Oracle Utilities Smart Grid Gateway

Installation Guide

Release 2.1.0 Service Pack 3

E41188-06

May 2015

ORACLE

Oracle Utilities Smart Grid Gateway Installation Guide

E41188-06

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Preface

This guide describes how to install Oracle Utilities Smart Grid Gateway, including:

Audience

Oracle Utilities Smart Grid Gateway Installation Guide is intended for system administrators installing Oracle Utilities Smart Grid Gateway.

To use this document 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

The following documentation is included with this release.

Installation Guides and Release Notes

- *Product Name Release Notes*
- *Product Name Quick Install Guide*
- *Product Name Installation Guide*
- *Product Name Database Administrator's Guide*
- *Oracle Utilities Application Framework Release Notes*

Configuration and User Guides

- *Oracle Utilities Service and Measurement Data Foundation User's Guide*
- *Product Name Configuration Guide*
- *Product Name Adapter Configuration Guide*
- *Product Name Adapter User's Guide*

Framework Documents

- *Oracle Utilities Application Framework Business Process Guide*

- *Oracle Utilities Application Framework Administration Guide*

Supplemental Documents

- *Product Name Batch Server Administration Guide*
- *Product Name Server Administration Guide*
- *Product Name 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.

Acronyms

The following acronyms and terms are used in this document:

Acronym	Definition
ADF	Oracle Application Development Framework
EAR	Enterprise Archive
EJB	Enterprise JavaBeans
HTML	HyperText Markup Language
JAR	Java Archive
JDBC	Java database connectivity
JMX	Java Management Extensions
JNDI	Java Naming and Directory Interface
JSP	JavaServer Pages
JVM	Java Virtual Machine.
MPL	Multi Purpose Listener
OUAF	Oracle Utilities Application Framework
OAM	Oracle Access Manager

Acronym	Definition
OIM	Oracle Identity Management
ONS	Oracle Notification Service
OSB	Oracle Service Bus
Oracle RAC FCF	Oracle Real Application Clusters Fast Connection Failover
RMI	Remote Method Invocation
SOAP	Simple Object Access Protocol
SOA	Service-oriented architecture
SPLEBASE	The location where the application will be installed.
SPLOUTPUT	This location is used for storing batch log files and output from batch jobs
WAR	Web application Archive
WLS	WebLogic
XAIApp	XML Application Integration

Chapter 1

Introduction

This chapter provides an overview of the installation of Oracle Utilities Smart Grid Gateway. It includes the following sections:

Installation Overview

Installing Oracle Utilities Smart Grid Gateway involves the following steps:

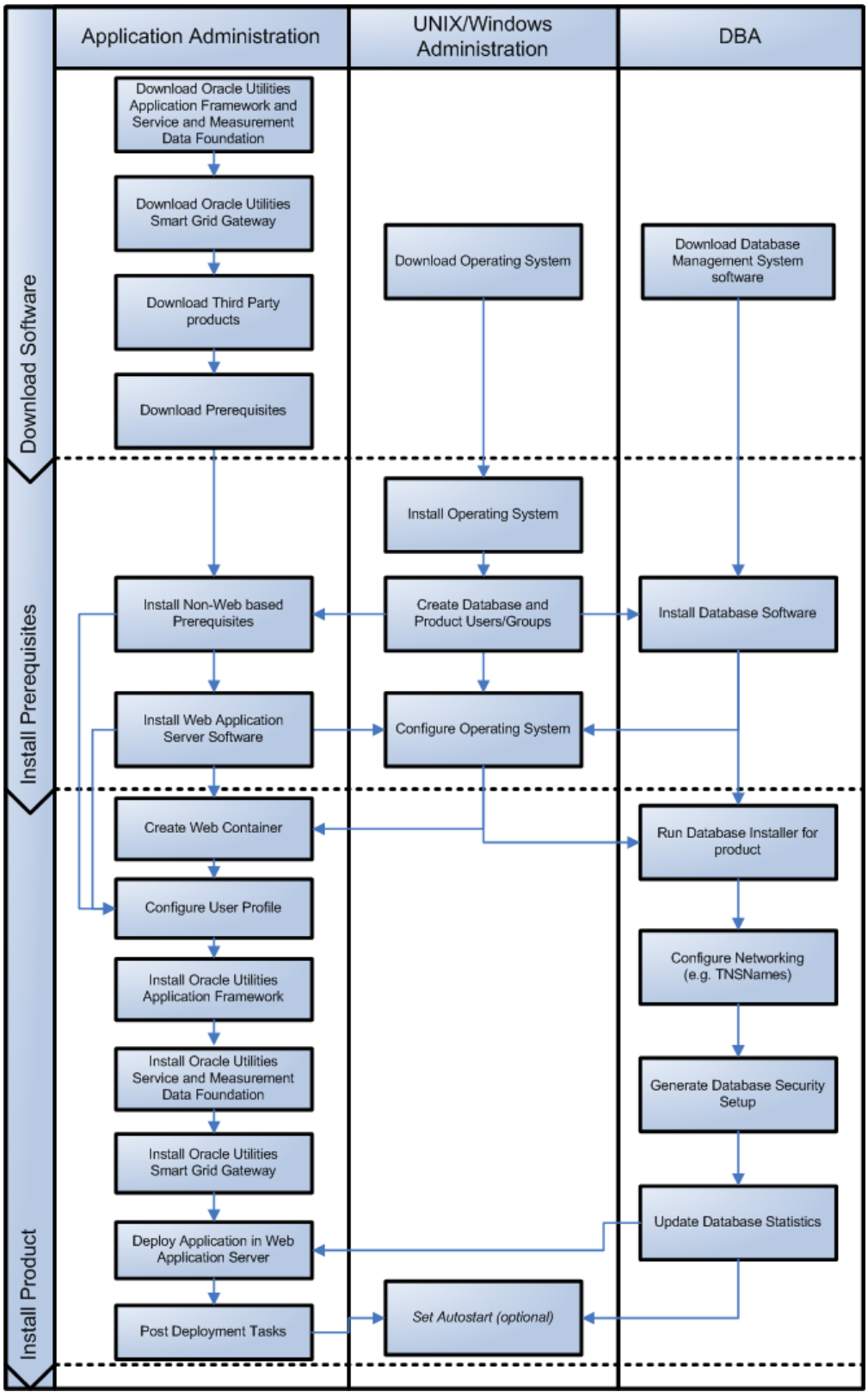
> **Note**: For installing of Oracle Utilities Service Order Management, please refer to chapter Installing Oracle Utilities Service Order Management.

1. Review the different tiers of the application architecture as described in Application Architecture.
2. Understand the hardware requirements for installing the application and the supported platforms for the application and database servers as described in Chapter 2**:** Supported Platforms and Hardware Requirements.

   > **Note:** The installation and administration of the database server tier is described in detail in the document *Oracle Utilities Smart Grid Gateway Database Administrator's Guide*.

3. Plan your installation as described in Chapter 3**:** Planning the Installation. This chapter includes lists of the required software for each supported combination of operating system and application server.
4. Install the database as described in the document *Oracle Utilities Smart Grid Gateway Database Administrator's Guide*.
5. Install all required third-party software as described in Installing Prerequisite Software. The required software is listed for each supported combination of operating system and application server.
6. Install the Oracle Utilities Application Framework.
7. Install the Oracle Utilities Service and Measurement Data Foundation for the application.
8. Install Oracle Utilities Smart Grid Gateway.
9. Complete the postinstallation and configuration tasks for your Oracle Utilities Smart Grid Gateway adapter as described in Chapter 7**:** Configuring the Oracle Utilities Smart Grid Gateway Adapters.
10. Follow the installation guidelines described in Chapter 9**:** Additional Tasks.

The following diagram provides an overview of the steps to install and configure Oracle Utilities Smart Grid Gateway:



Application Architecture

The Oracle Utilities Smart Grid Gateway application is deployed on multiple tiers.

Please see the Oracle Utilities Smart Grid Gateway *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 Utilities Smart Grid Gateway application. Note also that a desktop machine running Microsoft Windows and the Oracle client is required to perform some of the Oracle Utilities Smart Grid Gateway product installation steps.

Tier 2: Web Application Server, Business Application Server, Batch Server Tier

This tier is implemented in a web application server, business application server, or the batch 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 Utilities Smart Grid Gateway installation documentation assumes that the web application and business application servers reside together. The batch infrastructure will also run within this tier. You can have multiple batch server instances that serve the application.

Tier 3: Database, or Persistence Tier

This tier is implemented in a database server. The database server stores data maintained by the Oracle Utilities Smart Grid Gateway 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.

Installation Components

The Oracle Utilities Smart Grid Gateway product installation consists of the following components:

- Database Components:
    - Oracle Utilities Application Framework database
    - Oracle Utilities Service and Measurement Data Foundation database
    - Oracle Utilities Smart Grid Gateway database
- Application Components:
    - Oracle Utilities Application Framework application
    - Oracle Utilities Service and Measurement Data Foundation application
    - Oracle Utilities Smart Grid Gateway application

For a successful installation, you must install ALL of the above components.

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.
- Demo Installation - A base installation with pre-populated demo data, typically used for demonstration or training purposes.
- Upgrade Installation - An upgrade installation from version 2.0.0.9 or 2.1.0.1 or 2.1.0.2 to version 2.1.0.3.

Please see Recommendations for Creating a Production Environment for information about which installation type is appropriate for a production environment.

The following sections describe these installation types in detail.

Initial Installation

This installation type is applicable when installing Oracle Utilities Smart Grid Gateway 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 Utilities Smart Grid Gateway *Database Administrator's Guide* for more information.

- Application components:
  - Oracle Utilities Application Framework application
  - Oracle Utilities Application Framework Single Fix Pre-Requisite Rollup for Oracle Utilities Service and Measurement Data Foundation
  - Oracle Utilities Service and Measurement Data Foundation application
  - Oracle Utilities Smart Grid Gateway application

  See Installing Oracle Utilities Smart Grid Gateway—Initial Installation for the instructions for installing these components.

Demo Installation

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

- Demo Database components:

  Refer to the "Demo Install" section of the Oracle Utilities Smart Grid Gateway *Database Administrator's Guide* for more information.

- Application components:
  - Oracle Utilities Application Framework application
  - Oracle Utilities Application Framework Single Fix Pre-Requisite Rollup for Oracle Utilities Service and Measurement Data Foundation
  - Oracle Utilities Service and Measurement Data Foundation application
  - Oracle Utilities Smart Grid Gateway application

  See Installing Oracle Utilities Smart Grid Gateway—Demo Installation for the instructions for installing these components.

Upgrade Installation

This installation type is applicable when upgrading Oracle Utilities Smart Grid Gateway from version 2.0.0.9 or 2.1.0.1 or 2.1.0.2 to 2.1.0.3.

> **Note:** If you have a version prior to 2.0.0.9, you must upgrade to 2.0.0.9 before upgrading to 2.1.0.3. If you have version 2.1.0.0, you must upgrade to 2.1.0.1 and then to 2.1.0.3.

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

- Database components:

  Refer to the "Upgrade Install" section of the Oracle Utilities Smart Grid Gateway *Database Administrator's Guide* for more information.

- Application components:
  - Oracle Utilities Application Framework application
  - Oracle Utilities Application Framework Single Fix Pre-Requisite Rollup for Oracle Utilities Service and Measurement Data Foundation
  - Oracle Utilities Service and Measurement Data Foundation application
  - Oracle Utilities Smart Grid Gateway application

  See Installing Oracle Utilities Smart Grid Gateway—Upgrade Installation for the instructions for installing these components.

Recommendations for Creating a Production Environment

For a production environment, Oracle recommends that you use the Initial Installation installation type as described above.

If there is any custom configuration that needs to be migrated from a development or "gold" environment into production, the migration can be done by using the Configuration Migration Assistant (CMA). Please refer to the appendix "Configuration Migration Assistant" in the Oracle Utilities Smart Grid Gateway *Configuration Guide* for more details about CMA.

Oracle does not recommend creating a production environment by using the Demo Installation installation type, or by cloning an existing Demo installation.

Media Pack Components

The Oracle Utilities Smart Grid Gateway Media Pack consists of the following packages:

Documentation Packages

- *Oracle Utilities Smart Grid Gateway V2.1.0.3.0 Release Notes*
- *Oracle Utilities Smart Grid Gateway V2.1.0.3.0 Quick Install Guide*
- *Oracle Utilities Smart Grid Gateway V2.1.0.3.0 Install Documentation*
- *Oracle Utilities Smart Grid Gateway V2.1.0.3.0 User Documentation*
- *Oracle Utilities Smart Grid Gateway V2.1.0.3.0 Supplemental Documentation*
- *Oracle Utilities Service Order Management V2.1.0.3.0 User Documentation*

Installation Packages

- Oracle Utilities Application Framework V4.2.0 Service Pack 3 Multiplatform
- Oracle Utilities Application Framework V4.2.0 Service Pack 3 Single Fix Prerequisite Rollup for SMDF V2.1.0.3.0
- Oracle Utilities Service and Measurement Data Foundation V2.1.0.3.0 Multiplatform
- Oracle Utilities Smart Grid Gateway V2.1.0.3.0 Oracle Database Multiplatform
- Oracle Utilities Smart Grid Gateway MV-90 Adapter for Itron V2.1.0.3.0 Multiplatform
- Oracle Utilities Smart Grid Gateway Adapter Development Kit V2.1.0.3.0 Multiplatform
- Oracle Utilities Smart Grid Gateway Adapter for Echelon V2.1.0.3.0 Multiplatform
- Oracle Utilities Smart Grid Gateway Adapter for Itron OpenWay V2.1.0.3.0 Multiplatform
- Oracle Utilities Smart Grid Gateway Adapter for Landis+Gyr V2.1.0.3.0 Multiplatform
- Oracle Utilities Smart Grid Gateway Adapter for Sensus RNI V2.1.0.3.0 Multiplatform
- Oracle Utilities Smart Grid Gateway Adapter for Silver Spring Networks V2.1.0.3.0 Multiplatform
- Oracle Utilities Smart Grid Gateway Integration for Outage Operations Release V2.1.0.3.0
- Oracle Utilities Smart Grid Gateway Integration for MWM-SOM Release V2.1.0.3.0
- Oracle Utilities Smart Grid Gateway Integration for CC&B-SOM Release V2.1.0.3.0

Chapter 2

Supported Platforms and Hardware Requirements

This section gives an overview of the tiers on which the product is implemented, and shows each of the operating system/server combinations that the product is certified for. It 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 will Oracle Utilities Smart Grid Gateway be deployed?
- On which web server product will Oracle Utilities Smart Grid Gateway deploy?
- On which database product will Oracle Utilities Smart Grid Gateway deploy?
- Do you plan to deploy multiple Oracle Utilities Smart Grid Gateway instances on the same physical server?
- How do you plan to deploy Oracle Utilities Smart Grid Gateway?
    - Web/application/database on the same physical server
    - Web/application on one server and database on separate server
    - Each component on its own server

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 Utilities Smart Grid Gateway, as described in the rest of this chapter.

Operating Systems and Application Servers

The following table details the operating system and application server combinations on which this version of Oracle Utilities Smart Grid Gateway is supported.

Oracle Utilities Smart Grid Gateway and Adapters

Operating System and Web Browser (Client)	Operating System (Server)	Chipset	Application Server	Database
Windows 7 (Internet Explorer 8.x, 9.x, or 10.x, 11 in Compatibility Mode)	AIX 7.1 TL01	POWER 64-bit	WebLogic 10.3.6 WebLogic 12.1.3.0+*	Oracle 11.2.0.1+ Oracle 12.1.0.1+
	Oracle Linux 5.x, 6.x, 7.x 64-bit) (based on Red Hat Enterprise Linux (64-bit))**	x86_64	WebLogic 10.3.6 WebLogic 12.1.3.0+*	Oracle 11.2.0.1+ Oracle 12.1.0.1+
Windows 8.1 (Internet Explorer 11 in Compatibility Mode)	Oracle Solaris 10 (64-bit) Oracle Solaris 11 (64-bit)	SPARC	WebLogic 10.3.6 WebLogic 12.1.3.0+*	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 10.3.6 WebLogic 12.1.3.0+*	Oracle 11.2.0.1+ Oracle 12.1.0.1+

Note: Oracle Utilities Service Order Management only supports WebLogic version 10.3.6 (11gR1).

Oracle Utilities Smart Grid Gateway OSB and SOA Adapters

Adapter	Operating System (Server)	Chipset	Application Server	Database
OSB Adapters SOA Adapters (Not applicable for MV90 Adapter for Itron)	AIX 7.1 TL01	POWER 64-bit	WebLogic 10.3.6 WebLogic 12.1.3.0+*	Oracle 11.2.0.1+ Oracle 12.1.0.1+
	Oracle Linux 5.x, 6.x, 7.x (64-bit) (based on Red Hat Enterprise Linux (64-bit))**	x86_64	WebLogic 10.3.6 WebLogic 12.1.3.0+*	Oracle 11.2.0.1+ Oracle 12.1.0.1+
	Oracle Solaris 10 (64-bit) Oracle Solaris 11 (64-bit)	SPARC	WebLogic 10.3.6 WebLogic 12.1.3.0+*	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 10.3.6 WebLogic 12.1.3.0+*	Oracle 11.2.0.1+ Oracle 12.1.0.1+

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

** Oracle Utilities Smart Grid Gateway is tested and supported on the versions of Oracle Linux specified. Because Oracle Linux is 100% userspace-compatible with Red Hat Enterprise Linux, Oracle Utilities Smart Grid Gateway also is supported on Red Hat Enterprise Linux for this release.

The platforms listed above are current at the time of release. For the most current supported platforms, please refer to Oracle Utilities Product Matrix on My Oracle Support (MOS) Knowledge Article (Doc ID 1454143.1).

Hardware Requirements

Client Side 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 supports 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).

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
Install_dir Location	5 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.
Log Location	2 GB minimum	This location is used for storing batch log files and output from batch jobs. The size of this space should be influenced by which batches are run and how often, and the amount of debugging information that is collected.
Location of the application web work files on the web servers	1.5 GB minimum	This location is used by various web server vendors to expand the application. It should be considered when installing these products. Refer to the individual web server documentation to determine the location of the temporary files.
Installation Temporary Area	4 GB	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 Server

This version of Product Name is supported on Oracle Database Server 11.2.0.1+ and 12.1.0.1+ on operating systems listed in above section. The following versions of the database are supported:

- Oracle Database Enterprise Edition

  Note: Oracle Database Enterprise Edition and the Partitioning and Advanced Compression options are strongly recommended in all situations.

Oracle WebLogic Server Information

Although Oracle Utilities Smart Grid Gateway is supported only on the Oracle WebLogic application server, it can write to any JMS compliant queuing application by way of Oracle Service Bus. For more information about Oracle Service Bus, refer to the *Oracle Fusion Middleware Developers Guide for Oracle Service Bus*.

Oracle VM Support

This version of Oracle Utilities Meter Data Management 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

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 3

Planning the Installation

This chapter provides information for planning an Oracle Utilities Smart Grid Gateway installation, including:

- Before You Install
- Prerequisite Software List
- Installing Prerequisite Software
- Readiness Checklist

Before You Install

Refer to My Oracle Support for up-to-date additional information about installing Oracle Utilities Smart Grid Gateway.

Application Server Clustering

If you are considering application server clustering, refer to the following whitepapers, available on My Oracle Support, for additional information:

- Implementing Oracle ExaLogic and/or Oracle WebLogic Clustering (Doc Id: 1334558.1)
- IBM WebSphere Clustering for Oracle Utilities Application Framework (Doc Id: 1359369.1)

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

Prerequisite Software List

Before you install Oracle Utilities Smart Grid Gateway, you must install prerequisite software.

Refer to the respective installation documentation of the software for instructions on downloading and installing.

Prerequisite Software for Database Server

The prerequisite software for the database component of Oracle Utilities Smart Grid Gateway is as follows:

- **Oracle Database Server 11.2.0.1+ or 12.1.0.1+** - This is required for installing the database component of the Oracle Utilities Smart Grid Gateway product. The following version of the database server is supported:
  - Oracle Database Enterprise Edition

    Note: Oracle Database Enterprise Edition and the Partitioning and Advanced Compression options are strongly recommended in all situations.

Prerequisite Software for Application Server

The prerequisite software for the application component of Oracle Utilities Smart Grid Gateway is as follows:

- Oracle Database 11.2.0.x/ 12.1.0.1 Client
- JDK 1.6.0_25+ (64-bit)
- JDK 1.7.0_55+ (64-bit) - required for Oracle WebLogic 12c (12.1.3.0+)
- Oracle WebLogic 11gR1 (10.3.6) or 12c (12.1.3.0+)
- Hibernate 4.1.0 Final
- Oracle Service Bus 11.1.1.6.0 or 11.1.1.7.0 or 12.1.3.0+

  Oracle Service Bus is required for an implementation that plans to use a productized adapter or the Adapter Development Kit to process meter reading or device event data.

  Note: Oracle Service Bus 11.1.1.6.0 or 11.1.1.7.0 requires Oracle WebLogic Server 10.3.6. Oracle Service Bus 12.1.3.0 requires Oracle Weblogic Server 12.1.3.0+
- Oracle SOA Suite 11.1.1.6.0 or 11.1.1.7.0 or 12.1.3.0+

Oracle SOA Suite (specifically, BPEL Process Manager) is required for an implementation that plans to use a productized adapter or the Adapter Development Kit to implement two-way communications for processing meter commands.

Note: Oracle SOA Suite 11.1.1.6.0 or 11.1.1.7.0 requires Oracle WebLogic Server 10.3.6. Oracle SOA Suite 12.1.3.0+ requires Oracle WebLogic Server (12.1.3.0+).

Note: Oracle Utilities Service Order Management only supports Oracle Service Bus/Oracle SOA Suite 11.1.1.7.0

Oracle Security Fix Updates

It is recommended that you keep the Oracle prerequisite software up to date with the latest security fixes provided by Oracle.

