle BI Publisher is installed on a stand-alone server (a server where the Energy Information Platform is NOT installed), create a directory for the report templates, and copy the contents of the “C:\lodestar\bip” directory from an application server or web server to the directory you created.
2. Navigate to the Admin tab, and click **Report Repository** (under System Maintenance).
The Report Repository tab of the System Maintenance screen opens.
3. Select **File System** from the Repository Type drop-down list.
4. Enter the path to the directory where the report templates are located (defined in Step 1 above).

Create Data Source for Oracle Utilities Data Repository

You must also create a JDBC data source on the Oracle BI Publisher to allow a connection to the Oracle Utilities Data Repository. This is used when designing and testing reports.

To create a JDBC data source, use the following procedure:

1. Navigate to the Admin tab, and click **JDBC Connection** (under Data Sources).
The JDBC tab of the Data Sources screen opens.
2. Click **Add Data Source**.
The Add Data Source screen opens.
3. Enter the following for the new data source:

- **Data Source Name:** The name of the data source
- **Driver Type:** Select the driver type from the drop-down list. Applicable driver types include:
 - Oracle 11g
 - Oracle 12c
- **Database Driver Class:** the driver class for the data source. Should be the following:
 - Oracle: “oracle.jdbc.OracleDriver.”
- **Connection String:** the connection string for the data source in one of the following formats:

For Oracle data sources:

```
jdbc:oracle:thin:@<ServerName>:<Port>:<YourDatabaseName>
```

where:

- **<ServerName>** is the machine name of the database server.
- **<Port>** is the port the database connection will use. Default is 1521.
- **<YourDatabaseName>** is the TNS service name used by the database’s ODBC connection.

Note: If using Oracle 10g RAC, the connection string must specify the TNS entry for the RAC connection. See **Oracle BI Publisher Configuration for Oracle RAC** on page 2-17 in the *Oracle Utilities Energy Information Platform Installation Guide* for more information.

- **User ID:** the user ID for the database connection
 - **Password:** the password for the supplied user ID
4. Click **Apply**.

The new data source appears on the JDBC tab of the Data Source screen.

Chapter 3

Oracle Utilities Data Repository Schema Creation

This chapter explains how to create the Oracle Utilities Data Repository schema, including:

- **Accessing the Database Creation Scripts**
- **Schema Creation for Oracle 11g and 12c**
- **Upgrading the Oracle Utilities Energy Information Platform Database Schema**
- **Updating the Reporting Framework for Oracle Business Intelligence Publisher**
- **Base Database Tables**
- **Optional Schemas**
- **Updating the LSGlobal Table**

Later versions of the above RDBMS are generally supported when proven stable through Quality Assurance testing at Oracle. Please contact technical support for information on which RDBMS versions are currently supported. If your facility uses another type of database software, contact Oracle.

Accessing the Database Creation Scripts

The database creation scripts you will use to create the Oracle Utilities Data Repository database schema are included in the Energy Information Platform installation package (01.06.00.xx.00.EIP.zip). When the contents of the installation package have been extracted, the database scripts are located in one of the following directories:

- ..\DBScripts\EIP\Oracle\ (for Oracle databases)

Product-Specific Database Scripts

Some product require additional database tables in the Oracle Utilities Data Repository. These are added via product-specific database scripts. These scripts are included in the product-specific installation programs.

After being extracted from the installation package, the database scripts can be found using the following path:

```
..\<PRODUCT>\<DB_TYPE>\<SCRIPT_TYPE>
```

where:

<PRODUCT> is the abbreviation for the product you are installing.

<DB_TYPE> is the type of database platform you are using (Oracle)

<SCRIPT_TYPE> is the type of database script you wish to access, Install or Upgrade

For example, to add the Oracle Utilities Meter Data Management database schema to the Oracle Utilities Data Repository, you would first extract the contents of the **01.06.00.xx.00.MDM.zip** file. The database scripts are located in one of the following directories:

- ..\DBScripts\MDM\Oracle\ (for Oracle databases)

Schema Creation for Oracle 11g and 12c

This section describes the steps required to create a Oracle Utilities Schema for Oracle 11g and 12x. These steps create the necessary tables for the Oracle Utilities Data Repository, as well as load initial data. This section includes:

- **Schema Creation**
- **Data Loading**
- **Number of Open Cursors on Oracle Server**
- **ODBC Data Source Options**

Schema Creation

The base database schema consists of 180 tables, each of which has one or more constraints, and possibly one or more indexes. The BUILDORA.CMD file included with your Oracle Utilities installation is the top-level script used to initially create these tables. The syntax for this tool is:

```
buildora -l <userid/password|/> [-d <database>] [-own <owner name>]
-opw <owner password> [-security]
```

Parameter	Description
<userid/password>	The userID and password for a user with system administrator privileges (a '/' can be used here if OS-authentication is supported)
<database>	The service name given to the instance as specified in the TNSNAMES.ORA file. and the ODBC DSN name of the same database instance. This parameter is optional and if not specified, the script will connect to the default Oracle database.
<owner name>	The name of the user which will own the database objects. This parameter is optional. If not specified, the default user PWRLINE will own the database objects.
<owner password>	The chosen password for the PWRLINE schema owner.

Note: Database scripts must be run from either a client workstation, application/batch server, or web server with all required software previously installed. See **Oracle Utilities Platform Components Specifications** on page 2-2 for more information about the software required on each of these types of system components.

The optional **-security** parameter specifies that the Security schema be installed as a stand-alone schema. See **Security Schema** on page 3-17 for more information about this schema.

A log file named BUILDORA.LOG is created when the BUILDORA script is run. You should check this log file for possible errors after running the script.

Note: When running database scripts from a 64-bit machine, the scripts must be run via the 32-bit version of the cmd.exe program, normally located in the ..\windows\sysWOW64 folder.

Schema Creation in Advance Storage Mode

By default, the buildora.cmd script runs in basic storage mode. In basic storage mode tables, indexes, and LOB segments placed in the default tablespace of the user that will own the database objects.

You also can run the buildora.cmd script in advanced storage mode. In advanced storage mode tables, indexes, and LOB segments will be placed in 3 different tablespaces. By default, the names of these tablespaces are LSTAR_DATA, LSTAR_INDEX and LSTAR_LOB respectively.

How to run the buildora.cmd script in advanced storage mode:

1. Right-click on buildora.cmd and click EDIT. At the top of script you will see following lines:

```
rem *****
rem Valid values for STORAGE_MODE are BASIC and ADVANCED
rem *****

set STORAGE_MODE=BASIC
set TAB_TBLSPACE=LSTAR_DATA
set IND_TBLSPACE=LSTAR_INDEX
set LOB_TBLSPACE=LSTAR_LOB

rem *****
```

2. Change the STORAGE_MODE line from “BASIC” to “ADVANCED”
3. The default tablespace for tables is “LSTAR_DATA”. To change this, change the TAB_TBLSPACE line from “LSTAR_DATA” to the desired name.
4. The default tablespace for indexes is “LSTAR_INDEX”. To change this, change the IND_TBLSPACE line from “LSTAR_INDEX” to the desired name.
5. The default tablespace for LOB segments is “LSTAR_LOB”. To change this, change the LOB_TBLSPACE line from “LSTAR_LOB” to the desired name.
6. Save the changes and run the script.

Note: The buildora.cmd script does not create tablespaces for you. If you going to run the buildora.cmd script in advanced storage mode, you should create proper tablespaces before running the script.

Notes:

1. The name of the database objects owner must be 7 or less characters.
2. If your database objects owner is not PWRLINE, then you have to use the -q <owner name> parameter in the command line for Oracle Utilities applications, where <owner name> is your database objects owner.

The script consists of the phases described below.

Phase 1: Schema Owner Creation

The BUILDORA script first creates the PWRLINE (or other user if specified in the **-own** parameter). The PWRLINE user is the owner of all of the database tables. The script assumes that the name of the tablespace used to contain all data is USERS and that there also exists a tablespace named TEMP which is used for temporary storage of data required for sorting, index creation, and other functions. **If this is not the case then this script must be edited prior to schema creation to reflect the proper names of these two tablespaces.**

Note: The advisable storage space for testing databases recommended is 100 MB on USERS and 50MB on TEMP.

Phase 2: PWRLINE_USER and LSSEC_ADMIN Role Creation

The BUILDORA script next creates two database role named PWRLINE_USER and LSSEC_ADMIN.

The PWRLINE_USER role is granted read and write access to all of the tables. Any database users who are subsequently created should be granted this role so that they too have read and write access to the tables. However, the PWRLINE_USER role does NOT have permissions to work with security database tables.

The LSSEC_ADMIN role is granted read and write access to the tables in the Security schema. However, this role does NOT have permissions to work with other tables.

Phase 3: Base Schema Table Creation

The BUILDORA script next creates each of the 180 base database tables along with any declarative constraints. The parent tables of all referential integrity constraints are created before their respective dependent tables. See **Base Database Tables** on page 3-10 for the order in which the tables are created.

All database tables are created in the default data tablespace of the PWRLINE (or other user if specified in the **-own** parameter) user with default Oracle sizing parameters. If you decide that these defaults are not appropriate for your database installation, the table creation script should be edited prior to schema creation.

Phase 4: Loading Initial Required (Generic) Data

Oracle Utilities provides some lookup codes, as well as the base metadata required to initially populate the database. This includes data for the following tables:

- Units of Measure (UOM)
- UOM Rate Quantities (UOMRATEQUANTITY)
- Bill Determinants (BILLDETERMINANT)
- Note Types (ACCTNOTETYPE)
- MV90 Status Code Map (MV90STATUSCODEMAP)
- Report Lists (REPORTLIST)
- Type Metadata (TYPEMETADATA)
- Domain Metadata (DOMAINMETADATA)
- Table Metadata (TABLEMETADATA)
- Column Metadata (COLUMNMETADATA)
- Reference Metadata (REFERENCEMETADATA & KEYCOLUMNMETADATA)
- LODESTAR DB Version (LSDBVERSION)
- Versioning Status (VERSIONINGSTATUS)

Phase 5: Schema Index Creation

The next phase of schema creation is the creation of additional indexes used to improve query performance of various functions. Like the database tables, these indexes are also created in the default tablespace of the PWRLINE user with default sizing parameters. If these defaults are required to be changed then the script may be edited.

