Oracle Real-Time Scheduler

Server Application Installation Guide

Release 2.2.0 Service Pack 3

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Oracle Real-Time Scheduler Installation Guide Release 2.2.0 Service Pack 3

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Preface

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

This preface contains these topics:

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 Mobile Application Installation and Deployment Guide (HTML5-based)*
- *Oracle Real-Time Scheduler DBA Guide*
- *Oracle Real-Time Scheduler Configuration 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 Mobile Application User's Guide (HTML5-based)*

Implementation and Development

- *Oracle Real-Time Scheduler Mobile Application Implementation and Development Guide (HTML5-based)*

Map Editor Installation and User Guides

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

Framework Guides

- *Oracle Utilities Application Framework v4.2.0.2 Business Process Guide*
- *Oracle Utilities Application Framework v4.2.0.2 Administration Guide*
- *Oracle Utilities Application Framework v4.2.0.2 Release Notes*

Supplemental Documents

- *Oracle Real-Time Scheduler Server Administration Guide*
- *Oracle Real-Time Scheduler Batch 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.
italic	Italic type indicates book titles, emphasis, or placeholder variables for which you supply particular values.
monospace	Monospace type indicates commands within a paragraph, URLs, code in examples, text that appears on the screen, or text that you enter.

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 HTML-5 based mobile client. Install the Java-based Mobile Client for Oracle Real-Time Scheduler on mobile devices as described in chapter Installing the Mobile Client (Java-based). .
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 version 2.2.0.3 or from version 2.2.0.1.5 or version 2.2.0.1.6 to version 2.2.0.3 or from version 2.2.0.2 to 2.2.0.3.

Demo Installation - a base installation with pre-populated demo data, typically used for demonstration or training purposes

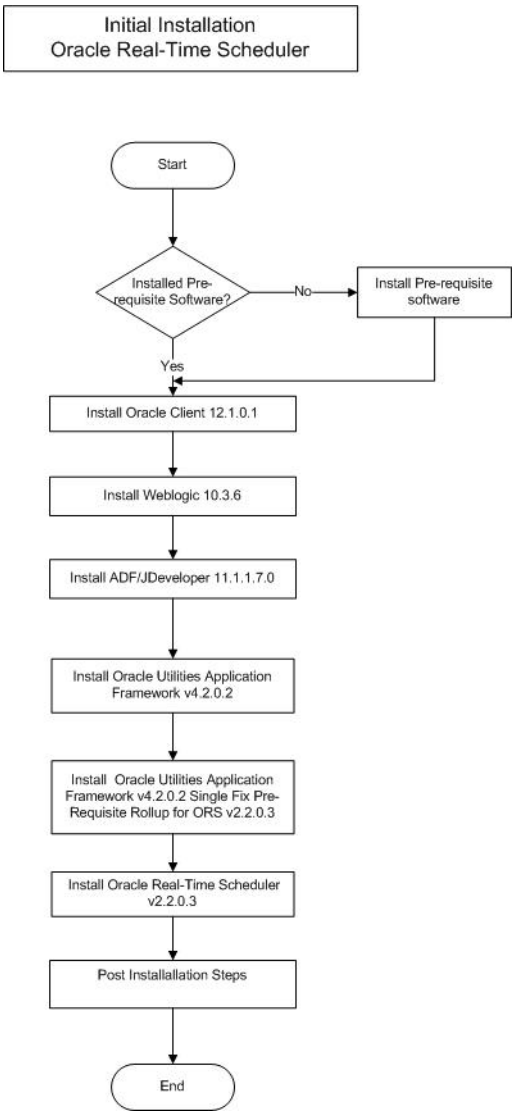
The following sections describe these installation types in detail.

Initial Installation

This installation type is applicable when installing Oracle 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 v4.2.0.0 Service Pack 2 (also referred to as v4.2.0.2)
  - Oracle Utilities Application Framework v4.2.0.2 Single Fix Pre-Requisite Rollup for ORS v2.2.0.3
  - Oracle Real-Time Scheduler v2.2.0.3

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:

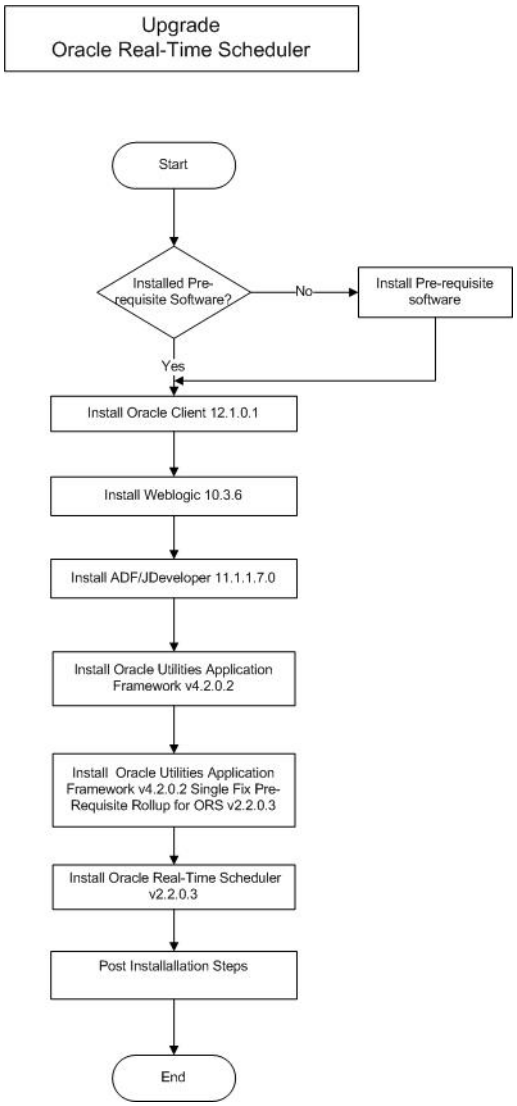
- Upgrading from version v2.1.0.6 to v2.2.0.3
- Upgrading from version v2.2.0.1.5 to v2.2.0.3
- Upgrading from version v2.2.0.1.6 to v2.2.0.3
- Upgrading from version v2.2.0.2 to v2.2.0.3

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

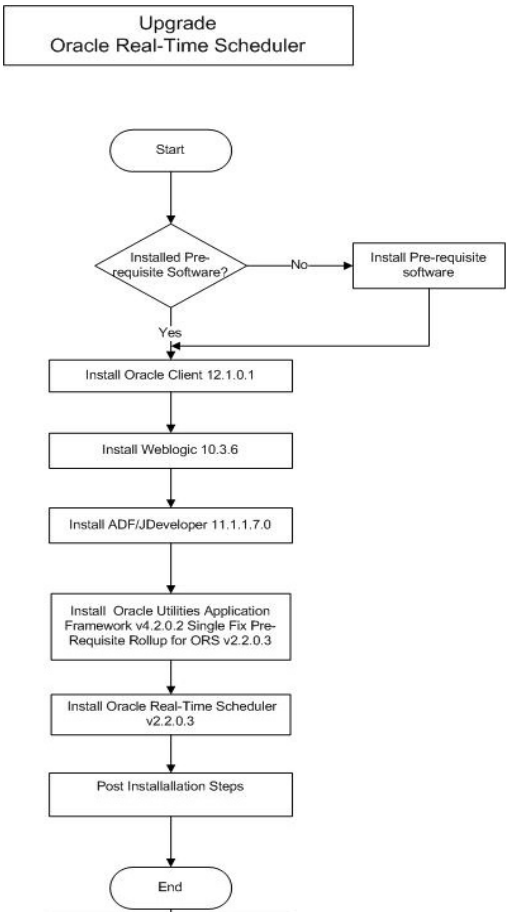
- Database components
  Refer to the "Upgrade Install" section of the Oracle Real-Time Scheduler *Database Administrator's Guide* for more information.

- Application components
  - Oracle Utilities Application Framework v4.2.0.0 Service Pack 2 (also referred to as v4.2.0.2) - (only applicable for an upgrade from version 2.1.0.6)
  - Oracle Utilities Application Framework v4.2.0.2 Single Fix Pre-Requisite Rollup for ORS v2.2.0.3
  - Oracle Real-Time Scheduler v2.2.0.3

The following diagram shows a typical workflow of the upgrade installation process from v2.1.0.6:



The following diagram shows a typical workflow of the upgrade installation process from v2.2.0.1.5 or from v2.2.0.1.6 or from v2.2.0.2:



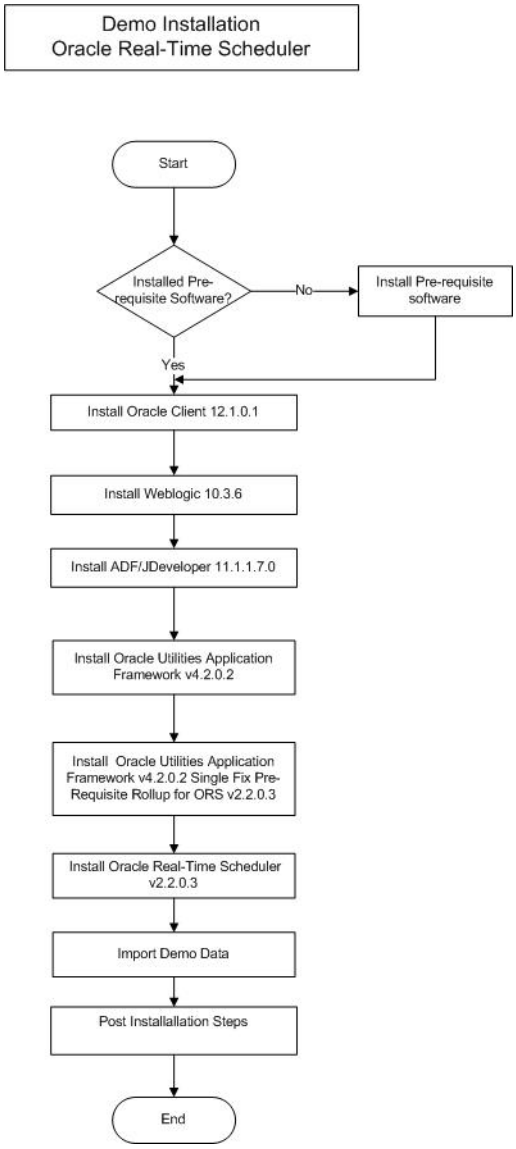
Refer to chapter Upgrading Oracle Real-Time Scheduler for the steps involved in upgrading each of the above components.