Web Browser Requirements

The following operating system / web browser software are supported:

- Windows 7 (32-bit or 64-bit) with Internet Explorer 8.x, 9.x, or 10.x, 11
- Windows 8.1 with Internet Explorer 11

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

Installing Prerequisite Software

This chapter describes the software that needs to be installed for each of the supported operating system and application server combinations. The sections for this chapter are:

- AIX 7.1 TL01 Application Server
- Oracle Linux 5.x,6.x,7.x or Red Hat Linux 5.x,6.x,7.x Operating System
- Oracle Solaris 10 or 11 Application Server
- Windows Server 2008/2012 R2 Application Server

AIX 7.1 TL01 Application Server

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 TL01	POWER 64-bit	Oracle WebLogic 11gR1 (10.3.6) or Oracle WebLogic 12c (12.1.3.0+) 64-bit

AIX 7.1 TL01 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 Value
Oracle Utilities Smart Grid Gateway Administrator User ID	Cissys	
Oracle Utilities Smart Grid Gateway 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 user ID is the only one given access to the installed files.

1. Create a group called cisusr (user group).
2. Create a user called cissys. Primary group cisusr. Set the primary shell for the cissys user to Korn Shell.

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

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

```
set +o noclobber
```

Security Configuration

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

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

Please replace these users and groups for your installation defaults:

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

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

Oracle Client 11.2.0.x/ 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, IBM SDK, Java Technology Edition, Version 7.1

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

Hibernate 4.1.0 FINAL

You must install Hibernate 4.1.0 before installing Oracle Utilities Smart Grid Gateway.

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/
   ```

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

3. 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. Be sure to install the JDK that is supported for your platform.

4. 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
   copycopy 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) or Oracle WebLogic 12c (12.1.3.0+) 64-bit

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

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

Oracle Service Bus 11.1.1.6.0 or 11.1.1.7.0 or 12.1.3.0+

Oracle Service Bus is required for an implementation that plans to use a productized adapter or the generic adapter to process meter reading or device event data.

Note: Oracle Service Bus 11.1.1.6.0 or 11.1.1.7.0 require Oracle WebLogic Server 10.3.6. Oracle Service Bus 12.1.3.0+ requires Oracle Weblogic Server 12.1.3.0+

Oracle Service Bus must be installed prior to the installation of Oracle Utilities Smart Grid Gateway. Oracle Service Bus can be downloaded from the Oracle Fusion Middleware download web site:

http://www.oracle.com/technetwork/middleware/fusion-middleware/downloads/index.html

Oracle SOA Suite 11.1.1.6.0 or 11.1.1.7.0 or 12.1.3.0+

Oracle SOA Suite, specifically BPEL Process Manager, is required for an implementation that plans to use a productized adapter or the generic adapter to implement two-way communications for processing meter commands.

> **Note:** Oracle SOA Suite 11.1.1.6.0 or 11.1.1.7.0 require Oracle WebLogic Server 10.3.6. Oracle SOA Suite 12.1.3.0+ requires Oracle Weblogic Server 12.1.3.0+

Oracle SOA Suite must be installed prior to the installation of Oracle Utilities Smart Grid Gateway. Oracle SOA Suite can be downloaded from the Oracle Fusion Middleware download web site:

http://www.oracle.com/technetwork/middleware/fusion-middleware/downloads/index.html

Oracle Linux 5.x,6.x,7.x or Red Hat Linux 5.x,6.x,7.x Operating System

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

Supported Application Servers

Operating System	Chipsets	Application Server
Oracle Linux 5.x,6.x,7.x (64-bit) based on Red Hat Enterprise Linux (64- bit)	x86_64	Oracle WebLogic 11gR1 (10.3.6) or Oracle WebLogic 12c (12.1.3.0+) 64-bit

Oracle Linux or Red Hat Enterprise Linux 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 Value
Oracle Utilities Smart Grid Gateway Administrator User ID	Cissys	
Oracle Utilities Smart Grid Gateway 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 user ID is the only one given access to the files installed.

1. Create a group called cisusr (user group)
2. Create a user called cissys. Primary group cisusr. Set the primary shell for the cissys user to Korn Shell.

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

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

```
set +o noclobber
```

Security Configuration

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

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

Please replace these users and groups for your installation defaults:

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

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

Oracle Client 11.2.0.x/ 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 25+ and 7.0 Update 55+, 64-bit

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

http://www.oracle.com/technetwork/java/archive-139210.html

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

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

Note: JDK 7.0 Update 55+ is required for Oracle WebLogic 12.1.3.0+

Hibernate 4.1.0 FINAL

You must install Hibernate 4.1.0 before installing Oracle Utilities Smart Grid Gateway.

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/
```

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

3. 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. Be sure to install the JDK that is supported for your platform.

4. 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) or Oracle WebLogic 12c (12.1.3.0+) 64-bit

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

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

Oracle Service Bus 11.1.1.6.0 or 11.1.1.7.0 or 12.1.3.0+

Oracle Service Bus is required for an implementation that plans to use a productized adapter or the generic adapter to process meter reading or device event data.

Note: Oracle Service Bus 11.1.1.6.0 or 11.1.1.7.0 require Oracle WebLogic Server 10.3.6. Oracle Service Bus 12.1.3.0+ requires Oracle Weblogic Server 12.1.3.0+

Oracle Service Bus must be installed prior to the installation of Oracle Utilities Smart Grid Gateway. Oracle Service Bus can be downloaded from the Oracle Fusion Middleware download web site:

http://www.oracle.com/technetwork/middleware/fusion-middleware/downloads/index.html

Oracle SOA Suite 11.1.1.6.0 or 11.1.1.7.0 or 12.1.3.0+

Oracle SOA Suite, specifically BPEL Process Manager, is required for an implementation that plans to use a productized adapter or the generic adapter to implement two-way communications for processing meter commands.

> **Note:** Oracle SOA Suite 11.1.1.6.0 or 11.1.1.7.0 require Oracle WebLogic Server 10.3.6. Oracle SOA Suite 12.1.3.0+ requires Oracle Weblogic Server 12.1.3.0+

Oracle SOA Suite must be installed prior to the installation of Oracle Utilities Smart Grid Gateway. Oracle SOA Suite can be downloaded from the Oracle Fusion Middleware download web site:

http://www.oracle.com/technetwork/middleware/fusion-middleware/downloads/index.html

Oracle Solaris 10 or 11 Application Server

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

Supported Application Servers

Operating System	Chipsets	Application Server
Oracle Solaris 10 or 11 (64-bit)	SPARC	Oracle WebLogic 11gR1 (10.3.6) or Oracle WebLogic 12c (12.1.3.0+) 64-bit

Solaris 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 Value
Oracle Utilities Smart Grid Gateway Administrator User ID	Cissys	
Oracle Utilities Smart Grid Gateway 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 user ID is the only one given access to the files installed.

1. Create a group called cisusr (user group)
2. Create a user called cissys. Primary group cisusr. Set the primary shell for the cissys user to Korn Shell.

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

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

```
set +o noclobber
```

Security Configuration

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

The following users and group categories must be defined to implement this security. For demonstration purposes the following users and groups will be used. These users must be created

according to industry standards (including password policies). All users should be created with a default umask of 022 to ensure files created during normal operation have the correct permissions.

Please replace these users and groups for your installation defaults:

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

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

Oracle Client 11.2.0.x/ 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 25+ and 7.0 Update 55+, 64-bit

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

http://www.oracle.com/technetwork/java/archive-139210.html

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

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

Note: JDK 7.0 Update 55+ is required for Oracle WebLogic 12.1.3.0+

Hibernate 4.1.0 FINAL

You must install Hibernate 4.1.0 before installing Oracle Utilities Smart Grid Gateway.

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/
```

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

3. 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. Be sure to install the JDK that is supported for your platform.

4. 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) or Oracle WebLogic 12c (12.1.3.0+) 64-bit

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

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

Oracle Service Bus 11.1.1.6.0 or 11.1.1.7.0 or 12.1.3.0+

Oracle Service Bus is required for an implementation that plans to use a productized adapter or the generic adapter to process meter reading or device event data.

> **Note:** Oracle Service Bus 11.1.1.6.0 or 11.1.1.7.0 require Oracle WebLogic Server 10.3.6. Oracle Service Bus 12.1.3.0+ requires Oracle Weblogic Server 12.1.3.0+

Oracle Service Bus must be installed prior to the installation of Oracle Utilities Smart Grid Gateway. Oracle Service Bus can be downloaded from the Oracle Fusion Middleware download web site:

http://www.oracle.com/technetwork/middleware/fusion-middleware/downloads/index.html

Oracle SOA Suite 11.1.1.6.0 or 11.1.1.7.0 or 12.1.3.0+

Oracle SOA Suite, specifically BPEL Process Manager, is required for an implementation that plans to use a productized adapter or the generic adapter to implement two-way communications for processing meter commands.

> **Note:** Oracle SOA Suite 11.1.1.6.0 or 11.1.1.7.0 require Oracle WebLogic Server 10.3.6. Oracle SOA Suite 12.1.3.0+ requires Oracle Weblogic Server 12.1.3.0+

Oracle SOA Suite must be installed prior to the installation of Oracle Utilities Smart Grid Gateway. Oracle SOA Suite can be downloaded from the Oracle Fusion Middleware download web site:

http://www.oracle.com/technetwork/middleware/fusion-middleware/downloads/index.html

Windows Server 2008/2012 R2 Application Server

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 2008/2012 R2 (64-bit)	x86_64	Oracle WebLogic 11gR1 (10.3.6) or Oracle WebLogic 12c (12.1.3.0+) 64-bit

Web/Application Server Tier

Oracle Client 11.2.0.x/ 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 25+ and 7.0 Update 55+, 64-bit

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

http://www.oracle.com/technetwork/java/archive-139210.html

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

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

Note: JDK 7.0 Update 55+ is required for Oracle WebLogic 12.1.3.0+

Hibernate 4.1.0 FINAL

You must install Hibernate 4.1.0 before installing Oracle Utilities Smart Grid Gateway.

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/
   ```

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

3. 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. Be sure to install the JDK that is supported for your platform.

4. 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) or Oracle WebLogic 12c (12.1.3.0+) 64-bit

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

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

Oracle Service Bus 11.1.1.6.0 or 11.1.1.7.0 or 12.1.3.0+

Oracle Service Bus is required for an implementation that plans to use a productized adapter or the generic adapter to process meter reading or device event data.

> **Note:** Oracle Service Bus 11.1.1.6.0 or 11.1.1.7.0 require Oracle WebLogic Server 10.3.6. Oracle Service Bus 12.1.3.0+ requires Oracle Weblogic Server 12.1.3.0+

Oracle Service Bus must be installed prior to the installation of Oracle Utilities Smart Grid Gateway. Oracle Service Bus can be downloaded from the Oracle Fusion Middleware download web site:

http://www.oracle.com/technetwork/middleware/fusion-middleware/downloads/index.html

Oracle SOA Suite 11.1.1.6.0 or 11.1.1.7.0 or 12.1.3.0+

Oracle SOA Suite, specifically BPEL Process Manager, is required for an implementation that plans to use a productized adapter or the generic adapter to implement two-way communications for processing meter commands.

> **Note:** Oracle SOA Suite 11.1.1.6.0 or 11.1.1.7.0 require Oracle WebLogic Server 10.3.6. Oracle SOA Suite 12.1.3.0+ requires Oracle Weblogic Server 12.1.3.0+

Oracle SOA Suite must be installed prior to the installation of Oracle Utilities Smart Grid Gateway. Oracle SOA Suite can be downloaded from the Oracle Fusion Middleware download web site:

http://www.oracle.com/technetwork/middleware/fusion-middleware/downloads/index.html

Readiness Checklist

The following checklist guides you through the installation process of Oracle Utilities Smart Grid Gateway. The details for each step are presented in subsequent chapters.

1. Confirm that the recommended hardware is ready. Refer to Operating Systems and Application Servers for more details.
2. Install prerequisite software. Refer to the Installing Prerequisite Software for more details.
3. Ensure that you have downloaded the Oracle Utilities Smart Grid Gateway V2.1.0.3 components.
4. Go through the Appendix B**:** Installation and Configuration Worksheets to understand the configuration menu.
5. Determine the type of the installation:
   - **Initial Installation** - For initial installation follow the instructions mentioned in the Chapter 4**:** Installing Oracle Utilities Smart Grid Gateway—Initial Installation.
   - **Demo Installation** - For demo installation follow the instructions mentioned in the chapter Chapter 5**:** Installing Oracle Utilities Smart Grid Gateway—Demo Installation.
   - **Upgrade Installation** - For upgrade installation follow the instructions mentioned in the chapter Chapter 6**:** Installing Oracle Utilities Smart Grid Gateway—Upgrade Installation.
6. Perform post-installation tasks.

Chapter 4

Installing Oracle Utilities Smart Grid Gateway—Initial Installation

This chapter provides instructions for installing Oracle Utilities Smart Grid Gateway for the first time or from scratch. This chapter includes:

Before You Install

Refer to My Oracle Support for up-to-date additional information on Oracle Utilities Smart Grid Gateway.

Initial Installation Procedure

The initial installation procedure consists of:

Database Component Installation

Installation of the database component of Oracle Utilities Smart Grid Gateway must be complete before you can proceed with the following sections. Refer to the section "**Initial Install**" of the Oracle Utilities Smart Grid Gateway *Database Administrator's Guide*, which provides instructions on installing the database component.

Application Components Installation

A successful installation consists of the following steps:

- Installing the Oracle Utilities Application Framework V4.2.0 Service Pack 3 (4.2.0.3) Application Component
- Installing Oracle Utilities Application Framework V4.2.0.3 Single Fix Prerequisite Rollup for SMDF V2.1.0.3
- Installing Oracle Utilities Service and Measurement Data Foundation V2.1.0.3 Application Component
- Installing the Oracle Utilities Smart Grid Gateway Application Component

Installing the Oracle Utilities Application Framework V4.2.0 Service Pack 3 (4.2.0.3) Application Component

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

- Copying and Decompressing Install Media
- Setting Permissions for the cistab file in UNIX
- Installing the Application Component

Copying and Decompressing Install Media

The Oracle Utilities Application Framework V4.2.0 Service Pack 3 installation file is delivered in jar format for both UNIX and Windows platforms. If you are planning to install multiple Oracle Utilities Application Framework V4.2.0 Service Pack 3 environments operated by different Oracle Utilities administrator user ids, you must complete each of the following installation steps for each administrator userid.

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

1. Log in to the application server host with the Oracle Utilities Application Framework administrator user ID.
2. Download the Oracle Utilities Application Framework V4.2.0.3.0 Multiplatform from Oracle Software Delivery Cloud.
3. Create a temporary directory such as c:\ouaf\temp or /ouaf/temp. (Referred to below as <TEMPDIR>.)

   Note: This directory must be located outside any current or other working Oracle Utilities application environment. All files that are placed in this directory as a part of the installation can be deleted after completing a successful installation.
4. Copy the file FW-V4.2.0.3.0-MultiPlatform.jar from the delivered package to the <TEMPDIR>. If you are using FTP to transfer this file, remember to use the BINARY option for the FTP transfer.
5. Decompress the file:

   ```
   cd <TEMPDIR>
   jar -xvf FW-V4.2.0.3.0-MultiPlatform.jar
   ```

   Note: You will need to have Java JDK installed on the machine used to (un)jar the application server installation package. Please install the JDK that is supported for the install on your platform to be able to use the jar command. This is the location of Java packages: http://www.oracle.com/technetwork/java/archive-139210.html

A sub-directory named "FW.V4.2.0.3.0" is created. It contains the installation software for the Oracle Utilities framework application server.

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.V4.2.0.3.0 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.

Installing the Application Component

This section outlines the steps for installing the application component of Oracle Utilities Application Framework 4.2.0 Service Pack 3.

1. Login to the Application Server host as administrator (the default is cissys on UNIX) or as a user with Administrator privileges (on Windows).
2. Change directory to the <TEMPDIR>/FW.V4.2.0.3.0 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:${PERL_HOME}/lib/site_perl:<OUAF
                        Installer Decompressed location/bin/perlib>
   export PERLLIB=${PERL_HOME}/lib:${PERL_HOME}/lib/site_perl:<OUAF
                        Installer Decompressed location/bin/perlib>
   export LD_LIBRARY_PATH=${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 B: 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:
2. 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
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 (1,2,50, <P> Process, <X> Exit):
```

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

```
************************************************************
* Environment Configuration *
************************************************************
 1. Environment Description
       Environment Description:    <Mandatory>

 2. Business Application Server Configuration
       Business Server Host:       <Mandatory> - 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. You can now install Oracle Utilities Service and Measurement Data Foundation as described in the following section.

Installing Oracle Utilities Application Framework V4.2.0.3 Single Fix Prerequisite

Rollup for SMDF V2.1.0.3

1. Create a <TEMPDIR> directory on the host server that is independent of any current or other working application environment.
2. Copy the file 'SGG-V2.1.0.3.0-FW-SP3-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' file for instructions on installing the Oracle Utilities Application Framework 4.2.0 Service Pack 3 Prerequisite Single Fixes.

These patches are also available for download separately from My Oracle Support.

See Appendix E for a list of the patches contained in the rollup.

Installing Oracle Utilities Service and Measurement Data Foundation V2.1.0.3 Application Component

This section describes how to install the application component of Oracle Utilities Service and Measurement Data Foundation, including:

- Copying and Decompressing Install Media
- Installing Oracle Utilities Service and Measurement Data Foundation V2.1.0.3
- Configuration of Oracle Fusion Middleware Components on a Separate Server from Oracle Utilities Service and Measurement Data Foundation

Copying and Decompressing Install Media

The installation file is delivered in jar format for both UNIX and Windows platforms.

The Oracle Utilities Service and Measurement Data Foundation is delivered as a separate installation package. Please refer to the chapter Supported Platforms and Hardware Requirements for installation details regarding the database and operating system versions supported for the Service and Measurement Data Foundation. Also see the section Installing Prerequisite Software for prerequisite third-party software installation instructions.

Download the installation package and proceed as follows:

1. Log in to the host server as the Oracle Utilities Application Framework administrator user ID (default cissys). This is the same user ID that was used to install the Oracle Utilities Application Framework.
2. Create a <TEMPDIR> directory on the application server, which is independent of any current or other working Oracle Utilities Smart Grid Gateway application environment. This can be the same <TEMPDIR> used during the installation of the Oracle Utilities Application Framework.
3. Copy the file SMDF-V2.1.0.3.0-MultiPlatform.jar in the delivered package to a <TEMPDIR> on your application 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 SMDF-V2.1.0.3.0-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 MDF.V2.1.0.3.0 is created. The contents of the installation directory are identical for both platforms. The directory contains the install software for the application product.

Installing Oracle Utilities Service and Measurement Data Foundation V2.1.0.3

This section outlines the steps for installing the Service and Measurement Data Foundation:

Preparing for the Installation

1. Log on as Oracle Utilities Service and Measurement Data Foundation Administrator (default cissys).

2. Initialize the Framework environment that you want to install the product into.

UNIX:

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

Windows:

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

3. Stop the environment if running.

UNIX:

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

Windows:

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

Installing the Application

1. Change to the <TEMPDIR>/MDF.V2.1.0.3.0 directory.
2. Execute the script:

UNIX:

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

Windows:

```
install.cmd
```

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

The configuration menu for the Oracle Utilities Service and Measurement Data Foundation Application appears.

3. Select menu item 8 to configure OSB.

   Use the completed OSB configuration worksheet to assist you in this step. See the Installation and Configuration Worksheets.

4. Select menu item 9 to configure SOA.

   Use the completed SOA configuration worksheet to assist you in this step. See the Installation and Configuration Worksheets.

5. Select menu item 10 to configure the SOA Configuration Plan.

   Use the completed SOA Configuration Plan (MDF) worksheet to assist you in this step. See the Installation and Configuration Worksheets.

6. When you are done with the parameter setup, choose option P to proceed with the installation.

7. Change to the <TEMPDIR>/MDF.V2.1.0.3.0 directory.
8. Execute the following command:

   UNIX:

   ksh ./postinstall.sh

   Windows:

   postinstall.cmd

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

Installation of Oracle Utilities Service and Measurement Data Foundation Application Server is complete if no errors occurred during installation.

Configuration of Oracle Fusion Middleware Components on a Separate Server from Oracle Utilities Service and Measurement Data Foundation

This section applies to an Oracle Utilities Smart Grid Gateway configuration in which Oracle Service Bus (OSB) or Oracle SOA Suite is installed on a separate host from the Oracle Utilities Application Framework's host. In this configuration, the Oracle Utilities installation scripts must have access to the libraries in the OSB and SOA servers' directories to deploy OSB projects and SOA composites successfully.

Follow these procedures to configure access to a remote OSB server:

- Create a network share to the Oracle_OSB1 folder within the Middleware Home on the remote OSB server.
- Provide the following values for Menu Item 8 (OSB Configuration) during the installation for Oracle Utilities Service and Measurement Data Foundation:

  Note: Use the completed OSB configuration worksheet to assist you in this step. See the Installation and Configuration Worksheets.

  - **OSB Home** is the location of the Oracle_OSB1 folder, accessed by way of network share.
  - **OSB Host Server** is the host name of the OSB server.
  - **OSB Port Number** is the port of the SOA managed server.

Follow these procedures to configure access to a remote SOA Suite server:

- Create a network share to the Oracle_SOA1 folder within the Middleware Home on the remote SOA Suite server.
- Provide the following values for Menu Item 9 (SOA Configuration) during the installation for Oracle Utilities Service and Measurement Data Foundation.

  Note: Use the completed SOA configuration worksheet to assist you in this step. See the Installation and Configuration Worksheets.

