Oracle Utilities Work and Asset Management

Installation Guide

Release 2.4.0.1.1

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ORACLE

Oracle Utilities Work and Asset Management Installation Guide

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Contents

Preface ..... **i**
Audience ii
Related Documents ii
Updates to Documentation ii
Conventions iii
Acronyms iii
Additional Resources iii

Chapter 1

Overview **1-1**
Product Overview 1-2
Installation Overview 1-2
Installation Types 1-4
Initial Installation 1-5
Upgrade Installation 1-5
Demo Installation 1-5
Package Contents 1-6
Documentation 1-6
Installation Packages 1-6
Readiness Checklist 1-7

Chapter 2

Supported Platforms and Hardware Requirements **2-1**
Operating Systems and Application Servers 2-2
Hardware Requirements 2-3
Application Server Memory Requirements 2-3
ESRI Integration Supported Versions 2-4
ArcGIS Server Version Compatibility 2-5
ArcGIS Desktop Version Compatibility 2-5
Support for Software Patches and Upgrades 2-5

Chapter 3

Planning the Installation **3-1**
Installation Considerations 3-2
WebLogic Native Installation 3-2
Application Server Clustering 3-2
Directory Names 3-2

Prerequisite Software List ... 3-2
Prerequisite Software for Database Server ... 3-2
Prerequisite Software for Application Server ... 3-3
Web Browser Requirements ... 3-3
Installing Prerequisite Software ... 3-3
Oracle Linux Application Server ... 3-3
Oracle Solaris Application Server ... 3-6
Windows Server 2012 R2 Application Server ... 3-10
Additional Prerequisite Software Information ... 3-11
Setting Up and Using the Additional JAR Directory ... 3-11
Special Note to Upgrade from a WebLogic 12.1.3.x Environment ... 3-12

Chapter 4

Installing Oracle Utilities Work and Asset Management - Initial Installation ... 4-1
Initial Installation Procedure ... 4-2
Installing the Database Component ... 4-2
Installing the Application Components ... 4-2
Post Installation Verifications ... 4-9

Chapter 5

Installing Oracle Utilities Work and Asset Management - Demo Installation ... 5-1
Demo Installation Procedure ... 5-2
Database Component Installation ... 5-2
Application Component Installation ... 5-2
Post Installation Verifications ... 5-9

Chapter 6

Upgrading Oracle Utilities Work and Asset Management ... 6-1
Upgrade Paths ... 6-2
Before You Upgrade ... 6-2
Upgrade Procedure ... 6-2
Database Component Upgrade ... 6-2
Application Component Upgrade ... 6-2
Post Upgrade Verifications ... 6-9
Installing Service Packs and Patches ... 6-10

Chapter 7

Additional Tasks ... 7-1
Importing Self-Signed Certificates ... 7-2
Customizing Configuration Files ... 7-2
Customizing Centralized Properties ... 7-3
Integrating Existing Customer Modifications ... 7-4
Building Javadocs Indexes ... 7-4
Configuring the Environment for Batch Processing ... 7-5
Customizing the Logo ... 7-5
Creating WebLogic Domain ... 7-5
Deploying Inbound WebServices (IWS) ... 7-6
Domain Templates ... 7-7
Database Patching ... 7-7

Chapter 8

Installing Optional Products 8-1
Oracle Analytics Publisher 8-2
Supported Analytics Publisher Versions 8-2
About Oracle Analytics Publisher Enterprise 8-2
Configuring the System to Enable Reports 8-2
Sample Reports Supplied with the Product 8-4
ESRI ArcGIS Server (WAM Only) 8-8
Supported ESRI ArcGIS Server Versions 8-9
Installing and Configuring the ESRI ArcGIS Desktop 8-9
Installing and Configuring the ESRI ArcGIS Server 8-9
Configuring the Enterprise Geodatabase 8-9
Importing Data to Geodatabase 8-10
Publishing Data as Services in the ArcGIS Server 8-10
Creating Web Maps Using ArcGIS Online 8-11
Installing the ArcGIS Web Adaptor 8-11
Installing and Configuring the ArcGIS Portal 8-11
Creating Web Maps Using the ArcGIS Portal 8-11
Configuring Inbound Sync (GIS) 8-12
Changes to ENVIRON.INI 8-16
Importing Certificates into ouaf truststore 8-18

Appendix A

Installation Menu Functionality A-1
Installation Menu Functionality Details A-1

Appendix B

Installation and Configuration Worksheets B-1
Menu Block 1: Environment ID, Roles, Third Party Software Configuration B-1
Menu Block 2: Keystore Options B-2
Menu Block 50: Environment Installation Options B-2
Menu Block 1: Environment Description B-3
Menu Block 2: [WebLogic] Business Application Server Configuration B-3
Menu Block 3: [WebLogic] Web Application Server Configuration B-3
Menu Block 4 - Database Configuration B-4
Menu Block 5 - General Configuration Options B-4
Menu Block 7 - OUAF TrustStore Options B-5
Menu Block 8 - OSB Configuration B-5
Menu Block 9 - SOA Configuration B-6
Menu Block 10 - SOA Configuration Plan (MDM) B-6
Menu Block 11 - Configuration for DataRaker Integration B-7
Menu Block 16 - SOA Configuration Plan (LG) B-8
Menu Block 17 - SOA Configuration Plan (NES) B-8
Menu Block 18 - SOA Configuration Plan (Sensus) B-9
Menu Block 19 - SOA Configuration Plan (SSN) B-10
Menu Block 20 - SSN JMS Source Destination Bridge Configuration B-11
Menu Block 21 - DG Reference Implementation SOA Configuration B-11
Menu Block 22 - SOA Configuration Plan (Itron Openway) B-12
Advanced Menu Options B-13

Appendix C

Common Maintenance Activities C-1

Preface

Welcome to the Oracle Utilities Work and Asset Management Installation Guide. This document describes the steps to install and configure Oracle Utilities Work and Asset Management V2.4.0.1.1.

The preface includes the following:

- Audience
- Related Documents
- Updates to Documentation
- Conventions
- Acronyms
- Additional Resources

Audience

This guide 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

Supplemental Documents

- Server Administration Guide
- Security Guide

Updates to Documentation

The complete Oracle Utilities Work and Asset Management documentation set is available from Oracle Help Center at https://docs.oracle.com/en/industries/energy-water/index.html.

Visit My Oracle Support for additional and updated information about the product.

Conventions

The following text conventions are used in this document:

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

Chapter 1

Overview

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

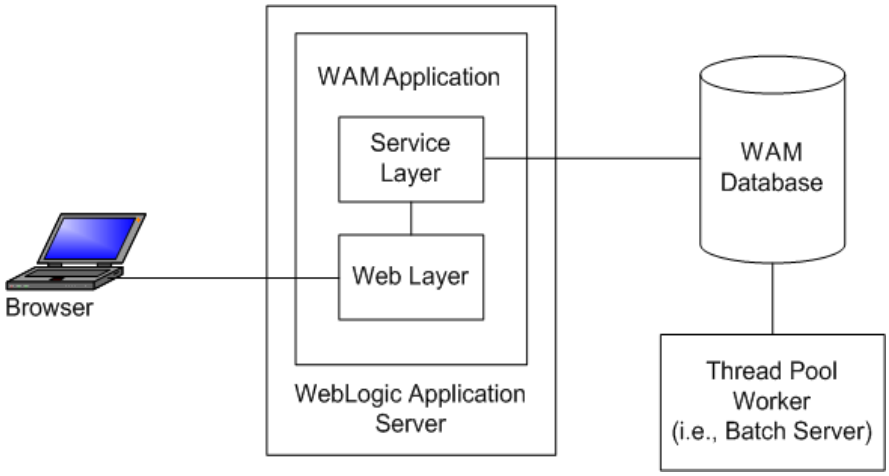
- Product Overview
- Installation Overview
- Installation Types
- Readiness Checklist

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:

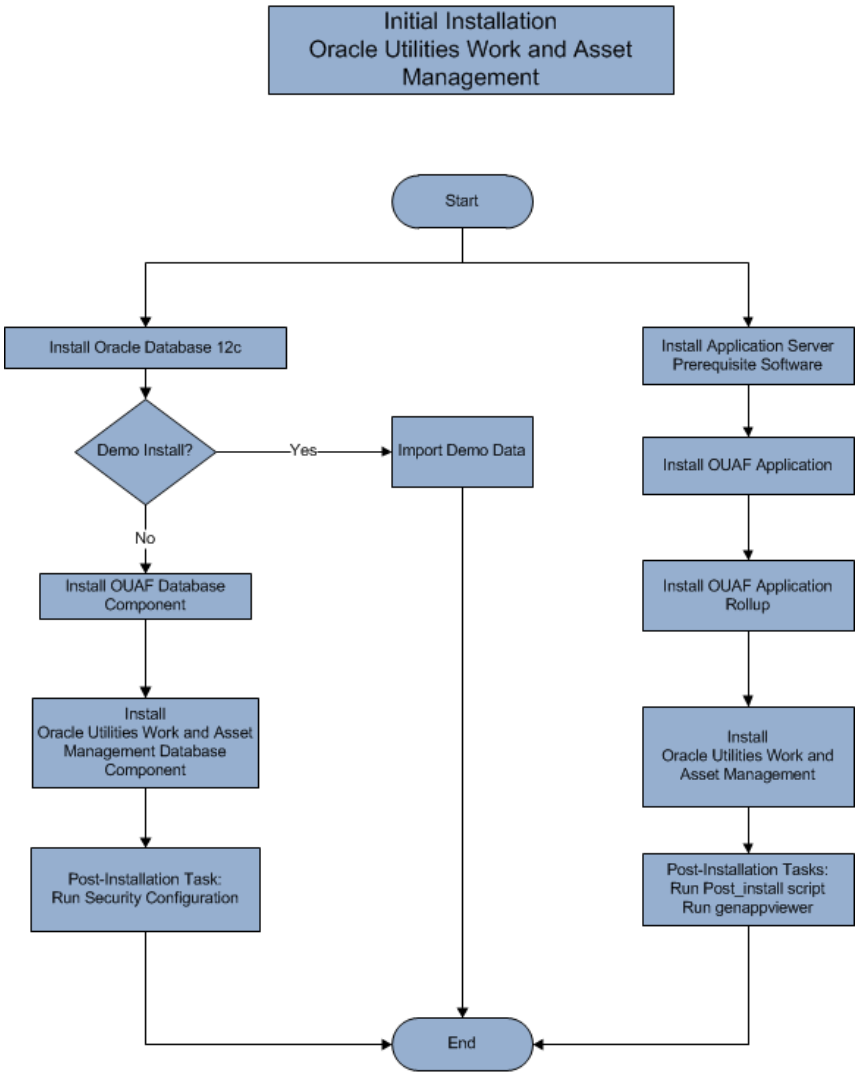


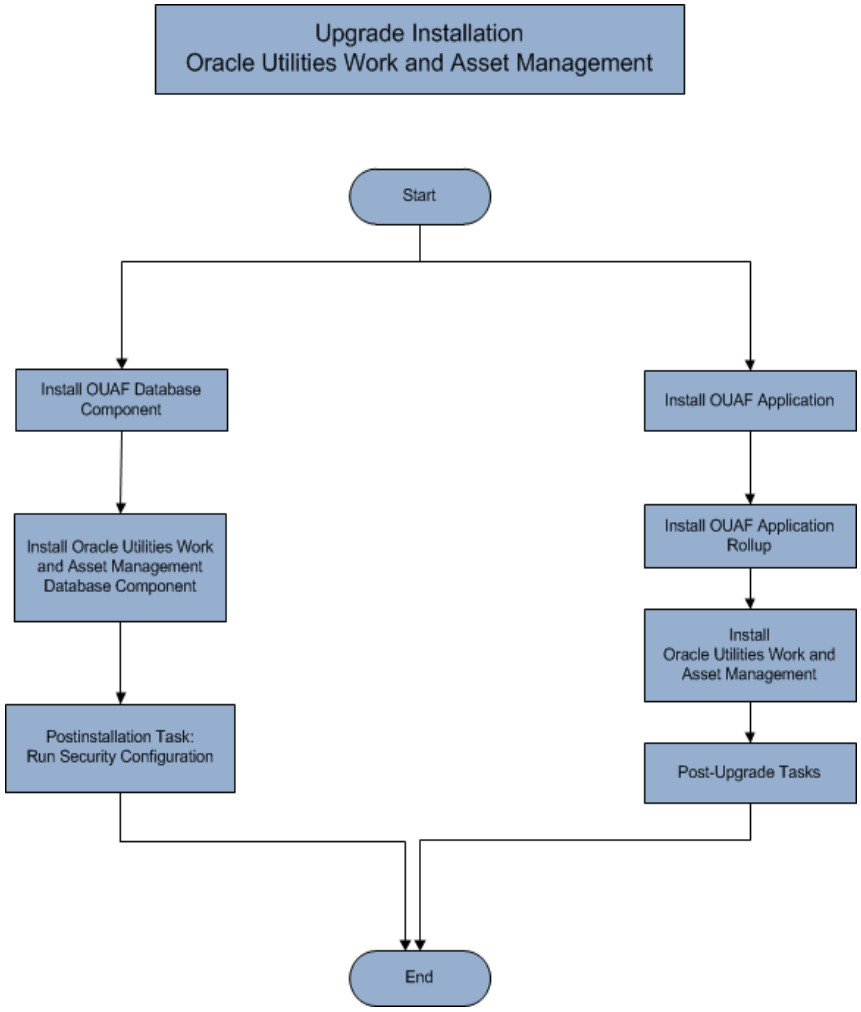
Refer to the *Business User's Guide* for information about the features and functionality in this release.

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.


Initial Installation
Oracle Utilities Work and Asset Management
Start
Install Oracle Database 12c
Demo Install?
Yes
Import Demo Data
No
Install OUAF Database Component
Install Oracle Utilities Work and Asset Management Database Component
Post-Installation Task: Run Security Configuration
Install Application Server Prerequisite Software
Install OUAF Application
Install OUAF Application Rollup
Install Oracle Utilities Work and Asset Management
Post-Installation Tasks: Run Post_install script Run genappviewer
End



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 V2.3.0.0.0 or V2.4.0.0.0 to V2.4.0.1.1
- Demo Installation: A base installation with pre-populated demo data, typically used for demonstration or training purposes.

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's 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 V2.3.0.0.0 or V2.4.0.0.0 to V2.4.0.1.1. 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's 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's 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

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

Supplemental Documents

- Server Administration Guide
- Security Guide

Installation Packages

- Oracle Utilities Work and Asset Management V2.4.0.1.1 Multiplatform
- Oracle Utilities Work and Asset Management V2.4.0.1.1 Oracle Database Multiplatform
- Oracle Utilities Application Framework V4.5.0.1.1 Multiplatform
- Oracle Utilities Work and Asset Management V2.4.0.1.1 Reports
- Oracle Utilities Work and Asset Management V2.4.0.1.1 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 V2.4.0.1.1 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 7.x/8.0 for x86_64*
- Oracle Solaris 11.4+ for SPARC (64-bit)

* For Oracle Linux 7.x, refer to the Oracle Lifetime Support Policy: Oracle and Sun System Software and Operating Systems document for the applicable end of support dates.

Prerequisite Application Server Software

- Oracle Database Client 19c
- Oracle Java SE Development Kit 1.8.0_291+ (Windows, Solaris and Linux platforms only)
- Select jars from Hibernate ORM 4.1.0
- Oracle WebLogic Server 12c (Release 12.2.1.4) 64-bit

  Notes

  Oracle Linux is 100% user space-compatible with Red Hat Enterprise Linux, therefore, Oracle Utilities Application Framework 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 *Certification Matrix for Oracle Utilities Products (Document ID 1454143.1)* document 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 8.x indicates that any version of Linux 8 (8.0, 8.1, 8.2 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 12.2.1.4

- Customers must download Oracle WebLogic Server from the Oracle Software Delivery Cloud.

Oracle Database Server

Prerequisite database server software (on any vendor supported platform where x is vendor supported version):

- Oracle Database Server Enterprise Edition 19c
- Oracle Database Server Standard Edition 2 19c

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 ("$SPLEBASE") Location	10 GB recommended 5 GB minimum	Location where the application and Framework get installed. Startup, shutdown and other online log files are stored here. The size and space that is used should be monitored because various debugging options can significantly affect the size of log files. **Note**: This does not include the size of the edge product.
Log Dir ("$SPLOUTPUT") Location	10 GB recommended 2 GB minimum	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	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	10 GB minimum	The application gets installed from this location. You need enough space to un-compress the files and install the application.
Oracle Data Area	10 GB minimum	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. Rrefer 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)
10.8.1	Yes	Yes (With TimeReference tag)	Yes
10.9.1	Yes	Yes (With TimeReference tag)	Yes

Note that ArcGIS Server 10.9.1 should be used with ArcGIS Desktop 10.8.2 and ArcGIS Server 10.8.1 should be used with ArcGIS Desktop 10.8.1.

ArcGIS Desktop Version Compatibility

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

- 10.8.1
- 10.8.2

Support for Software Patches and Upgrades

Due to the ongoing nature of software improvement, vendors will issue patches and service packs for the operating systems, application servers and database servers on top of specific versions that Oracle Utilities Work and Asset Management has been tested with.

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 Oracle Utilities Work and Asset Management production environment.

The exceptions from this rule are Hibernate software version 4.1.0 GA and Oracle 19c. These should not be upgraded.

Always contact Oracle Utilities Work and Asset Management 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 4.5.0.1.1, 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)* document on My Oracle Support for more information.

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)* document on My Oracle Support.

Additional information about WebLogic clustering, refer to the Fusion Middleware Using Clusters for Oracle WebLogic Server documentation.

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 19c
- Oracle Database Server Standard Edition 2 19c

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 19c
- Oracle Java SE Development Kit 1.8.0_291+ (Oracle platforms only)
- Select jars from Hibernate ORM 4.1.0
- Oracle WebLogic Server 12c (Release 12.2.1.4) 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
Microsoft Edge for Business 81+ (Edge Chromium)	Microsoft Windows 10 Version x 64-bit
Mozilla Firefox ESR 78.x	Microsoft Windows 10 Version x 64-bit
Google Chrome Enterprise 81+	Microsoft Windows 10 Version x 64-bit

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:

- Oracle Linux Application Server
- Oracle Solaris Application Server
- Windows Server 2012 R2 Application Server

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 Development Kit v8.0.x.x Update 291, 64-bit
- Oracle Database Client 19c - Runtime Option
- Hibernate 4.1.0
- Oracle WebLogic Server 12c Release 2 (12.2.1.4) 64-bit

Web/Application Server Tier

LINUX 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 077 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 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

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.

You must use the same user for starting and stopping a process. For example, if cissys is used to start the application server, the use cissys to stop it as well.