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 v4.2.0.0 Service Pack2 (also referred to as v4.2.0.2)
  - Oracle Utilities Application Framework v4.2.0.2 Single Fix Pre-Requisite Rollup for ORS v2.2.0.3
  - Oracle Real-Time Scheduler v2.2.0.3

The following diagram shows a typical workflow 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.

Media Pack Components

Documentation Packages

- Oracle Real-Time Scheduler v2.2.0.3 Release Notes
- Oracle Real-Time Scheduler v2.2.0.3 Quick Install Guide
- Oracle Real-Time Scheduler v2.2.0.3 Install Documentation
- Oracle Real-Time Scheduler v2.2.0.3 User Documentation
- Oracle Real-Time Scheduler v2.2.0.3 Supplemental Documentation

Installation Packages

- Oracle Utilities Application Framework Service Pack2 v4.2.0.2
- Oracle Utilities Application Framework v4.2.0.2 Single Fix Prerequisite Rollup for Oracle Real-Time Scheduler v2.2.0.3
- Oracle Real-Time Scheduler v2.2.0.3 Multiplatform
- Oracle Real-Time Scheduler v2.2.0.3 Mobile Application Multiplatform (HTML5-based)
- Mobile Communication Client v2.2.0.3 for Windows
- Mobile Communication Client v2.2.0.3 for Windows Mobile
- Mobile Communication Client v2.2.0.3 for Android
- Oracle Real-Time Scheduler v2.2.0.3 Oracle Database
- Oracle Real-Time Scheduler v2.2.0.3 MapEditor

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

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

Supported Operating Systems and Application Servers

In addition, 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
Windows 7* (Internet Explorer 8.x, 9.x, 10 and 11 in Compatibility Mode)	AIX 7.1 TL00 (64-bit)	POWER 64-bit	WebLogic 10.3.5+	Oracle 11.2.0.1+ Oracle 12.1.0.1+
	Oracle Linux 5.8, 6.2, 6.4 or 6.5 (64-bit) Red Hat Enterprise Linux 5.8, 6.2, 6.4 or 6.5 (64-bit)	x86_64	WebLogic 10.3.5+	Oracle 11.2.0.1+ Oracle 12.1.0.1+
	Sun Solaris 10 Sun Solaris 11 (64-bit)	SPARC	WebLogic 10.3.5+	Oracle 11.2.0.1+ Oracle 12.1.0.1+
	Windows Server 2008 R2 (64-bit) Windows Server 2012 R2 (64-bit)	x86_64	WebLogic 10.3.5+	Oracle 11.2.0.1+ Oracle 12.1.0.1+

** **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.

Note: Oracle Real-Time Scheduler 2.2.0.x 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 (32-bit or 64-bit) with Internet Explorer 8.x, 9.x, 10 and 11

  Note: Internet Explorer 8.x, 9.x, 10, 11 must have Compatibility Mode enabled.

- Java plug-in 1.6.0 17

Java-Based Mobile Client: Software and Hardware Requirements

The following operating systems are supported by the 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

- Windows Embedded Handheld 6.5 Professional
  Please contact customer support for more information if you are using this hardware.

- Android 4.1, 4.2, 4.3, 4.4
  The following is the minimum recommended hardware configuration for Android devices:

Configuration	Processor	Memory (RAM)
Minimum Recommended	Quad-core 1.6 GHz Cortex-A15 & quad-core 1.2 GHz Cortex-A7	2048 MB

Note: This release has been tested on the following:

- Motorola MC75A device running Windows Embedded Handheld 6.5 Professional
- Panasonic Tough Book running Windows 7 (32-bit)
- Samsung Galaxy S4 running on Android 4.3/4.4
- Panasonic Tablet FZ-G1 running Windows 8.1 (64-bit)

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 11.2.0.1+ or 12.1.0.1+ on all of the certified and supported operating systems listed above.

The Oracle 11.2.0.1+ or 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

Application Dependencies for Oracle Business Intelligence for Utilities

When using Oracle Real-Time Scheduler v2.2.0.3 with Oracle Business Intelligence for Utilities, you must upgrade to Oracle Utilities Advanced Spatial and Operational Analytics v2.4.0 Service Pack 4. This release is not compatible with previous releases of Oracle Utilities Advanced Spatial and Operational Analytics. For more information, see the release notes and installation documentation for Oracle Utilities Advanced Spatial and Operational Analytics, v2.4.0 Service Pack 4 available on the Oracle Technology Network.

Please note that in release v2.5.0.0, the product name for "Oracle Utilities Advanced Spatial and Operational Analytics" is changed to "Oracle Utilities Analytics".

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 neither data nor the mobile application reside locally on the accessing mobile device. Instead the data and mobile application reside 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)	**Windows Embedded** (Hand-held or Phone)	**Android** (Tablet or Phone)
GPS	✓	✓	✓
Capture Picture and Sound	✓	✓	✓
Download Attachments from MDT	✓	✓	✓
Upload Attachment from MDT to Server	✓	Partial Support*	Partial Support*
Maps	✓	✓	✓

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

Connected Mode

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

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

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

Device Platform	Browser Platforms
Android	• Chrome Browser on Android 4.0+ • Chrome Browser v32+ on Android 4.2/4.3/4.4 • Default browser on Android 4.2/4.3/4.4
iOS	• iOS 7.0 • iOS 8.0 • Safari on iPad
Windows	• Chrome version 32+ on Windows 7 • Firefox version ESR17+ on Windows 7 • Internet Explorer 8.x/9.x on Windows 7
Windows Embedded	• Internet Explorer Mobile 6 on Windows Embedded Handheld 6.5

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

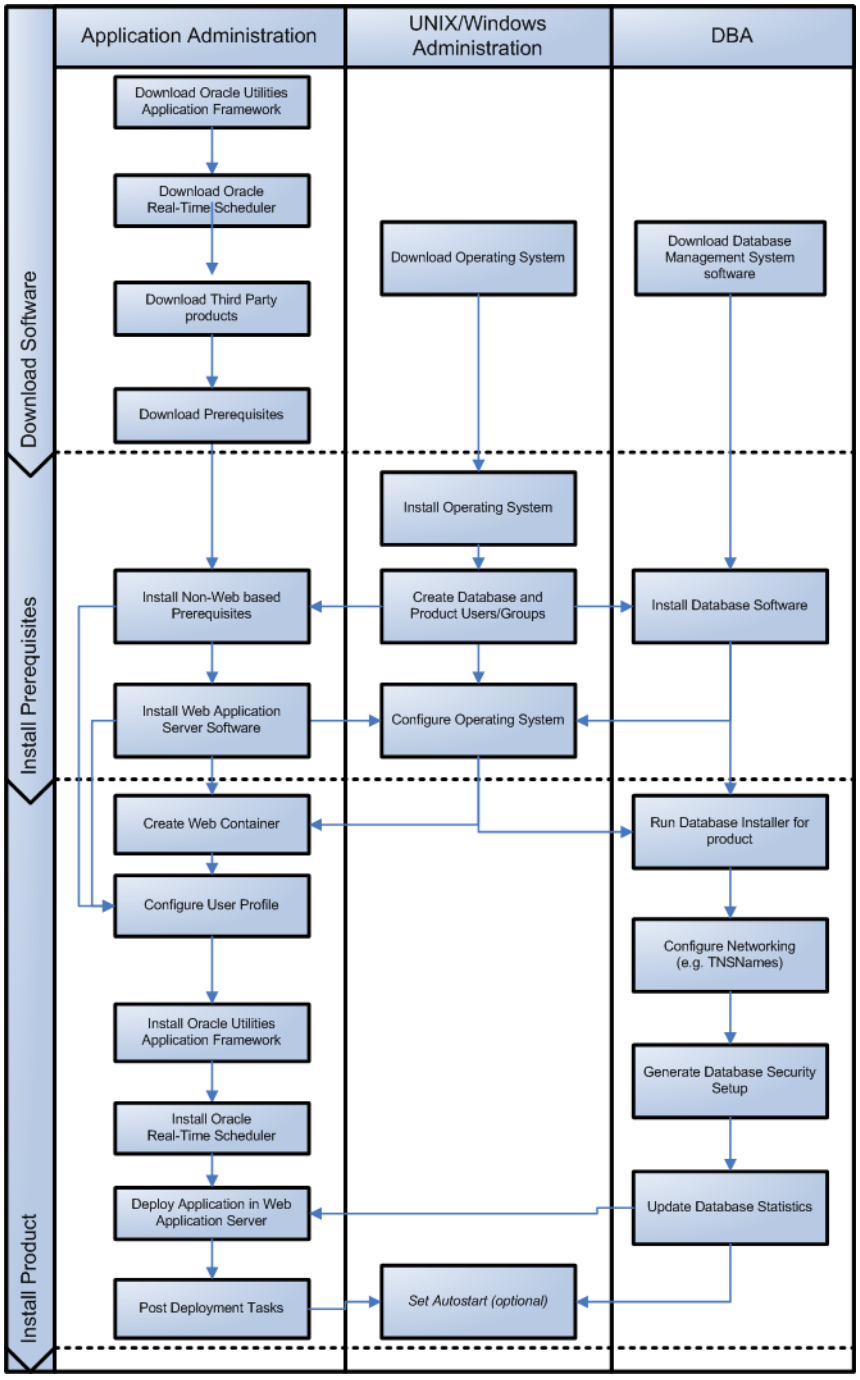
Planning the Installation

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 6.5 or Red Hat Linux 6.5 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 11gR1 (10.3.6+) 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 11.2.0.1+/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 4.1.0FINAL

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 11gR1 (10.3.6) 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 11gR1 (**10.3.6**)

Oracle Application Developer Framework (ADF) 11g (11.1.1.7.0)

Oracle ADF 11g (11.1.1.7.0) requires Oracle Weblogic Server 10.3.6 and it must be installed prior to installing ADF.

Oracle ADF can be downloaded from the following link:

http://www.oracle.com/technetwork/developer-tools/adf/downloads/index.html?

Note: Please make sure you only use the version of Oracle ADF certified with Weblogic server.

Note: Oracle recommends that you install Oracle Application Developer Framework (ADF) instead of Oracle JDeveloper.

Oracle JDeveloper 11g (11.1.1.7.0) Studio Edition

JDeveloper 11g (**11.1.1.7.0**) Studio Edition is supported on any platform that runs JDK 6. It requires Oracle Weblogic Server 10.3.6. It must be installed prior to installing the Oracle Utilities Application Framework.