  - **SOA Home** is the location of the Oracle_SOA1 folder, accessed by way of network share.
  - **SOA Host Server** is the host name of the SOA server.
  - **SOA Port Number** is the port of the SOA managed server.

Installing the Oracle Utilities Smart Grid Gateway Application Component

This section describes how to install the application component of Oracle Utilities Smart Grid Gateway, including:

- Installing the MV90 Adapter for Itron
- Installing the Adapter Development Kit
- Installing the Adapter for Echelon
- Installing the Adapter for Itron OpenWay
- Installing the Adapter for Landis+Gyr
- Installing the Adapter for Sensus RNI
- Installing the Adapter Silver Spring Networks

Installing the MV90 Adapter for Itron

This section describes the installation of the MV90 Adapter for Itron, including:

- Preinstallation Tasks for the MV90 Adapter
- Installing the MV90 Adapter

Preinstallation Tasks for the MV90 Adapter - This section describes the steps that should be taken before installing Oracle Utilities Smart Grid Gateway MV90 Adapter, including:

- Installation Prerequisite
- Copying and Decompressing the Installation Media
- Initializing the Service and Measurement Data Foundation

Installation Prerequisite

The Oracle Utilities Service and Measurement Data Foundation 2.1.0.3 application must be installed prior to installing Oracle Utilities Smart Grid Gateway 2.1.0.3.

Copying and Decompressing the Installation Media

The installation file is delivered in jar format for both UNIX and Windows platforms.

Oracle Utilities Smart Grid Gateway is delivered as a separate installation package. Please refer to the Supported Platforms and Hardware Requirements for versions and installation details regarding the database and operating system. Also see Installing Prerequisite Software for prerequisite third-party software installation instructions.

Download the installation package and proceed as follows:

1. Log in to the host server as the Oracle Utilities Service and Measurement Data Foundation administrator user ID (default cissys). This is the same user ID that was used to install the Oracle Utilities Service and Measurement Data Foundation.
2. Create a <TEMPDIR> directory on the host server, which is independent of any current or other working Oracle Utilities Smart Grid Gateway application environment. This can be the same <TEMPDIR> used during the installation of the Oracle Utilities Service and Measurement Data Foundation.
3. Copy the file SGG-MV90-V2.1.0.3.0-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 SGG-MV90-V2.1.0.3.0-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 subdirectory named MV90.V2.1.0.3.0 is created. The contents of the installation directory are identical for both platforms. The directory contains the install software for the application product.

Initializing the Service and Measurement Data Foundation

1. Log on as Oracle Utilities Smart Grid Gateway Administrator (default cissys).
2. Initialize the Service and Measurement Data Foundation environment that you want to install the product into.

   UNIX:

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

   Windows:

   ```
   %SPLEBASE%\bin\splenviron.cmd -e %SPLENVIRON%
   ```
3. Stop the environment if running.

   UNIX:

   ```
   $SPLEBASE/bin/spl.sh stop
   Windows:
   %SPLEBASE%\bin\spl.cmd stop
   ```

Installing the MV90 Adapter - To install the Oracle Utilities Smart Grid Gateway MV90 Adapter:

1. Change to the <TEMPDIR>/MV90.V2.1.0.3.0 directory.
2. Execute the install script:

   UNIX:

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

   Windows:

   ```
   install.cmd
   ```

   Note: On UNIX, ensure that you have the proper execute permission on install.sh.
3. Choose option P to proceed with the installation.
4. Change to the <TEMPDIR>/MV90.V2.1.0.3.0 directory
5. Execute the following command:

   UNIX:

   ```
   ksh ./postinstall.sh
   ```

   Windows:

   ```
   postinstall.cmd
   ```

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

Once the install has finished successfully, execute the postinstallation steps described in Configuration Tasks for the MV90 Adapter.

Installing the Adapter Development Kit

This section describes the installation of the Adapter Development Kit, including:

- Preinstallation Tasks for the Adapter Development Kit
- Installation Tasks for the Adapter Development Kit

Preinstallation Tasks for the Adapter Development Kit - This section describes the steps that should be taken before installing Oracle Utilities Smart Grid Gateway, including:

- Installation Prerequisite
- Copying and Decompressing the Installation Media

Installation Prerequisite

The Oracle Utilities Service and Measurement Data Foundation 2.1.0.3 application must be installed prior to installing Oracle Utilities Smart Grid Gateway 2.1.0.3.

Copying and Decompressing the Installation Media

The installation file is delivered in jar format for both UNIX and Windows platforms.

Oracle Utilities Smart Grid Gateway is delivered as a separate installation package. Please refer to the Supported Platforms and Hardware Requirements for versions and installation details regarding the database and operating system. Also see Installing Prerequisite Software for prerequisite third-party software installation instructions.

Download the installation package and proceed as follows:

1. Log in to the host server as the Oracle Utilities Service and Measurement Data Foundation administrator user ID (default cissys). This is the same user ID that was used to install the Oracle Utilities Service and Measurement Data Foundation.
2. Create a <TEMPDIR> directory on the host server, which is independent of any current or other working Oracle Utilities Smart Grid Gateway application environment. This can be the same <TEMPDIR> used during the installation of the Oracle Utilities Service and Measurement Data Foundation.
3. Copy the file SGG-DG-V2.1.0.3.0-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 SGG-DG-V2.1.0.3.0-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 subdirectory named DG.V2.1.0.3.0 is created. The contents of the installation directory are identical for both platforms. The directory contains the install software for the application product.

Installation Tasks for the Adapter Development Kit - This section describes the installation of the Adapter Development Kit, including:

- Initializing the Service and Measurement Data Foundation
- Installing the Adapter Development Kit

Initializing the Service and Measurement Data Foundation

1. Log on as Oracle Utilities Smart Grid Gateway Administrator (default cissys).
2. Initialize the Service and Measurement Data Foundation environment that you want to install the product into.

   UNIX:

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

   Windows:

   ```
   %SPLEBASE%\bin\splenviron.cmd -e %SPLENVIRON%
   ```
3. Stop the environment if running.

   UNIX:

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

   Windows:

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

Installing the Adapter Development Kit

To install the Oracle Utilities Smart Grid Gateway Adapter Development Kit:

1. Change to the <TEMPDIR>/DG.V2.1.0.3.0 directory.
2. Execute the install script:

   UNIX:

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

   Windows:

   ```
   install.cmd
   ```

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

   The configuration menu for Oracle Utilities Smart Grid Gateway appears.
3. Select menu item 21 to configure the URI of the head-end system.

   Use the completed SOA configuration worksheet to assist you in this step. See **Smart Grid Gateway Installation and Configuration Worksheets** on page 4-46.

4. When you are done setting up the parameters, choose option P to proceed with the installation.
5. Change to the <TEMPDIR>/DG.V2.1.0.3.0 directory
6. Execute the following command:

   UNIX:

   ```
   ksh ./postinstall.sh
   ```

   Windows:

   ```
   postinstall.cmd
   ```

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

   Once the install has finished successfully, execute postinstallation steps described Configuration Tasks for the Adapter Development Kit.

Installing the Adapter for Echelon

This section describes the installation of the Adapter for Echelon, including:

- Preinstallation Tasks for the Adapter for Echelon
- Installing the Adapter for Echelon

Preinstallation Tasks for the Adapter for Echelon - This section describes the steps that should be taken before installing Oracle Utilities Smart Grid Gateway, including:

- Installation Prerequisite
- Copying and Decompressing the Installation Media
- Initializing the Service and Measurement Data Foundation

Installation Prerequisite

The Oracle Utilities Service and Measurement Data Foundation 2.1.0.3 application must be installed prior to installing Oracle Utilities Smart Grid Gateway 2.1.0.3.

Copying and Decompressing the Installation Media

The installation file is delivered in jar format for both UNIX and Windows platforms.

Oracle Utilities Smart Grid Gateway is delivered as a separate installation package. Please refer to the Operating Systems and Application Serversfor versions and installation details regarding the database and operating system. Also see Installing Prerequisite Software for prerequisite third-party software installation instructions.

Download the installation package and proceed as follows:

1. Log in to the host server as the Oracle Utilities Service and Measurement Data Foundation administrator user ID (default cissys). This is the same user ID that was used to install the Oracle Utilities Service and Measurement Data Foundation.
2. Create a <TEMPDIR> directory on the host server, which is independent of any current or other working Oracle Utilities Smart Grid Gateway application environment. This can be the same <TEMPDIR> used during the installation of the Oracle Utilities Service and Measurement Data Foundation.
3. Copy the file SGG-D4-V2.1.0.3.0-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 SGG-D4-V2.1.0.3.0-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 subdirectory named D4.V2.1.0.3.0 is created. The contents of the installation directory are identical for both platforms. The directory contains the install software for the application product.

Initializing the Service and Measurement Data Foundation -

1. Log on as Oracle Utilities Smart Grid Gateway Administrator (default cissys).
2. Initialize the Service and Measurement Data Foundation environment that you want to install the product into.

   UNIX:

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

Windows:

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

3. Stop the environment if running.

   UNIX:

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

   Windows:

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

Installing the Adapter for Echelon - To install the Oracle Utilities Smart Grid Gateway Adapter for Echelon:

1. Change to the <TEMPDIR>/D4.V2.1.0.3.0 directory.
2. Execute the install script:

   UNIX:

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

   Windows:

   ```
   install.cmd
   ```

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

   The configuration menu for Oracle Utilities Smart Grid Gateway appears.

3. Select menu item 17 to configure the URI for the NES head-end system web services.

   Use the completed SOA configuration worksheet to assist you in this step. See Appendix B**:** Installation and Configuration Worksheets.

4. When you are done setting up the parameters, choose option P to proceed with the installation.
5. Change to the <TEMPDIR>/D4.V2.1.0.3.0 directory
6. Execute the following command:

   UNIX:

   ```
   ksh ./postinstall.sh
   ```

   Windows:

   ```
   postinstall.cmd
   ```

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

Once the install has finished successfully, execute postinstallation steps described in Configuration Tasks for the Adapter for Echelon.

Installing the Adapter for Itron OpenWay

This section describes the installation of the Adapter for Itron OpenWay, including:

- Preinstallation Tasks for the Adapter for Itron OpenWay
- Installation Tasks for the Adapter for Itron OpenWay

Preinstallation Tasks for the Adapter for Itron OpenWay - This section describes the steps that should be taken before installing Oracle Utilities Smart Grid Gateway, including:

- Installation Prerequisite
- Copying and Decompressing the Installation Media

Installation Prerequisite

The Oracle Utilities Service and Measurement Data Foundation 2.1.0.3 application must be installed prior to installing Oracle Utilities Smart Grid Gateway 2.1.0.3.

Copying and Decompressing the Installation Media

The installation file is delivered in jar format for both UNIX and Windows platforms.

Oracle Utilities Smart Grid Gateway is delivered as a separate installation package. Please refer to the Supported Platforms and Hardware Requirements for versions and installation details regarding the database and operating system. Also see Installing Prerequisite Software for prerequisite third-party software installation instructions.

Download the installation package and proceed as follows:

1. Log in to the host server as the Oracle Utilities Service and Measurement Data Foundation administrator user ID (default cissys). This is the same user ID that was used to install the Oracle Utilities Service and Measurement Data Foundation.
2. Create a <TEMPDIR> directory on the host server, which is independent of any current or other working Oracle Utilities Smart Grid Gateway application environment. This can be the same <TEMPDIR> used during the installation of the Oracle Utilities Service and Measurement Data Foundation.
3. Copy the file SGG-D8-V2.1.0.3.0-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 SGG-D8-V2.1.0.3.0-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 subdirectory named D8.V2.1.0.3.0 is created. The contents of the installation directory are identical for both platforms. The directory contains the install software for the application product.

Installation Tasks for the Adapter for Itron OpenWay - This section describes the installation of the Adapter for Itron OpenWay, including:

- Initializing the Service and Measurement Data Foundation
- Installing the Adapter for Itron OpenWay

Initializing the Service and Measurement Data Foundation

1. Log on as Oracle Utilities Smart Grid Gateway Administrator (default cissys).

2. Initialize the Service and Measurement Data Foundation environment that you want to install the product into.

   UNIX:

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

   Windows:

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

3. Stop the environment if running.

   UNIX:

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

   Windows:

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

Installing the Adapter for Itron OpenWay

To install the Oracle Utilities Smart Grid Gateway Adapter for Itron OpenWay:

1. Change to the <TEMPDIR>/D8.V2.1.0.3.0 directory.
2. Execute the install script:

   UNIX:

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

   Windows:

   ```
   install.cmd
   ```

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

The configuration menu for Oracle Utilities Smart Grid Gateway appears.

3. Select menu item 22 to configure the URI of the head-end system.

Use the completed SOA configuration worksheet to assist you in this step. See Appendix B: Installation and Configuration Worksheets.

4. When you are done setting up the parameters, choose option P to proceed with the installation.
5. Change to the <TEMPDIR>/D8.V2.1.0.3.0 directory
6. Execute the following command:

   UNIX:

   ```
   ksh ./postinstall.sh
   ```

   Windows:

   ```
   postinstall.cmd
   ```

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

Once the install has finished successfully, execute postinstallation steps described in Configuration Tasks for the Adapter for Itron OpenWay.

Installing the Adapter for Landis+Gyr

This section describes the installation of the Adapter for Landis+Gyr, including:

- Preinstallation Tasks for the Adapter for Landis+Gyr
- Installing the Adapter for Landis+Gyr

Preinstallation Tasks for the Adapter for Landis+Gyr - This section describes the steps that should be taken before installing Oracle Utilities Smart Grid Gateway, including:

- Installation Prerequisite
- Copying and Decompressing the Installation Media
- Initializing the Service and Measurement Data Foundation

Installation Prerequisite

The Oracle Utilities Service and Measurement Data Foundation 2.1.0.3 application must be installed prior to installing Oracle Utilities Smart Grid Gateway 2.1.0.3.

Copying and Decompressing the Installation Media

The installation file is delivered in jar format for both UNIX and Windows platforms.

Oracle Utilities Smart Grid Gateway is delivered as a separate installation package. Please refer to the Operating Systems and Application Servers for versions and installation details regarding the database and operating system. Also see Installing Prerequisite Software for prerequisite third-party software installation instructions.

Download the installation package and proceed as follows:

1. Log in to the host server as the Oracle Utilities Service and Measurement Data Foundation administrator user ID (default cissys). This is the same user ID that was used to install the Oracle Utilities Service and Measurement Data Foundation.
2. Create a <TEMPDIR> directory on the host server, which is independent of any current or other working Oracle Utilities Smart Grid Gateway application environment. This can be the same <TEMPDIR> used during the installation of the Oracle Utilities Service and Measurement Data Foundation.
3. Copy the file SGG-LG-V2.1.0.3.0-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 SGG-LG-V2.1.0.3.0-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 subdirectory named LG.V2.1.0.3.0 is created. The contents of the installation directory are identical for both platforms. The directory contains the install software for the application product.

Initializing the Service and Measurement Data Foundation

1. Log on as Oracle Utilities Smart Grid Gateway Administrator (default cissys).
2. Initialize the Service and Measurement Data Foundation environment that you want to install the product into.

   UNIX:

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

Windows:

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

3. Stop the environment if running.

   UNIX:

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

   Windows:

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

Installing the Adapter for Landis+Gyr - To install the Oracle Utilities Smart Grid Gateway Adapter for Landis+Gyr:

1. Change to the <TEMPDIR>/LG.V2.1.0.3.0 directory.
2. Execute the install script:

   UNIX:

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

   Windows:

   ```
   install.cmd
   ```

   Note: On UNIX, ensure that you have the proper execute permission on install.sh. The configuration menu for Oracle Utilities Smart Grid Gateway appears.

3. Select menu item 16 to configure the URI of the head-end system.

   Use the completed SOA configuration worksheet to assist you in this step. See Appendix B: Installation and Configuration Worksheets.

4. When you are done setting up the parameters, choose option P to proceed with the installation.
5. Change to the <TEMPDIR>/LG.V2.1.0.3.0 directory
6. Execute the following command:

   UNIX:

   ```
   ksh ./postinstall.sh
   ```

   Windows:

   ```
   postinstall.cmd
   ```

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

Once the install has finished successfully, execute postinstallation steps described in Configuration Tasks for the Adapter for Landis+Gyr.

Installing the Adapter for Sensus RNI

This section describes the installation of the Adapter for Sensus RNI, including:

- Preinstallation Tasks for the Adapter for Sensus RNI
- Installing the Adapter for Sensus RNI

Preinstallation Tasks for the Adapter for Sensus RNI - This section describes the steps that should be taken before installing Oracle Utilities Smart Grid Gateway, including:

- Installation Prerequisite
- Copying and Decompressing the Installation Media
- Initializing the Service and Measurement Data Foundation

Installation Prerequisite

The Oracle Utilities Service and Measurement Data Foundation 2.1.0.3 application must be installed prior to installing Oracle Utilities Smart Grid Gateway 2.1.0.3.

Copying and Decompressing the Installation Media

The installation file is delivered in jar format for both UNIX and Windows platforms.

Oracle Utilities Smart Grid Gateway is delivered as a separate installation package. Please refer to the Operating Systems and Application Servers for versions and installation details regarding the database and operating system. Also see Installing Prerequisite Software for prerequisite third-party software installation instructions.

Download the installation package and proceed as follows:

1. Log in to the host server as the Oracle Utilities Service and Measurement Data Foundation administrator user ID (default cissys). This is the same user ID that was used to install the Oracle Utilities Service and Measurement Data Foundation.
2. Create a <TEMPDIR> directory on the host server, which is independent of any current or other working Oracle Utilities Smart Grid Gateway application environment. This can be the same <TEMPDIR> used during the installation of the Oracle Utilities Service and Measurement Data Foundation.
3. Copy the file SGG-D6-V2.1.0.3.0-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 SGG-D6-V2.1.0.3.0-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 subdirectory named D6.V2.1.0.3.0 is created. The contents of the installation directory are identical for both platforms. The directory contains the install software for the application product.

Initializing the Service and Measurement Data Foundation

1. Log on as Oracle Utilities Smart Grid Gateway Administrator (default cissys).
2. Initialize the Service and Measurement Data Foundation environment that you want to install the product into.

   UNIX:

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

Windows:

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

3. Stop the environment if running.

   UNIX:

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

   Windows:

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

Installing the Adapter for Sensus RNI - To install the Oracle Utilities Smart Grid Gateway Adapter for Sensus RNI:

1. Change to the <TEMPDIR>/D6.V2.1.0.3.0 directory.
2. Execute the install script:

   UNIX:

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

   Windows:

   ```
   install.cmd
   ```

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

   The configuration menu for Oracle Utilities Smart Grid Gateway appears.

3. Select menu item 18 to configure the URI of the head-end system.

   Use the completed SOA configuration worksheet to assist you in this step. See Appendix B: Installation and Configuration Worksheets.

4. When you are done setting up the parameters, choose option P to proceed with the installation.
5. Change to the <TEMPDIR>/D6.V2.1.0.3.0 directory
6. Execute the following command:

   UNIX:

   ```
   ksh ./postinstall.sh
   ```

   Windows:

   ```
   postinstall.cmd
   ```

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

Once the install has finished successfully, execute postinstallation steps described in Configuration Tasks for the Adapter for Sensus RNI.

Installing the Adapter Silver Spring Networks

This section describes the installation of the Adapter for Silver Spring Networks, including:

- Preinstallation Tasks for the Adapter for Silver Spring Networks
- Installing the Adapter for Silver Spring Networks

Preinstallation Tasks for the Adapter for Silver Spring Networks - This section describes the steps that should be taken before installing Oracle Utilities Smart Grid Gateway, including:

- Installation Prerequisite
- Copying and Decompressing the Installation Media
- Initializing the Service and Measurement Data Foundation

Installation Prerequisite

The Oracle Utilities Service and Measurement Data Foundation 2.1.0.3 application must be installed prior to installing Oracle Utilities Smart Grid Gateway 2.1.0.3.

Copying and Decompressing the Installation Media

The installation file is delivered in jar format for both UNIX and Windows platforms.

Oracle Utilities Smart Grid Gateway is delivered as a separate installation package. Please refer to the Supported Platforms and Hardware Requirements for versions and installation details regarding the database and operating system. Also see Installing Prerequisite Software for prerequisite third-party software installation instructions.

Download the installation package and proceed as follows:

1. Log in to the host server as the Oracle Utilities Service and Measurement Data Foundation administrator user ID (default cissys). This is the same user ID that was used to install the Oracle Utilities Service and Measurement Data Foundation.
2. Create a <TEMPDIR> directory on the host server, which is independent of any current or other working Oracle Utilities Smart Grid Gateway application environment. This can be the same <TEMPDIR> used during the installation of the Oracle Utilities Service and Measurement Data Foundation.
3. Copy the file SGG-D7-V2.1.0.3.0-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 SGG-D7-V2.1.0.3.0-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 subdirectory named D7.V2.1.0.3.0 is created. The contents of the installation directory are identical for both platforms. The directory contains the install software for the application product.

Initializing the Service and Measurement Data Foundation

1. Log on as Oracle Utilities Smart Grid Gateway Administrator (default cissys).
2. Initialize the Service and Measurement Data Foundation environment that you want to install the product into.

   UNIX:

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

Windows:

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

3. Stop the environment if running.

   UNIX:

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

   Windows:

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

Installing the Adapter for Silver Spring Networks - To install the Oracle Utilities Smart Grid Gateway Adapter for Silver Spring Networks:

1. Change to the <TEMPDIR>/D7.V2.1.0.3.0 directory.
2. Execute the install script:

   UNIX:

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

   Windows:

   ```
   install.cmd
   ```

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

   The configuration menu for Oracle Utilities Smart Grid Gateway appears.

3. Select menu item 19 to configure the URI of the head-end system.

   Use the completed SOA configuration worksheet to assist you in this step. See Appendix B: Installation and Configuration Worksheets.

