

Oracle Utilities Work and Asset Management

Installation Guide

Release 2.2.0 Service Pack 2

E98932-01

September 2018

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Preface

Welcome to the Oracle Utilities Work and Asset Management Installation Guide.

This guide describes how to install Oracle Utilities Work and Asset Management V2.2.0 Service Pack 2 and is intended for anyone interested in the process of installing Oracle Utilities Work and Asset Management.

To complete installation you should have:

- Administrative privileges on the host where you are installing the software.
- Experience installing and configuring application servers and other software (preferable).

Related Documents

For more information on this release, refer to the following documents:

Installation Guides

- Oracle Utilities Work and Asset Management Release Notes
- Oracle Utilities Work and Asset Management Quick Install Guide
- Oracle Utilities Work and Asset Management Installation Guide
- Oracle Utilities Work and Asset Management Database Administrator's Guide
- Oracle Utilities Work and Asset Management Licensing Information User Manual

User Guides

- Oracle Utilities Work and Asset Management and Oracle Utilities Operational Device Management Business User's Guide
- Oracle Utilities Work and Asset Management and Oracle Utilities Operational Device Management Administrative User's Guide
- Oracle Utilities Work and Asset Management Hybrid Mobile Application User's Guide

Supplemental Documents

- Oracle Utilities Work and Asset Management Server Administration Guide
- Oracle Utilities Work and Asset Management Security Guide

Updates to Documentation

Additional and updated information about the product is available from the **Knowledge Base** section of **My Oracle Support** (<http://support.oracle.com>). Please refer to **My Oracle Support** for more information. Documentation updates are also posted on the Oracle Technology Network documentation page as they become available (http://docs.oracle.com/cd/E72219_01/documentation.html).

Conventions

The following text conventions are used in this document:

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

Acronyms

The following acronyms are used in this document:

- **ODM** – Oracle Utilities Operational Device Management
- **WAM** – Oracle Utilities Work and Asset Management
- **OUAF** – Oracle Utilities Application Framework

Additional Resources

For more information and support, visit the Oracle Support Web site at:
<http://www.oracle.com/support/index.html>

Chapter 1

Installation Overview

This chapter provides an overview of the Oracle Utilities Work and Asset Management (WAM) product and installation process, including:

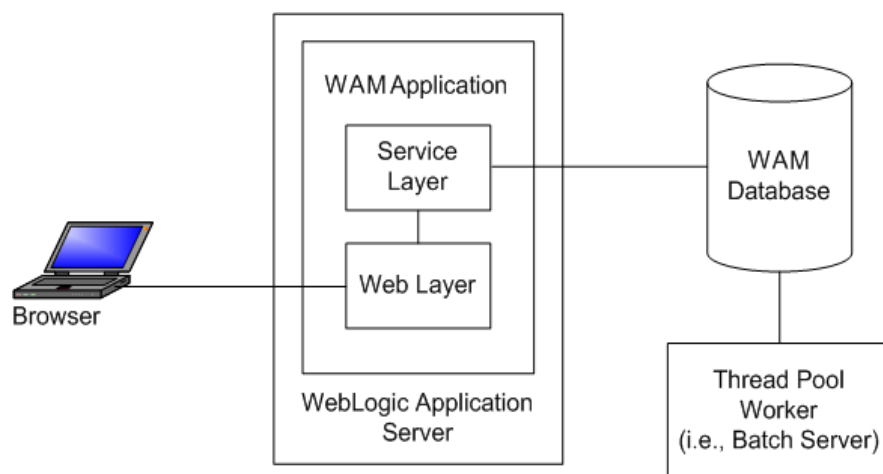
- [Product Overview](#)
- [Installation Overview](#)
- [Installation Types](#)
- [Package Contents](#)
- [Readiness Checklist](#)

Product Overview

Oracle Utilities Work and Asset Management is housed in the Oracle WebLogic J2EE Web Application Server. The system is comprised of two layers: web and service. The application is accessed by using a browser to connect to the web layer.

Oracle Utilities Work and Asset Management data is stored in the Oracle Database. For processing large amounts of data, the system provides a thread pool worker (batch server) which interacts with the same database.

The following figure provides an overview of the Oracle Utilities Work and Asset Management product:

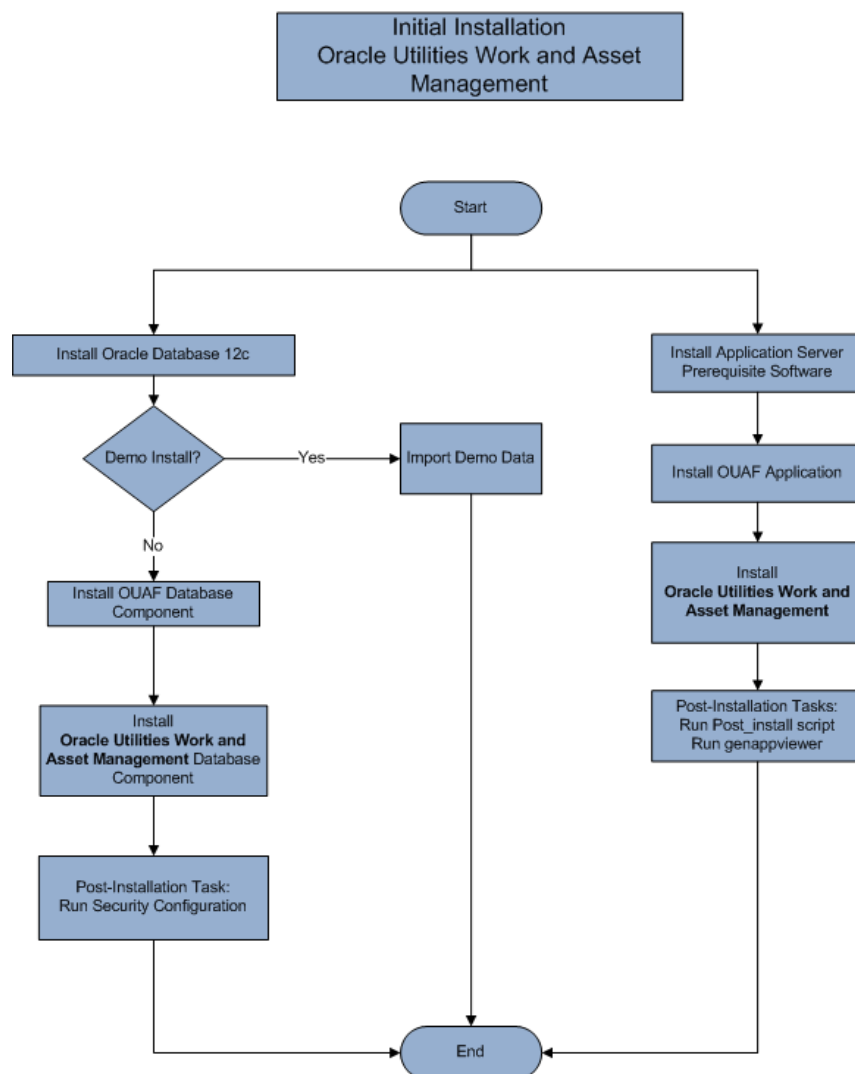


Refer to the *Business User's Guide* for information about the features and functionality in this release.

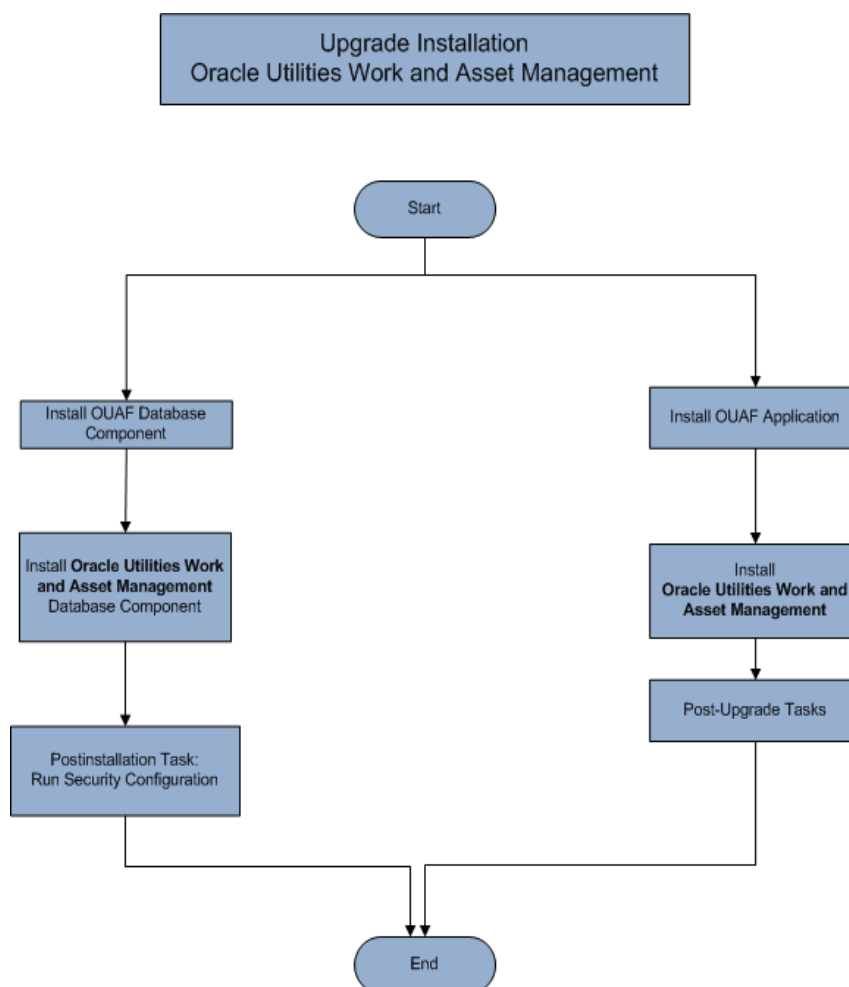
Installation Overview

Oracle Utilities Work and Asset Management consists of several components, all of which need to be installed for a successful installation. Certain prerequisite software may need to be installed before installing each of these components.

The following figure details the workflow for the initial and demo installation process.



The following figure details the workflow for the upgrade installation process.



Refer to the [Prerequisite Software List](#) for the list of prerequisite software.

Installation Types

The first step in the installation procedure is to determine the installation type that meets your business requirements. The following are the possible installation types:

- [Initial Installation](#) - Installing Oracle Utilities Work and Asset Management as a clean/new install - a base installation, typically used for a production environment
- [Upgrade Installation](#) - An upgrade installation from:
 - v2.2.0.0.0 to v2.2.0.2.0
 - v2.2.0.1.0 to v2.2.0.2.0
- [Demo Installation](#) - A base installation with pre-populated demo data, typically used for demonstration or training purposes

The following sections describe these installation types in detail.

Initial Installation

This installation type is applicable when installing Oracle Utilities Work and Asset Management for the first time. Each of the following components should be installed during an initial installation:

- Database components:

Refer to the “Initial Install” section of the *Oracle Utilities Work and Asset Management Database Administrator Guide* for more information.

- Application components:

- Oracle Utilities Application Framework Application
- Oracle Utilities Work and Asset Management Application
- Oracle Utilities Work and Asset Management Reports
- Oracle Utilities Work and Asset Management ESRI Integration

For detailed steps on installing each of the above components, refer to the [Installing Oracle Utilities Work and Asset Management - Initial Installation](#) section.

Upgrade Installation

This installation type is applicable when upgrading Oracle Utilities Work and Asset Management from v2.2.0.0.0 to v2.2.0.2.0 or from v2.2.0.1.0 to v2.2.0.2.0. Each of the following components should be installed during an upgrade installation:

- Database components:

Refer to the “Upgrade Install” section of the *Oracle Utilities Work and Asset Management Database Administrator Guide* for more information.

- Application components:

- Oracle Utilities Application Framework application
- Oracle Utilities Work and Asset Management application
- Oracle Utilities Work and Asset Management Reports
- Oracle Utilities Work and Asset Management ESRI Integration

For detailed steps on installing each of the above components, refer to the [Upgrading Oracle Utilities Work and Asset Management](#) section.

Demo Installation

This installation type is applicable when installing a demo application of Oracle Utilities Work and Asset Management for demonstration or training purposes. For a demo install, you must install all of the following components:

- Demo Database components:

Refer to the “Demo Install” section of the *Oracle Utilities Work and Asset Management Database Administrator Guide* for more information.

- Application components:
 - Oracle Utilities Application Framework Application
 - Oracle Utilities Work and Asset Management Application
 - Oracle Utilities Work and Asset Management Reports
 - Oracle Utilities Work and Asset Management ESRI Integration

Refer to the [Installing Oracle Utilities Work and Asset Management - Demo Installation](#) section for the steps involved in installing each of the above components.

Package Contents

The following documentation and installation packages are part of the product package.

- [Documentation](#)
- [Installation Packages](#)

Documentation

Installation Guides

- Oracle Utilities Work and Asset Management Release Notes
- Oracle Utilities Work and Asset Management Quick Install Guide
- Oracle Utilities Work and Asset Management Installation Guide
- Oracle Utilities Work and Asset Management Database Administrator's Guide
- Oracle Utilities Work and Asset Management Licensing Information User Manual

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- Oracle Utilities Work and Asset Management and Oracle Utilities Operational Device Management Administrative User's Guide
- Oracle Utilities Work and Asset Management Hybrid Mobile Application User's Guide

Supplemental Documents

- Oracle Utilities Work and Asset Management Server Administration Guide
- Oracle Utilities Work and Asset Management Security Guide

Installation Packages

- Oracle Utilities Work and Asset Management v2.2.0.2.0 Release Notes
- Oracle Utilities Work and Asset Management v2.2.0.2.0 Install Documentation
- Oracle Utilities Work and Asset Management v2.2.0.2.0 Quick Install Guide
- Oracle Utilities Work and Asset Management v2.2.0.2.0 Multiplatform
- Oracle Utilities Work and Asset Management v2.2.0.2.0 Oracle Database Multiplatform
- Oracle Utilities Application Framework v4.3.0.6.0 Multiplatform
- Oracle Utilities Work and Asset Management v2.2.0.2.0 Reports
- Oracle Utilities Work and Asset Management v2.2.0.2.0 ESRI Integration

Readiness Checklist

The following checklist provides steps to complete to install Oracle Utilities Work and Asset Management. The details for each step are presented in subsequent sections.

1. Confirm that the recommended hardware is ready. Refer to [Supported Platforms and Hardware Requirements](#) for more details.
2. Install prerequisite software. Refer to the [Planning the Installation](#) section for more details.
3. Download the Oracle Utilities Work and Asset Management v2.2.0.2.0 components from Oracle Software Delivery Cloud.
4. Go through the [Installation and Configuration Worksheets](#) to understand the configuration menu.
5. Determine the type of installation then follow the instructions:
 - **Initial Installation** - For initial installation, follow the instructions in [Installing Oracle Utilities Work and Asset Management - Initial Installation](#).
 - **Upgrade Installation** - For upgrade installation, follow the instructions in [Upgrading Oracle Utilities Work and Asset Management](#)
 - **Demo Installation** - For demo installation, follow the instructions in [Installing Oracle Utilities Work and Asset Management - Demo Installation](#)
6. Perform post-installation tasks.
7. Install optional products as described in the [Installing Optional Products](#) section.

Chapter 2

Supported Platforms and Hardware Requirements

This installation is certified to operate on many operating system, application server and database server combinations. The following sections provide information on the supported platforms and requirements, including:

- [Operating Systems and Application Servers](#)
- [Hardware Requirements](#)
- [Application Server Memory Requirements](#)
- [ESRI Integration Supported Versions](#)
- [Support for Software Patches and Upgrades](#)

Operating Systems and Application Servers

This section details the operating system and application server combinations on which this version of Oracle Utilities Work and Asset Management is supported.

Application Server Operating Systems

- Oracle Linux 6.x+ for x86_64
- Oracle Linux 7.x for x86_64
- Oracle Solaris 11.x for SPARC (64-bit)
- IBM AIX 7.1/7.2 TLx for POWER (64-bit)

Prerequisite Application Server Software

- Oracle Database Client 12.1.0.2+, 12.2.0.x
- Oracle Java SE Development Kit 1.8.0_131+(Oracle platforms only)
- Oracle Solaris JDK 1.8.0_x (Oracle Solaris only)
- IBM 64-bit SDK for AIX 8.0.0.x (IBM platforms only)
- Hibernate ORM 4.1.0 and Hibernate 5.2.3 jars
- Oracle WebLogic Server 12c Release 2 (12.2.1.3+) 64-bit

Notes

- Oracle Linux is 100% user space-compatible with Red Hat Enterprise Linux, therefore, OUAF is also supported on Red Hat Enterprise Linux.
- Refer to the *Oracle Utilities Application Framework Database Administrator's Guide* for the Oracle Database Server Requirements.

Refer to the *Product Support Matrix (Document ID 1454143.1)* on My Oracle Support to determine if support for newer versions of the listed products have been added.

Please note the following:

- Version numbers marked with a "+" are the MINIMUM version supported. That version and all future 4th digit updates will be supported.

Example: Oracle 12.1.0.2+ means that 12.1.0.2 and any higher 12.1.0.x versions of Oracle are supported.

* An "x" indicates that any version of the digit designed by the "x" is supported.

Example: Linux 7.x indicates that any version of Linux 7 (7.0, 7.1, 7.2 etc) will be supported.

Windows Server

- Windows Server is **not** supported for Production environments. Wherever Windows Server is referenced within this guide, it is supported for Test or Development environments **only**.

WebLogic Server

- Oracle WebLogic Server (Fusion Middleware Infrastructure) Release 2 (12.2.1.3+) and any higher versions of Oracle are supported.
- Customers must download Oracle WebLogic Server from the Oracle Software Delivery Cloud.

Prerequisite Database Server Software (on any vendor supported platform where x is vendor supported version):

- Oracle Database Server Enterprise Edition 12.1.0.x
- Oracle Database Server Standard Edition 2 12.1.0.x
- Oracle Database Server Enterprise Edition 12.2.0.x
- Oracle Database Server Standard Edition 2 12.2.0.x

Oracle VM Support

This version of Oracle Utilities Work and Asset Management is supported on Oracle VM Server for x86 for supported releases of Oracle Linux and Microsoft Windows operating systems.

Refer to My Oracle Support knowledge base article 249212.1 for Oracle's support policy on VMWare.

Hardware Requirements

The following section outlines client side hardware requirements for Oracle Utilities Work and Asset Management.

Client Side Hardware Requirements

Configuration	Processor	Memory (RAM)	Monitor (Display)
Minimum	1 GHz or faster 64-bit (x64) processor	2 GB	1280x1024
Recommended*	3 GHz or faster 64-bit (x64) processor	4 GB	1280X1024

* The Recommended configuration supports better performance of the client.

