

Oracle Real-Time Scheduler
Server Application Installation Guide
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Oracle Real-Time Scheduler Installation Guide Release 2.3.0

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Preface

This guide describes how to install Oracle Real-Time Scheduler.

This preface contains these topics:

- [Audience](#)
- [Related Documents](#)
- [Conventions](#)

Audience

The *Oracle Real-Time Scheduler Installation Guide* is intended for system administrators installing Oracle Real-Time Scheduler.

To complete this installation you should have:

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

Related Documents

For more information, see these Oracle documents:

Installation, Configuration, and Release Notes

- *Oracle Real-Time Scheduler Release Notes*
- *Oracle Real-Time Scheduler Quick Install Guide*
- *Oracle Real-Time Scheduler Server Application Installation Guide*
- *Oracle Real-Time Scheduler DBA Guide*
- *Oracle Real-Time Scheduler Hybrid Mobile Application Installation and Deployment Guide*

User Guides

- *Oracle Real-Time Scheduler Server Application User's Guide*
- *Oracle Real-Time Scheduler Mobile Application User's Guide (Java-based)*
- *Oracle Real-Time Scheduler Hybrid Mobile Application User's Guide*
- *Oracle Real-Time Scheduler Hybrid Mobile Contractor Application User's Guide*

Implementation and Development

- *Oracle Real-Time Scheduler Hybrid Mobile Application Implementation and Development Guide*

Map Editor Installation and User Guides

- *Oracle Real-Time Scheduler Map Editor User's Guide*
- *Oracle Real-Time Scheduler Map Editor Installation Guide*

Supplemental Documents

- *Oracle Real-Time Scheduler Server Administration Guide*
- *Oracle Real-Time Scheduler Security Guide*

Conventions

The following text conventions are used in this document:

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

Chapter 1

Overview

This chapter provides an overview of the installation of Oracle Real-Time Scheduler. This chapter includes information on the following:

- [Installation Overview](#)
- [Installation Types](#)
- [Media Pack Components](#)

Installation Overview

Installing Oracle Real-Time Scheduler involves the following steps:

1. Review the different tiers of the application architecture as described in chapter [Application Architecture Overview](#).
2. Understand the hardware requirements for installing the application and the supported platforms for the application and database servers as described in chapter [Supported Platforms and Hardware Requirements](#).

Note: The installation and administration of the database server tier is described in detail in the document *Oracle Real-Time Scheduler Database Administrator's Guide*.

3. Plan your installation and install all required third-party software as described in chapter [Planning the Installation](#). The required software is listed for each supported combination of operating system and application server.
4. Install the database as described in the document *Oracle Real-Time Scheduler Database Administrator's Guide*.
5. Determine the type of installation and follow the instructions in the chapter corresponding to that type of installation.
6. Choose whether to install the Java-based or Hybrid mobile client. Install the Java-based Mobile Client for Oracle Real-Time Scheduler on mobile devices as described in chapter [Installing the Java-based Mobile Client](#).

Note: If you wish to install the Hybrid mobile client, refer to the guide *Oracle Real-Time Scheduler Hybrid Mobile Application Installation and Deployment Guide*.

7. Follow the post-installation guidelines described in chapter [Additional Tasks](#).

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](#)- a base installation, typically used for a production environment
- [Upgrade Installation](#)- an upgrade installation from version 2.1.0.6 to 2.3.0 and from version 2.2.0.3.5 to 2.3.0.
- [Demo Installation](#) - a base installation with pre-populated demo data, typically used for demonstration or training purposes
- [Accelerator Installation](#) - a base installation with pre-populated data, which simplifies implementation.

The following sections describe these installation types in detail.

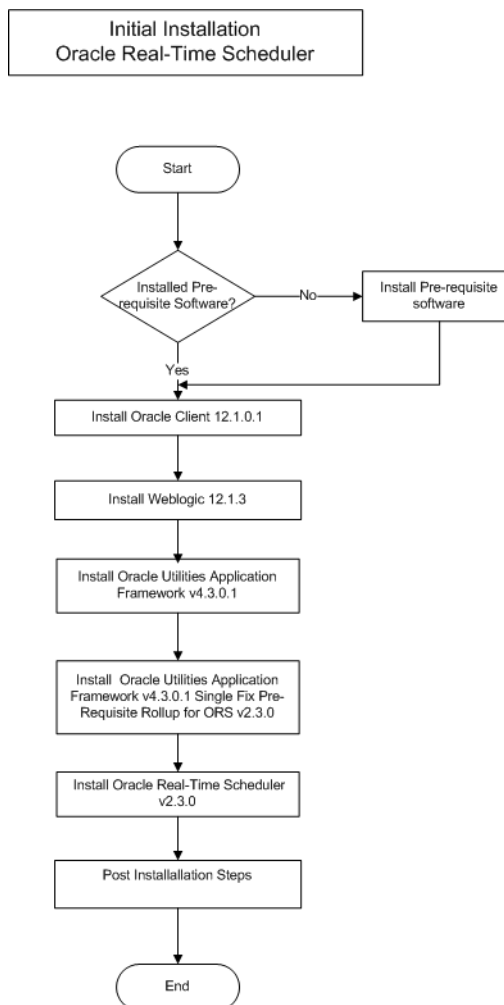
Initial Installation

This installation type is applicable when installing Oracle Real-Time Scheduler for the first time or from scratch. For an initial install, you must install all of the following components:

- Database components
Refer to the “Initial Install” section of the *Oracle Real-Time Scheduler Database Administrator's Guide* for more information.
- Application components
 - Oracle Utilities Application Framework v4.3.0 Service Pack 1 (also referred to as v4.3.0.1)

- Oracle Utilities Application Framework v4.3.0.1 Single Fix Pre-Requisite Rollup for ORS v2.3.0
- Oracle Real-Time Scheduler v2.3.0

The following diagram shows a typical workflow of the initial installation process:



Refer to chapter [Installing Oracle Real-Time Scheduler - Initial Installation](#) for the detailed steps involved in installing each of these components.

Upgrade Installation

This installation type is applicable when upgrading Oracle Real-Time Scheduler. The possible upgrade paths are:

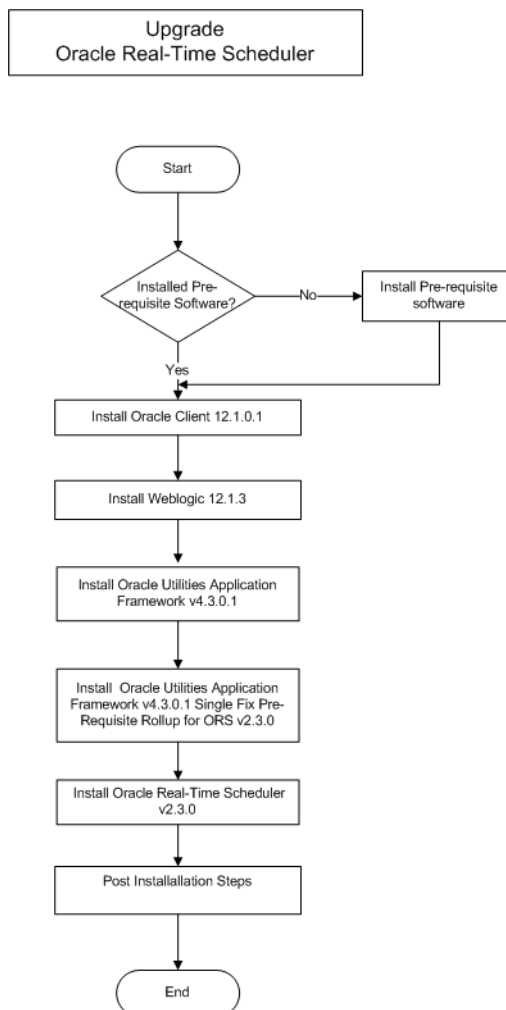
- Upgrading from version v2.1.0.6 to v2.3.0
- Upgrading from version 2.2.0.3.5 to v2.3.0

For an upgrade install, you must upgrade all of the following components:

- Database components
Refer to the “Upgrade Install” section of the *Oracle Real-Time Scheduler Database Administrator’s Guide* for more information.
- Application components
 - Oracle Utilities Application Framework v4.3.0 Service Pack 1 (also referred to as v4.3.0.1)

- Oracle Utilities Application Framework v4.3.0.1 Single Fix Pre-Requisite Rollup for ORS v2.3.0
- Oracle Real-Time Scheduler v2.3.0

The following diagram shows a typical workflow of the upgrade installation process:



Refer to chapter [Upgrading Oracle Real-Time Scheduler](#) for the steps involved in upgrading each of the above components.

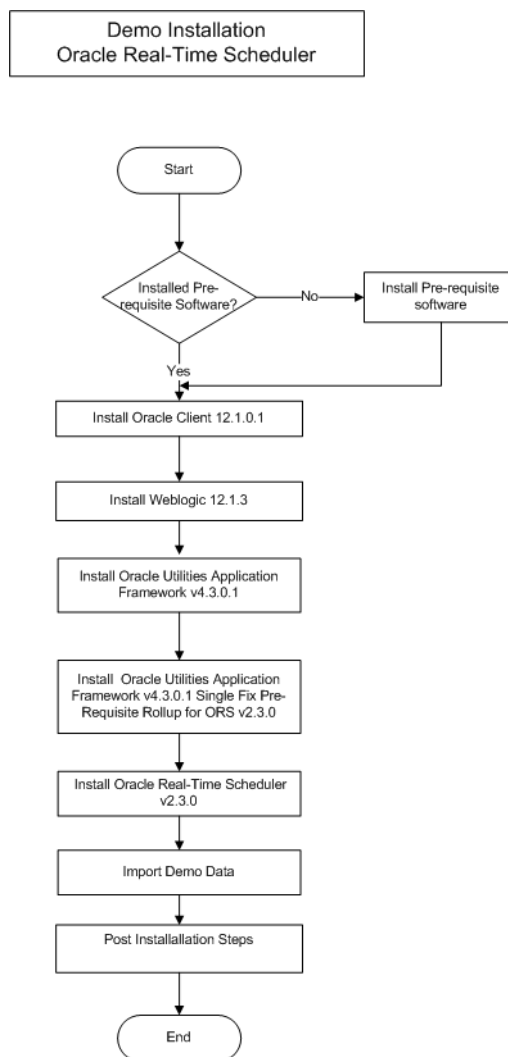
Demo Installation

This installation type is applicable when installing a demo application of Oracle Real-Time Scheduler for demonstration or training purposes. For a demo install, you must install all of the following components:

- Database components
Refer to the “Demo Install” section of the *Oracle Real-Time Scheduler Database Administrator’s Guide* for more information.
- Application components
 - Oracle Utilities Application Framework v4.3.0 Service Pack 1 (also referred to as v4.3.0.1)

- Oracle Utilities Application Framework v4.3.0.1 Single Fix Pre-Requisite Rollup for ORS v2.3.0
- Oracle Real-Time Scheduler v2.3.0

The following diagram shows a typical work flow of the demo installation process:



Refer to chapter [Installing Oracle Real-Time Scheduler - Demo Installation](#) for the steps involved in installing each of the above components.

Accelerator Installation

For an accelerator install, you must install all of the following components:

- Database components
Refer to the “Accelerator Install” section of the *Oracle Real-Time Scheduler Database Administrator’s Guide* for more information.
- Application components
 - Oracle Utilities Application Framework v4.3.0 Service Pack 1 (also referred to as v4.3.0.1)

- Oracle Utilities Application Framework v4.3.0.1 Single Fix Pre-Requisite Rollup for ORS v2.3.0
- Oracle Real-Time Scheduler v2.3.0

Refer to chapter [Installing Oracle Real-Time Scheduler - Accelerator Installation](#) for the steps involved in installing each of the above components.

Media Pack Components

Documentation Packages

- Oracle Real-Time Scheduler v2.3.0 Release Notes
- Oracle Real-Time Scheduler v2.3.0 Quick Install Guide
- Oracle Real-Time Scheduler v2.3.0 Install Documentation
- Oracle Real-Time Scheduler v2.3.0 User Documentation
- Oracle Real-Time Scheduler v2.3.0 Supplemental Documentation

Installation Packages

- Oracle Utilities Application Framework Service Pack 1 v4.3.0.1
- Oracle Utilities Application Framework v4.3.0.1 Single Fix Prerequisite Rollup for Oracle Real-Time Scheduler v2.3.0
- Oracle Real-Time Scheduler v2.3.0 Multiplatform
- Mobile Communication Client v2.3.0 for Windows
- Mobile Communication Client v2.3.0 for Android
- Oracle Real-Time Scheduler v2.3.0 Oracle Database
- Oracle Real-Time Scheduler v2.3.0 MapEditor
- Hybrid Mobile Communication SDK v2.3.0 for Windows10
- Hybrid Mobile Communication Client v2.3.0 for Android

Chapter 2

Application Architecture Overview

This section provides an overview of the Oracle Real-Time Scheduler application architecture.

Application Architecture

The Oracle Real-Time Scheduler application is deployed on multiple tiers.

Please see the *Oracle Real-Time Scheduler Server Administration Guide* for a more detailed description of the application architecture and individual tiers.

Tier 1: Desktop/Client, or Presentation Tier

This tier is implemented in a browser-based client. Users use a desktop client web browser to log in to and use the Oracle Real-Time Scheduler application. Note also that a desktop machine running Microsoft Windows and the Oracle client is required to perform some of the product installation steps.

Tier 2: Mobile Client Tier

This tier is implemented on mobile computers such as laptops and handhelds. Users can install the mobile client software to use the mobile functionality of Oracle Real-Time Scheduler.

Tier 3: Web Application / Business Application Server, or Business Logic Tier

This tier is implemented in a web application or business application server. The business application component can be installed as part of the web application server, or as a separate component. Except where explicitly noted, most of the Oracle Real-Time Scheduler installation documentation assumes that the web application and business application servers reside together.

Tier 4: Database, or Persistence Tier

This tier is implemented in a database server. The database server stores data maintained by the Oracle Real-Time Scheduler application. More specifically, the database tier contains the data server files and database executables that physically store the tables, indexes, and other database objects for your system.

Chapter 3

Supported Platforms and Hardware Requirements

This chapter includes:

- [Software and Hardware Considerations](#)
- [Operating Systems and Application Servers](#)
- [Hardware Requirements](#)
- [Application Server Memory Requirements](#)
- [Additional Notes on Supported Platforms](#)
- [Support for Software Patches and Upgrades](#)

Software and Hardware Considerations

There are many factors that can influence software and hardware decisions. For example, your system may have to satisfy specific performance, availability, or scalability requirements, or to support running in a language other than English. These business requirements, together with the chosen system architecture, should be used in initial software and hardware planning.

Some of the questions that you should answer before beginning the installation include:

- On which hardware platform and operating system would Oracle Real-Time Scheduler be deployed?
- On which web server product would Oracle Real-Time Scheduler be deployed?
- On which database product would Oracle Real-Time Scheduler be deployed?
- Do you plan to deploy multiple Oracle Real-Time Scheduler instances on the same physical server?
- How do you plan to deploy Oracle Real-Time Scheduler?
 - Web/application/database on the same physical server
 - Web/application on one server and database on separate server
 - Each component on its own server

Note: If you deploy the mobility application and web application on different servers, the log file path should be shared on the network.

- How do you plan to install and update the Oracle Real-Time Scheduler mobile client on the mobile computers or devices?

- Use a device management software like Oracle Mobile Server for installation and updates.
- How do you plan to secure Oracle Real-Time Scheduler when communicating with devices over unsecured networks like the internet?

For detailed descriptions of various deployment architecture choices that may aid in planning, please see the document *Oracle Utilities Application Framework Architecture Guidelines*, available on My Oracle Support (Article ID 807068.1).

The final hardware and software decisions must comply with the specific requirements of Oracle Real-Time Scheduler, as described in the rest of this chapter.

Operating Systems and Application Servers

The following table details the operating system and application server combinations on which this version of Oracle Real-Time Scheduler is supported.

Operating System and Web Browser (Client)	Operating System (Server)	Chipset	Application Server	Database
	AIX 7.1 TL1 (64-bit)	POWER 64-bit	WebLogic 12.1.3.0+	Oracle 12.1.0.1+
	Oracle Linux 6.x or 7.0 (64-bit)	x86_64	WebLogic 12.1.3.0+	Oracle 12.1.0.1+
Windows 7, 8.1	Red Hat Enterprise Linux 6.x or 7.0 (64-bit)			
	Oracle Solaris 11 (64-bit)	SPARC	WebLogic 12.1.3.0+	Oracle 12.1.0.1+
	Windows Server 2012 R2 (64-bit)	x86_64	WebLogic 12.1.3.0+	Oracle 12.1.0.1+

*A plus sign (+) after the fourth digit in the version number indicates that this and all higher versions of WebLogic are supported. For example, 12.1.3.0+ means that 12.1.3.0 and any higher 12.1.3.x.x versions are supported.

** Oracle Real-Time Scheduler is supported on the versions of Oracle Linux specified. Because Oracle Linux is 100% userspace-compatible with Red Hat Enterprise Linux, Oracle Real-Time Scheduler also is supported on Red Hat Enterprise Linux for this release.

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**.

Note: Oracle Real-Time Scheduler no longer requires the Oracle Spatial and Graph option to operate properly. While this release supports Oracle Spatial, additional installation steps have been added in the Oracle Real-Time Scheduler *Database Administrator's Guide*, section "Creating the Database" to run against a database without this option, including Oracle Standard Edition. The Oracle Spatial Geocoder feature is available to the Oracle Real-Time Scheduler application on a restricted use basis for any customer running without the Oracle Spatial and Graph option.

Hardware Requirements

Configuration	Processor	Memory (RAM)	Monitor Display
Minimum	Pentium IV - 2.0 GHz	1024 MB	1024X768** 16-bit Color
Recommended*	Pentium IV - 3.0+ GHz, Or any Core 2 Duo Or any Athlon X2	2048 MB	1280X1024* 32-bit Color

* The Recommended configuration will support better performance of the client.

** To reduce the amount of scrolling required for pages that are longer than 768 or 1024 pixels, consider placing a monitor into vertical position (with narrow side on the bottom).

Web Browser Requirements

The following operating system/web browser software is supported:

- Windows 7 (64-bit), 8.1 with Internet Explorer 11
- Windows 7 (64-bit), 8.1 with Firefox 38.X ESR

Java-Based Mobile Client: Software and Hardware Requirements

The following operating systems are supported by the Java-based mobile client.

- Windows 7 (64-bit)

The following is the recommended hardware configuration for Windows 7 (64-bit):

Configuration	Processor	Memory (RAM)
Recommended	Intel Core i5-2557M ULV processor	2048 MB

- Windows 8.1 (64-bit)

The following is the recommended hardware configuration for Windows 8.1 (64-bit):

Configuration	Processor	Memory (RAM)
Recommended	Fourth-generation Intel® Core™ i5vPro™ Processor	2048 MB

- Android 4.1, 4.2, 4.3, 4.4.x, 5.1.x

The following is the recommended hardware configuration for Android devices:

Configuration	Processor	Memory (RAM)
Recommended	Quad-core 1.5 GHz Cortex-A53 & Quad-core 2.1 GHz Cortex-A57	3 GB

Note: This release has been tested on the following:

- Samsung Galaxy S4 running on Android 4.4.x
- Samsung Galaxy S6 running on Android 5.1.x

Hybrid Mobile Client: Software and Hardware Requirements

The following operating systems are supported by the Hybrid mobile client.

- iOS

The following is the recommended hardware configuration for iOS device:

Configuration	Processor	Memory (RAM)
Recommended	Three core 1.5 GHz Apple A8X	2 GB

- Windows 10 (64-bit)

The following is the recommended hardware configuration for Windows 10 (64-bit) device:

Configuration	Processor	Memory (RAM)
Recommended	6th Generation Intel® Core™ i5 processor	8 GB

- Android 4.4.x, 5.1.x

The following is the recommended hardware configuration for Android devices:

Configuration	Processor	Memory (RAM)
Recommended	Quad-core 1.5 GHz Cortex-A53 & Quad-core 2.1 GHz Cortex-A57	3 GB

Note: This release has been tested on the following:

- Samsung Galaxy S4 running on Android 4.4.x
- Samsung Galaxy S6 running on Android 5.1.x
- Samsung Galaxy Tablet-SM-T805 running on Android 4.4.x
- Dell Inspiron 13 7000 Series running on Windows 10

Web/Business Application Server: Software and Hardware Requirements

Please consult the “Additional Notes on Supported Platforms” on page 5 to determine which web application servers can be used with the operating system that will be hosting this tier.

The recommendations that follow are based on a standard installation with both the application and business servers on the same machine and the system running with the default values. The minimum resource requirements exclude third-party software installation requirements. Refer to the third-party vendors for specific requirements. The following sizing excludes the Oracle database server installation.

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.

Disk Space Requirements

The approximate disk space requirements in a standard installation are as follows:

Location	Size	Usage
\$SPLEBASE	10 GB minimum	This location is 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.
\$SPLAPP	4 GB minimum	This location is used for storing batch log files and output from batch jobs. The size of this space should be influenced by which batches are run and how often, and the amount of debugging information that is collected.
Location of the application web work files on the web servers	3 GB minimum	This location is used by the 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	5 GB	The application gets installed from this location. You need enough space to uncompress the files and install the application.
Oracle data area	4 GB minimum	This location is where the Oracle database data files are stored. The size of this space should be based on the requirements of the production environment. For an initial or demo database install 4 GB should be sufficient.

Additional Notes on Supported Platforms

Oracle Database Servers

This version is supported with Oracle Database Server 12.1.0.1+ on all of the certified and supported operating systems listed above.

The Oracle 12.1.0.1+ client is required for this version of the database server.

The following Oracle Database Server Editions are supported:

- Oracle Database Server Standard Edition
- Oracle Database Server Enterprise Edition

Oracle VM Support

This version of Oracle Real-Time Scheduler is supported on Oracle VM Server for x86 for supported releases of Oracle Linux and Microsoft Windows operating systems.

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

Supported on the Java-based Mobile Client

The following section describes the devices, operating systems and features that are available with the Oracle Real-Time Scheduler Java-based mobile client application.

The mobile application can be used in a disconnected or connected mode. In **disconnected** mode the mobile application and data reside locally on the mobile device allowing the crew to work offline as needed. This means the physical device has to be compatible with the mobile application requirements it runs locally.