Phase 6: Loading LSGlobal dictionary

The next phase of schema creation is the loading of the LSGlobal dictionary. The LSGlobal table holds the visible names of tables, references, and data types in xml format, and is required for international support in Oracle Utilities applications. You **must** update the LSGlobal table

whenever metadata changes are made to the database. See **Updating the LSGlobal Table** on page 3-18 for more information about updating the LSGLOBAL table.

Phase 7: Loading pre-defined Report Templates

The last phase of schema creation is the loading of pre-defined report templates used by the Oracle Utilities Reporting Framework. See **Chapter 13: Energy Information Platform Reporting Framework** for more information about report templates and the Reporting Framework.

Data Loading

The Data Manager application provides graphical interfaces to add, edit, and delete data in the Oracle Utilities Data Repository. It also provides access to the Import utility for bulk loading of data from comma delimited, ASCII files. See the *Data Manager User's Guide* for more information.

The RSTATORA.CMD file included with your Oracle Utilities installation is the script used to update statistics. After every major data load (approximately 20K records), run this script to update statistics for optimal performance. The syntax for this script is:

```
rstatora [-d <database>] [-own <owner name>] -opw <owner password>
```

Parameter	Description
<database>	The name given to the instance as specified in the TNSNAMES.ORA file. This parameter is optional and if not specified, the script will connect to the default Oracle database.
<owner name>	The name of the user which will own the database objects. This parameter is optional. If not specified, the default user PWRLINE will own database objects.
<owner password>	The chosen password for the PWRLINE schema owner.

A log file named RSTATORA.LOG is created when the RSTATORA script is run. You should check this log file for possible errors after running the script.

Note: When running database scripts from a 64-bit machine, the scripts must be run via the 32-bit version of the cmd.exe program, normally located in the ..\windows\sysWOW64 folder.

Number of Open Cursors on Oracle Server

The following setting is needed in the init<sid>.ora (startup file):

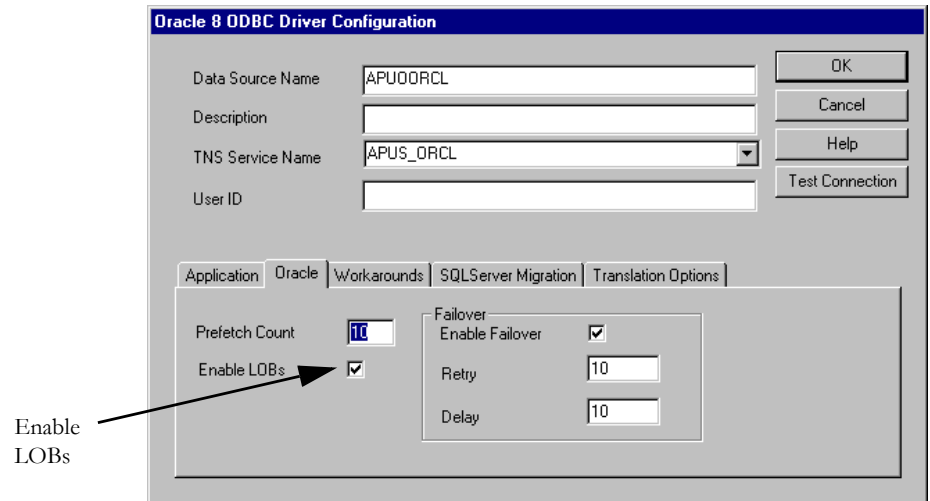
```
Open_cursors = 1000
```

The above setting is a minimum. It can be more than 1000 if enough physical memory is available.

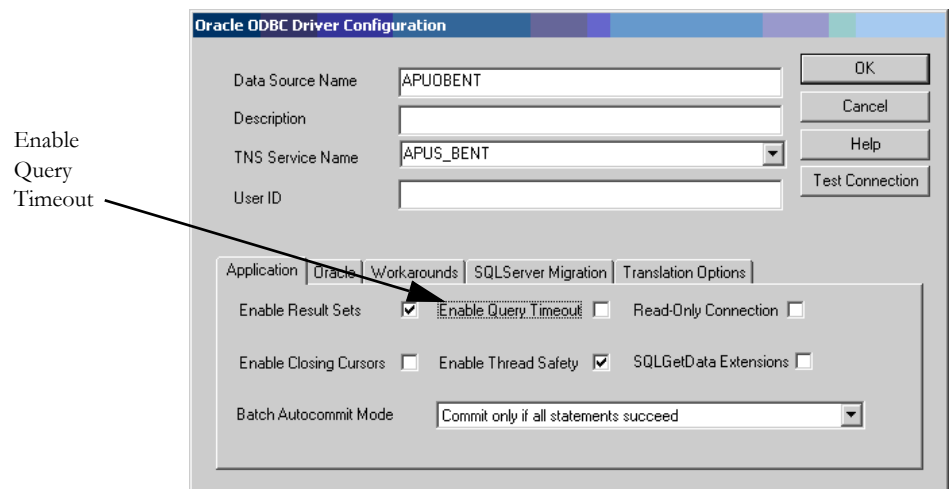
ODBC Data Source Options

The following settings are needed in ODBC Data Source options on each client machine:

- Enable LOBs = TRUE (checkbox is checked)



- Enable Query Timeout = FALSE (checkbox is unchecked)



Upgrading the Oracle Utilities Energy Information Platform Database Schema

If you are upgrading Oracle Utilities Energy Information Platform from a previous version, you must upgrade Energy Information Platform database schema. The following database upgrade scripts are included in the Energy Information Platform installation package.

- The **updateEIP.cmd** file. This database script updates the tables and data used by Oracle Utilities Energy Information Platform in the Oracle Utilities Data Repository. This script can only be used when upgrading the following schema version.

v1.6 Schema Version	v1.6.1 Schema Version
v1.6.0.0.0	v1.6.1.15.0

If you are upgrading from a different schema version, contact Oracle Global Customer Support.

Upgrading Oracle Utilities Energy Information Platform Schema

Open a command prompt and run the updateEIP.CMD script. This script uses the following syntax:

```
updateEIP [-d <database>] [-own <owner name>] -opw <owner password>
```

Parameter	Description
<database>	The name given to the instance as specified in the TNSNAMES.ORA file. This parameter is optional and if not specified, the script will connect to the default Oracle database.
<owner name>	The name of the user which will own Oracle Utilities database objects. This parameter is optional. If not specified, the default Oracle Utilities user PWRLINE will own database objects.
<owner password>	The chosen password for the PWRLINE schema owner.

Updating the Reporting Framework for Oracle Business Intelligence Publisher

If you are using Oracle Business Intelligence Publisher for reporting, you must update the pre-defined reports in Reporting Framework database tables. The following database scripts are included in the Energy Information Platform installation package for this purpose.

- The **BIPEIP.cmd** file. This script changes the pre-defined Energy Information Platform reports from Crystal Reports to Oracle Business Intelligence Publisher.

Oracle Utilities Energy Information Platform Reports

Open a command prompt and run the BIPEIP.CMD script. This script uses the following syntax:

```
BIPEIP [-d <database>] [-own <owner name>] -opw <owner password>
```

Parameter	Description
<database>	The name given to the instance as specified in the TNSNAMES.ORA file. This parameter is optional and if not specified, the script will connect to the default Oracle database.
<owner name>	The name of the user which will own Oracle Utilities database objects. This parameter is optional. If not specified, the default Oracle Utilities user PWRLINE will own database objects.
<owner password>	The chosen password for the PWRLINE schema owner.

Verification - Energy Information Platform Reports

To verify that the Energy Information Platform reports have been updated, use the following procedure:

1. Log into the database using the PWRLINE user (Password =password).
2. Verify that the following records exist in the Report Instance table:

Report Name	Description	Report Type
WQAging	Work Queue Aging	BIPublisher
WQOpenByUser	Work Queue Open Items	
WQProductivity	Work Queue Productivity	BIPublisher

Base Database Tables

The scripts used to build the database schema create the tables in the order listed below. These tables are available when using Oracle.

- ACCOUNT
- ACCOUNTHISTORY
- ACCOUNTNOTE
- ACCOUNTSTATUS
- ACCTBILLETUSE
- ACCTDIRECTORY
- ACCTFACTORHIST
- ACCTNAMEOVERHIST
- ACCTNOTETYPE
- ACCTOVERRIDEHIST
- ACCTOVERRIDEREADY
- ACCTOVERRIDEUSE
- ACCTRATECODEHIST
- ACCTRIDERHIST
- ADDRESS
- AGGREGATIONGROUP
- AGSERVGRPHIST
- BILLCODE
- BILLDETERMINANT
- BILLFREQUENCY
- BILLFREQUENCYDATA
- BILLHISTORY
- BILLHISTORYVALUE
- BILLHISTORYEDIT
- BILLHISTORYEDITVAL
- BILLHISTORYPROBLEM
- BILLINGCYCLE
- BILLINGCYCLEDATE
- BLOCK
- BLOCKING
- BUDGETPLAN
- BUDGETTYPE
- CHANNEL
- CHANNELGROUP
- CHANNELHISTORY

- CHANSERVICEHIST
- CUSTOMER
- CUSTDIRECTORY
- DESKTOP
- DIRECTORY
- ENDUSE
- ENTINT
- ENTPURPOSE
- FACTOR
- FACTORVALUE
- GROUPCATEGORY
- HOLIDAY
- HOLIDAYLIST
- INDUSTRIALCLASSIFICATION
- INTERROGATION
- INTERSCHEMAP
- JURISDICTION
- LASTUID
- LIST
- LISTQUERY
- LISTSTATUS
- LISTRESULTS
- LSACCOUNTTYPE
- LSBREAKPOINT
- LSCDVERSION
- LSCONTACTTYPE
- LSCURRENCY
- LSCHANNELCUTDATA
- LSCHANNELCUTHEADER
- LSCHANNELCUTVMSG
- LSCHVERSION
- LSDBAUDIT
- LSDBAUDITCLOBS
- LSDBAUDITUSERS
- LSDBVERSION
- LSFROMEMAIL
- LSGlobal
- LSINTDSTAGING