Application Server Memory Requirements

For each application server environment a minimum of 4 GB of real memory is required, plus 6 GB of swap space. The approximate disk space requirements in a standard installation are as follows (the size represents the MINIMUM required):

Location	Size	Usage
Install Dir ("\$SPLEBASE") Location	10 GB recommended 5 GB minimum	This is the location where the application and Framework get installed. Startup, shutdown and other online log files are stored here. The size and space that is used should be monitored because various debugging options can significantly affect the size of log files. Note: This does not include the size of the edge product.
Log Dir ("\$SPLOUTPUT") Location	4 GB recommended 2 GB minimum	This location is used for storing batch log files and output from batch jobs. The size of this space should be influenced by which batches are run and how often, and the amount of debugging information that is collected.
Location of the application web work files on the web servers	5 GB recommended 2 GB minimum	This location is used by various web server vendors to expand the application. It should be considered when installing these products. Refer to the individual web server documentation to determine the location of the temporary files.
Installation Temporary Area	4 GB minimum	The application gets installed from this location. You need enough space to uncompress the files and install the application.
Oracle Data Area	4 GB minimum	This location is where the Oracle database data files are stored. The size of this space should be based on the requirements of the production environment. For an initial or demo database install 4 GB should be sufficient.

ESRI Integration Supported Versions

This section provides information on ArcGIS Server and ArcGIS Desktop compatibility with Oracle Utilities Work and Asset Management.

ArcGIS Server Version Compatibility

Oracle Utilities Work and Asset Management can potentially send outbound messages to the ArcGIS Server in either SOAP or REST formats. Please refer to the table below for certified message formats at each supported ArcGIS Server version.

ArcGIS Server Version	REST (Work Location and Asset)	SOAP (Work Location)	SOAP (Asset)
10.4.1	Yes	Yes/No (if specific .NET framework patches are available in OS)	Yes
10.5.1	Yes	Yes (With TimeReference tag)	Yes

ArcGIS Desktop Version Compatibility

The following versions of ArcGIS Desktop are supported with Oracle Utilities Work and Asset Management.

- 10.2.1
- 10.4.1
- 10.5.1

Support for Software Patches and Upgrades

Due to the ongoing nature of software improvement, vendors will periodically issue patches and service packs for the operating systems, application servers and database servers on top of specific versions that Oracle products have already been tested against.

If it is necessary to apply an upgrade, please do so in a test environment that is running on the same platform as your production environment prior to updating the production environment itself. The exception to this is Hibernate software 4.1.0 which should not be upgraded.

Always contact Oracle Support prior to applying vendor updates that do not guarantee backward compatibility.

Chapter 3

Planning the Installation

This chapter provides information for planning an Oracle Utilities Work and Asset Management installation, including:

- [Installation Considerations](#)
- [Prerequisite Software List](#)
- [Installing Prerequisite Software](#)
- [Additional Prerequisite Software Information](#)

Before Installation

Refer to My Oracle Support for up-to-date additional information about installing Oracle Utilities Work and Asset Management.

Installation Considerations

Please review the following prior to installation.

WebLogic Native Installation

With Oracle Utilities Application Framework 4.3.0.6.0, a WebLogic native installation is required. Refer to the *Oracle WebLogic 12.2.1.x Configuration Guide for Oracle Utilities Framework (Doc ID 2413918.1)* whitepaper on My Oracle Support.

Application Server Clustering

If you are considering application server clustering, refer to the *Oracle WebLogic 12.2.1.x Configuration Guide for Oracle Utilities Framework (Doc ID 2413918.1)* whitepaper on My Oracle Support for additional information.

Additional information about WebLogic clustering can be found at http://docs.oracle.com/cd/E17904_01/web.1111/e13709/toc.htm.

Directory Names

Directory cannot contain whitespace characters.

Prerequisite Software List

Before you install Oracle Utilities Work and Asset Management, you must install prerequisite software. Refer to the respective installation documentation of the software for instructions on downloading and installing.

This section includes information on the following:

- [Prerequisite Software for Database Server](#)
- [Prerequisite Software for Application Server](#)
- [Web Browser Requirements](#)

Prerequisite Software for Database Server

The prerequisite software for the database component of Oracle Utilities Work and Asset Management includes:

- Oracle Database Server Enterprise Edition 12.1.0.x
- Oracle Database Server Standard Edition 2 12.1.0.x
- Oracle Database Server Enterprise Edition 12.2.0.x
- Oracle Database Server Standard Edition 2 12.2.0.x

This is required for installing the database component of the Oracle Utilities Work and Asset Management product.

Prerequisite Software for Application Server

The prerequisite software for the application component of Oracle Utilities Work and Asset Management is as follows:

- Oracle Database Client 12.1.0.2+, 12.2.0.x
- Oracle Java SE Development Kit 1.8.0_131+ (Oracle platforms only)
- IBM 64-bit Java SDK 1.8.0 for AIX (IBM platforms only)
- Hibernate ORM 4.1.0 and 5.2.3 jars
- Oracle WebLogic Server 12c Release 2 (12.2.1.3+) 64-bit

Web Browser Requirements

The web browsers listed below are supported when used on each of the operating systems indicated:

Browser	Windows Operating System
Internet Explorer 11	Microsoft Windows 7, 8.1, 10 (64-bit)
Firefox ESR 60	Microsoft Windows 7, 8.1, 10 (64-bit)
Google Chrome	Microsoft Windows 7, 8.1, 10 (64-bit)
Apple Mobile Safari on Apple iPad	iOS 10.x (selected WAM flows only)
Android 7, 8	Android 7, 8

Installing Prerequisite Software

This section describes the software that needs to be installed for each of the supported operating system and application server combinations, including:

- [AIX Application Server](#)
- [Oracle Linux Application Server](#)
- [Oracle Solaris Application Server](#)

AIX Application Server

This section describes the software requirements for operating the application using the AIX application server including:

- [Web/Application Server Tier](#)
- [IBM 64-bit SDK for AIX 8.0.0.x \(IBM platforms only\)](#)
- [Oracle Database Client \(12.1.0.2+ or 12.2.0.x\)](#)
- [Hibernate 4.1.0 FINAL and hibernate-search-5.2.3.Final-dist](#)

- [Oracle WebLogic Server 12c Release 2 \(v12.2.1.3+\) 64-bit](#)

Web/Application Server Tier

UNIX Administrator User ID

The following user groups and accounts have to be created to install and administer the application

Description	Default Value	Customer Defined Value
Oracle Utilities Work and Asset Management Administrator User ID	cissys	
Oracle Utilities Work and Asset Management User Group	cisusr	

Note: It is recommended that you change the default values for security reasons.

Throughout this document the administrator user ID is often referred to as the "cissys" user ID. You should substitute that with the customer defined user ID when not using the default value. After the initial install or upgrade, the software should always be managed using that user ID.

By default, the cissys user ID is the only one given access to the installed files.

1. Create a group called cisusr (user group).
2. Create a user called cissys. Primary group cisusr. Set the primary shell for the cissys user to Korn Shell.
3. Set the desired hard/soft limit of the file handler to 4096 or higher.

The shell scripts use the ">" to overwrite shell functionality. Your operating system may be configured to not allow this functionality by default in the users shell.

To avoid file access permission problems when executing scripts, consider placing the following command into cissys profile script:

```
set +o noclobber
```

Security Configuration

Various options exist to secure a system. In this application all files will be created with the minimum permissions required to ensure that group-readable, group-writable and group-executable files will have the correct user groups and to restrict the permissions available to legitimate users. In this way, a low privileged end user cannot directly edit configuration files and thereby bypass application security controls.

The following users and group categories must be defined to implement this security. For demonstration purposes the following users and groups will be used. These users must be created according to industry standards (including password policies). All users should be

created with a default umask of 022 to ensure files created during normal operation have the correct permissions.

Replace these users and groups for your installation defaults:

User	Group	Description
cissys	cisusr	This user will be used to install the application and to apply patches. This user will own all the application files. The same care should be taken with this user ID as if it is 'root'. This user will be able to add, delete and modify files within the application.
cisadm	cisusr	Administrative and Operation functions will be available to this user. This user will be able to stop and start the application and batch processes, but will not have access to modify any file other than generated log files
cisoper	-----	Low level operator. This user will only be able to read logs files and collect information for debugging and investigative purposes. Care should be taken in production to disable debugging as debugging information could contain potential sensitive data which this user should not have privy to.

Note: The Oracle Client and WebLogic should be installed as the user who will stop and start the application. For example, if you plan to run the application as the install user these components must belong to cissys.

IBM 64-bit SDK for AIX 8.0.0.x (IBM platforms only)

At the time of release, AIX Java 1.8 packages could be obtained from:

<http://www.ibm.com/developerworks/java/jdk/aix/service.html>

The web server requires the 64-bit Java platform in order to function. The main prerequisite for the web server is the version of Java mentioned above.

For the Administrator user ID (cissys), ensure that the environment variable JAVA_HOME is set up, and that "java" can be found in cissys' PATH variable.

Oracle Database Client (12.1.0.2+ or 12.2.0.x)

Install the Oracle Client as described in the Oracle Client installation documentation. Use the cissys account to install the Oracle Client. If another user installs the Oracle Client, make sure the cissys user ID has the proper execute permissions.

For the cissys user ID, ensure that the environment variable ORACLE_CLIENT_HOME is set up, and that ORACLE_CLIENT_HOME/perl/bin is the first Perl listed in the cissys account's PATH variable.

Hibernate 4.1.0 FINAL and hibernate-search-5.2.3.Final-dist

You must install Hibernate before installing the product. Follow these steps to install Hibernate:

1. Create a Hibernate jar external depot:


```
export HIBERNATE_JAR_DIR=<Hibernate 3rd party jars depot>
```

2. Download the hibernate-release-4.1.0.Final.zip file from <http://sourceforge.net/projects/hibernate/files/hibernate4/>
3. Click the “4.1.0.Final” link to download the zip file.
4. Extract the contents of the archive file:

```
unzip hibernate-release-4.1.0.Final.zip
```

Note: You must have Java JDK installed on the machine to use the jar command. Make sure you install the JDK supported for your platform.

5. Copy the jar files to your Hibernate jar directory (\$HIBERNATE_JAR_DIR) using the following commands:

```
cp hibernate-release-4.1.0.Final/lib/optional/ehcache/
hibernate-ehcache-4.1.0.Final.jar $HIBERNATE_JAR_DIR
```

```
cp hibernate-release-4.1.0.Final/lib/required/hibernate-
commons-annotations-4.0.1.Final.jar $HIBERNATE_JAR_DIR
```

```
cp hibernate-release-4.1.0.Final/lib/required/hibernate-core-
4.1.0.Final.jar $HIBERNATE_JAR_DIR
```

```
cp hibernate-release-4.1.0.Final/lib/required/hibernate-jpa-
2.0-api-1.0.1.Final.jar $HIBERNATE_JAR_DIR
```

```
cp hibernate-release-4.1.0.Final/lib/required/javassist-3.15.0-
GA.jar $HIBERNATE_JAR_DIR
```

```
cp hibernate-release-4.1.0.Final/lib/required/jboss-logging-
3.1.0.CR2.jar $HIBERNATE_JAR_DIR
```

```
cp hibernate-release-4.1.0.Final/lib/required/jboss-
transaction-api_1.1_spec-1.0.0.Final.jar $HIBERNATE_JAR_DIR
```

6. Download the hibernate-release-5.2.3.Final.zip file from the following link to get the jboss-logging-3.3.0.Final.jar.

<https://sourceforge.net/projects/hibernate/files/hibernate-orm>

7. Click the “5.2.3.Final” link to download the zip file.
8. Extract the contents of the archive file using the following command

```
unzip hibernate-release-5.2.3.Final.zip
```

9. Copy the jboss-logging-3.3.0.Final.jar file to your Hibernate jar directory (\$HIBERNATE_JAR_DIR) using the following command:

```
cp hibernate-release-5.2.3.Final/lib/required/jboss-logging-
3.3.0.Final.jar to $HIBERNATE_JAR_DIR
```

Oracle WebLogic Server 12c Release 2 (v12.2.1.3+) 64-bit

Oracle WebLogic software can be downloaded from the Oracle web site. This application server will run as a 64-bit application.

- Download and install 64-bit Java SDK 1.8 (as documented above) before installing WebLogic.

- Download and install WebLogic Server ((Fusion Middleware Infrastructure) 12c Release 2 (12.2.1.3+) 64-bit.

Oracle Linux Application Server

This section describes the software requirements for operating the application using the Oracle Linux or Red Hat Linux application server.

- [Web/Application Server Tier](#)
- [Oracle Java SE Development Kit 1.8.0_131+](#)
- [Oracle Database Client \(12.1.0.2+, 12.2.0.x\)](#)
- [Hibernate 4.1.0 FINAL and hibernate-search-5.2.3.Final-dist](#)
- [Oracle WebLogic Server 12c Release 2 \(12.2.1.3+\) 64-bit](#)

Web/Application Server Tier

UNIX Administrator User ID

The following user groups and accounts have to be created to install and administer the application:

Description	Default Value	Customer Defined Value
Oracle Utilities Work and Asset Management Administrator User ID	cissys	
Oracle Utilities Work and Asset Management User Group	cisusr	

Note: It is recommended that you change the default values for security reasons.

Throughout this document the administrator user ID is often referred to as the "cissys" user ID. You should substitute that with the customer defined user ID when not using the default value. After the initial install or upgrade, the software should always be managed using that user ID.

By default, the cissys user ID is the only one given access to the files installed.

1. Create a group called cisusr (user group)
2. Create a user called cissys. Primary group cisusr. Set the primary shell for the cissys user to Korn Shell.
3. Set the desired hard/soft limit of the file handler to 4096 or higher.

The shell scripts use the ">" to overwrite shell functionality. Your operating system may be configured to not allow this functionality by default in the users shell.

To avoid file access permission problems when executing scripts, consider placing the following command into cissys profile script:

```
set +o noclobber
```

Security Configuration

Various options exist to secure a system. In this application all files will be created with the minimum permissions required to ensure that group-readable, group-writable and group-executable files will have the correct user groups and to restrict the permissions available to legitimate users. In this way, a low privileged end user cannot directly edit configuration files and thereby bypass application security controls.

The following users and group categories must be defined to implement this security. For demonstration purposes the following users and groups will be used. These users must be created according to industry standards (including password policies). All users should be created with a default umask of 022 to ensure files created during normal operation have the correct permissions.

Replace these users and groups for your installation defaults:

User	Group	Description
cissys	cisusr	This user will be used to install the application and to apply patches. This user will own all the application files. The same care should be taken with this user ID as if it is 'root'. This user will be able to add, delete and modify files within the application.
cisadm	cisusr	Administrative and Operation functions will be available to this user. This user will be able to stop and start the application and batch processes, but will not have access to modify any file other than generated log files
cisoper	-----	Low level operator. This user will only be able to read logs files and collect information for debugging and investigative purposes. Care should be taken in production to disable debugging as debugging information could contain potential sensitive data which this user should not have privy to.

Note: The Oracle Client and WebLogic should be installed as the user who will stop and start the application. For example, if you plan to run the application as the install user these components must belong to cissys.

Oracle Java SE Development Kit 1.8.0_131+

At the time of release, download and install 64-bit Java 1.8.0_131+ before installing WebLogic. The packages could be obtained from:

<https://support.oracle.com>

The Oracle WebLogic Server requires the 64-bit version. The main prerequisite for the web server is the version of Java mentioned above.

For the user ID cissys, ensure that the environment variable JAVA_HOME is setup, and that java_home/bin and java_home/lib can be found in cissys' PATH variable.

Oracle Database Client (12.1.0.2+, 12.2.0.x)

Install the Oracle Client as described in the Oracle Client installation documentation. Use the cissys account to install the Oracle Client. If another user installs the Oracle Client, make sure the cissys user ID has the proper execute permissions.

For the cissys user ID, ensure that the environment variable ORACLE_CLIENT_HOME is set up, and that ORACLE_CLIENT_HOME/perl/bin is the first Perl listed in the cissys account's PATH variable.

Hibernate 4.1.0 FINAL and hibernate-search-5.2.3.Final-dist

You must install Hibernate before installing the product. Follow these steps to install Hibernate:

1. Create a Hibernate jar external depot:

```
export HIBERNATE_JAR_DIR=<Hibernate 3rd party jars depot>
```

2. Download the hibernate-release-4.1.0.Final.zip file from <http://sourceforge.net/projects/hibernate/files/hibernate4/>
3. Click the “4.1.0.Final” link to download the zip file.
4. Extract the contents of the archive file:

```
unzip hibernate-release-4.1.0.Final.zip
```

Note: You must have Java JDK installed on the machine to use the jar command. Make sure you install the JDK supported for your platform.

5. Copy the jar files to your Hibernate jar directory (\$HIBERNATE_JAR_DIR) using the following commands:

```
cp hibernate-release-4.1.0.Final/lib/optional/ehcache/hibernate-ehcache-4.1.0.Final.jar $HIBERNATE_JAR_DIR
```

```
cp hibernate-release-4.1.0.Final/lib/required/hibernate-commons-annotations-4.0.1.Final.jar $HIBERNATE_JAR_DIR
```

```
cp hibernate-release-4.1.0.Final/lib/required/hibernate-core-4.1.0.Final.jar $HIBERNATE_JAR_DIR
```

```
cp hibernate-release-4.1.0.Final/lib/required/hibernate-jpa-2.0-api-1.0.1.Final.jar $HIBERNATE_JAR_DIR
```

```
cp hibernate-release-4.1.0.Final/lib/required/javassist-3.15.0-GA.jar $HIBERNATE_JAR_DIR
```

```
cp hibernate-release-4.1.0.Final/lib/required/jboss-logging-3.1.0.CR2.jar $HIBERNATE_JAR_DIR
```

```
cp hibernate-release-4.1.0.Final/lib/required/jboss-transaction-api_1.1_spec-1.0.0.Final.jar $HIBERNATE_JAR_DIR
```

6. Download the hibernate-release-5.2.3.Final.zip file from the following link to get the jboss-logging-3.3.0.Final.jar.
<https://sourceforge.net/projects/hibernate/files/hibernate-orm>
7. Click the “5.2.3.Final” link to download the zip file.
8. Extract the contents of the archive file using the following command

```
unzip hibernate-release-5.2.3.Final.zip
```

9. Copy the jboss-logging-3.3.0.Final.jar file to your Hibernate jar directory (\$HIBERNATE_JAR_DIR) using the following command:

```
cp hibernate-release-5.2.3.Final/lib/required/jboss-logging-3.3.0.Final.jar to $HIBERNATE_JAR_DIR
```

Oracle WebLogic Server 12c Release 2 (12.2.1.3+) 64-bit

Oracle WebLogic software can be downloaded from the Oracle web site. This application server will run as a 64-bit application.

- Download and install 64-bit Java SDK 1.8 (as documented above) before installing WebLogic.
- Download and install WebLogic Server ((Fusion Middleware Infrastructure) 12c Release 2 (12.2.1.3+) 64-bit.

Oracle Solaris Application Server

This section describes the software requirements for operating the application using the Oracle Solaris 11 application server.

- [Web/Application Server Tier](#)
- [Oracle Solaris JDK 1.8.0_x](#)
- [Oracle Database Client \(12.1.0.2+, 12.2.0.x\)](#)
- [Hibernate 4.1.0 FINAL and hibernate-search-5.2.3.Final-dist](#)
- [Oracle WebLogic Server 12c Release 2 \(v12.2.1.3+\) 64-bit](#)

Web/Application Server Tier

UNIX Administrator User ID

The following user groups and accounts have to be created to install and administer the application:

Description	Default Value	Customer Defined Value
Oracle Utilities Work and Asset Management Administrator User ID	cissys	
Oracle Utilities Work and Asset Management User Group	cisusr	

Note: It is recommended that you change the default values for security reasons.