Oracle JDeveloper can be downloaded from following link:

http://www.oracle.com/technology/software/products/jdev/index.html

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 6.5 or Red Hat Linux 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 Linux6.5 (64-bit) Red Hat Enterprise Linux 6.5(64-bit)	x86_64	Oracle WebLogic 11gR1 (10.3.6) 64-bit version

Web/Application Server Tier

Oracle Linux 6.5 or Red Hat Enterprise Linux 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 11.2.0.1+/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 11gR1 (10.3.6) 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 11gR1 (**10.3.6**)

Oracle Application Developer Framework (ADF) 11g (11.1.1.7.0)

Oracle ADF 11g (11.1.1.7.0) requires Oracle Weblogic Server 10.3.6 and it must be installed prior to installing ADF.

Oracle ADF can be downloaded from the following link:

http://www.oracle.com/technetwork/developer-tools/adf/downloads/index.html?

> **Note**: Please make sure you only use the version of Oracle ADF certified with Weblogic server.
>
> Note: Oracle recommends that you install Oracle Application Developer Framework (ADF) instead of Oracle JDeveloper.

Oracle JDeveloper 11g (11.1.1.7.0) Studio Edition

JDeveloper 11g (**11.1.1.7.0**) Studio Edition is supported on any platform that runs JDK 6. It requires Oracle Weblogic Server 10.3.6. It must be installed prior to installing the Oracle Utilities Application Framework.

Oracle JDeveloper can be downloaded from following link:

http://www.oracle.com/technology/software/products/jdev/index.html

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 10/11 Operating System

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

Supported Application Servers

Operating System	Chipsets	Application Server
Solaris 10/11(64-bit)	SPARC	Oracle WebLogic 11gR1 (10.3.6) 64-bit version

Web/Application Server Tier

Solaris 10/11 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 11.2.0.1+/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

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 11gR1 (10.3.6) 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 11gR1 (**10.3.6**)

Oracle Application Developer Framework (ADF) 11g (11.1.1.7.0)

Oracle ADF 11g (11.1.1.7.0) requires Oracle Weblogic Server 10.3.6 and it must be installed prior to installing ADF.

Oracle ADF can be downloaded from the following link:

http://www.oracle.com/technetwork/developer-tools/adf/downloads/index.html?

> **Note**: Please make sure you only use the version of Oracle ADF certified with Weblogic server.
>
> Note: Oracle recommends that you install Oracle Application Developer Framework (ADF) instead of Oracle JDeveloper.

Oracle JDeveloper 11g (11.1.1.7.0) Studio Edition

JDeveloper 11g (**11.1.1.7.0**) Studio Edition is supported on any platform that runs JDK 6. It requires Oracle Weblogic Server 10.3.6. It must be installed prior to installing the Oracle Utilities Application Framework.

Oracle JDeveloper can be downloaded from following link:

http://www.oracle.com/technology/software/products/jdev/index.html

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 2008/2012 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 2008 R2 (64-bit) Windows Server 2012 R2 (64-bit)	x86_64	Oracle WebLogic 11gR1 (10.3.6) 64-bit version

Web/Application Server Tier

Oracle Client 11.2.0.1+/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

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 11gR1 (10.3.6) 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 11gR1 (**10.3.6**)

Oracle Application Developer Framework (ADF) 11g (11.1.1.7.0)

Oracle ADF 11g (11.1.1.7.0) requires Oracle Weblogic Server 10.3.6 and it must be installed prior to installing ADF.

Oracle ADF can be downloaded from the following link:

http://www.oracle.com/technetwork/developer-tools/adf/downloads/index.html?

> **Note**: Please make sure you only use the version of Oracle ADF certified with Weblogic server.
>
> Note: Oracle recommends that you install Oracle Application Developer Framework (ADF) instead of Oracle JDeveloper.

Oracle JDeveloper 11g (11.1.1.7.0) Studio Edition

JDeveloper 11g (**11.1.1.7.0**) Studio Edition is supported on any platform that runs JDK 6. It requires Oracle Weblogic Server 10.3.6. It must be installed prior to installing the Oracle Utilities Application Framework.

Oracle JDeveloper can be downloaded from following link:

http://www.oracle.com/technology/software/products/jdev/index.html

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 11.2.0.1+/12.1.0.1+ (for connecting to Oracle database)
   - Java 1.6.0.65 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 11gR1 (10.3.6)
4. Install Oracle Application Development Framework (ADF) 11g (11.1.1.7.0) or Oracle JDeveloper 11g (11.1.1.7.0). Ensure the version of Oracle ADF is compatible with the version of Weblogic installed.

   Note: You can choose to install either Oracle Application Developer Framework (ADF) or Oracle JDeveloper. However, Oracle recommends that you install ADF instead of Oracle JDeveloper.
5. Verify that all software is installed.
6. Set up environment variables.
7. Install Oracle Utilities Application Framework.
8. Install Oracle Real-Time Scheduler.
9. Install MapViewer 11.1.1.7.3.
10. Deploy the Oracle Real-Time Scheduler application.
11. 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

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 v4.2.0.0 Service Pack 2
- Installing Oracle Utilities Application Framework v4.2.0.2 Single Fix PreRequisite Rollup for ORS v2.2.0.3
- Installing Oracle Real-Time Scheduler v2.2.0.3

Installing Oracle Utilities Application Framework v4.2.0.0 Service Pack 2

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-V4.2.0.2.0-MultiPlatform.jar in the delivered package to a <TEMPDIR> on your host server. If you are using FTP to transfer this file, remember to use the BINARY option for the FTP transfer.
4. Decompress the file:

```
cd <TEMPDIR>
jar -xvf FW-V4.2.0.2.0-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.V4.2.0.2.0 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.V4.2.0.2.0 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.V4.2.0.2.0 directory.
3. Set the ORACLE_CLIENT_HOME and PATH variables as Oracle Client Perl is required to run the installer.

   UNIX:

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

   Windows:

   ```
   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. Third Party Software Configuration
     Oracle Client Home Directory: <Mandatory>
     Web Java Home Directory:      <Mandatory>
     Child JVM Home Directory:
     COBOL Home Directory:
     Hibernate JAR Directory: <Mandatory>
     ONS JAR Directory:
     Web Application Server Home Directory: <Mandatory>
     ADF Home Directory:
     OIM OAM Enabled Environment:

50. Environment Installation Options
     Environment Mount Point: <Mandatory> - Install Location
     Log Files Mount Point:<Mandatory> - ThreadPoolWorker Logs
                                  Location
     Environment Name:<Mandatory>
     Web Application Server Type:                        WLS
     Install Application Viewer Module:                  true

Each item in the above list should be configured for a
 successful install.
Choose option (1,50, <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> - Hostname on which
                                 application being installed
     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>
     Web Server Port Number:     <Mandatory>
     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
      Application Admin User ID:        <Mandatory>
      Application Admin Password:       <Mandatory>
      Expanded Directories:             false
      Application Viewer Module:        true

  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
      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

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

 Choose option (1,2,3,4,5, <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 v4.2.0.2 Single Fix PreRequisite Rollup for ORS v2.2.0.3

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-v2.2.0.3.0-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 v2.2.0.3

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 v2.2.0.3 Multiplatform.zip' and copy the file ORS-V2.2.0.3.0-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-V2.2.0.3.0-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.V2.2.0.3.0 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.V2.2.0.3.0 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. Run the Post-install Script:

   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. Run the post-installation script:
   UNIX:

   ```
   $cd $SPLEBASE/runtime
   $ksh ./cdfDeploy.sh
   ```

Note: If you get permission errors while running this script, run the following command to set the permissions, then repeat the above step.

```
chmod 755 cdfDeploy.sh
```

Windows:

```
C:\> cd %SPLEBASE%\runtime
C:\> cdfDeploy.cmd
```

2. 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
```

3. Deploying 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
```

4. Execute cdfDeploy.sh as shown below:

```
cd $SPLEBASE/runtime
ksh ./cdfDeploy.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
```

4. Execute cdfDeploy.cmd as shown below:

```
cd %SPLEBASE%\runtime
cdfDeploy.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
```

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 v2.2.0.3 or from v2.2.0.1.5 to v2.2.0.3 or from v2.2.0.1.6 to v2.2.0.3 or from v2.2.0.2 to v2.2.0.3.

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

ADF/ JDeveloper version

Before you upgrade, ensure you have installed the Oracle Application Developer Framework (ADF)/ Oracle JDeveloper version 11.1.1.7.0.

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 *Configuration 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
- Mobile Client (Java-based) Upgrade

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:

- Upgrading Oracle Real-Time Scheduler from v2.1.0.6 to v2.2.0.3

  (or)

- Upgrading Oracle Real-Time Scheduler from v2.2.0.1.5 or from v2.2.0.1.6 or from v2.2.0.2 to v2.2.0.3

Upgrading Oracle Real-Time Scheduler from v2.1.0.6 to v2.2.0.3

Note: An upgrade from Oracle Real-Time Scheduler v2.1.0.6 to v2.2.0.3 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 v4.2.0.0 Service Pack 2
- Installing Oracle Utilities Application Framework v4.2.0.2 Single Fix PreRequisite Rollup for ORS v2.2.0.3
- Installing Oracle Real-Time Scheduler Component v2.2.0.3

Installing Oracle Utilities Application Framework v4.2.0.0 Service Pack 2

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-V4.2.0.2.0-MultiPlatform.jar in the delivered package to a <TEMPDIR> on your host server. If you are using FTP to transfer this file, remember to use the BINARY option for the FTP transfer.
4. Decompress the file:

```
cd <TEMPDIR>
jar -xvf FW-V4.2.0.2.0-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.V4.2.0.2.0 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.V4.2.0.2.0 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.V4.2.0.2.0 directory.
3. Set the ORACLE_CLIENT_HOME and PATH variables as Oracle Client Perl is required to run the installer.

   UNIX:

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

   Windows:

   ```
   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. Third Party Software Configuration
        Oracle Client Home Directory: <Mandatory>
        Web Java Home Directory:      <Mandatory>
        Child JVM Home Directory:
   ```

```
     COBOL Home Directory:
     Hibernate JAR Directory: <Mandatory>
     ONS JAR Directory:
     Web Application Server Home Directory: <Mandatory>
     ADF Home Directory:
     OIM OAM Enabled Environment:

50. Environment Installation Options
     Environment Mount Point: <Mandatory> - Install Location
     Log Files Mount Point:<Mandatory> - ThreadPoolWorker Logs
                                  Location
     Environment Name:<Mandatory>
     Web Application Server Type:                        WLS
     Install Application Viewer Module:                  true

Each item in the above list should be configured for a
 successful install.
Choose option (1,50, <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> - Hostname on which
                              application being installed
     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>
     Web Server Port Number:     <Mandatory>
     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
     Application Admin User ID:        <Mandatory>
     Application Admin Password:       <Mandatory>
     Expanded Directories:             false
     Application Viewer Module:        true

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
         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

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

  Choose option (1,2,3,4,5, <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 v4.2.0.2 Single Fix PreRequisite Rollup for ORS v2.2.0.3

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-v2.2.0.3.0-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 v2.2.0.3

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 v2.2.0.3 Multiplatform.zip' and copy the file ORS-V2.2.0.3.0-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-V2.2.0.3.0-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.V2.2.0.3.0 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.V2.2.0.3.0 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. Run the post install script 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. Run the post-installation script:

    UNIX:

    ```
    $cd $SPLEBASE/runtime
    $ksh ./cdfDeploy.sh
    ```

    Note: If you get permission errors while running this script, run the following command to set the permissions, then repeat the above step.