- LSINTDSOURCES
- LSINTDVERCONTROL
- LSPRODUCT
- LSSPLASHMESSAGE
- LSSPLASHMESSAGEEVENT
- LSSESSIONINFO
- LSTOUPERIODNAME
- METER
- METERHISTORY
- METERREAD
- METERVALUE
- MV90STATUSCODEMAP
- OPERATINGCOMPANY
- OVERRIDE
- PHYSICALRECORDER
- PLANNINGAREA
- PREMISE
- RATECODE
- RATEFORM
- RATEFORMVERSION
- RATEFORMVERTEXT
- REBILLREASON
- RECORDER
- REGION
- REPORTSETTINGS
- REVENUECODE
- RECORDERHISTORY
- REPORT
- REPORTLIST
- REVENUE
- REVENUEADEQUACY
- REVENUESUMMARY
- REVFORECAST
- REVFORECASTITEM
- SEASONDATE
- SEASONPERIOD
- SEASONSCHEDULE
- SERVICE

- SERVICEPLAN
- SERVICETYPE
- SIC
- SUBSTATION
- TIMEZONE
- TOUSCHEDULE
- TOUPERIOD
- TRANSFORMERLOC
- TRANSFORMER
- UOM
- UOMRATEQUANTITY
- USDAY
- USDAYLIST
- VERSION
- VERSIONINGSTATUS

Meta-Data Tables

- CATEGORYMETADATA
- COLUMNMETADATA
- DOMAINMETADATA
- KEYCOLUMNMETADATA
- REFERENCEMETADATA
- TABLECATEGORYMETADATA
- TABLEMETADATA
- TYPOMETADATA

Security Tables

- LSDATASOURCE
- LSGROUP
- LSGROUPPROFILE
- LSGROUPTOKEN
- LSPROFILE
- LSPROFILETOKEN
- LSSESSION
- LSUSER
- LSUSERACTIVITY

Report Framework Tables

- LSRFBUSINESSUNIT
- LSRFINTDHEADER
- LSRFINTDVALUES

- LSRFRPTCATEGORY
- LSRFRPTINSTANCE
- LSRFRPTTEMPLATE
- LSRFRPTTEMPLATEPRODUCT
- LSRFRPTUNIT
- LSRFRPTTYPE

Messaging Tables

- BUSINESSCALENDAR
- BUSINESSDAY
- MESSAGEQUEUE
- MESSAGETYPE
- MESSAGETYPEQUEUE
- SCHEDULEDMESSAGE

Work Queues Tables

- LSPROCESS
- LSWQAPPRLEVEL
- LSWQAPPRPROC
- LSWQAPPRSTEP
- LSWQCLOSEDACTION
- LSWQCLOSEDITEM
- LSWQCUSTPARAM
- LSWQHINT
- LSWQOPENACTION
- LSWQOPENITEM
- LSWQQUEUE
- LSWQTYPE
- LSWQTYPEHINT
- LSWQTYPEPARAM

Interval Data Manager Tables

- LSCEDITTRAILS
- LSCHANNELCUTDATAA
- LSCHANNELCUTHEADERA
- LSIECDWSET
- LSIECEDITWSET
- LSIECHWSET
- LSIECVMSGWSET

Adapter Tables

- BAGFVERSION
- BAGLOBALFUNCTION
- BARDLVERSION
- BARULEDESCLANG
- BARULERDL
- BATYPE
- COMOBJECT
- COMOBJTYPE
- HUBEXCEPTION
- HUBINBOUND
- HUBINBOUNDEXCEPTION
- HUBMAP
- HUBMAPVER
- HUBQUEUE
- HUBROWLOCK
- HUBRULE
- HUBRULETYPE
- HUBSERVER
- HUBSERVERSERVICE
- HUBSERVICE
- HUBSERVICETYPE
- HUBSEVERITY
- HUBSYSPROPS
- HUBSYSTEM
- ICEPAYLOAD
- ICEPAYLOADEXT
- ICEPAYLOADTYPE
- ICESTATUS
- JMSSERVER
- XMLMAPSTORAGE

Service Point Tables

- LSACCOUNTREL
- LSACCOUNTRELTYPE
- LSADDRESS
- LSADDRESSFORMAT
- LSCONTACT
- LSCONTACTADDRESS

- LSCONTACTGROUP
- LSCONTACTGROUPITEM
- LSCONTACTPURPOSE
- LSCONTACTMETHODTYPE
- LSCONTACTMETHOD
- LSMARKET
- LSMARKETATTR
- LSMARKETATTRTYPE
- LSMARKETPARTICIPANT
- LSMARKETPARTREL
- LSMARKETPARTRELTYPE
- LSMARKETPARTTYPE
- LSMDBDVALUESP
- LSORGANIZATION
- LSORGCONTACT
- LSORGCONTACTPURPOSE
- LSPARTICIPANTTYPE
- LSPREMISE
- LSPREMISECONTACT
- LSPREMISECONTACTPURP
- LSSERVICEPOINT
- LSSERVICETYPE
- LSSRVCPTACCT
- LSSRVCPTCONTACT
- LSSRVCPTINVDDETAIL
- LSSRVCPTINVOICE
- LSSRVCPTCONTACTPURP
- LSSRVCPTMARKETATTR
- LSSRVCPTMARKETPART

Optional Schemas

After the creation of the base schema you can add the following schema objects to the Oracle Utilities Data Repository:

- **Security Schema**

Security Schema

The Security schema includes tables that store records used by the security functionality of the Customer Choice Suite. See **Chapter 12: Energy Information Platform Security** for more information. This schema is automatically included with the base schema, but can also be installed as a stand-alone schema. The “-security” switch is included in the buildora.cmd command line to support this option.

Note: If the -security switch is present in command line and <owner name> is not PWRLINE or specified by <owner name>, then the default user PWRLINE will be ignored and the default security user LSSEC will own this schema (security database objects only). The “-audit” switch has no effect if the “-security” switch is present in the command line.

Note: When installing the Security schema as a stand-alone schema, be sure to specify the correct data source and qualifier containing the Security schema in the LSSECURE.CFG.XML file instead of the data source that contains the base schema. See **LSSECURE.CFG.XML** on page 2-42 in the *Oracle Utilities Energy Information Platform Configuration Guide* for more information.

Updating the LSGlobal Table

The LSGlobal table holds the visible names of tables, references, and data types in xml format, and is required for international support in Oracle Utilities applications.

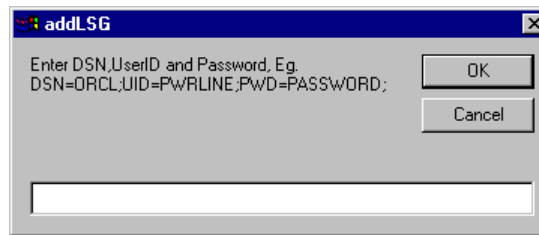
How to add/update LSGlobal table:

1. Locate the addLSG.wsf script (included with your Oracle Utilities installation) located in the **C:\LODESTAR\DB\Base** directory created when you installed the Oracle Utilities application software.

Note: Windows script host version 5.6 or above is required to run this script.

2. Double click the script.

The addLSG dialog opens.



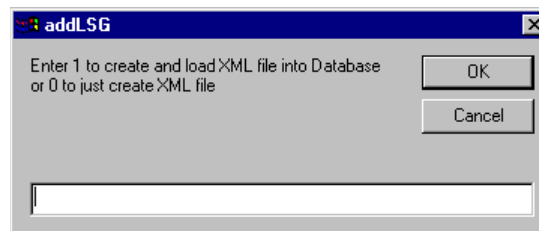
3. Enter Data Source Name, User ID and Password for the appropriate database schema in the following format:

DSN=<database>;UID=<owner name>;PWD=<owner password>;

Parameter	Description
<database>	The name given to the instance as specified in the TNSNAMES.ORA file. This parameter is optional and if not specified, the script will connect to the default Oracle database.
<owner name>	The name of the user which will own the database objects. This parameter is optional. If not specified, the default user PWRLINE will own database objects.
<owner password>	The chosen password for the PWRLINE schema owner.

4. Click **OK**.

The addLSG dialog prompts you to specify whether you want to create and load the LSGlobal XML, or just create it.



5. Enter 1 to create and load XML file into the database, or 0 to just create XML file.
 - If you entered 1, to load XML file into database, you will see a dialog displaying “updating LSGlobal”. Click **OK**.
 - If you entered 0 the dialog will **Done**.

Maintaining the LSGlobal Table

You **must** update the LSGlobal table whenever meta-data changes are made to the database.

Multiple Language Support

Updating the LSGlobal table only creates English labels. Updating the LSGlobal table for other languages must be performed as a separate manual process.

First, the English xml file has to be generated using the addLSG.wsf script. Then the xml file is edited for local language support and loaded to the LSGlobal table. Any meta-data changes after this point must be added as a separate xml record in the LSGlobal table. Oracle recommends the use of a source control application to track files added to the LSGlobal table.

Chapter 4

Installing the Oracle Utilities Application Software

This chapter describes installing the Oracle Utilities application software on an application server, client workstation machines, and web servers, and includes:

- **Installing Oracle Utilities Energy Information Platform Software**
- **Configuring Oracle Utilities Energy Information Platform Software**
- **Upgrading Your Software**

Note

The installation of Oracle Utilities Billing Component and the Oracle Utilities Receivables Component used here is for purposes of example only. The specific products that appear on your installation screens may differ from those shown here.

Before you Begin

Before you install your Oracle Utilities software, be sure that the following steps have been taken:

- The Oracle Utilities Data Repository schema has been installed on the database server. Make a note of the following information:
 - Data Source Name (DSN) for the database
 - A valid User ID and Password for the database
 - A valid Qualifier for the database
 - The Oracle database service name (if using Oracle)

You will need this information when configuring your software to connect to the database.

- RDBMS software has been installed on the application server and client workstation(s) where you plan to install the software,
- A database connection has been set up between the database server and the application server and client workstation(s).
- Verify the ODBC / ODP driver installed on the web server is supported for the version of the software being installed. See **Oracle Data Provider (ODP) Information** on page 2-13 and **ODBC Driver Information** on page 2-13 for more information about supported drivers.