Throughout this document the administrator user ID is often referred to as the "cissys" user ID. You should substitute that with the customer defined user ID when not using

the default value. After the initial install or upgrade, the software should always be managed using that user ID.

By default, the cissys user ID is the only one given access to the files installed.

1. Create a group called cisusr (user group)
2. Create a user called cissys. Primary group cisusr. Set the primary shell for the cissys user to Korn Shell.
3. Set the desired hard/soft limit of the file handler to 4096 or higher.

The shell scripts use the ">" to overwrite shell functionality. Your operating system may be configured to not allow this functionality by default in the users shell.

To avoid file access permission problems when executing scripts, consider placing the following command into cissys profile script:

```
set +o noclobber
```

Security Configuration

Various options exists to secure a system. In this application all files will be created with the minimum permissions required to ensure that group-readable, group-writable and group-executable files will have the correct user groups and to restrict the permissions available to legitimate users. In this way, a low privileged end user cannot directly edit configuration files and thereby bypass application security controls.

The following users and group categories must be defined to implement this security. For demonstration purposes the following users and groups will be used. These users must be created according to industry standards (including password policies). All users should be created with a default umask of 022 to ensure files created during normal operation have the correct permissions.

Please replace these users and groups for your installation defaults:

User	Group	Description
cissys	cisusr	This user will be used to install the application and to apply patches. This user will own all the application files. The same care should be taken with this user ID as if it is 'root'. This user will be able to add, delete and modify and files within the application.
cisadm	cisusr	Administrative and Operation functions will be available to this user. This user will be able to stop and start the application and batch processes, but will not have access to modify any file other than generated log files
cisoper	-----	Low level operator. This user will only be able to read logs files and collect information for debugging and investigative purposes. Care should be taken in production to disable debugging as debugging information could contain potential sensitive data which this user should not have privy to.

Note: The Oracle Client and WebLogic should be installed as the user who will stop and start the application. For example, if you plan to run the application as the install user these components must belong to cissys.

Oracle Solaris JDK 1.8.0_x

This software is only required for Oracle WebLogic installations. At the time of release, the Oracle Solaris JDK 1.8.0_x used in the test cycle was downloaded from:

<http://www.oracle.com/technetwork/java/javase/downloads/jdk8-downloads-2133151.html>

The Oracle WebLogic Server requires the 64-bit version. The main prerequisite for the web server is the version of Java mentioned above.

For the user ID cissys, ensure that the environment variable JAVA_HOME is setup, and that java_home/bin and java_home/lib can be found in cissys' PATH variable.

Oracle Database Client (12.1.0.2+, 12.2.0.x)

Install the Oracle Client as described in the Oracle Client installation documentation. Use the cissys account to install the Oracle Client. If another user installs the Oracle Client, make sure the cissys user ID has the proper execute permissions.

For the cissys user ID, ensure that the environment variable ORACLE_CLIENT_HOME is set up, and that ORACLE_CLIENT_HOME/perl/bin is the first Perl listed in the cissys account's PATH variable.

Hibernate 4.1.0 FINAL and hibernate-search-5.2.3.Final-dist

You must install Hibernate before installing the product.

To install Hibernate external jar files to the Hibernate 3rd party jars depot:

1. Create a Hibernate jar external depot:

```
export HIBERNATE_JAR_DIR=<Hibernate 3rd party jars depot>
```

2. Download the hibernate-release-4.1.0.Final.zip file from <http://sourceforge.net/projects/hibernate/files/hibernate4/>.
3. Click the "4.1.0.Final" link to download the zip file.
4. Extract the contents of the archive file:

```
unzip hibernate-release-4.1.0.Final.zip
```

Note: You must have Java JDK installed on the machine to use the jar command. Make sure you install the JDK supported for your platform.

5. Copy the jar files to your Hibernate jar directory (\$HIBERNATE_JAR_DIR) using the following commands:

```
cp hibernate-release-4.1.0.Final/lib/optional/ehcache/hibernate-ehcache-4.1.0.Final.jar $HIBERNATE_JAR_DIR
```

```
cp hibernate-release-4.1.0.Final/lib/required/hibernate-commons-annotations-4.0.1.Final.jar $HIBERNATE_JAR_DIR
```

```
cp hibernate-release-4.1.0.Final/lib/required/hibernate-core-4.1.0.Final.jar $HIBERNATE_JAR_DIR
```

```
cp hibernate-release-4.1.0.Final/lib/required/hibernate-jpa-2.0-api-1.0.1.Final.jar $HIBERNATE_JAR_DIR
```

```
cp hibernate-release-4.1.0.Final/lib/required/javassist-3.15.0-GA.jar $HIBERNATE_JAR_DIR
```

```
cp hibernate-release-4.1.0.Final/lib/required/jboss-logging-3.1.0.CR2.jar $HIBERNATE_JAR_DIR
```

```
cp hibernate-release-4.1.0.Final/lib/required/jboss-transaction-api_1.1_spec-1.0.0.Final.jar $HIBERNATE_JAR_DIR
```

6. Download the hibernate-release-5.2.3.Final.zip file from the following link to get the jboss-logging-3.3.0.Final.jar.

<https://sourceforge.net/projects/hibernate/files/hibernate-orm>

7. Click the “5.2.3.Final” link to download the zip file.
8. Extract the contents of the archive file using the following command

```
unzip hibernate-release-5.2.3.Final.zip
```

9. Copy the jboss-logging-3.3.0.Final.jar file to your Hibernate jar directory (\$HIBERNATE_JAR_DIR) using the following command:

```
cp hibernate-release-5.2.3.Final/lib/required/jboss-logging-3.3.0.Final.jar to $HIBERNATE_JAR_DIR
```

Oracle WebLogic Server 12c Release 2 (v12.2.1.3+) 64-bit

Oracle WebLogic software can be downloaded from the Oracle web site. This application server will run as a 64-bit application.

- Download and install 64-bit Java SDK 1.8 (as documented above) before installing WebLogic.
- Download and install WebLogic Server ((Fusion Middleware Infrastructure) 12c Release 2 (12.2.1.3+) 64-bit.

Additional Prerequisite Software Information

This section outlines additional information related to installing the prerequisite software, including:

- [Setting Up and Using the Additional JAR Directory](#)
- [Special Note to Upgrade from a WebLogic 12.1.3.x Environment](#)

Setting Up and Using the Additional JAR Directory

The additional JAR directory must be populated if the Web Application Server Home directory is not set.

For example: The environment is for batch only and the server has no WebLogic installed. In this scenario, the Additional JAR Directory must be created prior to the installation and the following list of WebLogic JARs should be copied to that directory (full path from the actual WebLogic location which must be installed in the web server).


```

<Web Application Server Home Directory>/server/lib/
wlthint3client.jar
<Web Application Server Home Directory>/../oracle_common/modules/
org.codehaus.woodstox.stax2-api.jar
<Web Application Server Home Directory>/../oracle_common/modules/
org.glassfish.jersey.core.jersey-client.jar
<Web Application Server Home Directory>/../oracle_common/modules/
org.glassfish.jersey.core.jersey-common.jar
<Web Application Server Home Directory>/../oracle_common/modules/
org.glassfish.jersey.bundles.repackaged.jersey-guava.jar
<Web Application Server Home Directory>/../oracle_common/modules/
org.glassfish.jersey.core.jersey-server.jar
<Web Application Server Home Directory>/../oracle_common/modules/
org.glassfish.jersey.media.jersey-media-jaxb.jar
<Web Application Server Home Directory>/../oracle_common/modules/
org.glassfish.jersey.media.jersey-media-multipart.jar
if WebLogic 12.2.1.[0-2].0:
<Web Application Server Home Directory>/../oracle_common/modules/
org.codehaus.woodstox.woodstox-core-asl.jar
if WebLogic is not 12.2.1.[0-2].0:
<Web Application Server Home Directory>/../oracle_common/modules/
com.fasterxml.woodstox.woodstox-core.jar

```

If the Additional JAR directory is configured, the initialSetup process will pull those JARs from that directory. If it is not configured, the initialSetup process will pull those JARs from the Web Application Server Home directory.

Special Note to Upgrade from a WebLogic 12.1.3.x Environment

If you are upgrading from an environment which is using WebLogic 12.1.3.x, make sure to follow the steps below prior to the installation:

1. Install Oracle WebLogic Server (Fusion Middleware Infrastructure) 12.2.1.x.
2. Install Oracle Java SE Development Kit 1.8.0_131+ (if not installed yet).
3. Shutdown the application server environment.
4. Take a full backup of the application:

```
$SPLEBASE
```

5. Set the environment:

```
splenviron.sh -e <ENV NAME>
```

6. Reconfigure the environment to point to the new WebLogic and Java (if upgraded Java as well):

```

Execute: configureEnv.sh -i
Update: "Web Java Home Directory" and "Web Application Server Home
Directory"
Type <P> to process (no need to rerun initialSetup.sh).

```

7. Set the environment again: splenviron.sh -e <ENV NAME>.
8. Upgrade the Oracle Utilities Application Framework to V4.3.0.6.0 using the installSP.sh script.

Chapter 4

Installing Oracle Utilities Work and Asset Management - Initial Installation

This section provides instructions for installing Oracle Utilities Work and Asset Management v2.2.0.2.0 as a new/clean installation including the following:

- [Initial Installation Procedure](#)
- [Post Installation Verifications](#)

Note: The software components that are required for an initial installation are available for download from the Oracle Software Delivery Cloud.

Before You Install

Refer to My Oracle Support for up-to-date additional information on Oracle Utilities Work and Asset Management.

Initial Installation Procedure

The initial installation procedure consists of:

- [Database Component Installation](#)
- [Application Components Installation](#)

Database Component Installation

Installation of the database component of Oracle Utilities Work and Asset Management must be complete before you can proceed with the following sections. Refer to the “Initial Install” section in the *Oracle Utilities Work and Asset Management Database Administrator Guide*, which provides instructions on installing the database component.

Application Components Installation

A successful installation consists of the following steps:

- [Installing the Oracle Utilities Application Framework Application Component v4.3.0.6.0](#)
- [Installing the Oracle Utilities Work and Asset Management Application Component](#)

Installing the Oracle Utilities Application Framework Application Component v4.3.0.6.0

This section describes how to install the application component of Oracle Utilities Application Framework, including:

- [Copying and Decompressing Install Media for the Oracle Utilities Application Framework Application Component](#)
- [Setting Permissions for the cistab file in UNIX for the Oracle Utilities Application Framework Application Component](#)
- [Installing the Oracle Utilities Application Framework Application Component](#)

Copying and Decompressing Install Media for the Oracle Utilities Application Framework Application Component

The Oracle Utilities Application Framework installation file is delivered in jar format for both UNIX and Windows platforms. If you are planning to install multiple Oracle Utilities Application Framework environments operated by different Oracle Utilities administrator user IDs, you must complete each of the following installation steps for each administrator user ID.

To copy and decompress the install media, follow these steps:

1. Log in to the application server host with the Oracle Utilities Application Framework administrator user ID.
2. Download “Oracle Utilities Application Framework v4.3.0.6.0 Multiplatform” from Oracle Software Delivery Cloud.
3. Create a temporary directory such as c:\ouaf\temp or /ouaf/temp. (Referred to below as <TEMPDIR>.)

Note: This directory must be located outside any current or other working Oracle Utilities application environment. All files that are placed in this directory as a part of the installation can be deleted after completing a successful installation.

4. Copy the file “FW-V4.3.0.6.0-Multiplatform.jar” from the delivered package to the <TEMPDIR>. If you are using FTP to transfer this file, remember to use the BINARY option for the FTP transfer.

5. Decompress the file:

```
cd <TEMPDIR>
jar -xvf FW-V4.3.0.6.0-Multiplatform.jar
```

Note: You will need to have Java JDK installed on the machine used to (un)jar the application server installation package. Please install the JDK that is supported for the install on your platform to be able to use the jar command.

Java packages are located at: <http://www.oracle.com/technetwork/java/archive-139210.html>

A sub-directory named “FW.V4.3.0.6.0” is created. It contains the installation software for the Oracle Utilities framework application server.

Setting Permissions for the cistab file in UNIX for the Oracle Utilities Application Framework Application Component

Every Oracle Utilities Application Framework environment installed on a server must be registered in the /etc/cistab file located on that server. On UNIX servers, generally only the root user ID has write permissions to the /etc directory. Since the installation process is run by the Oracle administrator user ID (cissys), this user ID may not be able to write to /etc/cistab table.

The install utility checks permissions and if it identifies a lack of the necessary permissions, it generates a script in the <TEMPDIR>/FW.V4.3.0.6.0 directory named cistab_<SPLENVIRON>.sh. Run the generated script using the root account before continuing with the installation process. The script initializes the cistab file in /etc directory (if it is the first Oracle Utilities Framework application environment on the server) and registers a new environment.

The generated script also changes the owner of /etc/cistab file to the Oracle Utilities Framework administrator user ID, so that the next time a new environment is created by the same Oracle Utilities Framework administrator user ID, you do not need to run the generated script with the root user ID. Instead the install utility itself proceeds with the registration.

If you are reinstalling an existing environment, only the validation of /etc/cistab entry is done by the install utility, no new registration occurs. The install utility interactively instructs you about every step that needs to occur in each specific case.

If you are planning to upgrade an existing environment you should take a backup first. The installation utility does not create an automatic backup of the existing environment.

Installing the Oracle Utilities Application Framework Application Component

This section outlines the steps for installing the application component of Oracle Utilities Application Framework.

1. Login to the Application Server host as administrator user ID (the default is cissys on UNIX) or as a user with administrator privileges (on Windows).
2. Change directory to the <TEMPDIR>/FW.V4.3.0.6.0 directory.
3. Set the ORACLE_CLIENT_HOME and PATH variables as Oracle Client Perl is required to run the installer.

UNIX

```
export ORACLE_CLIENT_HOME=<ORACLE CLIENT INSTALL LOCATION>
export PERL_HOME=${ORACLE_CLIENT_HOME}/perl
export PATH=${PERL_HOME}/bin:$PATH
export PERL5LIB=${PERL_HOME}/lib:${PERL_HOME}/lib/site_perl:<OUAF
Installer Decompressed location/data/bin/
perlib>
export PERLLIB=${PERL_HOME}/lib:${PERL_HOME}/lib/site_perl:<OUAF
Installer Decompressed location/data/bin/
perlib>
export LD_LIBRARY_PATH=${ORACLE_CLIENT_HOME}/lib:$LD_LIBRARY_PATH
```

Windows Server

```
set ORACLE_CLIENT_HOME=<ORACLE CLIENT INSTALL LOCATION>
set PERL_HOME=%ORACLE_CLIENT_HOME%\perl
set PATH=%PERL_HOME%\bin;%PATH%
```

4. Start the application installation utility by executing the appropriate script:

UNIX

```
ksh ./install.sh
```

Windows Server

```
install.cmd
```

5. The Oracle Utilities Application Framework specific menu displays.
6. Follow the messages and instructions that are produced by the application installation utility.
7. Select each menu item to configure the values. For detailed description of the values, refer to the [Installation and Configuration Worksheets](#) section.

The table below lists the mandatory configurable items. Where you see <Mandatory>, enter values suitable to your environment.

You can assign default values to the rest of the menu items.

```
*****
* Environment Installation Options *
*****
1. Environment ID, Roles, Third Party Software Configuration

Environment ID                                <Default>

Server Roles                                batch, online

Oracle Client Home Directory                <Mandatory for Initial Install>

Web Java Home Directory                    <Mandatory for Initial Install>
```

Hibernate JAR Directory	<Mandatory for Initial Install>
ONS JAR Directory	<Optional>
Web Application Server Home Directory	<Mandatory for Initial Install>
Additional JAR Directory	<Optional>
ADF Home Directory	<Optional>
OIM OAM Enabled Environment	false

2. Keystore Options

Import Keystore Directory	<Default>
Store Type	<Mandatory>
Alias	<Mandatory>
Alias Key Algorithm	AES
Alias Key Size	128
HMAC Alias	ouaf.system.hmac
Padding	PKCS5Padding
Mode	CBC

50. Environment Installation Options

Environment Mount Point	<Mandatory>
Log Files Mount Point	<Mandatory>
Environment Name	<Mandatory>
Install Application Viewer Module	true
Install Sample CM Source Code	true

Each item in the above list should be configured for a successful install.

Choose option (1,2,50, <P> Process, <X> Exit):

Once you enter 'P' after entering mandatory input values in the above menu, the system populates another configuration menu.

```
*****
* Environment Configuration *
*****
```

1. Environment Description

Environment Description	<Mandatory>
-------------------------	-------------

2. Business Application Server Configuration

Business Server Host	<Mandatory> - Hostname on which application being installed
Business Server Application Name	SPLService
MPL Admin Port Number	<Mandatory> - Multipurpose Listener Port
MPL Automatic startup	false

3. Web Application Server Configuration

Web Server Host	<Mandatory>
WebLogic SSL Port Number	<Mandatory>
WebLogic Console Port Number	<Mandatory>
Web Context Root	ouaf
WebLogic JNDI User ID	<Mandatory>
WebLogic JNDI Password	<Mandatory>
WebLogic Server Name	myserver
Web Server Application Name	SPLWeb
Deploy using Archive Files	true
Deploy Application Viewer Module	true
Enable The Unsecured Health Check Service	false
MDB RunAs User ID	<Optional>
Super User IDs	<Mandatory>

4. Database Configuration

Application Server Database User ID	<Mandatory>
Application Server Database Password	<Mandatory>
MPL Database User ID	<Mandatory>
MPL Database Password	<Mandatory>
XAI Database User ID	<Mandatory>
XAI Database Password	<Mandatory>
Batch Database User ID	<Mandatory>
Batch Database Password	<Mandatory>
Web JDBC DataSource Name	<Optional>
Database Name	<Mandatory>
Database Server	<Mandatory>
Database Port	1521

ONS Server Configuration	<Optional>
Database Override Connection String	<Optional>
Character Based Database	false
Oracle Client Character Set NLS_LANG	AMERICAN_AMERICA.AL32 UTF8

5. General Configuration Options

Batch RMI Port	<mandatory>
RMI Port number for JMX Business	<optional>
RMI Port number for JMX Web	<optional>
JMX Enablement System User ID	<optional>
JMX Enablement System Password	<optional>
Coherence Cluster Name	<mandatory>
Coherence Cluster Address	<mandatory>
Coherence Cluster Mode	prod<Mandatory>
Coherence Cluster Port	<Mandatory>

6. OUAF TrustStore Options

Import TrustStore Directory	<Mandatory> for Prod
Store Type	JCEKS
Alias	ouaf.system
Alias Key Algorithm	AES
Alias Key Size	128
HMAC Alias	ouaf.system.hmac

Each item in the above list should be configured for a successful install.

Choose option (1,2,3,4,5,6 <P> Process, <X> Exit):

10. When the parameter setup is complete, proceed with the option P. The utility writes the configured parameters and their values into the configuration file.

11. Once the install or upgrade has finished, the installation log location is displayed on the screen. If the log does not list any error messages, the installation of the application component of Oracle Utilities Application Framework is complete.