    ```
    chmod 755 cdfDeploy.sh
    ```

    Windows:

    ```
    C:\> cd %SPLEBASE%\runtime
    C:\> cdfDeploy.cmd
    ```

2. Generate the appviewer by following the steps below:

    UNIX:

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

    Windows:

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

3. Deploying 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
```

4. Execute cdfDeploy.sh as shown below:

```
cd $SPLEBASE/runtime
ksh ./cdfDeploy.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
```

4. Execute cdfDeploy.cmd as shown below:

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

```
cdfDeploy.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
```

Upgrading Oracle Real-Time Scheduler from v2.2.0.1.5 or from v2.2.0.1.6 or from v2.2.0.2 to v2.2.0.3

A successful upgrade consists of the following steps:

- Installing Oracle Utilities Application Framework v4.2.0.2 Single Fix PreRequisite Rollup for ORS v2.2.0.3
- Installing Oracle Real-Time Scheduler Component v2.2.0.3

Installing Oracle Utilities Application Framework v4.2.0.2 Single Fix PreRequisite Rollup for ORS v2.2.0.3

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-v2.2.0.3.0-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 v2.2.0.3

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 v2.2.0.3 Multiplatform.zip' and copy the file ORS-V2.2.0.3.0-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-V2.2.0.3.0-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.V2.2.0.3.0 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.V2.2.0.3.0 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. Run the Post-install Script:

   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. Run the post-installation script:
UNIX:

```
$cd $SPLEBASE/runtime
$ksh ./cdfDeploy.sh
```

Note: If you get permission errors while running this script, run the following command to set the permissions, then repeat the above step.

```
chmod 755 cdfDeploy.sh
```

Windows:

```
C:\> cd %SPLEBASE%\runtime
C:\> cdfDeploy.cmd
```

2. 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
```

3. Deploying 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
```

4. Execute cdfDeploy.sh as shown below:

```
cd $SPLEBASE/runtime
ksh ./cdfDeploy.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
```

4. Execute cdfDeploy.cmd as shown below:

```
cd %SPLEBASE%\runtime
cdfDeploy.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
```

Mobile Client (Java-based) Upgrade

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 v2.2.0.3
- Upgrading the mobile client of Oracle Real-Time Scheduler from v2.2.0.1.5 to v2.2.0.3
- Upgrading the mobile client of Oracle Real-Time Scheduler from v2.2.0.1.6 to v2.2.0.3
- Upgrading the mobile client of Oracle Real-Time Scheduler from v2.2.0.2 to v2.2.0.3

> Note: This section describes the upgrade for the Java-based mobile client. If you wish to use the HTML5-based mobile client, skip this section and refer to the guide Oracle Real-Time Scheduler *Server Mobile Application Installation and Deployment Guide (HTML5-based)*.

This section consists of:

Upgrading the Mobile Client on Windows

This section consists of:

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-V2.2.0.3.0-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 2.2.0.3 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 Windows Embedded

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

1. Extract OracleMWM.CAB from ORS-V2.2.0.3.0-Mobile-Client-WinMobile.zip and copy it to a temporary directory on the mobile device.
2. Tap the OracleMWM.CAB file to start the upgrade process.
3. On the first prompt, "The previous version of Oracle MWM will be removed before the new one is installed. Select OK to continue or Cancel to quit", click **OK**.
4. If prompted, select **Device** as the location to be upgraded.
5. Click **Close** after the upgrade is successful.

6. After completing the MCP upgrade, delete the CAB file (OracleMWM.CAB) and reboot the mobile device.
   The mobile client application is now accessible from shortcuts created on the **Start** > **Programs** 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-V2.2.0.3.0-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 "\MWMApp\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 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 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

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 v4.2.0.0 Service Pack 2
- Installing Oracle Utilities Application Framework v4.2.0.2 Single Fix PreRequisite Rollup for ORS v2.2.0.3
- Installing Oracle Real-Time Scheduler v2.2.0.3

Installing Oracle Utilities Application Framework v4.2.0.0 Service Pack 2

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-V4.2.0.2.0-MultiPlatform.jar in the delivered package to a <TEMPDIR> on your host server. If you are using FTP to transfer this file, remember to use the BINARY option for the FTP transfer.
4. Decompress the file:

```
cd <TEMPDIR>
jar -xvf FW-V4.2.0.2.0-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.V4.2.0.2.0 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.V4.2.0.2.0 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.V4.2.0.2.0 directory.
3. Set the ORACLE_CLIENT_HOME and PATH variables as Oracle Client Perl is required to run the installer.

   UNIX:

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

   Windows:

   ```
   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. Third Party Software Configuration
     Oracle Client Home Directory: <Mandatory>
     Web Java Home Directory:      <Mandatory>
     Child JVM Home Directory:
     COBOL Home Directory:
     Hibernate JAR Directory: <Mandatory>
     ONS JAR Directory:
     Web Application Server Home Directory: <Mandatory>
     ADF Home Directory:
     OIM OAM Enabled Environment:

50. Environment Installation Options
     Environment Mount Point: <Mandatory> - Install Location
     Log Files Mount Point:<Mandatory> - ThreadPoolWorker Logs
                                  Location
     Environment Name:<Mandatory>
     Web Application Server Type:                        WLS
     Install Application Viewer Module:                  true

Each item in the above list should be configured for a
 successful install.
Choose option (1,50, <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> - Hostname on which
                                application being installed
     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>
     Web Server Port Number:     <Mandatory>
     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
      Application Admin User ID:        <Mandatory>
      Application Admin Password:       <Mandatory>
      Expanded Directories:             false
      Application Viewer Module:        true

  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
      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

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

 Choose option (1,2,3,4,5, <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 v4.2.0.2 Single Fix PreRequisite Rollup for ORS v2.2.0.3

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-v2.2.0.3.0-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 v2.2.0.3

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 v2.2.0.3 Multiplatform.zip' and copy the file ORS-V2.2.0.3.0-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-V2.2.0.3.0-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.V2.2.0.3.0 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.V2.2.0.3.0 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. Run the Post-install Script:

   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. Run the post-installation script:
   UNIX:

   ```
   $cd $SPLEBASE/runtime
   $ksh ./cdfDeploy.sh
   ```

Note: If you get permission errors while running this script, run the following command to set the permissions, then repeat the above step.

```
chmod 755 cdfDeploy.sh
```

Windows:

```
C:\> cd %SPLEBASE%\runtime
C:\> cdfDeploy.cmd
```

2. 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
```

3. Deploying 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
```

4. Execute cdfDeploy.sh as shown below:

```
cd $SPLEBASE/runtime
ksh ./cdfDeploy.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
```

4. Execute cdfDeploy.cmd as shown below:

```
cd %SPLEBASE%\runtime
cdfDeploy.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
```

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 the Mobile Client (Java-based)

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 HTML5-based mobile client, skip this chapter and refer to the guide *Oracle Real-Time Scheduler Mobile Application Installation and Deployment Guide (HTML5-based)* for instructions on installing the mobile client.

This chapter includes:

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

1. Extract OracleMWM.msi from ORS-V2.2.0.3.0-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 2.2.0.3 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.

Installing on Windows Embedded

1. Extract OracleMWM.CAB from ORS-V2.2.0.3.0-Mobile-Client-WinMobile.zip and copy it to a temporary directory on the mobile device.
2. Tap the OracleMWM.CAB file to start the installation process.
3. If prompted, select **Device** as the location to be installed.
4. Click **Close** after the installation is successful.
5. After completing the MCP installation, delete the CAB file (OracleMWM.CAB) and reboot the mobile device.
   The mobile client application is now accessible from shortcuts created on the **Start > Programs** 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 2.2.0.3 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.

Uninstalling from Windows Embedded

1. Ensure that all the data is synchronized on the server.
2. Go to Start **Menu** -> **Settings** -> **System** tab
3. Open **Remove Programs**.
4. Select 2.2.0.3 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

Android MCP provides the same runtime functionality as the Windows Embedded 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)

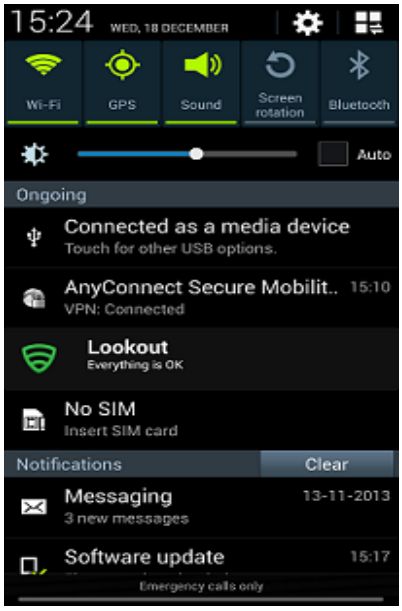
This section describes the SD Card method only.

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

Installing the MCP Using the SD Card Method

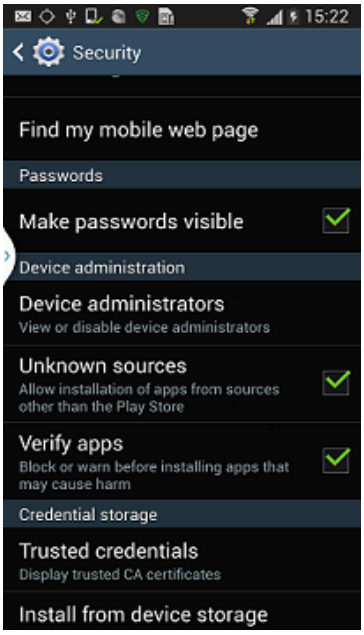
To Install the Android Mcp Using the Sd Card Method

1. Extract OracleMWM.apk from the ORS-V2.2.0.3.0-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.

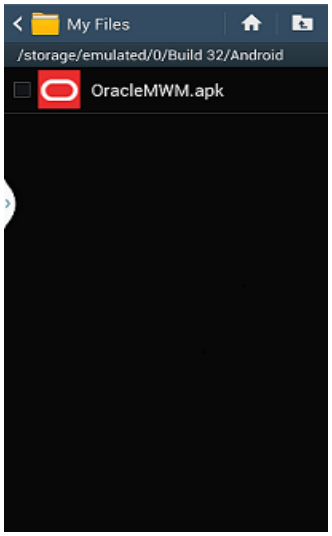


3. Copy the OracleMWM.apk file to the removable disk (select **My Computer** for the drive letter).
4. Disconnect the device from the desktop or laptop, or choose the **Charge only** connection type.
5. Verify that non-Market applications can be installed.

   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.



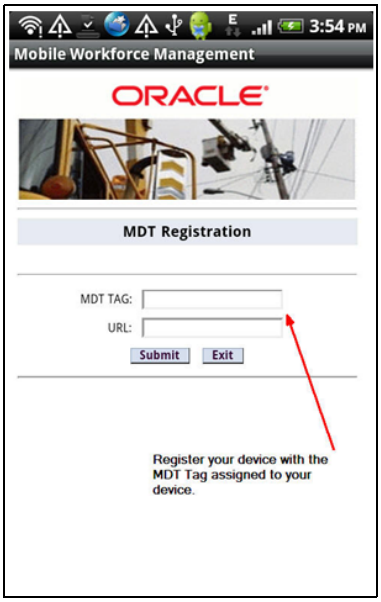
7. Confirm the installation by clicking **Install**.
8. The application will now be installed.
9. After the application is installed, click **Done.**

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 9

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"
      />
   ```