See **Chapter 2: Setting Up the Network Environment** and **Chapter 3: Oracle Utilities Data Repository Schema Creation** for more information about performing the above steps.

Important Notes

The following are suggested practices for successful installation:

- **DO NOT use Terminal Services to install software:** Use of Terminal Services to install software is NOT supported (by Microsoft or Oracle Utilities). Installing Oracle Utilities software using Terminal Services will result in errors. If remote installation is required, Remote Desktop Connection can be used, under the following conditions:
 - The server/workstation where the software is to be installed is running Windows 2003.
 - The Remote Desktop client machine be running either Windows 2003, and must have the latest version of the Remote Desktop Connection client software installed.
 - The client Remote Desktop Connection application must be launched with the “/console” parameter on the command line.
- **Install directly on the server, with Full Administrative Rights:** When installing web software, ALWAYS install directly on the web server, with Full Administrative Rights, not from another computer using console services. Doing otherwise can result in errors.
- **Use Default IIS Settings (no Security):** When installing web software, make sure that IIS is set to default security settings (i.e. NO security). Changing default IIS security settings may result in errors. If IIS security must be applied, apply any security settings AFTER the Oracle Utilities web software has been installed, configured, and tested.
- **DO NOT use Oracle names for user authentication:** Oracle does not support Oracle names with IIS. Use local TNS names only.
- Stop Internet Information Services (IIS) prior to installing Oracle Utilities web-enabled applications.

Installing Oracle Utilities Energy Information Platform Software

The following section details the steps involved in installing Oracle Utilities Energy Information Platform application software on application servers, client workstations, or web servers, including:

- **Install the Oracle Utilities Application Software**
- **Install Oracle Utilities Language Packs (Optional)**

Install the Oracle Utilities Application Software

To install the Oracle Utilities application software, use the following procedure:

1. Navigate to the Install folder created from the Energy Information Platform installation package (1.6.1.xx.0.EIP.zip). This folder contains the following files:
 - Oracle Utilities EIP 1.6.1.xx.0.msi
 - setup.exe

Note: If you wish to install other Oracle Utilities applications in conjunction with the Energy Information Platform, expand the ZIP files for the applications you wish to install and move the corresponding MSI files into the same directory as the Energy Information Platform files. For example, if installing Oracle Utilities Billing Component along with the Energy Information Platform, expand the "1.6.1.xx.00.BC.zip" file and move the "Oracle Utilities BC 1.6.1.xx.0.msi" file in to the same directory as the Energy Information Platform installation files.

Note: Stop Internet Information Services (IIS) prior to installing Oracle Utilities web-enabled applications.

2. Double-click the setup.exe file.

A dialog opens asking you to confirm the products you wish to install. Click **Yes** to continue with the installation. Click **No** to cancel the installation.

3. When the Welcome screen appears, click **Next**.
4. The **System Utilities Update Warning** screen appears. This version of Oracle Utilities software requires version 2.8 of Microsoft Data Access Components (MDAC).

To install the update of MDAC, select **Yes, I want to install Microsoft Data Access Components (MDAC) v2.8** and click **Next**. To return to the previous screen, click **Back**. To cancel the installation, select **No, I do not want to install Microsoft Data Access Components (MDAC) v2.8** and click **Next**, or click **Cancel**.

Note: The **System Utilities Update Warning** screen only appears if MDAC 2.8 is not installed on the application server. If MDAC 2.7 is installed, the setup skips this screen.

5. The **Customer Information** screen appears. This screen allows you to enter your user name and organization. You also specify whether the software can be used by all users, or just the user entered.

The user name and organization will be populated automatically. Select the appropriate users under **Install this application for:** or select **Anyone who uses this computer** (recommended) and click **Next**. To go back to the previous screen, click **Back**. To cancel the installation, click **Cancel**.

6. The **Destination Folder** screen appears. This screen allows you to specify where the software is installed on the machine.

To install the software in the default directory (C:\LODESTAR), click **Next**. To change the destination folder for the installation, click **Change**. The **Change Current Destination Folder** screen appears.

Use the Browse button to navigate to the desired destination folder and click **OK**. This returns you to the **Destination Folder** screen. Click **Next** to continue the installation. To go back to the previous screen, click **Back**. To cancel the installation, click **Cancel**.

Select the type of installation you wish to perform. Available options include:

- **Web Server:** All features will be installed, including web components
- **Configuration Client or Application Server:** All features except web components will be installed.

7. The **Ready to Install the Program** screen appears.

To install continue with the installation, click **Install**. To go back to the previous screen, click **Back**. To cancel the installation, click **Cancel**.

8. The **Setup Status** screen will appear.

9. When the installation is complete, the **Installation Completed** screen will appear.

Click **Finish**.

10. After the installation is complete, you must restart your machine.

Directory Structure and Contents

The installation installs the files in the following directory:

C:\LODESTAR\

Once installed, the Oracle Utilities application directory contains the a number of subdirectories which contain the following files:

- **BIN:** Contains all files the Oracle Utilities application software needs to run, including executables and .DLLs.
- **BIP:** Contains report templates and other files used by Oracle Business Intelligence Publisher.
- **CFG:** Contains configuration files. When installed, this directory is empty, but sample configuration files can be found in the **C:\LODESTAR\CFG\Examples\CFG** directory.
- **FMEReports:** This directory contains reports created through the Oracle Utilities Receivables Component Reports feature. See **Chapter 10: Reports** in the *Oracle Utilities Billing Component Installation and Configuration Guide, Volume II* for more information.

Note: This directory is only installed if Oracle Utilities Billing Component was installed.

- **LOG:** Default location for all logging and error reports generated by the Logging Framework.
- **LTMH:** Contains files (executables, batch files, and .DLLs) used by the Oracle Utilities Adapter.
- **RCDATA:** Contains rate schedule and query files created by users.
- **USER:** Contains various reports generated by the user.
- **WEB:** This directory contains the directories and files that comprise the Oracle Utilities Energy Information Platform web user interface and other web-based applications.

Install Oracle Utilities Language Packs (Optional)

This section describes the installation of language packs for localized versions of Oracle Utilities applications. Language packs must be downloaded separately.

Pre-Requisites

Before installing a language pack, please make sure the following pre-requisite items are fulfilled.

1. Make sure all Oracle Utilities products have been installed on the appropriate machines (application servers, web servers, and client workstations).
2. Make sure an ODBC connection has been setup correctly and can access the database.
3. Make sure the user has administration (read and write) permission to access the Oracle Utilities installation file folders. This is typically "C:\lodestar."
4. Set the default script host to CScript by calling CScript //H:CScript.
5. Extract all files from the language pack zip file to a local (and accessible) folder.

Installation

The InstallLangPack script is used to install the language pack. This script is run from a command prompt. To install the language pack, open a command prompt from the folder where language pack files have been extracted and run the script.

The syntax for this script is as follows:

```
InstallLangpack <dsn> <own> <opw> <LangCode> [<OUAppPath>]
```

where:

Parameter	Description
<dsn>	is the DSN for the Oracle Utilities Data Repository
<own>	is the user ID for the database connection
<opw>	is the password for the supplied user ID
<LangCode>	is the Language Code. FRA - French, RUS - Russian, ITA - Italy, ARA - Arabic, etc.
<OUAppPath>	<i>Optional.</i> Oracle Utilities application root folder. The default is "C:\LODESTAR". If you installed the software in a different folder or drive, please specify full path.

Example: Install the Russian language pack, connecting to a data source name called "local."

```
InstallLangPack local tr105 password RUS
```

Configuring Oracle Utilities Energy Information Platform Software

After installing the Oracle Utilities software, the software must be configured to run properly. This section describes the steps required for basic configuration of the Oracle Utilities Energy Information Platform software, including:

- **Configuring an Application Server**
- **Configuring a Client Workstation**
- **Configuring a Web Server**

Refer to the *Oracle Utilities Energy Information Platform Configuration Guide* for more information about configuring the Oracle Utilities software.

Configuring an Application Server

After installing Oracle Utilities software on an application server, perform the following steps, as needed.

Set Up Configuration Files on the Server

Oracle Utilities application servers use the following configuration files.

LODESTAR.CFG

The **LODESTAR.CFG** file is a text file used to customize the working environment of the Oracle Utilities application software. See **LODESTAR.CFG** on page 2-2 for more information about setting up this file. A sample of this file can be found in the

C:\LODESTAR\CFG\Examples\CFG directory on each of the client workstations.

When configuring the software for use in a shared client-server configuration, copy the client CFG file created when you installed the software on the application server to the **LODESTAR\CFG** directory of each of the client machines.

LTMH.CFG.XML (optional)

The **LTMH.CFG.XML** file is a text file used to specify the database connection used by the Oracle Utilities Adapter and Oracle Utilities Transaction Management. This file is required if the server will be used to run the Adapter or Oracle Utilities Transaction Management. See **LTMH.CFG.XML** on page 2-46 of the *Oracle Utilities Energy Information Platform Installation and Configuration Guide* for more information about setting up this file.

LSRELAY.CFG.XML (optional)

The **LSRELAY.CFG.XML** file identifies the machine running an SMTP service used to send email messages from the Oracle Utilities Energy Information Platform. This file is required only if the email functions are used. The **LSRELAY.CFG.XML** file must be installed in the **C:\LODESTAR\CFG** directory on each client workstation machine intended to execute the **EMAILCLIENT** Rules Language function (see **EMAILCLIENT Function** on page 13-109 in the *Oracle Utilities Rules Language Reference Guide* for more information). See **LSRELAY.CFG.XML** on page 2-34 for more information about setting up this file. A sample of this file can be found in the **C:\LODESTAR\CFG\Examples\CFG** directory on the web server.

LSREPORTMONITOR.CFG.XML (optional)

The **LSREPORTMONITOR.CFG.XML** file specifies where report data is stored and how reports are processed through the web-enabled Energy Information Platform and related products. The **LSREPORTMONITOR.CFG.XML** must be installed in the **C:\LODESTAR\CFG** directory on all application and web servers. See **LSREPORTMONITOR.CFG.XML** on page 2-36 for more information about setting up this file. A sample of this file can be found in the **C:\LODESTAR\CFG\Examples\CFG** directory on the web server.