Oracle Java Development Kit v8.0.x.x Update 291, 64-bit

At time of release, Oracle Java packages could be obtained from:

http://www.oracle.com/technetwork/java/archive-139210.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 19c - Runtime Option

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

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 https://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 -q 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-transaction-
api_1.1_spec-1.0.0.Final.jar $HIBERNATE_JAR_DIR
cp hibernate-release-4.1.0.Final/lib/required/jboss-logging-
3.3.0.Final.jar $HIBERNATE_JAR_DIR
cp hibernate-release-4.1.0.Final/lib/required/ehcache-core-
2.5.2.jar $HIBERNATE_JAR_DIR
```

Oracle WebLogic Server 12c Release 2 (12.2.1.4) 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 (12.2.1.4) 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_281+
- Oracle Database Client 19c - Runtime Option
- Install the /usr/ucb/ps Command
- Hibernate 4.1.0
- Oracle WebLogic Server 12c (Release 12.2.1.4) 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 make sure 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.

You must use the same user for starting and stopping a process. For example: If **cissys** is used to start the application server, use **cissys** to stop it as well.

Oracle Solaris JDK 1.8.0_281+

This software is only required for Oracle WebLogic installations. At the time of release, the Oracle Solaris JDK 1.8.0_281+ 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 19c - Runtime Option

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.

Install the /usr/ucb/ps Command

Installing the /usr/ucp/ps command is a prerequisite for Solaris platforms that are below version 11.4. It is necessary to execute the following command successfully:

```
spl.sh -b stop (stop the Threadpool Worker)
```

Hibernate 4.1.0

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 https://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 -q 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-transaction-api_1.1_spec-1.0.0.Final.jar $HIBERNATE_JAR_DIR
   cp hibernate-release-4.1.0.Final/lib/required/jboss-logging-3.3.0.Final.jar $HIBERNATE_JAR_DIR
   cp hibernate-release-4.1.0.Final/lib/required/ehcache-core-2.5.2.jar $HIBERNATE_JAR_DIR
   ```

Oracle WebLogic Server 12c (Release 12.2.1.4) 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 (12.2.1.4) 64-bit.

Windows Server 2012 R2 Application Server

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

- Supported Application Servers for Windows
- Oracle Client 12c — Runtime Option for Windows
- Oracle Java Development Kit 8.0 Update 291+, 64-bit for Windows
- Hibernate 4.1.0 FINAL for Windows

Supported Application Servers

Operating System	Chipset	Application Server
Windows Server 2012 R2 (64-bit)	x86_64	Oracle WebLogic 12c (12.2.1.4) 64-bit version

Oracle Client 12c — Runtime Option

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.

Oracle Java Development Kit 8.0 Update 291+, 64-bit

This software is required for the Oracle WebLogic Installation.

At time of release, Oracle Java packages could be obtained from the Oracle Java Archive portal.

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 userid 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.

> **Note:** JDK 8.0 Update version 291 or higher is required for WebLogic 12c (12.2.1.4).

Hibernate 4.1.0 FINAL

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 https://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 -q 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-transaction-
api_1.1_spec-1.0.0.Final.jar $HIBERNATE_JAR_DIR
cp hibernate-release-4.1.0.Final/lib/required/jboss-logging-
3.3.0.Final.jar $HIBERNATE_JAR_DIR
cp hibernate-release-4.1.0.Final/lib/required/ehcache-core-
2.5.2.jar $HIBERNATE_JAR_DIR
```

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 WebLocic 12.2.1.[0-2].0:
<Web Application Server Home Directory>/../oracle_common/modules/
org.codehaus.woodstox.woodstox-core-asl.jar
if WebLocic 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) 12.2.1.4.
2. Install Oracle Java SE Development Kit 1.8.0_261 (if not installed yet).
3. Shutdown the application server environment.
4. Take a full backup of the application:

   ```
   $SPLEBASE
   ```

5. Set the environment as follows:

   ```
   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 V4.5.0.1.1.

   ```
   install.sh -u
   ```

Chapter 4

Installing Oracle Utilities Work and Asset Management - Initial Installation

This section provides instructions for installing Oracle Utilities Work and Asset Management V2.4.0.1.1 as a new/clean installation. It includes the following:

- Initial Installation Procedure
- Post Installation Verifications

Note that the software components 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:

- Installing the Database Component
- Installing the Application Components

Installing the Database Component

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's Guide*, which provides instructions on installing the database component.

Installing the Application Components

A successful installation consists of the following steps:

- Installing the Oracle Utilities Application Framework Application Component V4.5.0.1.1

Installing the Oracle Utilities Application Framework Application Component V4.5.0.1.1

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 Linux/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 as a zip file for Linux, 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 the following installation steps for each administrator user ID.

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

1. Login to the application server host with the Oracle Utilities Application Framework administrator user ID.
2. Download "Oracle Utilities Application Framework v4.5.0.1.1 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 downloaded application zip file to the <TEMPDIR>.
5. Decompress the file.

```
cd <TEMPDIR>
unzip -q <INSTALL MEDIA ZIP FILE NAME>
```

A sub directory "FW-V4.5.0.1.1" is created. It contains the installation software for the Oracle Utilities Application Framework server.

Setting Permissions for the cistab file in Linux/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 Linux/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-V4.5.0.1.1 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 Linux/UNIX) or as a user with administrator privileges (on Windows).
2. Change directory to the <TEMPDIR>/FW.V4.5.0.1.1 directory.
3. Set the ORACLE_CLIENT_HOME and PATH variables as Oracle Client Perl is required to run the installer.

   Linux/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.

   If you are upgrading from V2.3.0.0.0 or V2.4.0.0.0, the -u option can be used (take a backup of $SPLEBASE before proceeding).

   Linux/UNIX

   ```
   ksh ./install.sh -u
   ```

   Windows Server

   ```
   install.cmd -u
   ```

   Note: The upgrade install does not clean library files that were removed from the latest version.

   If you are upgrading from V2.3.0.0.0 or V2.4.0.0.0 to V2.4.0.1.1, it is recommended to do a fresh installation.

   Linux/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     <Mandatory for Initial Install>
   Directory

   Additional JAR Directory                              <Optional>


2. Keystore Options

    Import Keystore Directory                             <Default>


50. Environment Installation Options

    Environment Mount Point                             <Mandatory>

    Log Files Mount Point                               <Mandatory>

    Environment Name                                    <Mandatory>

    Install Application Javadocs                               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


 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 Javadocs 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>

    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


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):
```

8. When the parameter setup is complete, proceed with the option P. The utility writes the configured parameters and their values into the configuration file.
9. 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 Linux/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 v2.4.0.1.1 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 downloaded application zip file to the <TEMPDIR>.
5. Decompress the file:

```
cd <TEMPDIR>
unzip -q <INSTALL MEDIA ZIP FILE NAME>
```

A sub-directory named W1.V2.4.0.1.1 is created for Linux, 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. Login 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 v4.5.0.1.1 base application component is installed.

3. Initialize the environment by running the appropriate command:

   Linux/UNIX

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

   Windows

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

4. Change to the <TEMPDIR>/W1.V2.4.0.1.1 directory.

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

   > **Note**: On Linux/UNIX, make sure 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:

   Linux/UNIX

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

   Windows Server

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

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) document on My Oracle Support.

Creating Users (WAMUSER and ODMUSER)

To create WAMUSER and ODMUSER users:

> **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

1. After you complete the installation, verify the following: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. 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 V4.5.0.1.1

Installing the Oracle Utilities Application Framework Application Component V4.5.0.1.1

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 Linux/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 as a zip file for Linux, 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 the following installation steps for each administrator user ID.

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

1. Login to the application server host with the Oracle Utilities Application Framework administrator user ID.
2. Download "Oracle Utilities Application Framework v4.5.0.1.1 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 downloaded application zip file to the <TEMPDIR>.
5. Decompress the file.

```
cd <TEMPDIR>
unzip -q <INSTALL MEDIA ZIP FILE NAME>
```

A sub directory "FW-V4.5.0.1.1" is created. It contains the installation software for the Oracle Utilities Application Framework server.

Setting Permissions for the cistab file in Linux/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 Linux/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-V4.5.0.1.1 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 Linux/UNIX) or as a user with administrator privileges (on Windows).
2. Change directory to the <TEMPDIR>/FW.V4.5.0.1.1 directory.
3. Set the ORACLE_CLIENT_HOME and PATH variables as Oracle Client Perl is required to run the installer.

   Linux/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.

   If you are upgrading from V2.3.0.0.0 or V2.4.0.0.0, the -u option can be used (take a backup of $SPLEBASE before proceeding).

   Linux/UNIX

   ```
   ksh ./install.sh -u
   ```

   Windows Server

   ```
   install.cmd -u
   ```

   Note: The upgrade install does not clean library files that were removed from the latest version.

   If you are upgrading from V2.3.0.0.0 or V2.4.0.0.0 to V2.4.0.1.1, it is recommended to do a fresh installation.

   Linux/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     <Mandatory for Initial Install>
   Directory

   Additional JAR Directory                              <Optional>


2. Keystore Options

    Import Keystore Directory                             <Default>


50. Environment Installation Options

    Environment Mount Point                             <Mandatory>

    Log Files Mount Point                               <Mandatory>

    Environment Name                                    <Mandatory>

    Install Application Javadocs                               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


 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 Javadocs 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>
    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

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):
```

8. When the parameter setup is complete, proceed with the option P. The utility writes the configured parameters and their values into the configuration file.
9. 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 Linux/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 v2.4.0.1.1 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 downloaded application zip file to the <TEMPDIR>.
5. Decompress the file:

```
cd <TEMPDIR>
unzip -q <INSTALL MEDIA ZIP FILE NAME>
```

A sub-directory named W1.V2.4.0.1.1 is created for Linux, 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. Login 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 v4.5.0.1.1 base application component is installed.

3. Initialize the environment by running the appropriate command:

   Linux/UNIX

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

   Windows

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

4. Change to the <TEMPDIR>/W1.V2.4.0.1.1 directory.

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

   > **Note**: On Linux/UNIX, make sure 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:

   Linux/UNIX

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

   Windows Server

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

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) document on My Oracle Support.

Creating Users (WAMUSER and ODMUSER)

To create WAMUSER and ODMUSER users:

> **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

1. After you complete the installation, verify the following: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. 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:

- V2.3.0.0.0 to V2.4.0.1.1
- V2.4.0.0.0 to V2.4.0.1.1

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's 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 Linux/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 as a zip file for Linux, 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 the following installation steps for each administrator user ID.

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

1. Login to the application server host with the Oracle Utilities Application Framework administrator user ID.
2. Download "Oracle Utilities Application Framework v4.5.0.1.1 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 downloaded application zip file to the <TEMPDIR>.
5. Decompress the file.

```
cd <TEMPDIR>
unzip -q <INSTALL MEDIA ZIP FILE NAME>
```

A sub directory "FW-V4.5.0.1.1" is created. It contains the installation software for the Oracle Utilities Application Framework server.