In **connected** mode the mobile application does not reside locally on the accessing mobile device. Instead the mobile application resides on the server and the user must be connected to the server at all times using their standard browser to access the mobile application.

Please refer to “About Connection Modes” in the user guide for more information.

The following entities are supported on mobile devices. Please note the distinction between attachments and captures:

- **Captures** are pictures or sound that are captured using native features on the device.
- **Attachments** are sent to the device with activities and require an application installed on the device to open them. Attachments can also be added to the assignments on the device.
- **GPS** pinpoints the exact location information of the crew using GPS services.
- **Maps** allow tracking the actual or planned route of the crew on a map.

Disconnected Mode

The following table lists the features supported in the **Disconnected** MCP mode.

Feature	Device Platform (Device Type)	
	Windows (Laptop)	Android (Tablet or Phone)
GPS	✓	✓
Capture Picture and Sound	✓	✓
Download Attachments from MDT	✓	✓
Upload Attachment from MDT to Server	✓	Partial Support*
Maps	✓	✓

Note: *For more information on the features and attachment types supported on Windows and Android, please refer to the *Server Application User Guide*.

Connected Mode

The following table lists the features supported in the **Connected** MCP mode.

Feature	Device Platform (Device Type)		
	Windows (Laptop)	Android (Tablet or Phone)	iOS (Tablet or Phone)
GPS	X	X	X
Capture Picture and Sound	X	X	X
Download Attachments from MDT	X	X	X
Upload Attachment from MDT to Server	X	X	X
Maps	✓	✓	✓

The following browsers are supported by the device platforms in **Connected** MCP mode.

Device Platform	Browser Platforms
Android	<ul style="list-style-type: none"> • Chrome Browser v43+ on Android 4.4.x, 5.1.x
iOS	<ul style="list-style-type: none"> • iOS 9.0 • Safari on iPad
Windows	<ul style="list-style-type: none"> • Chrome version 49 on Windows 7 • Firefox version 38.X ESR on Windows 7 • Internet Explorer 11 on Windows 7

Supported on the Hybrid Mobile Client

The following section describes the devices, operating systems and features that are available with the Oracle Real-Time Scheduler hybrid mobile client application.

Hybrid Mobile Client

The following table lists the features supported by the Hybrid Mobile Client.

Feature	Device Platform (Device Type)			
	Android (Tablet or Phone)	iOS	Chrome Browser	Windows (Laptop)
GPS	✓	✓	✓	✓
Capture Picture	✓	✓	X	✓
Capture Sound	X	X	X	X
Attach File	X	X	X	X
View File (3rd party software must exist for viewing file)	✓	✓	X	✓

Feature	Device Platform	(Device Type)		
	Android (Tablet or Phone)	iOS	Chrome Browser	Windows (Laptop)
Barcode Scanning	✓	✓	X	✓
Signature	✓	✓	X	✓
Download Attachments from MDT	✓	✓	X	✓
Upload Images from Gallery	✓	✓	X	✓
Upload Files from MDT to Server	X	X	X	X
Maps	✓	✓	✓	✓

The following browser is supported by the device platforms in **Hybrid** mobile client.

Device Platform	Browser Platforms
Windows	• Chrome version 49 on Windows 7

Support for Software Patches and Upgrades

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

If it is necessary to apply an upgrade, please do so in a test environment that is running on the same platform as your production environment prior to updating the production environment itself.

The exception from this rule is Hibernate software version 4.1.0. This version should not be upgraded.

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

Chapter 4

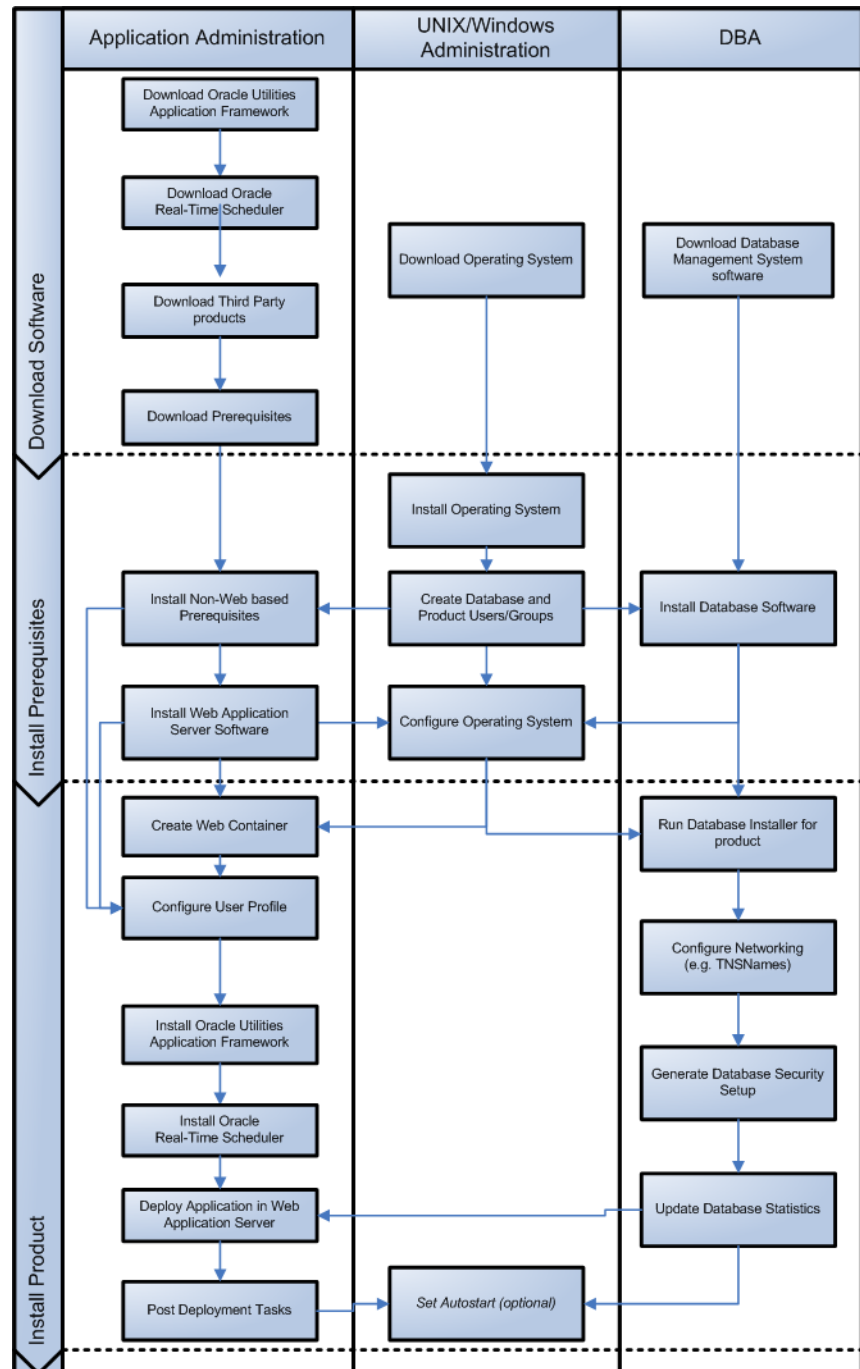
Planning the Installation

This chapter provides information for planning an Oracle Real-Time Scheduler installation, including:

- [Installation and Configuration Overview](#)
- [Installing Prerequisite Third-Party Software](#)
- [Installation Readiness Checklist](#)

Installation and Configuration Overview

The following diagram provides an overview of the steps that need to be taken to install and configure Oracle Real-Time Scheduler :



Installing Prerequisite Third-Party Software

This section describes the software that needs to be installed for each of the supported operating system and application server combinations. It contains the following sub-sections:

- [AIX 7.1 Operating System](#)
- [Oracle Linux 7.0/6.5 or Red Hat Linux 7.0/6.5 Operating System](#)

- [Solaris 11 Operating System](#)
- [Windows 2012 Operating System](#)

AIX 7.1 Operating System

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

Supported Application Servers

Operating System	Chipsets	Application Server
AIX 7.1 (64-bit) TL00	POWER 64-bit	Oracle WebLogic 12c (12.1.3.0+) 64-bit version

Web/Application Server Tier

AIX 7.1 TL00 Operating System Running on Power5 and Power6 Architecture

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 Values
Oracle Real-Time Scheduler Administrator User ID	cissys	
Oracle Real-Time Scheduler 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, the software should always be managed using that user id.

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

1. Create a group called cisusr (user group).
2. Create a user called cissys. Primary group cisusr. Set the primary shell for the cissys user to Korn Shell.
3. Set the stack size limit to 50 MB or more in the user profile startup script for cissys user:


```
ulimit -s 51200
```
4. Set the desired hard/soft limit of the file handler to 4096 or higher. The shell scripts use the ">" to overwrite shell functionality. Your operating system may be configured to not allow this functionality by default in the users shell.

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

```
set +o noclobber
```

Security Configuration

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

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

Please replace these users and groups for your installation defaults:

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

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

Oracle Client 12.1.0.1+ — 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.

IBM Java Software Development Kit version 6.0 SR15 64-bit

Installation of Java is a prerequisite for using Oracle WebLogic as a web application server.

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

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

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

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

Hibernate 4.1.0.FINAL

You must install Hibernate before installing Oracle Real-Time Scheduler.

Follow the steps below to install Hibernate:

1. Create a Hibernate jar external depot:


```
export HIBERNATE_JAR_DIR=<Hibernate 3rd party jars depot>
```
2. Download the hibernate-release-4.1.0.Final.zip file from <http://sourceforge.net/projects/hibernate/files/hibernate4/>
3. Click the “4.1.0.Final” link to download the zip file.
4. Extract the contents of the archive file:


```
jar xvf 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/ehcache-core-2.4.3.jar $HIBERNATE_JAR_DIR
```

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

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

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

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

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

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

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

Oracle WebLogic 12c(12.1.3.0+) 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 (as documented above) before installing WebLogic.
- Download and install WebLogic Server 12c (12.1.3.0+)

Oracle MapViewer 11g (11.1.1.7.3)

Oracle Fusion Middleware MapViewer 11g (11.1.1.7.3) is a tool that renders maps showing different kinds of spatial data. It can be downloaded from the following link:

<http://www.oracle.com/technetwork/middleware/mapviewer/downloads/index.html>

Oracle BPEL Process Manager 11gR1

Oracle BPEL Process Manager is optional software and is required only for SMS dispatching functionality. Oracle BPEL Process Manager 11gR1 is a component of Oracle SOA Suite 11gR1. The Oracle BPEL Process Manager version is determined by your SMS gateway application.

You can download SOA Suite 11gR1 from the SOA Suite download page at the following link:

<http://www.oracle.com/technology/products/soa/soasuite/collateral/downloads.html#11g>

GCC 4.2.4

GCC 4.2.4 libraries need to be installed for the scheduler functionality to work properly. The following GCC runtime libraries are required to be installed:

- libgcc : GCC compiler dynamic runtime library
- libstdc++ : G++ compiler dynamic runtime library

After installing the GCC runtime libraries, copy the following libraries to <INSTALL_DIR>/runtime directory:

- libstdc++.a
- libgcc_s.a

Alternately, you can add these libraries to LD_LIBRARY_PATH environment variable.

Oracle Linux 7.0/6.5 or Red Hat Linux 7.0/6.5 Operating System

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

Supported Application Servers

Operating System	Chipsets	Application Server
Oracle Linux 7.0/6.5 (64-bit) Red Hat Enterprise Linux 7.0/6.5(64-bit)	x86_64	Oracle WebLogic 12c (12.1.3.0+) 64-bit version

Web/Application Server Tier

Oracle Linux 7.0/6.5 or Red Hat Enterprise Linux 7.0/6.5 Operating System Running on x86_64 64-bit Architecture

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 Values
Oracle Real-Time Scheduler Administrator User ID	cissys	
Oracle Real-Time Scheduler 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, the software should always be managed using that user id.

By default, the cissys userid 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 stack size limit to 50 MB or more in the user profile startup script for cissys user:
4. `ulimit -s 51200` Set the desired hard/soft limit of the file handler to 4096 or higher. The shell scripts use the ">" to overwrite shell functionality. Your operating system may be configured to not allow this functionality by default in the users shell

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

```
set +o noclobber
```

Security Configuration

Various options exist to secure a system. In this application all files will be created with the minimum permissions required to ensure that group-readable, group-writable and group-executable files will have the correct user groups and to restrict the permissions available to

legitimate users. In this way, a low privileged end user cannot directly edit configuration files and thereby bypass application security controls.

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

Please replace these users and groups for your installation defaults:

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

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

Oracle Client 12.1.0.1+ — 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 Version 6.0 Update 65 or Later, 64-bit

At the time of release, the latest patch of the Oracle Java 6.0 package can be obtained from:

<https://support.oracle.com>

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

For the 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.

Hibernate 4.1.0FINAL

You must install Hibernate before installing Oracle Real-Time Scheduler.

Follow the steps below to install Hibernate:

1. Create a Hibernate jar external depot:

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


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

```
jar xvf 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/ehcache-core-2.4.3.jar
$HIBERNATE_JAR_DIR
```

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

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

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

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

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

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

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

Oracle WebLogic 12c(12.1.3.0+) 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 (as documented above) before installing WebLogic.
- Download and install WebLogic Server 12c (12.1.3.0+)

Oracle MapViewer 11g (11.1.1.7.3)

Oracle Fusion Middleware MapViewer 11g (11.1.1.7.3) is a tool that renders maps showing different kinds of spatial data. It can be downloaded from the following link:

<http://www.oracle.com/technetwork/middleware/mapviewer/downloads/index.html>

Oracle BPEL Process Manager 11gR1

Oracle BPEL Process Manager is optional software and is required only for SMS dispatching functionality. Oracle BPEL Process Manager 11gR1 is a component of Oracle SOA Suite 11gR1. The Oracle BPEL Process Manager version is determined by your SMS gateway application.

You can download SOA Suite 11gR1 from the SOA Suite download page at the following link:

<http://www.oracle.com/technology/products/soa/soasuite/collateral/downloads.html#11g>

Solaris 11 Operating System

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

Supported Application Servers

Operating System	Chipsets	Application Server
Solaris 11(64-bit)	SPARC	Oracle WebLogic 12c (12.1.3.0+) 64-bit version

Web/Application Server Tier

Solaris 11 Operating System Running on SPARC-based 64-bit Architecture

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 Values
Oracle Real-Time Scheduler Administrator User ID	cissys	
Oracle Real-Time Scheduler 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, the software should always be managed using that user id.

By default, the cissys userid 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 stack size limit to 50 MB or more in the user profile startup script for cissys user:
4. `ulimit -s 51200` Set the desired hard/soft limit of the file handler to 4096 or higher.

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

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

```
set +o noclobber
```

Security Configuration

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

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

Please replace these users and groups for your installation defaults:

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

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

Oracle Client 12.1.0.1+ — 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 Version 8.0 Update 65 or Later, 64-bit

This software is only required for Oracle WebLogic installations.

At the time of release, the latest patch of the Oracle Java 6.0 package can be obtained from:

<https://support.oracle.com>

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

For the 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.

Hibernate 4.1.0FINAL

You must install Hibernate before installing Oracle Real-Time Scheduler.

Follow the steps below to install Hibernate:

1. Create a Hibernate jar external depot:


```
export HIBERNATE_JAR_DIR=<Hibernate 3rd party jars depot>
```
2. Download the hibernate-release-4.1.0.Final.zip file from <http://sourceforge.net/projects/hibernate/files/hibernate4/>

3. Click the “4.1.0.Final” link to download the zip file.

4. Extract the contents of the archive file:

```
jar xvf 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/ehcache-core-2.4.3.jar
$HIBERNATE_JAR_DIR
```

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

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

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

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

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

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

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

Oracle WebLogic 12c(12.1.3.0+) 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 (as documented above) before installing WebLogic.
- Download and install WebLogic Server 12c (12.1.3.0+)

Oracle MapViewer 11g (11.1.1.7.3)

Oracle Fusion Middleware MapViewer 11g (11.1.1.7.3) is a tool that renders maps showing different kinds of spatial data. It can be downloaded from the following link:

<http://www.oracle.com/technetwork/middleware/mapviewer/downloads/index.html>

Oracle BPEL Process Manager 11gR1

Oracle BPEL Process Manager is optional software and is required only for SMS dispatching functionality. Oracle BPEL Process Manager 11gR1 is a component of Oracle SOA Suite 11gR1. The Oracle BPEL Process Manager version is determined by your SMS gateway application.

You can download SOA Suite 11gR1 from the SOA Suite download page at the following link:

<http://www.oracle.com/technology/products/soa/soasuite/collateral/downloads.html#11g>

Windows 2012 Operating System

This section describes the software requirements for operating the application using the Windows application server.

Supported Application Servers

Operating System	Chipsets	Application Server
Windows Server 2012 R2 (64-bit)	x86_64	Oracle WebLogic 12c (12.1.3.0+) 64-bit version

Web/Application Server Tier

Oracle Client 12.1.0.1+ — 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 Version 8.0 Update 65 or Later, 64-bit

This software is only required for Oracle WebLogic installations.

At the time of release, the latest patch of the Oracle Java 6.0 package can be obtained from:

<https://support.oracle.com>

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

For the 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.

Hibernate 4.1.0FINAL

You must install Hibernate before installing Oracle Real-Time Scheduler.

Follow the steps below to install Hibernate:

1. Create a Hibernate jar external depot:


```
set HIBERNATE_JAR_DIR=<Hibernate 3rd party jars depot>
```
2. Download the hibernate-release-4.1.0.Final.zip file from <http://sourceforge.net/projects/hibernate/files/hibernate4/>

3. Click the "4.1.0.Final" link to download the zip file.

4. Extract the contents of the archive file:

```
jar xvf 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:

```
copy hibernate-release-4.1.0.Final/lib/optional/ehcache/ehcache-core-2.4.3.jar %HIBERNATE_JAR_DIR%
```

```
copy hibernate-release-4.1.0.Final/lib/optional/ehcache/hibernate-ehcache-4.1.0.Final.jar %HIBERNATE_JAR_DIR%
```

```
copy hibernate-release-4.1.0.Final/lib/required/hibernate-commons-annotations-4.0.1.Final.jar %HIBERNATE_JAR_DIR%
```

```
copy hibernate-release-4.1.0.Final/lib/required/hibernate-core-4.1.0.Final.jar %HIBERNATE_JAR_DIR%
```

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

```
copy hibernate-release-4.1.0.Final/lib/required/javassist-3.15.0-GA.jar %HIBERNATE_JAR_DIR%
```

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

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

Oracle WebLogic 12c(12.1.3.0+) 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 (as documented above) before installing WebLogic.
- Download and install WebLogic Server 12c (12.1.3.0+)

Oracle MapViewer 11g (11.1.1.7.3)

Oracle Fusion Middleware MapViewer 11g (11.1.1.7.3) is a tool that renders maps showing different kinds of spatial data. It can be downloaded from the following link:

<http://www.oracle.com/technetwork/middleware/mapviewer/downloads/index.html>

Oracle BPEL Process Manager 11gR1

Oracle BPEL Process Manager is optional software and is required only for SMS dispatching functionality. Oracle BPEL Process Manager 11gR1 is a component of Oracle SOA Suite 11gR1. The Oracle BPEL Process Manager version is determined by your SMS gateway application.

You can download SOA Suite 11gR1 from the SOA Suite download page at the following link:

<http://www.oracle.com/technology/products/soa/soasuite/collateral/downloads.html#11g>

Installation Readiness Checklist

The following checklist will help guide you through the installation process of the application tier. The details for each step are presented in subsequent chapters.

Note: Please make sure that you follow the order listed below.

1. Create Group/User ID.
2. Install prerequisite software (see “Installing Prerequisite Third-Party Software” on page 2 for more information).
 - Oracle Client 12.1.0.1+ (for connecting to Oracle database)
 - Java 1.8.0.65 or later

- Hibernate 4.1.0FINAL
 - Geocoding and Map related data - Currently, Oracle Real-Time Scheduler only supports Navteq as the provider of maps and location data. For instructions on installing geocoding and map related data, please contact your specific Navteq vendor. The disk space required for installation is around 60 GB.
 - Oracle BPEL Process Manager 11g (optional)
3. Install application server.
 - Oracle WebLogic 12c (12.1.3.0+)
 4. Verify that all software is installed.
 5. Set up environment variables.
 6. Install Oracle Utilities Application Framework.
 7. Install Oracle Real-Time Scheduler.
 8. Install MapViewer 11.1.1.7.3.
 9. Deploy the Oracle Real-Time Scheduler application.
 10. Perform post-installation tasks.

Chapter 5

Installing Oracle Real-Time Scheduler - Initial Installation

This chapter provides instructions for installing Oracle Real-Time Scheduler from scratch.

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

This chapter includes information on the following:

- [Before You Install](#)
- [Initial Installation Procedure](#)
- [After the Installation](#)
- [Operating the Application](#)
- [Installing Service Packs, Patchsets and Patches](#)

Before You Install

Refer to My Oracle Support for up-to-date additional information on Oracle Real-Time Scheduler.

Initial Installation Procedure

The initial installation procedure consists of:

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

Database Component Installation

Installation of the database component of Oracle Real-Time Scheduler must be complete before you can proceed with the following sections. Refer to the section “**Initial Install**” of the *Oracle Real-Time Scheduler Database Administrator's Guide*, which provides instructions on installing the database component.

Application Components Installation

A successful installation consists of the following steps:

- [Installing Oracle Utilities Application Framework v4.3.0 Service Pack 1](#)
- [Installing Oracle Utilities Application Framework v4.3.0.1 Single Fix PreRequisite Rollup for ORS v2.3.0](#)
- [Installing Oracle Real-Time Scheduler v2.3.0](#)

Installing Oracle Utilities Application Framework v4.3.0 Service Pack 1

This section describes how to install the application framework component, including:

- [Copying and Decompressing Install Media](#)
- [Setting Permissions for the cistab file in UNIX](#)
- [Preparing for the Installation](#)

Copying and Decompressing Install Media

The installation file is delivered in jar format for both UNIX and Windows platforms. Download the installation package and proceed as follows:

1. Log in to the host server as the Oracle Utilities Application Framework administrator user ID. This is the same user ID that was used to install the Oracle Utilities Application Framework.
2. Create a <TEMPDIR> directory on the host server, which is independent of any current or other working Oracle Utilities Framework application environment. This can be the same <TEMPDIR> used during the installation of the Oracle Utilities Application Framework.

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 may be deleted after a successful installation.

3. Copy the file FW-V4.3.0.1.0-MultiPlatform.jar in the delivered package to a <TEMPDIR> on your host server. If you are using FTP to transfer this file, remember to use the BINARY option for the FTP transfer.
4. Decompress the file:

```
cd <TEMPDIR>
jar -xvf FW-V4.3.0.1.0-MultiPlatform.jar
```

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

For both Unix and Windows platforms, a sub-directory named FW.V4.3.0.1.0 is created. The contents of the installation directory are identical for both platforms. The directory contains the install software for the application.

Setting Permissions for the cistab file in UNIX

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

The install utility checks permissions and if it identifies a lack of the necessary permissions, it generates a script in the <TEMPDIR>/FW.V4.3.0.1.0 directory named cistab_<SPLENVIRON>.sh. Run the generated script using the root account before continuing with the installation process. The script initializes the cistab file in /etc directory (if it is the first Oracle Utilities Framework application environment on the server) and registers a new environment.

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

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

If you are planning to upgrade an existing environment it is your responsibility to take a backup prior to the installation process. The installation utility does not create a backup of existing environment.

Preparing for the Installation

1. Log on as the administrator (default cissys).
2. Change directory to the <TEMPDIR>/FW.V4.3.0.1.0 directory.
3. Set the ORACLE_CLIENT_HOME and PATH variables as Oracle Client Perl is required to run the installer.

UNIX:

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

Windows:

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

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

UNIX:

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

Windows:

```
install.cmd
```

5. The Oracle Utilities Application Framework specific menu appears.
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 Appendix [Installation and Configuration Worksheets](#).
8. Below are the mandatory list of configurable items along with descriptions for a few 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:
   Server Roles:           batch, online
   Oracle Client Home Directory:
   Web Java Home Directory:
   Hibernate JAR Directory:
   ONS JAR Directory:
   Web Application Server Home Directory:
   WebLogic Server Thin-Client JAR Directory:
   ADF Home Directory:
   OIM OAM Enabled Environment:

2. Keystore Options
   Import Keystore Directory:
   Store Type:              JCEKS
   Alias:                   ouaf.system
   Alias Key Algorithm:     AES Alias
   Size:                    128
Key   HMAC Alias:          ouaf.system.hmac
      Padding:             PKCS5Padding
      Mode:                 CBC

50. Environment Installation Options
   Environment Mount Point:
   Log Files Mount Point:
   Environment Name:
   Web Application Server Type:
   Install Application Viewer Module:      true
   Install Demo Generation Cert Script:   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):

9. 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>
   WebLogic Server Name:   myserver
```

```

Business Server Application Name: SPLService
MPL Admin Port Number:          <Mandatory> - Multipurpose
Listener
MPL Automatic startup:          false
Port
3. Web Application Server Configuration
Web Server Host:                <Mandatory>
Weblogic SSL Port Number:       <Mandatory>
Weblogic Console Port Number:   <Mandatory>
WebLogic Additional Stop Arguments:
Web Context Root:               ouaf
WebLogic JNDI User ID:          <Mandatory>
WebLogic JNDI Password:        <Mandatory>
WebLogic Admin System User ID:  <Mandatory>
WebLogic Admin System Password: <Mandatory>
WebLogic Server Name:           myserver
Web Server Application Name:     SPLWeb
Deploy using Archive Files:      true
Deploy Application Viewer Module: true
Enable The Unsecured Health Check Service: false
MDB RunAs User ID:
Super User Ids:
4. Database Configuration
Application Server Database User ID: <Mandatory>
Application Server Database Password: <Mandatory>
MPL Database User ID:                <Mandatory>
MPL Database Password:               <Mandatory>
XAI Database User ID:                <Mandatory>
XAI Database Password:               <Mandatory>
Batch Database User ID:               <Mandatory>
Batch Database Password:              <Mandatory>
Database Name:                       <Mandatory>
Database Server:                     <Mandatory>
Database Port:                       <Mandatory>
ONS Server Configuration:
Database Override Connection String:
Oracle Client Character Set NLS_LANG:
5. General Configuration Options
Batch RMI Port:                      <Mandatory> - RMI
port
for batch
RMI Port number for JMX Business:
RMI Port number for JMX Web:
JMX Enablement System User ID:
JMX Enablement System Password:
Batch Mode:                           <Mandatory> - CLUSTERED
or DISTRIBUTED
Coherence Cluster Name:<Mandatory> - Unique name for batch
Coherence Cluster Address:<Mandatory> - Unique multicast
address
Coherence Cluster Port: <Mandatory> - Unique port for batch
cluster
Coherence Cluster Mode: <Mandatory> - prod
6. SSL Certificate Keystore
Certificate Keystore Type:             DEMO
Identify Keystore File:
Identify Keystore File Type:          jks

```

```

Identify Keystore Password:
Identity Private Key Alias:          ouaf_demo_cert
Trust Keystore File:
Trust Keystore File Type:          jks
Trust Keystore Password:
Trust Private Key Alias:          ouaf_demo_cert

```

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

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

10. When you are done with the parameter setup, proceed with the option P. The utility writes the configured parameters and their values into the configuration file.
11. Once the install has finished, the installation log location appears 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 Oracle Utilities Application Framework v4.3.0.1 Single Fix PreRequisite Rollup for ORS v2.3.0

1. Create a <TEMPDIR> directory on the host server that is independent of any current or other working application environment.
2. Copy the file 'ORS-v2.3.0.0.0-FW-PREREQ-Multiplatform.zip' in the delivered package to <TEMPDIR>.

If you are using FTP to transfer this file, remember to use the BINARY option for the FTP transfer.

3. Upon extracting the zip file 'Application-Server-Multiplatform' sub-directory will be created.
4. Refer to the Readme.txt inside 'Application-Server-Multiplatform' to install Application related FW patch.

Installing Oracle Real-Time Scheduler v2.3.0

This section describes how to install the application component of Oracle Real-Time Scheduler, including:

1. Create a <TEMPDIR> directory on the host server that is independent of any current or other working Oracle Real-Time Scheduler application environment.
2. Unzip 'Oracle Real-Time Scheduler v2.3.0 Multiplatform.zip' and copy the file ORS-V2.3.0.0.0-MultiPlatform.jar in the delivered package to <TEMPDIR>.

If you are using FTP to transfer this file, remember to use the BINARY option for the FTP transfer.

3. Decompress the file using following command:

```
cd <TEMPDIR>
jar -xvf ORS-V2.3.0.0.0-MultiPlatform.jar
```

Note: For Windows installations, include the location of the JDK in your path before executing the jar command.

For both Unix and Windows platforms, a sub-directory named ORS.V2.3.0.0.0 is created.

4. Initialize the Oracle Real-Time Scheduler environment that you want to install the product into.

UNIX:

```
<SPLEBASE>/bin/splenvron.sh -e <SPLENVIRON>
```

Windows:

```
<SPLEBASE>\bin\splenviron.cmd -e <SPLENVIRON>
```

5. Stop the application server instance if running.
6. Change to the <TEMPDIR>/ORS.V2.3.0.0.0 directory.
7. Execute the following command:

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

UNIX:

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

Windows:

```
install.cmd
```

The Oracle Real-Time Scheduler Application specific menu opens.

8. Select the following menu items and enter mandatory fields.
Refer to the [Oracle Real-Time Scheduler Installation and Configuration Worksheets](#) for more information.

8. JMS Configuration

```
Context Factory: <Mandatory> Weblogic
WebLogic Server URL: <Mandatory> Weblogic
Weblogic System User ID: <Mandatory> Weblogic
Weblogic System Password: <Mandatory>
Time Out: <Mandatory>
```

9. ORS Environment Description

```
ORS Scheduler Map Files Location: <Mandatory>
Schedule Manager Port Number: <Mandatory>
Minimum Requests: <Mandatory>
Maximum Time (seconds) Booking Requests: <Mandatory>
Unique identifier for the instance of the JVM:
<Mandatory>
Registry cleanse timing in seconds: <Mandatory>
Scheduler connection timeout in milliseconds:
<Mandatory>
Scheduler maintenance cycle time in seconds: <Mandatory>
```

10. Geocode Data Source Configuration

```
JDBC URL for the Geocode database: <Mandatory>
Database User Name: <Mandatory>
Database Password: <Mandatory>
JNDI name for the Geocode datasource: <Mandatory>
```

11. Mapviewer Configuration

```
Deploy mapviewer locally on this instance: <Mandatory>
Location of mapviewer ear file: <Mandatory>
```

12. Security Configuration

```
Deploy only mobility web application: <Mandatory>
Allow Self Signed SSL Certificates: <Mandatory>
```

9. Choose the options for configuration and enter P to proceed with the installation.
10. Execute the following command:

UNIX:

```
cd <SPLEBASE>/runtime
ksh ./ORS_postinstall.sh
```

Windows:

```
cd %SPLEBASE%\runtime
ORS_postinstall.cmd
```

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

Once the install has finished successfully, execute post installation steps as described in the following section, [Performing Post-Installation Tasks](#).

Performing Post-Installation Tasks

1. Generate the Appviewer:

- a. Change directory.

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

where <install_dir> is the location where the Oracle Real-Time Scheduler application component is installed.

- b. Initialize the environment by running the appropriate command:

UNIX:

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

Windows:

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

- c. Generate the appviewer by following the steps below:

UNIX:

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

Windows:

```
C:\> cd %SPLEBASE%\bin
C:\> genappvieweritems.cmd
```

2. Deploy Inbound Web Services (IWS)

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

For deploying IWS, please follow the steps below:

UNIX:

- a. Enable the Web Services Functionality as shown below:

1. cd \$SPLEBASE/bin
2. Execute configureEnv.sh -a

Select option 50 and set the option “Enable Web Services Functionality” to true.

Enter "P" to process.

3. Execute initialSetup.sh as shown below:

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

- b. Set the classpath as shown below:

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

- c. Execute the following command:


```
$ java weblogic.Admin -username <username> -password <password>
STOREUSERCONFIG -userconfigfile $$PLEBASE/etc/.wlsuserconfig -
userkeyfile $$PLEBASE/etc/.wlsuserkey
```

Select y

- d. Update the wls.port in \$\$PLEBASE/splapp/iws/iws-build.xml to be same as that of WEB_WLPORT in SPLEBASE/etc/ENVIRON.INI

```
<property name="wls.port" value="XXXX" />
```

- e. Execute the below step in \$\$PLEBASE/bin. Please note that the application server should be up before running the below command.

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

WINDOWS:

- a. Enable the Web Services Functionality as shown below:

1. cd %SPLEBASE%\bin
2. Execute configureEnv.cmd -a

Select option 50 and set the option "Enable Web Services Functionality" to true.

Enter "P" to process.

3. Execute initialSetup.cmd as shown below:

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

- b. Set the classpath as shown below:

```
set CLASSPATH=%WL_HOME%\server\lib\weblogic.jar;%CLASSPATH%
```

- c. Execute the following command:

```
java weblogic.Admin -username system -password ouafadmin
STOREUSERCONFIG -userconfigfile %SPLEBASE%\etc\.wlsuserconfig -
userkeyfile %SPLEBASE%\etc\.wlsuserkey
```

Select y

- d. Update the wls.port in %SPLEBASE%\splapp\iws\iws-build.xml to be same as that of WEB_WLPORT in %SPLEBASE%\etc\ENVIRON.INI

```
<property name="wls.port" value="XXXX" />
```

- e. Execute the below step in %SPLEBASE%\bin. Please note that the application server should be up before running the below command.

```
iwsdeploy.cmd
```

3. Build the wfullclient.jar file

UNIX:

```
cd $WL_HOME/server/lib
java -jar wljarbuilder.jar
```

WINDOWS:

```
cd %WL_HOME%\server\lib
java -jar wljarbuilder.jar
```

After the Installation

After you complete the installation, verify the following:

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

Operating the Application

At this point your installation and custom integration process is complete. Be sure to read the *Oracle Real-Time Scheduler Administration Guide* for more information on further configuring and operating the system.

Installing Service Packs, Patchsets 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 patchsets or patches (if required). For information on installing patchsets, refer to the Readme file included with each patchset. For information on installing patches, refer to knowledge base article ID 974985.1 on My Oracle Support.

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

Chapter 6

Upgrading Oracle Real-Time Scheduler

This chapter provides instructions for upgrading Oracle Real-Time Scheduler from v2.1.0.6 to v2.3.0 or from v2.2.0.3.5 to v2.3.0.

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

This chapter includes information on the following:

- [Before You Upgrade](#)
- [Upgrade Installation Procedure](#)
- [After the Installation](#)
- [Operating the Application](#)
- [Installing Service Packs and Patches](#)

Before You Upgrade

MCP Version Control Enhancement

The MCP version control enhancement requires that a certain upgrade process be followed to ensure that no data is lost and no incompatible version issues arise.

The upgrade process includes the following steps:

1. All mobile devices should end their shifts and log off.
2. Upgrade the server and all MDTs.
3. Regenerate all deployments.

For more information about this enhancement and upgrade considerations, refer to Chapter “Deploying the Application to Mobile Devices,” in the Oracle Real-Time Scheduler *Server Application User Guide*.

Processing Stale RSI messages

RSI messages are messages that are sent from the MCP device to the server. After a system upgrade, due to serialization issues, older RSI messages may not be recoverable. Therefore, RSI messages must be processed before an upgrade.

To process stale RSI messages, follow the procedure below:

1. To check for RSI messages which are in a non-finalized state (stale RSI messages), run the SQL query:

```
select count(*) from m1_srvr_status where status_lookup_flg =  
'M1QU'
```

2. If this query returns any records (count > 0), run the RSI Batch Process job (Batch Name: M1-RSIBP).
3. This batch job processes queued RSI messages.
 - If the record executed successfully, the status of the record is changed to Delivered (M1DE).
 - If any application error occurred, the status of the record is changed to Error (M1ER).

4. After completion of batch process, run the following SQL query:

```
select count(*) from m1_srvr_status where status_lookup_flg =  
'M1QU'
```

If running this query returns any records (count > 0), those records may not be recoverable.

5. Continue with the system upgrade.

In addition, refer to My Oracle Support for up-to-date additional information on Oracle Real-Time Scheduler.

Upgrade Installation Procedure

The upgrade procedure consists of:

- [Database Component Upgrade](#)
- [Application Components Upgrade](#)
- [Upgrading the Java-Based Mobile Client](#)

Database Component Upgrade

Upgrading of the database component of Oracle Real-Time Scheduler must be complete before you can proceed with the following sections. Refer to the section “**Upgrade Install**” of the *Oracle Real-Time Scheduler Database Administrator's Guide*, which provides instructions on installing the database component.

Application Components Upgrade

The following upgrade paths are supported by this release:

- v2.1.0.6 to v2.3.0
- v2.2.0.3.5 to v2.3.0

Upgrading Oracle Real-Time Scheduler Prior Versions

This section covers guidelines for upgrading Oracle Real-Time Scheduler v2.1.0.6 to v2.3.0 or from v2.2.0.3.5 to v2.3.0.

Note: An upgrade from Oracle Real-Time Scheduler to v2.3.0 is equivalent to a fresh installation of Oracle Real-Time Scheduler on the application side.

A successful upgrade consists of the following steps:

- [Installing Oracle Utilities Application Framework v4.3.0 Service Pack 1](#)
- [Installing Oracle Utilities Application Framework v4.3.0.1 Single Fix PreRequisite Rollup for ORS v2.3.0](#)
- [Installing Oracle Real-Time Scheduler Component v2.3.0](#)

Installing Oracle Utilities Application Framework v4.3.0 Service Pack 1

This section describes how to install the application framework component, including:

- [Copying and Decompressing Install Media](#)
- [Setting Permissions for the cistab file in UNIX](#)
- [Preparing for the Installation](#)

Copying and Decompressing Install Media

The installation file is delivered in jar format for both UNIX and Windows platforms. Download the installation package and proceed as follows:

1. Log in to the host server as the Oracle Utilities Application Framework administrator user ID. This is the same user ID that was used to install the Oracle Utilities Application Framework.
2. Create a <TEMPDIR> directory on the host server, which is independent of any current or other working Oracle Utilities Framework application environment. This can be the same <TEMPDIR> used during the installation of the Oracle Utilities Application Framework.
3. Copy the file FW-V4.3.0.1.0-MultiPlatform.jar in the delivered package to a <TEMPDIR> on your host server. If you are using FTP to transfer this file, remember to use the BINARY option for the FTP transfer.
4. Decompress the file:

```
cd <TEMPDIR>
jar -xvf FW-V4.3.0.1.0-MultiPlatform.jar
```

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

For both Unix and Windows platforms, a sub-directory named FW.V4.3.0.1.0 is created. The contents of the installation directory are identical for both platforms. The directory contains the install software for the application.

Setting Permissions for the cistab file in UNIX

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

The install utility checks permissions and if it identifies a lack of the necessary permissions, it generates a script in the <TEMPDIR>/FW.V4.3.0.1.0 directory named cistab_<SPLENVIRON>.sh. Run the generated script using the root account before continuing with the installation process. The script initializes the cistab file in /etc directory (if it is the first Oracle Utilities Framework application environment on the server) and registers a new environment.

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

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

If you are planning to upgrade an existing environment it is your responsibility to take a backup prior to the installation process. The installation utility does not create a backup of existing environment.

Preparing for the Installation

1. Log on as the administrator (default cissys).
2. Change directory to the <TEMPDIR>/FW.V4.3.0.1.0 directory.
3. Set the ORACLE_CLIENT_HOME and PATH variables as Oracle Client Perl is required to run the installer.

UNIX:

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

Windows:

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

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

UNIX:

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

Windows:

```
install.cmd
```

5. The Oracle Utilities Application Framework specific menu appears.
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 Appendix [Installation and Configuration Worksheets](#).
8. Below are the mandatory list of configurable items along with descriptions for a few 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:
   Server Roles:           batch, online
   Oracle Client Home Directory:
```

```

Web Java Home Directory:
Hibernate JAR Directory:
ONS JAR Directory:
Web Application Server Home Directory:
WebLogic Server Thin-Client JAR Directory:
ADF Home Directory:
OIM OAM Enabled Environment:
2. Keystore Options
  Import Keystore Directory:
  Store Type: JCEKS
  Alias: ouaf.system
  Alias Key Algorithm: AES Alias
Key Size: 128
  HMAC Alias: ouaf.system.hmac
  Padding: PKCS5Padding
  Mode: CBC
50. Environment Installation Options
  Environment Mount Point:
  Log Files Mount Point:
  Environment Name:
  Web Application Server Type:
  Install Application Viewer Module: true
  Install Demo Generation Cert Script: 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):

9. 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>
  WebLogic Server Name: myserver
  Business Server Application Name: SPLService
  MPL Admin Port Number: <Mandatory> - Multipurpose
Listener
  MPL Automatic startup: false Port

3. Web Application Server Configuration
  Web Server Host: <Mandatory>
  Weblogic SSL Port Number: <Mandatory>
  Weblogic Console Port Number: <Mandatory>
  WebLogic Additional Stop Arguments:
  Web Context Root: ouaf
  WebLogic JNDI User ID: <Mandatory>
  WebLogic JNDI Password: <Mandatory>
  WebLogic Admin System User ID: <Mandatory>
  WebLogic Admin System Password: <Mandatory>
  WebLogic Server Name: myserver
  Web Server Application Name: SPLWeb
  Deploy using Archive Files: true
  Deploy Application Viewer Module: true

```



```

Enable The Unsecured Health Check Service:  false
MDB RunAs User ID:
Super User Ids:

```

4. Database Configuration

```

Application Server Database User ID:  <Mandatory>
Application Server Database Password:  <Mandatory>
MPL Database User ID:                  <Mandatory>
MPL Database Password:                 <Mandatory>
XAI Database User ID:                  <Mandatory>
XAI Database Password:                 <Mandatory>
Batch Database User ID:                 <Mandatory>
Batch Database Password:               <Mandatory>
Database Name:                         <Mandatory>
Database Server:                       <Mandatory>
Database Port:                         <Mandatory>
ONS Server Configuration:
Database Override Connection String:
Oracle Client Character Set NLS_LANG:

```

5. General Configuration Options

```

Batch RMI Port:                        <Mandatory> - RMI
port
                                        for batch
RMI Port number for JMX Business:
RMI Port number for JMX Web:
JMX Enablement System User ID:
JMX Enablement System Password:
Batch Mode:                            <Mandatory> - CLUSTERED
                                        or DISTRIBUTED
Coherence Cluster Name:<Mandatory> - Unique name for batch
Coherence Cluster Address:<Mandatory> - Unique multicast
address
Coherence Cluster Port: <Mandatory> - Unique port for batch
cluster
Coherence Cluster Mode: <Mandatory> - prod

```

6. SSL Certificate Keystore

```

Certificate Keystore Type:              DEMO
Identify Keystore File:
Identify Keystore File Type:           jks
Identify Keystore Password:
Identity Private Key Alias:            ouaf_demo_cert
Trust Keystore File:
Trust Keystore File Type:              jks
Trust Keystore Password:
Trust Private Key Alias:                ouaf_demo_cert

```

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

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

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

Once the install has finished, the installation log location appears 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 Oracle Utilities Application Framework v4.3.0.1 Single Fix PreRequisite Rollup for ORS v2.3.0

1. Create a <TEMPDIR> directory on the host server that is independent of any current or other working application environment.
2. Copy the file 'ORS-v2.3.0.0.0-FW-PREREQ-Multiplatform.zip' in the delivered package to <TEMPDIR>.

If you are using FTP to transfer this file, remember to use the BINARY option for the FTP transfer.

Upon extracting the zip file, a sub- directory 'Application-Server-Multiplatform' will be created.
3. Refer to the Readme.txt inside 'Application-Server-Multiplatform' to install Application related FW patch.

Installing Oracle Real-Time Scheduler Component v2.3.0

This section describes how to install the application component of Oracle Real-Time Scheduler, including:

1. Create a <TEMPDIR> directory on the host server that is independent of any current or other working Oracle Real-Time Scheduler application environment.
2. Unzip 'Oracle Real-Time Scheduler v2.3.0 Multiplatform.zip' and copy the file ORS-V2.3.0.0.0-MultiPlatform.jar in the delivered package to <TEMPDIR>.

If you are using FTP to transfer this file, remember to use the BINARY option for the FTP transfer.
3. Decompress the file using following command:

```
cd <TEMPDIR>
jar -xvf ORS-V2.3.0.0.0-MultiPlatform.jar
```

Note: For Windows installations, include the location of the JDK in your path before executing the jar command.

For both Unix and Windows platforms, a sub-directory named ORS.V2.3.0.0.0 is created.

4. Initialize the Oracle Real-Time Scheduler environment that you want to install the product into.

UNIX:

```
<SPLEBASE>/bin/splenviron.sh -e <SPLENVIRON>
```

Windows:

```
<SPLEBASE>\bin\splenviron.cmd -e <SPLENVIRON>
```

5. Stop the application server instance if running.
6. Change to the <TEMPDIR>/ORS.V2.3.0.0.0 directory.
7. Execute the following command:

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

UNIX:

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

Windows:

```
install.cmd
```

The applicationspecific menu opens.

8. Select the following menu items and enter mandatory fields.

Refer to the [Oracle Real-Time Scheduler Installation and Configuration Worksheets](#) for more information.

8. JMS Configuration
 - Context Factory: <Mandatory> Weblogic
 - WebLogic Server URL: <Mandatory> Weblogic
 - Weblogic System User ID: <Mandatory> Weblogic
 - Weblogic System Password: <Mandatory>
 - Time Out: <Mandatory>
9. ORS Environment Description
 - ORS Scheduler Map Files Location: <Mandatory>
 - Schedule Manager Port Number: <Mandatory>
 - Minimum Requests: <Mandatory>
 - Maximum Time (seconds) Booking Requests: <Mandatory>
 - Unique identifier for the instance of the JVM: <Mandatory>
 - Registry cleanse timing in seconds: <Mandatory>
 - Scheduler connection timeout in milliseconds: <Mandatory>
 - Scheduler maintenance cycle time in seconds: <Mandatory>
10. Geocode Data Source Configuration
 - JDBC URL for the Geocode database: <Mandatory>
 - Database User Name: <Mandatory>
 - Database Password: <Mandatory>
 - JNDI name for the Geocode datasource: <Mandatory>
11. Mapviewer Configuration
 - Deploy mapviewer locally on this instance: <Mandatory>
 - Location of mapviewer ear file: <Mandatory>
12. Security Configuration
 - Deploy only mobility web application: <Mandatory>
 - Allow Self Signed SSL Certificates: <Mandatory>

9. Choose the options for configuration and enter P to proceed with the installation.

10. Execute the following command:

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

UNIX:

```
cd <SPLEBASE>/runtime
ksh ./ORS_postinstall.sh
```

Windows:

```
cd %SPLEBASE%\runtime
ORS_postinstall.cmd
```

Performing Post-Installation Tasks

1. Generate the appviewer by following the steps below:

a. Change directory.