Example:

```
<LSREPORTMONITOR>
  <DATASOURCE>
    <NAME>DatabaseName</NAME>
    <CONNECTSTRING>Data Source=TS92;User
ID=ls470bx;Password=password;LSProvider=ODP</CONNECTSTRING>
    <QUALIFIER>DatabaseQualifier</QUALIFIER>
  </DATASOURCE>
  <PROCESS_POOL_SIZE>5</PROCESS_POOL_SIZE>
  <LOOP_TIMEOUT>5000</LOOP_TIMEOUT>
  <REPORT_TYPES>
    <REPORT_TYPE NAME="PLBX" PATH="C:\LODESTAR\BIN\lsreport.exe"/>
    <REPORT_TYPE NAME="LSIMPORT" PATH="C:\LODESTAR\BIN\lsimport.exe"/>
  </REPORT_TYPES>
</LSREPORTMONITOR>
```

Note: If an application server and web server are installed on different machines, the LSREPORTMONITOR.CFG.XML file must be installed in the C:\LODESTAR\CFG directory on both servers.

Download and Install JDBC Driver

The following steps must be performed on each server that will run the Adapter and/or the Meter Data Management application.

1. Download the driver appropriate to your database and application version. The table below specifies the JDBC driver version (and related jar file) based on both the version of the application and the Oracle Database version.

EIP Version	Oracle 11g	Oracle 12c
v1.6.1.17 (or prior)	v1.6 ojdbc6.jar	N/A
v1.6.1.18 (or later)	v1.6 ojdbc6.jar	v1.7 ojdbc7.jar

2. Place the driver in a known location on the server (such as c:\JDBC).
3. Update the batch files for Adapter Monitor and Adapter Server startup:

For versions prior to 1.6.1.18:

- a. Open the LTMH\Runtime directory and edit the **LTMH_Setup.bat** file in a text editor
- b. Look for the following line:

```
set JDBC_CP=%LTMH_LIB%\ojdbc14.jar;%LTMH_LIB%\jtds-1.0.2.jar
```
- c. Update this line to point to the full path of the JDBC driver downloaded above:

```
set JDBC_CP=C:\JDBC\ojdbc6.jar
```

Save the file.

For versions 1.6.1.18 and later:

- a. Open the LTMH\Runtime directory and edit the **LTMH_JDBC.bat** file in a text editor
- b. Look for the following line:

```
set JDBC_CP=%LTMH_LIB%\ojdbc14.jar;%LTMH_LIB%\jtds-1.0.2.jar
```

- c. Update this line to point to the full path of the JDBC driver downloaded above:

```
For Oracle 11G:  
set JDBC_CP=C:\JDBC\ojdbc6.jar
```

```
For Oracle 12c:  
set JDBC_CP=C:\JDBC\ojdbc7.jar
```

Save the file.

4. Log into the Energy Information Platform and update the **Class Path** field on all System Properties records to include the full path to the file you downloaded above. For example, append ";C:\JDBC\ojdbc7.jar" to each record. No other JDBC driver references should exist in the **Class Path** field.

Note: You must restart the Adapter Server for these changes to take effect.

Running Adapter as a Windows Service

When installing the Adapter to run as a Windows service, the LTMHServer.ini file (default location: xxx\LTMH\Runtime\NTService\LTMHServer.ini) must be modified as follows:

- The "param02" field must be *appended* to include a reference to the JDBC driver. The reference can either be a path relative to the xxx\LTMH\Runtime directory, or an absolute path.
- **Example - Relative Path:** ../../..\Oracle\JDBC\ojdbcXXX.jar
- **Example - Absolute Path:** c:\Oracle\JDBC\ojdbcXXX.jar

Please note that values in "param02" field are separated by semi-colon (;).

Sharing the LODESTAR Directory (optional)

Share portions of the LODESTAR directory with the client machine(s) that will use the Oracle Utilities software.

- To share the LODESTAR directory with all intended users of the Oracle Utilities software (i.e. client machines), set the shared access to Full Control.
- Modify the Share Name of the LODESTAR\RCDATA directory with an extension of this directory matching the ODBC data source name, for example RCDATA.TEST2000.

Note: This step is applicable only when configuring the software for use in a shared client-server configuration. These steps are NOT required when using web-based products.

Modify the LODESTAR.CFG File (optional)

When running Oracle Utilities software in a server/client configuration there are two distinct.CFG files used: the Server CFG file and the Client CFG file. For more information concerning modification of the LODESTAR.CFG file and other configuration files, see **Chapter Six: Configuration Files**.

Note: While this and other manuals refer to this file as the 'LODESTAR.CFG' file (the default name of the configuration file), the actual name of the file can be changed to match the name of the specific ODBC data source that will be shared between the server and client(s).

Note: This step is applicable only when configuring the software for use in a shared client-server configuration. These steps are NOT required when using web-based products.

Server CFG File

Copy the LODESTAR.CFG file from the C:\LODESTAR\Cfg\examples\Cfg directory to the C:\LODESTAR\Cfg directory, and edit it to add the following lines:

```
RCDATADIR=<DRIVE LETTER>:\LODESTAR\RCDATA.TEST2000
```

This configuration file is used by the server only.

Client CFG File

Create a copy of LODESTAR.CFG and modify the line RCDATADIR line as follows:

```
RCDATADIR=\\<MACHINE_NAME>\<RESOURCE>\Lodestar\RCDATA.TEST2000
```

Note: MACHINE_NAME is the name of the server where the LODESTAR.CFG file is located.

This file is used by all client machines.

Create a CISFORMT.TXT File (optional)

The next (optional) step is to create a file named CISFORMT.TXT file in the C:\LODESTAR\CFG directory on the application server. This text file specifies the output format of transaction records created by Oracle Utilities Billing Component and other Oracle Utilities applications. See **Chapter 9: Creating a CIS Transaction Record Output File** for more information about setting up this file.

Specify the Time Zone for the Application Server (optional)

Energy Information Platform application servers can be configured to specify the time zone used by the applications. This can be used in situations where users are located in a different time zone than the application and database servers.

When using this feature, dates/times calculated by the system will reflect the time zone specified for the database and application servers.

Note: This feature should ONLY be used when ALL users are located in the same time zone, and the application and database servers are located in a different time zone.

When using this feature, the time zone specified on the database server should also be specified on **ALL** application and web servers that will access the database server.

To specify the time zone used by the application server, you must define the following two environment variables as follows:

- **LSTZ_ENABLED=TRUE** (this variable enables the time zone feature on the server)
- **TZ=TIMEZONE** (this variable specifies the time zone for the server)

The syntax for the TZ environment variable is as follows:

```
TZ=<tzn>[+ | -]hh[:mm[:ss] ] [<dzn>]
```

where:

- **<tzn>**: The three-letter time-zone name, such as PST. You must specify the correct offset from local time to UTC.
- **hh**: The difference in hours between UTC and local time. The plus sign (+) is optional for positive values.
- **mm**: Minutes. Separated from <hh> by a colon (:).
- **ss**: Seconds. Separated from <mm> by a colon (:).
- **<dzn>** = Three-letter daylight-saving-time zone such as PDT. If daylight saving time is never in effect in the locale, set TZ without a value for dzn. The application assumes the United States' rules for implementing the calculation of daylight saving time (DST).

Example:

```
TZ=CET-1CEST
```

The above example would set the time zone for Berlin, Germany.

Note: Environment variables are defined on the **Advanced** tab of the **System Properties** dialog.

Note: Log files display date and time information based on the server/operating system time zone, and will ignore the time specified for the Oracle user.

Configuring a Client Workstation

After installing Oracle Utilities software on a client workstation, perform the following steps to configure the software.

Set Up Configuration Files on the Workstation

Client workstations use the following configuration files.

LODESTAR.CFG

The LODESTAR.CFG file is a text file used to customize the working environment of the Oracle Utilities application software. See **LODESTAR.CFG** on page 2-2 for more information about setting up this file. A sample of this file can be found in the **C:\LODESTAR\CFG\Examples\CFG** directory on each of the client workstations.

When configuring the software for use in a shared client-server configuration, copy the client CFG file created when you installed the software on the application server to the LODESTAR\CFG directory of each of the client machines.

LSRELAY.CFG.XML (optional)

The LSRELAY.CFG.XML file identifies the machine running an SMTP service used to send email messages from the Oracle Utilities Energy Information Platform. This file is required only if the email functions are used. The LSRELAY.CFG.XML file must be installed in the **C:\LODESTAR\CFG** directory on each client workstation machine intended to execute the EMAILCLIENT Rules Language function (see **EMAILCLIENT Function** on page 13-109 in the *Oracle Utilities Rules Language Reference Guide* for more information). See **LSRELAY.CFG.XML** on page 2-34 for more information about setting up this file. A sample of this file can be found in the **C:\LODESTAR\CFG\Examples\CFG** directory on the web server.

Example:

```
<LSRELAY>
  <EMAIL>
    <EMAIL_SERVER>bxqasrv5</EMAIL_SERVER>
    <EMAIL_PORT>25</EMAIL_PORT>
    <EMAIL_AUTH>LOGIN</EMAIL_AUTH>
    <EMAIL_USER>Administrator</EMAIL_USER>
    <EMAIL_PASS>lodestar</EMAIL_PASS>
  </EMAIL>
</LSRELAY>
```

Set Up Shortcuts to the Oracle Utilities Applications

The next step is set up shortcuts to the Oracle Utilities applications. You'll want to set up a shortcut for each Oracle Utilities application you have installed on each machine. At a minimum this includes Data Manager, but may also include other Oracle Utilities products, such as Oracle Utilities Billing Component or Oracle Utilities Rate Management.

Note: These instructions assume you are setting up shortcuts on the desktop. If you wish, you can also modify the shortcuts on the Start Menu in the same manner.

You should set up shortcuts for each Oracle Utilities application on both the server and each client machine.