Installing the Oracle Utilities Work and Asset Management Application Component

This section describes how to install the application component of Oracle Utilities Work and Asset Management, including:

- [Copying and Decompressing Oracle Utilities Work and Asset Management Install Media](#)
- [Installing the Oracle Utilities Work and Asset Management Application Component](#)
- [Creating WebLogic Domain](#)
- [Creating Users \(WAMUSER and ODMUSER\)](#)

Copying and Decompressing Oracle Utilities Work and Asset Management Install Media

The Oracle Utilities Work and Asset Management installation file is delivered in jar format for both UNIX and Windows platforms.

To copy and decompress the install media, follow these steps:

1. Log in to the application server host as the administrator user ID (default cissys). This is the same user ID that was used to install the Oracle Utilities Application Framework.
2. Download the Oracle Utilities Work and Asset Management v2.2.0.2 Multiplatform zip file from Oracle Software Delivery Cloud.
3. Create a <TEMPDIR> directory on the host server, which is independent of any current or other working Oracle Utilities Work and Asset Management application environment.
This can be the same <TEMPDIR> used during the installation of the Oracle Utilities Application Framework.
4. Copy the file, WAM-V2.2.0.2.0-Multiplatform.jar, in the delivered package to a <TEMPDIR> on your host server. If you are using FTP to transfer this file, remember to use the BINARY option for the FTP transfer.
5. Decompress the file:

```
cd <TEMPDIR>
jar -xvf WAM-V2.2.0.2.0-Multiplatform.jar
```

For Windows installations, include the location of the JDK in your path before you execute the jar command.

A sub-directory named W1.V2.2.0.2.0 is created for both Unix and Windows platforms. The contents of the installation directory are identical for both platforms. The directory contains the install software for the application product.

Installing the Oracle Utilities Work and Asset Management Application Component

Follow these steps to install the Oracle Utilities Work and Asset Management application component:

1. Log in to the application server host as the administrator user ID (default cissys).
2. Change directory:

```
cd <install_dir>
```

where <install_dir> is the location where the Oracle Utilities Application Framework v4.3.0.6.0 base application component is installed.

3. Initialize the environment by running the appropriate command:

UNIX

```
./splenviron.sh -e <ENV NAME>
```

Windows

```
splenviron.cmd -e <ENV NAME>
```

4. Change to the <TEMPDIR>/W1.V2.2.0.2.0 directory.

where <install_dir> is the Oracle Utilities Work and Asset Management Application Component installation directory.

Note: On UNIX, ensure that you have the proper execute permission on install.sh.

UNIX

```
ksh ./install.sh
```

Windows Server

```
install.cmd
```

5. Initialize the environment by running the appropriate command:

UNIX

```
./splenviron.sh -e <ENV NAME>
```

Windows Server

```
splenviron.cmd -e <ENV NAME>
```

6. Generate the appviewer by following these steps.

- a. Change the directory.

```
cd <install_dir>/bin
```

where <install_dir> is Oracle Utilities Work and Asset Management Application Component installation directory.

- b. Run the script to generate the appviewer.

UNIX

```
ksh ./genappvieweritems.sh
```

Windows

```
genappvieweritems.cmd
```

Creating WebLogic Domain

Create the WebLogic native domain and deploy the application. For instructions refer to the *Native Installation Oracle Utilities Application Framework* (Doc Id: 1544969.1) white paper on My Oracle Support.

Creating Users (WAMUSER and ODMUSER)

To create WAMUSER and ODMUSER users follow these steps:

Note: These steps must be executed after creating the domain.

1. Login to WebLogic Admin console as a Admin user.
2. Navigate to **Security Realms > myrealm**.

3. Click **Users and Groups**.
4. On the **Users** tab, click **New**.
5. On the **Create a New User** tab, enter the **Name**, **Description**, and **Password** details in the respective fields.
6. Click **OK**.
A new user is created.
7. Click **Groups**.
8. Add the user created in step 6 to **cisusers** group.

Post Installation Verifications

After you complete the installation, verify the following:

1. Verify installation logs created under decompressed installer location for any errors.
2. Confirm installation logs do not contain any errors.
3. Confirm all the configurations are correct.
Refer to the [Installation and Configuration Worksheets](#) section for details.
4. Confirm that the database is ready.
5. Generate appviewer.
6. Start the application server.
For instructions, refer to the [Common Maintenance Activities](#) section.

At this point your installation is complete. Read the *Oracle Utilities Work and Asset Management Server Administration Guide* for more information on further configuring and operating the system.

Chapter 5

Installing Oracle Utilities Work and Asset Management - Demo Installation

This chapter provides instructions for setting up a demo application of Oracle Utilities Work and Asset Management useful for demonstration or training purposes, including:

- [Demo Installation Procedure](#)
- [Post Installation Verifications](#)

Before You Install

Oracle recommends that you do not clone the demonstration environment as a basis for a new production environment. The demonstration environment typically includes transactional data that will be irrelevant to your production environment and can cause unexpected issues if it is not purged correctly. The recommended process is to start a new production environment from a new installation and migrate "clean" system data (such as business objects and algorithms) and administrative data (such as sample activity types or other administrative entities) from the demonstration and/or test or development environments as applicable.

Please refer to the *Oracle Utilities Work and Asset Management Administrative User's Guide* for more information or contact Oracle Support.

Demo Installation Procedure

The demo installation procedure consists of:

- [Database Component Installation](#)
- [Application Component Installation](#)

Database Component Installation

Installation of the database component of Oracle Utilities Work and Asset Management must be complete before you can proceed with the following sections. Refer to the *Oracle Utilities Work and Asset Management Database Administrator's Guide*, which provides instructions on installing the database component with pre-populated demo data.

Application Component Installation

A successful installation consists of the following steps:

- [Installing the Oracle Utilities Application Framework Application Component v4.3.0.6.0](#)
- [Installing the Oracle Utilities Work and Asset Management Application Component](#)

Installing the Oracle Utilities Application Framework Application Component v4.3.0.6.0

This section describes how to install the application component of Oracle Utilities Application Framework, including:

- [Copying and Decompressing Install Media for the Oracle Utilities Application Framework Application Component](#)
- [Setting Permissions for the cistab file in UNIX for the Oracle Utilities Application Framework Application Component](#)
- [Installing the Oracle Utilities Application Framework Application Component](#)

Copying and Decompressing Install Media for the Oracle Utilities Application Framework Application Component

The Oracle Utilities Application Framework installation file is delivered in jar format for both UNIX and Windows platforms. If you are planning to install multiple Oracle Utilities Application Framework environments operated by different Oracle Utilities administrator user IDs, you must complete each of the following installation steps for each administrator user ID.

To copy and decompress the install media, follow these steps:

1. Log in to the application server host with the Oracle Utilities Application Framework administrator user ID.
2. Download “Oracle Utilities Application Framework v4.3.0.6.0 Multiplatform” from Oracle Software Delivery Cloud.
3. Create a temporary directory such as c:\ouaf\temp or /ouaf/temp. (Referred to below as <TEMPDIR>.)

Note: This directory must be located outside any current or other working Oracle Utilities application environment. All files that are placed in this directory as a part of the installation can be deleted after completing a successful installation.

4. Copy the file “FW-V4.3.0.6.0-Multiplatform.jar” from the delivered package to the <TEMPDIR>. If you are using FTP to transfer this file, remember to use the BINARY option for the FTP transfer.

5. Decompress the file:

```
cd <TEMPDIR>
jar -xvf FW-V4.3.0.6.0-Multiplatform.jar
```

Note: You will need to have Java JDK installed on the machine used to (un)jar the application server installation package. Please install the JDK that is supported for the install on your platform to be able to use the jar command.

Java packages are located at: <http://www.oracle.com/technetwork/java/archive-139210.html>

A sub-directory named “FW.V4.3.0.6.0” is created. It contains the installation software for the Oracle Utilities framework application server.

Setting Permissions for the cistab file in UNIX for the Oracle Utilities Application Framework Application Component

Every Oracle Utilities Application Framework environment installed on a server must be registered in the /etc/cistab file located on that server. On UNIX servers, generally only the root user ID has write permissions to the /etc directory. Since the installation process is run by the Oracle administrator user ID (cissys), this user ID may not be able to write to /etc/cistab table.

The install utility checks permissions and if it identifies a lack of the necessary permissions, it generates a script in the <TEMPDIR>/FW.V4.3.0.6.0 directory named cistab_<SPLENVIRON>.sh. Run the generated script using the root account before continuing with the installation process. The script initializes the cistab file in /etc directory (if it is the first Oracle Utilities Framework application environment on the server) and registers a new environment.

The generated script also changes the owner of /etc/cistab file to the Oracle Utilities Framework administrator user ID, so that the next time a new environment is created by the same Oracle Utilities Framework administrator user ID, you do not need to run the generated script with the root user ID. Instead the install utility itself proceeds with the registration.

If you are reinstalling an existing environment, only the validation of /etc/cistab entry is done by the install utility, no new registration occurs. The install utility interactively instructs you about every step that needs to occur in each specific case.

If you are planning to upgrade an existing environment you should take a backup first. The installation utility does not create an automatic backup of the existing environment.

Installing the Oracle Utilities Application Framework Application Component

This section outlines the steps for installing the application component of Oracle Utilities Application Framework.

1. Login to the Application Server host as administrator user ID (the default is cissys on UNIX) or as a user with administrator privileges (on Windows).
2. Change directory to the <TEMPDIR>/FW.V4.3.0.6.0 directory.
3. Set the ORACLE_CLIENT_HOME and PATH variables as Oracle Client Perl is required to run the installer.

UNIX

```
export ORACLE_CLIENT_HOME=<ORACLE CLIENT INSTALL LOCATION>
export PERL_HOME=${ORACLE_CLIENT_HOME}/perl
export PATH=${PERL_HOME}/bin:$PATH
export PERL5LIB=${PERL_HOME}/lib:${PERL_HOME}/lib/site_perl:<OUAF
                                Installer Decompressed location/data/bin/
perl>
export PERLLIB=${PERL_HOME}/lib:${PERL_HOME}/lib/site_perl:<OUAF
                                Installer Decompressed location/data/bin/
perl>
export LD_LIBRARY_PATH=${ORACLE_CLIENT_HOME}/lib:$LD_LIBRARY_PATH
```

Windows Server

```
set ORACLE_CLIENT_HOME=<ORACLE CLIENT INSTALL LOCATION>
set PERL_HOME=%ORACLE_CLIENT_HOME%\perl
set PATH=%PERL_HOME%\bin;%PATH%
```

4. Start the application installation utility by executing the appropriate script:

UNIX

```
ksh ./install.sh
```

Windows Server

```
install.cmd
```

5. The Oracle Utilities Application Framework specific menu displays.
6. Follow the messages and instructions that are produced by the application installation utility.
7. Select each menu item to configure the values. For detailed description of the values, refer to the [Installation and Configuration Worksheets](#) section.

The table below lists the mandatory configurable items. Where you see <Mandatory>, enter values suitable to your environment.

You can assign default values to the rest of the menu items.

```
*****
* Environment Installation Options *
*****
1. Environment ID, Roles, Third Party Software Configuration

Environment ID                                <Default>

Server Roles                                batch, online

Oracle Client Home Directory                <Mandatory for Initial Install>

Web Java Home Directory                    <Mandatory for Initial Install>
```

Hibernate JAR Directory	<Mandatory for Initial Install>
ONS JAR Directory	<Optional>
Web Application Server Home Directory	<Mandatory for Initial Install>
Additional JAR Directory	<Optional>
ADF Home Directory	<Optional>
OIM OAM Enabled Environment	false

2. Keystore Options

Import Keystore Directory	<Default>
Store Type	<Mandatory>
Alias	<Mandatory>
Alias Key Algorithm	AES
Alias Key Size	128
HMAC Alias	ouaf.system.hmac
Padding	PKCS5Padding
Mode	CBC

50. Environment Installation Options

Environment Mount Point	<Mandatory>
Log Files Mount Point	<Mandatory>
Environment Name	<Mandatory>
Install Application Viewer Module	true
Install Sample CM Source Code	true

Each item in the above list should be configured for a successful install.

Choose option (1,2,50, <P> Process, <X> Exit):

Once you enter 'P' after entering mandatory input values in the above menu, the system populates another configuration menu.

```
*****
* Environment Configuration *
*****
```

1. Environment Description

Environment Description	<Mandatory>
-------------------------	-------------

2. Business Application Server Configuration

Business Server Host	<Mandatory> - Hostname on which application being installed
Business Server Application Name	SPLService
MPL Admin Port Number	<Mandatory> - Multipurpose Listener Port
MPL Automatic startup	false

3. Web Application Server Configuration

Web Server Host	<Mandatory>
WebLogic SSL Port Number	<Mandatory>
WebLogic Console Port Number	<Mandatory>
Web Context Root	ouaf
WebLogic JNDI User ID	<Mandatory>
WebLogic JNDI Password	<Mandatory>
WebLogic Server Name	myserver
Web Server Application Name	SPLWeb
Deploy using Archive Files	true
Deploy Application Viewer Module	true
Enable The Unsecured Health Check Service	false
MDB RunAs User ID	<Optional>
Super User IDs	<Mandatory>

4. Database Configuration

Application Server Database User ID	<Mandatory>
Application Server Database Password	<Mandatory>
MPL Database User ID	<Mandatory>
MPL Database Password	<Mandatory>
XAI Database User ID	<Mandatory>
XAI Database Password	<Mandatory>
Batch Database User ID	<Mandatory>
Batch Database Password	<Mandatory>
Web JDBC DataSource Name	<Optional>
Database Name	<Mandatory>
Database Server	<Mandatory>
Database Port	1521

ONS Server Configuration	<Optional>
Database Override Connection String	<Optional>
Character Based Database	false
Oracle Client Character Set	AMERICAN_AMERICA.AL32UTF8

5. General Configuration Options

Batch RMI Port	<mandatory>
RMI Port number for JMX Business	<optional>
RMI Port number for JMX Web	<optional>
JMX Enablement System User ID	<optional>
JMX Enablement System Password	<optional>
Coherence Cluster Name	<mandatory>
Coherence Cluster Address	<mandatory>
Coherence Cluster Mode	prod<Mandatory>
Coherence Cluster Port	<Mandatory>

6. OUAF TrustStore Options

Import TrustStore Directory	<Mandatory> for Prod
Store Type	JCEKS
Alias	ouaf.system
Alias Key Algorithm	AES
Alias Key Size	128
HMAC Alias	ouaf.system.hmac

Each item in the above list should be configured for a successful install.

Choose option (1,2,3,4,5,6 <P> Process, <X> Exit):

10. When the parameter setup is complete, proceed with the option P. The utility writes the configured parameters and their values into the configuration file.

11. Once the install or upgrade has finished, the installation log location is displayed on the screen. If the log does not list any error messages, the installation of the application component of Oracle Utilities Application Framework is complete.

Installing the Oracle Utilities Work and Asset Management Application Component

This section describes how to install the application component of Oracle Utilities Work and Asset Management, including:

- [Copying and Decompressing Oracle Utilities Work and Asset Management Install Media](#)
- [Installing the Oracle Utilities Work and Asset Management Application Component](#)
- [Creating WebLogic Domain](#)
- [Creating Users \(WAMUSER and ODMUSER\)](#)

Copying and Decompressing Oracle Utilities Work and Asset Management Install Media

The Oracle Utilities Work and Asset Management installation file is delivered in jar format for both UNIX and Windows platforms.

To copy and decompress the install media, follow these steps:

1. Log in to the application server host as the administrator user ID (default cissys). This is the same user ID that was used to install the Oracle Utilities Application Framework.
2. Download the Oracle Utilities Work and Asset Management v2.2.0.2 Multiplatform zip file from Oracle Software Delivery Cloud.
3. Create a <TEMPDIR> directory on the host server, which is independent of any current or other working Oracle Utilities Work and Asset Management application environment.
This can be the same <TEMPDIR> used during the installation of the Oracle Utilities Application Framework.
4. Copy the file, WAM-V2.2.0.2.0-Multiplatform.jar, in the delivered package to a <TEMPDIR> on your host server. If you are using FTP to transfer this file, remember to use the BINARY option for the FTP transfer.
5. Decompress the file:

```
cd <TEMPDIR>
jar -xvf WAM-V2.2.0.2.0-Multiplatform.jar
```

For Windows installations, include the location of the JDK in your path before you execute the jar command.

A sub-directory named W1.V2.2.0.2.0 is created for both Unix and Windows platforms. The contents of the installation directory are identical for both platforms. The directory contains the install software for the application product.

Installing the Oracle Utilities Work and Asset Management Application Component

Follow these steps to install the Oracle Utilities Work and Asset Management application component:

1. Log in to the application server host as the administrator user ID (default cissys).
2. Change directory:

```
cd <install_dir>
```

where <install_dir> is the location where the Oracle Utilities Application Framework v4.3.0.6.0 base application component is installed.

3. Initialize the environment by running the appropriate command:

UNIX

```
./splenviron.sh -e <ENV NAME>
```

Windows

```
splenviron.cmd -e <ENV NAME>
```

4. Change to the <TEMPDIR>/W1.V2.2.0.2.0 directory.

where <install_dir> is the Oracle Utilities Work and Asset Management Application Component installation directory.

Note: On UNIX, ensure that you have the proper execute permission on install.sh.

UNIX

```
ksh ./install.sh
```

Windows Server

```
install.cmd
```

5. Initialize the environment by running the appropriate command:

UNIX

```
./splenviron.sh -e <ENV NAME>
```

Windows Server

```
splenviron.cmd -e <ENV NAME>
```

6. Generate the appviewer by following these steps.

- a. Change the directory.

```
cd <install_dir>/bin
```

where <install_dir> is Oracle Utilities Work and Asset Management Application Component installation directory.

- b. Run the script to generate the appviewer.

UNIX

```
ksh ./genappvieweritems.sh
```

Windows

```
genappvieweritems.cmd
```

Creating WebLogic Domain

Create the WebLogic native domain and deploy the application. For instructions refer to the *Native Installation Oracle Utilities Application Framework* (Doc Id: 1544969.1) white paper on My Oracle Support.

Creating Users (WAMUSER and ODMUSER)

To create WAMUSER and ODMUSER users follow these steps:

Note: These steps must be executed after creating the domain.

1. Login to WebLogic Admin console as a Admin user.
2. Navigate to **Security Realms > myrealm**.

3. Click **Users and Groups**.
4. On the **Users** tab, click **New**.
5. On the **Create a New User** tab, enter the **Name**, **Description**, and **Password** details in the respective fields.
6. Click **OK**.
A new user is created.
7. Click **Groups**.
8. Add the user created in step 6 to **cisusers** group.

Post Installation Verifications

After you complete the installation, verify the following:

1. Verify installation logs created under decompressed installer location for any errors.
2. Confirm installation logs do not contain any errors.
3. Confirm all the configurations are correct.
Refer to the [Installation and Configuration Worksheets](#) section for details.
4. Confirm that the database is ready.
5. Generate appviewer.
6. Start the application server.
For instructions, refer to the [Common Maintenance Activities](#) section.

At this point your installation is complete. Read the *Oracle Utilities Work and Asset Management Server Administration Guide* for more information on further configuring and operating the system.