   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="omsmap"
         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.

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>
```

3. Deploy and configure the routing engine and the geocoding service as described in the Oracle Spatial Developer's Guide 11g.
4. 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.
5. 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.
6. To modify the Geocoder Cluster, click **Edit** on the component URL. Specify the following value:

   < http://elocation.oracle.com/geocoder/gcserver>
7. To modify the Router Cluster, click **Edit** on the component URL. Specify the following value:

   http://elocation.oracle.com/routeserver/servlet/RouteServerServlet
8. 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:

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 v2.2.0.3, 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 *Batch 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 *Configuration 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.

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 *Batch 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

Third Party Software Configuration

```
 ***********************************
* Environment Installation Options *
***********************************
1. Third Party Software Configuration
       Oracle Client Home Directory:
       Web Java Home Directory:
       Child JVM Home Directory:
       COBOL Home Directory:
       Hibernate JAR Directory:
       ONS JAR Directory:
       Database Home Directory:
       Web Application Server Home Directory:
       ADF Home Directory:
       OIM OAM Enabled Environment:
```

Menu Option	Name Used in Documentation	Usage	Customer Install Value
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/11.2.0.3	
Web Java Home Directory	JAVA_HOME***	Java home that will be used by the web application server. Example Location: /ouaf/java/jdk1.6.0_65	

Menu Option	Name Used in Documentation	Usage	Customer Install Value
Child JVM Home Directory	CHILD_JVM_JAVA_HOME	Java home that will be used by the child java process that handles COBOL related requests. Example Location: /ouaf/java/jdk1.6.0_65 Note: This value is optional for ORS 2.x because it contains no COBOL components. Press Enter to skip this value.	
COBOL Home Directory	COBDIR	COBOL installation location directory. Example Location: /opt/SPLcobAS51WP6 Note: This value is optional. Press Enter to skip this value.	
Hibernate JAR Directory	HIBERNATE_JAR_DIR***	Location on the disk where the hibernate410Final.jar is installed.	
*ONS JAR Directory	ONS_JAR_DIR	Location on the disk where the ons-11.2.0.3 jar file is installed. **Required for Oracle RAC installation. See the Server Administration Guide for more information.	
Database Home Directory	DATABASE_HOME***	Location on the disk where database client is installed for your particular installation. Example Location for Oracle Database: /oracle/client/product/11.2.0.3 Note: This value will be the same as the previously entered for Oracle.	
Web Application Server Home Directory	WEB_SERVER_HOME***	Location on the disk where the application server is installed. Example Location: WebLogic: /ouaf/middleware/wlserver_10.3 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	

Menu Option	Name Used in Documentation	Usage	Customer Install Value
* ADF Home Directory	ADF_HOME***	Location on the disk where ADF is installed. Example Location: /ouaf/jdev11_1_1_7	Press **Enter** to skip this 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 11.2.0.2. This ons.jar is located under the Oracle Database Software 11.2.0.3, 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.

Environment Installation Options

```
50. Environment Installation Options
       Environment Mount Point:
       Log Files Mount Point:
       Environment Name:
       Database Type:
       Web Application Server Type:
       Install Application Viewer Module:
```

Menu Option	Name Used in Documentation	Usage	Customer Install Value
Environment Mount Point	<SPLDIR>***	The mount point into which the application is installed. For example: /ouaf for UNIX and C:\ouaf for Windows. This mount point MUST exist and the ORS administrator user ID MUST be able to write to this directory. (This is the user ID that is created specifically to administer the (ORS) environments; the default is cissys). The installation sets permissions on all subdirectories installed under this directory. See <SPLENVIRON> below for more information on how this mount point is used.	
Log File Mount Point	<SPLDIROUT>***	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. 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 environments; the default is cissys). For each environment initialized, the application logs will be written to the directory <SPLDIROUT>/<SPLENVIRON> Note: Later in the installation the splenviron.sh (splenviron.cmd) script will set the $SPLOUTPUT (%SPLOUTPUT%) environment variable to point to:<SPLDIROUT>/<SPLENVIRON>	

Menu Option	Name Used in Documentation	Usage	Customer Install Value
Environment Name	<SPLENVIRON>***	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. On installation a directory <SPLDIR>/<SPLENVIRON> is created, under which the Oracle Utilities Application Framework and Oracle Real-Time Scheduler software resides. When multiple environments are set up on the machine you will typically have directories such as: /ouaf/DEV01/.... /ouaf/CONV/.... Each of these contains a complete version of the Oracle Utilities Application Framework and Oracle Real-Time Scheduler. Note: Later in the installation process, the splenviron.sh (splenviron.cmd) script will set $SPLEBASE (%SPLEBASE%) environment variable to point to <SPLDIR>/<SPLENVIRON>	
Database Type	<CMPDB>***	Type of a database to connect an environment to. Valid values: oracle: Oracle Defaulted value: oracle Note: Not all database types are supported on all platforms; refer to the Supported Platforms section for details.	oracle
Web Application Server Type	<SPLWAS>***	A web application server for the environment to be used. The following value must be selected: Valid values: WLS: WebLogic WAS: WebSphere WASND: WebSphere ND Note: Not all web application servers are supported on all platforms; refer to Supported Platforms section for details.	

Menu Option	Name Used in Documentation	Usage	Customer Install Value
Installation Application Viewer Module	<WEB_ISAPPVIEWER>***	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. Valid values: true: Application Viewer module will be installed. false: Application Viewer module will not be installed. Defaulted value: true 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.	

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 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>
      Web Server Port Number:
      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
      Application Admin User ID:
      Application Admin Password:
      Expanded Directories:                              true
      Application Viewer Module:                         true
```

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>	
Web Server Port Number	WEB_WLPORT***	A unique port number within the system that will be assigned to the HTTP port. This is the port number that is used as a part of the client URL request to connect to the host. Example value: 6500	
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***	The password the application uses to connect to the EJB component through JNDI Note: The required value for an initial installation is "ouafadmin". This value will be saved in encrypted format. This is a security value.	
WebLogic Admin System User ID	WLS_WEB_WLSYSUSER***	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 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". This is a security value.	
WebLogic Admin System Password	WLS_WEB_WLSYSPASS	The password to login to Oracle WebLogic console and to administer Oracle WebLogic. The Oracle WebLogic startup and stop script also utilize this password. Note: The installation utility will prompt you to enter "Y" to encrypt. For an initial installation, enter Y/y, and specify the required value "ouafadmin". This is a security value.	
WebLogic Server Name	WEB_WLS_SVRNAME	The name of the WebLogic server where the web application resides. Default value: myserver Note: For an initial installation, use the default value of "myserver".	
Web Server Application Name	WEB_APP	The name of the web application server. Default value: SPLWeb Note: For an initial installation, use the default value of "SPLWeb".	

Menu Option	Name Used in Documentation	Usage	Customer Install Value
Application Admin User ID	WEB_SPLUSER***	This is the default user ID to login to the application through the browser. Example value: SYSUSER Note: The required value for an initial installation is "SYSUSER". This value is also used in communication within the XAI application. This is a security value.	
Application Admin Userid Password	WEB_SPLPASS***	This is the password of the application admin user. Example value: sysuser00 Note: The required value for an initial installation is "sysuser00". This value will be saved in encrypted format This is a Security Value.	
Expanded Directories	WEB_ISEXPANDED***	When the value is "true" the web application will be deployed in exploded directory format (no WAR files). When the value is "false", the web application will be deployed in ear file format. Valid values: true: Environment expanded (no WAR files) false: Environment with WAR/EAR files Default value: false	

Menu Option	Name Used in Documentation	Usage	Customer Install Value
Application Viewer Module	WEB_ISAPPVIEWER***	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. Note: With either value the application viewer module will still be managed by the upgrade process. Note: When this value is set to false from the initial install menu you will not be able to change this value to true to re-enable the application viewer. 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 Default value: true	

Database Configuration

```
4. Database Configuration
       Application Server Database User ID:
       Application Server 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 Server Database User ID	DBUSER***	The database user ID that has been configured on the database for the web application server connection. This is a security value.	
Application Server Database Password	DBPASS***	The database password that has been configured on the database for the web application connection. Note: This value will be saved in encrypted format. This is a security value.	
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.	
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.	
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.	
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.	

Menu Option	Name Used in Documentation	Usage	Customer Install 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 *Oracle Real-Time Scheduler Batch Server Administration Guide* for additional details on this configuration.