Setting Permissions for the cistab file in Linux/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 Linux/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-V4.5.0.1.1 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 Linux/ 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 v4.5.0.1.1 base application component is installed.
3. Initialize the environment by running the appropriate command:

   Linux/UNIX

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

   Windows

   ```
   splenviron.cmd -e <ENV NAME>
   ```
4. Change directory to the <TEMP_DIR>/FWV4.5.0.1.1 directory.

   NOTE: While installing the FW v4.5.0.1.1 from the previous environment to Oracle Utilities Work and Asset Management v2.4.0.1.1 the install utility removes the existing environment and re-creates the environment. Take a backup before you proceed with installing FW v4.5.0.1.1 to retain any configurations for future reference.
5. Start the application installation utility by executing the appropriate script.

   If you are upgrading from V2.3.0.0.0 or V2.4.0.0.0, the -u option can be used (take a backup of $SPLEBASE before proceeding).

   Linux/UNIX

   ```
   ksh ./install.sh -u
   ```

   Windows Server

   ```
   install.cmd -u
   ```

Note: The upgrade install does not clean library files that were removed from the latest version.

If you are upgrading from V2.3.0.0.0 or V2.4.0.0.0 to V2.4.0.1.1, it is recommended to do a fresh installation.

Linux/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     <Mandatory for Initial Install>
    Directory
    Additional JAR Directory                                <Optional>


2. Keystore Options
     Import Keystore Directory                              <Default>


50. Environment Installation Options
     Environment Mount Point                              <Mandatory>
     Log Files Mount Point                                <Mandatory>
     Environment Name                                     <Mandatory>
     Install Application Javadocs                               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


 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 Javadocs 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>

    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

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):
```

9. When the parameter setup is complete, proceed with the option P. The utility writes the configured parameters and their values into the configuration file.
10. 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 Linux/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 v2.4.0.1.1 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 downloaded application zip file to the <TEMPDIR>.
5. Decompress the file:

```
cd <TEMPDIR>
unzip -q <INSTALL MEDIA ZIP FILE NAME>
```

A sub-directory named W1.V2.4.0.1.1 is created for Linux, 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. Login 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 v4.5.0.1.1 base application component is installed.
3. Initialize the environment by running the appropriate command:

   Linux/UNIX

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

   Windows

   ```
   splenviron.cmd -e <ENV NAME>
   ```
4. Change to the <TEMPDIR>/W1.V2.4.0.1.1 directory.

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

   > **Note**: On Linux/UNIX, make sure 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:

   Linux/UNIX

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

   Windows Server

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

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. 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
- 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:

   Linux/UNIX

   ```
   $SPLEBASE/bin/splenviron.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. Run the following script to generate all information:

   Linux/UNIX

   ```
   $SPLEBASE/bin/initialSetup.sh -i [<server>:<port>]
   ```

   Windows

   ```
   %SPLEBASE%\bin\initialSetup.cmd -i [<server>:<port>]
   ```

   Note: If the [<server>:<port>] are not specified, they will be retrieved from ENVIRON.INI. 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:

   Linux/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

This feature gives the ability to add, modify, and remove properties in one file. The properties are propagated to the specified property files. The template process, which is part of the initialSetup step, will look at the files in 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 in **cm_properties.ini** and relevant type of action:

- <PROPERTIES_FILE>:<PROPERTY_NAME>=<VALUE>
  - Override <PROPERTY_NAME> in <PROPERTIES_FILE> with <VALUE> if it exists.
  - Insert <PROPERTY_NAME> in <PROPERTIES_FILE> with <VALUE> it does not 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 it 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_conne
ction=[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.

Building Javadocs Indexes

This is required after customer modifications (CM) have been applied to an environment when it includes java code. Run the following to rebuild the javadoc indexes:

Windows

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

Linux/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

Linux/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:

Linux/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.

```
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

Configure the WebLogic application server to deploy it. Refer to the *Oracle WebLogic 12.2.1.x Configuration Guide for Oracle Utilities Framework (Doc ID 2413918.1)* document on My Oracle Support for more details.

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 splenviron script provided with the system.

Linux/UNIX

Login to your Linux/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/splenviron.sh -e <YOUR_ENVIRONMENT_NAME>
```

For example:

```
/ouaf/DEMO/bin/splenviron.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. Run the following script to generate the jar file.

   Linux/UNIX

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

   Windows

   ```
   %SPLEBASE%\bin\createDBStandlone.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/Linux/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 8 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 8 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].

Linux/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 Analytics Publisher
- ESRI ArcGIS Server (WAM Only)

Oracle Analytics Publisher

This section describes the steps required to configure Oracle Utilities Work and Asset Management and Oracle Analytics Publisher to support an Oracle Analytics Publisher reporting solution. The following are included:

- Supported Analytics Publisher Versions
- About Oracle Analytics Publisher Enterprise
- Configuring the System to Enable Reports
- Sample Reports Supplied with the Product

Supported Analytics Publisher Versions

At the time of this release Analytics Publisher 12c (v12.2.1.x) are supported on Windows, Linux and UNIX.

In addition, Oracle Analytics Server 5.9 has been certified to support the Analytics Publisher functionality for this release.

About Oracle Analytics Publisher Enterprise

Oracle Analytics 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 Analytics Publisher Enterprise

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

> **Note:** If you are running the Analytics Publisher server on a Linux/ 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 Analytics Publisher Enterprise Real-time

- Interfacing with Oracle Analytics Publisher Enterprise Batch Scheduler

Configuring the System to Invoke Oracle Analytics Publisher Enterprise Real-time

In order to invoke Oracle Analytics 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 Analytics Publisher server where reports are located. The Oracle Utilities Work and Asset Management reporting tool algorithm constructs the URL needed to open Oracle Analytics Publisher Enterprise based on the information provided on Reporting Options.

  The same folder name should be used as a report folder in Oracle Analytics 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 Analytics 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 Analytics Publisher, information about the report being requested and user info in the format expected by Oracle Analytics Publisher Enterprise. The Java program returns the correct URL to the browser. The browser then opens a Analytics Publisher Enterprise window with the appropriate URL.

To use the F1-BIPR-INV algorithm type to invoke Oracle Analytics 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 Analytics Publisher Enterprise Batch Scheduler

Presently Oracle Utilities Work and Asset Management does not provide support for batch jobs with Oracle Analytics Publisher. Please use Oracle Analytics 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 Analytics Publisher Enterprise
- Preparing Oracle Analytics 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 V2.4.0.1.1 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-V2.4.0.1.1-Reports\BIPublisher\reportFiles

\WAM-V2.4.0.1.1-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, login 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. Login 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 (example: 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 Analytics Publisher Enterprise

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

..\WAM-V2.4.0.1.1-Reports\AnalyticsPublisher\reportFiles

..\WAM-V2.4.0.1.1-Reports\AnalyticsPublisher\functions\oracle

Configuring Oracle Analytics Publisher Enterprise

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

> **Note:** If you install Oracle Analytics 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 Analytics Publisher Enterprise. You need to create a folder in Oracle Analytics 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 Analytics Publisher sample reports into the WAM folder.

> **Note:** To check for the location of your Analytics repository path, login to the Analytics 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 Analytics Publisher Enterprise* documentation for more information.

Preparing Oracle Analytics 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 Analytics Publisher Enterprise Server

1. Access the Analytics 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 Analytics Publisher reports.

3. Associate the member "BIConsumer" with the "WAM Reports" Application Role. The role will now be visible from within the Analytics Publisher Enterprise. Within Analytics 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 **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 **Add Role**.

Uploading Reports to Analytics Publisher

From the Analytics publisher server console, upload reports to Analytics 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 Analytics 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 Analytics Publisher.

Verifying the Data Model Details

From Analytics 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 Analytics 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 Analytics Publisher Reports on the Server

1. Login 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 (WAM Only)

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, along with Portal for ArcGIS, or ArcGIS Online cloud subscription from ESRI.

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

- Supported ESRI ArcGIS Server Versions
- Installing and Configuring the ESRI ArcGIS Desktop
- Installing and Configuring the ESRI ArcGIS Server
- Configuring the Enterprise Geodatabase
- Importing Data to Geodatabase
- Publishing Data as Services in the ArcGIS Server
- Creating Web Maps Using ArcGIS Online
- Installing the ArcGIS Web Adaptor

- Installing and Configuring the ArcGIS Portal
- Creating Web Maps Using the ArcGIS Portal
- Configuring Inbound Sync (GIS)
- Changes to ENVIRON.INI
- Importing Certificates into ouaf truststore

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) *enabled* as default.

Supported ESRI ArcGIS Server Versions

At the time of this release, the following ESRI ArcGIS Server and ArcGIS Portal versions are supported: V10.8.1 and V10.8.2

Installing and Configuring the ESRI ArcGIS Desktop

Make sure to install the ArcGIS Desktop V10.8.1 and V10.8.2 in the GIS environment.

To install and configure the appropriate ArcGIS Desktop software version, refer to the instructions at:

https://desktop.arcgis.com/en/arcmap/latest/get-started/setup/arcgis-desktop-system-requirements.htm

Installing and Configuring the ESRI ArcGIS Server

To install and configure the ArcGIS Server software, refer to the instructions at:

https://enterprise.arcgis.com/en/server/latest/install/windows/welcome-to-the-arcgis-for-server-install-guide.htm

Make sure to select the installation steps specific to the operating system.

Configuring the Enterprise Geodatabase

Note: Ignore this step if the Enterprise Geodatabase is already set up and the connection is established from ArcGIS Desktop.

To set up Enterprise Geodatabase refer to the instructions at:

https://desktop.arcgis.com/en/arcmap/latest/manage-data/geodatabases/create-enterprise-geodatabase.htm

Select the database accordingly. Establish a connection to the geodatabase from ArcGIS Desktop and enable the data accessible from ArcGIS server.