Chapter 6

Upgrading Oracle Utilities Work and Asset Management

This chapter provides instructions for upgrading Oracle Utilities Work and Asset Management, including:

- [Upgrade Paths](#)
- [Before You Upgrade](#)
- [Upgrade Procedure](#)
- [Post Upgrade Verifications](#)
- [Installing Service Packs and Patches](#)

Upgrade Paths

The following upgrade paths are supported:

- from v2.2.0.0.0 to v2.2.0.2.0
- from v2.2.0.1.0 to v2.2.0.2.0

Note: Before you can upgrade you must have a prior version installed. Otherwise, you should follow the procedures described in the [Initial Installation Procedure](#) section of the *Oracle Utilities Work and Asset Management Installation Guide*.

Before You Upgrade

Review the list of operating system, application server and database server combinations that this version of Oracle Utilities Work and Asset Management is certified to operate on, in the [Supported Platforms and Hardware Requirements](#) section.

For further assistance, contact My Oracle Support before you upgrade.

Note: If you are upgrading a previously installed application server, it is recommended that you make a backup before you start the upgrade procedure. The upgrade installation will remove your existing environment including your configurations.

Upgrade Procedure

The upgrade installation procedure consists of:

- [Database Component Upgrade](#)
- [Application Component Upgrade](#)

Database Component Upgrade

Upgrade of the database component of Oracle Utilities Work and Asset Management must be complete before you can proceed with the following sections. Refer to the “Upgrade Install” section in the *Oracle Utilities Work and Asset Management Database Administrator Guide*, which provides instructions on upgrading the database component.

Application Component Upgrade

A successful upgrade consists of the following steps:

- [Upgrading the Oracle Utilities Application Framework Application Component](#)
- [Upgrading the Oracle Utilities Work and Asset Management Application Component](#)

Upgrading the Oracle Utilities Application Framework Application Component

This section describes how to upgrade the application component of Oracle Utilities Application Framework, including:

- [Copying and Decompressing Install Media for the Oracle Utilities Application Framework Application Component](#)
- [Setting Permissions for the cistab file in UNIX for the Oracle Utilities Application Framework Application Component](#)
- [Upgrading the Oracle Utilities Application Framework Application Component](#)

Copying and Decompressing Install Media for the Oracle Utilities Application Framework Application Component

The Oracle Utilities Application Framework installation file is delivered in jar format for both UNIX and Windows platforms. If you are planning to install multiple Oracle Utilities Application Framework environments operated by different Oracle Utilities administrator user IDs, you must complete each of the following installation steps for each administrator user ID.

To copy and decompress the install media, follow these steps:

1. Log in to the application server host with the Oracle Utilities Application Framework administrator user ID.
2. Download “Oracle Utilities Application Framework v4.3.0.6.0 Multiplatform” from Oracle Software Delivery Cloud.
3. Create a temporary directory such as c:\ouaf\temp or /ouaf/temp. (Referred to below as <TEMPDIR>.)

Note: This directory must be located outside any current or other working Oracle Utilities application environment. All files that are placed in this directory as a part of the installation can be deleted after completing a successful installation.

4. Copy the file “FW-V4.3.0.6.0-Multiplatform.jar” from the delivered package to the <TEMPDIR>. If you are using FTP to transfer this file, remember to use the BINARY option for the FTP transfer.
5. Decompress the file:

```
cd <TEMPDIR>
jar -xvf FW-V4.3.0.6.0-Multiplatform.jar
```

Note: You will need to have Java JDK installed on the machine used to (un)jar the application server installation package. Please install the JDK that is supported for the install on your platform to be able to use the jar command.

Java packages are located at: <http://www.oracle.com/technetwork/java/archive-139210.html>

A sub-directory named “FW.V4.3.0.6.0” is created. It contains the installation software for the Oracle Utilities framework application server.

Setting Permissions for the cistab file in UNIX for the Oracle Utilities Application Framework Application Component

Every Oracle Utilities Application Framework environment installed on a server must be registered in the /etc/cistab file located on that server. On UNIX servers, generally only

the root user ID has write permissions to the /etc directory. Since the installation process is run by the Oracle administrator user ID (cissys), this user ID may not be able to write to /etc/cistab table.

The install utility checks permissions and if it identifies a lack of the necessary permissions, it generates a script in the <TEMPDIR>/FW.V4.3.0.6.0 directory named cistab_<SPLENVIRON>.sh. Run the generated script using the root account before continuing with the installation process. The script initializes the cistab file in /etc directory (if it is the first Oracle Utilities Framework application environment on the server) and registers a new environment.

The generated script also changes the owner of /etc/cistab file to the Oracle Utilities Framework administrator user ID, so that the next time a new environment is created by the same Oracle Utilities Framework administrator user ID, you do not need to run the generated script with the root user ID. Instead the install utility itself proceeds with the registration.

If you are reinstalling an existing environment, only the validation of /etc/cistab entry is done by the install utility, no new registration occurs. The install utility interactively instructs you about every step that needs to occur in each specific case.

If you are planning to upgrade an existing environment you should take a backup first. The installation utility does not create an automatic backup of the existing environment.

Upgrading the Oracle Utilities Application Framework Application Component

This section outlines the steps for upgrading the application component of Oracle Utilities Application Framework.

1. Login to the Application Server host as administrator (the default is cissys on **UNIX**) or as a user with Administrator privileges (on Windows).
2. Change directory to the bin folder.

```
cd <install_dir>/bin
```

where <install_dir> is the location where the Oracle Utilities Application Framework v4.3.0.6.0 base application component is installed.

3. Initialize the environment by running the appropriate command:

UNIX

```
./splenvron.sh -e <ENV_NAME>
```

Windows

```
splenvron.cmd -e <ENV_NAME>
```

4. Change directory to the <TEMP_DIR>/FWV4.3.0.6.0 directory.

NOTE: While installing the FW v4.3.0.6.0 from the previous environment to Oracle Utilities Work and Asset Management v2.2.0.2.0 the install utility removes the existing environment and re-creates the environment. Take a backup before you proceed with installing FW v4.3.0.6.0 to retain any configurations for future reference.

UNIX

```
export ORACLE_CLIENT_HOME=<ORACLE CLIENT INSTALL LOCATION> export
PERL_HOME=${ORACLE_CLIENT_HOME}/perl
```

```
export PATH=${PERL_HOME}/bin:$PATH
export PERL5LIB=${PERL_HOME}/lib:${PERL_HOME}/lib/site_perl:<OUAF
Installer Decompressed location/data/bin/perl>
export PERLLIB=${PERL_HOME}/lib:${PERL_HOME}/lib/site_perl:<OUAF
Installer Decompressed location/data/bin/perl>
export LD_LIBRARY_PATH=${ORACLE_CLIENT_HOME}/lib:$LD_LIBRARY_PATH
```

Windows Server

```
set ORACLE_CLIENT_HOME=<ORACLE CLIENT INSTALL LOCATION> set
PERL_HOME=%ORACLE_CLIENT_HOME%\perl set
PATH=%PERL_HOME%\bin;%PATH%
```

5. Start the application installation utility by executing the appropriate script:

UNIX

```
ksh ./install.sh
```

Windows Server

```
install.cmd
```

6. The Oracle Utilities Application Framework specific menu displays.
7. Follow the messages and instructions that are produced by the application installation utility.
8. Select each menu item to configure the values. For detailed description of the values, refer to the [Installation and Configuration Worksheets](#) section.

The table below lists the mandatory configurable items. Where you see <Mandatory>, enter values suitable to your environment.

You can assign default values to the rest of the menu items.

```
*****
* Environment Installation Options *
*****
```

1. Environment ID, Roles, Third Party Software Configuration

Environment ID	<Default>
Server Roles	batch, online
Oracle Client Home Directory	<Mandatory for Initial Install>
Web Java Home Directory	<Mandatory for Initial Install>
Hibernate JAR Directory	<Mandatory for Initial Install>
ONS JAR Directory	<Optional>
Web Application Server Home Directory	<Mandatory for Initial Install>
Additional JAR Directory	<Optional>
ADF Home Directory	<Optional>
OIM OAM Enabled Environment	false

2. Keystore Options

Import Keystore Directory	<Default>
---------------------------	-----------

Store Type	<Mandatory>
Alias	<Mandatory>
Alias Key Algorithm	AES
Alias Key Size	128
HMAC Alias	ouaf.system.hmac
Padding	PKCS5Padding
Mode	CBC

50. Environment Installation Options

Environment Mount Point	<Mandatory>
Log Files Mount Point	<Mandatory>
Environment Name	<Mandatory>
Install Application Viewer Module	true
Install Sample CM Source Code	true

Each item in the above list should be configured for a successful install.

Choose option (1,2,50, <P> Process, <X> Exit):

Once you enter 'P' after entering mandatory input values in the above menu, the system populates another configuration menu.

```
*****
* Environment Configuration *
*****
```

1. Environment Description

Environment Description	<Mandatory>
-------------------------	-------------

2. Business Application Server Configuration

Business Server Host	<Mandatory> - Hostname on which application being installed
Business Server Application Name	SPLService
MPL Admin Port Number	<Mandatory> - Multipurpose Listener Port
MPL Automatic startup	false

3. Web Application Server Configuration

Web Server Host	<Mandatory>
WebLogic SSL Port Number	<Mandatory>

WebLogic Console Port Number	<Mandatory>
Web Context Root	ouaf
WebLogic JNDI User ID	<Mandatory>
WebLogic JNDI Password	<Mandatory>
WebLogic Server Name	myserver
Web Server Application Name	SPLWeb
Deploy using Archive Files	true
Deploy Application Viewer Module	true
Enable The Unsecured Health Check Service	false
MDB RunAs User ID	<Optional>
Super User IDs	<Mandatory>

4. Database Configuration

Application Server Database User ID	<Mandatory>
Application Server Database Password	<Mandatory>
MPL Database User ID	<Mandatory>
MPL Database Password	<Mandatory>
XAI Database User ID	<Mandatory>
XAI Database Password	<Mandatory>
Batch Database User ID	<Mandatory>
Batch Database Password	<Mandatory>
Web JDBC DataSource Name	<Optional>
Database Name	<Mandatory>
Database Server	<Mandatory>
Database Port	1521
ONS Server Configuration	<Optional>
Database Override Connection String	<Optional>
Character Based Database	false
Oracle Client Character Set NLS_LANG	AMERICAN_AMERICA.AL32 UTF8

5. General Configuration Options

Batch RMI Port	<mandatory>
RMI Port number for JMX Business	<optional>
RMI Port number for JMX Web	<optional>
JMX Enablement System User ID	<optional>

JMX Enablement System Password	<optional>
Coherence Cluster Name	<mandatory>
Coherence Cluster Address	<mandatory>
Coherence Cluster Mode	prod<Mandatory>
Coherence Cluster Port	<Mandatory>

6. OUAF TrustStore Options

Import TrustStore Directory	<Mandatory> for Prod
Store Type	JCEKS
Alias	ouaf.system
Alias Key Algorithm	AES
Alias Key Size	128
HMAC Alias	ouaf.system.hmac

Each item in the above list should be configured for a successful install.

Choose option (1,2,3,4,5,6 <P> Process, <X> Exit):

10. When the parameter setup is complete, proceed with the option P. The utility writes the configured parameters and their values into the configuration file.

11. Once the install or upgrade has finished, the installation log location is displayed on the screen. If the log does not list any error messages, the installation of the application component of Oracle Utilities Application Framework is complete.

Upgrading the Oracle Utilities Work and Asset Management Application Component

This section describes how to install the application component of Oracle Utilities Work and Asset Management, including:

- [Copying and Decompressing Oracle Utilities Work and Asset Management Install Media](#)
- [Upgrading the Oracle Utilities Work and Asset Management Application Component](#)
- [Creating WebLogic Domain](#)
- [Creating Users \(WAMUSER and ODMUSER\)](#)

Copying and Decompressing Oracle Utilities Work and Asset Management Install Media

The Oracle Utilities Work and Asset Management installation file is delivered in jar format for both UNIX and Windows platforms.

To copy and decompress the install media, follow these steps:

1. Log in to the application server host as the administrator user ID (default cissys). This is the same user ID that was used to install the Oracle Utilities Application Framework.
2. Download the Oracle Utilities Work and Asset Management v2.2.0.2 Multiplatform zip file from Oracle Software Delivery Cloud.
3. Create a <TEMPDIR> directory on the host server, which is independent of any current or other working Oracle Utilities Work and Asset Management application environment. This can be the same <TEMPDIR> used during the installation of the Oracle Utilities Application Framework.
4. Copy the file, WAM-V2.2.0.2.0-Multiplatform.jar, in the delivered package to a <TEMPDIR> on your host server. If you are using FTP to transfer this file, remember to use the BINARY option for the FTP transfer.
5. Decompress the file:


```
cd <TEMPDIR>
jar -xvf WAM-V2.2.0.2.0-Multiplatform.jar
```

For Windows installations, include the location of the JDK in your path before you execute the jar command.

A sub-directory named W1.V2.2.0.2.0 is created for both Unix and Windows platforms. The contents of the installation directory are identical for both platforms. The directory contains the install software for the application product.

Upgrading the Oracle Utilities Work and Asset Management Application Component

Follow these steps to upgrade the Oracle Utilities Work and Asset Management application component:

1. Log in to the application server host as the administrator user ID (default cissys).
2. Change directory:


```
cd <install_dir>
```

where <install_dir> is the location where the Oracle Utilities Application Framework v4.3.0.6.0 base application component is installed.

3. Initialize the environment by running the appropriate command:

UNIX

```
./splenviron.sh -e <ENV NAME>
```

Windows

```
splenviron.cmd -e <ENV NAME>
```

4. Change to the <TEMPDIR>/W1.V2.2.0.2.0 directory.

where <install_dir> is the Oracle Utilities Work and Asset Management Application Component installation directory.

Note: On UNIX, ensure that you have the proper execute permission on install.sh.

UNIX

```
ksh ./install.sh
```

Windows Server

```
install.cmd
```

5. Initialize the environment by running the appropriate command:

UNIX

```
./splenviron.sh -e <ENV NAME>
```

Windows Server

```
splenviron.cmd -e <ENV NAME>
```

6. Generate the appviewer by following these steps.

- a. Change the directory.

```
cd <install_dir>/bin
```

where <install_dir> is Oracle Utilities Work and Asset Management Application Component installation directory.

- b. Run the script to generate the appviewer.

UNIX

```
ksh ./genappvieweritems.sh
```

Windows

```
genappvieweritems.cmd
```

Creating WebLogic Domain

Create the WebLogic native domain and deploy the application. For instructions refer to the *Native Installation Oracle Utilities Application Framework* (Doc Id: 1544969.1) white paper on My Oracle Support.

Creating Users (WAMUSER and ODMUSER)

To create WAMUSER and ODMUSER users follow these steps:

Note: These steps must be executed after creating the domain.

1. Login to WebLogic Admin console as a Admin user.
2. Navigate to **Security Realms > myrealm**.
3. Click **Users and Groups**.
4. On the **Users** tab, click **New**.
5. On the **Create a New User** tab, enter the **Name**, **Description**, and **Password** details in the respective fields.
6. Click **OK**.
A new user is created.
7. Click **Groups**.
8. Add the user created in step 6 to **cisusers** group.

Post Upgrade Verifications

After you complete the upgrade, verify the following:

1. Verify installation logs created under decompressed installer location for any errors.
2. Confirm installation logs do not contain any errors.
3. Confirm all the configurations are correct.
Refer to the [Installation and Configuration Worksheets](#) section for details.
4. Confirm that the database is ready.
5. Generate appviewer.
6. Start the application server.
For instructions, refer to the [Common Maintenance Activities](#) section.

At this point your installation is complete. Read the *Oracle Utilities Work and Asset Management Server Administration Guide* for more information on further configuring and operating the system.

Installing Service Packs and Patches

Periodically, Oracle Utilities releases a service pack of single fixes for its products. A service pack is an update to an existing release that includes solutions to known problems and other product enhancements. A service pack is not a replacement for an installation, but a pack consisting of a collection of changes and additions for it. The service pack may include changes to be applied to the application server, the database, or both. The service pack includes all files necessary for installing the collection of changes, including installation instructions.

Between services packs, Oracle Utilities releases patches to fix individual bugs. For information on installing patches, refer to knowledge base article ID 974985.1 on My Oracle Support.

Service packs and patches can be downloaded from My Oracle Support (<https://support.oracle.com/>).

Chapter 7

Additional Tasks

This chapter describes tasks that should be completed after installing Oracle Utilities Work and Asset Management, including:

- [Importing Self-Signed Certificates](#)
- [Customizing Configuration Files](#)
- [Customizing Centralized Properties](#)
- [Integrating Existing Customer Modifications](#)
- [Generating the Application Viewer](#)
- [Building Javadocs Indexes](#)
- [Configuring the Environment for Batch Processing](#)
- [Customizing the Logo](#)
- [Creating WebLogic Domain](#)
- [Deploying Inbound WebServices \(IWS\)](#)
- [Domain Templates](#)
- [Database Patching](#)

Importing Self-Signed Certificates

If you are using self-signed certificates and the Inbound Web Services (IWS) feature, then it is necessary to import these certificates into the Oracle Utilities Application Framework truststore file.

Perform the following commands:

1. Start WebLogic.
2. Initialize a command shell and setup the environment by running the following:

UNIX

```
$SPLEBASE/bin/splenvron.sh -e <YOUR_ENVIRONMENT_NAME>
```

For example:

```
/ouaf/TEST_ENVIRON1/bin/splenvron.sh -e TEST_ENVIRON1
```

Windows

```
%SPLEBASE%\bin\splenvron.cmd -e <YOUR_ENVIRONMENT_NAME>
```

For example:

```
D:\ouaf\TEST_ENVIRON1\bin\splenvron.cmd -e TEST_ENVIRON1
```

3. Execute the following script to generate all information:

UNIX

```
$SPLEBASE/bin/initialSetup.sh -i
```

Windows

```
%SPLEBASE%\bin\initialSetup.cmd -i
```

Note: This needs to be performed before deploying the IWS application.

Customizing Configuration Files

If you wish to make customer modifications to various configuration files, create a 'CM copy' of the template file or a user exit. This preserves your changes whenever initialSetup is executed; otherwise, your changes to the delivered template files will be lost if it is patched in the future:

For example, to customize hibernate properties of the SPLWeb web application, perform the following:

1. Locate the hibernate.properties.template in the \$SPLEBASE/templates directory.
2. Copy the file to cm.hibernate.properties.template.
3. Apply your changes to cm.hibernate.properties.template.
4. Update application war file with the latest changes by executing the following command:

UNIX

```
$SPLEBASE/bin/initialSetup.sh
```

Windows

```
%SPLEBASE%\bin\initialSetup.cmd
```

Refer to the Oracle Utilities Application Framework SDK documentation for more details.

Customizing Centralized Properties

The template process, which is part of the initialSetup step, will look at the files etc/cm_properties.ini (this can be created as a Customer Customization). If the file exists, the content will be processed for the relevant properties.

NOTE: Product teams might use this file format: etc/<PROD>_properties.ini (where <PROD> could be one of the list of installed products included in etc/PRODUCT.txt). If it exists it will be processed as well.