```
5. General Configuration Options
       Batch RMI Port:
       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	
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.	
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	

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 Funtionality:                     false
       Enable Web Services Functionality:                  false
       Web Services WAR File Name:                         Webservices
       JMX Enablement System User ID:
       JMX Enablement System Password:
       RMI Port number for JMX Business:
       RMI Port number for JMX Web:
       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:
       Server Express COBOL Home Directory:
```

Menu Option	Name Used in Documentation	Usage	Customer Value Install
WebSphere Deployment Manager Host Name	WASND_DMGR_HOST	WebSphere Deployment Manager Host name, this value is used for WebSphere ND, when connecting to the WebSphere Deployment Manager. Note: This value will only appear for WebSphere ND.	
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.	

Menu Option	Name Used in Documentation	Usage	Customer Value Install
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.	
Online JVM Batch Scheduler Daemon Enabled	BATCHDAEMON	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. Valid values: true, false Default value: false Note: This will be only used and activated when BATCHENABLED is set to true.	
Enable Batch Edit Funtionality	BATCHEDIT_ENABLED	Set to True to enable Batch Edit Funtionality Valid values: true, false	
Enable Web Services Functionality	WEBSERVICES_ENABLED	Set to True to enable Web Services Functionality	
Web Services WAR File Name	IWSWAR	Web Services WAR File Name	
JMX Enablement System User ID	BSN_JMX_SYSUSER	Example value: user This value is optional.	
JMX Enablement System Password	BSN_JMX_SYSPASS	Example value: admin Note: This value will be saved in encrypted format. This value is optional.	

Menu Option	Name Used in Documentation	Usage	Customer Value Install
RMI Port number for JMX Business	BSN_JMX_RMI_PORT_PERFORMACE	JMX Port for business application server monitoring. This needs to be set to an available port number on the machine. This value is optional.	
RMI Port number for JMX Web	WEB_JMX_RMI_PORT_PERFORMACE	JMX Port for web application server monitoring This needs to be an available port number for the environment running on the machine. This value is optional.	
GIS Service Running on the same Web Server	GIS	Geographical information (GEOCODING) - GIS Service running on the same web application server Valid values: true, false This value is optional.	
GIS Service URL	GIS_URL	This is the URL of the external web server. Note: This value will be only be used when GIS is set to true. This value is optional.	
GIS WebLogic System User ID	GIS_WLSYSUSER	GIS WebLogic System User ID Note: This value will be only be used when GIS is set to true. This value is optional.	
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 value is optional.	
Online Display Software Home	ONLINE_DISPLAY_HOME	The location of the Online Display Software installation directory. This value is optional.	
Server Express COBOL Home Directory	SERVER_EXPRESS_COBDIR	This value is optional.	

Advanced Environment Memory Configuration

```
51. Advanced Environment Memory Configuration
       JVM Child Memory Allocation:                          512
       JVM Child Additional Options:
       Web Application Java Initial Heap Size:               1024
       Web Application Java Max Heap Size:                   1024
       Web Application Java Max Perm Size:                   700500
       Web Application Additional Options:
       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:                768
       Thread Pool Worker Additional Options:
       Additional Runtime Classpath:
```

Menu Option	Name Used in Documentation	Usage	Customer Install Value
JVM Child Memory Allocation	JVMMEMORYARG	Heap size for the JVM Child. Default value: 512 This option is not applicable to ORS.	
JVM Child Additional Options	JVM_ADDITIONAL_OPT	Additional JVM options that are passed to the Child JVM. Note: For WebLogic installation only. This option is not applicable to ORS.	
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.	
Web Application Java Max Heap Size	WEB_MEMORY_OPT_MAX***	Maximum heap size for the application server. Default value: 1024 Note: For WebLogic installation only. Recommended value is 2048.	
Web Application Java Max Perm Size	WEB_MEMORY_OPT_MAXPERMSIZE***	Maximum Perm Size for the application server. Default value: 700MB (Linux, Solaris) 700MB (Windows) Note: For WebLogic installation only.	

Menu Option	Name Used in Documentation	Usage	Customer Install Value
Web Application Additional Options	WEB_ADDITIONAL_OPT***	Additional options that will be passed in to the web application server JVM. Note: For WebLogic installation only. Replace the value of SPLEBASE with the actual value. UNIX: -Xrs -XX:+ShowMessageBoxOnError -XX:+UseGCOverheadLimit -Doracle.security.jps.config=SPLEBASE/splapp/config/jps-config.xml -Ddomain.home=SPLEBASE/splapp -Doracle.domain.config.dir=SPLEBASE/splapp/config Windows: -Xrs -XX:+ShowMessageBoxOnError -XX:+UseGCOverheadLimit -Doracle.security.jps.config=SPLEBASE/splapp/config/jps-config.xml -Ddomain.home=SPLEBASE/splapp -Doracle.domain.config.dir=SPLEBASE/splapp/config AIX: -Xrs -XX:+ShowMessageBoxOnError -XX:+UseGCOverheadLimit -Doracle.security.jps.config=SPLEBASE/splapp/config/jps-config.xml -Ddomain.home=SPLEBASE/splapp -Djava.awt.headless=true -Doracle.domain.config.dir=SPLEBASE/splapp/config	
Ant Min Heap Size	ANT_OPT_MIN	Minimum Heap Size passed to ANT JVM. Default value: 200	
Ant Max Heap Size	ANT_OPT_MAX	Maximum Heap Size passed to ANT JVM. Default value: 800	
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	Minimum heap size passed to the Thread Pool Worker. Default value: 512 Recommended value is 1024.	

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. This is an optional free form field.	
Additional Runtime Classpath	ADDITIONAL_RUNTIME_CLASSPATH***	Additional Classpath Options passed in when starting the WebLogic JVM Note: For WebLogic installation only. Replace the value of SPLEBASE with the actual value. Unix: SPLEBASE/splapp/standalone/lib/commons-cli-1.1.jar:SPLEBASE/splapp/standalone/lib/log4j-1.2.15.jar:SPLEBASE/splapp/standalone/lib/ jakarta-regexp-1.5.jar Windows: SPLEBASE/splapp/standalone/lib/commons-cli-1.1.jar;SPLEBASE/splapp/standalone/lib/log4j-1.2.15.jar; SPLEBASE/splapp/standalone/lib/jakarta-regexp-1.5.jar	

Advanced Web Application Configuration

```
52. Advanced Web Application Configuration
       Web Application Cache Settings
       Socket Location Folder
       WebLogic SSL Port Number:
       Weblogic Console Port Number:
       Weblogic Additional Stop Arguments:
       Batch Cluster URL:
       Strip HTML Comments:                                  false
       Authentication Login Page Type:                       FORM
      Application Viewer Form Login Page:      loginPage.jsp
      Application Viewer Form Login Error Page:formloginPage.jsp
      Help Form Login Page: loginPage.jsp: /loginPage.jsp
      Help Form Login Error Page: /formLoginError.jsp
      Web Form Login Page:                                 /loginPage.jsp
      Web 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_L2_CACHE_MODE	Web Application Cache Settings. Applicable values are off read_write read_only	
Socket Location Folder	SPLJVMSOCKET	Socket Location Folder	

Menu Option	Name Used in Documentation	Usage	Customer Install Value
WebLogic SSL Port Number:	WEB_WLSSPORT	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. The Secure Sockets implementation is disabled in the default configuration. For Production additional actions are required. Do NOT run Production with Demo certificates Refer to the WLS installation guide - Configuring Identity and Trust When this value is populated http will be disabled. Example value: 6501 Note: For WebLogic installation only. This value is optional. If you enable the SSL port, then the https port is enabled and http port is disabled by default.	
WebLogic Console Port Number	WLS_ADMIN_PORT	The port number assigned to WebLogic Console connection. This is the port number that is used for Secure Sockets connecting to the WebLogic Console server. 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	

Menu Option	Name Used in Documentation	Usage	Customer Install Value
WebLogic Additional Stop Arguments	ADDITIONAL_STOP_WEBLOGIC***	WebLogic Additional Stop Arguments This value is required when running the WebLogic Console Port Number and the Application using SSL. Example values: -Dweblogic.security.TrustKeyStore=DemoTrust -Dweblogic.security.TrustKeystoreType=CustomTrust Note: For Production additional actions are required. Do NOT run Production with Demo certificates Refer to the WLS installation guide - Configuring Identity and Trust Note: For WebLogic installation only. This is an optional value.	
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	
Application Viewer Form Login Page	WEB_APPVIEWER_FORM_LOGIN_PAGE	Specify the jsp file used to login into the application. Default value: /loginPage.jsp	
Application Viewer Form Login Error	WEB_APPVIEWER_FORM_LOGIN_ERROR_PAGE	Specify the jsp file used to login into the application. Default value: / formLoginError.jsp	
Help Form Login Page	WEB_HELP_FORM_LOGIN_PAGE	Specify the jsp file used to login into the application. Default value: /loginPage.jsp	

Menu Option	Name Used in Documentation	Usage	Customer Install Value
Help Form Login Error Page	WEB_HELP_FORM_LOGIN_ERROR_PAGE	Specify the jsp file used to login into the application. Default value: / formLoginError.jsp	
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	
Web Security Role	WEB_PRINCIPAL_NAME	Specify the name of the security role. Default value: cisusers	
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.	
Application Viewer Principal Name	WEB_APPVIEWER_PRINCIPAL_NAME	Specify the name of the security name.	
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	

Menu Option	Name Used in Documentation	Usage	Customer Install Value
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	

Advanced Web Application Configuration

```
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 Defautlt 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	

Keystore Options

```
54. Keystore Options
    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
Store Type	KS_STORETYPE	Value used for keytool option -storetype	
Alias	KS_ALIAS	Value used for keytool option -alias	
Alias Key Algorithm	KS_ALIAS_KEYALG	Alias Key Algorithm	
Alias Key Size	KS_ALIAS_KEYSIZE	Alias Key Size	
HMAC Alias	KS_HMAC_ALIAS	Value used for keytool option -alias	
Padding	KS_PADDING	Padding Value used for encryption/ decryption	
Mode	KS_MODE Mode	Value used for encryption/decryption	

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}lOqtUzl/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_CLASS	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_OPENLDAP	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	

Oracle Real-Time Scheduler Installation and Configuration Worksheets

During the installation and configuration of the application you will need to provide a variety of system values. These worksheets will assist you in providing that information. No Customer Install Value fields should be left blank.

Note: Some web application server information will not be available until the software installation steps have been completed as described in the previous chapter dealing with installing application server pre-requisite software.