```
cd <install_dir>/bin
where <install_dir> is the location where the Oracle Real-Time Scheduler
application component is installed.
```

b. Initialize the environment by running the appropriate command:

UNIX:

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

Windows:

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

c. Generate the appviewer:

UNIX:

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

Windows:

```
C:\> cd %SPLEBASE%\bin
C:\> genappvieweritems.cmd
```

2. Deploy Inbound Web Services (IWS)

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

For deploying IWS, please follow the steps below:

UNIX:

a. Enable the Web Services Functionality as shown below:

1. cd \$\$SPLEBASE/bin
2. Execute configureEnv.sh -a

Select option 50 and set the option "Enable Web Services Functionality" to true.

Enter "P" to process.

3. Execute initialSetup.sh as shown below:

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

b. Set the classpath as shown below:

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

c. Execute the following command:

```
$ java weblogic.Admin -username <username> -password <password>
STOREUSERCONFIG -userconfigfile $$SPLEBASE/etc/.wlsuserconfig -
userkeyfile $$SPLEBASE/etc/.wlsuserkey
Select y
```

d. Update the wls.port in \$\$SPLEBASE/splapp/iws/iws-build.xml to be same as that of WEB_WLPORT in SPLEBASE/etc/ENVIRON.INI

```
<property name="wls.port" value="XXXX" />
```

e. Execute the below step in \$\$SPLEBASE/bin. Please note that the application server should be up before running the below command.

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

WINDOWS:

a. Enable the Web Services Functionality as shown below:

1. cd %SPLEBASE%\bin

2. Execute `configureEnv.cmd -a`

Select option 50 and set the option "Enable Web Services Functionality" to true.

Enter "P" to process.

3. Execute `initialSetup.cmd` as shown below:

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

- a. Set the classpath as shown below:

```
set CLASSPATH=%WL_HOME%\server\lib\weblogic.jar;%CLASSPATH%
```

- b. Execute the following command:

```
java weblogic.Admin -username system -password ouafadmin
STOREUSERCONFIG -userconfigfile %SPLEBASE%\etc\.wlsuserconfig -
userkeyfile %SPLEBASE%\etc\.wlsuserkey
Select y
```

- c. Update the `wls.port` in `%SPLEBASE%\splapp\iws\iws-build.xml` to be same as that of `WEB_WLPORT` in `%SPLEBASE%\etc\ENVIRON.INI`

```
<property name="wls.port" value="XXXX" />
```

- d. Execute the below step in `%SPLEBASE%\bin`. Please note that the application server should be up before running the below command.

```
iwsdeploy.cmd
```

3. Build the `wlfullclient.jar` file

UNIX:

```
cd $WL_HOME/server/lib
java -jar wljarbuilder.jar
```

WINDOWS:

```
cd %WL_HOME%\server\lib
java -jar wljarbuilder.jar
```

Upgrading the Java-Based Mobile Client

The following mobile client upgrade paths are supported by this release:

- Upgrading the mobile client of Oracle Real-Time Scheduler from v2.1.0.6 to v2.3.0
- Upgrading the mobile client of Oracle Real-Time Scheduler from v2.2.0.3.5 to v2.3.0

Note: This section describes the upgrade for the Java-based mobile client. If you wish to use the Hybrid mobile client, skip this section and refer to the guide *Oracle Real-Time Scheduler Hybrid Mobile Application Installation and Deployment Guide*.

This section consists of:

- [Upgrading the Mobile Client on Windows](#)
- [Upgrading the Mobile Client on Android](#)
- [Registering the Mobile Device](#)

Upgrading the Mobile Client on Windows

This section consists of:

- [Upgrading the Mobile Client on Windows 7](#)
- [Upgrading the Mobile Client on Android](#)

Upgrading the Mobile Client on Windows 7

To upgrade the mobile client on Windows 7 using the GUI, follow the steps below:

1. Extract OracleMWM.msi from ORS-V2.3.0.0.0-Mobile-Client-Win.zip and copy it to a temporary directory.
2. Double click the OracleMWM.msi file to start the installation process.
3. Click **Next** to proceed with the upgrade of Oracle Real-Time Scheduler 2.3.0 Mobile Client on your machine.
4. Select a folder/hard drive location (specify the same location as that of already installed version) to upgrade the application to.
5. Click **Next** to proceed with the upgrade process.
6. Click **Close** after the upgrade is successful.

The mobile client application is now accessible from shortcuts created on the Desktop or Start Menu.

Upgrading the Mobile Client on Android

To upgrade the mobile client on Android device, you must first un-install the installed APK and then install the new APK. You can choose to perform this using the command-line option or through the GUI.

Command-line option:

To perform this using the command-line option, execute the following commands:

```
adb uninstall com.splwg.base.android
adb install <path of apk>
```

(OR)

GUI option:

To perform this using the GUI, follow the procedure below:

Un-installing the Mobile Client

1. Open **Settings, Applications, Manage Applications** and click the Oracle MWM application.
2. Click **Uninstall** to remove Android MCP from your device. Do not select **Clear data**.

Installing the Mobile Client

1. Extract OracleMWM.apk from the ORS-V2.3.0.0.0-Mobile-Client-Android.zip file and copy it to a temporary directory.
2. Connect the device to the desktop or laptop.
3. Copy the OracleMWM.apk file to the removable disk (select My Computer for the drive letter)
4. Verify that non-Market applications can be installed.
5. Open **Settings, Applications** and select **Unknown sources**.
6. Use a file explorer on the device such as MyFiles to locate the APK file on the SD card.
7. Launch the file.
8. Confirm the installation by clicking **Install**.
The application will now be installed.
9. After the application is installed, click **Done**.
You have now successfully installed the mobile client.

Registering the Mobile Device

The mobile device needs to be registered with the Oracle Real-Time Scheduler application server before it can start using the application features. Ensure that the Oracle Real-Time Scheduler application is installed and running before registering the mobile device.

Please refer to the *Oracle Real-Time Scheduler Mobile Application User Guide* for the steps to register a device with the server.

Note: After installing the mobile client for this release, an MCP Backup properties file (titled BackupMDT.properties) gets created. For Android devices, this file gets created inside "mcpbackup" folder inside the SD card. For Windows devices, this file gets created inside "\MWMAApp\data" directory. This properties file stores information related to the previous device registration (if any).

When the mobile client is un-installed at a later point in time, the BackupMDT.properties file does not get deleted as part of the un-installation process. As a workaround, the BackupMDT.properties must be deleted manually or through scripting for any changes to the MDT Tag or MDT URL.

After the Installation

After you complete the installation, verify the following:

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

7. To operate the application, refer to the following section.

Operating the Application

At this point your installation and custom integration process is complete. Be sure to read the *Oracle Real-Time Scheduler Administrative User 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 patchsets or patches (if required). For information on installing patchsets, refer to the Readme file included with each patchset. For information on installing patches, refer to knowledge base article ID 974985.1 on My Oracle Support.

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

Chapter 7

Installing Oracle Real-Time Scheduler - Demo Installation

This chapter provides instructions for installing Oracle Real-Time Scheduler for demo purpose.

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

This chapter includes information on the following:

- [Before You Install](#)
- [Demo Installation Procedure](#)
- [After the Installation](#)
- [Operating the Application](#)
- [Installing Service Packs and Patches](#)

Before You Install

Refer to My Oracle Support for up-to-date additional information on Oracle Real-Time Scheduler.

Demo Installation Procedure

The initial installation procedure consists of:

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

Database Component Installation

Installation of the database component of Oracle Real-Time Scheduler must be complete before you can proceed with the following sections. Refer to the section “**Demo Install**” of the *Oracle Real-Time Scheduler Database Administrator’s Guide*, which provides instructions on installing the database component.

Application Components Installation

A successful installation consists of the following steps:

- [Installing Oracle Utilities Application Framework v4.3.0 Service Pack 1](#)
- [Installing Oracle Utilities Application Framework v4.3.0.1 Single Fix PreRequisite Rollup for ORS v2.3.0](#)
- [Installing Oracle Real-Time Scheduler v2.3.0](#)

Installing Oracle Utilities Application Framework v4.3.0 Service Pack 1

This section describes how to install the application framework component, including:

- [Copying and Decompressing Install Media](#)
- [Setting Permissions for the cistab file in UNIX](#)
- [Preparing for the Installation](#)

Copying and Decompressing Install Media

The installation file is delivered in jar format for both UNIX and Windows platforms. Download the installation package and proceed as follows:

1. Log in to the host server as the Oracle Utilities Application Framework administrator user ID. This is the same user ID that was used to install the Oracle Utilities Application Framework.
2. Create a <TEMPDIR> directory on the host server, which is independent of any current or other working Oracle Utilities Framework application environment. This can be the same <TEMPDIR> used during the installation of the Oracle Utilities Application Framework.

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 may be deleted after a successful installation.

3. Copy the file FW-V4.3.0.1.0-MultiPlatform.jar in the delivered package to a <TEMPDIR> on your host server. If you are using FTP to transfer this file, remember to use the BINARY option for the FTP transfer.
4. Decompress the file:

```
cd <TEMPDIR>
jar -xvf FW-V4.3.0.1.0-MultiPlatform.jar
```

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

For both Unix and Windows platforms, a sub-directory named FW.V4.3.0.1.0 is created. The contents of the installation directory are identical for both platforms. The directory contains the install software for the application.

Setting Permissions for the cistab file in UNIX

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

The install utility checks permissions and if it identifies a lack of the necessary permissions, it generates a script in the <TEMPDIR>/FW.V4.3.0.1.0 directory named cistab_<SPLENVIRON>.sh. Run the generated script using the root account before continuing with the installation process. The script initializes the cistab file in /etc directory (if it is the first Oracle Utilities Framework application environment on the server) and registers a new environment.

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

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

If you are planning to upgrade an existing environment it is your responsibility to take a backup prior to the installation process. The installation utility does not create a backup of existing environment.

Preparing for the Installation

1. Log on as the administrator (default cissys).
2. Change directory to the <TEMPDIR>/FW.V4.3.0.1.0 directory.
3. Set the ORACLE_CLIENT_HOME and PATH variables as Oracle Client Perl is required to run the installer.

UNIX:

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

Windows:

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

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

UNIX:

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

Windows:

```
install.cmd
```

5. The Oracle Utilities Application Framework specific menu appears.
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 Appendix [Installation and Configuration Worksheets](#).
8. Below are the mandatory list of configurable items along with descriptions for a few items. Where you see <Mandatory>, enter values suitable to your environment. You can assign default values to the rest of the menu items.

8. JMS Configuration

```
Context Factory: <Mandatory> Weblogic
WebLogic Server URL: <Mandatory> Weblogic
Weblogic System User ID: <Mandatory> Weblogic
Weblogic System Password: <Mandatory>
Time Out: <Mandatory>
```

9. ORS Environment Description

```
ORS Scheduler Map Files Location: <Mandatory>
Schedule Manager Port Number: <Mandatory>
Minimum Requests: <Mandatory>
Maximum Time (seconds) Booking Requests: <Mandatory>
Unique identifier for the instance of the JVM:
<Mandatory>
Registry cleanse timing in seconds: <Mandatory>
Scheduler connection timeout in milliseconds:
<Mandatory>
Scheduler maintenance cycle time in seconds: <Mandatory>
```

10. Geocode Data Source Configuration

```
JDBC URL for the Geocode database: <Mandatory>
Database User Name: <Mandatory>
Database Password: <Mandatory>
JNDI name for the Geocode datasource: <Mandatory>
```

11. Mapviewer Configuration

```
Deploy mapviewer locally on this instance: <Mandatory>
Location of mapviewer ear file: <Mandatory>
```

12. Security Configuration

```
Deploy only mobility web application: <Mandatory>
Allow Self Signed SSL Certificates: <Mandatory>
```

9. 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>
WebLogic Server Name: myserver
Business Server Application Name: SPLService
MPL Admin Port Number: <Mandatory> - Multipurpose
```

Listener

Port

MPL Automatic startup: false

3. Web Application Server Configuration

Web Server Host: <Mandatory>
 Weblogic SSL Port Number: <Mandatory>
 Weblogic Console Port Number: <Mandatory>
 WebLogic Additional Stop Arguments:
 Web Context Root: ouaf
 WebLogic JNDI User ID: <Mandatory>
 WebLogic JNDI Password: <Mandatory>
 WebLogic Admin System User ID: <Mandatory>
 WebLogic Admin System Password: <Mandatory>
 WebLogic Server Name: myserver
 Web Server Application Name: SPLWeb
 Deploy using Archive Files: true
 Deploy Application Viewer Module: true
 Enable The Unsecured Health Check Service: false
 MDB RunAs User ID:
 Super User Ids:

4. Database Configuration

Application Server Database User ID: <Mandatory>
 Application Server Database Password: <Mandatory>
 MPL Database User ID: <Mandatory>
 MPL Database Password: <Mandatory>
 XAI Database User ID: <Mandatory>
 XAI Database Password: <Mandatory>
 Batch Database User ID: <Mandatory>
 Batch Database Password: <Mandatory>
 Database Name: <Mandatory>
 Database Server: <Mandatory>
 Database Port: <Mandatory>
 ONS Server Configuration:
 Database Override Connection String:
 Oracle Client Character Set NLS_LANG:

5. General Configuration Options

Batch RMI Port: <Mandatory> - RMI
 port
 for batch
 RMI Port number for JMX Business:
 RMI Port number for JMX Web:
 JMX Enablement System User ID:
 JMX Enablement System Password:
 Batch Mode: <Mandatory> - CLUSTERED
 or DISTRIBUTED
 Coherence Cluster Name:<Mandatory> - Unique name for batch
 Coherence Cluster Address:<Mandatory> - Unique multicast
 address
 Coherence Cluster Port: <Mandatory> - Unique port for batch
 cluster
 Coherence Cluster Mode: <Mandatory> - prod

6. SSL Certificate Keystore

Certificate Keystore Type: DEMO
 Identify Keystore File:
 Identify Keystore File Type: jks
 Identify Keystore Password:
 Identity Private Key Alias: ouaf_demo_cert
 Trust Keystore File:
 Trust Keystore File Type: jks

```
Trust Keystore Password:
Trust Private Key Alias:          ouaf_demo_cert
```

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

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

10. When you are done with the parameter setup, proceed with the option P. The utility writes the configured parameters and their values into the configuration file.
11. Once the install has finished, the installation log location appears 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 Oracle Utilities Application Framework v4.3.0.1 Single Fix PreRequisite Rollup for ORS v2.3.0

1. Create a <TEMPDIR> directory on the host server that is independent of any current or other working application environment.
2. Copy the file 'ORS-v2.3.0.0.0-FW-PREREQ-Multiplatform.zip' in the delivered package to <TEMPDIR>.

If you are using FTP to transfer this file, remember to use the BINARY option for the FTP transfer.

3. Upon extracting the zip file 'Application-Server-Multiplatform' sub-directory will be created.
4. Refer to the Readme.txt inside 'Application-Server-Multiplatform' to install Application related FW patch.

Installing Oracle Real-Time Scheduler v2.3.0

This section describes how to install the application component of Oracle Real-Time Scheduler, including:

1. Create a <TEMPDIR> directory on the host server that is independent of any current or other working Oracle Real-Time Scheduler application environment.
2. Unzip 'Oracle Real-Time Scheduler v2.3.0 Multiplatform.zip' and copy the file ORS-V2.3.0.0.0-MultiPlatform.jar in the delivered package to <TEMPDIR>.

If you are using FTP to transfer this file, remember to use the BINARY option for the FTP transfer.

3. Decompress the file using following command:

```
cd <TEMPDIR>
jar -xvf ORS-V2.3.0.0.0-MultiPlatform.jar
```

Note: For Windows installations, include the location of the JDK in your path before executing the jar command.

For both Unix and Windows platforms, a sub-directory named ORS.V2.3.0.0.0 is created.

4. Initialize the Oracle Real-Time Scheduler environment that you want to install the product into.

UNIX:

```
<SPLEBASE>/bin/splenvron.sh -e <SPLENVIRON>
```

Windows:

```
<SPLEBASE>\bin\splenvron.cmd -e <SPLENVIRON>
```

5. Stop the application server instance if running.
6. Change to the <TEMPDIR>/ORS.V2.3.0.0.0 directory.
7. Execute the following command:

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

UNIX:

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

Windows:

```
install.cmd
```

The Oracle Real-Time Scheduler Application specific menu opens.

8. Select the following menu items and enter mandatory fields.
Refer to the [Oracle Real-Time Scheduler Installation and Configuration Worksheets](#) for more information.

8. JMS Configuration

```
Context Factory: <Mandatory> Weblogic
WebLogic Server URL: <Mandatory> Weblogic
Weblogic System User ID: <Mandatory> Weblogic
Weblogic System Password: <Mandatory>
Time Out: <Mandatory>
```

9. ORS Environment Description

```
ORS Scheduler Map Files Location: <Mandatory>
Schedule Manager Port Number: <Mandatory>
Minimum Requests: <Mandatory>
Maximum Time (seconds) Booking Requests: <Mandatory>
Unique identifier for the instance of the JVM:
<Mandatory>
Registry cleanse timing in seconds: <Mandatory>
Scheduler connection timeout in milliseconds:
<Mandatory>
Scheduler maintenance cycle time in seconds: <Mandatory>
```

10. Geocode Data Source Configuration

```
JDBC URL for the Geocode database: <Mandatory>
Database User Name: <Mandatory>
Database Password: <Mandatory>
JNDI name for the Geocode datasource: <Mandatory>
```

11. Mapviewer Configuration

```
Deploy mapviewer locally on this instance: <Mandatory>
Location of mapviewer ear file: <Mandatory>
```

12. Security Configuration

```
Deploy only mobility web application: <Mandatory>
Allow Self Signed SSL Certificates: <Mandatory>
```

9. Choose the options for configuration and enter P to proceed with the installation.
10. Execute the following command:

UNIX:

```
cd <SPLEBASE>/runtime
ksh ./ORS_postinstall.sh
```

Windows:

```
cd %SPLEBASE%\runtime
```

ORS_postinstall.cmd

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

Once the install has finished successfully, execute post installation steps as described in the following section, [Performing Post-Installation Tasks](#).

Performing Post-Installation Tasks

1. Generate the appviewer:

- a. Change directory.

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

where <install_dir> is the location where the Oracle Real-Time Scheduler application component is installed.

- b. Initialize the environment by running the appropriate command:

UNIX:

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

Windows:

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

- c. Generate the Appviewer:

Generate the appviewer by following the steps below:

UNIX:

```
$cd $SPLEBASE/bin
```

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

Windows:

```
C:\> cd %SPLEBASE%\bin
```

```
C:\> genappvieweritems.cmd
```

2. Deploy Inbound Web Services (IWS)

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

For deploying IWS, please follow the steps below:

UNIX:

- a. Enable the Web Services Functionality as shown below:

1. cd \$SPLEBASE/bin

2. Execute configureEnv.sh -a

Select option 50 and set the option "Enable Web Services Functionality" to true.

Enter "P" to process.

3. Execute initialSetup.sh as shown below:

```
cd $SPLEBASE/bin
```

```
ksh ./initialSetup.sh
```

- b. Set the classpath as shown below:

```
$ CLASSPATH=$WL_HOME/server/lib/weblogic.jar:$CLASSPATH
```

```
$ export CLASSPATH
```

```
$ cd $SPLEBASE/bin
```

- c. Execute the following command:


```
$ java weblogic.Admin -username <username> -password <password>
STOREUSERCONFIG -userconfigfile $$PLEBASE/etc/.wlsuserconfig -
userkeyfile $$PLEBASE/etc/.wlsuserkey
Select y
```

- d. Update the wls.port in \$\$PLEBASE/splapp/iws/iws-build.xml to be same as that of WEB_WLPORT in SPLEBASE/etc/ENVIRON.INI

```
<property name="wls.port" value="XXXX" />
```

- e. Execute the below step in \$\$PLEBASE/bin. Please note that the application server should be up before running the below command.