Example cm_properties.ini

The following denote the type of entries that could be included into cm_properties.ini and relevant type of action:

- <PROPERTIES_FILE>:<PROPERTY_NAME>=<VALUE>
 - Override <PROPERTY_NAME> in <PROPERTIES_FILE> with <VALUE> if exists.
 - Insert <PROPERTY_NAME> in <PROPERTIES_FILE> with <VALUE> if it doesn't exist.
- <PROPERTY_NAME>=<VALUE>
 - Override <PROPERTY_NAME> in all property files with <VALUE>, if <PROPERTY_NAME> exists
- <PROPERTIES_FILE>:<PROPERTY_NAME>=[DELETE]
 - Remove <PROPERTY_NAME> from <PROPERTIES_FILE> if exists.
- <PROPERTY_NAME>=[DELETE]
 - Remove <PROPERTY_NAME> from all property files, if <PROPERTY_NAME> exists.

Template example -> hibernate.service.properties.template:

```
hibernate.user = @DBUSER@
hibernate.pass = @DBPASS@
hibernate.ucp.validate_connection = true
```

Sample ENVIRON.INI

The following is an example ENVIRON>INI:

```
DBUSER=cisadm
```

Sample cm_properties.ini

The following is the content of an example cm_properties.ini:

```
hibernate.service.properties.template:hibernate.user=clouduser
hibernate.password=cloudpwd
hibernate.iws.properties.template:hibernate.user=clouduser
hibernate.service.properties.template:hibernate.ucp.validate_connection=[DELETE]
hibernate.service.properties.template:new.property=test
```

Result of hibernate.service.properties generated properties file

The following is a sample result of hibernate.service.properties generated properties file:

```
### The following line was overridden because <PROD>_properties.ini
file setting:
hibernate.user=clouduser
### The following line was overridden because <PROD>_properties.ini
file setting:
hibernate.password=cloudpwd
### The following line was deleted because <PROD>_properties.ini
file setting:
# hibernate.ucp.validate_connection = true
### The following line was appended because <PROD>_properties.ini
file setting:
new.property = test
```

Result of hibernate.iws.properties generated properties file

The following is a sample result of hibernate.iws.properties generated properties file:

```
### The following line was overridden because <PROD>_properties.ini
file setting:
hibernate.user=clouduser
### The following line was overridden because <PROD>_properties.ini
file setting:
hibernate.password=cloudpwd
```

Integrating Existing Customer Modifications

Existing Customer Modifications (CM) applied to an application server on an earlier release cannot be applied directly to a later version. CM code needs to be applied from an SDK version compatible with this release.

Refer to SDK documentation for more information about migrating CM code.

Generating the Application Viewer

You may extend application viewer capabilities within an environment by generating additional items. These include information about algorithm types, algorithms, maintenance objects and data dictionary information. The Javadoc indexes are also re-built.

To generate the additional items in the application viewer, perform the following:

1. Shut down the environment.
2. Initialize a command shell and setup the environment by running the following:

UNIX

```
$SPLEBASE/bin/splenvron.sh -e <YOUR_ENVIRONMENT_NAME>
```

For example:

```
/ouaf/TEST_ENVIRON1/bin/splenviron.sh -e TEST_ENVIRON1
```

Windows

```
%SPLEBASE%\bin\splenviron.cmd -e <YOUR_ENVIRONMENT_NAME>
```

For example:

```
D:\ouaf\TEST_ENVIRON1\bin\splenviron.cmd -e TEST_ENVIRON1
```

3. Execute the following script to generate all information.

UNIX

```
ksh $SPLEBASE/bin/genappvieweritems.sh
```

Windows Server

```
%SPLEBASE%\bin\genappvieweritems.cmd
```

4. Restart your application.

Building Javadocs Indexes

Rebuilding Javadoc indexes is already part of generating application viewer above. However, there are times when you need to run it separately. For example, this is required after customer modifications (CM) have been applied to an environment when it includes Java code.

Perform the following to rebuild the Javadoc indexes.

Windows

```
%SPLEBASE%\bin\buildJavadocsIndex.cmd
```

UNIX

```
ksh $SPLEBASE/bin/buildJavadocsIndex.sh
```

Configuring the Environment for Batch Processing

See the *Server Administration Guide* for information on configuring the environment for batch processing.

Customizing the Logo

To replace the Oracle Utilities logo on the main menu with another image, put the new image <customer_logo_file>.png file into the directory \$SPLEBASE/etc/conf/root/cm and create a new “External” Navigation Key called CM_logoImage. To do that, run the Oracle Utilities application from the browser with the parameters: `http://<hostname>:<port>/cis.jsp?utilities=true&tools=true`.

From the Admin menu, select Navigation Key.

Add the above Navigation Key with its corresponding URL Override path.

The syntax for the URL path is:

Windows Server

http://<host name>:<port>/<Web Context>/cm/<customer_logo_file>.png

UNIX:

http://<host name>:<port>/<Web Context>/cm/<customer_logo_file>.png

The root directory may be deployed in war file format for runtime environment (SPLApp.war). Use provided utilities to incorporate your cm directory into SPLApp.war file.

Creating WebLogic Domain

Create the WebLogic native domain and deploy the application. For instructions refer to the *Native Installation Oracle Utilities Application Framework* (Doc ID: 1544969.1) white paper on My Oracle Support.

Creating Users (WAMUSER and ODMUSER)

To create WAMUSER and ODMUSER users follow these steps:

Note: These steps must be executed after creating the domain.

1. Login to WebLogic Admin console as a Admin user.
2. Navigate to **Security Realms > myrealm**.
3. Click **Users and Groups**.
4. On the **Users** tab, click **New**.
5. On the **Create a New User** tab, enter the **Name**, **Description**, and **Password** details in the respective fields.
6. Click **OK**.
A new user is created.
7. Click **Groups**.
8. Add the user created in step 6 to **cisusers** group.

Deploying Inbound WebServices (IWS)

All existing XAI Inbound Services have been duplicated as Inbound Web Services as the application moves toward deprecation of XAI and full transition to IWS in the next release. The duplicated services are designed to work seamlessly in this release, and customers providing custom services are encouraged to migrate to IWS to take full advantage of the new, more efficient Web service technology.

For more information on migrating from XAI to IWS, please refer to *Migrating from XAI to IWS Oracle Utilities Application Framework* (Doc ID 1644914.1) on My Oracle Support.

Note: This is an optional step for customers using IWS instead of XAI services.

Follow these steps to deploy IWS:

UNIX

1. Execute initialSetup.sh.

```
cd $SPLEBASE/bin
ksh ./initialSetup.sh -i
```

2. Set the classpath.

```
$ CLASSPATH=$WL_HOME/server/lib/weblogic.jar:$CLASSPATH
$ export CLASSPATH
$ cd $SPLEBASE/bin
```

STEP 1: Connect to WebLogic domain:

```
connect('Username', 'Password', "t3s://hostname:PortNo")
```

STEP 2: Store the user config details using the below wlst command after connecting to the WebLogic domain.

```
storeUserConfig(userconfig, userkey)
where userconfig should point to $SPLEBASE/etc/.wlsuserconfig
      userkey should point to $SPLEBASE/etc/.wlsuserkey
```

For more details about storeUserConfig, refer to the *WebLogic Administration Guide* at:

<https://docs.oracle.com/middleware/1221/wls/WLSTC/reference.htm#WLSTC428>

3. Exit the WLST connection using the following command:

```
exit()
```

4. Execute the command below in \$SPLEBASE/bin.

Please note that the application server should be up before running the command.

```
ksh ./iwsdeploy.sh
```

Windows

1. Execute initialSetup.cmd:

```
cd %SPLEBASE%\bin initialSetup.cmd -i
```

2. Set the classpath:

```
set CLASSPATH=%WL_HOME%\server\lib\weblogic.jar;%CLASSPATH%
$ cd $SPLEBASE/bin
```

STEP 1: Connect to WebLogic domain:

```
connect('Username', 'Password', "t3s://hostname:PortNo")
```

STEP 2: Store the user config details using the below wlst command after connecting to the WebLogic domain.

```
storeUserConfig(userconfig, userkey)
where userconfig should point to $SPLEBASE/etc/.wlsuserconfig
      userkey should point to $SPLEBASE/etc/.wlsuserkey
```

For more details about storeUserConfig, refer to the *WebLogic Administration Guide* at:

<https://docs.oracle.com/middleware/1221/wls/WLSTC/reference.htm#WLSTC428>

3. Exit the WLST connection using the following command:

```
exit()
```

4. Execute the command below in \$SPLEBASE/bin.

Please note that the application server should be up before running the command.

```
iwsdeploy.cmd
```

Domain Templates

The intended use of the domain templates is for native/clustered installation of the Oracle Utilities Application Framework environment into a Weblogic domain. The domain template(s) defines the core set of resources within a Weblogic domain, including an Administration Server along with the basic configuration information for a Oracle Utilities Application Framework based application. The domain template is a “snapshot” of the delivered embedded “splapp” domain. When working with domain templates you will need to manage the application (stopping, starting, deployment, undeployment) utilizing the Weblogic delivered utilities.

- Install and configure application stack (Oracle Utilities Application Framework and the product application)

Note: Environment will need to be configuring to deploy in ear format.

- Review domain templates (Simple /Complex)
- Execute config.sh and enter the path of the domain template file
- Configure domain
- Complete domain configuration

Note: Configure nodemanager.properties and setDomainEnv.sh

- Update SPLEBASE (ENVIRON.INI)

Detailed Description

The product installation includes a two predefined WebLogic Server Domain templates. The delivered domain templates are located under the SPLEBASE:

\$SPLEBASE/tools/domaintemplates

- Oracle-Utilities-Simple-Unix-12.2.1.1.0.jar (Unix generic)
- Oracle-Utilities-Complex-Unix-12.2.1.1.0.jar (Unix generic)

The Simple Domain Template is for use with one machine and does not include a WebLogic cluster, this domain configuration is similar to current delivered embedded splapp domain, with the exception that there will be two WebLogic servers (utilities_server1 and an Admin Server).

The Complex Domain Template is configured for use with a pre-configured WebLogic cluster, with one machine configured, node manager settings, and one managed server configured.

You are able to create a custom domain template from the existing domain by using the Domain Template Builder or the pack command. By using the Domain Template Builder, you can also create a custom domain template from an existing template.

The delivered domain templates defines the full set of resources within an Oracle Utilities Application Framework domain including:

- Demo certificates (the demo certificates will need to be updated for production use)
- Setting of XML Registry Settings
- Setting of Default users and groups
- Machine configuration
- Default Users and Groups
 - Note for 12.2.1: The Users and Groups match the delivered values delivered with the embedded domain.
 - Note for 12.2.1: Set the password for SYSUSR and ouafjndi through the WebLogic console.
- JTA Settings
- Node Manager Settings
- WebLogic Server
- JRF Restricted (Oracle-Utilities-Simple-Unix-12.2.1.1.0.jar only)
- JMS Global Flush Queues (Oracle-Utilities-Simple-Unix-12.2.1.1.0.jar only)

Configure setUserOverrides.sh (12.2.1 Templates Only)

Change environmental variables here, as needed by your implementation.

- Edit setUserOverrides.sh and add the values below to JAVA_OPTIONS:
For AIX, the parameters below also need to be added to JAVA_OPTIONS.
- ```
-
Djavax.xml.transform.TransformerFactory=org.apache.xalan.processor.TransformerFactoryImpl -
Djavax.xml.validation.SchemaFactory:http://www.w3.org/2001/XMLSchema=org.apache.xerces.jaxp.validation.XMLSchemaFactory
```

### Update Domain Home Location

The following update in the configuration indicates if the embedded configuration is being utilized or if the environment is a native installation to WebLogic. When this item is populated in the environment, the delivered base tools will be able to identify that the starting and stopping of the environment are being done under the domain home.

1. Initialize the Environment: splenv.sh -e <Environment\_Name>.
2. Execute the following command:

```
configureEnv.sh -a
```

3. Select Menu Item: 52. Advanced Web Application Configuration

=====

4. 02. Configuration Option: Domain Home Location

Current Value <ENTER>:

The WebLogic Domain Home location, when this parameter is populated you will need to use the native WebLogic tools for maintenance (starting, stopping, deployment, and undeployment).

Enter Value: <Enter your domain home location>

5. Once the Domain Home location has been completed, enter <P> Process.

## Database Patching

The database patching utility is delivered under SPLEBASE and is Java-based so you are able to create a standalone package to be able to install database patches on a separate server that has Java 7 installed. You can also install database patches using the components that are delivered under SPLEBASE without the need to move the database patching utility to a different server.

The following is an overview of the process to install database patches on a separate server. You will need to create a jar file containing the utilities and supporting files to allow you to run the database patch installer on another server.

To generate the jar file:

1. Initialize a command shell:

The scripts that are provided with the system need to be run from a shell prompt on the machine where you installed the application server. Before such scripts can be run the shell must be "initialized" by running the splenvron script provided with the system.

### UNIX

Log on to your UNIX box as the Oracle Utilities Administrator (default cissys) and open a shell prompt.

In the following example, replace the variables:

- \$SPLEBASE with the Full directory name that you installed the application into.
- <YOUR\_ENVIRONMENT\_NAME> with the name you gave to the environment at installation time.

To initialize the environment, enter:

```
$SPLEBASE/bin/splenvron.sh -e <YOUR_ENVIRONMENT_NAME>
```

For example:

```
/ouaf/DEMO/bin/splenvron.sh -e DEMO
```

### Windows

The command window should be opened on the Windows server that you installed the application on.

In the example below you should replace the following variables:

- `%SPLEBASE%`: The Full directory name that you installed the application into
- `<YOUR_ENVIRONMENT_NAME>`: The name you gave to the environment at installation time

To initialize the environment, enter the following in your command prompt:

```
%SPLEBASE%\bin\splenviron.cmd -e <YOUR_ENVIRONMENT_NAME>
```

For example:

```
D:\ouaf\DEMO\bin\splenviron.cmd -e DEMO
```

2. Execute the following script to generate the jar file.

### UNIX

```
ksh $SPLEBASE/bin/createDBStandalone.sh
```

### Windows

```
%SPLEBASE%\bin\createDBStandalone.cmd
```

By default, the output jar `db_patch_standalone.jar` is created in `SPLEBASE/tools/dbstandalone`. You can use the `-l` option to change the default directory.

3. Transfer the generated jar (`db_patch_standalone.jar`) to the Windows/Unix machine where you want to run the database patching utility.
4. Extract the contents of the archive file:

```
jar -xvf db_patch_standalone.jar
```

You must have Java 7 JDK installed on the machine to use the `jar` command. Be sure to install the JDK that is supported for your platform.

## Overview of Database Patching Application

The database patching utility requires you have Java 7 JDK installed on the machine to execute the database patch application process.

The patch application process will perform following items to account for executing patch application under `SPLEBASE` or on a standalone server.

The database patch application utility will look do the following when it is executed:

- Checks to see if the environment variable `$SPLEBASE` is set.  
If the `$SPLEBASE` variable is set, the utility uses the libraries under `$SPLEBASE` to apply the patch.
- When the `$SPLEBASE` is not set, the utility checks to see if the `TOOLSBIN` environment variable is set.  
If the `TOOLSBIN` is set, the utility uses the libraries under the `TOOLSBIN` location.
- When both `SPLEBASE` and `TOOLSBIN` environment are not set, the utility prompts for the location of the `TOOLSBIN`.

The `TOOLSBIN` is the location of the of the application scripts `ouafDatabasePatch.sh[cmd]`.

**Unix example:**

The TOOLSBIN location is set to /ouaf/dbpatch/bin.

```
export TOOLSBIN=/ouaf/dbpatch/bin
```

## Database Patch Application (ouafDatabasePatch.sh)

**Note:** The default permissions (ouafDatabasePatch.sh), may need to be adjusted to be executed by your user and group, when applying database fixes.

- Sample Execution – Passing a Password

```
./ouafDatabasePatch.sh -x ouafadm -p "-t O -d
CISADM_Z1_12C_43040_BLD001,slc04lds:1522:Z143Q12C"
```

- Sample Execution – Prompting for a Password

```
./ouafDatabasePatch.sh -p "-t O -d
CISADM_Z1_12C_43040_BLD001,slc04lds:1522:Z143Q12C"
```

- Sample Execution - passing in the tools bin location

```
/ouafDatabasePatch.sh -u
ouafDatabasePatch.sh [-h] [-u] [-v] [-x] [-t tools dir] [-p
ouafparms]
-h displays help of ouafpatch
-u displays usage of ouafDatabasePatch.sh
-v displays version of ouafpatch
-x password to be passed to ouafpatch
-b location of the tools bin directory
-p parameters directly passed to ouafpatch
must be the last parameter passed and
be enclosed with quotes
```

**WINDOWS example:**

The TOOLSBIN location would be set to c:\ouaf\dbpatch\bin.

```
SET TOOLSBIN=c:\ouaf\dbpatch\bin
```

## Database Patch Application (ouafDatabasePatch.cmd)

- Sample Execution – Passing a Password

```
ouafDatabasePatch.cmd -x password -p "-t O -d
SCHEMA_NAME,DBSERVER:DBPORT:DBSID"
```

- Sample Execution – Prompting for a Password

```
ouafDatabasePatch.cmd -p "-t O -d
SCHEMA_NAME,DBSERVER:DBPORT:DBSID C"
```

- Sample Execution - passing in the tools bin location

```
ouafDatabasePatch.cmd -b "C:\temp\db_patch_standalone\bin" -p
"-t O -d SCHEMA_NAME,DBSERVER:DBPORT:DBSID -c
C:\temp\dbrollup\CDXPatch2\CDXPatch.ini"
```

- Sample Usage

```
ouafDatabasePatch.cmd -u
USAGE:
USAGE:ouafDatabasePatch.cmd[-h] [-u] [-v] [-x] [-b tools dir] [-p
ouafparms]
USAGE: -h displays help of ouafpatch
```

```
USAGE: -u displays usage of ouafDatabasePatch.cmd
USAGE: -v displays version of ouafpatch
USAGE: -x password to be passed to ouafpatch
USAGE: -b location of the tools bin directory
USAGE: -p parameters directly passed to ouafpatch
USAGE: must be enclosed with quotes: " "
```

# Chapter 8

---

## Installing Optional Products

This chapter describes the optional products that can be installed. These should be completed after installing Oracle Utilities Work and Asset Management. These products include:

- [Oracle BI Publisher](#)
- [ESRI ArcGIS Server](#)
- [Oracle Utilities Work and Asset Management Mobile Application](#)

# Oracle BI Publisher

This section describes the steps required to configure Oracle Utilities Work and Asset Management and Oracle BI Publisher to support an Oracle BI Publisher reporting solution. This section includes:

- [Supported BI Publisher Versions](#)
- [About Oracle BI Publisher Enterprise](#)
- [Configuring the System to Enable Reports](#)
- [Sample Reports Supplied with the Product](#)

## Supported BI Publisher Versions

At the time of this release BI Publisher 11g (v11.1.1.9) and 12c (v12.2.1.x) are supported on both Windows and Unix/Linux.

## About Oracle BI Publisher Enterprise

Oracle BI Publisher Enterprise provides the tools for:

- Making reports available over the web (establishing the required report server processes)
- Integrating reports with the Oracle Utilities Work and Asset Management system
- Scheduling reports to run on a regular basis
- Managing instances of the reports that have been created by a previous run
- Managing user access to the report instances

## Installing Oracle BI Publisher Enterprise

This section assumes that you have already installed Oracle BI Publisher Enterprise such that requests can be pointed to the Oracle BI Publisher Enterprise.