JMS Configuration

```
8. JMS Configuration
   Context Factory:        weblogic.jndi.WLInitialContextFactory
       WebLogic Server URL:
       Weblogic System User ID:
       Weblogic System Password:
       Time Out:                  120000
```

Menu Option	Name Used In Documentation	Usage	Customer Install Value
Context Factory	CONTEXTFACTORY***	JNDI Name attribute field when the Connection Factory object is created. When the Connection Factory object is loaded, JNDI provides a path to the object. Default: weblogic.jndi.WLInitialContextFactory	

Menu Option	Name Used In Documentation	Usage	Customer Install Value
WebLogic Server URL	URL***	Specify weblogic server URL in below format: t3://<host>:<web server port no> NOTE: This is the port number that is used as a part of the client URL request to connect to the host. If you enable the WebLogic console port number using the Advanced Web Application Configuration menu, then specify WebLogic server URL in the following format: t3s://<host>:<weblogic console port number> Otherwise: t3://<host>:<web server port no>	
Weblogic System User ID	WLS_USERID***	User ID to login to Admin WebLogic console. Default user ID: system	
Weblogic System Password	WLS_PASSWORD***	On the configuration step of Oracle Real-Time Scheduler install process you have to provide the same password given during Oracle Utilities Application Framework installation. This should only be done if you have changed the password on an existing system following the Oracle WebLogic instructions.	
Time Out	TIMEOUT***	JMS Configuration Timeout, in milliseconds. Default:120000	

ORS Environment Description

```
9. ORS Environment Description
      ORS Scheduler Map Files Location:
       Schedule Manager Port Number:
       Minimum Requests:                                  1
       Maximum Time (seconds) Booking Requests:           5
       Unique identifier for
       the instance of the JVM:
      Registry cleanse timing in seconds:                 900
       Scheduler connection timeout in milliseconds     300000
```

Menu Option	Name Used In Documentation	Usage	Customer Install Value
ORS Scheduler Map Files Location	MAPDIR***	Location for Map files from where scheduler will read the maps. For example: **Unix:** /ouaf/mapdir **Windows:** C:\ouaf\mapdir	
Schedule Manager Port Number	IPCSTARTPORT***	Specify the starting port number on which the application will communicate with the scheduler processes. The application will look for any available port above this number. Default: 9100	
Minimum Requests	MINREQUESTS***	Minimum request that scheduler can handle. Default: 1	
Maximum Time (seconds) Booking Requests	MAXPROCESSINGTIM***	Maximum request that scheduler can handle. Default: 5	
Unique identifier for the instance of the JVM	NODEID***	Unique id for JVM instance. For Example: Node1 Note: This has to be same as the Node ID configured in the Scheduler table in the Oracle Real-Time Scheduler application. This should be left empty if scheduler is going to be run from the standalone batch program.	
Registry cleanse timing in seconds	CLEANSE_INTERVAL***	This is the registry cleanse interval. Default: 900	
Scheduler connection timeout in milliseconds	SCHED_CONN_TIMEOUT***	Scheduler connection timeout in milliseconds. Default: 300000	

Geocode Data Source Configuration

```
10. Geocode Data Source Configuration
      JDBC URL for the Geocode database:
      Database User Name:
      Database Password:
      JNDI name for the Geocode datasource:
```

Menu Option	Name used in this Documentation	Usage	Customer Install Value
JDBC URL for Geocode Database	DBURL_GEOCODE***	Geocode database information details. For example: jdbc:oracle:thin:@localhost:1521:GEODB	
Database User Name	DBUSER_GEOCODE***	Geocode database user ID.	
Database Password	DBPASS_GEOCODE***	Geocode database password.	
JNDI name for the Geocode datasource	JNDI_GEOCODE***	JNDI name for accessing the database. For example: GEOSAMPLE	

Mapviewer Configuration

```
11. Mapviewer Configuration
       Deploy mapviewer locally on this instance:              true
       Location of mapviewer ear file:
```

Menu Option	Name used in this Documentation	Usage	Customer Install Value
Deploy mapviewer locally on this instance	MAPVIEWER_ISLOCAL***	Set this value to true for deploying mapviewer on the same WebLogic instance. Default: true	
Location of mapviewer ear file	MAPVIEWER_EAR***	This needs to point to the location of the exploded mapviewer ear directory in case mapviewer is deployed locally on the same Weblogic instance. For example: /ouaf/mapviewer/mapviewer.ear	

Security Configuration

```
12. Security Configuration
      Deploy only mobility web application:                  false
      Allow self signed SSL certificates:                    false
```

Menu Option	Name used in this Documentation	Usage	Customer Install Value
Deploy only mobility web application	MOBILITY_APP_ONLY***	Set this value to true to deploy only the mobility web application. This option can be used to expose just the mobility web application to the internet while the rest of the application runs inside a secured environment. Default: true	
Allow Self Signed SSL Certificates	ALLOW_SELFSIGNED_SSL***	Set this value to true to allow self signed SSL certificates. Default: false	

Note: *** denotes mandatory field options that are required for the product installation.

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 2.2.0.3. The patches listed below are available as a convenience rollup, ORS-v2.2.0.3.0-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.

12655477	13590951	14031557	14041244	14060897
16535383	16555312	16796398	16856170	16988199
17302917	17335688	17368287	17368315	17417310
17437263	17476261	17517924	17591437	17597598
17597773	17615392	17717722	17782943	17800066
17802274	17843874	17849576	17910758	17930543
17948308	17950954	17952946	17963305	17971113
17973498	17980168	17992633	17998187	17998487
18017320	18017508	18019745	18033305	18037182
18049320	18051717	18055168	18056717	18062613
18072916	18078205	18083939	18109222	18112287
18115752	18117209	18130703	18132851	18136611
18137262	18139433	18141665	18144536	18147812
18164113	18169148	18186632	18198530	18204962
18220265	18221507	18223615	18225471	18233168
18233184	18242229	18253154	18253693	18259634
18270274	18277216	18283900	18287159	18288104
18289765	18291614	18291643	18300703	18323364
18323555	18330463	18331092	18331603	18334251
18335807	18337995	18340470	18346736	18347676
18351753	18362779	18364208	18365321	18375959
18376516	18377981	18378042	18383825	18386558

18394093	18399934	18399979	18406240	18406654
18411368	18412922	18413143	18413339	18417428
18422248	18429782	18443811	18446673	18454203
18454424	18454805	18466506	18471976	18473816
18473934	18476044	18483566	18491431	18495142
18508446	18509871	18515432	18516332	18521727
18528939	18530421	18534676	18537889	18553396
18562125	18593305	18597480	18598989	18602288
18651827	18658819	18664077	18669481	18669516
18672300	18676588	18679958	18691074	18713952
18721031	18726939	18727281	18736173	18771468
18788618	18794326	18794468	18800877	18849123
18867981	18868029	18880050	18894494	18910899
18923262	18936956	18941531	18953690	18957549
18958681	18965501	19003591	19003699	19021458
19028029	19029405	19043522	19050588	19051079
19063865	19074072	19077517	19129123	19130798
19136986	19159969	19163528	19167676	19229838
19273814	19275283	19307435	19324392	19422587
19478493	19485432	19527442	19545951	19581883
19596485	19624059	19642517	19648633	19662689
19664111	19672494	19690698	19697312	19722704
19725816	19791036	19793745	19826819	19850499
19851778	19856980	19860385	19878866	19888892
19902364	19952220	19977490	20002374	20011710
20019375	20063105	20066558	20104313	20113520
20131510	20138116	20184216	20186157	20250561
20251195	20261532	20278436	20282983	20312504
20318225	20330760	20350889	20389586	20464260
20503945				

Appendix D

Oracle Real-Time Scheduler Fixes

The following table lists the Oracle Real-Time Scheduler fixes included in this release.

Bug Number	Description
14559311	SM ACQUIRES ACTIVITIES ON COMPLETED SHIFTS
14729918	REMOVE CALLS TO BUSINESS SERVICE M1-GETCURRENTASSIGNMENT FROM JAVA
20357340	ORS 22100 MOBILE RUNTIMES BUILD CHANGES TO BE DONE FOR JQUERY LIBS AND CM
20389453	REMOVE DEPOT-STOP UNDISPATCH HANDLING
20533521	TREAT MANDATORY COMPLEX CHAIN MEMBERS AS OPTIONAL TO ACHEIVE BETTER INSERTION
20725378	DEBUG AND TRACE FLAGS DISCREPANCY IN M2-MAINTAINUTILITYACTBYHOST IWS
20759726	UNACKNOWLEDGED EMERGENCY ALERT CLOSED PREMATURELY IF ASSIGNMENT RETURNED
20766715	EVALUATION OF THE "CREW TAKING TOO LONG ALERT" DOES NOT MATCH CREATION LOGIC
20802621	COPY BUG OF 18223195 WARNING MESSAGE "STRING TOO LONG FOR SERVICE FIELD SHIFT_ID
20810585	COPY OF BUG 20670707 - IMPROVE REQUEST PROCESSING PERFORMANCE
20816478	JAVA 8U40 CAUSES GANTT TO LOCK UP
20833983	COPY BUG FOR 18556656 - ORGANIZATION UNIT CODE COLUMN LENGTH SHOULD BE 4 CHAR
20835438	COPY BUG OF BUG 20566800 - DUPLICATE SHIFT DOESN'T RETAIN NOT ALLOWED SERVICE CL
20841417	COPY OF BUG 18720398 - MWM 2.2 MCP TEXTBOX PRECISION INCORRECT
20841695	COPY OF BUG 20585446 - M1-REQUESTSHIFTMANIFEST - INCOMPLETE/INCORRECT RESPONSE