4. Select menu item 20 to configure the JMS source destination bridge.

   Use the completed SOA configuration worksheet to assist you in this step. See Appendix B: Installation and Configuration Worksheets.

5. Select menu item 70 to configure the test harness.

   Use the completed SOA configuration worksheet to assist you in this step. See Appendix B: Installation and Configuration Worksheets.

6. When you are done setting up the parameters, choose option P to proceed with the installation.
7. Change to the <TEMPDIR>/D7.V2.1.0.3.0 directory
8. Execute the following command:

   UNIX:

   ```
   ksh ./postinstall.sh
   ```

   Windows:

   ```
   postinstall.cmd
   ```

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

Once the install has finished successfully, execute post-installation steps described in Configuration Tasks for the Adapter for Silver Spring Networks.

After the Installation

After completing 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 B**:** Installation and Configuration Worksheets for details.
4. Confirm that the database is ready.
5. Start the application server. For instructions, refer to Appendix B**:** Installation and Configuration Worksheets.
6. To operate the application, refer to the following section.

Chapter 5

Installing Oracle Utilities Smart Grid Gateway—Demo Installation

This chapter provides instructions for setting up a demo application of Oracle Utilities Smart Grid Gateway for demonstration or training purposes. This chapter includes:

Before You Install

Refer to My Oracle Support for up-to-date additional information on Oracle Utilities Smart Grid Gateway.

Demo Installation Procedure

The initial installation procedure consists of:

Database Component Installation

Installation of the database component of Oracle Utilities Smart Grid Gateway must be complete before you can proceed with the following sections. Refer to the section "**Demo Install**" of the Oracle Utilities Smart Grid Gateway *Database Administrator's Guide*, which provides instructions on installing the database component.

Application Components Installation

A successful installation consists of the following steps:

- Installing the Oracle Utilities Application Framework Application V4.2.0 Service Pack 3 (4.2.0.3 Component)
- Installing Oracle Utilities Application Framework V4.2.0.3 Single Fix Prerequisite Rollup for SMDF V2.1.0.3
- Installing Oracle Utilities Service and Measurement Data Foundation V2.1.0.3 Application Component
- Installing the Oracle Utilities Smart Grid Gateway Application Component

Installing the Oracle Utilities Application Framework Application V4.2.0 Service Pack 3 (4.2.0.3 Component)

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

- Copying and Decompressing Install Media
- Setting Permissions for the cistab file in UNIX
- Installing the Application Component

Copying and Decompressing Install Media

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

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

1. Log in to the application server host with the Oracle Utilities Application Framework administrator user ID.
2. Download the Oracle Utilities Application Framework V4.2.0.3.0 Multiplatform from Oracle Software Delivery Cloud.
3. Create a temporary directory such as c:\ouaf\temp or /ouaf/temp. (Referred to below as <TEMPDIR>.)

   Note: This directory must be located outside any current or other working Oracle Utilities application environment. All files that are placed in this directory as a part of the installation can be deleted after completing a successful installation.
4. Copy the file FW-V4.2.0.3.0-MultiPlatform.jar from the delivered package to the <TEMPDIR>. If you are using FTP to transfer this file, remember to use the BINARY option for the FTP transfer.
5. Decompress the file:

   ```
   cd <TEMPDIR>
   jar -xvf FW-V4.2.0.3.0-MultiPlatform.jar
   ```

   Note: You will need to have Java JDK installed on the machine used to (un)jar the application server installation package. Please install the JDK that is supported for the install on your platform to be able to use the jar command. This is the location of Java packages: http://www.oracle.com/technetwork/java/archive-139210.html

A sub-directory named "FW.V4.2.0.3.0" is created. It contains the installation software for the Oracle Utilities framework application server.

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.V4.2.0.3.0 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.

Installing the Application Component

This section outlines the steps for installing the application component of Oracle Utilities Application Framework V4.2.0 Service Pack 3.

1. Login to the Application Server host as administrator (the default is cissys on UNIX) or as a user with Administrator privileges (on Windows).
2. Change directory to the <TEMPDIR>/FW.V4.2.0.3.0 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:${PERL_HOME}/lib/site_perl:<OUAF
                        Installer Decompressed location/bin/perlib>
   export PERLLIB=${PERL_HOME}/lib:${PERL_HOME}/lib/site_perl:<OUAF
                        Installer Decompressed location/bin/perlib>
   export LD_LIBRARY_PATH=${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 B: 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:
2. 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
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 (1,2, 50, <P> Process, <X> Exit):
```

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

```
**********************************************************
* Environment Configuration *
**********************************************************
 1. Environment Description
       Environment Description:    <Mandatory>

 2. Business Application Server Configuration
       Business Server Host:       <Mandatory> - 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. You can now install Oracle Utilities Service and Measurement Data Foundation as described in the following section.

Installing Oracle Utilities Application Framework V4.2.0.3 Single Fix Prerequisite

Rollup for SMDF V2.1.0.3

1. Create a <TEMPDIR> directory on the host server that is independent of any current or other working application environment.
2. Copy the file 'SGG-V2.1.0.3.0-FW-SP3-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' file for instructions on installing the Oracle Utilities Application Framework 4.2.0 Service Pack 3 Prerequisite Single Fixes.

These patches are also available for download separately from My Oracle Support.

See Appendix E for a list of the patches contained in the rollup.

Installing Oracle Utilities Service and Measurement Data Foundation V2.1.0.3 Application Component

This section describes how to install the application component of Oracle Utilities Service and Measurement Data Foundation, including:

- Copying and Decompressing Install Media
- Installing Oracle Utilities Service and Measurement Data Foundation V2.1.0.3
- Configuration of Oracle Fusion Middleware Components on a Separate Server from Oracle Utilities Service and Measurement Data Foundation

Copying and Decompressing Install Media

The installation file is delivered in jar format for both UNIX and Windows platforms.

The Oracle Utilities Service and Measurement Data Foundation is delivered as a separate installation package. Please refer to the chapter Supported Platforms and Hardware Requirements for installation details regarding the database and operating system versions supported for the Service and Measurement Data Foundation. Also see the section Installing Prerequisite Software for prerequisite third-party software installation instructions.

Download the installation package and proceed as follows:

1. Log in to the host server as the Oracle Utilities Application Framework administrator user ID (default cissys). This is the same user ID that was used to install the Oracle Utilities Application Framework.
2. Create a <TEMPDIR> directory on the application server, which is independent of any current or other working Oracle Utilities Smart Grid Gateway application environment. This can be the same <TEMPDIR> used during the installation of the Oracle Utilities Application Framework.
3. Copy the file SMDF-V2.1.0.3.0-MultiPlatform.jar in the delivered package to a <TEMPDIR> on your application 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 SMDF-V2.1.0.3.0-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 MDF.V2.1.0.3.0 is created. The contents of the installation directory are identical for both platforms. The directory contains the install software for the application product.

Installing Oracle Utilities Service and Measurement Data Foundation V2.1.0.3

This section outlines the steps for installing the Service and Measurement Data Foundation:

Preparing for the Installation

1. Log on as Oracle Utilities Service and Measurement Data Foundation Administrator (default cissys).

2. Initialize the Framework environment that you want to install the product into.

UNIX:

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

Windows:

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

3. Stop the environment if running.

UNIX:

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

Windows:

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

Installing the Application

1. 1. Change to the <TEMPDIR>/MDF.V2.1.0.3.0 directory.
2. 2. Execute the script:

UNIX:

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

Windows:

```
install.cmd
```

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

The configuration menu for the Oracle Utilities Service and Measurement Data Foundation Application appears.

3. Select menu item 8 to configure OSB.

   Use the completed OSB configuration worksheet to assist you in this step. See the Installation and Configuration Worksheets.

4. elect menu item 9 to configure SOA.

   Use the completed SOA configuration worksheet to assist you in this step. See the Installation and Configuration Worksheets.

5. Select menu item 10 to configure the SOA Configuration Plan.

   Use the completed SOA Configuration Plan (MDF) worksheet to assist you in this step. See the Installation and Configuration Worksheets.

6. When you are done with the parameter setup, choose option P to proceed with the installation.

7. Change to the <TEMPDIR>/MDF.V2.1.0.3.0 directory.
8. Execute the following command:

   UNIX:

   ksh ./postinstall.sh

   Windows:

   postinstall.cmd

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

Installation of Oracle Utilities Service and Measurement Data Foundation Application Server is complete if no errors occurred during installation.

Configuration of Oracle Fusion Middleware Components on a Separate Server from Oracle Utilities Service and Measurement Data Foundation

This section applies to an Oracle Utilities Smart Grid Gateway configuration in which Oracle Service Bus (OSB) or Oracle SOA Suite is installed on a separate host from the Oracle Utilities Application Framework's host. In this configuration, the Oracle Utilities installation scripts must have access to the libraries in the OSB and SOA servers' directories to deploy OSB projects and SOA composites successfully.

Follow these procedures to configure access to a remote OSB server:

- Create a network share to the Oracle_OSB1 folder within the Middleware Home on the remote OSB server.
- Provide the following values for Menu Item 8 (OSB Configuration) during the installation for Oracle Utilities Service and Measurement Data Foundation:

  Note: Use the completed OSB configuration worksheet to assist you in this step. See the Installation and Configuration Worksheets.

  - **OSB Home** is the location of the Oracle_OSB1 folder, accessed by way of network share.
  - **OSB Host Server** is the host name of the OSB server.
  - **OSB Port Number** is the port of the SOA managed server.

Follow these procedures to configure access to a remote SOA Suite server:

- Create a network share to the Oracle_SOA1 folder within the Middleware Home on the remote SOA Suite server.
- Provide the following values for Menu Item 9 (SOA Configuration) during the installation for Oracle Utilities Service and Measurement Data Foundation

  Note: Use the completed SOA configuration worksheet to assist you in this step. See the Installation and Configuration Worksheets.

  - **SOA Home** is the location of the Oracle_SOA1 folder, accessed by way of network share.
  - **SOA Host Server** is the host name of the SOA server.
  - **SOA Port Number** is the port of the SOA managed server.

Installing the Oracle Utilities Smart Grid Gateway Application Component

This section describes how to install the application component of Oracle Utilities Smart Grid Gateway, including:

- Installing the MV90 Adapter for Itron
- Installing the Adapter Development Kit

- Installing the Adapter for Echelon
- Installing the Adapter for Itron OpenWay
- Installing the Adapter for Landis+Gyr
- Installing the Adapter for Sensus RNI
- Installing the Adapter Silver Spring Networks

Installing the MV90 Adapter for Itron

This section describes the installation of the MV90 Adapter for Itron, including:

- Preinstallation Tasks for the MV90 Adapter
- Installing the MV90 Adapter

Preinstallation Tasks for the MV90 Adapter - This section describes the steps that should be taken before installing Oracle Utilities Smart Grid Gateway MV90 Adapter, including:

- Installation Prerequisite
- Copying and Decompressing the Installation Media
- Initializing the Service and Measurement Data Foundation

Installation Prerequisite

The Oracle Utilities Service and Measurement Data Foundation 2.1.0.3 application must be installed prior to installing Oracle Utilities Smart Grid Gateway 2.1.0.3.

Copying and Decompressing the Installation Media

The installation file is delivered in jar format for both UNIX and Windows platforms.

Oracle Utilities Smart Grid Gateway is delivered as a separate installation package. Please refer to the Supported Platforms and Hardware Requirements for versions and installation details regarding the database and operating system. Also see Installing Prerequisite Software for prerequisite third-party software installation instructions.

Download the installation package and proceed as follows:

1. Log in to the host server as the Oracle Utilities Service and Measurement Data Foundation administrator user ID (default cissys). This is the same user ID that was used to install the Oracle Utilities Service and Measurement Data Foundation.
2. Create a <TEMPDIR> directory on the host server, which is independent of any current or other working Oracle Utilities Smart Grid Gateway application environment. This can be the same <TEMPDIR> used during the installation of the Oracle Utilities Service and Measurement Data Foundation.
3. Copy the file SGG-MV90-V2.1.0.3.0-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 SGG-MV90-V2.1.0.3.0-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 subdirectory named MV90.V2.1.0.3.0 is created. The contents of the installation directory are identical for both platforms. The directory contains the install software for the application product.

Initializing the Service and Measurement Data Foundation

1. Log on as Oracle Utilities Smart Grid Gateway Administrator (default cissys).
2. Initialize the Service and Measurement Data Foundation environment that you want to install the product into.

   UNIX:

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

   Windows:

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

3. Stop the environment if running.

   UNIX:

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

   Windows:

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

Installing the MV90 Adapter - To install the Oracle Utilities Smart Grid Gateway MV90 Adapter:

1. Change to the <TEMPDIR>/MV90.V2.1.0.3.0 directory.
2. Execute the install script:

   UNIX:

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

   Windows:

   ```
   install.cmd
   ```

   Note: On UNIX, ensure that you have the proper execute permission on install.sh.
3. Choose option P to proceed with the installation.
4. Change to the <TEMPDIR>/MV90.V2.1.0.3.0 directory
5. Execute the following command:

   UNIX:

   ```
   ksh ./postinstall.sh
   ```

   Windows:

   ```
   postinstall.cmd
   ```

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

Once the install has finished successfully, execute the postinstallation steps described in Configuration Tasks for the MV90 Adapter.

Installing the Adapter Development Kit

This section describes the installation of the Adapter Development Kit, including:

- Preinstallation Tasks for the Adapter Development Kit
- Installation Tasks for the Adapter Development Kit

Preinstallation Tasks for the Adapter Development Kit - This section describes the steps that should be taken before installing Oracle Utilities Smart Grid Gateway, including:

- Installation Prerequisite
- Copying and Decompressing the Installation Media

Installation Prerequisite

The Oracle Utilities Service and Measurement Data Foundation 2.1.0.3 application must be installed prior to installing Oracle Utilities Smart Grid Gateway 2.1.0.3.

Copying and Decompressing the Installation Media

The installation file is delivered in jar format for both UNIX and Windows platforms.

Oracle Utilities Smart Grid Gateway is delivered as a separate installation package. Please refer to the Supported Platforms and Hardware Requirements for versions and installation details regarding the database and operating system. Also see Installing Prerequisite Software for prerequisite third-party software installation instructions.

Download the installation package and proceed as follows:

1. Log in to the host server as the Oracle Utilities Service and Measurement Data Foundation administrator user ID (default cissys). This is the same user ID that was used to install the Oracle Utilities Service and Measurement Data Foundation.
2. Create a <TEMPDIR> directory on the host server, which is independent of any current or other working Oracle Utilities Smart Grid Gateway application environment. This can be the same <TEMPDIR> used during the installation of the Oracle Utilities Service and Measurement Data Foundation.
3. Copy the file SGG-DG-V2.1.0.3.0-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 SGG-DG-V2.1.0.3.0-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 subdirectory named DG.V2.1.0.3.0 is created. The contents of the installation directory are identical for both platforms. The directory contains the install software for the application product.

Installation Tasks for the Adapter Development Kit - This section describes the installation of the Adapter Development Kit, including:

- Initializing the Service and Measurement Data Foundation
- Installing the Adapter Development Kit

Initializing the Service and Measurement Data Foundation

1. Log on as Oracle Utilities Smart Grid Gateway Administrator (default cissys).
2. Initialize the Service and Measurement Data Foundation environment that you want to install the product into.

   UNIX:

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

   Windows:

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

3. Stop the environment if running.

UNIX:

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

Windows:

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

Installing the Adapter Development Kit

To install the Oracle Utilities Smart Grid Gateway Adapter Development Kit:

1. Change to the <TEMPDIR>/DG.V2.1.0.3.0 directory.
2. Execute the install script:

UNIX:

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

Windows:

```
install.cmd
```

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

The configuration menu for Oracle Utilities Smart Grid Gateway appears.

3. Select menu item 21 to configure the URI of the head-end system.

Use the completed SOA configuration worksheet to assist you in this step. See Smart Grid Gateway Installation and Configuration Worksheets.

4. When you are done setting up the parameters, choose option P to proceed with the installation.
5. Change to the <TEMPDIR>/DG.V2.1.0.3.0 directory
6. Execute the following command:

UNIX:

```
ksh ./postinstall.sh
```

Windows:

```
postinstall.cmd
```

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

Once the install has finished successfully, execute postinstallation steps described Configuration Tasks for the Adapter Development Kit.

Installing the Adapter for Echelon

This section describes the installation of the Adapter for Echelon, including:

- Preinstallation Tasks for the Adapter for Echelon
- Installing the Adapter for Echelon

Preinstallation Tasks for the Adapter for Echelon - This section describes the steps that should be taken before installing Oracle Utilities Smart Grid Gateway, including:

- Installation Prerequisite
- Copying and Decompressing the Installation Media
- Initializing the Service and Measurement Data Foundation

Installation Prerequisite

The Oracle Utilities Service and Measurement Data Foundation 2.1.0.3 application must be installed prior to installing Oracle Utilities Smart Grid Gateway 2.1.0.3.

Copying and Decompressing the Installation Media

The installation file is delivered in jar format for both UNIX and Windows platforms.

Oracle Utilities Smart Grid Gateway is delivered as a separate installation package. Please refer to the Operating Systems and Application Serversfor versions and installation details regarding the database and operating system. Also see Installing Prerequisite Software for prerequisite third-party software installation instructions.

Download the installation package and proceed as follows:

1. Log in to the host server as the Oracle Utilities Service and Measurement Data Foundation administrator user ID (default cissys). This is the same user ID that was used to install the Oracle Utilities Service and Measurement Data Foundation.
2. Create a <TEMPDIR> directory on the host server, which is independent of any current or other working Oracle Utilities Smart Grid Gateway application environment. This can be the same <TEMPDIR> used during the installation of the Oracle Utilities Service and Measurement Data Foundation.
3. Copy the file SGG-D4-V2.1.0.3.0-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 SGG-D4-V2.1.0.3.0-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 subdirectory named D4.V2.1.0.3.0 is created. The contents of the installation directory are identical for both platforms. The directory contains the install software for the application product.

Initializing the Service and Measurement Data Foundation

To initialize the Service and Measurement Data Foundation:

1. Log on as Oracle Utilities Smart Grid Gateway Administrator (default cissys).
2. Initialize the Service and Measurement Data Foundation environment that you want to install the product into.

   UNIX:

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

   Windows:

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

3. Stop the environment if running.

   UNIX:

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

   Windows:

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

Installing the Adapter for Echelon - To install the Oracle Utilities Smart Grid Gateway Adapter for Echelon:

1. Change to the <TEMPDIR>/D4.V2.1.0.3.0 directory.
2. Execute the install script:

   UNIX:

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

   Windows:

   ```
   install.cmd
   ```

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

   The configuration menu for Oracle Utilities Smart Grid Gateway appears.
3. Select menu item 17 to configure the URI for the NES head-end system web services.

   Use the completed SOA configuration worksheet to assist you in this step. See Appendix B**:** Installation and Configuration Worksheets.
4. When you are done setting up the parameters, choose option P to proceed with the installation.
5. Change to the <TEMPDIR>/D4.V2.1.0.3.0 directory
6. Execute the following command:

   UNIX:

   ```
   ksh ./postinstall.sh
   ```

   Windows:

   ```
   postinstall.cmd
   ```

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

Once the install has finished successfully, execute postinstallation steps described in Configuration Tasks for the Adapter for Echelon.

Installing the Adapter for Itron OpenWay

This section describes the installation of the Adapter for Itron OpenWay, including:

- Preinstallation Tasks for the Adapter for Itron OpenWay
- Installation Tasks for the Adapter for Itron OpenWay

Preinstallation Tasks for the Adapter for Itron OpenWay - This section describes the steps that should be taken before installing Oracle Utilities Smart Grid

Gateway, including:

- Installation Prerequisite
- Copying and Decompressing the Installation Media

Installation Prerequisite

The Oracle Utilities Service and Measurement Data Foundation 2.1.0.3 application must be installed prior to installing Oracle Utilities Smart Grid Gateway 2.1.0.3.

Copying and Decompressing the Installation Media

The installation file is delivered in jar format for both UNIX and Windows platforms.

Oracle Utilities Smart Grid Gateway is delivered as a separate installation package. Please refer to the Supported Platforms and Hardware Requirements for versions and installation details regarding the database and operating system. Also see Installing Prerequisite Software for prerequisite third-party software installation instructions.

Download the installation package and proceed as follows:

1. Log in to the host server as the Oracle Utilities Service and Measurement Data Foundation administrator user ID (default cissys). This is the same user ID that was used to install the Oracle Utilities Service and Measurement Data Foundation.
2. Create a <TEMPDIR> directory on the host server, which is independent of any current or other working Oracle Utilities Smart Grid Gateway application environment. This can be the same <TEMPDIR> used during the installation of the Oracle Utilities Service and Measurement Data Foundation.
3. Copy the file SGG-D8-V2.1.0.3.0-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 SGG-D8-V2.1.0.3.0-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 subdirectory named D8.V2.1.0.3.0 is created. The contents of the installation directory are identical for both platforms. The directory contains the install software for the application product.

Installation Tasks for the Adapter for Itron OpenWay - This section describes the installation of the Adapter for Itron OpenWay, including:

- Initializing the Service and Measurement Data Foundation
- Installing the Adapter for Itron OpenWay

Initializing the Service and Measurement Data Foundation

1. Log on as Oracle Utilities Smart Grid Gateway Administrator (default cissys).

2. Initialize the Service and Measurement Data Foundation environment that you want to install the product into.

   UNIX:

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

   Windows:

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

3. Stop the environment if running.

   UNIX:

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

   Windows:

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

Installing the Adapter for Itron OpenWay

To install the Oracle Utilities Smart Grid Gateway Adapter for Itron OpenWay:

1. Change to the <TEMPDIR>/D8.V2.1.0.3.0 directory.

2. Execute the install script:

   UNIX:

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

   Windows:

   ```
   install.cmd
   ```

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

The configuration menu for Oracle Utilities Smart Grid Gateway appears.