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

WINDOWS:

- a. Enable the Web Services Functionality as shown below:

1. cd %SPLEBASE%\bin
2. Execute configureEnv.cmd -a

Select option 50 and set the option "Enable Web Services Functionality" to true.

Enter "P" to process.

3. Execute initialSetup.cmd as shown below:

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

- b. Set the classpath as shown below:

```
set CLASSPATH=%WL_HOME%\server\lib\weblogic.jar;%CLASSPATH%
```

- c. Execute the following command:

```
java weblogic.Admin -username system -password ouafadmin
STOREUSERCONFIG -userconfigfile %SPLEBASE%\etc\.wlsuserconfig -
userkeyfile %SPLEBASE%\etc\.wlsuserkey
Select y
```

- d. Update the wls.port in %SPLEBASE%\splapp\iws\iws-build.xml to be same as that of WEB_WLPORT in %SPLEBASE%\etc\ENVIRON.INI

```
<property name="wls.port" value="XXXX" />
```

- e. Execute the below step in %SPLEBASE%\bin. Please note that the application server should be up before running the below command.

```
iwsdeploy.cmd
```

3. Build the wlfultclient.jar file

UNIX:

```
cd $WL_HOME/server/lib
java -jar wljarbuilder.jar
```

WINDOWS:

```
cd %WL_HOME%\server\lib
java -jar wljarbuilder.jar
```

After the Installation

After you complete the installation, verify the following:

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

Operating the Application

At this point your installation and custom integration process is complete. Be sure to read the Oracle Real-Time Scheduler *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 patchsets or patches (if required). For information on installing patchsets, refer to the Readme file included with each patchset. For information on installing patches, refer to knowledge base article ID 974985.1 on My Oracle Support.

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

Chapter 8

Installing Oracle Real-Time Scheduler - Accelerator Installation

This chapter provides instructions for installing Oracle Real-Time Scheduler for an accelerator installation.

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

This chapter includes information on the following:

- [Before You Install](#)
- [Accelerator Installation Procedure](#)
- [After the Installation](#)
- [Operating the Application](#)
- [Installing Service Packs and Patches](#)

Before You Install

Refer to My Oracle Support for up-to-date additional information on Oracle Real-Time Scheduler.

Accelerator Installation Procedure

The initial installation procedure consists of:

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

Database Component Installation

Installation of the database component of Oracle Real-Time Scheduler must be complete before you can proceed with the following sections. Refer to the section “**Accelerator Install**” of the Oracle Real-Time Scheduler *Database Administrator's Guide*, which provides instructions on installing the database component.

Application Components Installation

A successful installation consists of the following steps:

- [Installing Oracle Utilities Application Framework v4.3.0 Service Pack 1](#)
- [Installing Oracle Utilities Application Framework v4.3.0.1 Single Fix PreRequisite Rollup for ORS v2.3.0](#)
- [Installing Oracle Real-Time Scheduler v2.3.0](#)

Installing Oracle Utilities Application Framework v4.3.0 Service Pack 1

This section describes how to install the application framework component, including:

- [Copying and Decompressing Install Media](#)
- [Setting Permissions for the cistab file in UNIX](#)
- [Preparing for the Installation](#)

Copying and Decompressing Install Media

The installation file is delivered in jar format for both UNIX and Windows platforms. Download the installation package and proceed as follows:

1. Log in to the host server as the Oracle Utilities Application Framework administrator user ID. This is the same user ID that was used to install the Oracle Utilities Application Framework.
2. Create a <TEMPDIR> directory on the host server, which is independent of any current or other working Oracle Utilities Framework application environment. This can be the same <TEMPDIR> used during the installation of the Oracle Utilities Application Framework.

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 may be deleted after a successful installation.

3. Copy the file FW-V4.3.0.1.0-MultiPlatform.jar in the delivered package to a <TEMPDIR> on your host server. If you are using FTP to transfer this file, remember to use the BINARY option for the FTP transfer.
4. Decompress the file:

```
cd <TEMPDIR>
jar -xvf FW-V4.3.0.1.0-MultiPlatform.jar
```

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

For both Unix and Windows platforms, a sub-directory named FW.V4.3.0.1.0 is created. The contents of the installation directory are identical for both platforms. The directory contains the install software for the application.

Setting Permissions for the cistab file in UNIX

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

The install utility checks permissions and if it identifies a lack of the necessary permissions, it generates a script in the <TEMPDIR>/FW.V4.3.0.1.0 directory named cistab_<SPLENVIRON>.sh. Run the generated script using the root account before continuing with the installation process. The script initializes the cistab file in /etc directory (if it is the first Oracle Utilities Framework application environment on the server) and registers a new environment.

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

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

If you are planning to upgrade an existing environment it is your responsibility to take a backup prior to the installation process. The installation utility does not create a backup of existing environment.

Preparing for the Installation

1. Log on as the administrator (default cissys).
2. Change directory to the <TEMPDIR>/FW.V4.3.0.1.0 directory.
3. Set the ORACLE_CLIENT_HOME and PATH variables as Oracle Client Perl is required to run the installer.

UNIX:

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

Windows:

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

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

UNIX:

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

Windows:

```
install.cmd
```

5. The Oracle Utilities Application Framework specific menu appears.
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 Appendix [Installation and Configuration Worksheets](#).
8. Below are the mandatory list of configurable items along with descriptions for a few items. Where you see <Mandatory>, enter values suitable to your environment. You can assign default values to the rest of the menu items.

8. JMS Configuration

```
Context Factory: <Mandatory> Weblogic
WebLogic Server URL: <Mandatory> Weblogic
Weblogic System User ID: <Mandatory> Weblogic
Weblogic System Password: <Mandatory>
Time Out: <Mandatory>
```

9. ORS Environment Description

```
ORS Scheduler Map Files Location: <Mandatory>
Schedule Manager Port Number: <Mandatory>
Minimum Requests: <Mandatory>
Maximum Time (seconds) Booking Requests: <Mandatory>
Unique identifier for the instance of the JVM:
<Mandatory>
Registry cleanse timing in seconds: <Mandatory>
Scheduler connection timeout in milliseconds:
<Mandatory>
Scheduler maintenance cycle time in seconds: <Mandatory>
```

10. Geocode Data Source Configuration

```
JDBC URL for the Geocode database: <Mandatory>
Database User Name: <Mandatory>
Database Password: <Mandatory>
JNDI name for the Geocode datasource: <Mandatory>
```

11. Mapviewer Configuration

```
Deploy mapviewer locally on this instance: <Mandatory>
Location of mapviewer ear file: <Mandatory>
```

12. Security Configuration

```
Deploy only mobility web application: <Mandatory>
Allow Self Signed SSL Certificates: <Mandatory>
```

9. 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>
```

```
WebLogic Server Name: myserver
```

```
Business Server Application Name: SPLService
```

```
MPL Admin Port Number: <Mandatory> - Multipurpose
```

Listener

Port

MPL Automatic startup: false

3. Web Application Server Configuration

Web Server Host: <Mandatory>
 Weblogic SSL Port Number: <Mandatory>
 Weblogic Console Port Number: <Mandatory>
 WebLogic Additional Stop Arguments:
 Web Context Root: ouaf
 WebLogic JNDI User ID: <Mandatory>
 WebLogic JNDI Password: <Mandatory>
 WebLogic Admin System User ID: <Mandatory>
 WebLogic Admin System Password: <Mandatory>
 WebLogic Server Name: myserver
 Web Server Application Name: SPLWeb
 Deploy using Archive Files: true
 Deploy Application Viewer Module: true
 Enable The Unsecured Health Check Service: false
 MDB RunAs User ID:
 Super User Ids:

4. Database Configuration

Application Server Database User ID: <Mandatory>
 Application Server Database Password: <Mandatory>
 MPL Database User ID: <Mandatory>
 MPL Database Password: <Mandatory>
 XAI Database User ID: <Mandatory>
 XAI Database Password: <Mandatory>
 Batch Database User ID: <Mandatory>
 Batch Database Password: <Mandatory>
 Database Name: <Mandatory>
 Database Server: <Mandatory>
 Database Port: <Mandatory>
 ONS Server Configuration:
 Database Override Connection String:
 Oracle Client Character Set NLS_LANG:

5. General Configuration Options

Batch RMI Port: <Mandatory> - RMI
 port
 for batch
 RMI Port number for JMX Business:
 RMI Port number for JMX Web:
 JMX Enablement System User ID:
 JMX Enablement System Password:
 Batch Mode: <Mandatory> - CLUSTERED
 or DISTRIBUTED
 Coherence Cluster Name:<Mandatory> - Unique name for batch
 Coherence Cluster Address:<Mandatory> - Unique multicast
 address
 Coherence Cluster Port: <Mandatory> - Unique port for batch
 cluster
 Coherence Cluster Mode: <Mandatory> - prod

6. SSL Certificate Keystore

Certificate Keystore Type: DEMO
 Identify Keystore File:
 Identify Keystore File Type: jks
 Identify Keystore Password:
 Identity Private Key Alias: ouaf_demo_cert
 Trust Keystore File:
 Trust Keystore File Type: jks


```
Trust Keystore Password:
Trust Private Key Alias:          ouaf_demo_cert
```

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

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

10. When you are done with the parameter setup, proceed with the option P. The utility writes the configured parameters and their values into the configuration file.
11. Once the install has finished, the installation log location appears 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 Oracle Utilities Application Framework v4.3.0.1 Single Fix PreRequisite Rollup for ORS v2.3.0

1. Create a <TEMPDIR> directory on the host server that is independent of any current or other working application environment.
2. Copy the file 'ORS-v2.3.0.0.0-FW-PREREQ-Multiplatform.zip' in the delivered package to <TEMPDIR>.

If you are using FTP to transfer this file, remember to use the BINARY option for the FTP transfer.

3. Upon extracting the zip file 'Application-Server-Multiplatform' sub-directory will be created.
4. Refer to the Readme.txt inside 'Application-Server-Multiplatform' to install Application related FW patch.

Installing Oracle Real-Time Scheduler v2.3.0

This section describes how to install the application component of Oracle Real-Time Scheduler, including:

1. Create a <TEMPDIR> directory on the host server that is independent of any current or other working Oracle Real-Time Scheduler application environment.
2. Unzip 'Oracle Real-Time Scheduler v2.3.0 Multiplatform.zip' and copy the file ORS-V2.3.0.0.0-MultiPlatform.jar in the delivered package to <TEMPDIR>.

If you are using FTP to transfer this file, remember to use the BINARY option for the FTP transfer.

3. Decompress the file using following command:

```
cd <TEMPDIR>
jar -xvf ORS-V2.3.0.0.0-MultiPlatform.jar
```

Note: For Windows installations, include the location of the JDK in your path before executing the jar command.

For both Unix and Windows platforms, a sub-directory named ORS.V2.3.0.0.0 is created.

4. Initialize the Oracle Real-Time Scheduler environment that you want to install the product into.

UNIX:

```
<SPLEBASE>/bin/splenviron.sh -e <SPLENVIRON>
```

Windows:

```
<SPLEBASE>\bin\splenviron.cmd -e <SPLENVIRON>
```

5. Stop the application server instance if running.
6. Change to the <TEMPDIR>/ORS.V2.3.0.0.0 directory.
7. Execute the following command:

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

UNIX:

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

Windows:

```
install.cmd
```

The Oracle Real-Time Scheduler Application specific menu opens.

8. Select the following menu items and enter mandatory fields.
Refer to the [Oracle Real-Time Scheduler Installation and Configuration Worksheets](#) for more information.

8. JMS Configuration

```
Context Factory: <Mandatory> Weblogic
WebLogic Server URL: <Mandatory> Weblogic
Weblogic System User ID: <Mandatory> Weblogic
Weblogic System Password: <Mandatory>
Time Out: <Mandatory>
```

9. ORS Environment Description

```
ORS Scheduler Map Files Location: <Mandatory>
Schedule Manager Port Number: <Mandatory>
Minimum Requests: <Mandatory>
Maximum Time (seconds) Booking Requests: <Mandatory>
Unique identifier for the instance of the JVM:
<Mandatory>
Registry cleanse timing in seconds: <Mandatory>
Scheduler connection timeout in milliseconds:
<Mandatory>
Scheduler maintenance cycle time in seconds: <Mandatory>
```

10. Geocode Data Source Configuration

```
JDBC URL for the Geocode database: <Mandatory>
Database User Name: <Mandatory>
Database Password: <Mandatory>
JNDI name for the Geocode datasource: <Mandatory>
```

11. Mapviewer Configuration

```
Deploy mapviewer locally on this instance: <Mandatory>
Location of mapviewer ear file: <Mandatory>
```

12. Security Configuration

```
Deploy only mobility web application: <Mandatory>
Allow Self Signed SSL Certificates: <Mandatory>
```

9. Choose the options for configuration and enter P to proceed with the installation.
10. Execute the following command:

UNIX:

```
cd <SPLEBASE>/runtime
ksh ./ORS_postinstall.sh
```

Windows:

```
cd %SPLEBASE%\runtime
```

ORS_postinstall.cmd

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

Once the install has finished successfully, execute post installation steps as described in the following section, [Performing Post-Installation Tasks](#).

Performing Post-Installation Tasks

1. Generate the appviewer:

- a. Change directory.

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

where <install_dir> is the location where the Oracle Real-Time Scheduler application component is installed.

- b. Initialize the environment by running the appropriate command:

UNIX:

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

Windows:

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

- b. Generate the Appviewer:

Generate the appviewer by following the steps below:

UNIX:

```
$cd $SPLEBASE/bin
```

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

Windows:

```
C:\> cd %SPLEBASE%\bin
```

```
C:\> genappvieweritems.cmd
```

2. Deploy Inbound Web Services (IWS)

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

For deploying IWS, please follow the steps below:

UNIX:

- a. Enable the Web Services Functionality as shown below:

1. cd \$SPLEBASE/bin

2. Execute configureEnv.sh -a

Select option 50 and set the option “Enable Web Services Functionality” to true.

Enter "P" to process.

3. Execute initialSetup.sh as shown below:

```
cd $SPLEBASE/bin
```

```
ksh ./initialSetup.sh
```

- b. Set the classpath as shown below:

```
$ CLASSPATH=$WL_HOME/server/lib/weblogic.jar:$CLASSPATH
```

```
$ export CLASSPATH
```

```
$ cd $SPLEBASE/bin
```

- b. Execute the following command:

```
$ java weblogic.Admin -username <username> -password <password>
STOREUSERCONFIG -userconfigfile $SPLEBASE/etc/.wlsuserconfig -
userkeyfile $SPLEBASE/etc/.wlsuserkey
Select y
```

- b. Update the wls.port in \$SPLEBASE/splapp/iws/iws-build.xml to be same as that of WEB_WLPORT in SPLEBASE/etc/ENVIRON.INI

```
<property name="wls.port" value="XXXX" />
```

- b. Execute the below step in \$SPLEBASE/bin. Please note that the application server should be up before running the below command.

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

WINDOWS:

- a. Enable the Web Services Functionality as shown below:

1. cd %SPLEBASE%\bin
2. Execute configureEnv.cmd -a

Select option 50 and set the option "Enable Web Services Functionality" to true.

Enter "P" to process.

3. Execute initialSetup.cmd as shown below:

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

- b. Set the classpath as shown below:

```
set CLASSPATH=%WL_HOME%\server\lib\weblogic.jar;%CLASSPATH%
```

- b. Execute the following command:

```
java weblogic.Admin -username system -password ouafadmin
STOREUSERCONFIG -userconfigfile %SPLEBASE%\etc\.wlsuserconfig -
userkeyfile %SPLEBASE%\etc\.wlsuserkey
Select y
```

- b. Update the wls.port in %SPLEBASE%\splapp\iws\iws-build.xml to be same as that of WEB_WLPORT in %SPLEBASE%\etc\ENVIRON.INI

```
<property name="wls.port" value="XXXX" />
```

- b. Execute the below step in %SPLEBASE%\bin. Please note that the application server should be up before running the below command.

```
iwsdeploy.cmd
```

3. Build the wfullclient.jar file

UNIX:

```
cd $WL_HOME/server/lib
java -jar wljarbuilder.jar
```

WINDOWS:

```
cd %WL_HOME%\server\lib
java -jar wljarbuilder.jar
```

After the Installation

After you complete the installation, verify the following:

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

Operating the Application

At this point your installation and custom integration process is complete. Be sure to read the Oracle Real-Time Scheduler *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 patchsets or patches (if required). For information on installing patchsets, refer to the Readme file included with each patchset. For information on installing patches, refer to knowledge base article ID 974985.1 on My Oracle Support.

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

Chapter 9

Installing the Java-based Mobile Client

This chapter describes how to install the Java-based mobile client for Oracle Real-Time Scheduler. It is intended for implementers and system administrators responsible for configuration and initial setup of the mobile application.

Note: If you wish to use the hybrid mobile client, skip this chapter and refer to the guide *Oracle Real-Time Scheduler Hybrid Mobile Application Installation and Deployment Guide* for instructions on installing the mobile client.

This chapter includes:

- [Installing the Mobile Client on Windows](#)
- [Installing the Mobile Client on Android](#)

Installing the Mobile Client on Windows

This section describes how to install the mobile client runtime on Windows platforms. This section includes:

- [Installing on Windows 7](#)
- [Mobile Device Registration](#)
- [Mobile Device Registration](#)
- [Uninstalling the Mobile Client](#)

Installing on Windows 7

1. Extract OracleMWM.msi from ORS-V2.3.0.0.0-Mobile-Client-Win.zip and copy it to a temporary directory.
2. Double click the OracleMWM.msi file to start the installation process.
3. Click **Next** to proceed with the installation of 2.3.0 Mobile Client on your machine.
4. Select a folder/hard drive location to install the application to.
5. Click **Next** to proceed with the installation.
6. Click **Close** after the installation is successful.

The mobile client application is now accessible from shortcuts created on the Desktop or Start Menu.

Mobile Device Registration

The mobile device needs to be registered with the Oracle Real-Time Scheduler application server before it can start using the application features. Ensure that the Oracle Real-Time Scheduler application is installed and running before registering the mobile device.

Please refer to the *Mobile Application User Guide* for the steps to register a device with the server.

Uninstalling the Mobile Client

Follow these procedures to remove the mobile client from Windows 7.

Uninstalling from Windows 7

1. Ensure that all the data is synchronized on the server.
2. Go to **Start Menu -> Control Panel**.
3. Open **Add or Remove Programs**.
4. Select 2.3.0 from the programs list and click **Remove**.
5. Click **Yes** to confirm the removal of the mobile client.
6. Click **Close** after the mobile client has been removed.

Installing the Mobile Client on Android

This section describes how to install the Android Mobile Client Platform (Android MCP). It is intended for implementers and system administrators responsible for configuration and initial setup of the mobile application. This section includes:

- [Overview of the Android MCP](#)
- [Installing the Android MCP](#)
- [Launching Android MCP](#)
- [Launching Android MCP Tools](#)
- [Uninstalling Android MCP](#)

Overview of the Android MCP

Android MCP provides the same runtime functionality as the Windows MCP. This functionality includes:

- **RSI:** Communication between the device and the server
- **GPS:** GPS services such as location logging and transferring logs to the server
- **BO Processing:** Business Object Functionality
- **BS Processing:** Business Service Functionality
- **SS Processing:** Service Script Functionality
- **Authentication:** Login processing
- **UI Rendering:** User Interface Processing
- **Logging:** Log File Support

There may be differences in UI layout or JavaScript support due to the different browser component provided by the Android platform. There will also be normal differences in the user interface behavior that are specific to Android applications.

Installing the Android MCP

The Android MCP is delivered as a standard Android APK file. This APK will need to be installed to the Android device in one of the following ways.

- Using SD Card
- Downloading the file from a hosted web server
- Using device management software for Android
- Using Android SDK (Advanced only)

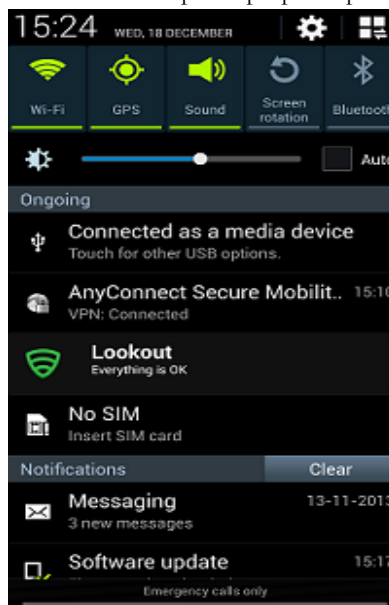
This section describes the SD Card method only.

Note: You should uninstall previous versions of the Android MCP before installing a new version.

Installing the MCP Using the SD Card Method

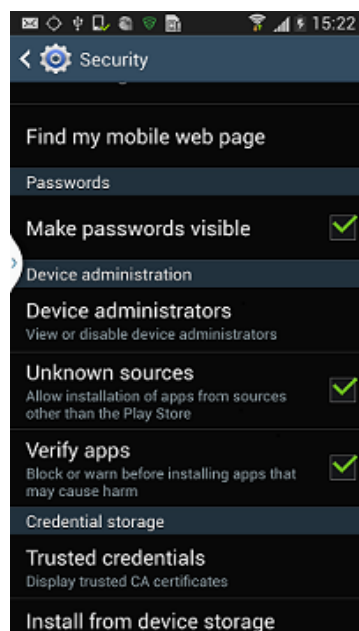
To Install the Android Mcp Using the Sd Card Method

1. Extract OracleMWM.apk from the ORS-V2.3.0.0.0-Mobile-Client-Android.zip file and copy it to a temporary directory.
2. Connect the Android device to a desktop or laptop computer as a Media Drive.

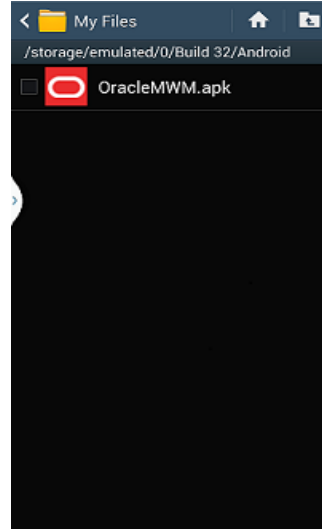


3. Copy the OracleMWM.apk file to the removable disk (select **My Computer** for the drive letter).
4. Disconnect the device from the desktop or laptop, or choose the **Charge only** connection type.
5. Verify that non-Market applications can be installed.

Open **Settings** -> **Applications** and select **Unknown sources**.



6. Use a file explorer on the device such as ASTRO or File Expert (which can be downloaded from Android Market) to locate the APK file on the SD card. Launch the file.



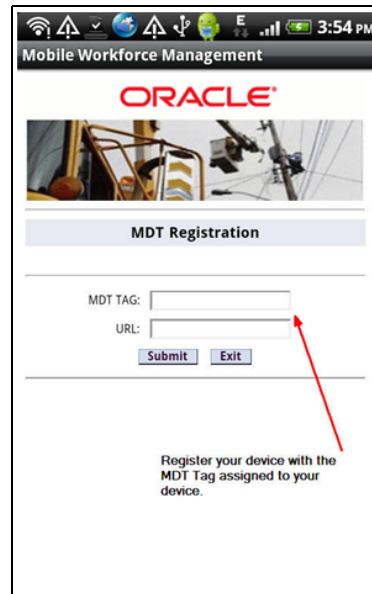
7. Confirm the installation by clicking **Install**.
8. The application will now be installed.
9. After the application is installed, click **Done**.

Launching Android MCP

To Launch the Android MCP on Your Device

1. Under All apps, locate the Oracle MWM icon.
2. Launch the application to register the device and download a deployment.

Note: Ensure that your device has data or WIFI connectivity.



Launching Android MCP Tools

The MCP Tools application provides functionality to import and export the MCP data folder to and from the SD card on the Android device. This can be very useful in debugging issues or for loading test data to the device.

To Launch the Android MCP Tools Application on Your Device

1. Under All apps, locate the Oracle MWM Tools icon.
2. Launch the application to access import and export functionality.
 - **Export Data** exports the application's data folder to SD Card.
 - **Import Data** imports data from SD card's /MWMApp/ folder into the application's data folder.

Uninstalling Android MCP

To Uninstall the Android MCP

1. Open **Settings, Applications, Manage Applications** and click the Oracle MWM application.
2. Click **Uninstall** to remove Android MCP from your device. Do not select **Clear data**.

Chapter 10

Additional Tasks

This chapter describes tasks that should be completed after installing Oracle Real-Time Scheduler including:

- [Configuring MapViewer](#)
- [Oracle Location Services \(eLocation\)](#)
- [Configuring the Environment for Oracle BPEL Server](#)
- [Configuring the Scheduler](#)
- [Configuring Business Service SDK](#)
- [WebLogic Production Server Considerations](#)
- [Building Javadoc Indexes](#)
- [Configuring the Environment for Batch Processing](#)
- [Customizing Configuration Files](#)
- [Customizing the Logo](#)
- [Generating the Application Viewer](#)
- [Installation Verification Checklist](#)
- [Accessing the Application](#)

Configuring MapViewer

This section describes how to configure a MapViewer data source.

Before you can configure a MapViewer data source you must:

- Install Oracle Fusion Middleware MapViewer 11.1.1.7.3.
- Create and configure the database.

To Configure a MapViewer Data Source

1. Go to the MapViewer Application:

Example: `http://<host>:<port>/mapviewer`

Where `<host>` is the host name or IP address of the system where MapViewer is deployed and `<port>` is the port of the WebLogic instance. If MapViewer is deployed on the same WebLogic instance then this is same as the application port.

2. Click the **Admin** button to log in as an administrator to MapViewer.
3. Click **Manage Map Viewer**, then **Configuration**.
4. Modify `mapViewerConfig.xml` using the Config text area.
 - a. Provide the data source details for the `cisadm` and `NAVTEQ_UTIL` data sources. The following code sample contains example data sources. Change the properties according to your data sources:

```

<!--(Sample datasource configuration)
  <map_data_source name="mvdemo"
    jdbc_host="db1.my_corp.com"
    jdbc_sid="orcl"
    jdbc_port="1521"
    jdbc_user="scott"
    jdbc_password="!tiger"
    jdbc_mode="thin"
    number_of_mappers="3"
    allow_jdbc_theme_based_foi="false"
  />

<mds_config>

  <data_source name="mvdemo">
    <allow_predefined_themes>true</allow_predefined_themes>
    <allow_dynamic_themes>true</allow_dynamic_themes>
    <allow>
      <theme>*</theme>
    </allow>
  </data_source>
</mds_config>

```

- b. If the secure protocol (HTTPS) is enabled for the MapViewer URL, add the following to the **Map Image Settings** section of `mapViewerConfig.xml`:

```

<save_images_at file_prefix="omsmmap"
  url="https:// <host>:<port>/mapviewer/images"
  path="../../images"
  life="0"
  recycle_interval="480"
/>

```

Where `<host>` is the host name or IP address of the system where MapViewer is deployed and `<port>` is the port of the WebLogic instance.

- c. If the application server is using the Mapviewer which is on a different host, the application server must trust the certificate of Mapviewer host.

Mapviewer on the application server (if deployed) should be configured to use proxy as shown below:

```
<MapperConfig>
<logging log_level="finest" log_thread_name="false"
    log_time="true">
    <log_output name="<<LOG_LOCATION>>" />
</logging>

<security_config>
    <proxy_enabled_hosts>MAPVIEWER_URL</proxy_enabled_hosts>
(for e.g https://MAPVIEWER_HOST:MAPVIEWER_PORT/mapviewer)
    <certificates>
        <entry>
            <host_name>MAPVIEWER_HOST</host_name>
            <keystore_file>LOCATION_TO_TRUST_KEYSTORE</keystore_file>
            <key>KEY_FOR_TRUST_KEYSTORE</key>
        </entry>
    </certificates>
</security_config>
</MapperConfig>
```

5. Click **Save and Restart**.
6. To refresh the list of data sources, click **Manage Map Viewer**, then **Data sources**.
7. To confirm that the configuration is correct, click **Manage Map Tile Layers**.

Configuring MapViewer Security

When MapViewer is deployed on the same WebLogic instance as the application, follow these steps to configure MapViewer to share the security credentials of the application.

1. Add the following entry in the weblogic.xml file under <MAPVIEWER_EAR_DIR>/web.war/WEB-INF:

```
<security-role-assignment>
    <role-name>cisusers</role-name>
    <principal-name>cisusers</principal-name>
</security-role-assignment>

<session-descriptor>
    <cookie-path>/mapviewer</cookie-path>
</session-descriptor>
```

2. Add the following entry in the web.xml file under <MAPVIEWER_EAR_DIR>/web.war/WEB-INF:

```
<security-role>
    <description>MapViewer users</description>
    <role-name>cisusers</role-name>
</security-role>
```

Oracle Location Services (eLocation)

This section describes how to configure and deploy Oracle Location Services (eLocation) for use by Oracle Real-Time Scheduler. This is required if your implementation chooses to use eLocation for routing data instead of Oracle Real-Time Scheduler.

The installation of eLocation requires the following components

- eLocation Dispatcher Servlet (elocation.ear)
- Oracle RouteServer (routeserver.ear)
- Oracle Geocoder (geocoder.ear)

To Configure eLocation

1. Download the elocation.ear file.

To download the latest elocation.ear, log on to My Oracle Support at support.oracle.com and download Patch 13446793, “SPATIAL elocation for Mobile Workforce Management Release 12.”

Oracle RouteServer and Oracle Geocoder are included with the Oracle 11g database in the following directory: ORACLE_HOME\md\jlib

2. When eLocation is deployed on the same WebLogic instance as the application, follow these steps to configure eLocation to share the security credentials of the application.

- a. Add the following entry in the weblogic.xml file, located under <ELOCATION_EAR_DIR>/web.war/WEB-INF:

```
<security-role-assignment>
<role-name>cisusers</role-name>
<principal-name>cisusers</principal-name>
</security-role-assignment>
```

- b. Add the following entry in the web.xml file, located under <ELOCATION_EAR_DIR>/web.war/WEB-INF:

```
<security-role>
<description>SPL users</description>
<role-name>cisusers</role-name>
</security-role>
```

2. Deploy and configure the routing engine and the geocoding service as described in the Oracle Spatial Developer’s Guide 11g.
3. Deploy the eLocation EAR manually using the WebLogic console. Open the eLocation URL at: http://<environment>:<port>/elocation/admin.jsp

The application asks for login credentials because the web.xml and weblogic.xml files have changed. Once the login is successful, you will see the Oracle eLocation Administration page.

4. To modify the Mapper Cluster, click **Edit** on the component URL. Specify the following value:

```
<http://<environment>:<port>/mapviewer/omsserver>.
```

Make sure that MapViewer is also deployed in the environment.

5. To modify the Geocoder Cluster, click **Edit** on the component URL. Specify the following value:

```
<http://elocation.oracle.com/geocoder/gcserver>
```

6. To modify the Router Cluster, click **Edit** on the component URL. Specify the following value:

```
http://elocation.oracle.com/routeserver/servlet/RouteServerServlet
```

7. Click **Apply Changes**.

Configuring the Environment for Oracle BPEL Server

Oracle BPEL Process Manager is optional software that can be used by Oracle Real-Time Scheduler for sending SMS messages. Oracle Real-Time Scheduler can be configured to send SMS via different third party gateway/SMS providers. The ability to send SMS using the Oracle BPEL Server is already provided in the base application

This section describes how to configure the Oracle Real-Time Scheduler to interact with Oracle BPEL Server.

Before configuring Oracle Real-Time Scheduler to interact with BPEL Server you must:

- Install Oracle BPEL Server.
- Configure Oracle Real-Time Scheduler with a process that receives phone numbers and messages deployed on the BPEL server.

Oracle Real-Time Scheduler uses the algorithm type F1-SMSSEND to connect to the Oracle BPEL server.

The following information will be required to set up the application to work with the BPEL server:

Option Type	Detail Description
Operation Name	The 'operation' or the method name of the SMS Web service
Password	The password for the Web service
Port Type	The 'port type' name of the SMS Web service
Server URL	The url of the BPEL/SMS gateway server
Service Name	The 'service' name of the SMS Server
User Name	The 'user name' for authentication to the Web service

Configuring the Scheduler

Note: From Oracle Real-Time Scheduler v2.2.0 onwards, the location of these scheduler log files can no longer be configured from the online application. The scheduler log files are now written in the same location as the TPW and the batch files, under \$SPLOUTPUT.

This section describes how to configure a scheduler as a standalone application on the TPW JVM.

After installing Oracle Real-Time Scheduler, please verify that the below step1 and step 2 changes are available. If they are not available, follow the below steps:

1. If you enabled the WebLogic Console Port Number, then the WebLogic console is accessed by https admin channel by default. Specify “t3s://<host>:<admin channel port>” as the WebLogic Server URL in menu item 8, JMS Configurations. Otherwise, specify “t3://<host>:<web server port>”.

See appendix [Application Framework Installation and Configuration Worksheets](#) for more information.

2. Configure trust keystore as WebLogic Additional Stop Argument using menu item 52 Advanced Web Application Configuration. See appendix [Application Framework Installation and Configuration Worksheets](#) for more information.
3. Run the initialSetup script.

UNIX:

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

Windows:

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

4. Run the standalone batch script. For example

UNIX:

```
$ cd $$SPLEBASE/bin
$ nohup batchscheduler.sh <Node_ID> > /tmp/batchscheduler.log 2>&1
```

&

Windows:

```
cd %SPLEBASE%\bin
batchscheduler.cmd <Node_ID>
```

Notes:

- The application domain node ID must be unique value across the environment. This value is used for a scheduler running from Threadpoolworker.
- The scheduler should be disabled from the online application. The batch scheduler program invokes Threadpoolworker so there is no need to start Threadpoolworker separately.
- The NodeID is located in the threadpoolworker logs under \$\$SPLOUTPUT. You can locate this value by searching for “NODEID”.
- To locate the NodeID in the threadpoolworker process, search for the string “-Dspl.mwm.scheduler.nodeId=”

You will get multicast issues in an AIX environment if you start the batch scheduler and the multicast listener is not enabled. The workaround for this is to enable a unicast listener. See the Oracle Real-Time Scheduler *Server Administration Guide* for more details.

To Enable the Unicast Listener

1. Copy the file \$\$SPLEBASE/splapp/standalone/config/tangosol-coherence-override.xml to tangosol-coherence-override.xml.org
2. Remove the following code in the tangosol-coherence-override.xml file:

```
<multicast-listener>
-----
-----
</multicast-listener>
```

3. Add the following code after the </member-identity> tag in the tangosol-coherence-override.xml file:

```
<unicast-listener>
<well-known-addresses>
<socket-address id="0">
<address system-property=
"tangosol.coherence.wka">COHERENCE_CLUSTER_HOSTNAME</address>
<port system-property=
"tangosol.coherence.wka.port">COHERENCE_CLUSTER_PORT</port>
</socket-address>
</well-known-addresses>
```

```

<address system-property=
"tangosol.coherence.localhost">COHERENCE_CLUSTER_HOSTNAME
</address>
<port system-property=
"tangosol.coherence.localport">COHERENCE_CLUSTER_PORT</port>
<port-auto-adjust system-property=
"tangosol.coherence.localport.adjust">true</port-auto-adjust>
</unicast-listener>

```

4. Select the menu item 5 and General Configuration Options. Use the completed General Configuration Options Worksheet to complete this step. See appendix [Application Framework Installation and Configuration Worksheets](#) for more information.
5. Run initialSetup and start the batch scheduler. See the Appendix titled “Common Maintenance Activities” for additional information on common batch scheduler tasks.

Configuring the Batch Scheduler for Different Servers

This section describes how to configure the batch scheduler to point to a different application server, or “target server”. The target server has to be installed following the same steps as described for installing Oracle Real-Time Scheduler. These steps can also be followed to run the batch scheduler(s) from a different server than the target server. In the following steps, substitute the appropriate values for the environment.

To Configure the Scheduler to Point to a Different Target Server

1. Install Oracle Real-Time Scheduler application.
2. Stop the environment if running.

UNIX:

```
$SPLEBASE/bin/spl.sh stop
```

Windows:

```
%SPLEBASE%\bin\spl.cmd stop
```

3. In the application menu, select the menu item 8 to configure JMS settings. Enter the menu items for the target server. Use the completed JMS Configuration Worksheet to assist you with this step. See appendix [Application Framework Installation and Configuration Worksheets](#) for more information for more information.
4. Select the menu item 9 to specify ORS environment description and enter the menu items for the target server. Use the completed ORS Environment Description Worksheet to complete this step. See appendix [Application Framework Installation and Configuration Worksheets](#) for more information for more information.
5. Enter the WebLogic Console Port Number for the target server using menu item 52 Advanced Web Application Configuration. See appendix [Application Framework Installation and Configuration Worksheets](#) for more information for more information.
6. Run the initialSetup script:

UNIX:

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

Windows:

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

7. Run the standalone batch scheduler script, which now points to the target server. See Appendix [Common Maintenance Activities](#) for details on how to start and stop the batch scheduler.

Configuring Business Service SDK

For details about configuring business service SDK, see the *Server Application User Guide*.

WebLogic Production Server Considerations

By default, WebLogic Server is configured with two keystores, to be used for development only. These keystores should not be used in a production environment.

Configuring Identity and Trust

Private keys, digital certificates, and trusted certificate authority certificates establish and verify identity and trust in the WebLogic Server environment. WebLogic Server is configured with a default identity keystore `DemoIdentity.jks` and a default trust keystore `DemoTrust.jks`. In addition, WebLogic Server trusts the certificate authorities in the `cacerts` file in the JDK. This default keystore configuration is appropriate for testing and development purposes. However, these keystores should not be used in a production environment.

To configure identity and trust for a server:

1. Obtain digital certificates, private keys, and trusted CA certificates from the CertGen utility, Sun Microsystem's keytool utility, or a reputable vendor such as Entrust or Verisign. You can also use the digital certificates, private keys, and trusted CA certificates provided by the WebLogic Server kit. The demonstration digital certificates, private keys, and trusted CA certificates should be used in a development environment only.
2. Store the private keys, digital certificates, and trusted CA certificates. Private keys and trusted CA certificates are stored in a keystore.
3. Configure the identity and trust keystores for a WebLogic Server instance on the Configuration: Keystores page.

By default, WebLogic Server is configured with two keystores, to be used for development only.

- `DemoIdentity.jks`: Contains a demonstration private key for WebLogic Server. This keystore establishes an identity for WebLogic Server.
- `DemoTrust.jks`: Contains a list of certificate authorities trusted by WebLogic Server. This keystore establishes trust for WebLogic Server.

These keystores are located in the `WL_HOME\server\lib` directory and the `JAVA_HOME\jre\lib\security` directory. For testing and development purposes, the keystore configuration is complete. Use the steps in this section to configure identity and trust keystores for production use.

Refer to the WebLogic documentation to configure identity and trust keystores for production use (Secure servers and resources > Configure identity and trust/Set up SSL)

Note: Depending on your choice of implementation you may need to change some configuration files. These files are managed by templates and will be overwritten if the procedures documented in “Customizing Configuration Files” are not followed.

Enabling Self-Signed Certificates

If your implementation uses Demo or self-signed certificates, you must import those certificates in the `cacerts` file. This step is needed to enable the https protocol to work with mobility context of the application.

However if your implementation uses CA signed certificates, it is not required to import CA signed certificates into the `cacerts` file.

Building Javadoc Indexes

The following script rebuilds the Javadocs indexes in the application viewer java module. This is necessary after customer modifications (CM) have been applied to an environment. You need to run this script only if the customer modification includes Java code.)

Windows:

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

UNIX:

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

Configuring the Environment for Batch Processing

See the Oracle Real-Time Scheduler *Server Administration Guide* for information on configuring the environment for batch processing.

Customizing Configuration Files

You may wish to make customer modifications to various configuration files. To do so, you should locate the configuration file you want to customize and edit it manually.

Configuration files are generated from delivered templates in the Oracle Utilities installation and are populated by values entered by the installation utility during the configuration process. In future upgrades of Oracle Utilities application software versions, some templates may be changed to reflect new software version requirements. In this case, the upgrade process will back up your customized configuration file and will regenerate a configuration file based on a new template. You will need to review the new configuration file and apply your customized changes back if still applicable for the new version.

For configuration files that are located in a web application (for example, web.xml, hibernate.properties), of the web application during installation process, you will not be able to edit the configuration files directly.

You will need to follow the procedure:

- Locate the configuration file you want to customize in the directory \$SPLEBASE/etc/conf.
- Apply your changes.
- Update application war file with the latest changes by executing the following command:

Unix:

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

Windows:

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

Customizing the Logo

To replace the Oracle Utilities logo on the main menu with another image, put the new image <customer_logo_file>.gif 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:

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

UNIX:

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

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.

Generating the Application Viewer

You may extend application viewer capabilities within an environment by generating additional items. The additional items that can be generated include algorithm type and related algorithm information, maintenance object information and data dictionary information.

To Generate the Additional Items In the Application Viewer:

1. Shut down the environment.
2. Initialize a command shell:

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

Unix:

You will need to logon to your UNIX box as the Oracle Utilities Administrator (default cissys) and open a shell prompt. In the following example you should replace the variables

\$SPLEBASE with the Full directory name that you installed the application into
and

\$SPLENVIRON with the name you gave to the environment at installation time.

To initialize the environment enter:

```
$SPLEBASE/bin/splenviron.sh -e $SPLENVIRON
```

For example:

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

Windows:

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

In the below example you should replace the following variables:

- **%SPLEBASE% :** The Full directory name that you installed the application into
- **%SPLENVIRON%:** The name you gave to the environment at installation time.

To initialize the environment type the following in your command prompt:

```
%SPLEBASE%\bin\splenviron.cmd -e %SPLENVIRON%
```

For example:

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

3. Execute the following script to generate all information.

UNIX:

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

Windows:

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

4. Restart your application

Installation Verification Checklist

After you complete the installation, verify the following:

1. Verify installation logs created under decompressed installer location for any errors.
2. Confirm installation logs do not contain any errors.
3. Confirm all the configurations are correct. Refer to Installation and Configuration Worksheets for details.
4. Confirm that the database is ready.
5. Start the application server. For instructions, refer to Appendix [Common Maintenance Activities](#).
6. Verify Application deployment status.
 - Login to Weblogic Console.
 - Click on **Deployment** link.
 - Verify that the following application deployments are Active
 - SPLService
 - SPLWeb
 - SPLAdf
 - Mapviewer
7. Verify the Data Source Configuration.
8. Confirm that the map file (mal) exists in the required location.
9. Ensure that ulimit is set (applicable for non-Windows platforms).
10. Ensure that the geocode algorithm is set.
11. To operate the application, refer to the next section.

Accessing the Application

1. Start up the environment by running the following command:

UNIX:

```
spl.sh start
```

Windows:

```
spl.cmd start
```

2. Follow the messages on the screen along with the logs in \$SPLSYSTEMLOGS directory to ensure that the environment was started successfully.
3. If the startup failed, identify the problem by reviewing the log files. Resolve any issues before attempting to restart the environment.
4. Once the application is up and running (can be viewed from logs file) then try to access the application via below URL

```
http://<host name>:<port name>/<WebContext>
```


Appendix A

Installation and Configuration Worksheets

Application Framework Installation and Configuration Worksheets

Environment ID, Roles, Third Party Software Configuration