Bug Number	Description
20842182	COPY BUG 20318752 - ERROR MESSAGES ON MWM COMPLETION SCREENS DON'T AUTO SCROLL W
20848629	COPY BUG 20410792 - CREW STATUS AND RELATED ACTION BUTTON MISSING
20852890	MERGE 2 MDT LOG TABS INTO 1 TAB
20853639	M1_END_SHIFT_LBL DESCRIPTION ERRONEOUSLY CHANGED
20853654	SHIFT START MAP USES WRONG FIELD FOR PRIMARY FUNCTION LABEL
20858398	REMOVE CUSTOM DETERMINE BO ALGORITHM CONFIGURED ON DEPLOYMENT MO
20858404	COPY BUG 18874664 - ISSUE WITH MAX CHAR LEN ALLOWED FOR ALERT CREATION THRESHOLD
20862232	EXCLUDING A CONTRACTOR - ATTEMPTS TO ADD DUPLICATE CONTRACTOR ID'S
20871764	SEPARATE LOCAL LABELS INTO A DIFFERENT FILE LABELS.JS
20878978	REQUEST ONLY SCHEDULERS SHOULD NOT REQUEST UPDATES FROM SCHEDULER
20878986	EXCEPTIONS THROWN WHEN DEPOT TASKS REMOVED
20881092	SP3 ITEM MANAGEMENT MERGE ISSUES
20892337	INCORRECT REFERENCE TO ENGLISH DESCRIPTION IN ACTIVITY DISPLAY UI LOGIC
20892362	UNACKNOWLEDGED EMERGENCY ALERT CREATION REFERS TO WRONG STATUS OF QUEUED
20893679	UNABLE TO ACCESS ANY MOBILE CLIENT FOR NEW AND OLD MCP
20894291	NOT ABLE TO GENERATE DEPLOYMENT FOR OLD MOBILE FRAMEWORK
20910529	ASSIGNMENT DISPLAY CAPACITY DISTANCE CONVERSION LOGIC LOOKS WRONG
20911405	CONNECTED MCP AUTO DETERMINE TRIES TO FETCH A RESTFUL MDT
20912138	ACTIVITY SPECIFIC ATTACHMENTS DISPLAY UI NOT OPENING
20912335	MERGE ISSUE: WRONG ASSIGNMENT BO OPTION VALUE ON DEPOT RELATED ACTIVITY
20913248	MAP IS NOT DISPLAYED IN NEW HTML5 MDT CLIENTS
20914091	CALENDAR ZONE DISPLAYS COMPATIBILITY MESSAGE
20918500	MERGE ISSUE: BARCODE ICON NOT DISPLAYED

Bug Number	Description
20918908	COMPLEX CHAINS: PERFORMANCE IMPROVEMENTS
20925069	NEW M1-DEPOTRELATEDASSIGNMENT BO NEEDS TO BE INCLUDED IN DEPOT PART
20925083	CUSTOMER DATA SHOULD NOT BE INCLUDED IN BASE OWNED DEPLOYMENT PARTS
20926429	DECLINING AN ASSIGNMENT IN RPS ASSIGNED TO A CAPACITY - RESULTS IN NOT FOUND ERR
20928535	DECLINE BUTTON DISAPPEARING IF WE MAKE ANY CHANGES ON ACTIVITY
20928915	MAP NOT BEING DISPLAYED ON ANDROID
20948274	SHOW ON MAP FUNCTIONALITY NOT WORKING ON CDI GANTT
20960069	COPY BUG OF 19222334 - WINDOW MODE NOT ACCESSIBLE FROM XAI INTERFACE
20964370	MERGE HD - DEPLOYMENT UI INCOSISTENCIES
20964396	CONVERT M1-CREWMESSAGE BO TO USE UIHINTS
20970064	M1-DPUTD BATCH NOT FETCHING DEPLOYMENT FORMATJSON
20970329	PROVISION APP URL AND ORACLEMAPPROPERTIES AS CMABLE PROPS
20970536	THERE SHOULD NOT BE A NEED TO INCLUDE LOCATIONS TO A DEPLOYMENT
20972447	BLANK ERROR MESSAGE IS DISPLAYED ON MDT WEB BROWSER
20975237	HD MESSAGE TO DEVICE - CONTEXT IS NOT POPULATED ON SOME MESSAGES
20975489	ERROR NAVIGATE TO LOG FILES TAB IN ADMIN->MDT
20980568	CREW SHIFT IS NOT COMPLETED ON SERVER SIDE
20980898	MULTIPLE MAP CONFIGURATIONS DELIVERED ARE PREVENTING SHIFT START ACTIONS(OLDMCP)
20981299	NEW M1-DEPOTTASKITEMS BO NEEDS TO BE INCLUDED IN DEPOT PART
20986514	NULL CHECK FOR DEFAULT ZOOM LEVEL AND OTHER PARAMS ARE MISSING IN CLIENT CODE
20989675	HD FILTERING USES HARDCODED TEXT "FILTER ITEMS" WHICH IS NOT TRANSLATABLE
20993089	CAN NOT CANCEL PLANNED SHIFT IN THE PAST
20994254	HD INCORRECT MOBILE LOG MESSAGES ARE SENT BY THE NEW MCP.

Bug Number	Description
20995003	CDI DEFAULT ACTIVITY SEARCH SHOULD SHOW NON FINALIZED TASKS
21020454	UNABLE TO IN ACTIVATE RESTFUL MDT'S
21021474	WINDOWS APPENDER BE IN VAIN
21021823	NOT ABLE TO SEND PANIC ALERT FROM SHIFT END PAGE
21025531	UPDATE ORS TMPL TO DEPLOY REST SERVICES WITHOUT USING WAR LIB SHIPPED WITH WLS
21030452	MULTIPLE RELAX-OPTION SELECTIONS ON CREW SHIFT CHOOSER GENERATED ERROR
21030533	UNABLE TO VIEW ROUTES IN RESOURCE ROUTE REPLAY PAGE
21031537	BUCKET RANGES TO BE IN USER FRIENDLY FORMAT
21032716	UNABLE TO ADD/EDIT/BROAD CAST TIMESHEETTYPE
21032881	UNABLE TO COMPLETE THE DEPOT ACTIVITY WHEN CUSTOMER ACCEPTANCE REQUIRED IS YES
21033504	END OF SHIFT FAILING BOTH FROM SERVER AND DEVICE
21035684	DEPLOYMENT SEARCH SHOULD SHOW DEPLOYMENT ID AS WELL AS STATUS FLAG IN RESULTS
21045289	DEPOT ACTIVITY COMPLETION ON BROWSER IF CUSTOMER ACCEPTANCE REQUIRED IS YES ON
21047779	INVALID SEQUENCE AT SHIFT STATUS TRANSITIONS
21048203	PROVISION APP URL AND ORACLEMAPPROPERTIES WHILE PREPARATION RUNTIME BUILDS
21048757	UNABLE TO LOGIN TO DEPOT CREW SHIFT IN NEW MCP
21052653	REMOVE ALL DEPRECATED SCHEDULER COMMAND LINE ARGUMENTS
21053273	UNABLE TO COMPLETE METER READ ACTIVITY WHEN READ REQUIRED IS SET TO NO
21067053	<BOSTATUS>COMPLETED</BOSTATUS> OUT BOUND MESSAGE FROM SERVER TO DEVICE
21073082	UNABLE TO VIEW DEBUG LOGS IN REMOTE CONSOLE - MDT LOG TAB
21074551	MAPS ARE NOT LOADING ON ANDROID AND LAPTOP MDT.
21074717	UNABLE TO EDIT/DELETE BUCKET CONFIGURATION WHEN THERE IS MORE THAN ONE INSTANCE
21080172	DISABLE HEADER SECURITY FILTER FOR MCPAPP
21094676	LABEL OF LOGOUT BUTTON IN ACTION MENU SHOULD BE RENAMED TO EXIT

Bug Number	Description
21096777	CUSTOM RECORDS EXIST IN DEPLOYMENT PART
21110455	UNABLE TO ADD ATTACHMENTS FROM MDT

Appendix E

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 batchcscheduler. Node ID parameter is now no longer used in v2.2.0.3 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,
   ```

   > **Note**: Whenever you run the initial setup script (InitialSetup.sh), if you wish to deploy the HTML5-based mobile client file **ORSmobileClient.war** in the

server, please follow the step mentioned in the section "Building the Mobile Application on Apache Cordova Project" in the *Oracle Real-Time Scheduler Mobile Application Installation and Deployment Guide (HTML5-based).*

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
   ```

   Note: Whenever you run the initial setup script (InitialSetup.sh), if you wish to deploy the HTML5-based mobile client file **ORSmobileClient.war** in the server, please follow the step mentioned in the section "Building the Mobile Application on Apache Cordova Project" in the *Oracle Real-Time Scheduler Mobile Application Installation and Deployment Guide (HTML5-based).*

Appendix F

User Documentation

This section provides instructions for installing the Oracle Real-Time Scheduler user documentation that is supplied with the system. Oracle Real-Time Scheduler user documentation is provided in PDF format for printing.

The documentation is also provided in HTML format located inside the Oracle Real-Time Scheduler application server installation package. It is automatically installed and can be launched from the user interface. The files are under the applications directory packaged in the file named help.war. User documentation is provided in English (ENG). The documentation material is divided into the following subdirectories underneath the language directory:

- M1: Oracle Real-Time Scheduler User Guide

- F1: Oracle Utilities Application Framework Administration and Business Process Guides

Installing Stand-Alone Online Help

You can also use the Oracle Real-Time Scheduler online help in stand-alone mode (that is, you do not have to launch it from the Oracle Real-Time Scheduler application or access it on the application server).

To install the help for stand-alone operation, copy the help.war from the Oracle Real-Time Scheduler server (environment) or from the installation package to the server or machine on which you want to access the help. If you want to copy the file from any installed environment, you can locate the file in the $SPLEBASE/splapp/applications directory on the server.

Unzip the help.war file to any directory on your machine. To launch the Oracle Real-Time Scheduler help in stand-alone mode, open the SPLHelp.html file (located inside the language directory that you wish to use).

> **Note:** Do not change the subdirectory names. The documents use relative path names to link to other documents. Changing the subdirectory names will result in broken links.

Customizing Help for Stand-Alone Operation

You can customize the SPLHelp.html file to open to the file and topic that you most frequently use. To do so, edit the SPLHelp.html file and change the DEFAULT_BOOKMARK to the desired location. The default DEFAULT_BOOKMARK is 'helpHome.html'.

Installing Stand-Alone Help Under Web Server

You can also install Oracle Real-Time Scheduler online help as a stand-alone web application. You can use any web application server, such as WebLogic. Configure the configuration file for your web application server to use web application help.

For example,

- For WebLogic, configure config.xml file for deployed application Name="help"with URI="help.war" and set WebServer DefaultWebApp="help"

Access the documentation from the browser by the following URL :

http://<host name>:<port name>/<WebContext>/<Lang>/SPLHelp.html

where <hostname>:<portname> is the URL of the web server, <Web Context> is the root web context name specified during web application server configuration, <Lang> is the name of the language directory, for example, ENG.

> **Note:** Standalone online help files are not automatically updated when changes are made to the help files on the application server. You will have to re-install the stand-alone online help files.

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