**Note:** If you are running the BI Publisher server on a Linux or UNIX server that does not have an X Server installed, reports that contain images may not be properly generated.

To fix this, specify the following property at the java command line:

```
-Djava.awt.headless=true
```

## Configuring the System to Enable Reports

This section describes the steps needed to configure your system to enable reports, including:

- [Configuring the System to Invoke Oracle BI Publisher Enterprise Real-time](#)
- [Interfacing with Oracle BI Publisher Enterprise Batch Scheduler](#)

## Configuring the System to Invoke Oracle BI Publisher Enterprise Real-time

In order to invoke Oracle BI Publisher Enterprise from within Oracle Utilities Work and Asset Management, the system must be configured accordingly.

### Specifying Reporting Tool Options

The following information should be defined on Reporting Tool Options table:

- **Reporting Server** is the web server URL where the reporting tool is installed.
- **Reporting Folder** defines the name of the directory on the Oracle BI Publisher server where reports are located. The Oracle Utilities Work and Asset Management reporting tool algorithm constructs the URL needed to open Oracle BI Publisher Enterprise based on the information provided on Reporting Options.

The same folder name should be used as a report folder in Oracle BI Publisher Enterprise where reports are published.

### Reporting Tool Algorithm

The base product provides an Installation Options system event called Reporting Tool which should contain an algorithm which invokes the reporting tool in real-time. Oracle Utilities Work and Asset Management provides an algorithm type called F1-BIPR-INV, which invokes Oracle BI Publisher Enterprise.

This algorithm relies on information defined in the Reporting Options table: the reporting server and folder names for accessing the reporting tool. The algorithm constructs several strings, for example, the URL of the BI Publisher, information about the report being requested and user info in the format expected by Oracle BI Publisher Enterprise. The Java program returns the correct URL to the browser. The browser then opens a BI Publisher Enterprise window with the appropriate URL.

To use the F1-BIPR-INV algorithm type to invoke Oracle BI Publisher Enterprise, perform the following steps:

1. Create an algorithm for this algorithm type.
2. On the installation options, add an entry to the algorithm collection with an algorithm entity of Reporting Tool and indicate the algorithm created in the previous step.

### Interfacing with Oracle BI Publisher Enterprise Batch Scheduler

Presently Oracle Utilities Work and Asset Management does not provide support for batch jobs with Oracle BI Publisher. Please use Oracle BI Publisher directly in order to schedule reports to run in batch.



## Sample Reports Supplied with the Product

The system provides several sample reports that may be used by your organization as a starting point for creating a new report. The following sections provide instructions on how to set up your implementation environment to use the sample reports.

If you would like to use any of the sample reports, you need to perform some steps to be able to execute them in an implementation environment. This section walks you through the steps needed, including:

- [Unzipping Oracle Utilities Work and Asset Management Report Files](#)
- [Oracle Functions and Packages](#)
- [Publishing the Sample Reports in Oracle BI Publisher Enterprise](#)
- [Preparing Oracle BI Publisher Enterprise Server for integration](#)
- [Copying a Report Definition from the Demonstration Database](#)

### Unzipping Oracle Utilities Work and Asset Management Report Files

Unzip the 'Oracle Utilities Work and Asset Management v2.2.0.2.0 Reports.zip' file from the installation media into an empty directory. This directory is referred to as the reports extract folder.

**Note:** By default, the reports provided are read only. You will need to reset the permissions on the files before making any changes, for example, to configure the default data source.

### Oracle Functions and Packages

Each report has one or more corresponding database functions and packages that store the business logic to fetch the data from the database. This data is then presented in the report.

The installation media contains the required database functions and packages. These files are in the reports extract folder under:

`\WAM-V2.2.0.2.0-Reports\BIPublisher\reportFiles`

`\WAM-V2.2.0.2.0-Reports\BIPublisher\functions\oracle`

The prerequisite for Oracle Utilities Work and Asset Management reports to work against the target database is setting up of a RPTUSER database user. This user should have read access to all Oracle Utilities Work and Asset Management database objects and execution privilege on the stored procedures that the reports access.

The steps involved in setting up the RPTUSER are:

1. Create or refresh the Oracle functions and packages.
  - a. Using SQLPLUS, log in to the target database as the user CISADM. This user owns Oracle Utilities Work and Asset Management schema objects.
  - b. Execute the script CDX\_rptfn.sql by entering the following command at the SQL prompt:

```
SQL> @CDX_rptfn.sql
```

("SQL>" denotes the SQL prompt and doesn't need to be typed).

## 2. Create the RPTUSER.

- a. Navigate to the Database\Oracle folder.
- b. Edit the file CDX\_rptuser.sql to match your requirements.

Ensure that you review the user password and the default and temporary tablespace names for the user.

- c. Log in to the target database as a DBA user using SQLPLUS.
- d. Execute the script by entering following command at SQL prompt:

```
SQL> @CDX_rptuser.sql
```

## 3. Compile the report function.

```
SQL> @CDX_compfn.sql
```

## 4. Configure security.

This involves generating synonyms in RPTUSER and granting it privileges to execute the stored procedures and read the Oracle Utilities Work and Asset Management tables. The utility prompts you to answer for the following questions:

- a. Enter the Oracle user that owns the schema (e.g. CISADM): **CISADM**
- b. Enter the password for the CISADM user: **CISADM**
- c. Enter the name of the Oracle Database: *Your\_db*
- d. Enter a comma-separated list of Oracle users in which synonyms need to be created (e.g. cisuser,cisread): **RPTUSER**
- e. Select the following options:
  - (A/a): Generate security for All objects in the Database?
  - (O/o): Generate security for specific Objects inputted in this terminal?
  - (F/f): Generate security for specific objects generated from an input File?

```
<<<< select A to generate security to all objects >>>>
```

The utility runs and configures security for the Oracle Utilities Work and Asset Management objects.

## Publishing the Sample Reports in Oracle BI Publisher Enterprise

The installation media contains sample reports provided with the system. The report files are in the reports extract folder under:

```
..\WAM-V2.2.0.2.0-Reports\BIPublisher\reportFiles
```

```
..\WAM-V2.2.0.2.0-Reports\BIPublisher\functions\oracle
```

## Configuring Oracle BI Publisher Enterprise

This section assumes that you have already installed Oracle BI Publisher Enterprise.

**Note:** If you install Oracle BI Publisher Enterprise in a location other than the default installation directory, adjust the path descriptions to match your actual install directories.

The first step you need to take in order to use any of the samples is to publish the report in Oracle BI Publisher Enterprise. You need to create a folder in Oracle BI Publisher Enterprise named as defined on Reporting Options table in Oracle Utilities Work and Asset Management and publish the report extracted to the reports extract folder.

Create a folder named WAM in the *BI\_Repository\_Path\Reports* folder. Copy all Oracle BI Publisher sample reports into the WAM folder.

**Note:** To check for the location of your BI repository path, log in to the BI console as an Administrator and go to **Administration, Server Configuration**. If the repository type is File System, the path will be seen in Catalog region. If the repository type is not File System you cannot load the sample reports.

Refer to the *Oracle BI Publisher Enterprise* documentation for more information.

## Preparing Oracle BI Publisher Enterprise Server for integration

The WAM Reporting Options Table should include the following information about Reporting Server and Folder:

- Reporting Folder: WAM
- Reporting Server: URL of reporting server.

For example: <http://sf-ugbu.splwg.com:9704>

If you want to have a different name for your reporting folder, you can rename the WAM folder on the server and put the corresponding value on the Reporting options table.

## Accessing the BI Publisher Enterprise Server

1. Access the BI Publisher Enterprise Server as Administrator.
2. On the **Admin** tab define a **JDBC Connection** section under **Data Sources**, and add a new data source using **Add Data Source**.

Create a new Data Source named WAM with connection details pointing to the Oracle Utilities Work and Asset Management database using the RPTUSER credentials set up in the prior section.

3. Test Connection to make sure the Database connection is successful and save changes using **Apply**.

## Configuring a New Group in WebLogic

1. Configure a group within WebLogic for Authentication called “BIConsumer”.
2. Create an Application Role called “WAM Reports” to access the BI Publisher reports.
3. Associate the member “BIConsumer” with the “WAM Reports” Application Role. The role will now be visible from within the BI Publisher Enterprise. Within BI Publisher Enterprise, for the Role Name WAM **Reports** you just created, click on

**Add Folders** to add the WAM sample reports to the Allowed Folders.

Do the same for Role Name WAM **Reports**. Click on **Add Data Sources** to add the Oracle Utilities Work and Asset Management data source to the Allowed Data Sources.

4. To include appropriate Roles for Role Name WAM **Reports**, click on **Add Role**.

### Uploading Reports to BI Publisher

From the BI publisher server console, upload reports to BI Publisher. To do so:

1. Select **Administration, System Maintenance**, and then click **Server Configuration**.
2. Scroll down to the **Catalog** section and verify that the path to the repository folder is correct in the BI Publisher repository field and is pointing to the **WAM** folder to which reports were copied.
3. Click **Upload to BI Presentation Catalog** to upload the reports to BI Publisher.

### Verifying the Data Model Details

From BI publisher server console, verify that the data model details are correct. To do so:

1. From the Reports folder, select the data model of the report.
2. Click **Edit** to edit the data model.
3. Select **Data Model** from the tree on the left.
4. Verify that the following are correct:
  - Default Data Source: Set the data source name created in Step 2 of section [Accessing the BI Publisher Enterprise Server](#).
  - Oracle DB Default Package: Set this to **W1\_BI\_RPT**.
  - XML Output Options: Ensure that the option **Include Parameters Tag** is checked.
5. Verify that the data model is pointing to the correct report. Select a report from the Reports folder and click **Edit**. Hover on the Data Model link to check it is pointing to the correct data model.

To modify the data model, click the magnifying glass icon and select the correct data model.

### Verifying Sample BI Publisher Reports on the Server

1. Log in to Oracle BI Publisher Server as a user belonging to BIConsumers.
2. Verify that all sample reports provided appear in the WAM folder.

Single-sign-on and more sophisticated security must be tailored to the specific implementation.

### Copying a Report Definition from the Demonstration Database

In order to use one of the sample reports in your Oracle Utilities Work and Asset Management region, you must define the meta-data for the report. The demonstration database contains the report definition and all its related data for each sample report.

The data present in the demonstration application should be manually created in the database that is being used by the current Oracle Utilities Work and Asset Management application.

1. To copy the data, access the data in Oracle Utilities Work and Asset Management demonstration application using the following menu navigation:

Admin > R > Report Definition

2. Click **Search**. In the report code field, enter “%” and click **Search**.

For each report visible in the search results, follow these steps to copy the report definitions:

1. Click on the report to see the report definition details.
2. In the current Oracle Utilities Work and Asset Management application, access the same menu navigation to manually create the records.

Admin > R > Report Definition

3. Click **Add**.
4. Enter the same values for the report definition that are present in the report definition details of the Oracle Utilities Work and Asset Management demo environment.
5. Click **Save**.

## ESRI ArcGIS Server

The GIS Integration uses ESRI ArcGIS server to allow users to view asset layers on a map, and to create and view work requests and work orders on the map.

Refer to the GIS integration section of the *Oracle Utilities Work and Asset Management Administrative Guide* for configuration information after installing.

**Note:** For Esri integration functionality, you must purchase Esri ArcGIS Server software or online cloud subscription from Esri.

For demonstration purposes, the Oracle Utilities Work and Asset Management demo data was configured to use the Esri Water Distribution Network demo map provided by Esri (<http://www.arcgis.com/home/item.html?id=b0608f7dccdf480eb8d02771ebe72d87>). Instructions on how to load and acquire this demo content are available from Esri.

Perform the following for initial installation and importing the GIS metadata:

- [Installing the ESRI ArcGIS Server](#)
- [Verifying Prerequisites](#)
- [Importing Feature Classes to Database](#)
- [Deploying Map Packages](#)

Notes on SSL:

- Oracle Utilities Work and Asset Management is set up with SSL (https) *enabled* as default.
- ESRI ArcGIS is set up with SSL (https) *disabled* as default.

## Supported ESRI ArcGIS Server Versions

At the time of this release, the following ESRI ArcGIS Server and ArcGIS Portal versions are supported: v10.4.1 and v10.5.1

## Installing the ESRI ArcGIS Server

1. Install ArcGIS on a server different from the Oracle Utilities Work and Asset Management server.
2. Refer to instructions available on the ArcGIS (<http://resources.arcgis.com/>) website for more information.

## Verifying Prerequisites

Ensure that the following prerequisite conditions are met, before proceeding with importing feature classes to database and deploying map packages:

- ArcGIS for Desktop Software must be installed.
- ArcGIS for Server Software must be installed.
- ESRI ArcGIS DB must be created.
- ESRI ArcGIS DB connection must be created.
- ESRI ArcGIS DB must be registered in ArcGIS server.

## Importing Feature Classes to Database

1. Download the Oracle Utilities Work and Asset Management v2.2.0.2.0 ESRI Integration component from the Oracle Utilities Work and Asset Management v2.2.0.2.0 package.
2. Copy the file to the server on which ArcGIS is installed.
3. Unzip the downloaded file to some directory <MetadataDir>.
4. For each XML file in <MetadataDir>/metadata/xmlWorkspaceDocument, follow these steps to import Feature Classes to the database:
  - a. Launch the **ArcCatalog** application from the **Start Menu > Arcgis**.
  - b. Right-click the Database connection. Click **Connect**.
  - c. Right-click the Database connection again.
  - d. Select **Import > XML Workspace Document**.
  - e. On the **Import XML Workspace Document** dialog, select **Schema Only** option.
  - f. Browse and select the XML file to import from <MetadataDir>/metadata/xmlWorkspaceDocument directory.
  - g. Click **Next**.
  - h. Click **Finish**.

## Deploying Map Packages

1. Launch the **ArcMap** application from **Start Menu > ArcMap**.
2. In the **ArcMap** application, click **Geoprocessing > Arc Toolbox**.
3. Perform the following steps to extract the 'Map Package' for each map package file(.mpk) in <MetadataDir>/metadata/mapPackage directory:
  - a. From the ArcToolbox tree, expand **Data Management Tools**.
  - b. Expand **Package**.
  - c. Select **Extract Package**.
  - d. In the **Input Package** field, provide the location of .mpk file.
  - e. In the **Output Folder** field, provide the target directory to which map package file should be extracted.
  - f. Click **OK**.
4. Perform the following steps once for each extracted map package file:
  - a. Launch the **ArcMap** application from **Start Menu > ArcMap**.
  - b. In the ArcMap application, click **File > Open** to open the Extracted Map Package Document. Use the file under v101 directory.
  - c. Once the document is opened, under the **Layers** tree on the left, right click on the layer and **Select Layer Properties**.
  - d. On the **Layer Properties** dialog, click the **Source** tab.
  - e. Click **Set Data Source** to set the data source.
  - f. Navigate to the database connection and select the Feature Class (Example: SDE.W1\_Activity) corresponding to the currently selected layer (Example: W1\_Activity) and click **Add**.
  - g. Click **Apply** on the **Layer Properties** dialog.
  - h. In the Arc Map application, share the Map Document as a service using **File > Share As >Service**.
  - i. Click **Service**.
  - j. Select **Publish a Service** and click **Next**.
  - k. Select the server connection and provide the Service Name and click **Next**.
  - l. Click **Create New Folder** and enter a folder name relevant to the environment.
  - m. Click **Continue**.
  - n. In the service editor, select **Capabilities** tab from the left hand side menu and select **Feature Access** check box.
  - o. Click **Publish** at the top right corner of the service editor dialog.  
You should see a success message after the publishing is successful.

# Oracle Utilities Work and Asset Management Mobile Application

For information about the Oracle Utilities Work and Asset Management Mobile application, refer to *Oracle Utilities Work and Asset Management Hybrid Mobile Application User's Guide*.



# Appendix A

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## Installation Menu Functionality

The main configuration menu is structured so that related variables and/or options are grouped together and are associated by a menu item number. To access a particular group of variables and options, enter the menu item number associated with that group. Each option is displayed in turn on the screen, along with a prompt so that you can type the desired value for the option, if it is not the same as the default or current value.

When performing the initial installation you need to go through all menu options. The menu options may have a default value, a list of valid values and a validation check.

On each option prompt you can keep the current value by simply leaving the input line empty. In order to erase a variable value you need to enter one dot (“.”). The leading spaces will be trimmed out on each values entered. The menu includes the following:

- **Valid Values: [ALFANUM]**. This indicates you will need to enter an alphanumeric value in the prompt.
- **Valid Values: [NUM]**. This indicates you will need to enter a numeric value in the prompt.

Please also note the following:

- When all options are set, type <P> at the main menu prompt option. This will save the option values selected throughout the configuration.
- During this processing the global variables are validated and the configuration file <SPLEBASE>/etc/ENVIRON.INI is created or updated. This file contains all the variables inputted and calculated. These are needed by the next part of the installation process.
- To exit the configuration utility without saving any of the values entered, type <X> and press 'Enter'.

### Installation Menu Functionality Details

The Environment Installation Utility requires that Oracle Client Home is set in the path for the user performing the installation.

Prior to running the installation utility you will need to review the supported platforms document to ensure you have all of the Third Party software installed.

In this menu if the variables are set prior to execution, that value will be defaulted by the installation utility when performing the installation.

When the installation has been completed successfully, the values will be written to an ENVIRON.INI file. When splenviron.sh / cmd is executed, it will read from the ENVIRON.INI file to set the environment variables. Refer to the *Oracle Utilities Application Framework Server Administration Guide* for details about configuring these values.

Install the Oracle Client software specified in the [Operating Systems and Application Servers](#) section in [Supported Platforms and Hardware Requirements](#) prior to running any of the installation utilities.

The following prompt will appear when executing the installation utility:

```
Enter Oracle Client Home Directory (<ENTER> quit):
```

**Note:** If the environmental variable ORACLE\_CLIENT\_HOME is set, the install script will validate the variable. If it passes the validation you will not be prompted for it. This is needed in order to run Perl installation utilities.

## Encryption Methods

The Oracle Utilities Application Framework installation uses the WebLogic API to encrypt the User ID and password that perform admin functions for the WebLogic application servers. Please refer to the WebLogic documentation for further information about the encryption.

The Oracle Utilities Application Framework installation also uses industry standard cryptography to encrypt passwords that are prompted within the installation.

When these passwords are entered in the command line, the input values are not reflected on the screen when performing the installation.

# Appendix B

## Installation and Configuration Worksheets

Refer to the *Server Administration Guide* for additional details (default, valid values, usage, etc.), as applicable.