3. Select menu item 22 to configure the URI of the head-end system.

Use the completed SOA configuration worksheet to assist you in this step. See Appendix B: Installation and Configuration Worksheets on page 4-46.

4. When you are done setting up the parameters, choose option P to proceed with the installation.

5. Change to the <TEMPDIR>/D8.V2.1.0.3.0 directory

6. Execute the following command:

   UNIX:

   ```
   ksh ./postinstall.sh
   ```

   Windows:

   ```
   postinstall.cmd
   ```

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

Once the install has finished successfully, execute postinstallation steps described in Configuration Tasks for the Adapter for Itron OpenWay.

Installing the Adapter for Landis+Gyr

This section describes the installation of the Adapter for Landis+Gyr, including:

- Preinstallation Tasks for the Adapter for Landis+Gyr
- Installing the Adapter for Landis+Gyr

Preinstallation Tasks for the Adapter for Landis+Gyr - This section describes the steps that should be taken before installing Oracle Utilities Smart Grid Gateway, including:

- Installation Prerequisite
- Copying and Decompressing the Installation Media
- Initializing the Service and Measurement Data Foundation

Installation Prerequisite

The Oracle Utilities Service and Measurement Data Foundation 2.1.0.3 application must be installed prior to installing Oracle Utilities Smart Grid Gateway 2.1.0.3.

Copying and Decompressing the Installation Media

The installation file is delivered in jar format for both UNIX and Windows platforms.

Oracle Utilities Smart Grid Gateway is delivered as a separate installation package. Please refer to the Operating Systems and Application Servers for versions and installation details regarding the database and operating system. Also see Installing Prerequisite Software for prerequisite third-party software installation instructions.

Download the installation package and proceed as follows:

1. Log in to the host server as the Oracle Utilities Service and Measurement Data Foundation administrator user ID (default cissys). This is the same user ID that was used to install the Oracle Utilities Service and Measurement Data Foundation.
2. Create a <TEMPDIR> directory on the host server, which is independent of any current or other working Oracle Utilities Smart Grid Gateway application environment. This can be the same <TEMPDIR> used during the installation of the Oracle Utilities Service and Measurement Data Foundation.
3. Copy the file SGG-LG-V2.1.0.3.0-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 SGG-LG-V2.1.0.3.0-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 subdirectory named LG.V2.1.0.3.0 is created. The contents of the installation directory are identical for both platforms. The directory contains the install software for the application product.

Initializing the Service and Measurement Data Foundation

1. Log on as Oracle Utilities Smart Grid Gateway Administrator (default cissys).
2. Initialize the Service and Measurement Data Foundation environment that you want to install the product into.

   UNIX:

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

Windows:

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

3. Stop the environment if running.

   UNIX:

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

   Windows:

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

Installing the Adapter for Landis+Gyr - To install the Oracle Utilities Smart Grid Gateway Adapter for Landis+Gyr:

1. Change to the <TEMPDIR>/LG.V2.1.0.3.0 directory.
2. Execute the install script:

   UNIX:

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

   Windows:

   ```
   install.cmd
   ```

   Note: On UNIX, ensure that you have the proper execute permission on install.sh. The configuration menu for Oracle Utilities Smart Grid Gateway appears.

3. Select menu item 16 to configure the URI of the head-end system.

   Use the completed SOA configuration worksheet to assist you in this step. See Appendix B: Installation and Configuration Worksheets.

4. When you are done setting up the parameters, choose option P to proceed with the installation.
5. Change to the <TEMPDIR>/LG.V2.1.0.3.0 directory
6. Execute the following command:

   UNIX:

   ```
   ksh ./postinstall.sh
   ```

   Windows:

   ```
   postinstall.cmd
   ```

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

Once the install has finished successfully, execute postinstallation steps described in Configuration Tasks for the Adapter for Landis+Gyr.

Installing the Adapter for Sensus RNI

This section describes the installation of the Adapter for Sensus RNI, including:

- Preinstallation Tasks for the Adapter for Sensus RNI
- Installing the Adapter for Sensus RNI

Preinstallation Tasks for the Adapter for Sensus RNI - This section describes the steps that should be taken before installing Oracle Utilities Smart Grid Gateway, including:

- Installation Prerequisite
- Copying and Decompressing the Installation Media
- Initializing the Service and Measurement Data Foundation

Installation Prerequisite

The Oracle Utilities Service and Measurement Data Foundation 2.1.0.3 application must be installed prior to installing Oracle Utilities Smart Grid Gateway 2.1.0.3.

Copying and Decompressing the Installation Media

The installation file is delivered in jar format for both UNIX and Windows platforms.

Oracle Utilities Smart Grid Gateway is delivered as a separate installation package. Please refer to the Operating Systems and Application Servers for versions and installation details regarding the database and operating system. Also see Installing Prerequisite Software for prerequisite third-party software installation instructions.

Download the installation package and proceed as follows:

1. Log in to the host server as the Oracle Utilities Service and Measurement Data Foundation administrator user ID (default cissys). This is the same user ID that was used to install the Oracle Utilities Service and Measurement Data Foundation.
2. Create a <TEMPDIR> directory on the host server, which is independent of any current or other working Oracle Utilities Smart Grid Gateway application environment. This can be the same <TEMPDIR> used during the installation of the Oracle Utilities Service and Measurement Data Foundation.
3. Copy the file SGG-D6-V2.1.0.3.0-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 SGG-D6-V2.1.0.3.0-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 subdirectory named D6.V2.1.0.3.0 is created. The contents of the installation directory are identical for both platforms. The directory contains the install software for the application product.

Initializing the Service and Measurement Data Foundation

1. Log on as Oracle Utilities Smart Grid Gateway Administrator (default cissys).
2. Initialize the Service and Measurement Data Foundation environment that you want to install the product into.

   UNIX:

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

Windows:

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

3. Stop the environment if running.

   UNIX:

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

   Windows:

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

Installing the Adapter for Sensus RNI - To install the Oracle Utilities Smart Grid Gateway Adapter for Sensus RNI:

1. Change to the <TEMPDIR>/D6.V2.1.0.3.0 directory.
2. Execute the install script:

   UNIX:

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

   Windows:

   ```
   install.cmd
   ```

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

   The configuration menu for Oracle Utilities Smart Grid Gateway appears.

3. Select menu item 18 to configure the URI of the head-end system.

   Use the completed SOA configuration worksheet to assist you in this step. See Appendix B: Installation and Configuration Worksheets.

4. When you are done setting up the parameters, choose option P to proceed with the installation.
5. Change to the <TEMPDIR>/D6.V2.1.0.3.0 directory
6. Execute the following command:

   UNIX:

   ```
   ksh ./postinstall.sh
   ```

   Windows:

   ```
   postinstall.cmd
   ```

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

Once the install has finished successfully, execute postinstallation steps described in Configuration Tasks for the Adapter for Sensus RNI.

Installing the Adapter Silver Spring Networks

This section describes the installation of the Adapter for Silver Spring Networks, including:

- Preinstallation Tasks for the Adapter for Silver Spring Networks
- Installing the Adapter for Silver Spring Networks

Preinstallation Tasks for the Adapter for Silver Spring Networks - This section describes the steps that should be taken before installing Oracle Utilities Smart Grid Gateway, including:

- Installation Prerequisite
- Copying and Decompressing the Installation Media
- Initializing the Service and Measurement Data Foundation

Installation Prerequisite

The Oracle Utilities Service and Measurement Data Foundation 2.1.0.3 application must be installed prior to installing Oracle Utilities Smart Grid Gateway 2.1.0.3.

Copying and Decompressing the Installation Media

The installation file is delivered in jar format for both UNIX and Windows platforms.

Oracle Utilities Smart Grid Gateway is delivered as a separate installation package. Please refer to the Supported Platforms and Hardware Requirements for versions and installation details regarding the database and operating system. Also see Installing Prerequisite Software for prerequisite third-party software installation instructions.

Download the installation package and proceed as follows:

1. Log in to the host server as the Oracle Utilities Service and Measurement Data Foundation administrator user ID (default cissys). This is the same user ID that was used to install the Oracle Utilities Service and Measurement Data Foundation.
2. Create a <TEMPDIR> directory on the host server, which is independent of any current or other working Oracle Utilities Smart Grid Gateway application environment. This can be the same <TEMPDIR> used during the installation of the Oracle Utilities Service and Measurement Data Foundation.
3. Copy the file SGG-D7-V2.1.0.3.0-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 SGG-D7-V2.1.0.3.0-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 subdirectory named D7.V2.1.0.3.0 is created. The contents of the installation directory are identical for both platforms. The directory contains the install software for the application product.

Initializing the Service and Measurement Data Foundation

1. Log on as Oracle Utilities Smart Grid Gateway Administrator (default cissys).
2. Initialize the Service and Measurement Data Foundation environment that you want to install the product into.

   UNIX:

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

Windows:

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

3. Stop the environment if running.

   UNIX:

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

   Windows:

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

Installing the Adapter for Silver Spring Networks - To install the Oracle Utilities Smart Grid Gateway Adapter for Silver Spring Networks:

1. Change to the <TEMPDIR>/D7.V2.1.0.3.0 directory.
2. Execute the install script:

   UNIX:

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

   Windows:

   ```
   install.cmd
   ```

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

   The configuration menu for Oracle Utilities Smart Grid Gateway appears.

3. Select menu item 19 to configure the URI of the head-end system.

   Use the completed SOA configuration worksheet to assist you in this step. See Appendix B: Installation and Configuration Worksheets.

4. Select menu item 20 to configure the JMS source destination bridge.

   Use the completed SOA configuration worksheet to assist you in this step. See Appendix B: Installation and Configuration Worksheets.

5. Select menu item 70 to configure the test harness.

   Use the completed SOA configuration worksheet to assist you in this step. See Appendix B: Installation and Configuration Worksheets.

6. When you are done setting up the parameters, choose option P to proceed with the installation.
7. Change to the <TEMPDIR>/D7.V2.1.0.3.0 directory
8. Execute the following command:

   UNIX:

   ```
   ksh ./postinstall.sh
   ```

   Windows:

   ```
   postinstall.cmd
   ```

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

Once the install has finished successfully, execute postinstallation steps described in Configuration Tasks for the Adapter for Silver Spring Networks.

After the Installation

After completing 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 B**:** Installation and Configuration Worksheets for details.
4. Confirm that the database is ready.
5. Start the application server. For instructions, refer to Appendix B**:** Installation and Configuration Worksheets.
6. To operate the application, refer to the following section.

Chapter 6

Installing Oracle Utilities Smart Grid Gateway—Upgrade Installation

This chapter provides instructions for upgrading Oracle Utilities Smart Grid Gateway v2.0.0.9 or v2.1.0.1 or v2.1.0.2 to version Oracle Utilities Smart Grid Gateway 2.1.0.3.

> **Note**: If you have a version prior to 2.0.0.9, you must upgrade to 2.0.0.9 before upgrading to 2.1.0.3. If you have version 2.1.0.0, you must upgrade to 2.1.0.1 and then to 2.1.0.3.

This chapter includes:

Before You Upgrade

Review the list of operating system, application server and database server combinations that this version of Oracle Utilities Smart Grid Gateway is certified to operate on, in the Supported Platforms and Hardware Requirements.

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

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

Upgrade Procedure

The upgrade installation procedure consists of:

Database Component Upgrade

Upgrade of the database component of Oracle Utilities Smart Grid Gateway must be complete before you can proceed with the following sections. Refer to the section "**Upgrade Install**" of the Oracle Utilities Smart Grid Gateway *Database Administrator's Guide*, which provides instructions on upgrading the database component.

Application Components Upgrade

A successful upgrade consists of the following steps:

- Upgrading the Oracle Utilities Application Framework Application Component to V4.2.0 Service Pack 3
- Installing Oracle Utilities Application Framework V4.2.0.3 Single Fix Prerequisite Rollup for SMDF V2.1.0.3
- Upgrading the Oracle Utilities Service and Measurement Data Foundation Application Component to V2.1.0.3
- Upgrading the Oracle Utilities Smart Grid Gateway Application Component

Upgrading the Oracle Utilities Application Framework Application Component to V4.2.0 Service Pack 3

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

- Copying and Decompressing Install Media
- Setting Permissions for the cistab file in UNIX
- Upgrading the Application Component Over Oracle Utilities Smart Grid GatewayV2.0.0.9
- Upgrading the Application Component Over Oracle Utilities Smart Grid Gateway V2.1.0.1 or V2.1.0.2

Copying and Decompressing Install Media

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

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

1. Log in to the application server host with the Oracle Utilities Application Framework administrator user ID.
2. Download the Oracle Utilities Application Framework V4.2.0.2 Multiplatform from Oracle Software Delivery Cloud.
3. Create a temporary directory such as c:\ouaf\temp or /ouaf/temp. (Referred to below as <TEMPDIR>.)

   Note: This directory must be located outside any current or other working Oracle Utilities application environment. All files that are placed in this directory as a part of the installation can be deleted after completing a successful installation.
4. Copy the file FW-V4.2.0.3.0-MultiPlatform.jar from the delivered package to the <TEMPDIR>. If you are using FTP to transfer this file, remember to use the BINARY option for the FTP transfer.
5. Decompress the file:

   ```
   cd <TEMPDIR>
   jar -xvf FW-V4.2.0.3.0-MultiPlatform.jar
   ```

   Note: You will need to have Java JDK installed on the machine used to (un)jar the application server installation package. Please install the JDK that is supported for the install on your platform to be able to use the jar command. This is the location of Java packages: http://www.oracle.com/technetwork/java/archive-139210.html

A sub-directory named "FW.V4.2.0.3.0" is created. It contains the installation software for the Oracle Utilities framework application server.

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 upgrade process. The installation utility does not create a backup of existing environment.

Upgrading the Application Component Over Oracle Utilities Smart Grid GatewayV2.0.0.9

This section outlines the steps for upgrading the application component of Oracle Utilities Application Framework over Oracle Utilities Smart Grid Gateway 2.0.0.9.

> **Note:** Customers who have a version prior to 2.0.0.9 must install 2.0.0.9 before upgrading to 2.1.0.3

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

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

   where <install_dir> is the location where the Oracle Utilities Service and Measurement Data Foundation Base application component is installed.
3. Initialize the environment by running the appropriate command:

   UNIX:

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

   Windows:

   ```
   splenviron.cmd -e <ENV NAME>
   ```
4. Stop the environment, if running:

   UNIX:

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

   Windows:

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

5. Change directory to the <TEMP_DIR>/FWV4.2.0.3.0 directory.

   NOTE: While installing the FW V4.2.0.3 from the previous environment V2.0.0.9 to V2.1.0.3, the install utility removes the existing environment and re-creates the environment. Make a backup before you proceed with installing FW V4.2.0.3 to retain any configurations for future reference.

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

   UNIX:

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

   Windows:

   ```
   install.cmd
   ```

7. The Oracle Utilities Application Framework specific menu appears.

8. Follow the messages and instructions that are produced by the application installation utility.

9. Select each menu item to configure the values. For detailed description of the values, refer to the Installation and Configuration Worksheets.

10. Below is 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:
2. 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
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 (1,2,50, <P> Process, <X> Exit):
```

11. 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):
```

12. 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.

13. Once the upgrade install has finished, the installation log location appears on the screen. If the log does not list any error messages, the upgrade installation of the application component of Oracle Utilities Application Framework is complete. You can now upgrade Oracle Utilities Service and Measurement Data Foundation as described in the following section.

Upgrading the Application Component Over Oracle Utilities Smart Grid Gateway V2.1.0.1 or V2.1.0.2

This section outlines the steps for upgrading the application component of Oracle Utilities Application Framework over Oracle Utilities Smart Grid Gateway 2.1.0.1 or over 2.1.0.2.

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

2. Change directory to the bin folder.

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

   where <install_dir> is the location where the Oracle Utilities Service and Measurement Data Foundation Base application component is installed.

3. Initialize the environment by running the appropriate command:

   UNIX:

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

   Windows:

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

4. Stop the environment, if running:

   UNIX:

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

   Windows:

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

5. Change directory to the <TEMP_DIR>/FWV4.2.0.3.0 directory.

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

   UNIX:

   ```
   ksh ./installSP.sh
   ```

   Windows:

   ```
   installSP.cmd
   ```

Note: If you are upgrading over 2.1.0.1, the Oracle Utilities Application Framework specific menu will not appear.

Installing Oracle Utilities Application Framework V4.2.0.3 Single Fix Prerequisite Rollup for SMDF V2.1.0.3

1. Create a <TEMPDIR> directory on the host server that is independent of any current or other working application environment.

2. Copy the file 'SGG-V2.1.0.3.0-FW-SP3-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' file for instructions on installing the Oracle Utilities Application Framework 4.2.0 Service Pack 3 Prerequisite Single Fixes.

These patches are also available for download separately from My Oracle Support.

See Appendix E for a list of the patches contained in the rollup.

Upgrading the Oracle Utilities Service and Measurement Data Foundation Application Component to V2.1.0.3

This section describes how to upgrade the application component of Oracle Utilities Service and Measurement Data Foundation, including:

- Copying and Decompressing Install Media
- Upgrading the Application Component
- Configuration of Oracle Fusion Middleware Components on a Separate Server from Oracle Utilities Service and Measurement Data Foundation

Copying and Decompressing Install Media

The Oracle Utilities Service and Measurement Data Foundation file is delivered in jar format for both UNIX and Windows platforms. If you are planning to install multiple Oracle Utilities Application Framework environments operated by different Oracle Utilities Administrator user ids, you must complete each of the following installation steps for each Administrator userid.

1. Log in to the application server as the Oracle Utilities Application Framework administrator user ID (default cissys). This is the same user ID that was used to install the Oracle Utilities Application Framework.

2. Download the Oracle Utilities Service and Measurement Data Foundation V2.1.0.3 Multiplatform from Oracle Software Delivery Cloud.

3. Create a <TEMPDIR> directory on the application server, which is independent of any current or other working Oracle Utilities Smart Grid Gateway application environment. This can be the same <TEMPDIR> used during the installation of the Oracle Utilities Application Framework.

4. Copy the file SMDF-V2.1.0.3.0-MultiPlatform.jar in the delivered package to a <TEMPDIR> on your application server. If you are using FTP to transfer this file, remember to use the BINARY option for the FTP transfer.