For more information refer to:

https://desktop.arcgis.com/en/arcmap/latest/manage-data/databases/database-connections-desktop.htm

Importing Data to Geodatabase

After the Geodatabase is set up, make sure that the necessary customer specific datasets are imported.

To import the work locations dataset:

1. Download the Oracle Utilities Work and Asset Management V2.4.0.1.1 ESRI Integration component from the Oracle Utilities Work and Asset Management V2.4.0.1.1 package.
2. Copy the file to the server where ArcGIS is installed and unzip it.
3. Navigate to the XML workspace file located at /metadata/xmlWorkspaceDocument/WORKLOCATIONS.XML.
4. Copy the workspace file to the relevant destination folder.
5. Select **Database connections** in the **Catalog**.
6. To import the XML workspace document:
    a. Select **Schema only** in the import options.
    b. Specify the path of the work locations XML file.
7. Once the import process is complete, the **Contents** tab displays the WorkLocationDataset imported into the Geodatabase.

Note that the Map Notes dataset configuration is optional. However, to display a Map Notes layer, any layer dedicated to capture notes/redlining can be used.

Map Notes is a customer specific layer and Oracle Utilities Work and Asset Management does not own/manage it and is not delivered as part of base product. To create a feature class in Geodatabase, refer to the instructions at:

https://enterprise.arcgis.com/en/portal/latest/use/add-layers.htm

Register data with the ArcGIS Server using Manager. For instructions refer to:

https://enterprise.arcgis.com/en/server/latest/manage-data/windows/making-your-data-accessible-to-arcgis-server.htm

Publishing Data as Services in the ArcGIS Server

After importing the datasets, publish the respective map documents as map/feature services in the ArcGIS server.

For more information about publishing a map document as a map service, refer to:

https://desktop.arcgis.com/en/arcmap/latest/map/publish-map-services/share-gis-resources-through-publishing-desktop.htm

To create a Work Locations Map service:

1. Create a map document using the Work Locations dataset.
2. In ArcCatalog, right-click **Work Locations**. From the content menu, click **Share as Service**.
3. In the **Share as Service** wizard, select **Publish a Service**, and then click **Next**.
4. From the **Choose a Connection** drop-down list, select **ArcGIS Server**.
5. Enter the service name with which the service must be published.

Make sure the name is updated in ESRI Integration Master Configuration portal in Oracle Utilities Work and Asset Management.

6. Click **Next** to proceed.
7. Enter the folder path and then click **Continue**.
8. In the **Service Editor** wizard, select **Feature Access Capability**.
9. Click **Publish** to publish the map document as a service.

Follow these steps to publish the Map Notes document as a feature service in ArcGIS Server.

Creating Web Maps Using ArcGIS Online

Create a web map using ArcGIS Online or the ArcGIS portal.

For information about creating web map using ArcGIS online, refer to:

https://doc.arcgis.com/en/arcgis-online/create-maps/create-maps-and-apps.htm

The web map includes layers from the published map/feature services (Utility specific network map service, Work Locations map service, and an optional Map notes feature service) in ArcGIS server. Make sure that the web map is shared to the intended users.

Installing the ArcGIS Web Adaptor

For information about installing and configuring ArcGIS web adaptor, refer to:

https://enterprise.arcgis.com/en/web-adaptor/latest/install/iis/install-arcgis-web-adaptor-portal.htm

Installing and Configuring the ArcGIS Portal

If ArcGIS Online is set up with web maps, ArcGIS portal installation is not required. However, if the web maps are intended to set up on the ArcGIS portal, then the ArcGIS portal should be installed.

For instructions to install and configure the ArcGIS portal, refer to:

https://enterprise.arcgis.com/en/portal/latest/install/windows/welcome-to-the-portal-for-arcgis-installation-guide.htm

Creating Web Maps Using the ArcGIS Portal

Create a web map using ArcGIS Online or ArcGIS portal. For instructions to create a webmap using the ArcGIS portal, refer to:

https://enterprise.arcgis.com/en/portal/latest/use/create-maps-and-apps.htm

The web map includes layers from the published map/feature services (Utility specific network map service, Work Locations map service, and an optional Map notes feature service) in ArcGIS server. Make sure that the web map is shared to the intended users.

Connecting ArcGIS Portal with Enterprise LDAP

Note that this step is optional.

The integration of ArcGIS portal with Enterprise LDAP ensures that the users in an organization should be created/managed on the portal page and the authentication is done using LDAP.

Configure the identity store accordingly and then import the enterprise users into the ArcGIS portal.

For more information about configuring the identity store and importing the enterprise users, refer to:

https://enterprise.arcgis.com/en/portal/latest/administer/linux/use-your-portal-with-ldap-and-web-tier-authentication.htm

Configuring Inbound Sync (GIS)

This section describes the GIS server configurations to set up inbound synchronization service.

Configuring the inbound synchronization includes the following steps:

1. Deploying the jar file.
2. Configuring the property file.
3. Executing the tool.
4. Publishing the results as Geoprocessing service.

Deploying the Jar File

To deploy the jar file:

1. Download the Oracle Utilities Work and Asset Management V2.4.0.1.1 ESRI Integration component from the Oracle Utilities Work and Asset Management V2.4.0.1.1 package.
2. Copy the file to the server where ArcGIS is installed and unzip it.
3. Navigate to the /GPService/lib/spl-w1-2.4.0.1.1-gis.jar file.

The deployment of this jar requires ArcGIS Desktop (to execute the jar and generate the results) and ArcGIS Server (to publish the results as Geoprocessing service). Extract the additional jar files jackson-annotations-x.x.x.jar, jackson-core- x.x.x.jar, and jackson-databind- x.x.x.jar from the below ArcGIS Server installation location.

<ArcGIS Server Installation Path>\Server\framework\lib\shared

Example: C:\Program Files\ArcGIS\Server\framework\lib\shared

It helps the extractor program to access the map/feature services if they are secured.

> **Note**: If using ArcGIS Server 10.9.1 and ArcGIS Desktop 10.8.2, download the GIS JAR file that is part of the patch provided for the BUG 35212608 and use that JAR file instead of the one provided in the WAM 2.4.0.1.1. package. Also, do NOT place the additional "jackson-annotations-x.x.x.jar", "jackson-core- x.x.x.jar", and "jackson- databind-x.x.x.jar" jar files as described above."

These jar files should be placed in the following ArcGIS desktop and ArcGIS server running locations:

- ArcGIS Desktop installation folder path

  Example: C:\Program Files (x86)\ArcGIS\Desktop10.8\java\lib\ext
- ArcGIS Server installation folder path

  Example: C:\Program Files\ArcGIS\Server\usr\lib\ext

Configuring Property files

The property or Config file is located where the jar file exists. Copy the Config file to the location of the jar file. Refer to the Deploying the Jar File section for information about the folder.

Configuring the property file is a one-time step by the Administrator to set up the synchronization process. The property file consists of input parameters required for the GIS Extractor program to establish a connection to the Geodatabase.

The parameters to be configured in the property file are:

- keyDBServer: Database server name

  Example: xxxxxxxxxxxxx.us.oracle.com
- keyDBInstance: Database instance name

  Example: sde:oracle11g:WAMV2200DEV
- keyDBName: Database name

  Example: WAMV2200DEV
- keyDBUser: Database username

  Example: sde
- keyDBPwd: Database user password
- keyUsername: ArcGIS Server username to generate security token

  Example: siteadmin
- keyPassword: ArcGIS Server user password

  Example: siteadmin
- keyExpiration: Token Expiration duration in seconds

  Example: 60

Executing the Tools

To create and execute a new/custom tool:

1. Open the ArcMap or ArcCatalog application.
2. In the **Catalog** window, navigate to **Toolboxes** > **My Toolboxes**.
3. Right-click **My Toolboxes** and select **New** > **Toolbox**.
4. Enter "WAMGPTools.tbx" as the toolbox name and click **Enter**.
5. Right-click the new toolbox and click **Add** > **Tool**.

6. In the **Add Tool** dialog box, select **WAMGIGPFF** and click **OK**.
7. To execute the Extract_Delta_Changes tool in ArcToolbox:
   a. Select and double-click the tool.
   b. View the tool's parameters.
   c. Provide the respective inputs to the parameters:
      - Task_Name: QueryIDs
      - Execution_Mode: Initial
      - Feature_Class_List

        Example: SDE.wControlValve
      - Source_Version: SDE.DEFAULT
      - Temp_Version: Temp
      - WKID: Well-known identifier for the target spatial reference
      - WAM Sync Version: The version name to be created in Geodatabase to track incremental changes

        Example: WAMSyncVersion

      Leave the remaining parameters as "NA".
   d. Click **OK** to run the tool.
8. To execute the Generate_Token tool in ArcToolbox:
   a. Select and double-click the tool.
   b. View the tool's parameters.
   c. Provide the respective inputs to the parameters:
      - **Service_URL**: URL to the ArcGIS Server REST Service
      - **Protocol_Type**: Select W1RT for Rest Service and W1SP for SOAP Service based on the service used in "Service_URL" parameter.
   d. Click **OK** to run the tool.

Publishing the Results as Geoprocessing Service

After the configuration file is set up and the tool is executed, the results of the tool should be published as a Geoprocessing service in the ArcGIS server.

To publish the Extract_Delta_Changes tool results as a Geoprocessing service:

1. In the ArcCatalog tool, navigate to **Geoprocessing Menu** > **Results**.

   The results of the tool are displayed.
2. Right-click **Extract_Delta_Changes […]** and select **Share As** > **Geoprocessing Service**.
3. In the **Share as Service** window, select **Publish a service**, and then click **Next**.
4. From the **Choose a connection** drop-down list, select **ArcGIS Server**.
5. Enter **ExtractDeltaChanges** in the **Service name** field and click **Next**.
6. Select **Create new folder**.