```

*****
* Environment Installation Options *
*****
1. Environment ID, Roles, Third Party Software Configuration
   Environment ID:
   Server Roles:
   Oracle Client Home Directory:
   Web Java Home Directory:
   Hibernate JAR Directory:
   ONS JAR Directory:
   Web Application Server Home Directory:
   WebLogic Server Thin-Client JAR Directory:
   ADF Home Directory:
   OIM OAM Enabled Environment: false

```

Menu Option	Name Used in Documentation	Usage	Customer Install Value
Environment ID	ENVIRONMENT_ID	Identifier to associate different application server as part of the same environment. On a new installation, the default is a random 8 digit number.	
Server Roles	SERVER_ROLES	The type of role the server performs whether for batch or online. A server may be configured to have an online and/or batch role. Only the menu items appropriate to the role will appear on the menus, and only the appropriate scripts will be executable in the application server.	
Oracle Client Home Directory	ORACLE_CLIENT_HOME	The home directory of the Oracle Client. The application will use the Perl included under this Oracle Client. Example Location: /oracle/client/product/12.1.0.2.0	

Menu Option	Name Used in Documentation	Usage	Customer Install Value
Web Java Home Directory	JAVA_HOME	Java home that will be used by the web application server. Example Location: /ouaf/java/jdk1.8.0_31	
Hibernate JAR Directory	HIBERNATE_JAR_DIR	Location on the disk where the hibernate410.jar is installed.	
*ONS JAR Directory	ONS_JAR_DIR	Location on the disk where the ons-12.1.0.1.jar file is installed. **Required for Oracle RAC installation. See the <i>Server Administration Guide</i> for more information.	
Web Application Server Home Directory	WEB_SERVER_HOME	Location on the disk where the application server is installed. Example Location: WebLogic: /ouaf/middleware/wlserver_12.1.3 To validate the home directory, check if the following jar files exist in the appropriate path: \$WEB_SERVER_HOME/server/lib/weblogic.jar %WEB_SERVER_HOME%\server\lib\weblogic.jar WebSphere: /ouaf/IBM/WebSphere/AppServer WebSphere ND: /ouaf/IBM/WebSphereND/	
WebLogic Server Thin-Client JAR Directory	WLTHINT3CLIENT_JAR_DIR	Location where wlthint3client.jar is located. Populate only if WEB_SERVER_HOME is empty and if the application needs to access JMS from a batch job.	
* ADF Home Directory	ADF_HOME	Location on the disk where ADF is installed. Example Location: /ouaf/jdev11_1_1_8 Note: This is an optional value.	
OIM OAM Enabled Environment	OPEN_SPML_ENABLED_ENV	Denotes if an environment will be integrating with Oracle Identity Manager for user propagation. Valid values: true false Defaulted value: false	

* Denotes optional Menu Options that may be required for the product installation and variables.

** In order to activate the RAC FCF, the application needs the external ons.jar file, version 12.1.0.1+. This ons.jar is located under the Oracle Database Software 12.1.0.1, at the following path:

\$ORACLE_HOME/opmn/lib/ons.jar

The ons.jar should be copied to the Application Server. During the OUAF installation the relevant option should be populated with the folder location of the ons.jar.

Keystore Options

Note: Please review the Security Guide for more information on setting up keystores.

2. Keystore Options

```

Import Keystore Directory:
Store Type:                JCEKS
Alias:                     ouaf.system
Alias Key Algorithm:       AES
Alias Key Size:           128
HMAC Alias:                ouaf.system.hmac
Padding:                   PKCS5Padding
Mode:                      CBC

```

Menu Option	Name Used in Documentation	Usage	Customer Install Value
Import Keystore Directory	KS_IMPORT_KEystore_FOLDER	Specify this option if you want to import the keystore files from an external location or directory, during the installation process. This is needed when the customer has an existing environment that has a keystore and the database your new application server. After installation is complete, to configure keystore options, perform the following sequence: configureEnv.sh cmd -i (enter keystore options) initialSetup.sh cmd -s (loads keystore) configureEnv.sh cmd (reenter ouaf encrypted security information such as passwords) initialSetup.sh cmd (distribute the encrypted data) If this option is left empty, the install process creates a new keystore from scratch.	
Store Type	KS_STORETYPE	Value used for keytool option -storetype Default value: JCEKS	
Alias	KS_ALIAS	Value used for keytool option -alias Default value: ouaf.system	
Alias Key Algorithm	KS_ALIAS_KEYALG	Value used for keytool option -keyalg	
Alias Key Size	KS_ALIAS_KEYSIZE	Value used for keytool option -keysize	
HMAC Alias	KS_HMAC_ALIAS	Value used for keytool option -alias The following values are fixed: - HMAC Alias Key Algorithm: HmacSHA256 - HMAC Alias Key Size: 256 Default value: ouaf.system.hmac	
Padding	KS_PADDING	Value used for encryption/decryption Default value: PKCS5Padding	

Menu Option	Name Used in Documentation	Usage	Customer Install Value
Mode	KS_MODE	Value used for encryption/decryption Default Vaule: CBC	

Environment Installation Options

50. Environment Installation Options

```

Environment Mount Point:
Log Files Mount Point:
Environment Name:
Web Application Server Type:                WLS
Install Application Viewer Module:          true
Install Demo Generation Cert Script:       true
Install Sample CM Source Code:             true

```

Menu Option	Name Used in Documentation	Usage	Customer Install Value
Environment Mount Point	<SPLDIR>	<p>The mount point into which the application is installed. For example: /ouaf for UNIX and C:\ouaf for Windows.</p> <p>This mount point MUST exist and the administrator user ID MUST be able to write to this directory. (This is the user ID that is created specifically to administer the product environments; the default is cissys). The installation sets permissions on all subdirectories installed under this directory.</p> <p>See <SPLENVIRON> below for more information on how this mount point is used.</p>	
Log File Mount Point	<SPLDIROUT>	<p>A mount point that will contain any application output or application logs. Example value is /ouaf/sploutput for UNIX installation or C:\ouaf\sploutput for Windows.</p> <p>This mount point MUST exist and the administrator user ID MUST be able to write to this directory. (This is the user ID that is created specifically to administer the product environments; the default is cissys).</p> <p>For each environment initialized, the application logs will be written to the directory <SPLDIROUT>/<SPLENVIRON></p> <p>Note: Later in the installation the splenvron.sh (splenvron.cmd) script will set the \$SPLOUTPUT (%SPLOUTPUT%) environment variable to point to:<SPLDIROUT>/<SPLENVIRON></p>	

Menu Option	Name Used in Documentation	Usage	Customer Install Value
Environment Name	<SPLENVIRON>	<p>A descriptive name to be used as both a directory name under the mount point <SPLDIR> and an environment descriptor. This value typically identifies the purpose of the environment. For example, DEV01 or CONV.</p> <p>On installation a directory <SPLDIR>/<SPLENVIRON> is created, under which the Oracle Utilities Application Framework and <Product Name> software resides.</p> <p>When multiple environments are set up on the machine you will typically have directories such as: /ouaf/DEV01/.... /ouaf/CONV/....</p> <p>Each of these contains a complete version of the Oracle Utilities Application Framework and <Product Name>.</p> <p>Note: Later in the installation process, the splenvirion.sh (splenvirion.cmd) script will set \$SPLEBASE (%SPLEBASE%) environment variable to point to <SPLDIR>/<SPLENVIRON></p>	
Web Application Server Type	<SPLWAS>	<p>A web application server for the environment to be used. The following value must be selected:</p> <p>Valid values: WLS: WebLogic WAS: WebSphere WASND: WebSphere ND</p> <p>Note: Not all web application servers are supported on all platforms; refer to Supported Platforms section for details.</p>	
Installation Application Viewer Module	<WEB_ISAPVIEWER>	<p>Denotes if the Application Viewer Web Module will be installed in the environment. When this value is set to false the application viewer will not be accessible in the environment.</p> <p>Valid values: true: Application Viewer module will be installed. false: Application Viewer module will not be installed.</p> <p>Default value: true</p> <p>Note: When the value of false is selected, the Application Viewer will only be installed at a later date by a complete reinstall of the application.</p>	
Install Demo Generation Cert Script	CERT_INSTALL_SCRIPT	<p>You can install/uninstall later by executing the following script: perl [INSTALL_PACKAGE_FOLDER]/installAR.plx</p> <p>Valid values: true: Demo Generation Cert Script will be installed. false: Demo Generation Cert Script will not be installed.</p> <p>Default value: true</p>	

Menu Option	Name Used in Documentation	Usage	Customer Install Value
Install Sample CM Source Code	CM_INSTALL_SAMPLE	<p>You can install/uninstall later by executing the following script:</p> <pre>perl [INSTALL_PACKAGE_FOLDER]/installAR.plx</pre> <p>Valid values: true: Sample CM Source Code will be installed. false: Sample CM Source Code will not be installed.</p> <p>Default value: true</p>	

Environment Description

1. Environment Description
Environment Description:

Menu Option	Name Used in Documentation	Usage	Customer Install Value
Environment Description	DESC	This is a free form text field to describe the purpose of the environment.	

WebLogic Business Application Server Configuration

The WebLogic parameters below and in the worksheet are for a WebLogic installation.

2. Business Application Server Configuration

```

Business Server Host:                <machine_name>
WebLogic Server Name:                myserver
Business Server Application Name:    SPLService
MPL Admin Port Number:
MPL Automatic startup:                false

```

Menu Option	Name Used in Documentation	Usage	Customer Install Value
Business Server Host	BSN_WLHOST	The host name on which the business application server resides. Default value: <current server name>	
WebLogic Server Name	BSN_WLS_SVRNAME	The name of the WebLogic server where the business application resides. Default value: myserver Note: If there is not a previously created WebLogic server, take the default value of "myserver".	
Business Server Application Name	BSN_APP	The name of the business application server. Default value: SPLService	
MPL Admin Port number	MPLADMINPORT	The port number for the Multi Purpose Listener (MPL) Admin Server. Example value: 6502	
MPL Automatic Startup	MPLSTART	Automatically starts the MPL Listener whenever environment starts. Default value: false	

WebLogic Web Application Server Configuration

The WebLogic parameters below and in the worksheet are for a WebLogic installation.

3. Web Application Server Configuration

```

Web Server Host: <machine_name>
Weblogic SSL Port Number:
Weblogic Console Port Number:
WebLogic Additional Stop Arguments:
Web Context Root:
WebLogic JNDI User ID:
WebLogic JNDI Password:
WebLogic Admin System User ID:
WebLogic Admin System Password:
WebLogic Server Name: myserver
Web Server Application Name: SPLWeb
Deploy Using Archive Files: true
Deploy Application Viewer Module: true
Enable The Unsecured Health Check Service: false
MDB RunAs User ID:
Super User Ids: SYSUSER
  
```

Menu Option	Name Used in Documentation	Usage	Customer Install Value
Web Server Host	WEB_WLHOST	The host name on which the web application server resides. Default value: <current server name>	
Weblogic SSL Port Number	WEB_WLSSLPORT	The port number assigned to WebLogic Secure Sockets connection. This is the port number that is used for Secure Sockets connecting to the WebLogic server. For Production, additional actions are required. Do NOT run Production with Demo certificates Example value: 6501	
Weblogic Console Port Number	WLS_ADMIN_PORT	The port number to access the WebLogic Console using https You will use this port when accessing the WebLogic Console Example value: 6500	
Weblogic Additional Stop Arguments	ADDITIONAL_STOP_WEBLOGIC	This value will be needed when running the WebLogic Console using a different port number (e.g.) -Dweblogic.security.TrustKeyStore=DemoTrust -Dweblogic.security.TrustKeystoreType=CustomTrust	
Web Context Root	WEB_CONTEXT_ROOT	A context root name that allows customers to run multiple instances of web application on the same server. Default value: ouaf	
WebLogic JNDI User ID	WEB_WLSYSUSER	The user ID the application uses to connect to the EJB component through JNDI. This is the EJB container user ID. Note: The required value for an initial installation is "system". This is a security value.	

Menu Option	Name Used in Documentation	Usage	Customer Install Value
WebLogic JNDI Password	WEB_WLSYSPASS	<p>The password the application uses to connect to the EJB component through JNDI.</p> <p>Note: The required value for an initial installation is “ouafadmin”. This value will be saved in encrypted format.</p> <p>This is a security value; it will be encrypted with the Oracle Application Framework Encryption Algorithm.</p>	
WebLogic Admin System User ID	WLS_WEB_WLSYSUSER	<p>The user ID to log in to the Oracle WebLogic console and to administer Oracle WebLogic. The Oracle WebLogic startup and stop script also utilizes this user ID</p> <p>Note: The installation utility will prompt you to enter “Y” to encrypt. For an initial installation, enter Y/y and specify the required value “system”.</p> <p>This is a security value; it will be encrypted with the Weblogic Encryption Algorithm.</p>	
WebLogic Admin System Password	WLS_WEB_WLSYSPASS	<p>The password to login to Oracle WebLogic console and to administer Oracle WebLogic. The Oracle WebLogic startup and stop script also utilize this password.</p> <p>This is a security value; it will be encrypted with the Weblogic Encryption Algorithm.</p>	
WebLogic Server Name	WEB_WLS_SVRNAME	<p>The name of the WebLogic server where the web application resides.</p> <p>Default value: myserver</p>	
Web Server Application Name	WEB_APP	<p>The name of the web application server.</p> <p>Default value: SPLWeb</p> <p>Note: For an initial installation, use the default value of “SPLWeb”.</p>	
Deploy Using Archive Files	WEB_DEPLOY_EAR	<p>When the value is “false” the web application will be deployed in exploded directory format (no WAR/EAR files).</p> <p>When the value is “true”, the web application will be deployed in ear file format.</p> <p>Note: The expanded application folders will always exist under the application folder (<SPLEBASE>/splapp/applications), regardless of the setting of this option.</p> <p>Valid values: true (Deploy EAR files) false (Deploy expanded application folders)</p> <p>Default value: true</p>	

Menu Option	Name Used in Documentation	Usage	Customer Install Value
Deploy Application Viewer Module	WEB_DEPLOY_APPVIEWER	<p>When the value is “true” the application viewer will be deployed to the web server. When the value is “false”, the application viewer will not be deployed to the web Server.</p> <p>Note: With either value the application viewer module will still be managed by the upgrade process. Note: When the ‘Install Application Viewer module’ value is set to false from the installation menu, you will not be able to change this value to true to deploy the application viewer.</p> <p>Valid values: true: The application viewer module will be deployed to the web server false: The application viewer module will not be deployed to the web server</p> <p>Default value: true</p>	
Enable The Unsecured Health Check Service	WEB_ENABLE_HEALTHCHECK	Enables the health check feature of the application	
MDB RunAs User ID	WEB_IWS_MDB_RUNAS_USER	The message drive Java Bean RunAs user.	
Super User Ids	WEB_IWS_SUPER_USERS	<p>The application super users.</p> <p>Enter the super users separating them by commas.</p>	

Database Configuration

Note: If any of the database menu option items below are changed, the system displays the following warning next to the actual option that has been changed:

This database option have been changed. Since the keystore and encrypted data in the database must be compatible, you have two options:

- load the compatible keystore into the environment;

- keep the current keystore, re-enter any encrypted information online through the application, and re-generate the database hashes. Refer to the security guide for more information.

4. Database Configuration

Application Database User ID:
 Application Database Password:
 MPL Database User ID:
 MPL Database Password:
 XAI Database User ID:
 XAI Database Password:
 Batch Database User ID:
 Batch Database Password:
 Database Name
 Database Server:
 Database Port:
 ONS Server Configuration:
 Database Override Connection String:
 Oracle Client Character Set NLS_LANG: AMERICAN_AMERICA.AL32UTF8

Menu Option	Name Used in Documentation	Usage	Customer Install Value
Application Database User ID	DBUSER	The database user ID that has been configured on the database for the application server connection. This is a security value.	
Application Database Password	DBPASS	The database password that has been configured on the database for the application connection. Note: This value will be saved in encrypted format. This is a security value; it will be encrypted with the Oracle Utilities Framework Encryption Algorithm.	
MPL Database User ID	MPL_DBUSER	The database user ID that has been configured on the database for the MPL server connection. This is a security value.	
MPL Database Password	MPL_DBPASS	The database password that has been configured on the database for the MPL server connection. Note: This value will be saved in encrypted format. This is a security value; it will be encrypted with the Oracle Utilities Application Framework Encryption Algorithm.	
XAI Database User ID	XAI_DBUSER	The database user ID that has been configured on the database for the XAI server connection. This is a security value.	

Menu Option	Name Used in Documentation	Usage	Customer Install Value
XAI Database Password	XAI_DBPASS	The database password that has been configured on the database for the XAI server connection. Note: This value will be saved in encrypted format. This is a security value; it will be encrypted with the Oracle Utilities Application Framework Encryption Algorithm.	
Batch Database User ID	BATCH_DBUSER	The database user ID that has been configured on the database for the batch connection. This is a security value.	
Batch Database Password	BATCH_DBPASS	The database password that has been configured on the database for the batch connection. Note: This value will be saved in encrypted format. This is a security value; it will be encrypted with the Oracle Utilities Application Framework Encryption Algorithm.	
Database Name	DBNAME	The name of the database instance that the application will be connecting to.	
Database Server	DBSERVER	Host name of the server where database resides.	
Database Port	DBPORT	Database port number on the database server used for connecting to the database	
ONS Server Configuration	ONSCONFIG	ONS Server Configuration is required for Oracle RAC FCF. See the Server Administration Guide for more information. This is an optional value.	
Database Override Connection String	DB_OVERRIDE_CONNECTION	This connection string can be used to override the database information entered above for RAC installation. Set this string to override the standard database connection string, as entered above. See the Server Administration Guide for more information. This is an optional value.	
Oracle Client Character Set NLS_LANG	NLS_LANG	The Oracle Database Character Set. Select the Language and Territory that are in use in your country. Default value: AMERICAN_AMERICA.AL32UTF8	

General Configuration Options

Note: See the *Server Administration Guide* for additional details on this configuration.

5. General Configuration Options

Batch RMI Port:
 RMI Port number for JMX Business:
 RMI Port number for JMX Web:
 JMX Enablement System User ID:
 JMX Enablement System Password:
 Batch Mode: CLUSTERED
 Coherence Cluster Name:
 Coherence Cluster Address:
 Coherence Cluster Port:
 Coherence Cluster Mode: dev

Menu Option	Name Used in Documentation	Usage	Customer Install Value
Batch RMI Port	BATCH_RMI_PORT	Unique port used by the Batch RMI Example value: 6540	
RMI Port number for JMX Business	BSN_JMX_RMI_PORT_PERFORMANCE	Example value: 6550 Note: This is an optional value.	
RMI Port number for JMX Web	WEB_JMX_RMI_PORT_PERFORMANCE	Example value: 6570 Note: This is an optional value.	
JMX Enablement System User ID	BSN_JMX_SYSUSER	This is used to authenticate incoming JMX requests. Populate if RMI Port numbers are set. Note: This is an optional value.	
JMX Enablement System Password	BSN_JMX_SYSPASS	This is used to authenticate incoming JMX requests. Populate if RMI Port numbers are set. This is a security value; it will be encrypted with the Oracle Utilities Application Framework Encryption Algorithm. Note: This is an optional value.	
Batch Mode	BATCH_MODE	Valid values: CLUSTERED or DISTRIBUTED Default value: CLUSTERED Note: CLUSTERED is currently the only supported mode for production environments.	
Coherence Cluster Name	COHERENCE_CLUSTER_NAME	Unique name for the batch CLUSTER Note: Value is required when batch mode is CLUSTERED.	
Coherence Cluster Address	COHERENCE_CLUSTER_ADDRESS	Unique multicast address. Note: Value is required when batch mode is CLUSTERED.	

Menu Option	Name Used in Documentation	Usage	Customer Install Value
Coherence Cluster Port	COHERENCE_CLUSTER_PORT	Unique port for the batch CLUSTER Note: Value is required when batch mode is CLUSTERED.	
Coherence Cluster Mode	COHERENCE_CLUSTER_MODE	Valid values: dev (Development) prod (Production) Default value: dev	

SSL Certificate Keystore (Weblogic Only)

Note: See the <Product Name> *Security Guide* for additional details on this configuration. By default, SSL (Secure Sockets Layer) certificates are required for authentication. The product provides demo certificates generated with 1024 byte keys. For production environments, please use your own custom certificates.

```

5. SSL Certificate Keystore
   Certificate Keystore Type:                CUSTOM
   Identify Keystore File:
   Identify Keystore File Type:             jks
   Identify Keystore Password:
   Identity Private Key Alias:              ouaf_demo_cert
   Trust Keystore File:
   Trust Keystore File Type:                jks
   Trust Keystore Password:
   Trust Private Key Alias:                 ouaf_demo_cert

```

Menu Option	Name Used in Documentation	Usage	Customer Install Value
Certificate Keystore Type	CERT_KS	If you choose DEMO you need to execute the following script at least once perl [SPLEBASE]/bin/demo_gen_cert.plx If you change DEFAULT/CUSTOM to DEMO you need to have installed the demo_gen_cert.plx script, it is part of the demo source in the installation package. Default value: CUSTOM Valid values: DEFAULT,DEMO,CUSTOM The demo_gen_cert.plx script is available if you select the 'Install Demo Generation Cert Script' option during installation. It automates the creation of the Weblogic provided demo certificate using 1024 byte keys.	

Menu Option	Name Used in Documentation	Usage	Customer Install Value
Identify Keystore Type	CERT_IDENT_KS_FILE	Mandatory if the type is CUSTOM. No need to populate if type is DEMO, it will use: [SPLEBASE]/splapp/certs/ouaf_demo_ident.jks	
Identify Keystore File Type	CERT_IDENT_KS_TYPE	Default value: jks	
Identify Keystore Password	CERT_IDENT_KS_PWD	This is a security value; it will be encrypted with the WebLogic Encryption Algorithm.	
Identify Private Key Alias	CERT_IDENT_KS_ALIAS	Default value: ouaf_demo_cert	
Trust Keystore File	CERT_TRUST_KS_FILE	Mandatory if the type is CUSTOM. No need to populate if type is DEMO, it will use: [SPLEBASE]/splapp/certs/ouaf_demo_trust.jks	
Trust Keystore File Type	CERT_TRUST_KS_TYPE	Default value: jks	
Trust Keystore Password	CERT_TRUST_KS_PWD	This is a security value; it will be encrypted with the WebLogic Encryption Algorithm.	
Trust Private Key Alias	CERT_TRUST_KS_ALIAS	Default value: ouaf_demo_cert	

Advanced Menu Options

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

Unix:

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

Windows

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

Advanced Environment Miscellaneous Configuration

50. Advanced Environment Miscellaneous Configuration