5. Decompress the file:

   ```
   cd <TEMPDIR>
   jar -xvf SMDF-V2.1.0.3.0-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 MDF.V2.1.0.3.0 is created. The contents of the installation directory are identical for both platforms. The directory contains the install software for the application product.

Upgrading the Application Component

Follow the steps below to install the application component of Oracle Utilities Service and Measurement Data Foundation:

1. Log on as Oracle Utilities Service and Measurement Data Foundation Administrator (default cissys).
2. Initialize the Framework environment that you want to install the product into.

   UNIX:

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

   Windows:

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

3. Stop the environment if it is running.

   UNIX:

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

   Windows:

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

Installing the Application

1. Change to the <TEMPDIR>/MDF.V2.1.0.3.0 directory.
2. Execute the script:

   UNIX:

   ```
   ksh ./install.sh
   ```
   Windows:

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

   The configuration menu for the Oracle Utilities Service and Measurement Data Foundation Application appears.

3. Select menu item 8 to configure OSB.

   Use the completed OSB configuration worksheet to assist you in this step. See the Installation and Configuration Worksheets.

4. Select menu item 9 to configure SOA.

   Use the completed SOA configuration worksheet to assist you in this step. See the Installation and Configuration Worksheets.

5. Select menu item 10 to configure the SOA Configuration Plan.

   Use the completed SOA Configuration Plan (MDF) worksheet to assist you in this step. See the Installation and Configuration Worksheets.

   When you are done with the parameter setup, choose option P to proceed with the installation.

6. Change to the <TEMPDIR>/MDF.V2.1.0.3.0 directory.
7. Execute the following command:

   UNIX:

   ```
   ksh ./postinstall.sh
   ```
   Windows:

   ```
   postinstall.cmd
   ```

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

Installation of Oracle Utilities Service and Measurement Data Foundation Application Server is complete if no errors occurred during installation.

Configuration of Oracle Fusion Middleware Components on a Separate Server from Oracle Utilities Service and Measurement Data Foundation

This section applies to an Oracle Utilities Smart Grid Gateway configuration in which Oracle Service Bus (OSB) or Oracle SOA Suite is installed on a separate host from the Oracle Utilities Application Framework's host. In this configuration, the Oracle Utilities installation scripts must have access to the libraries in the OSB and SOA servers' directories to deploy OSB projects and SOA composites successfully.

Follow these procedures to configure access to a remote OSB server:

- Create a network share to the Oracle_OSB1 folder within the Middleware Home on the remote OSB server.
- Provide the following values for Menu Item 8 (OSB Configuration) during the installation for Oracle Utilities Service and Measurement Data Foundation:

  Note: Use the completed OSB configuration worksheet to assist you in this step. See the Installation and Configuration Worksheets.

  - **OSB Home** is the location of the Oracle_OSB1 folder, accessed by way of network share.
  - **OSB Host Server** is the host name of the OSB server.
  - **OSB Port Number** is the port of the SOA managed server.

Follow these procedures to configure access to a remote SOA Suite server:

- Create a network share to the Oracle_SOA1 folder within the Middleware Home on the remote SOA Suite server.
- Provide the following values for Menu Item 9 (SOA Configuration) during the installation for Oracle Utilities Service and Measurement Data Foundation

  Note: Use the completed SOA configuration worksheet to assist you in this step. See the Installation and Configuration Worksheets.

  - **SOA Home** is the location of the Oracle_SOA1 folder, accessed by way of network share.
  - **SOA Host Server** is the host name of the SOA server.
  - **SOA Port Number** is the port of the SOA managed server.

Upgrading the Oracle Utilities Smart Grid Gateway Application Component

This section describes how to install the application component of Oracle Utilities Smart Grid Gateway, including:

- Upgrading the MV90 Adapter for Itron
- Upgrading the Adapter Development Kit
- Upgrading the Adapter for Echelon
- Upgrading the Adapter for Itron OpenWay
- Upgrading the Adapter for Landis+Gyr
- Upgrading the Adapter for Sensus RNI
- Upgrading the Adapter for Silver Spring Networks

Upgrading the MV90 Adapter for Itron

This section describes the installation of the MV90 Adapter for Itron, including:

- Preinstallation Tasks for the MV90 Adapter
- Upgrading the MV90 Adapter

Preinstallation Tasks for the MV90 Adapter - This section describes the steps that should be taken before installing Oracle Utilities Smart Grid Gateway MV90 Adapter, including:

- Installation Prerequisite
- Copying and Decompressing the Installation Media

Installation Prerequisite

The Oracle Utilities Service and Measurement Data Foundation 2.1.0.3 application must be installed prior to installing Oracle Utilities Smart Grid Gateway 2.1.0.3.

Copying and Decompressing the Installation Media

The installation file is delivered in jar format for both UNIX and Windows platforms.

Oracle Utilities Smart Grid Gateway is delivered as a separate installation package. Please refer to the Supported Platforms and Hardware Requirements for versions and installation details regarding the database and operating system. Also see Installing Prerequisite Software for prerequisite third-party software installation instructions.

Download the installation package and proceed as follows:

1. Log in to the host server as the Oracle Utilities Service and Measurement Data Foundation administrator user ID (default cissys). This is the same user ID that was used to install the Oracle Utilities Service and Measurement Data Foundation.
2. Create a <TEMPDIR> directory on the host server, which is independent of any current or other working Oracle Utilities Smart Grid Gateway application environment. This can be the same <TEMPDIR> used during the installation of the Oracle Utilities Service and Measurement Data Foundation.
3. Copy the file SGG-MV90-V2.1.0.3.0-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 SGG-MV90-V2.1.0.3.0-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 subdirectory named MV90.V2.1.0.3.0 is created. The contents of the installation directory are identical for both platforms. The directory contains the install software for the application product.

Initializing the Service and Measurement Data Foundation

1. Log on as Oracle Utilities Smart Grid Gateway Administrator (default cissys).
2. Initialize the Service and Measurement Data Foundation environment that you want to install the product into.

   UNIX:

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

   Windows:

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

3. Stop the environment if running.

   UNIX:

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

   Windows:

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

Upgrading the MV90 Adapter - To upgrade the Oracle Utilities Smart Grid Gateway MV90 Adapter:

1. Change to the <TEMPDIR>/MV90.V2.1.0.3.0 directory.
2. Execute the install script:

   UNIX:

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

   Windows:

   ```
   install.cmd
   ```

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

3. Choose option P to proceed with the installation.
4. Change to the <TEMPDIR>/MV90.V2.1.0.3.0 directory
5. Execute the following command:

   UNIX:

   ```
   ksh ./postinstall.sh
   ```

   Windows:

   ```
   postinstall.cmd
   ```

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

Once the install has finished successfully, execute the post-installation steps described in Configuration Tasks for the MV90 Adapter.

Upgrading the Adapter Development Kit

This section describes the installation of the Adapter Development Kit, including:

- Preinstallation Tasks for the Adapter Development Kit
- Installation Tasks for the Adapter Development Kit

Preinstallation Tasks for the Adapter Development Kit - This section describes the steps that should be taken before installing Oracle Utilities Smart Grid Gateway, including:

- Installation Prerequisite
- Copying and Decompressing the Installation Media

Installation Prerequisite

The Oracle Utilities Service and Measurement Data Foundation 2.1.0.3 application must be installed prior to installing Oracle Utilities Smart Grid Gateway 2.1.0.3.

Copying and Decompressing the Installation Media

The installation file is delivered in jar format for both UNIX and Windows platforms.

Oracle Utilities Smart Grid Gateway is delivered as a separate installation package. Please refer to the Supported Platforms and Hardware Requirements for versions and installation details regarding the database and operating system. Also see Installing Prerequisite Software for prerequisite third-party software installation instructions.

Download the installation package and proceed as follows:

1. Log in to the host server as the Oracle Utilities Service and Measurement Data Foundation administrator user ID (default cissys). This is the same user ID that was used to install the Oracle Utilities Service and Measurement Data Foundation.
2. Create a <TEMPDIR> directory on the host server, which is independent of any current or other working Oracle Utilities Smart Grid Gateway application environment. This can be the same <TEMPDIR> used during the installation of the Oracle Utilities Service and Measurement Data Foundation.
3. Copy the file SGG-DG-V2.1.0.3.0-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 SGG-DG-V2.1.0.3.0-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 subdirectory named DG.V2.1.0.3.0 is created. The contents of the installation directory are identical for both platforms. The directory contains the install software for the application product.

Installation Tasks for the Adapter Development Kit - This section describes the installation of the Adapter Development Kit, including:

- Initializing the Service and Measurement Data Foundation
- Upgrading the Adapter Development Kit

Initializing the Service and Measurement Data Foundation

1. Log on as Oracle Utilities Smart Grid Gateway Administrator (default cissys).
2. Initialize the Service and Measurement Data Foundation environment that you want to install the product into.

   UNIX:

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

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

3. Stop the environment if running.

   UNIX:

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

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

Upgrading the Adapter Development Kit

To upgrade the Oracle Utilities Smart Grid Gateway Adapter Development Kit:

1. Change to the <TEMPDIR>/DG.V2.1.0.3.0 directory.
2. Execute the install script:

   UNIX:

   ```
   ksh ./install.sh
   ```
   Windows:

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

   The configuration menu for Oracle Utilities Smart Grid Gateway appears.
3. Select menu item 21 to configure the URI of the head-end system.

   Use the completed SOA configuration worksheet to assist you in this step. See **Smart Grid Gateway Installation and Configuration Worksheets** on page 4-46.
4. When you are done setting up the parameters, choose option P to proceed with the installation.
5. Change to the <TEMPDIR>/DG.V2.1.0.3.0 directory
6. Execute the following command:

   UNIX:

   ```
   ksh ./postinstall.sh
   ```
   Windows:

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

   Once the install has finished successfully, execute post-installation steps described Configuration Tasks for the Adapter Development Kit.

Upgrading the Adapter for Echelon

This section describes the installation of the Adapter for Echelon, including:

- Preinstallation Tasks for the Adapter for Echelon
- Installation Tasks for the Adapter for Echelon

Preinstallation Tasks for the Adapter for Echelon - This section describes the steps that should be taken before installing Oracle Utilities Smart Grid

Gateway, including:

- Installation Prerequisite
- Copying and Decompressing the Installation Media

Installation Prerequisite

The Oracle Utilities Service and Measurement Data Foundation 2.1.0.3 application must be installed prior to installing Oracle Utilities Smart Grid Gateway 2.1.0.3.

Copying and Decompressing the Installation Media

The installation file is delivered in jar format for both UNIX and Windows platforms.

Oracle Utilities Smart Grid Gateway is delivered as a separate installation package. Please refer to the Supported Platforms and Hardware Requirements for versions and installation details regarding the database and operating system. Also see Installing Prerequisite Software for prerequisite third-party software installation instructions.

Download the installation package and proceed as follows:

1. Log in to the host server as the Oracle Utilities Service and Measurement Data Foundation administrator user ID (default cissys). This is the same user ID that was used to install the Oracle Utilities Service and Measurement Data Foundation.
2. Create a <TEMPDIR> directory on the host server, which is independent of any current or other working Oracle Utilities Smart Grid Gateway application environment. This can be the same <TEMPDIR> used during the installation of the Oracle Utilities Service and Measurement Data Foundation.
3. Copy the file SGG-D4-V2.1.0.3.0-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 SGG-D4-V2.1.0.3.0-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 subdirectory named D4.V2.1.0.3.0 is created. The contents of the installation directory are identical for both platforms. The directory contains the install software for the application product.

Installation Tasks for the Adapter for Echelon - This section describes the installation of the Adapter for Echelon, including:

- Initializing the Service and Measurement Data Foundation
- Upgrading the Adapter for Echelon

Initializing the Service and Measurement Data Foundation

1. Log on as Oracle Utilities Smart Grid Gateway Administrator (default cissys).
2. Initialize the Service and Measurement Data Foundation environment that you want to install the product into.

UNIX:

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

Windows:

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

3. Stop the environment if running.

UNIX:

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

Windows:

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

Upgrading the Adapter for Echelon

To upgrade the Oracle Utilities Smart Grid Gateway Adapter for Echelon:

1. Change to the <TEMPDIR>/D4.V2.1.0.3.0 directory.
2. Execute the install script:

UNIX:

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

Windows:

```
install.cmd
```

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

The configuration menu for Oracle Utilities Smart Grid Gateway appears.

3. Select menu item 17 to configure the URI of the head-end system.

Use the completed SOA configuration worksheet to assist you in this step. See Appendix B: Installation and Configuration Worksheets on page 4-46.

4. When you are done setting up the parameters, choose option P to proceed with the installation.
5. Change to the <TEMPDIR>/D4.V2.1.0.3.0 directory
6. Execute the following command:

UNIX:

```
ksh ./postinstall.sh
```

Windows:

```
postinstall.cmd
```

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

Once the install has finished successfully, execute postinstallation steps described in Configuration Tasks for the Adapter for Echelon.

Upgrading the Adapter for Itron OpenWay

This section describes the installation of the Adapter for Itron OpenWay, including:

- Preinstallation Tasks for the Adapter for Itron OpenWay
- Installation Tasks for the Adapter for Itron OpenWay

Preinstallation Tasks for the Adapter for Itron OpenWay - This section describes the steps that should be taken before installing Oracle Utilities Smart Grid

Gateway, including:

- Installation Prerequisite
- Copying and Decompressing the Installation Media

Installation Prerequisite

The Oracle Utilities Service and Measurement Data Foundation 2.1.0.3 application must be installed prior to installing Oracle Utilities Smart Grid Gateway 2.1.0.3.

Copying and Decompressing the Installation Media

The installation file is delivered in jar format for both UNIX and Windows platforms.

Oracle Utilities Smart Grid Gateway is delivered as a separate installation package. Please refer to the Supported Platforms and Hardware Requirements for versions and installation details regarding the database and operating system. Also see Installing Prerequisite Software for prerequisite third-party software installation instructions.

Download the installation package and proceed as follows:

1. Log in to the host server as the Oracle Utilities Service and Measurement Data Foundation administrator user ID (default cissys). This is the same user ID that was used to install the Oracle Utilities Service and Measurement Data Foundation.
2. Create a <TEMPDIR> directory on the host server, which is independent of any current or other working Oracle Utilities Smart Grid Gateway application environment. This can be the same <TEMPDIR> used during the installation of the Oracle Utilities Service and Measurement Data Foundation.
3. Copy the file SGG-D8-V2.1.0.3.0-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 SGG-D8-V2.1.0.3.0-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 subdirectory named D8.V2.1.0.3.0 is created. The contents of the installation directory are identical for both platforms. The directory contains the install software for the application product.

Installation Tasks for the Adapter for Itron OpenWay - This section describes the installation of the Adapter for Itron OpenWay, including:

- Initializing the Service and Measurement Data Foundation
- Upgrading the Adapter for Itron OpenWay

Initializing the Service and Measurement Data Foundation

1. Log on as Oracle Utilities Smart Grid Gateway Administrator (default cissys).
2. Initialize the Service and Measurement Data Foundation environment that you want to install the product into.

UNIX:

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

Windows:

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

3. Stop the environment if running.

UNIX:

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

Windows:

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

Upgrading the Adapter for Itron OpenWay

To upgrade the Oracle Utilities Smart Grid Gateway Adapter for Itron OpenWay:

1. Change to the <TEMPDIR>/D8.V2.1.0.3.0 directory.
2. Execute the install script:

UNIX:

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

Windows:

```
install.cmd
```

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

The configuration menu for Oracle Utilities Smart Grid Gateway appears.

3. Select menu item 22 to configure the URI of the head-end system.

Use the completed SOA configuration worksheet to assist you in this step. See Appendix B: Installation and Configuration Worksheets on page 4-46.

4. When you are done setting up the parameters, choose option P to proceed with the installation.
5. Change to the <TEMPDIR>/D8.V2.1.0.3.0 directory
6. Execute the following command:

UNIX:

```
ksh ./postinstall.sh
```

Windows:

```
postinstall.cmd
```

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

Once the install has finished successfully, execute postinstallation steps described in Configuration Tasks for the Adapter for Itron OpenWay.

Upgrading the Adapter for Landis+Gyr

This section describes the installation of the Adapter for Landis+Gyr, including:

- Preinstallation Tasks for the Adapter for Landis+Gyr
- Installation Tasks for the Adapter for Landis+Gyr

Preinstallation Tasks for the Adapter for Landis+Gyr - This section describes the steps that should be taken before installing Oracle Utilities Smart Grid Gateway, including:

- Installation Prerequisite
- Copying and Decompressing the Installation Media

Installation Prerequisite

The Oracle Utilities Service and Measurement Data Foundation 2.1.0.3 application must be installed prior to installing Oracle Utilities Smart Grid Gateway 2.1.0.3.

Copying and Decompressing the Installation Media

The installation file is delivered in jar format for both UNIX and Windows platforms.

Oracle Utilities Smart Grid Gateway is delivered as a separate installation package. Please refer to the Operating Systems and Application Servers for versions and installation details regarding the database and operating system. Also see Installing Prerequisite Software for prerequisite third-party software installation instructions.

Download the installation package and proceed as follows:

1. Log in to the host server as the Oracle Utilities Service and Measurement Data Foundation administrator user ID (default cissys). This is the same user ID that was used to install the Oracle Utilities Service and Measurement Data Foundation.
2. Create a <TEMPDIR> directory on the host server, which is independent of any current or other working Oracle Utilities Smart Grid Gateway application environment. This can be the same <TEMPDIR> used during the installation of the Oracle Utilities Service and Measurement Data Foundation.
3. Copy the file SGG-LG-V2.1.0.3.0-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 SGG-LG-V2.1.0.3.0-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 subdirectory named LG.V2.1.0.3.0 is created. The contents of the installation directory are identical for both platforms. The directory contains the install software for the application product.

Installation Tasks for the Adapter for Landis+Gyr - This section describes the installation of the Adapter for Sensus RNI, including:

- Initializing the Service and Measurement Data Foundation
- Upgrading the Adapter for Landis+Gyr

Initializing the Service and Measurement Data Foundation

1. Log on as Oracle Utilities Smart Grid Gateway Administrator (default cissys).
2. Initialize the Service and Measurement Data Foundation environment that you want to install the product into.

UNIX:

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

Windows:

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

3. Stop the environment if running.

   UNIX:

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

   Windows:

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

Upgrading the Adapter for Landis+Gyr

To upgrade the Oracle Utilities Smart Grid Gateway Adapter for Landis+Gyr:

1. Change to the <TEMPDIR>/LG.V2.1.0.3.0 directory.
2. Execute the install script:

   UNIX:

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

   Windows:

   ```
   install.cmd
   ```

   Note: On UNIX, ensure that you have the proper execute permission on install.sh. The configuration menu for Oracle Utilities Smart Grid Gateway appears.

3. Select menu item 16 to configure the URI of the head-end system.

   Use the completed SOA configuration worksheet to assist you in this step. See Appendix B: Installation and Configuration Worksheets.

4. When you are done setting up the parameters, choose option P to proceed with the installation.
5. Change to the <TEMPDIR>/LG.V2.1.0.3.0 directory
6. Execute the following command:

   UNIX:

   ```
   ksh ./postinstall.sh
   ```

   Windows:

   ```
   postinstall.cmd
   ```

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

Once the install has finished successfully, execute post-installation steps described in Configuration Tasks for the Adapter for Landis+Gyr.

Upgrading the Adapter for Sensus RNI

This section describes the installation of the Adapter for Sensus RNI, including:

- Preinstallation Tasks for the Adapter for Sensus RNI
- Installation Tasks for the Adapter for Sensus RNI

Preinstallation Tasks for the Adapter for Sensus RNI - This section describes the steps that should be taken before installing Oracle Utilities Smart Grid Gateway, including:

- Installation Prerequisite
- Copying and Decompressing the Installation Media

Installation Prerequisite

The Oracle Utilities Service and Measurement Data Foundation 2.1.0.3 application must be installed prior to installing Oracle Utilities Smart Grid Gateway 2.1.0.3.

Copying and Decompressing the Installation Media

The installation file is delivered in jar format for both UNIX and Windows platforms.

Oracle Utilities Smart Grid Gateway is delivered as a separate installation package. Please refer to the Supported Platforms and Hardware Requirements for versions and installation details regarding the database and operating system. Also see Installing Prerequisite Software for prerequisite third-party software installation instructions.

Download the installation package and proceed as follows:

1. Log in to the host server as the Oracle Utilities Service and Measurement Data Foundation administrator user ID (default cissys). This is the same user ID that was used to install the Oracle Utilities Service and Measurement Data Foundation.
2. Create a <TEMPDIR> directory on the host server, which is independent of any current or other working Oracle Utilities Smart Grid Gateway application environment. This can be the same <TEMPDIR> used during the installation of the Oracle Utilities Service and Measurement Data Foundation.
3. Copy the file SGG-D6-V2.1.0.3.0-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 SGG-D6-V2.1.0.3.0-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 subdirectory named D6.V2.1.0.3.0 is created. The contents of the installation directory are identical for both platforms. The directory contains the install software for the application product.

Installation Tasks for the Adapter for Sensus RNI - This section describes the installation of the Adapter for Sensus RNI, including:

- Initializing the Service and Measurement Data Foundation
- Upgrading the Adapter for Sensus RNI

Initializing the Service and Measurement Data Foundation

1. Log on as Oracle Utilities Smart Grid Gateway Administrator (default cissys).
2. Initialize the Service and Measurement Data Foundation environment that you want to install the product into.

UNIX:

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

Windows:

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

3. Stop the environment if running.

   UNIX:

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

   Windows:

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

Upgrading the Adapter for Sensus RNI

To upgrade the Oracle Utilities Smart Grid Gateway Adapter for Sensus RNI:

1. Change to the <TEMPDIR>/D6.V2.1.0.3.0 directory.
2. Execute the install script:

   UNIX:

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

   Windows:

   ```
   install.cmd
   ```

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

   The configuration menu for Oracle Utilities Smart Grid Gateway appears.

3. Select menu item 18 to configure the URI of the head-end system.

   Use the completed SOA configuration worksheet to assist you in this step. See Appendix B: Installation and Configuration Worksheets on page 4-46.

4. When you are done setting up the parameters, choose option P to proceed with the installation.
5. Change to the <TEMPDIR>/D6.V2.1.0.3.0 directory
6. Execute the following command:

   UNIX:

   ```
   ksh ./postinstall.sh
   ```

   Windows:

   ```
   postinstall.cmd
   ```

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

Once the install has finished successfully, execute postinstallation steps described in Configuration Tasks for the Adapter for Sensus RNI.

Upgrading the Adapter for Silver Spring Networks

This section describes the installation of the Adapter for Silver Spring Networks, including:

- Preinstallation Tasks for the Adapter for Silver Spring Networks
- Installation Tasks for the Adapter for Silver Spring Networks

Preinstallation Tasks for the Adapter for Silver Spring Networks - This section describes the steps that should be taken before installing Oracle Utilities Smart Grid Gateway, including:

- Installation Prerequisite
- Copying and Decompressing the Installation Media

Installation Prerequisite

The Oracle Utilities Service and Measurement Data Foundation 2.1.0.3 application must be installed prior to installing Oracle Utilities Smart Grid Gateway 2.1.0.3.

Copying and Decompressing the Installation Media

The installation file is delivered in jar format for both UNIX and Windows platforms.

Oracle Utilities Smart Grid Gateway is delivered as a separate installation package. Please refer to the Supported Platforms and Hardware Requirements for versions and installation details regarding the database and operating system. Also see Installing Prerequisite Software for prerequisite third-party software installation instructions.

Download the installation package and proceed as follows:

1. Log in to the host server as the Oracle Utilities Service and Measurement Data Foundation administrator user ID (default cissys). This is the same user ID that was used to install the Oracle Utilities Service and Measurement Data Foundation.
2. Create a <TEMPDIR> directory on the host server, which is independent of any current or other working Oracle Utilities Smart Grid Gateway application environment. This can be the same <TEMPDIR> used during the installation of the Oracle Utilities Service and Measurement Data Foundation.
3. Copy the file SGG-D7-V2.1.0.3.0-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 SGG-D7-V2.1.0.3.0-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 subdirectory named D7.V2.1.0.3.0 is created. The contents of the installation directory are identical for both platforms. The directory contains the install software for the application product.

Installation Tasks for the Adapter for Silver Spring Networks - This section describes the installation of the Adapter for Silver Spring Networks, including:

- Initializing the Service and Measurement Data Foundation
- Upgrading the Adapter for Silver Spring Networks

Initializing the Service and Measurement Data Foundation

1. Log on as Oracle Utilities Smart Grid Gateway Administrator (default cissys).
2. Initialize the Service and Measurement Data Foundation environment that you want to install the product into.

UNIX:

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

Windows:

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

3. Stop the environment if running.

   UNIX:

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

   Windows:

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

Upgrading the Adapter for Silver Spring Networks

To upgrade the Oracle Utilities Smart Grid Gateway Adapter for Silver Spring Networks:

1. Change to the <TEMPDIR>/D7.V2.1.0.3.0 directory.
2. Execute the install script:

   UNIX:

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

   Windows:

   ```
   install.cmd
   ```

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

   The configuration menu for Oracle Utilities Smart Grid Gateway appears.

3. Select menu item 19 to configure the URI of the head-end system.

   Use the completed SOA configuration worksheet to assist you in this step. See Appendix B: Installation and Configuration Worksheets.

4. Select menu item 20 to configure the JMS source destination bridge.

   Use the completed SOA configuration worksheet to assist you in this step. See Appendix B: Installation and Configuration Worksheets.

5. Select menu item 70 to configure the test harness.

   Use the completed SOA configuration worksheet to assist you in this step. See Appendix B: Installation and Configuration Worksheets.

6. When you are done setting up the parameters, choose option P to proceed with the installation.
7. Change to the <TEMPDIR>/D7.V2.1.0.3.0 directory
8. Execute the following command:

   UNIX:

   ```
   ksh ./postinstall.sh
   ```

   Windows:

   ```
   postinstall.cmd
   ```

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

Once the install has finished successfully, execute post-installation steps described in Configuration Tasks for the Adapter for Silver Spring Networks.

Operating the Application

At this point your installation and custom integration process is complete. Be sure to read the Oracle Utilities Smart Grid Gateway*Server Administration Guide* for more information on further configuring and operating the system.

Chapter 7

Configuring the Oracle Utilities Smart Grid Gateway Adapters

This section describes configuration tasks such as deploying OSB and SOA adapters for the Oracle Utilities Smart Grid Gateway adapters. This section includes:

Configuration Tasks for the MV90 Adapter

This section describes the tasks that should be taken after installing Oracle Utilities Smart Grid Gateway MV90 Adapter, including:

- Deploying the OSB Adapter for the MV90
- Starting the Application

Deploying the OSB Adapter for the MV90

The OSB adapter can be deployed on the bundled WebLogic example server instance or on a separate WebLogic server instance. To deploy the OSB adapter, use the following procedures:

To Deploy on the Example WebLogic Instance

1. Create the following directories under <OSB_LOG_DIR>:

```
mv90-usage
mv90-usage-arch
mv90-usage-error
```

2. Start the example OSB WebLogic instance.

UNIX:

```
cd $SPLEBASE/osbapp
./startWebLogic.sh
```

Windows:

```
cd %SPLEBASE%\osbapp
startWebLogic.cmd
```

3. Deploy the OSB adapter on the example WebLogic instance.

Note: Example Domain is only for WebLogic 10.3.6 and not for WebLogic 12.1.3.0+.

UNIX:

```
cd $SPLEBASE/osbapp
```

For WebLogic 11g:

```
$SPLEBASE/product/apache-ant/bin/ant -buildfile
deploy-osb_MV90.xml -Dadmin.user=weblogic
-Dadmin.password=weblogic123 -Douaf.user=weblogic
-Douaf.password=weblogic123 -Dosb.version=11g
```

Note: Use the following command if this is an upgrade from a previous version:

```
cd $SPLEBASE/osbapp

$SPLEBASE/product/apache-ant/bin/ant -buildfile
deploy-osb_MV90.xml
update_osb -Dadmin.user=weblogic -Dadmin.password=weblogic123
-Douaf.user=weblogic -Douaf.password=weblogic123 -Dosb.version=11g
```

This will not override any OSB custom changes

Windows:

```
cd %SPLEBASE%\osbapp
```

```
%SPLEBASE%\product\apache-ant\bin\ant -buildfile
deploy-osb_MV90.xml -Dadmin.user=weblogic
-Dadmin.password=weblogic123 -Douaf.user=weblogic
-Douaf.password=weblogic123
```

Note: Use the following command if this is an upgrade from a previous version:

```
cd %SPLEBASE%/osbapp

%SPLEBASE%/product/apache-ant/bin/ant -buildfile
deploy-osb_MV90.xml
update_osb -Dadmin.user=weblogic -Dadmin.password=weblogic123
-Douaf.user=weblogic -Douaf.password=weblogic123 -Dosb.version=11g
```

This will not override any OSB custom changes

To Deploy on a Separate WebLogic Instance

Note: See Configuration of Oracle Fusion Middleware Components on a Separate Server from Oracle Utilities Service and Measurement Data Foundation for more information about deploying OSB components on a separate WebLogic server.

1. Create the following directories under <OSB_LOG_DIR>:

   ```
   mv90-usage
   mv90-usage-arch
   mv90-usage-error
   ```

2. Copy the following jars to the lib folder under the WebLogic domain directory:

   ```
   spl-d1-osb-2.1.0.3.0.jar
   spl-d5-osb-2.1.0.3.0.jar
   ```

   These jars are present under the following location:

   UNIX: $OSB_HOME/etc/lib

   Windows: %OSB_HOME%\etc\lib

3. Start the separate WebLogic instance.
4. Create JMS queues and target them to the OSB admin server:
   - Create a JMS server "OSB-JMSServer" and target it to admin server.
   - Create a JMS module "MV90-SystemModule".
   - Under "D5-SystemModule" create a sub-deployment "MV90-JMSFAServer" and target it to "OSB-JMSServer".
   - Create the following JMS queues:

     Queue Name: DestinationQueue-D5

     JNDI Name: DestinationQueue-D5

     Sub-deployment: MV90-JMSFAServer

     Targets: OSB-JMSServer

     Queue Name: NotificationQueue-D5

JNDI Name: NotificationQueue-D5

Sub-deployment: MV90-JMSFAServer

Targets: OSB-JMSServer

5. Deploy the OSB adapter on the separate WebLogic instance.

UNIX:

```
cd $SPLEBASE/osbapp
```

For WebLogic 12c:

```
$SPLEBASE/product/apache-ant/bin/ant -buildfile
 deploy-osb_MV90.xml -Dadmin.user=<ADMIN_USER>
-Dadmin.password=<ADMIN_PASSWORD> -Douaf.user=<JMS_USER>
-Douaf.password=<JMS_PASSWORD>
```

For WebLogic 11g:

```
$SPLEBASE/product/apache-ant/bin/ant -buildfile
deploy-osb_MV90.xml -Dadmin.user=<ADMIN_USER>
-Dadmin.password=<ADMIN_PASSWORD> -Douaf.user=<JMS_USER>
-Douaf.password=<JMS_PASSWORD> -Dosb.version=11g
```

Note: Use the following command if this is an upgrade from a previous version:

```
cd $SPLEBASE/osbapp
```

For WebLogic 12c:

```
$SPLEBASE/product/apache-ant/bin/ant -buildfile
deploy-osb_MV90.xml
update_osb -Dadmin.user=weblogic -Dadmin.password=weblogic123
-Douaf.user=weblogic -Douaf.password=weblogic123
```

For WebLogic 11g:

```
$SPLEBASE/product/apache-ant/bin/ant -buildfile
deploy-osb_MV90.xml
update_osb -Dadmin.user=weblogic -Dadmin.password=weblogic123
-Douaf.user=weblogic -Douaf.password=weblogic123 -Dosb.version=11g
```

This will not override any OSB custom changes

Windows:

For WebLogic 12c:

```
cd %SPLEBASE%\osbapp
%SPLEBASE%\product\apache-ant\bin\ant -buildfile
deploy-osb_MV90.xml -Dadmin.user=<ADMIN_USER>
-Dadmin.password=<ADMIN_PASSWORD> -Douaf.user=<JMS_USER>
-Douaf.password=<JMS_PASSWORD>
```

For WebLogic 11g:

```
%SPLEBASE%\product\apache-ant\bin\ant -buildfile
 deploy-osb_MV90.xml -Dadmin.user=<ADMIN_USER>
```

```
-Dadmin.password=<ADMIN_PASSWORD> -Douaf.user=<JMS_USER>
-Douaf.password=<JMS_PASSWORD> -Dosb.version=11g
```

Note: Use the following command if this is an upgrade from a previous version:

For WebLogic 12c:

```
cd %SPLEBASE%/osbapp
%SPLEBASE%/product/apache-ant/bin/ant -buildfile
deploy-osb_MV90.xml
update_osb -Dadmin.user=weblogic -Dadmin.password=weblogic123
-Douaf.user=weblogic -Douaf.password=weblogic123
```

For WebLogic 11g:

```
cd %SPLEBASE%/osbapp
%SPLEBASE%/product/apache-ant/bin/ant -buildfile
deploy-osb_MV90.xml
update_osb -Dadmin.user=weblogic -Dadmin.password=weblogic123
-Douaf.user=weblogic -Douaf.password=weblogic123 -Dosb.version=11g
```

This will not override any OSB custom changes

Starting the Application

The OSB WebLogic server instance should be up and running before starting the main application.

The first time you start Oracle Utilities Smart Grid Gateway, you need to log in to the WebLogic console and give system access to cisusers role. The WebLogic console application can be accessed through the following URL:

http://<hostname>:<portname>/console

1. Start up the environment. Run the following command:

   UNIX: spl.sh start

   Windows: spl.cmd start

   Follow the messages on the screen along with the logs in $SPLSYSTEMLOGS directory to ensure that the environment was started successfully.

   If the startup failed, identify the problem by reviewing the logs. Resolve any issues before attempting to restart the environment.

   You should postpone the startup process until you are done with postinstallation steps.

   Use the following utility to stop the environment:

   UNIX: spl.sh stop

   Windows: spl.cmd stop

Configuration Tasks for the Adapter Development Kit

This section describes the tasks that should be taken after installing Oracle Utilities Smart Grid Gateway Adapter Development Kit, including:

- Deploying the OSB Adapter for the Adapter Development Kit
- Deploying the SOA Adapter for the Adapter Development Kit
- Configuring Security for the SOA System
- Starting the Application

> **Note:** Oracle Enterprise Manager may be required for some of the security setups and for monitoring SOA. If Oracle Enterprise Manager is required, you need to extend the example SOA WebLogic domain and enable Enterprise Manager using WebLogic's configuration utility.

Deploying the OSB Adapter for the Adapter Development Kit

The OSB adapter can be deployed on the bundled WebLogic example server instance or on a separate WebLogic server. To deploy the OSB adapter, use the following procedures:

To Deploy on the Example WebLogic Instance

1. Create the following directories under <OSB_LOG_DIR>:

```
dg-csv-error
dg-csv-arch
dg-csv
dg-xml
dg-xml-error
dg-xml-arch
```

2. Start the example OSB WebLogic instance.

UNIX:

```
cd $SPLEBASE/osbapp
./startWebLogic.sh
```

Windows:

```
cd %SPLEBASE%\osbapp
startWebLogic.cmd
```

3. Deploy the OSB adapter on the example WebLogic instance.

> **Note**: Example Domain is only for WebLogic 10.3.6 and not for WebLogic 12.1.3.0+

UNIX:

```
cd $SPLEBASE/osbapp
```

For WebLogic 11g:

```
$SPLEBASE/product/apache-ant/bin/ant -buildfile
deploy-osb_DG.xml -Dadmin.user=<OSB_Server_Username>
-Dadmin.password=< OSB_Server_Password> -Douaf.user=<JMS_USER>
-Douaf.password=<JMS_PASSWORD> -Dosb.version=11g
```

Note: Use the following command if this is an upgrade from a previous version:

```
cd $SPLEBASE/osbapp
$SPLEBASE/product/apache-ant/bin/ant -buildfile
deploy-osb_DG.xml update_osb -Dadmin.user=weblogic
-Dadmin.password=weblogic123
-Douaf.user=weblogic -Douaf.password=weblogic123 -Dosb.version=11g
```

This will not override any OSB custom changes

Windows:

```
cd %SPLEBASE%\osbapp
%SPLEBASE%\product\apache-ant\bin\ant -buildfile deploy-osb_DG.xml
-Dadmin.user=<OSB_Server_Username> -Dadmin.password=<
OSB_Server_Password> -Douaf.user=<JMS_USER> -
Douaf.password=<JMS_PASSWORD> -Dosb.version=11g
```

Note: Use the following command if this is an upgrade from a previous version:

```
cd %SPLEBASE%/osbapp
%SPLEBASE%/product/apache-ant/bin/ant -buildfile deploy-osb_DG.xml
update_osb -Dadmin.user=weblogic -Dadmin.password=weblogic123
-Douaf.user=weblogic -Douaf.password=weblogic123 -Dosb.version=11g
```

This will not override any OSB custom changes

To Deploy on a Separate WebLogic Instance

Note: See Configuration of Oracle Fusion Middleware Components on a Separate Server from Oracle Utilities Service and Measurement Data Foundation for more information about deploying OSB components on a separate WebLogic server.

1. Create the following directories under <OSB_LOG_DIR>:

   ```
   dg-csv-error
   dg-csv-arch
   dg-csv
   dg-xml
   dg-xml-error
   dg-xml-arch
   ```

2. Copy the following jars to the lib folder under the WebLogic's domain directory:

   ```
   spl-d1-osb-2.1.0.3.0.jar
   spl-dg-osb-2.1.0.3.0.jar
   ```

   These jars are present under the following location:

   UNIX: $OSB_HOME/etc/lib

   Windows: %OSB_HOME%\etc\lib

3. Start the separate WebLogic instance.
4. Create JMS queues and target them to the OSB admin server:
   - Create a JMS server "OSB-JMSServer" and target it to osb managed server.
   - Create a JMS module "DG-SystemModule"

- Under "DG-SystemModule" create a sub-deployment "DG-JMSFAServer" and target it to "OSB-JMSServer"
- Create the following JMS queues:

  Queue Name: DestinationQueue-DG

  JNDI Name: DestinationQueue-DG

  Sub-deployment:: DG-JMSFAServer

  Targets: OSB-JMSServer

  Queue Name: NotificationQueue-DG

  JNDI Name: NotificationQueue-DG

  Sub-deployment: DG-JMSFAServer

  Targets: OSB-JMSServer

5. Deploy the OSB adapter on the separate WebLogic instance.

   Note:- Modify the OSB Host Server,OSB Port Number according to Standalone domain using "OSB Configuration Menu item 8".

   UNIX:

```
cd $SPLEBASE/osbapp
```

   For WebLogic 12c:

```
$SPLEBASE/product/apache-ant/bin/ant -buildfile deploy-osb_DG.xml
-Dadmin.user=<OSB_ADMIN_USER>
-Dadmin.password=<OSB_ADMIN_PASSWORD>
-Douaf.user=<JMS_USER> -Douaf.password=<JMS_PASSWORD>
```

   For WebLogic 11g:

```
$SPLEBASE/product/apache-ant/bin/ant -buildfile deploy-osb_DG.xml
-Dadmin.user=<OSB_ADMIN_USER>
-Dadmin.password=<OSB_ADMIN_PASSWORD>
-Douaf.user=<JMS_USER> -Douaf.password=<JMS_PASSWORD>
-Dosb.version=11g
```

   Note: Use the following command if this is an upgrade from a previous version:

```
cd $SPLEBASE/osbapp
```

   For WebLogic 12c:

```
cd $SPLEBASE/osbapp
$SPLEBASE/product/apache-ant/bin/ant -buildfile deploy-osb_DG.xml
update_osb -Dadmin.user=weblogic -Dadmin.password=weblogic123
-Douaf.user=weblogic -Douaf.password=weblogic123
```

   For WebLogic 11g:

```
cd $SPLEBASE/osbapp
$SPLEBASE/product/apache-ant/bin/ant -buildfile deploy-osb_DG.xml
```

```
update_osb -Dadmin.user=weblogic -Dadmin.password=weblogic123
-Douaf.user=weblogic -Douaf.password=weblogic123 -Dosb.version=11g
```

This will not override any OSB custom changes

Windows:

```
cd %SPLEBASE%\osbapp
```

For WebLogic 12c:

```
%SPLEBASE%\product\apache-ant\bin\ant -buildfile deploy-osb_DG.xml
-Dadmin.user=<OSB_ADMIN_USER>
-Dadmin.password=<OSB_ADMIN_PASSWORD> -Douaf.user=<JMS_USER>
-Douaf.password=<JMS_PASSWORD>
```

For WebLogic 11g:

```
%SPLEBASE%\product\apache-ant\bin\ant -buildfile deploy-osb_DG.xml
-Dadmin.user=<OSB_ADMIN_USER>
-Dadmin.password=<OSB_ADMIN_PASSWORD> -Douaf.user=<JMS_USER>
-Douaf.password=<JMS_PASSWORD> -Dosb.version=11g
```

Note: Use the following command if this is an upgrade from a previous version:

For WebLogic 12c:

```
cd %SPLEBASE%/osbapp
%SPLEBASE%/product/apache-ant/bin/ant -buildfile deploy-osb_DG.xml
 update_osb -Dadmin.user=weblogic -Dadmin.password=weblogic123
-Douaf.user=weblogic -Douaf.password=weblogic123
```

For WebLogic 11g:

```
cd %SPLEBASE%/osbapp
%SPLEBASE%/product/apache-ant/bin/ant -buildfile deploy-osb_DG.xml
 update_osb -Dadmin.user=weblogic -Dadmin.password=weblogic123
-Douaf.user=weblogic -Douaf.password=weblogic123 -Dosb.version=11g
```

This will not override any OSB custom changes

Deploying the SOA Adapter for the Adapter Development Kit

The SOA adapter can be deployed on the bundled WebLogic example server instance or on a separate WebLogic server instance.

Note: Oracle Enterprise Manager may be required for some of the security setups and for monitoring SOA. If Oracle Enterprise Manager is required, you need to extend the example SOA WebLogic domain and enable Enterprise Manager using WebLogic's configuration utility.

To deploy the SOA adapter, use the following procedures:

To Deploy on the Example WebLogic Instance

1. Start the example SOA WebLogic instance:

UNIX:

```
cd $SPLEBASE/soaapp
./startWebLogic.sh
```

Windows:

```
cd %SPLEBASE%\soaapp
startWebLogic.cmd
```

2. Deploy the SOA adapter on the example WebLogic instance.

   Note: Example Domain is only for WebLogic 10.3.6 and not for WebLogic 12.1.3.0+

UNIX:

```
cd $SPLEBASE/soaapp
```

For WebLogic 11g:

```
$SPLEBASE/product/apache-ant/bin/ant -buildfile deploy-soa_MDF.xml
-Dserver.user=weblogic -Dserver.password=weblogic123
-Dsoa.version=11g

$SPLEBASE/product/apache-ant/bin/ant -buildfile deploy-soa_DG.xml
-Dserver.user=weblogic -Dserver.password=weblogic123
-Dsoa.version=11g
```

Windows:

For WebLogic 11g:

```
%SPLEBASE%\product\apache-ant\bin\ant -buildfile deploy
 -soa_MDF.xml
-Dserver.user=weblogic -Dserver.password=weblogic123
 -Dsoa.version=11g

%SPLEBASE%\product\apache-ant\bin\ant -buildfile deploy-soa_DG.xml
-Dserver.user=weblogic -Dserver.password=weblogic123
-Dsoa.version=11g
```

3. Deploy the TestHarness SOA composites on example WebLogic instance.

UNIX:

```
cd $SPLEBASE/soaapp
```

For WebLogic 11g:

```
$SPLEBASE/product/apache-ant/bin/ant -buildfile deploy-soa_DG.xml
 deployTestHarness -Dserver.user=weblogic
-Dserver.password=weblogic123 -Dsoa.version=11g
```

Windows:

Note: Open the command prompt as Administrative mode and then select the environment to deploy SOA.