7. Enter **GPServices** and click **Continue**.
8. In the **Service Editor** dialog box, select the required parameters in the Extract_Delta_Changes node. Then, provide the details in the **Description** field.
    - **Task_Name**: Enables the service to retrieve GUIDs of the requested feature classes. The other possible values for task are:
        - Query Specific Changes
        - Query Complete Changes
        - Query Inserts
        - Query Updates
        - Delete Version
    - **Execution_Mode**: Assists in retrieving all GUIDs of the feature class or updated GUIDs of the feature class. The possible values are "Initial" and "COU" (Change Only Updates).
    - **Feature_Class_List**: Enables to query GUIDs in the feature class of interest. Only one feature class name should be passed to service at a time.
    - **Feature_Count_Range**: Limit on the records that can be sent using QueryCompleteChanges task.
    - **Fields**: Helps the GP service to extract the information only for the fields of interest. Oracle Utilities Application Framework batch process reads the list of fields from extendable lookup and passes the value as a comma separated list.
    - **Life_Cycle_Status**: Field and its value (comma separated) to identify if a feature is Abandoned.
    - **Skip_Feature**: Configuration to identify features to skip while retrieving data.
    - **GUIDs**: The list of GUIDs should be provided to extract the attribute information for the mentioned GUIDs.
    - **WKID**: The WKID of the coordinate system in which the features has to be present in results.
    - **Source_Version**: Establishes a connection with the underlying Geodatabase.
    - **Temp_Version**: Creates a temporary version on top of the DEFAULT/parent version.
    - **WAM_Sync_Version**: Connects to WAMSync version and performs a version difference between the Temp version and the WAMSync version.
    - **Response_XML**: Output XML response
9. Provide the **Summary**, **Tags**, and **Description** (Optional parameters).
10. Click **Analyze** and then click **Publish**.
11. Click **OK**.

To publish the Generate_Token tool results as a Geoprocessing service:

1. In the ArcCatalog tool, navigate to **Geoprocessing Menu** > **Results**. The results of the tool are displayed.
2. Right-click **Generate_Token […]** and select **Share As** > **Geoprocessing Service**.

3. In the **Share as Service** window, select **Publish a service**, and then click **Next**.
4. From the **Choose a connection** drop-down list, select **ArcGIS Server**.
5. Enter "GenerateToken" in the **Service name** field and click **Next**.
6. Select **Use Existing Folder** and select **GPServices** from the drop-down list. If GPServices is not available in the list, select **Create new folder** and enter "GPServices". Click **Continue**.
7. In the **Service Editor** dialog box, select the required parameters in the Generate_Token node. Then, provide the details in the **Description** field.
   - **Service_URL**: Service URL for which the security token has to be generated.
   - **Protocol_Type**: Protocol type of the Service_URL. It is either REST(W1RT) or SOAP(W1SP).
   - **Expiry_Duration**: The expiry duration of the generated security token in seconds.
8. Provide the **Summary**, **Tags**, and **Description** (Optional parameters).
9. Click **Analyze** and then click **Publish**.
10. Click **OK**.

The services should be published in asynchronous mode. It is set by default while publishing the Geoprocessing service.

Important! If any error occurs while publishing the Geoprocessing service, modify the configuration 'synchronous'. After the service is published, navigate to the service properties in ArcGIS server and change the configuration to 'asynchronous'.

While publishing the Geoprocessing service, configure the service instances and client timeout configurations (using pooling option) based on the number of records that need to be in sync from GIS. The configurations can also be altered after the service is published in ArcGIS server.

To configure Geoprocessing service instances:

1. Login to ArcGIS Server Manager console.

   https://xxxxxxxxxx:6443/arcgis/manager

2. Navigate to the Geoprocessing service directory where the Extractor program is deployed.

   Example: GPServices > Extract DeltaChanges

3. From the service options, select **Pooling**.
4. Specify the minimum and maximum number of instances per machine along with maximum time a client can use a service.

   The configurations are based on the number of records processed by the Geoprocessing service. On an estimate, a single Geoprocessing service instance can process 90000+ records at a time. However, the number of records is tentative and is dependent on multiple factors including the number of fields for which information is requested and memory consumed by the Geoprocessing service. The number of instances should be selected accordingly.

   Also, configure the time in seconds (example: 36000) during the initial load based on the number of records to be synchronized and the maximum time a client can use the Geoprocessing service.

5. Restart the Geoprocessing service/ArcGIS server for the configurations to reflect.

Changes to ENVIRON.INI

For the on-premises release, content security policies (CSP) are enforced for application security. GIS Map Viewer connects to domains other than the Oracle Utilities Work and Asset Management application domain, such as CDN for ArcGIS JavaScript API, ArcGIS Portal/ArcGIS online servers. As per the content security policy restrictions, communication to other domains is blocked. Because of this, the GIS Map Viewer will not work. To work with the GIS Map Viewer, add the following URIs to the parameters of the ENVIRON.INI file.

Parameter	URI
CSP_CONNECT_SRC	https://js.arcgis.com
CSP_FONT_SRC	https://js.arcgis.com data:
CSP_STYLE_SRC	https://js.arcgis.com
CSP_URL_IMG_SRC	https://js.arcgis.com
CSP_URL_SCRIPT_SRC	https://js.arcgis.com

Also provide the URIs with network status "blocked:csp". For additional information, refer to Menu Block 55 - URI, File and URL Related Options in the Advanced Menu Options section in Appendix B: Installation and Configuration Worksheets. For additional information, refer to the *Server Administration Guide* included in this release.

The additional parameter configurations in the ENVIRON.INI file are:

- OWSM_PROTECTION_FOR_REST_SERVICES
- CLOUD_RESTRICTION_URLS_ENABLE

OWSM_PROTECTION_FOR_REST_SERVICES

This parameter should be configured only if Oracle Web Service Manager Protection has to be enabled for REST services.

The default parameter value is set to 'true' in the ENVIRON.INI file. Set it to 'false' if Oracle Web Service Manager is not configured. Also the WEBSERVICES_ENABLED parameter value should be set to 'true'.

The ENVIRON.INI file is found in the etc folder of the environment (example: /scratch/<environment name>/etc).

Field	Value
OWSM_PROTECTION_FOR_REST_SERVICES	false
WEBSERVICES_ENABLED	true

Important! These parameters should be configured properly to launch the GIS Viewer.

CLOUD_RESTRICTION_URLS_ENABLE

Configure this parameter only if a set of server URLs should be accessed from the Oracle Utilities Work and Asset Management system.

The default parameter value for this parameter is set to 'false'. If the parameter value is set to 'true', the GIS server URLs that are configured in ESRI Maps Master Configuration and ESRI WAM Integration Master Configuration objects should be mentioned in the whitelist xml file configured in the CLOUD_WHITE_LIST_PATH parameter.

Importing Certificates into ouaf truststore

This section includes the steps to be performed during the environment set up. It is required if you are using HTTPS protocol without a valid CA signed certificate in the ArcGIS Server URLs configured for inbound and outbound sync.

1. Download the ESRI server certificate where the services are published.

   Example: https:// xxxxxxxxxxxx/arcgis/rest/services/WAM/WorkLocations/FeatureServer/0

2. Click **View Certificate**.
3. Click **Copy to File** and then click **Next**.
4. Select **64 bit** and click **Next**.
5. Save the certificate in **.cer** format and click **Finish**.

   The export successful message is displayed.

6. Save the certificate.
7. Validate the certificate.

   Open the certificate in Notepad++ or any other editor tool. If the data is in non-readable format, re-download the certificate.

8. Import the ESRI certificate into the **certs** folder of the environment.
9. Run the following commands to place the certificate into ouaf trust store:

   ```
   keytool -import -alias <alias_name> -keystore <folder where
   environment is configured>\ks\.ouaf_truststore -file
   <environment>\certs\<cert file name> -storetype JCEKS -storepass
   <ouaf_truststore_pass>
   ```

   Example:

   ```
   keytool -import -alias mykeynew1 -keystore
   C:\spl\sharedapps\W1_V22060_DEV\ks\.ouaf_truststore -file
   C:\spl\sharedapps\W1_V22060_DEV\certs\slc07zjq.cer -storetype
   JCEKS -storepass <ouaf_truststore_pass>
   ```

10. Verify the import using the following command:

    ```
    keytool -list -keystore <environment>\ks\.ouaf_truststore -
    storetype JCEKS -v -storepass <ouaf_truststore_pass>
    ```

11. Run the following commands to place the certificate into ouaf demo trust:

    ```
    keytool -import -file <environment>\certs\<cert file name> -alias
    <alias name> -keystore
    ```

```
<environment>\splapp\certs\ouaf_demo_trust.jks -storepass <ouaf
demo trust password>

keytool -import -v -trustcacerts -alias <alias name> -file
<environment>\W1_V24011_DEV\splapp\certs\<cert file name> -keystore
<environment>\W1_V24011_DEV\splapp\certs\ouaf_demo_trust.jks -
noprompt -storepass <ouaf demo trust password>
```

Example:

```
keytool -import -v -trustcacerts -alias mykeynew1 -file
C:\spl\sharedapps\W1_V22060_DEV\splapp\certs\slc07zjq.cer -
keystore
C:\spl\sharedapps\W1_V22060_DEV\splapp\certs\ouaf_demo_trust.jks -
noprompt -storepass <ouaf demo trust password>
```

12. Verify the import using the following command:

```
keytool -list -v -keystore
<environment>\splapp\certs\ouaf_demo_trust.jks -storetype  jks -
storepass <ouaf demo trust password>
```

Appendix A

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 appears 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 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.

** 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.

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

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.

Starting Oracle Utilities Application Framework v4.4.0.0.0 the keystore and truststore options have been removed from the Menu and defaulted into the following template user exit that is loaded by all the properties files:

templates/FW_spl.properties.keystore.truststore.include

The user can still customize those options using the "Centralized Properties Customization".