1. Create a folder on the desktop. Create a shortcut in the folder and select DATAMGR.EXE from the C:\LODESTAR\BIN directory. This is the shortcut to the Data Manager application.
2. Modify the command line to include the following parameters (see Oracle Utilities Application Command Line Parameters, below, for more information):
 DATAMGR.EXE -l -cTEST2000 -fc:\LODESTAR\CFG\LODESTAR.CFG (or server-specific CFG file).
Note: The first parameter is lower case 'l', not numeric 1.
3. Double-click the Data Manager shortcut to open the program.
4. In Data Manager, select **File->Browse->Customer Database** to verify the database (in this case, TEST2000) is visible by the application.
5. Select **Tools->Options**, and use the **Interval Data Source** tab to select an interval data database file. Then select **File->Browse->Interval Data Database**, and expand the Recorder\Channel tree until you see a meter symbol. Click on any meter symbol to display the load shape for that cut of data.
6. Copy the Data Manager icon to create shortcuts for any other Oracle Utilities products you have installed, such as Oracle Utilities Billing Component or Oracle Utilities Rate Management. Then click the *right* mouse button and select **Properties**. Change DATAMGR.EXE to the name of the program you are installing (for example, PLBX.EXE for Oracle Utilities Billing Component, RATEXPRT.EXE for Oracle Utilities Rate Management).
7. Test each of these shortcuts by double-clicking on them to open the applications.

Oracle Utilities Application Command Line Parameters

Client/server applications use specific parameters to connect to the Oracle Utilities Data Repository and other options. These parameters do not apply to web-based applications.

Command line parameters include:

-c *<connectstring>* Specifies Data Source connection information, in one of the following formats:

For Oracle databases:

```
"Data Source=<data_source>;User
ID=<user_id>;Password=<password>;LSProvider=ODP;"
```

where:

- *<data_source>* is the Oracle TNS Name for the data source, from the TNS_NAMES.ora file (typically located in the \\<machine>\oracle\network\admin directory)
- *<user_id>* is the user ID for the database connection
- *<password>* is the password for the supplied user ID.

-q *<qualifier>* Specifies the database table qualifier (default is PWRLINE). If you supply this parameter, it overrides the value specified for PLDBQUAL in the LODESTAR.CFG file. See **LODESTAR.CFG** on page 2-2 of the *Oracle Utilities Energy Information Platform Configuration Guide* for more information.

Note: All qualifiers used in the database must be uppercase.

-f *<configfile>* Configfile is the path and file name of a user-specific configuration file (TEST2000.CFG in the above example). The default file is LODESTAR.CFG. See **LODESTAR.CFG** on page 2-2 for more information about this file.

-l Display the Log On dialog before connecting to the database. The Log On dialog is also displayed if there are PLDBQUALIFIERS in the LODESTAR.CFG file and the -q parameter is not used.

Note: This is the letter L preceded by a dash (not the number 1). If you do not supply this parameter, the logon dialog box does not appear.

-1 Run this application as a new instance, regardless of whether another one is running. Used to connect to two different databases at the same time.

Note: This is the numeral 1 preceded by a dash (not the letter L).

-!xxx Specifies the language displayed by the application. The parameter (xxx) is a three letter language abbreviation. Supported languages include DEU (German), ENU (American English), FRA (French), and ITA (Italian).

-g If you supply this parameter, the program starts in debug mode (debug parameter is ON). Default is debug parameter OFF. See **LODESTAR.CFG** on page 2-2 of the *Oracle Utilities Energy Information Platform Configuration Guide* for more information.

-nc If you supply this parameter, the program turns off catching fatal errors and displaying Windows error messages. See **LODESTAR.CFG** on page 2-2 of the *Oracle Utilities Energy Information Platform Configuration Guide* for more information.

Example:

```
C:\LODESTAR\Bin\datamgr.exe -c "Data Source=TS92;User  
ID=LS470BX;Password=password;LSPProvider=ODP;" -q LS470BX -1
```

Note: Each user of Oracle Utilities applications should have a unique user ID. Oracle Utilities recommends that only one instance of each Oracle Utilities application run on a workstation at a time.

Using User-specified Configuration Files

Each Oracle Utilities application can be set to use other, user-specified configuration files. For instance, you might want to change some configuration settings from the original CFG file. To do this, edit the command line to refer to the specific application and/or configuration file you wish to use, such as:

For path and file name: C:\LODESTAR\BIN\xxx.EXE
Optional Parameters: -fC:\LODESTAR\CFG\MYOWN.CFG

If you do this, it's best to rename the file with a meaningful name (such as USERNAME.CFG) to help you keep track of each CFG file.

If a configuration file is not passed to the application software at startup, it will search for a file named LODESTAR.CFG in the CFG directory. See **Chapter Six: Configuration Files** for information about the use and customization of the configuration file.

Create a CISFORMT.TXT File (optional)

The next (optional) step is to create a file named CISFORMT.TXT file in the C:\LODESTAR\CFG directory on the workstation. This text file specifies the output format of transaction records created by Oracle Utilities Billing Component and other Oracle Utilities applications. See **Chapter 9: Creating a CIS Transaction Record Output File** for more information about setting up this file.

Configuring a Web Server

After installing Oracle Utilities software on a web server, perform the following steps to configure the software.

Set Up Configuration Files on the Web Server

Oracle Utilities web applications use the following configuration files.

LODESTAR.CFG

The LODESTAR.CFG file is a text file used to customize the working environment of the Oracle Utilities application software. See **LODESTAR.CFG** on page 2-2 for more information about setting up this file. A sample of this file can be found in the

C:\LODESTAR\CFG\Examples\CFG directory on the web server.

Note: This file **MUST** be named LODESTAR.CFG on the web server.

LSSECURE.CFG.XML

The LSSECURE.CFG.XML file specifies the data source used by the Security functionality and is required in order to run Oracle Utilities web-enabled applications. The LSSECURE.CFG.XML must be installed in the **C:\LODESTAR\CFG** directory. See **LSSECURE.CFG.XML** on page 2-42 for more information about setting up this file. A sample of this file can be found in the **C:\LODESTAR\CFG\Examples\CFG** directory on the web server.

Example:

```
<LSSECURE>
  <DATASOURCE>
    <NAME>DatabaseName</NAME>
    <CONNECTSTRING>Data Source=TS92;User
ID=ls470bx;Password=password;LSProvider=ODP</CONNECTSTRING>
    <QUALIFIER>DatabaseQualifier</QUALIFIER>
  </DATASOURCE>
  <EXPIRETIME>60</EXPIRETIME>
</LSSECURE>
```

Note: If an application server and web server are installed on different machines, the LSSECURE.CFG.XML file is installed in the **C:\LODESTAR\CFG** directory with the web Server components.

LSREPORTMONITOR.CFG.XML (optional)

The LSREPORTMONITOR.CFG.XML file specifies where report data is stored and how reports are processed through the web-enabled Energy Information Platform and related products. The LSREPORTMONITOR.CFG.XML must be installed in the **C:\LODESTAR\CFG** directory on all application and web servers. See **LSREPORTMONITOR.CFG.XML** on page 2-36 for more information about setting up this file. A sample of this file can be found in the **C:\LODESTAR\CFG\Examples\CFG** directory on the web server.

Example:

```
<LSREPORTMONITOR>
  <DATASOURCE>
    <NAME>DatabaseName</NAME>
    <CONNECTSTRING>Data Source=TS92;User
ID=ls470bx;Password=password;LSProvider=ODP</CONNECTSTRING>
    <QUALIFIER>DatabaseQualifier</QUALIFIER>
  </DATASOURCE>
  <PROCESS_POOL_SIZE>5</PROCESS_POOL_SIZE>
  <LOOP_TIMEOUT>5000</LOOP_TIMEOUT>
  <REPORT_TYPES>
    <REPORT_TYPE NAME="PLBX" PATH="C:\LODESTAR\BIN\lsreport.exe"/>
    <REPORT_TYPE NAME="LSIMPORT" PATH="C:\LODESTAR\BIN\lsimport.exe"/>
  </REPORT_TYPES>
```

```
</LSREPORTMONITOR>
```

Note: If an application server and web server are installed on different machines, the LSREPORTMONITOR.CFG.XML file must be installed in the C:\LODESTAR\CFG directory on both servers.

LSLOGGER.CFG.XML (optional)

The LSLOGGER.CFG.XML file defines how log files are generated by Oracle Utilities applications. Each Oracle Utilities component can be configured to write messages to a specified log file or an Event Log. The LSLOGGER.CFG.XML must be installed in the C:\LODESTAR\CFG directory. See **LSLOGGER.CFG.XML** on page 2-27 for more information about setting up this file. A sample of this file can be found in the C:\LODESTAR\CFG\Examples\CFG directory on the web server.

Note: If an application server and web server are installed on different machines, the LSLOGGER.CFG.XML file is installed in the C:\LODESTAR\CFG directory on both machines.

LSSCHDLR.CFG.XML (optional)

The LSSCHDLR.CFG.XML file defines the data source(s) monitored by the Oracle Utilities Schedule Service (LSSCHDLR.exe). This service monitors the Scheduled Message (SCHEDULEDMESSAGE) table in each data source specified in this file. This file is required if the Oracle Utilities Schedule Service is used. The LSSCHDLR.CFG.XML must be installed in the C:\LODESTAR\CFG directory. See **LSSCHDLR.CFG.XML** on page 2-41 for more information about setting up this file. A sample of this file can be found in the C:\LODESTAR\CFG\Examples\CFG directory on the web server.

Example

```
<LSSHDLR>
  <DATASOURCE>
    <NAME>DatabaseName</NAME>
    <CONNECTSTRING>Data Source=TS92;User
ID=ls470bx;Password=password;LSPProvider=ODP</CONNECTSTRING>
    <QUALIFIER>DatabaseQualifier</QUALIFIER>
  </DATASOURCE>
  <LOOP_TIMEOUT>5000</LOOP_TIMEOUT>
</LSSHDLR>
```

Note: If an application server and web server are installed on different machines, the LSSCHDLR.CFG.XML file is installed in the C:\LODESTAR\CFG directory on both machines.

LSRELAY.CFG.XML (optional)

The LSRELAY.CFG.XML file identifies the machine running an SMTP service used to send email messages from the Oracle Utilities Energy Information Platform. This file is required only if the email functions are used. The LSRELAY.CFG.XML file must be installed in the C:\LODESTAR\CFG directory on the web server. See **LSRELAY.CFG.XML** on page 2-34 for more information about setting up this file. A sample of this file can be found in the C:\LODESTAR\CFG\Examples\CFG directory on the web server.