```
Online JVM Batch Server Enabled:           false
Online JVM Batch Number of Threads:       5
Online JVM Batch Scheduler Daemon Enabled: false
Enable Batch Edit Functionality:          false
Enable Web Services Functionality:        false
GIS Service Running on the same Web Server: true
GIS Service URL:
GIS WebLogic System User ID:
GIS WebLogic System Password:
Online Display Software Home:
Max Queries To Hold In Cache Across All Threads:
Seconds Timeout Flush Cache Completely:
```

Menu Option	Name Used in Documentation	Usage	Customer Value Install
Online JVM Batch Server Enabled	BATCHENABLED	When starting a web application server JVM, this property can be set to “true” to allow the on-line application server to also act as a batch worker in the grid. Default value: false Note: This functionality should only be used in low volume environments.	
Online JVM Batch Number of Threads	BATCHTHREADS	The maximum number of batch processing threads to be executed within a worker JVM when no explicit Distributed Thread Pool is specified. The “DEFAULT” distributed thread pool is used by the batch-scheduling daemon when it initiates processing on batch jobs (typically added via the online system) where no thread pool is specified). Default value: 5 Note: This will be only used and activated when BATCHENABLED is set to true.	

Menu Option	Name Used in Documentation	Usage	Customer Value Install
Online JVM Batch Scheduler Daemon Enabled	BATCHDAEMON	<p>In a distributed batch environment, this property can be set to “true” to allow a worker JVM to host the batch scheduling daemon. The daemon accepts online batch submissions requests and automatically submits the work for them.</p> <p>Valid values: true, false</p> <p>Default value: false</p> <p>Note: This will be only used and activated when BATCHENABLED is set to true.</p>	
Enable Batch Edit Funtionality	BATCHEdit_ENABLED	<p>Enable Batch Edit Funtionality</p> <p>If enabled, use the bedit.sh cmd script in order to configure the batch</p> <p>Valid values: true, false</p> <p>Default value: false</p>	
Enable Web Services Functionality	WEBSERVICES_ENABLED	<p>If enabled, execute the following commands in oder to allow the application to re-deploy the Webservices without prompting for the user and password:</p> <ul style="list-style-type: none"> - Add weblogic.jar to the CLASSPATH - Execute: java weblogic.Admin -username [USER NAME] -password [PASSWORD] STOREUSERCONFIG -userconfigfile [SPLEBASE]/etc/.wlsuserconfig -userkeyfile [SPLEBASE]/etc/.wlsuserkey <p>Valid values: true, false</p> <p>Default value: false</p>	
GIS Service Running on the same Web Server	GIS	<p>Geographical information (GEOCODING) - GIS Service running on the same web application server</p> <p>Valid values: true, false</p> <p>This value is optional. This value will only appear for WebLogic.</p>	
GIS Service URL	GIS_URL	<p>This is the URL of the external web server.</p> <p>Note: This value will be only be used when GIS is set to true.</p> <p>This value is optional. This value will only appear for WebLogic.</p>	
GIS WebLogic System User ID	GIS_WLSYSUSER	<p>GIS WebLogic System User ID</p> <p>Note: This value will be only be used when GIS is set to true.</p> <p>This value is optional. This value will only appear for WebLogic.</p>	

Menu Option	Name Used in Documentation	Usage	Customer Value Install
GIS WebLogic System Password	GIS_WLSYSPASS	GIS WebLogic System Password. Note: This value will be only be used when GIS is set to true. This is a security value; it will be encrypted with the Oracle Utilities Application Framework Encryption Algorithm. This value will only appear for WebLogic.	
Online Display Software Home	ONLINE_DISPLAY_HOME	The location of the Online Display Software installation directory. This value is optional.	
Max Queries To Hold In Cache Across All Threads	XQUERIES_TO_CACHE	Max Queries To Hold In Cache Across All Threads	
Seconds Timeout Flush Cache Completely	XQUERY_CACHE_FLUSH_TIMEOUT	Seconds Timeout Flush Cache Completely	

Advanced Environment Memory Configuration

```

51. Advanced Environment Memory Configuration
    Web Application Java Initial Heap Size:           2048
    Web Application Java Max Heap Size:              2048
    Web Application Java Max Perm Size:              1024
    Web Application Additional Options:
    Global JVM Arguments:
    Ant Min Heap Size:                               200
    Ant Max Heap Size:                               800
    Ant Additional Options:
    Thread Pool Worker Java Min Heap Size:          512
    Thread Pool Worker Java Max Heap Size:          1024
    Thread Pool Worker Java Max Perm Size:          512
    Thread Pool Worker Additional Options:
    Additional Runtime Classpath:

```

Menu Option	Name Used in Documentation	Usage	Customer Value Install
Web Application Java Initial Heap Size	WEB_MEMORY_OPT_MIN	Initial heap size for the application server. Default value: 1024 Note: For WebLogic installation only. Recommended value is 2048.	

Menu Option	Name Used in Documentation	Usage	Customer Install Value
Web Application Java Max Heap Size	WEB_MEMORY_OPT_MAX	<p>Maximum heap size for the application server.</p> <p>Default value: 1024</p> <p>Note: For WebLogic installation only. Recommended value is 2048.</p>	
Web Application Java Max Perm Size	WEB_MEMORY_OPT_MAXPERMSIZE	<p>Maximum Perm Size for the application server.</p> <p>Default value: 700MB (Linux, Solaris) 700MB (Windows)</p> <p>Note: For WebLogic installation only.</p>	
Web Application Additional Options	WEB_ADDITIONAL_OPT	<p>Additional options that will be passed in to the web application server JVM.</p> <p>Replace the value of SPLEBASE with the actual value.</p> <p>UNIX: -Xrs -XX:+ShowMessageBoxOnError - XX:+UseGCOverheadLimit - Doracle.security.jps.config=SPLBASE/splapp/config/jps-config.xml -Ddomain.home=SPLBASE/splapp</p> <p>Windows: -Xrs -XX:+ShowMessageBoxOnError - XX:+UseGCOverheadLimit - Doracle.security.jps.config=SPLBASE/splapp/config/jps-config.xml -Ddomain.home=SPLBASE/splapp</p> <p>AIX: -Xrs -XX:+ShowMessageBoxOnError - XX:+UseGCOverheadLimit - Doracle.security.jps.config=SPLBASE/splapp/config/jps-config.xml -Ddomain.home=SPLBASE/splapp - Djava.awt.headless=true</p>	
Global JVM Arguments	GLOBAL_JVMARGS	JVM arguments that are passed to all Java server processes such as Weblogic Server, Threadpoolworkers and jobs.	
Ant Min Heap Size	ANT_OPT_MIN	<p>Minimum Heap Size passed to ANT JVM.</p> <p>Default value: 200</p>	
Ant Max Heap Size	ANT_OPT_MAX	<p>Maximum Heap Size passed to ANT JVM.</p> <p>Default value: 800</p>	
Ant Additional Options	ANT_ADDITIONAL_OPT	Additional options that are passed into the ANT JVM.	
Thread Pool Worker Java Min Heap Size	BATCH_MEMORY_OPT_MIN	<p>Minimum heap size passed to the Thread Pool Worker.</p> <p>Default value: 512 Recommended value is 1024.</p>	

Menu Option	Name Used in Documentation	Usage	Customer Install Value
Thread Pool Worker Java Max Heap Size	BATCH_MEMORY_OPT_MAX	Maximum heap size passed to the Thread Pool Worker. Default value: 1024 Recommended value is 2048.	
Thread Pool Worker Java Max Perm Size	BATCH_MEMORY_OPT_MAXPERMSIZE	Maximum perm size passed to the Thread Pool Worker Default value: 768	
Thread Pool Worker Additional Options	BATCH_MEMORY_ADDITIONAL_OPT	Additional Memory Options passed into the Thread Pool Worker. For non-AIX only. Unix: -verbose:gc -Xrs -XX:+ShowMessageBoxOnError -Djava.compiler=NONE -XX:+UseGCOverheadLimit -Dweblogic.configuration.schemaValidationEnabled=false -Dweblogic.security.SSL.ignoreHostnameVerification=true -Dweblogic.security.CustomTrustKeyStoreFileName=<Location of TRUST keystore file> -Dweblogic.security.TrustKeyStore=CustomTrust -Dweblogic.security.CustomTrustKeyStorePassPhrase=<pass phrase> -Dweblogic.security.CustomTrustKeyStoreType=jks -Doracle.security.jps.config=<SPLEBASE directory location>/splapp/config/jps-config.xml -Ddomain.home=<SPLEBASE directory location>/splapp -Doracle.domain.config.dir=<SPLEBASE directory location>/splapp/config Windows: -verbose:gc -Xrs -XX:+ShowMessageBoxOnError -Djava.compiler=NONE -XX:+UseGCOverheadLimit -Dweblogic.configuration.schemaValidationEnabled=false -Dweblogic.security.SSL.ignoreHostnameVerification=true -Dweblogic.security.CustomTrustKeyStoreFileName=<Location of TRUST keystore file> -Dweblogic.security.TrustKeyStore=CustomTrust -Dweblogic.security.CustomTrustKeyStorePassPhrase=<pass phrase> -Dweblogic.security.CustomTrustKeyStoreType=jks -Doracle.security.jps.config=<SPLEBASE directory location>\splapp\config\jps-config.xml -Ddomain.home=<SPLEBASE directory location>\splapp -Doracle.domain.config.dir=<SPLEBASE directory location>\splapp\config	

Menu Option	Name Used in Documentation	Usage	Customer Install Value
Additional Runtime Classpath	ADDITIONAL_ RUNTIME_ CLASSPATH	<p>Additional Classpath Options passed in when starting the WebLogic JVM</p> <p>Note: For WebLogic installation only.</p> <p>Replace the value of SPLEBASE with the actual value.</p> <p>Unix: SPLEBASE/splapp/standalone/lib/commons-cli-1.1.jar;SPLEBASE/splapp/standalone/lib/log4j-1.2.15.jar</p> <p>Windows: SPLEBASE/splapp/standalone/lib/commons-cli-1.1.jar;SPLEBASE/splapp/standalone/lib/log4j-1.2.15.jar</p>	

Advanced Web Application Configuration

52. Advanced Web Application Configuration

```

Web Application Cache Settings:                off
Web Server Port Number:
WebLogic Overload Protection:                 system-exit
Domain Home Location:
Batch Cluster URL:
Strip HTML Comments:                          false
Authentication Login Page Type:               FORM
Web Form Login Page:                          /loginPage.jsp
Web Form Login Error Page:                   /formLoginError.jsp
Application Viewer Form Login Page:          /loginPage.jsp
Application Viewer Form Login Error Page:    /formLoginError.jsp
Help Form Login Page:                        /loginPage.jsp
Help Form Login Error Page:                 /formLoginError.jsp
Web Security Role:                           cisusers
Web Principal Name:                          cisusers
Application Viewer Security Role:            cisusers
Application Viewer Principal Name:           cisusers
This is a development environment:           false
Preload All Pages on Startup:                false
Maximum Age of a Cache Entry for Text:       28800
Maximum Age of a Cache Entry for Images:     28800
JSP Recompile Interval (s):                 43200

```

Menu Option	Name Used in Documentation	Usage	Customer Install Value
Web Application Cache Settings	WEB_I2_CACHE_MODE	Default value: off Valid values: off read_write read_only	
Web Server Port Number	WEB_WLPORT	The port number assigned to WebLogic connection. Set this port if the environment is not configured as SSL. Note: For WebLogic installation only. This value is optional. Example Value: 6500	
WebLogic Overload Protection	WLS_OVERRIDE_PROTECT	The overload protection allows for a Weblogic server to be “stopped / exited” when there is an out of memory exception Valid values: system-exit (Exit the server process) no-action (Ignore take no action) Default value: system-exit Note: For WebLogic installation only.	

Menu Option	Name Used in Documentation	Usage	Customer Install Value
Domain Home Location	WLS_DOMAIN_HOME	The Weblogic Domain Home location, when this parameter is populated you will need to use the native Weblogic tools for maintenance (starting, stopping, deployment, and undeployment). Note: For WebLogic installation only This value is optional	
Batch Cluster URL	WEB_BATCH_CLUSTER_URL	Example: service:jmx:rmi:///jndi/rmi://[host]:[TPW JMX port]/oracle/ouaf/batchConnector	
StripHTMLComments: false	STRIP_HTML_COMMENTS	Stripping HTML (and JavaScript) comments will increase the security of the system. Default value: false Valid values: true, false	
Authentication Login Page Type	WEB_WLAUTHMETHOD	Specifies which authentication mode should be used. To switch off OUAF Login Page enter: BASIC Valid values: FORM, BASIC Default value: FORM	
Web Form Login Page	WEB_FORM_LOGIN_PAGE	Specify the jsp file used to login into the application. Default value: /loginPage.jsp	
Web Form Login Error Page	WEB_FORM_LOGIN_ERROR_PAGE	Specify the jsp file used when there is an error when logging into the application. Default value: /formLoginError.jsp	
Application Viewer Form Login Page	WEB_APPVIEWER_FORM_LOGIN_PAGE	Specify the jsp file used to login into the application viewer application. Default value: /loginPage.jsp	
Application Viewer Form Login Error Page	WEB_APPVIEWER_FORM_LOGIN_ERROR_PAGE	Specify the jsp file used when there is an error when logging into the application viewer application.	
Help Form Login Page	WEB_HELP_FORM_LOGIN_PAGE	Specify the jsp file used to login into the help application. Default value: /loginPage.jsp	
Help Form Login Error Page	WEB_HELP_FORM_LOGIN_ERROR_PAGE	Specify the jsp file used when there is an error when logging into the help application. Default value: /formLoginError.jsp	
Web Security Role	WEB_PRINCIPAL_NAME	Specify the name of the security role. Default value: cisusers	

Menu Option	Name Used in Documentation	Usage	Customer Install Value
Web Principal Name	WEB_PRINCIPAL_NAME	Specify the name of a principal that is defined in the security realm. Default value: cisusers	
Application Viewer Security Role	WEB_APPVIEWER_ROLE_NAME	Specify the name of the security role. Default value: cisusers	
Application Viewer Principal Name	WEB_APPVIEWER_PRINCIPAL_NAME	Specify the name of a principal that is defined in the security realm. Default value: cisusers	
This is a development environment	WEB_ISDEVELOPMENT	If the value is “true”, the web application may be used for application development, which will trigger certain generation processes. If the value is “false” the environment will be used as a runtime environment. When you choose “true” (development environment) the startup preload pages will be disabled, and the application security will be less strict. This value also controls the amount of logging information written to the application log files. Valid values: true, false Default value: false	
Preload All Pages on Startup	WEB_PRELOADALL	This controls if the pages should be pre-loaded during the startup of the application or not. Valid values: true, false Default value: false	
Maximum Age of a Cache Entry for Text	WEB_MAXAGE	Default value: 28800	
Maximum Age of a Cache Entry for Images	WEB_MAXAGEI	Default value: 28800	
JSP Recompile Interval (s)	WEB_wlpageCheckSeconds	Default value: 43200 Note: For Weblogic Installation only.	

OIM Configuration Settings

53. OIM Configuration Settings

SPML SOAP Trace Setting: false
 SPML IDM Schema Name: F1-IDMUser
 SPML OIM Name Space: http://xmlns.oracle.com/OIM/provisioning
 SPML OIM Enclosing Element: sOAPElement

Menu Option	Name Used in Documentation	Usage	Customer Install Value
SPML SOAP Trace Setting	OIM_SPML_SOAP_DEBUG_SETTING	Name of Oracle Identity Manager library for debug Default value: false Valid values: true, false	
SPML IDM Schema Name	OIM_SPML_UBER_SCHEMA_NAME	Name of Oracle Identity Manager library for schema Defaultt value: F1-IDMUser	
SPML OIM Name Space	OIM_SPML_NAME_SPACE	Default Namespace for Oracle Identity Manager integration Default value: http://xmlns.oracle.com/OIM/provisioning	
SPML OIM Enclosing Element	OIM_SPML_SOAP_ELEMENT	Default top level SOAP Element name for Oracle Identity Manager integration Default value: sOAPElement	

Advanced Configurations for Open LDAP Authentication provider

```

65. Advanced Configurations for Open LDAP Authentication provider
Enable Open LDAP Authentication provider: true
LDAP server Host: xyz.ldapserver.com
LDAP Server Port Number: 389
The LDAP object class that stores users: inetOrgPerson
The LDAP object class that stores static groups: groupOfUniqueNames
The Distinguished Name (DN)
of the LDAP Principal: cn=Manager,dc=bu,dc=org
LDAP PRINCIPAL Password: {3DES}l0qtUz1/ukc=
User Base DN: ou=person,dc=bu,dc=org
Group Base DN: ou=groups,dc=bu,dc=org
User From Name Filter: (&cn=%u)(objectclass=inetOrgPerson)
Group From Name Filter: ((cn=%g)(objectclass=groupOfUniqueNames))
Static Member DN Attribute: uniqueMember
Static Group DNS From Member
DN Filter: ((uniqueMember=%M)(objectclass=groupOfUniqueNames))
Specifies how this Open LDAP Authentication provider fits into the
login sequence: SUFFICIENT
Specifies how Default Authentication provider fits into the login
sequence: SUFFICIENT

```

Menu Option	Name Used in Documentation	Usage	Customer Install Value
Enable Open LDAP Authentication provider	Enable_OpenLDAP	Enable Open LDAP Authentication provider	
LDAP server Host	LDAP_HOST	LDAP server Host	
LDAP Server Port Number	LDAP_PORT	LDAP Server Port Number	
The LDAP object class that stores users	USER_OBJECT_CLASSES	The LDAP object class that stores users	
The LDAP object class that stores static groups	STATIC_GROUP_OBJECT_CLASS	The LDAP object class that stores static groups	
The Distinguished Name (DN) of the LDAP Principal	PRINCIPAL	The Distinguished Name (DN) of the LDAP Principal	
LDAP PRINCIPAL Password	PRINCIPAL_PASS	LDAP PRINCIPAL Password	
User Base DN	USER_BASE_DN	User Base DN	
Group Base DN	GROUP_BASE_DN	Group Base DN	
User From Name Filter	USER_FROM_NAME_FILTER	User From Name Filter	
Group From Name Filter	GROUP_FROM_NAME_FILTER	Group from Name Filter	
Static Member DN Attribute	STATIC_MEMBER_DN_ATTRIBUTE	Static Member DN Attribute	

Menu Option	Name Used in Documentation	Usage	Customer Install Value
Static Group DNS From Member DN Filter	STATIC_GROUP_DNS_FROM_MEMBER_DN_FILTER	Static Group DNS From Member DN Filter	
Specifies how this Open LDAP Authentication provider fits into the login sequence	CONTROL_FLAG_OPEN_LDAP	Specifies how this Open LDAP Authentication provider fits into the login sequence	
Specifies how Default Authentication provider fits into the login sequence	CONTROL_FLAG_DEFAULT	Specifies how Default Authentication provider fits into the login sequence	

Appendix B

Installation Menu Functionality Overview

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 within that group 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.

Note: When working with the menu you will see 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 an numeric value in the prompt.

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 '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.

In the worksheets there are three different types of values given:

-
- Default Values are the values that will be defaulted when running the installation utility.
 - Security Values denote values that should be changed when in production.
 - Example Values are values that can be used for a default installation.

Note: The production environment should not be run with default values. See the *Server Administration Guide* specific to this product, for additional information about configuring these values.

When you enter passwords you will not see the password characters on the screen because they are entered in silent mode. Passwords are encrypted when the values are entered.

Install the Oracle Client software specified in the section **Supported Platforms** prior to running any of the installation utilities.

The following prompt will appear when executing the installation utility:

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

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

Encryption Methods

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

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

In each case these password are entered in the command line but the inputted values are not reflected on the screen when performing the installation.

Appendix C

Application Framework Prerequisite Patches

Oracle Utilities Application Framework patches must be installed prior to installing Oracle Real-Time Scheduler 2.3.0. The patches listed below are available as a convenience rollup, ORS-v2.3.0.0.0-FW-PREREQ-Multiplatform.zip, which is included in the downloaded Media Pack. Please refer to the instructions contained inside the rollup directory for steps to install the patches.

20119867	20254519	20442432	20454515	20559717
20679435	20685306	20688675	20738579	20761239
20761371	20763788	20793692	20801398	20807868
20816459	20824324	20824359	20830909	20834632
20837614	20848433	20849165	20854670	20860472
20860590	20883501	20887022	20889451	20986146
21029137	21029579	21054726	21058914	21059359
21077201	21093719	21097056	21097147	21120971
21163474	21171276	21228437	21281148	21303591
21309832	21310811	21316815	21342523	21364685
21373651	21380229	21441766	21450267	21470243
21502595	21511466	21513064	21538374	21558460
21576542	21605565	21623450	21627803	21629815
21647035	21653239	21675510	21694367	21696864
21748264	21751119	21762273	21772010	21772779
21779770	21781526	21782526	21784370	21792146
21793546	21798182	21801897	21808140	21834912
21836388	21850626	21854599	21863819	21908353
21908560	21914615	22013062	22070285	22076202
22081304	22086991	22100807	22102884	22103136
22103984	22104158	22152452	22172424	22173576
22177747	22183367	22190427	22193287	22194261

22201657	22205200	22227940	22228592	22232112
22234707	22237495	22260744	22262755	22272522
22273741	22307719	22321411	22331556	22352949
22353277	22452018	22505470	22507849	22508088
22548827	22589684	22648257		

Appendix D

Common Maintenance Activities

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

Run the following commands to perform these common tasks:

To Initialize the Environment

1. Go the directory <install_dir>/bin.
2. Run the following command:

UNIX:

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

Windows:

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

To Start the WebLogic Server

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

UNIX:

```
./spl.sh start
```

Windows:

```
spl.cmd start
```

To Stop the Batch Server

1. To stop the BatchScheduler:

UNIX:

```
cd $SPLEBASE/bin  
batchscheduler.sh stop
```

Windows:

```
cd %SPLEBASE%\bin  
batchscheduler.cmd stop
```

To Start the Batch Scheduler

1. Run the following command:

UNIX:

```
cd $SPLEBASE/bin  
nohup batchscheduler.sh NodeID > /tmp/batchscheduler.log 2>&1 &
```

Windows:

```
cd %SPLEBASE%\bin  
batchscheduler.cmd NODEID
```

Note: Batchscheduler is a wrapper over TPW. You can also pass regular TPW arguments to batchscheduler. Node ID parameter is now no longer used but is retained for backward compatibility.

To Stop the Batch Scheduler

To stop the batch scheduler

UNIX:

```
cd $SPLEBASE/bin  
batchscheduler.sh stop
```

Windows:

```
cd %SPLEBASE%\bin  
batchscheduler.cmd stop
```

To Check Whether the BatchScheduler is running:

To check whether the batch scheduler is running

UNIX:

```
cd $SPLEBASE/bin  
batchscheduler.sh check
```

Windows:

```
cd %SPLEBASE%\bin  
batchscheduler.cmd check
```

To Modify the Configuration Values

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

UNIX:

```
ConfigureEnv.sh
```

Windows:

```
configureEnv.cmd
```

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

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

```
InitialSetup.sh,
```

To Modify the Advanced Menu Option Values

1. Initialize the environment.

-
- The configuration utility launches menu items.
2. Run the following command:

UNIX:

```
ConfigureEnv.sh -a
```

Windows:

```
configureEnv.cmd -a
```

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

```
InitialSetup.sh
```