Upgrades from Oracle Utilities Application Framework versions below 4.4.0.0.0 will still use the keystore and truststore options recorded in the existing etc/ENVIRON.INI file (Menu options file).

> **Note**: Populate the "Import Keystore Directory" option to import an existing keystore.

Keystore options include:

Menu Option	Name Used in Documentation	Customer Install Value
Import Keystore Directory	KS_IMPORT_KEYSTORE_FOLDER	

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	
Install Application Javadocs	WEB_ISJAVADOCS	
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	

Menu Block 3: [WebLogic] Web Application Server Configuration

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

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	
Web Server Application Name	WEB_APP	
Deploy Javadocs Module	WEB_DEPLOY_JAVADOCS	
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	
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	
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	

Menu Option	Name Used in Documentation	Customer Install Value
Coherence Cluster Port	COHERENCE_CLUSTER_PORT	
Coherence Cluster Mode	COHERENCE_CLUSTER_MODE	

Menu Block 7 - OUAF TrustStore Options

Refer to the *Oracle Utilities Application Framework Server Administration Guide* for additional details on this configuration.

Starting Oracle Utilities Application Framework V4.4.0.0.0, the keystore and truststore options have been removed from the Menu and defaulted into the following template user exit that is loaded by all the properties files:

templates/FW_spl.properties.keystore.truststore.include

You can still customize those options using the "Centralized Properties Customization" option. Upgrades from Oracle Utilities Application Framework versions below 4.4.0.0.0 will still use the keystore and truststore options recorded in the existing etc/ENVIRON.INI file (Menu options file).

The OUAF truststore configuration is required for IWS.

Menu Option	Name Used in Documentation	Customer Install Value
Import TrustStore Directory	TS_IMPORT_KEYSTORE_FOLDER	

Menu Block 8 - OSB Configuration

The OSB configuration includes:

Menu Option	Name Used in Documentation	Customer Install Value
OSB Home		
OSB Host Server		
OSB Port Number		
OSB SSL Port Number		
OSB Managed Server Port Number		
OSB Managed Server SSL Port Number		
JDBC URL for Database		
OSB Service Table Schema Name		

Menu Option	Name Used in Documentation	Customer Install Value
OSB Service Table Schema Password		
OSB WebLogic User Name		
OSB WebLogic User Password		
Mount Point for OSB Files	/spl/sploutput/osb	

Menu Block 9 - SOA Configuration

The SOA configuration includes:

Menu Option	Name Used in Documentation	Customer Install Value
SOA Home		
SOA Host Server		
SOA Port Number		
SOA SSL Port Number		
SOA Internal URL		
SOA External URL		
JDBC URL for SOA Database		
SOA Service Table Schema Name		
SOA Service Table Schema Password		
SOA WebLogic User Name		
SOA WebLogic User Password		
Specify the Path for XAI/IWS Service	XAIApp/xaiservert	

Menu Block 10 - SOA Configuration Plan (MDM)

The SOA configuration plan (MDF) includes:

Menu Option	Name Used in Documentation	Customer Install Value
MDM Bulk Request Callback URL		
MDM Headend HTTP Connection Timeout	50000	

Menu Option	Name Used in Documentation	Customer Install Value
MDM Headend HTTP Read Timeout	500000	
MDM SOA Request Queue JNDI Name	queue/BulkRequestQueue	
MDM SOA Notify Queue JNDI Name	queue/BulkNotifyQueue	
MDM SOA Command Queue JNDI Name	queue/BulkCommandQueue	
SGG-NMS TestHarness Partition Name	SGG-NMS_Test	

Menu Block 11 - Configuration for DataRaker Integration

The DataRaker Integration configuration includes:

Menu Option	Name Used in Documentation	Customer Install Value
JNDI Name of Destination Queue to publish SGG payloads for DataRaker Integration Tool	DataRakerQueue	
Number of records (SGG Payloads) to accumulate	100	
Max file size for the accumulated (SGG Payloads) file in Kilobytes	524288	
Specify a time which, when exceeded, causes a new outgoing file to be created in seconds	600	
Polling frequency of Staging directory for new files in seconds	60	
Mount point/directory for the accumulated SGG payload file	/spl/sploutput/staging	
Mount Point/directory for the converted XML file to place for DataRaker	/spl/sploutput/int	

Menu Block 16 - SOA Configuration Plan (LG)

The SOA configuration plan (LG) includes:

Menu Option	Name Used in Documentation	Customer Install Value
LG SOA Partition Name	LG	
LG SOA TestHarness Partition Name	LG_Test	
AMI Event Subscriber Output Path	/spl/sploutput/osb/lg-cim-event	
MR_Server endpoint URI		
CD_Server endpoint URI		
CIM_Server endpoint URI		
MeteringServer endpoint URI		
Security policy attached to outbound web service calls to a CIM interface	sgg/d3_cfs_cim_header_client_policy	
Security policy attached to inbound web service calls from a CIM interface	sgg/d3_cim_token_service_policy	
The name of the OWSM policy to use when SOA calls a head end system	oracle/ http_basic_auth_over_ssl_client_policy	
The name of the OWSM policy to use when SOA is called by a head end system	oracle/ http_basic_auth_over_ssl_service_policy	

Menu Block 17 - SOA Configuration Plan (NES)

The SOA configuration plan (NES) includes:

Menu Option	Name Used in Documentation	Customer Install Value
NES endpoint URI		
SOA partition to which the application is installed	Echelon	
Path to the NES EventManager web service on the head end system	CoreServices/EventManager.asmx	
Path to the NES GatewayManager web service	CoreServices/GatewayManager.asmx	

Menu Option	Name Used in Documentation	Customer Install Value
Path to the NES DeviceManager web service on the head end system	CoreServices/DeviceManager.asmx	
Path to the NES SettingManager web service on the head end system	CoreServices/SettingManager.asmx	
Path to the NES UserManager web service on the head end system	CoreServices/UserManager.asmx	
Name of the OWSM policy to use when SOA calls a head end system	oracle/ http_basic_auth_over_ssl_client_policy	
Name of the OWSM policy to use when SOA is called by a head end system	oracle/ http_basic_auth_over_ssl_service_policy	

Menu Block 18 - SOA Configuration Plan (Sensus)

The SOA configuration plan (Sensus) includes:

Menu Option	Name Used in Documentation	Customer Install Value
Sensus SOA TestHarness Partition Name	Sensus_Test	
Sensus SOA Partition Name	Sensus	
MR Server Endpoint URI		
CD Server Endpoint URI		
OD Server Endpoint URI		
Headend Http Read Timeout	500000	
Headend Http Connection Timeout	50000	
The name of the OWSM policy to use when SOA calls a head end system	oracle/ http_basic_auth_over_ssl_client_policy	
The name of the OWSM policy to use when SOA is called by a head end system	oracle/ http_basic_auth_over_ssl_service_policy	

Menu Block 19 - SOA Configuration Plan (SSN)

The SOA configuration plan (Sensus) includes:

Menu Option	Name Used in Documentation	Customer Install Value
SSN SOA Partition Name	SSN	
SOA Weblogic User Name		
SOA Weblogic User Password		
SSN SOA Queue JNDI Name	queue/SSNODRQ	
SSN Headend DataAggregation Endpoint URI		
The URL for the SSN 4.7 DataAggregation service (DataAggregation.asmx)	http://127.0.0.1/CoreServices/DataAggregation.asmx	
The URL for the SSN 4.10 DataAggregation service	https://ssn.ssnsgs.net:3000/amm/webservice/v2_1/DataAggregat...	
The url for the SSN 4.14 DataAggregation service	https://ssn.ssnsgs.net:3000/amm/webservice/v2_5_1/DataAggregationPort	
The url for the SSN 5.1 DataAggregation service	https://ssn.ssnsgs.net:3000/amm/webservice/v2_7/DataAggregationPort	
SSN Headend DeviceManager Endpoint URI		
The URL for the SSN 4.7 DeviceManager service (DeviceManager.asmx)	http://127.0.0.1/CoreServices/DeviceManager.asmx	
The URL for the SSN 4.10 DeviceManager service	https://ssn.ssnsgs.net:3000/amm/webservice/v2_1/DeviceManage...	
URL for the SSN 5.1 DeviceManager service	https://ssn.ssnsgs.net:3000/amm/webservice/v2_7/DeviceManagerPort	
SSN Headend DeviceResults Endpoint URI		
The URL for the SSN 4.7 DeviceResults service (DeviceResults.asmx)	http://127.0.0.1/CoreServices/DeviceResults.asmx	
The URL for the SSN 4.10 DeviceResults service	https://ssn.ssnsgs.net:3000/amm/webservice/v2_1/DeviceResult...	
The url for the SSN 5.1 DeviceResults service	https://ssn.ssnsgs.net:3000/amm/webservice/v2_7/DeviceResults	
SSN Headend JobManager Endpoint URI		

Menu Option	Name Used in Documentation	Customer Install Value
The URL for the SSN 4.7 JobManager service (JobManager.asmx)	http://127.0.0.1/CoreServices/JobManager.asmx	
The URL for the SSN 4.10 JobManager service	https://ssn.ssnsgs.net:3000/amm/webservice/v2_7/JobManagerPort	
The url for the SSN 5.1 JobManager service	https://ssn.ssnsgs.net:3000/amm/webservice/v2_7/JobManagerPort	
The name of the OWSM policy to use when SOA calls a head end system	oracle/http_basic_auth_over_ssl_client_policy	
The name of the OWSM policy to use when SOA is called by a head end system	oracle/http_basic_auth_over_ssl_service_policy	

Menu Block 20 - SSN JMS Source Destination Bridge Configuration

The SSN JMS Source Destination Bridge configuration includes:

Menu Option	Name Used in Documentation	Customer Install Value
SSN Bridge Destination Name	SSNTestHarnessBridgeDestination	
SSN Bridge Destination Additional Classpath		
SSN Bridge Destination Connection URL		
SSN Bridge Destination Initial Context Factory	weblogic.jndi.WLInitialContextFactory	
SSN Bridge Connection Factory JNDI Name	jms/SSNTestHarnessConnectionFactory	
SSN Bridge Destination Queue JNDI Name	queue/SSNTestSSNODRQ	
SSN Destination Bridge Username		

Menu Block 21 - DG Reference Implementation SOA Configuration

The DG Reference Implementation SOA configuration includes:

Menu Option	Name Used in Documentation	Customer Install Value
DG SOA Partition Name	DG	

Menu Option	Name Used in Documentation	Customer Install Value
MR Server Endpoint URI		
CD Server Endpoint URI		
OD Server Endpoint URI		
Headend Http Read Timeout	500000	
Headend Http Connection Timeout	50000	
DG SOA TestHarness Partition Name	DG_Test	

Menu Block 22 - SOA Configuration Plan (Itron Openway)

The SOA Configuration Plan (Itron Openway) configuration includes:

Menu Option	Name Used in Documentation	Customer Install Value
Itron SOA Partition Name	Itron	
Headend Http Read Timeout	500000	
Headend Http Connection Timeout	50000	
DataSubscriberService Output Path		
ExceptionSubscriberService Output Path		
Itron Headend DataService Endpoint URI		
Itron Headend DiagnosticService Endpoint URI		
Itron Headend UtilService Endpoint URI		
Itron Headend ControlService Endpoint URI		
Itron Headend ProvisioningService Endpoint URI		
Itron Headend ProvisioningService370 Endpoint URI		

Menu Option	Name Used in Documentation	Customer Install Value
Itron Headend ControlService370 Endpoint URI:		
Itron SOA TestHarness Partition Name	Itron_Test	
The name of the OWSM policy to use when SOA calls a head end system	oracle/ http_basic_auth_over_ssl_client_policy	
The name of the OWSM policy to use when SOA is called by a head end system	oracle/ http_basic_auth_over_ssl_service_policy	

Advanced Menu Options

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

Linux/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
OUAF DBMS Scheduler User	OUAF_DBMS_SCHEDULER_USER	
WebLogic ThreadPoolWorker Enabled	WLS_THEADPOOLWORKERENABLED	
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	

Menu Option	Name Used in Documentation	Customer Value Install
JDBC Read Timeout	JDBC_TIMEOUT	
Enable JMS Global Flush for Batch	ENABLE_JMS_GLOBAL_FLUSH	
Add UsernameToken.xml	ADD_USERNAMETOKEN_XML	
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	
Online Display Software Home	ONLINE_DISPLAY_HOME	
Max Queries To Hold In Cache Across All Threads	XQUERIES_TO_CACHE	
Seconds Timeout Flush Cache Completely	XQUERY_CACHE_FLUSH_TIMEOUT	
Malware Scan Host		
Malware Scan Port		
Malware Scan Timeout (Seconds)		

Menu Block 51 - WebLogic Advanced Environment Memory Configuration

WebLogic advanced environment memory configurations include:

Menu Option	Name Used in Documentation	Customer Install 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 Size	BATCH_MEMORY_OPT_MIN	

Menu Option	Name Used in Documentation	Customer Install Value
Thread Pool Worker Java Max Heap Size	BATCH_MEMORY_OPT_MAX	
Thread Pool Worker Additional Options	BATCH_MEMORY_ ADDITIONAL_OPT	

Menu Block 52 - Advanced Web Application Configuration

Advanced web application configurations include:

Menu Option	Name Used in Documentation	Customer Install Value
Web Application Cache Settings	WEB_L2_CACHE_MODE	
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	
Javadocs Login Page	WEB_JAVADOCS_FORM_LOGIN _PAGE	
Javadocs Form Login Error Page	WEB_JAVADOCS_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	
Javadocs Security Role	WEB_JAVADOCS_ROLE_NAME	
Javadocs Principal Name	WEB_JAVADOCS_PRINCIPAL_N AME	

Menu Option	Name Used in Documentation	Customer Install Value
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	
Enable Strict Transport Security		
Strict Transport Security Max Age	HSTS_MAX_AGE	
Strict Transport Security Include Subdomains	HSTS_SUBDOMAINS	
Strict Transport Security Preload	HSTS_PRELOAD	
User Interface Style	USER_INTERFACE_STYLE	
Oracle Guided Learning Id	ORACLE_GUIDED_LEARNING _ID	

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	

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
Enable CORS For Embedded UI	ENABLE_CORS	
Allowed Frame Ancestors Max Number	CORS_ALLOWED_FRAME_ANC ESTORS_MAX_NUMBER	
URI For Variable CSP_FRAME_ANS_HOST1	CORS_CSP_FRAME_ANS_ HOST1	
URI For Variable CSP_FRAME_ANS_HOST2	CORS_CSP_FRAME_ANS_ HOST2	

Menu Option	Name Used in Documentation	Customer Install Value
Custom URL For CSP img-src	CSP_URL_IMG_SRC	
Custom URL For CSP script-src	CSP_URL_SCRIPT_SRC	
Custom URL For CSP style-src	CSP_STYLE_SRC	
Custom URL For CSP font-src	CSP_FONT_SRC	
Custom URL For CSP connect-src	CSP_CONNECT_SRC	
URI For Variable FA_DOMAIN	CORS_FA_DOMAIN	
URI For Variable ALM_DOMAIN	CORS_ALM_DOMAIN	
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	
URI for Variable F1_OPEN_API_BASE_URL	CLOUD_LOCATION_F1_OPEN_API_BASE_URL	
URI For Variable F1_BASE_WEB_URI	CLOUD_LOCATION_F1_BASE_WEB_URI	
URI For Variable F1_BASE_IWS_URI	CLOUD_LOCATION_F1_BASE_IWS_URI	
Consolidated Logfile Full Path	CONSOLIDATED_LOG_FILE_PATH	
Temporary File Location	TMP_FILE_LOCATION	

Menu Block 56 - Mobile Security Configuration

Note: The OUAF Mobile is not supported anymore, but the menu options still exist. They will be removed from the menu as well.

The 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	

Menu Block 57 - REST Settings for JMX

REST settings for JMX configurations include:

Menu Option	Name Used in Documentation	Customer Install Value
Enable/Disable REST Service For The JMX	JMX_REST_SERVICE_FLAG	
Hostname To Run The REST Server	JMX_REST_SERVICE_HOST	
Batch Port For REST Server	JMX_REST_PORT_BATCH	
Web Port For REST Server	JMX_REST_PORT_WEB	
Business Server Port For REST Server	JMX_REST_PORT_SERVICE	
Server Context	JMX_REST_CONTEXT	
SSL Flag	JMX_HTTPSSL_FLAG	
Keystore File Path	JMX_HTTPSSL_KEYSTORE_FILE	
Keystore Type	JMX_HTTPSSL_KEYSTORE_TYPE	
Keystore Passphrase	JMX_HTTPSSL_KEYSTORE_PASSPHRASE	
Keypair Passphrase	JMX_HTTPSSL_KEYPAIR_PASSPHRASE	
Trust Store File Path	JMX_HTTPSSL_TRUSTSTORE_FILE	

Menu Option	Name Used in Documentation	Customer Install Value
Truststore Type	JMX_HTTPSSL_TRUSTSTORE_TYPE	
Truststore Passphrase	JMX_HTTPSSL_TRUSTSTORE_PASSPHRASE	

Menu Block 60 - Advanced Configurations for OSB

The advanced configurations for OSB include:

Menu Option	Name Used in Documentation	Customer Install Value
Enable OSB SSL Port	false	
OSB Trust Keystore Type	Demo	
OSB Trust Keystore File Type	JKS	
OSB Trust Keystore File		

Menu Block 61 - Advanced Memory Configurations for SOA

The advanced memory configurations for SOA include:

Menu Option	Name Used in Documentation	Customer Install Value
SOA Initial Heap Size	1024	
SOA Maximum Heap Size	2048	
SOA Minimum Perm Size	512	
SOA Maximum Perm Size	1024	
SOA Application Additional Options		
The name of the OWSM policy to use when SOA calls another SOA service	oracle/http_basic_auth_over_ssl_client_policy	
The name of the OWSM policy to use when SOA is called by another SOA service	oracle/http_basic_auth_over_ssl_service_policy	
The name of the OWSM policy to use when SOA calls an OUAF service	oracle/wss_http_token_over_ssl_client_policy	

Menu Block 62 - Advanced Memory Configurations for OSB

The advanced memory configurations for OSB include:

Menu Option	Name Used in Documentation	Customer Install Value
OSB Initial Heap Size	512	
OSB Maximum Heap Size	1024	
OSB Minimum Perm Size	512	
OSB Maximum Perm Size	1024	
OSB Application Additional Options		

Menu Block 63 - Data Migration

The data migration configurations include:

Menu Option	Name Used in Documentation	Customer Install Value
Enable Data Migration	FALSE	
Data Migration Database User		
Data Migration Database Password		

Menu Block 64 - Advanced Configurations for SOA

The advanced configurations for SOA include:

Menu Option	Name Used in Documentation	Customer Install Value
Enable SOA SSL Port	false	
SOA Trust Keystore Type	Demo	
SOA Trust Keystore File Type	JKS	
SOA Trust Keystore File		

Menu Block 70 - SSN SOA TestHarness Configurations

The SSN SOA TestHarness configurations include:

Menu Option	Name Used in Documentation	Customer Install Value
SSN TestHarness SOA Host Server	slc11cds.us.oracle.com	

Menu Option	Name Used in Documentation	Customer Install Value
SSN TestHarness SOA Port Number	8920	
SSN SOA TestHarness Partition Name	SSN_Test	
SSN SOA TestHarness Queue JNDI Name	queue/SSNTestSSNODRQ	

Appendix C

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:

   Linux/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:

   Linux/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:

   Linux/UNIX

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

   Windows

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

To Modify the Configuration Values

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

   Linux/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:

   Linux/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:

   Linux/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
   ```