LTMH.CFG.XML (optional)

The LTMH.CFG file is a text file used to specify the database connection used by the Oracle Utilities Adapter and Oracle Utilities Transaction Management. This file is required if the server will be used to run the Adapter or Oracle Utilities Transaction Management. See **LTMH.CFG.XML** on page 2-46 of the *Oracle Utilities Energy Information Platform Installation and Configuration Guide* for more information about setting up this file.

LOCALES.CFG.XML

The LOCALES.CFG.XML file specifies the regional locales available to Oracle Utilities web-enabled applications. The LOCALES.CFG.XML file must be installed in the **C:\LODESTAR\Web\CCS** directory. A sample of this file can be found in the **C:\LODESTAR\CFG\Examples\CFG** directory on the web server. See **LOCALES.CFG.XML** on page 2-22 for more information about this file.

Note: If the Report Server and Web Server are installed on different machines, the LOCALES.CFG.XML file is installed in the C:\LODESTAR\Web\ccs directory with the Web Server components.

web.config

The **web.config** configuration file defines specific properties of the web server application. This file is installed in the **C:\LODESTAR\Web** directory. After installing the web server application, verify that the **web.config** file is present contains following elements and values (Note: This file contains additional elements beyond those described here).

- **system.webServer** element:

The **<system.webServer>** and **<customHeader>** elements should be configured as shown below to protect the web server from clickjacking and phishing attacks.

```
<configuration xmlns="http://schemas.microsoft.com/.NetConfiguration/v2.0">
...
  <system.webServer>
    <httpProtocol>
      <customHeaders>
        <add name="X-Frame-Options" value="SAMEORIGIN" />
      </customHeaders>
    </httpProtocol>
  </system.webServer>
...
</configuration>
```

- **appSettings** "TranslateErrors" key:

The **<appSettings>** element should contain a "TranslateErrors" key as shown below to ensure that appropriate information is provided in error messages and error logs. This includes the following:

- Sensitive information, such as SQL commands are hidden when displaying error messages on the user interface, but are provided in error logs.
- Script errors such as javascript errors are included in error logs, but are not displayed in error messages. Error messages are generic, such as "...A script error has occurred. See log files for more details."
- Timestamps are included in error messages. This helps users match the error displayed to its corresponding error log which contains details of the error.

```
<configuration xmlns="http://schemas.microsoft.com/.NetConfiguration/v2.0">
...
  <appSettings>
    <!-- Don't remove this key! Make it empty to disable, or set to
c:\lodestar\log\web.log. -->
    <add key="TraceFile" value="" />
    <add key="CrystalImageCleaner-AutoStart" value="true" />
    <add key="CrystalImageCleaner-Sleep" value="60000" />
    <add key="CrystalImageCleaner-Age" value="120000" />
    <add key="DisableAutorefreshParam" value="false" />
    <add key="HttpRedirect" value="false" />
    <add key="TranslateErrors" value="true" />
  </appSettings>
...
</configuration>
```

Note: The web.config file is replaced whenever the web server software is updated (for instance, when installing a new service pack). If you have made any changes to the web.config file on your web server, but sure to back up the file **before** upgrading.

Download and Install JDBC Driver

The following steps must be performed on each server that will run the Adapter and/or the Meter Data Management application.

1. Download the driver appropriate to your database and application version. The table below specifies the JDBC driver version (and related jar file) based on both the version of the application and the Oracle Database version.

EIP Version	Oracle 11g	Oracle 12c
v1.6.1.17 (or prior)	v1.6 ojdbc6.jar	N/A
v1.6.1.18 - v1.6.1.21	v1.6 ojdbc6.jar	v1.7 ojdbc7.jar
v1.6.1.22 (or later)	v1.6 ojdbc6.jar	v1.8 ojdbc8.jar

2. Place the driver in a known location on the server (such as c:\JDBC).
3. Update the batch files for Adapter Monitor and Adapter Server startup:

For versions prior to 1.6.1.18:

- a. Open the LTMH\Runtime directory and edit the **LTMH_Setup.bat** file in a text editor
- b. Look for the following line:


```
set JDBC_CP=%LTMH_LIB%\ojdbc14.jar;%LTMH_LIB%\jtds-1.0.2.jar
```
- c. Update this line to point to the full path of the JDBC driver downloaded above:


```
set JDBC_CP=C:\JDBC\ojdbc6.jar
```

Save the file.

For versions 1.6.1.18 through 1.6.1.21

- a. Open the LTMH\Runtime directory and edit the **LTMH_JDBC.bat** file in a text editor
- b. Look for the following line:


```
set JDBC_CP=%LTMH_LIB%\ojdbc14.jar;%LTMH_LIB%\jtds-1.0.2.jar
```
- c. Update this line to point to the full path of the JDBC driver downloaded above:


```
For Oracle 11g:
set JDBC_CP=C:\JDBC\ojdbc6.jar

For Oracle 12c:
set JDBC_CP=C:\JDBC\ojdbc7.jar
```

Save the file.

For versions 1.6.1.22 and later:

- a. Open the LTMH\Runtime directory and edit the **LTMH_JDBC.bat** file in a text editor
- b. Look for the following line:


```
set JDBC_CP=%LTMH_LIB%\ojdbc14.jar;%LTMH_LIB%\jtds-1.0.2.jar
```

- c. Update this line to point to the full path of the JDBC driver downloaded above:

```
For Oracle 11G:
set JDBC_CP=C:\JDBC\ojdbc6.jar
```

```
For Oracle 12c:
set JDBC_CP=C:\JDBC\ojdbc8.jar
```

Save the file.

4. Log into the Energy Information Platform and update the **Class Path** field on all System Properties records to include the full path to the file you downloaded above. For example, append ";C:\JDBC\ojdbc7.jar" to each record. No other JDBC driver references should exist in the **Class Path** field.

Note: You must restart the Adapter Server for these changes to take effect.

Set Administration Login Password

Before logging on to the Oracle Utilities application, the administrator password must be set using the LSSecureInit.exe command line program. This program must be run on the web/application server where the Oracle Utilities applications are installed. The syntax for this program is as follows:

```
LSSecureInit -d <set_pw>
```

where:

Parameter	Description
-d	<set_pw> prompts the user to set a password for administrator login (using the "admin" user ID) is to be set. The user is prompted to enter and re-enter the password.

Create a CISFORMT.TXT File (optional)

The next (optional) step is to create a file named CISFORMT.TXT file in the C:\LODESTAR\CFG directory on the web server. This text file specifies the output format of transaction records created by Oracle Utilities Billing Component and other Oracle Utilities applications. See **Chapter 9: Creating a CIS Transaction Record Output File** for more information about setting up this file.

Specify the Time Zone for the Web Server (optional)

Energy Information Platform web servers can be configured to specify the time zone used by the applications. This can be used in situations where users are located in a different time zone than the web/application and database servers.

When using this feature, dates/times calculated by the system will reflect the time zone specified for the database and application servers.

Note: This feature should **ONLY** be used when **ALL** users are located in the same time zone, and the web/application and database servers are located in a different time zone.

When using this feature, the time zone specified on the database server should also be specified on **ALL** application and web servers that will access the database server.

To specify the time zone used by the web server, you must define the following two environment variables as follows:

- **LSTZ_ENABLED=TRUE** (this variable enables the time zone feature on the server)
- **TZ=TIMEZONE** (this variable specifies the time zone for the server)

The syntax for the TZ environment variable is as follows:

TZ=<tz>[+ | -]hh[:mm[:ss]] [<dzn>]

where:

- **<tz>**: The three-letter time-zone name, such as PST. You must specify the correct offset from local time to UTC.
- **hh**: The difference in hours between UTC and local time. The plus sign (+) is optional for positive values.
- **mm**: Minutes. Separated from <hh> by a colon (:).
- **ss**: Seconds. Separated from <mm> by a colon (:).
- **<dzn>** = Three-letter daylight-saving-time zone such as PDT. If daylight saving time is never in effect in the locale, set TZ without a value for dzn. The application assumes the United States' rules for implementing the calculation of daylight saving time (DST).

Example:

TZ=CET-1CEST

The above example would set the time zone for Berlin, Germany.

Note: Environment variables are defined on the **Advanced** tab of the **System Properties** dialog.

Note: Log files display date and time information based on the server/operating system time zone, and will ignore the time specified for the Oracle user.

Configuring an SMTP Email Server (Optional)

Use of the **EMAILCLIENT** Rules Language function and the **Send Email** function on the View Reports screen of the Oracle Utilities Energy Information Platform web user interface requires an SMTP (Simple Mail Transfer Protocol) server be set up and accessible by the machine executing the email function. This is either an application server or client workstation executing the **EMAILCLIENT** Rules Language function, or a web server. See **Oracle Utilities Platform Components Specifications** on page 2-2 for hardware/software requirements for each type of machine.

The connection between the executing machine and the SMTP server is defined in the **LSRELAY.CFG.XML** configuration file, which must be properly configured and present in the C:\LODESTAR\CFG directory of the executing machine. See **LSRELAY.CFG.XML** on page 2-34 for more information about this file.

Installing the Microsoft IIS SMTP Service

The Microsoft IIS SMTP service is a component of Microsoft Internet Information Services (IIS), and is available with Windows 2003 Server. If you wish to use this service as your SMTP email server and this service is not installed on the web server (or client workstation) you must install it.

How to install the SMTP service:

1. Select **Start->Settings->Control Panel**.
2. Select **Add/Remove Programs**.
3. Select **Add/Remove Windows Components**.

The **Windows Components Wizard** dialog opens.

4. Check **Internet Information Services (IIS)** and click the **Details** button.

The **Internet Information Services (IIS)** dialog opens.

5. Check **SMTP Service** and click **OK**.
6. Click Next on the **Windows Components Wizard** dialog, and follow the instructions on the wizard to complete the installation.

Configuring the Microsoft IIS SMTP Service for Basic Authentication and Relaying

The next step in setting up the IIS SMTP email server is to configure the server for Basic Authentication and Relaying.