### Menu Block 1: Environment ID, Roles, Third Party Software Configuration

The Environment ID, Roles, Third Party Software Configuration options include:

| Menu Option                           | Name Used in Documentation | Customer Install Value |
|---------------------------------------|----------------------------|------------------------|
| Environment ID                        | ENVIRONMENT_ID             |                        |
| Server Roles                          | SERVER_ROLES               |                        |
| Oracle Client Home Directory          | ORACLE_CLIENT_HOME         |                        |
| Web Java Home Directory               | JAVA_HOME                  |                        |
| Hibernate JAR Directory               | HIBERNATE_JAR_DIR          |                        |
| **ONS JAR Directory                   | ONS_JAR_DIR                |                        |
| Web Application Server Home Directory | WEB_SERVER_HOME            |                        |
| ***Additional JAR Directory           | WLTHINT3CLIENT_JAR_DIR     |                        |
| * ADF Home Directory                  | ADF_HOME                   |                        |
| OIM OAM Enabled Environment           | OPEN_SPML_ENABLED_ENV      |                        |

\* Denotes optional menu items that may be required for the product installation and variables.

\*\* In order to activate the RAC FCF, the application needs the external ons.jar file, from the ORACLE\_HOME path:

```
$ORACLE_HOME/opmn/lib/ons.jar
```

During the installation the relevant option should be populated with the folder location of the ons.jar.

\*\*\* Refer to the [Setting Up and Using the Additional JAR Directory](#) section in [Installing Application Server Prerequisite Software](#) for more information.

## Menu Block 2: Keystore Options

The keystore is a set of files used for encryption, decryption and hash generation. The files reside in the following location:

<SPLEBASE>/ks/.ouaf\_keystore

<SPLEBASE>/ks/.ouaf\_storepass

In order to run the application correctly, data encryption, decryption and hash generation of data in the database and on the application server must be performed using the same keystore; otherwise, the application will fail.

**Note:** Review the section on configuring the OUAF Keystore in the *Security Guide* for information on setting up the keystore properly.

Keystore options include:

| Menu Option               | Name Used in Documentation | Customer Install Value |
|---------------------------|----------------------------|------------------------|
| Import Keystore Directory | KS_IMPORT_KEYSTORE_FOLDER  |                        |
| Store Type                | KS_STORETYPE               |                        |
| Alias                     | KS_ALIAS                   |                        |
| Alias Key Algorithm       | KS_ALIAS_KEYALG            |                        |
| Alias Key Size            | KS_ALIAS_KEYSIZE           |                        |
| HMAC Alias                | KS_HMAC_ALIAS              |                        |
| Padding                   | KS_PADDING                 |                        |
| Mode                      | KS_MODE                    |                        |

## Menu Block 50: Environment Installation Options

Environment installation options include:

| Menu Option                            | Name Used in Documentation | Customer Install Value |
|----------------------------------------|----------------------------|------------------------|
| Environment Mount Point                | SPLDIR                     |                        |
| Log File Mount Point                   | SPLDIROUT                  |                        |
| Environment Name                       | SPLENVIRON                 |                        |
| Installation Application Viewer Module | WEB_ISAPPVIEWER            |                        |
| Install Demo Generation Cert Script    | CERT_INSTALL_SCRIPT        |                        |

| Menu Option                   | Name Used in Documentation | Customer Install Value |
|-------------------------------|----------------------------|------------------------|
| Install Sample CM Source Code | CM_INSTALL_SAMPLE          |                        |

## Menu Block 1: Environment Description

The environment description menu option includes:

| Menu Option             | Name Used in Documentation | Customer Install Value |
|-------------------------|----------------------------|------------------------|
| Environment Description | DESC                       |                        |

## Menu Block 2: [WebLogic] Business Application Server Configuration

WebLogic Business Application Server configuration options include:

| Menu Option                      | Name Used in Documentation | Customer Install Value |
|----------------------------------|----------------------------|------------------------|
| Business Server Host             | BSN_WLHOST                 |                        |
| Business Server Application Name | BSN_APP                    |                        |
| MPL Admin Port number            | MPLADMINPORT               |                        |
| MPL Automatic Startup            | MPLSTART                   |                        |

## Menu Block 3: [WebLogic] Web Application Server Configuration

WebLogic Web Application Server configuration options include:

| Menu Option                  | Name Used in Documentation | Customer Install Value |
|------------------------------|----------------------------|------------------------|
| Web Server Host              | WEB_WLHOST                 |                        |
| Weblogic SSL Port Number     | WEB_WLSSLPORT              |                        |
| Weblogic Console Port Number | WLS_ADMIN_PORT             |                        |
| Web Context Root             | WEB_CONTEXT_ROOT           |                        |
| WebLogic JNDI User ID        | WEB_WLSYSUSER              |                        |
| WebLogic JNDI Password       | WEB_WLSYSPASS              |                        |
| WebLogic Server Name         | WEB_WLS_SVRNAME            |                        |

| Menu Option                               | Name Used in Documentation | Customer Install Value |
|-------------------------------------------|----------------------------|------------------------|
| Web Server Application Name               | WEB_APP                    |                        |
| Deploy Using Archive Files                | WEB_DEPLOY_EAR             |                        |
| Deploy Application Viewer Module          | WEB_DEPLOY_APPVIEWER       |                        |
| Enable The Unsecured Health Check Service | WEB_ENABLE_HEALTHCHECK     |                        |
| MDB RunAs User ID                         | WEB_IWS_MDB_RUNAS_USER     |                        |
| Super User Ids                            | WEB_IWS_SUPER_USERS        |                        |

## Menu Block 4 - Database Configuration

The parameters below and in the worksheet are for the database configuration. Note that if changes are made to any of the database menu option items below, thus potentially connecting to a different schema, a warning will be displayed in the screen next to the actual option that has been changed.

| Menu Option                          | Name Used in Documentation | Customer Install Value |
|--------------------------------------|----------------------------|------------------------|
| Application Server Database User ID  | DBUSER                     |                        |
| Application Server Database Password | DBPASS                     |                        |
| MPL Database User ID                 | MPL_DBUSER                 |                        |
| MPL Database Password                | MPL_DBPASS                 |                        |
| XAI Database User ID                 | XAI_DBUSER                 |                        |
| XAI Database Password                | XAI_DBPASS                 |                        |
| Batch Database User ID               | BATCH_DBUSER               |                        |
| Batch Database Password              | BATCH_DBPASS               |                        |
| Web JDBC DataSource Name             | JDBC_NAME                  |                        |
| Database Name                        | DBNAME                     |                        |
| Database Server                      | DBSERVER                   |                        |
| Database Port                        | DBPORT                     |                        |
| ONS Server Configuration             | ONSCONFIG                  |                        |
| Database Override Connection String  | DB_OVERRIDE_CONNECTION     |                        |
| Character Based Database             | CHAR_BASED_DB              |                        |

| Menu Option                          | Name Used in Documentation | Customer Install Value |
|--------------------------------------|----------------------------|------------------------|
| Oracle Client Character Set NLS_LANG | NLS_LANG                   |                        |

## Menu Block 5 - General Configuration Options

The general configuration options include:

| Menu Option                      | Name Used in Documentation   | Customer Install Value |
|----------------------------------|------------------------------|------------------------|
| Batch RMI Port                   | BATCH_RMI_PORT               |                        |
| RMI Port number for JMX Business | BSN_JMX_RMI_PORT_PERFORMANCE |                        |
| RMI Port number for JMX Web      | WEB_JMX_RMI_PORT_PERFORMANCE |                        |
| JMX Enablement System User ID    | BSN_JMX_SYSUSER              |                        |
| JMX Enablement System Password   | BSN_JMX_SYSPASS              |                        |
| Coherence Cluster Name           | COHERENCE_CLUSTER_NAME       |                        |
| Coherence Cluster Address        | COHERENCE_CLUSTER_ADDRESS    |                        |
| Coherence Cluster Port           | COHERENCE_CLUSTER_PORT       |                        |
| Coherence Cluster Mode           | COHERENCE_CLUSTER_MODE       |                        |

## Menu Block 6 - OUAF TrustStore Options

The OUAF truststore configuration is required for IWS.

| Menu Option                 | Name Used in Documentation | Customer Install Value |
|-----------------------------|----------------------------|------------------------|
| Import TrustStore Directory | TS_IMPORT_KEYSTORE_FOLDER  |                        |
| Store Type                  | TS_STORETYPE               |                        |
| Alias                       | TS_ALIAS                   |                        |
| Alias Key Algorithm         | TS_ALIAS_KEYALG            |                        |
| Alias Key Size              | TS_ALIAS_KEYSIZE           |                        |
| HMAC Alias                  | TS_HMAC_ALIAS              |                        |

## Advanced Menu Options

The advanced menu options are not available during installation. These options can be accessed after installation using the following commands:

### Unix:

```
$SPLEBASE/bin/configureEnv.sh -a
```

### Windows

```
%SPLEBASE%\bin\configureEnv.cmd -a
```

## Menu Block 50 - WebLogic Advanced Environment Miscellaneous Configuration

WebLogic advanced environment miscellaneous configurations include:

| Menu Option                                               | Name Used in Documentation | Customer Value Install |
|-----------------------------------------------------------|----------------------------|------------------------|
| OAAF DBMS Scheduler User                                  | OAAF_DBMS_SCHEDULER_USER   |                        |
| Enter the location of the Application Server Profile Home | WAS_PROFILE_NAME_HOME      |                        |
| Online JVM Batch Server Enabled                           | BATCHENABLED               |                        |
| Online JVM Batch Number of Threads                        | BATCHTHREADS               |                        |
| Online JVM Batch Scheduler Daemon Enabled                 | BATCHDAEMON                |                        |
| Enable Batch Edit Functionality                           | BATCHEDIT_ENABLED          |                        |
| Batch Online Log Directory                                | BATCH_ONLINE_LOG_DIR       |                        |
| JDBC Read Timeout                                         | JDBC_TIMEOUT               |                        |
| Enable JMS Global Flush for Batch                         | ENABLE_JMS_GLOBAL_FLUSH    |                        |
| IWS deployment target                                     | WLS_CLUSTER_NAME           |                        |
| Web Admin Server Host                                     | WEB_ADMIN_SERVER           |                        |
| Split File Size in MB                                     | TEMPSTORAGE_SPLITFILESIZE  |                        |
| GIS Service Running on the same Web Server                | GIS                        |                        |
| GIS Service URL                                           | GIS_URL                    |                        |
| GIS WebLogic System User ID                               | GIS_WLSYSUSER              |                        |
| GIS WebLogic System Password                              | GIS_WLSYSPASS              |                        |



| Menu Option                                        | Name Used in Documentation       | Customer<br>Value<br>Install |
|----------------------------------------------------|----------------------------------|------------------------------|
| Online Display Software Home                       | ONLINE_DISPLAY_HOME              |                              |
| Max Queries To Hold In Cache<br>Across All Threads | XQUERIES_TO_<br>CACHE            |                              |
| Seconds Timeout Flush Cache<br>Completely          | XQUERY_CACHE_<br>FLUSH_TIMEOUT   |                              |
| Cloud Restriction URLs<br>Enable                   | CLOUD_RESTRICTION_URLS_ENABLE    |                              |
| Cloud White List Full Path                         | CLOUD_WHITE_LIST_PATH            |                              |
| Cloud Custom White List Full<br>Path               | CLOUD_CUSTOM_<br>WHITE_LIST_PATH |                              |

## Menu Block 51 - WebLogic Advanced Environment Memory Configuration

WebLogic advanced environment memory configurations include:

| Menu Option                              | Name Used in Documentation       | Customer<br>Install<br>Value |
|------------------------------------------|----------------------------------|------------------------------|
| Global JVM Arguments                     | GLOBAL_JVMARGS                   |                              |
| Ant Min Heap Size                        | ANT_OPT_MIN                      |                              |
| Ant Max Heap Size                        | ANT_OPT_MAX                      |                              |
| Ant Additional Options                   | ANT_ADDITIONAL_OPT               |                              |
| Thread Pool Worker Java Min Heap<br>Size | BATCH_MEMORY_OPT_MIN             |                              |
| Thread Pool Worker Java Max<br>Heap Size | BATCH_MEMORY_OPT_MAX             |                              |
| Thread Pool Worker Additional<br>Options | BATCH_MEMORY_ADDITIONA<br>L_OPT  |                              |
| Additional Runtime Classpath             | ADDITIONAL_RUNTIME_CLAS<br>SPATH |                              |

## Menu Block 52 - Advanced Web Application Configuration

Advanced web application configurations include:

| Menu Option                    | Name Used in<br>Documentation | Customer<br>Install<br>Value |
|--------------------------------|-------------------------------|------------------------------|
| Web Application Cache Settings | WEB_L2_CACHE_MODE             |                              |

| Menu Option                              | Name Used in Documentation          | Customer Install Value |
|------------------------------------------|-------------------------------------|------------------------|
| Web Server Port Number                   | WEB_WLPORT                          |                        |
| CSRF Protection For REST Services        | CSRF_PROTECTION                     |                        |
| OWSM Protection For REST Services        | OWSM_PROTECTION_FOR_REST_SERVICES   |                        |
| Domain Home Location                     | WLS_DOMAIN_HOME                     |                        |
| Batch Cluster URL                        | WEB_BATCH_CLUSTER_URL               |                        |
| Strip HTML Comments                      | STRIP_HTML_COMMENTS                 |                        |
| Authentication Login Page Type           | WEB_WLAUTHMETHOD                    |                        |
| Web Form Login Page                      | WEB_FORM_LOGIN_PAGE                 |                        |
| Web Form Login Error Page                | WEB_FORM_LOGIN_ERROR_PAGE           |                        |
| Application Viewer Form Login Page       | WEB_APPVIEWER_FORM_LOGIN_PAGE       |                        |
| Application Viewer Form Login Error Page | WEB_APPVIEWER_FORM_LOGIN_ERROR_PAGE |                        |
| Help Form Login Page                     | WEB_HELP_FORM_LOGIN_PAGE            |                        |
| Help Form Login Error Page               | WEB_HELP_FORM_LOGIN_ERROR_PAGE      |                        |
| Web Security Role                        | WEB_SECURITY_NAME                   |                        |
| Web Principal Name                       | WEB_PRINCIPAL_NAME                  |                        |
| Application Viewer Security Role         | WEB_APPVIEWER_ROLE_NAME             |                        |
| Application Viewer Principal Name        | WEB_APPVIEWER_PRINCIPAL_NAME        |                        |
| This is a development environment        | WEB_ISDEVELOPMENT                   |                        |
| Preload All Pages on Startup             | WEB_PRELOADALL                      |                        |
| Maximum Age of a Cache Entry for Text    | WEB_MAXAGE                          |                        |
| Maximum Age of a Cache Entry for Images  | WEB_MAXAGEI                         |                        |
| JSP Recompile Interval (s)               | WEB_wlpageCheckSeconds              |                        |

## Menu Block 54 - WebLogic Diagnostics

WebLogic diagnostic options include:

| Menu Option                | Name Used in Documentation     | Customer Install Value |
|----------------------------|--------------------------------|------------------------|
| Diagnostic Context Enabled | WLS_DIAGNOSTIC_CONTEXT_ENABLED |                        |
| Diagnostic Volume          | WLS_DIAGNOSTIC_VOLUME          |                        |
| Built-in Module            | WLS_DIAGNOSTIC_BUILT_IN_MODULE |                        |

## Menu Block 55 - URI, File and URL Related Options

URI, File and URL Related Options include:

| Menu Option                              | Name Used in Documentation                     | Customer Install Value |
|------------------------------------------|------------------------------------------------|------------------------|
| Restriction URLs Enable                  | CLOUD_RESTRICTION_URLS_ENABLE                  |                        |
| Custom SQL Security                      | CUSTOM_SQL_SECURITY                            |                        |
| White List Full Path                     | CLOUD_WHITE_LIST_PATH                          |                        |
| Custom White List Full Path              | CLOUD_CUSTOM_WHITE_LIST_PATH                   |                        |
| Substitution Variable List File Location | CLOUD_SUBSTITUTION_VARIABLE_LIST_FILE_LOCATION |                        |
| Directory For Variable F1_CMA_FILES      | CLOUD_LOCATION_F1_MIGR_ASSISTANT_FILES         |                        |
| URI For Variable F1_OAUTH2_URI           | CLOUD_LOCATION_F1_OAUTH2_URI                   |                        |
| URI for Variable F1_BASE_REST_URL        | CLOUD_LOCATION_F1_BASE_REST_URL                |                        |
| Consolidated Logfile Full Path           | CONSOLIDATED_LOG_FILE_PATH                     |                        |
| Temporary File Location                  | TMP_FILE_LOCATION                              |                        |

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## Menu Block 56 - Mobile Security Configuration

Mobile Security configurations include:

| Menu Option                        | Name Used in Documentation       | Customer Install Value |
|------------------------------------|----------------------------------|------------------------|
| Enable Mobile Application          | MOBILE_ENABLED                   |                        |
| Deploy Only Mobile Web Application | MOBILE_APP_ONLY                  |                        |
| Mobile Application Directory       | MOBILE_APPDIR                    |                        |
| Allow Self Signed SSL Certificates | ALLOW_SELFSIGNED_SSL             |                        |
| Force Http Connection              | FORCE_HTTP                       |                        |
| Web Mobile Form Login Page         | WEB_MOBILE_FORM_LOGIN_PAGE       |                        |
| Web Mobile Form Login Error Page   | WEB_MOBILE_FORM_LOGIN_ERROR_PAGE |                        |

# Appendix C

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## Common Maintenance Activities

This section provides frequently-used commands that you use to perform common maintenance activities, such as starting and stopping the environment and thread pool worker, modifying the configuration items.

Run the following commands to perform these common tasks:

### To Initialize the Environment

1. Go the directory <install\_dir>/bin.
2. Run the following command:

#### UNIX

```
./splenviron.sh -e <Env_Name>
```

#### Windows Server

```
splenviron.cmd -e <Env_Name>
```

### To Start the WebLogic Server

1. Initialize the environment.
2. Navigate to the respective domain's bin folder.
3. Execute the WebLogic Domain Startup command.

### To Stop the WebLogic Server

1. Initialize the environment.
2. Navigate to the respective domain's bin folder.
3. Execute the WebLogic Domain Stop command.

### To Start the Thread Pool Worker

1. Initialize the environment.
2. Run the following command:

**UNIX**

```
$SPLEBASE/bin/threadpoolworker.sh -d Y -p DEFAULT=20 L2OFF=1 -l2
OFF
```

**Windows**

```
%SPLEBASE%\bin\threadpoolworker.cmd -d Y -p DEFAULT=20 L2OFF=1 -l2
OFF
```

**To Stop the Thread Pool Worker**

1. Initialize the environment.
2. Run the following command:

**UNIX**

```
./spl.sh -b stop
```

**Windows**

```
spl.cmd -b stop
```

**To Modify the Configuration Values**

1. Initialize the environment.
2. Run the following command:

**UNIX**

```
configureEnv.sh
```

**Windows**

```
configureEnv.cmd
```

The configuration utility launches menu items. Select any menu option.

3. Change the menu values.
4. After you change the menu values, press **P** to write the changes to the configuration file.
5. To apply changes to the environment, run the initial setup script:

**UNIX**

```
./initialSetup.sh
```

**Windows**

```
initialSetup.cmd
```

**To Modify the Advanced Menu Option Values**

1. Initialize the environment.

The configuration utility launches menu items.

2. Run the following command:

**UNIX**

```
configureEnv.sh -a
```

**Windows**

```
configureEnv.cmd -a
```

3. Select any menu option.
4. Change the menu values.
5. To apply the changes to the environment, run initial setup script:

```
initialSetup.sh
```