1. On the Desktop, right-click the **My Computer** icon and select **Manage**.
The **Computer Management** window opens.
2. In the Tree pane, expand **Services and Applications** and **Internet Information Services**.
3. Right-click **Default SMTP Virtual Service** and select **Properties**.
The **Default SMTP Virtual Server Properties** window opens. Select the **Access** tab.
4. Click the **Authentication** button.
The **Authentication** window opens.
5. Check the **Basic authentication** checkbox, and click **OK**.
6. Click the **Relay** button.
The **Relay Restrictions** window opens.
7. To specify a list of servers that can relay messages to the SMTP server, select **Only the list below** and add the web server to the Computers list (see step 9, below).
8. To allow any server except a specific set of servers to relay messages to the SMTP server, select **All except the list below** and add the servers you wish to exclude to the Computers list (see step 9, below).
9. To add a computer to the Computers list, click **Add**.
The **Computer** window opens.
To add a single computer, select **Single Computer** and enter the IP address of the computer to be added, or click **DNS Lookup** to select the computer by its machine name.
To add a group of computers, select **Group of Computers** and enter the subnet address and subnet mask for the group.
To add a domain, select **Domain** and enter the domain name.
Click **OK**. The specified computers will appear in the Computers list on the Relay Restrictions window.
10. To allow all computers that successfully authenticate to relay messages to the SMTP server, check the **Allow all computers that successfully authenticate to relay, regardless of the list above** checkbox.
11. Click **OK** to save your settings.
12. Click **OK** on the **Default SMTP Virtual Server Properties** window.

SMTP Error Messages

Possible error messages related to the security access to the SMTP server are described below.

MSGRELAY0002: Unable to connect to the mail server. 535 5.7.3 Authentication unsuccessful.

- **Cause of Error:** This error describes an attempt by the user to connect to the SMTP server using the LOGIN security mechanism, but without a valid user name and/or password.
- **Resolution:** Verify the user name and password in the LSRELAY.CFG.XML file, or create a new user and password to the server's user account list.

MSGRELAY0003L: Unable to send the email. 530 5.7.3 Client was not authenticated.

- **Cause of Error:** This error describes an attempt by the user to send a email, without using any authentication, on a SMTP server that requires this authentication before sending the email.
- **Resolution:** Provide a LOGIN authentication with a valid user name and password in the LSRELAY.CFG.XML file.

Note: If users encounter problems emailing from a specific email server, keep in mind that email servers can be configured to exclude users, domains or IP addresses from relaying email messages on the server.

Verifying the Installation

After the software has been installed and configured, you can verify the installation by following the procedures outlined below, including:

- **Verifying Security Access**
- **Verifying the Reporting Framework**
- **Verifying the Report Scheduler**

Verifying Security Access

Verifying security access involves testing that the Oracle Utilities web software can access security data (data sources, users, groups, etc.) in the Oracle Utilities Data Repository. To verify security access, use the following procedure:

1. Configure the LSSECURE.CFG.XML configuration file.

This file specifies the data source used by the Security functionality and is required in order to run Oracle Utilities web-enabled applications. The LSSECURE.CFG.XML must be installed in the **C:\LODESTAR\CFG** directory. See **LSSECURE.CFG.XML** on page 2-42 in the *Oracle Utilities Energy Information Platform Configuration Guide* for more information about setting up this file. A sample of this file can be found in the

C:\LODESTAR\CFG\Examples\CFG directory on the web server.

2. Login to the Oracle Utilities Energy Information Platform.

Open Microsoft Internet Explorer and enter the following address in the Address field:

http://<MACHINE_NAME>/lodestar/ccs

where:

- <MACHINE_NAME> is the name of the web server where the Oracle Utilities web application server software is installed.

Enter the following credentials (case-sensitive):

User ID: admin

Password: lodestar

The Oracle Utilities Energy Information Platform welcome screen should open.

If the screen does not open, or if you see an error, verify the settings in the LSSECURE.CFG.XML file. See **Oracle Utilities Energy Information Platform Diagnostics** on page 14-6 in the *Oracle Utilities Energy Information Platform Configuration Guide* for additional information about troubleshooting issues related to logging into the Oracle Utilities web software.

3. On the Left Menu, select **Tools and Utilities>Security Admin**.

The Security Administration screen should open.

Do the following on the Security Administration screen:

- Create a Data Source record. See **Data Sources** on page 7-21 in the *Oracle Utilities Energy Information Platform User's Guide* for more information about Data Sources.
- Create a User record. See **Users** on page 7-37 in the *Oracle Utilities Energy Information Platform User's Guide* for more information about Users.
- Grant all feature privileges to the User you just created for the Data Source you just created. See **Applying Function-Level Security** on page 12-7 in the *Oracle Utilities Energy Information Platform Configuration Guide* for more information about granting feature privileges.

- b. Click the Logout icon to log out of the software.
3. Login to the Oracle Utilities Energy Information Platform using the new user you created.
All options on the Left Menu should be active and available.

Verifying the Reporting Framework

Verifying the reporting framework involves testing that reports can be run and viewed through the reporting framework.

Note: Verifying the reporting framework requires that the correct reporting software has been installed. See **Installing and Configuring Reporting Software** on page 2-18 for more information.

To verify the reporting framework, use the following procedure:

1. Configure the LSREPORTMONITOR.CFG.XML configuration file. This file specifies where report data is stored and how reports are processed through the web-enabled Customer Choice Suite. The LSREPORTMONITOR.CFG.XML must be installed in the **C:\LODESTAR\CFG** directory. See **LSREPORTMONITOR.CFG.XML** on page 2-36 in the *Oracle Utilities Energy Information Platform Configuration Guide* for more information about setting up this file. A sample of this file can be found in the **C:\LODESTAR\CFG\Examples\CFG** directory on the web server.

2. Login to the Oracle Utilities Energy Information Platform.

Open Microsoft Internet Explorer and enter the following address in the Address field:

http://<MACHINE_NAME>/lodestar/ccs

where:

- <MACHINE_NAME> is the name of the web server where the Oracle Utilities web application server software is installed.

Enter the user ID and Password for the user you created in **Verifying Security Access** on page 4-21.

The Oracle Utilities Energy Information Platform welcome screen should open.

3. Run the Work Queues Aging Report.

- a. On the Left Menu, select **Work Queues>Run Reports**.

The Run Reports screen should open, displaying three reports:

- WQAging
- WQOpenByUser
- WQProductivity

- b. Click **WQAging**. The **Report “WQAging”** screen should open.

- b. Click **Run** (do not enter report parameters).

The report should open in Adobe Acrobat Reader.

If the report does not run, verify that the Report Monitor service is running. See **Energy Information Platform Report Monitor** on page 11-23 in the *Oracle Utilities Energy Information Platform Configuration Guide* for more information about the Report Monitor service.

Verifying the Report Scheduler

Verifying the report scheduler involves testing that reports can be scheduled for execution and recurrence. To verify the report scheduler, use the following procedure:

1. Configure the LSSCHDLR.CFG.XML configuration file. This file defines the data source(s) monitored by the Oracle Utilities Schedule Service (LSSCHDLR.exe). This service monitors the Scheduled Message (SCHEDULEDMESSAGE) table in each data source specified in this file. This file is required if the Oracle Utilities Schedule Service is used. The LSSCHDLR.CFG.XML must be installed in the **C:\LODESTAR\CFG** directory. See **LSSCHDLR.CFG.XML** on page 2-41 in the *Oracle Utilities Energy Information Platform Configuration Guide* for more information about setting up this file. A sample of this file can be found in the **C:\LODESTAR\CFG\Examples\CFG** directory on the web server.

2. Login to the Oracle Utilities Energy Information Platform.

Open Microsoft Internet Explorer and enter the following address in the Address field:

http://<MACHINE_NAME>/lodestar/ccs

where:

- <MACHINE_NAME> is the name of the web server where the LODESTAR web application server software is installed.

Enter the user ID and Password for the user you created in **Verifying Security Access** on page 4-21.

The Oracle Utilities Energy Information Platform welcome screen should open.

3. Run/schedule the Work Queues Aging Report.

- a. On the Left Menu, select **Work Queues>Run Reports**.

The Run Reports screen should open, displaying three reports:

- WQAging
- WQOpenByUser
- WQProductivity

- b. Click **WQAging**. The **Report “WQAging”** screen should open.

- b. Click **Schedule Report** (do not enter report parameters).

The **Schedule Process: WQAging** screen should open.

- b. Enter the scheduled time for the report at 1 minute past the current time, displayed as Server Time on the Schedule Process screen.

- b. Click **Schedule**. The View Reports screen should open (the WQAging report you ran in **Verifying the Reporting Framework** on page 4-22 should be listed on the screen).

- b. Check the **Show Scheduled Reports** checkbox. The WQAging report you just scheduled should appear on the View Reports screen.

- b. Check the **Refresh Periodically** checkbox.

The report should run and open in Adobe Acrobat Reader.

If the report does not run, verify that the Report Monitor and Workflow Scheduler services are both running. See **Energy Information Platform Report Monitor** on page 11-23 and **Energy Information Platform Report Scheduler** on page 11-24 in the *Oracle Utilities Energy Information Platform Configuration Guide* for more information about these services.

Upgrading Your Software

As new versions of Oracle Utilities and RDBMS software become available, you may want to upgrade to take full advantage of any new features or improved performance offered. This section explains some of the issues associated with upgrading.

Upgrading RDBMS Software

Before upgrading your RDBMS software, be sure to check with Oracle to ensure that your Oracle Utilities application software will work properly with the new version of your RDBMS. Later versions of these RDBMS are generally supported when proven stable.

Upgrading Oracle Utilities Software

Oracle releases software upgrades regularly. Customers are encouraged to upgrade to the newest versions of our software after proper testing in their specific environments.

The following are some key points to keep in mind when installing an upgrade of Oracle Utilities software:

- Install the new software in a Test Environment. **DO NOT INSTALL NEW SOFTWARE OVER YOUR EXISTING PRODUCTION SOFTWARE.** The Test Environment can be established on a separate server/clients network (the preferred approach), or in different directories on the same server/clients (for instance, C:\LODESTARTEST).
- Create duplicate versions of your Oracle Utilities Data Repository for use in the Test Environment, and rename them to clearly identify them as test versions of your data. This will allow you to test the new software on valid data without affecting your production data. Be sure to change the command lines on the new application shortcuts to point to the test versions of your data.

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