```
cd %SPLEBASE%/soaapp
```

For WebLogic 11g:

```
%SPLEBASE%\product\apache-ant\bin\ant -buildfile
deploy-soa_DG.xml deployTestHarness -Dserver.user=weblogic
```

```
-Dserver.password=weblogic123 -Dsoa.version=11g
```

4. Import the Policy Templates and Policies.

   a. First, import the two policy template files using Enterprise Manager.

      i. In Oracle Enterprise Manager, navigate to **WebLogic Domain** and select the required SOA domain.

      ii. Right click on the domain and navigate to **Web Services, Policies.**

      iii. Click on **Web Services Assertion Templates** at the top of the page

      iv. Click on **Import From File** and import the following templates:

      - sgg_d1_csf_access_client_custom_template.xml
      - sgg_d1_csf_access_client_xpath_template.xml

      These files are located in the following directory:

      UNIX: $SPLEBASE/soaapp

      Windows: %SPLEBASE%\soaapp

   b. For SOA 11g version, perform the following steps to import policies:

      i. Import the "sgg_dg_cfs_multispeak_header_client_policy.xml" policy file ($SPLEBASE/soaapp) using Enterprise Manager.

      ii. In Oracle Enterprise Manager, navigate to **WebLogic Domain** and select the required SOA domain.

      iii. Right click on the domain and navigate to **Web Services, Policies.**

      iv. Click on **Import From File** and import the following template:

      - sgg_dg_cfs_multispeak_header_client_policy.xml

      This file is located in the following directory:

      UNIX: $SPLEBASE/soaapp

      Windows: %SPLEBASE%\soaapp

   c. For SOA 12c version, perform the following steps to import policies:

      i. Import the "sgg_dg_cfs_multispeak_header_client_policy" policy file ($SPLEBASE/soaapp) using Enterprise Manager.

      ii. In Oracle Enterprise Manager, navigate to **WebLogic Domain** and select the required SOA domain.

      iii. Create a "META-INF\policies\oracle" folder structure and copy the policy under oracle folder and zip the entire folder as "sgg_dg_cfs_multispeak_header_client_policy.zip"

      iv. Right click on the domain and navigate to **Web Services, WSM Policies.**

      iv. Click on **Import** and import the following zip:

      - sgg_dg_cfs_multispeak_header_client_policy.zip

      This file is located in the following directory:

      UNIX: $SPLEBASE/soaapp

      Windows: %SPLEBASE%\soaapp

To Deploy on a Separate WebLogic Instance

Note: See Configuration of Oracle Fusion Middleware Components on a Separate Server from Oracle Utilities Service and Measurement Data Foundation for more information about deploying SOA components on a separate WebLogic server.

1. Create WebLogic SOA Domain and select Enterprise Manager option.
2. Copy the following jar file to the lib folder under the WebLogic domain directory, spl-d1-soa-security.jar

   This jar is present under the following location:

   UNIX: $SOA_HOME/etc/lib

   Windows: %SOA_HOME%\etc\lib
3. Append following XML snippet to <MIDDLEWARE_HOME>\user_projects\domains\<SOA Domain>\config\fmwconfig\system-jazn-data.xml :

```
<grant>
<grantee>
<codesource>
 <url>file:${domain.home}/lib/spl-d1-soa-security.jar</url>
</codesource>
</grantee>
<permissions>
<permission>
<class>oracle.security.jps.service.credstore.CredentialAccessPermi
ssion</class>
<name>context=SYSTEM,mapName=*,keyName=*</name>
<actions>*</actions>
</permission>
</permissions>
<permission-set-refs>
</permission-set-refs>
</grant>
```

4. Start the separate WebLogic instance.
5. Before SOA composites deployment, import the Policy Templates and Policies.

   a. First, import the two policy template files using Enterprise Manager.

   i. In Oracle Enterprise Manager, navigate to **WebLogic Domain** and select the required SOA domain.

   ii. Right click on the domain and navigate to **Web Services, Policies.**

   iii. Click on **Web Services Assertion Templates** at the top of the page

   iv. Copy the following files from the Oracle Utilities application server to the SOA server:

   - sgg_d1_csf_access_client_custom_template.xml
   - sgg_d1_csf_access_client_xpath_template.xml

     These files are located in the following Oracle Utilities application server directory:

     UNIX: $SPLEBASE/soaapp

     Windows: %SPLEBASE%\soaapp

   v. Click on **Import From File** and import the following templates:

   - sgg_d1_csf_access_client_custom_template.xml

- sgg_d1_csf_access_client_xpath_template.xml

b. For SOA 12c version, perform the following steps to import policies:

i. Next, import the "sgg_dg_cfs_multispeak_header_client_policy.xml" policy file ($SPLEBASE/soaapp) using Enterprise Manager.

ii. In Oracle Enterprise Manager, navigate to **WebLogic Domain** and select the required SOA domain.

iii. Right click on the domain and navigate to **Web Services, Policies.**

iv. Copy the following file from the Oracle Utilities application server to the SOA server:

- sgg_dg_cfs_multispeak_header_client_policy.xml

  The file is located in the following Oracle Utilities application server directory:

  UNIX: $SPLEBASE/soaapp

  Windows: %SPLEBASE%\soaapp

v. Click on **Import From File** and import the following templates

- sgg_dg_cfs_multispeak_header_client_policy.xml

c. For SOA 12c version, perform the following steps to import policies:

i. Import the "sgg_dg_cfs_multispeak_header_client_policy" policy file ($SPLEBASE/soaapp) using Enterprise Manager.

ii. In Oracle Enterprise Manager, navigate to **WebLogic Domain** and select the required SOA domain.

iii. Create a "META-INF\policies\oracle" folder structure, copy the policy under oracle folder and zip the entire folder as "sgg_dg_cfs_multispeak_header_client_policy.zip"

iv. Right click on the domain and navigate to **Web Services, WSM Policies.**

iv. Click on **Import** and import the following zip:

- sgg_dg_cfs_multispeak_header_client_policy.zip

This file is located in the following directory:

UNIX: $SPLEBASE/soaapp

Windows: %SPLEBASE%\soaapp

4. Deploy the SOA cartridge on the separate WebLogic instance

   Note: Modify the SOA Host Server, SOA Port Number, SOA WebLogic User Name, SOA WebLogic User Password and Endpoint URLs menu items according to separate domain using "SOA Configuration Menu item 9".

   UNIX:

   ```
   cd $SPLEBASE/soaapp
   ```

   For WebLogic 12c:

   ```
   $SPLEBASE/product/apache-ant/bin/ant -buildfile deploy-soa_MDF.xml
   -Dserver.user=<ADMIN_USER> -Dserver.password=<ADMIN_PASSWORD>

   $SPLEBASE/product/apache-ant/bin/ant -buildfile deploy-soa_DG.xml
   -Dserver.user=<ADMIN_USER> -Dserver.password=<ADMIN_PASSWORD>
   ```

   For WebLogic 11g:

```
$SPLEBASE/product/apache-ant/bin/ant -buildfile deploy-soa_MDF.xml
-Dserver.user=<ADMIN_USER> -Dserver.password=<ADMIN_PASSWORD>
 -Dsoa.version=11g

$SPLEBASE/product/apache-ant/bin/ant -buildfile deploy-soa_DG.xml
-Dserver.user=<ADMIN_USER> -Dserver.password=<ADMIN_PASSWORD>
-Dsoa.version=11g
```

Windows:

```
cd %SPLEBASE%\soaapp
```

For WebLogic 12c:

```
%SPLEBASE%\product\apache-ant\bin\ant -buildfile deploy
-soa_MDF.xml
-Dserver.user=<ADMIN_USER> -Dserver.password=<ADMIN_PASSWORD>

%SPLEBASE%\product\apache-ant\bin\ant
-buildfile deploy-soa_DG.xml
-Dserver.user=<ADMIN_USER> -Dserver.password=<ADMIN_PASSWORD>
```

For WebLogic 11g:

```
%SPLEBASE%\product\apache-ant\bin\ant -buildfile deploy-
soa_MDF.xml -Dserver.user=<ADMIN_USER> -
Dserver.password=<ADMIN_PASSWORD>
-Dsoa.version=11g

%SPLEBASE%\product\apache-ant\bin\ant
-buildfile deploy-soa_DG.xml
-Dserver.user=<ADMIN_USER> -Dserver.password=<ADMIN_PASSWORD>
-Dsoa.version=11g
```

5. Deploy the TestHarness SOA composites on the separate WebLogic instance.

UNIX:

```
cd $SPLEBASE/soaapp
```

For WebLogic 12c:

```
$SPLEBASE/product/apache-ant/bin/ant -buildfile deploy-soa_DG.xml
deployTestHarness -Dserver.user=<ADMIN_USER>
-Dserver.password=<ADMIN_PASSWORD>
```

For WebLogic 11g:

```
$SPLEBASE/product/apache-ant/bin/ant -buildfile deploy-soa_DG.xml
deployTestHarness -Dserver.user=<ADMIN_USER>
-Dserver.password=<ADMIN_PASSWORD> -Dsoa.version=11g
```

Windows:

```
cd %SPLEBASE%\soaapp
cd %SPLEBASE%\soaapp
```

For WebLogic 12c:

```
%SPLEBASE%\product\apache-ant\bin\ant -buildfile
deploy-soa_DG.xml deployTestHarness -Dserver.user=<ADMIN_USER>
-Dserver.password=<ADMIN_PASSWORD>
```

For WebLogic 11g:

```
%SPLEBASE%\product\apache-ant\bin\ant -buildfile
deploy-soa_DG.xml deployTestHarness -Dserver.user=<ADMIN_USER>
-Dserver.password=<ADMIN_PASSWORD> -Dsoa.version=11g
```

Configuring Security for the SOA System

Security is managed through policies attached to the input and output points of each composite. More information on policies and their configuration can be found in the *Oracle Fusion Middleware Administrator's Guide for Oracle SOA Suite*, Chapter 10: Configuring Policies.

This section describes how to configure security credentials for the SOA system, including:

- Configuring Security for the SOA System to Communicate with the Application Framework
- Configuring Security for the SOA System to Communicate with the Head-End System

Configuring Security for the SOA System to Communicate with the Application Framework

Configuring security for the SOA system involves using Oracle Enterprise Manager to create the following security credentials:

- A Credential Map
- A Credential Key for the WebLogic Server.
- A Credential Key for the Oracle Utilities Application Framework

Use the following procedure to create the security credentials:

1. In Oracle Enterprise Manager, expand the WebLogic domain, right-click on the domain, and choose **Security**, **Credentials**.
2. On the **Credentials** page, click **Create Map**.
3. In the Create Map dialog, name the map **oracle.wsm.security**, then click **OK**.
4. Click **Create Key** and enter the following values:
    - **Select Map:** oracle.wsm.security
    - **Key:** sgg.dg.credentials
    - **Type:** Password
    - **Username:** A valid WebLogic user name
    - **Password:** A valid WebLogic password
5. Click **OK**.
6. Click **Create Key** again and enter the following values:
    - **Select Map:** oracle.wsm.security
    - **Key: s**gg.dg.ouaf.credentials
    - **Type:** Password

- **Username:** A valid OUAF user name
- **Password:** A valid OUAF password

7. Click **OK**.

Configuring Security for the SOA System to Communicate with the Head-End System

The ADK Test Harness is a frequently-used substitute for a real head-end System. Some specific settings highlighted below will facilitate connecting to and using the Test Harness.

- Creating Security Credentials
- Creating the Web Service Policy for the Security Credentials

Creating Security Credentials

Configuring security for the SOA system involves creating the security credentials in Oracle Enterprise Manager.

To create the security credential in the Credential File Store (CFS):

1. In Oracle Enterprise Manager, navigate to **WebLogic Domain** and select the required SOA domain.
2. In the WebLogic Domain menu, navigate to **Security**, **Credentials**.
3. Click **Create Map** to set up a new credentials store.
4. In the Create Map dialog box, enter a unique value in the Map Name field.
5. Click **OK**.
6. Select the new map in the Credentials list and click **Create Key**.
7. In the Create Key dialog box, enter the appropriate values in the fields. In the Type field, select **Password**.
8. Click **OK**.

   By default, the sgg_dg_cfs_multispeak_header_client_policy policy imported previously uses a Credential Map named "dg.security" and a Credential Key called "dg.credentials." Use these values unless making changes to the template values.

   Test Harness Note: By default, the Test Harness expects a user name of "MultiSpeakUserID" and a password of "MultiSpeakPwd."

Creating the Web Service Policy for the Security Credentials

To create a web service policy for the security credentials:

1. In Oracle Enterprise Manager, navigate to **WebLogic Domain** and select the required SOA domain.
2. In the WebLogic Domain menu, navigate to **Web Services, Policies**.
3. Select the policy oracle/wss_http_token_client_policy.
4. Click **Create Like.**
   - Give the policy a unique name and an appropriate description.
   - Under Assertions, remove the Log Message and the HTTP Security policies.
   - Click **Add.**
   - Enter a name for the new assertion.

- In the Assertion Template field, select sgg/d1_csf_access_client_xpath_template.
- Click **OK.**

5. In the Assertion Content field, edit property values in the XML according to the example below. The following table lists the property values that should be edited:

Field	Default Value	Description
csf-map		Required. The credential store map to use. This value is specified in the task "Creating Security Credentials" on page 16.
csf-key		Required. The key in the credential store map that will resolve to a username-password pair. This value is specified in the task "Creating Security Credentials" on page 16.
namespaceDefinitions		Prefix-namespace definitions used in the xpath fields below. Each should be in the form prefix=namespace. Multiple definitions should be separated by spaces. Default namespaces cannot be set.
soapElement	Header	The context node for xpath searches, either the SOAP header or the SOAP body. Legal values are "header" and "body."
userid.xpath		The xpath to the location to inject the username in the SOAP element. The statement must resolve to an attribute or element that already exists.
password.xpath		The xpath to the location to inject the password in the SOAP element. The statement must resolve to an attribute or element that already exists.
isDebuggingActive	false	Reserved for internal use.

```
<orasp:SGGCredentialStoreInsertionXPath xmlns:orawsp="http://
schemas.oracle.com/ws/2006/01/policy" orawsp:Silent="true"
orawsp:name="CSF_DG" orawsp:description="Properties to add CSF
credentials to a SOAP message" orawsp:Enforced="true"
orawsp:category="security/authentication" xmlns:orasp="http://
schemas.oracle.com/ws/2006/01/securitypolicy">
    <orawsp:bindings>

<orawsp:Implementation>com.splwg.d1.sgg.soa.common.security.policy.Cre
```

```
dentialStorageFacilityAccessAssertationExecutor</
orawsp:Implementation>
        <orawsp:Config orawsp:name="CSFKeyInsertionConfig"
orawsp:configType="declarative">
            <orawsp:PropertySet orawsp:name="CSFKeyProperties">
                <orawsp:Property orawsp:type="string"
orawsp:contentType="required" orawsp:name="csf-map">
                    <orawsp:Description>Which CSF map to use</
orawsp:Description>
                    <orawsp:Value>CSF_map_name</orawsp:Value>
                </orawsp:Property>
                <orawsp:Property orawsp:type="string"
orawsp:contentType="required" orawsp:name="csf-key">
                    <orawsp:Description>Which key in the map to use</
orawsp:Description>
                    <orawsp:Value>CSF_Key</orawsp:Value>
                </orawsp:Property>
            </orawsp:PropertySet>
            <orawsp:PropertySet orawsp:name="XPathProperties">
                <orawsp:Property orawsp:type="string"
orawsp:contentType="required" orawsp:name="soapElement">
                  <orawsp:Description>The segment of the soap message
to which to write.  Legal Values are "header" &amp;amp; "body"</
orawsp:Description>
                    <orawsp:Value>header</orawsp:Value>
                </orawsp:Property>
                <orawsp:Property orawsp:type="string"
orawsp:contentType="optional" orawsp:name="namespaceDefinitions">
                    <orawsp:Description>A space-separated list of
prefix-namespace pairs.  For example: ns1=http://myurl.com/ns1
ns2=http://oracle.com xsd=http://www.w3.org/2001/XMLSchema</
orawsp:Description>
                    <orawsp:Value>ns1=http://www.multispeak.org/
Version_4.1_Release</orawsp:Value/>
                </orawsp:Property>
                <orawsp:Property orawsp:type="string"
orawsp:contentType="required" orawsp:name="userid.xpath">
                    <orawsp:Description>The xpath relative to the
soapElement property at which to insert the user id.</
orawsp:Description>
                    <orawsp:Value>./ns1:MultiSpeakMsgHeader/@UserID</
orawsp:Value>
                </orawsp:Property>
                <orawsp:Property orawsp:type="string"
orawsp:contentType="required" orawsp:name="password.xpath">
                    <orawsp:Description>The xpath relative to the
soapElement property at which to insert the password.</
orawsp:Description>
                    <orawsp:Value>./ns1:MultiSpeakMsgHeader/@Pwd</
orawsp:Value>
                </orawsp:Property>
            </orawsp:PropertySet>
            <orawsp:PropertySet orawsp:name="DebugProperties">
                <orawsp:Property orawsp:type="boolean"
orawsp:contentType="optional" orawsp:name="isDebuggingActive">
                    <orawsp:Description>controls debugging output</
orawsp:Description>
                    <orawsp:Value>false</orawsp:Value>
                    <orawsp:DefaultValue>false</orawsp:DefaultValue>
                </orawsp:Property>
            </orawsp:PropertySet>
        </orawsp:Config>
```

```
    </orawsp:bindings>
</orasp:SGGCredentialStoreInsertionXPath>
```

6. Save the policy.
7. Attach the policy to the MR_Server reference on the Common composite.
   - In Oracle Enterprise Manager, navigate to the **DG/Common** composite.
   - Navigate to the Policies tab.
   - From the **Attach To/Detach From** menu, select **MR_Server.**
   - In the Attached Policies window, select the oracle/wss_http_token_client_policy.
   - Click **Detach** to remove the default security policy.
   - In the Available Policies window, select the policy that you just created.
   - Click **Attach** to attach the policy to the MR_Server reference.
8. Attach the policy to the CD_Server reference on the Common composite.
   - Navigate to the **DG/Common** composite.
   - Navigate to the Policies tab.
   - From the **Attach To/Detach From** menu, select **CD_Server.**
   - In the Attached Policies window, select the oracle/wss_http_token_client_policy.
   - Click **Detach** to remove the default security policy.
   - In the Available Policies window, select the policy that you just created.
   - Click **Attach** to attach the policy to the CD_Server reference.
9. Attach the policy to the OD_Server reference on the Common composite.
   - Navigate to the **DG/Common** composite.
   - Navigate to the Policies tab.
   - From the **Attach To/Detach From** menu, select **OD_Server.**
   - In the Attached Policies window, select the oracle/wss_http_token_client_policy.
   - Click **Detach** to remove the default security policy.
   - In the Available Policies window, select the policy that you just created.
   - Click **Attach** to attach the policy to the OD_Server reference.

Starting the Application

The OSB WebLogic server instance should be up and running before starting the main application.

The first time you start Oracle Utilities Smart Grid Gateway, you need to log in to the WebLogic console and give system access to cisusers role. The WebLogic console application can be accessed through the following URL:

```
http://<hostname>:<portname>/console
```

To start up the environment, run the following command:

UNIX: spl.sh start

Windows: spl.cmd start

Follow the messages on the screen along with the logs in $SPLSYSTEMLOGS directory to ensure that the environment was started successfully.

If the startup failed, identify the problem by reviewing the logs. Resolve any issues before attempting to restart the environment.

You should postpone the startup process until you are done with postinstallation steps.

Use the following utility to stop the environment:

UNIX: spl.sh stop

Windows: spl.cmd stop

Configuration Tasks for the Adapter for Echelon

This section describes the tasks that should be taken after installing Oracle Utilities Smart Grid Gateway Adapter for Echelon, including:

- Deploying the OSB Adapter for Echelon
- Deploying the SOA Adapter for Echelon
- Deploying the Test Harness
- Configuring the Echelon Head-End System to Report Events
- Configuring Security for the SOA System
- Starting the Application

Note: Oracle Enterprise Manager may be required for some of the security setups and for monitoring SOA. If Oracle Enterprise Manager is required, you need to extend the example SOA WebLogic domain and enable Enterprise Manager using WebLogic's configuration utility.

Deploying the OSB Adapter for Echelon

This section describes how to deploy the OSB Adapter.

To Deploy on the Example WebLogic Instance

1. Create the following directories under <OSB_LOG_DIR>:

```
d4-event
d4-event-arch
d4-event-error
d4-usage
d4-usage-arch
d4-usage-error
```

2. Start the example OSB WebLogic instance.

UNIX:

```
cd $SPLEBASE/osbapp
./startWebLogic.sh
```

Windows:

```
cd %SPLEBASE%\osbapp
startWebLogic.cmd
```

3. Deploy the OSB adapter on the example WebLogic instance.

Note: Example Domain is only for WebLogic 10.3.6 and not for WebLogic 12.1.3.0+.

UNIX:

```
cd $SPLEBASE/osbapp
$SPLEBASE/product/apache-ant/bin/ant -buildfile deploy-osb_D4.xml
-Dadmin.user=<OSB_Server_Username> -Dadmin.password=<
 OSB_Server_Password> -Douaf.user=<JMS_USER>
-Douaf.password=<JMS_PASSWORD> -Dosb.version=11g
```

Note: Use the following command if this is an upgrade from a previous version:

```
cd $SPLEBASE/osbapp
$SPLEBASE/product/apache-ant/bin/ant -buildfile deploy-osb_D4.xml
```

```
 update_osb -Dadmin.user=weblogic -Dadmin.password=weblogic123
-Douaf.user=weblogic -Douaf.password=weblogic123 -Dosb.version=11g
```

This will not override any OSB custom changes

Windows:

```
cd %SPLEBASE%\osbapp
%SPLEBASE%\product\apache-ant\bin\ant -buildfile deploy-osb_D4.xml
-Dadmin.user=<OSB_Server_Username> -Dadmin.password=<
 OSB_Server_Password> -Douaf.user=<JMS_USER> -
 Douaf.password=<JMS_PASSWORD> -Dosb.version=11g
```

Note: Use the following command if this is an upgrade from a previous version:

```
cd %SPLEBASE%/osbapp
%SPLEBASE%/product/apache-ant/bin/ant -buildfile deploy-osb_D4.xml
 update_osb -Dadmin.user=weblogic -Dadmin.password=weblogic123
-Douaf.user=weblogic -Douaf.password=weblogic123 -Dosb.version=11g
```

This will not override any OSB custom changes

To Deploy on a Separate WebLogic Instance

Note: See Configuration of Oracle Fusion Middleware Components on a Separate Server from Oracle Utilities Service and Measurement Data Foundation for more information about deploying OSB components on a separate WebLogic server.

1. Create the following directories under <OSB_LOG_DIR>:

```
d4-event
d4-event-arch
d4-event-error
d4-usage
d4-usage-arch
d4-usage-error
```

2. Copy the following jars to the lib folder under the WebLogic's domain directory:

```
spl-d1-osb-2.1.0.3.0.jar
spl-d4-osb-2.1.0.3.0.jar
```

These jars are present under the following location:

UNIX: $OSB_HOME/etc/lib

Windows: %OSB_HOME%\etc\lib

3. Start the separate WebLogic instance.
4. Create JMS queues and target them to the OSB admin server:
   - Create a JMS server "OSB-JMSServer" and target it to the admin server
   - Create a JMS module "D4-SystemModule"
   - Under "D4-SystemModule" create a sub-deployment "D4-JMSFAServer" and target it to "OSB-JMSServer"
   - Create the following JMS queues:

     Queue Name: DestinationQueue-D4

JNDI Name: DestinationQueue-D4

Sub-deployment: D4-JMSFAServer

Targets: OSB-JMSServer

Queue Name: NotificationQueue-D4

JNDI Name: NotificationQueue-D4

Sub-deployment: D4-JMSFAServer

Targets: OSB-JMSServer

5. Deploy the OSB adapter on the separate WebLogic instance by running the following command from the Oracle Utilities application server:

UNIX:

```
cd $SPLEBASE/osbapp
```

For WebLogic 12c:

```
$SPLEBASE/product/apache-ant/bin/ant -buildfile deploy-osb_D4.xml
-Dadmin.user=<OSB_ADMIN_USER>
-Dadmin.password=<OSB_ADMIN_PASSWORD>
-Douaf.user=<JMS_USER> -Douaf.password=<JMS_PASSWORD>
```

For WebLogic 11g:

```
$SPLEBASE/product/apache-ant/bin/ant -buildfile deploy-osb_D4.xml
-Dadmin.user=<OSB_ADMIN_USER>
-Dadmin.password=<OSB_ADMIN_PASSWORD>
-Douaf.user=<JMS_USER> -Douaf.password=<JMS_PASSWORD>
-Dosb.version=11g
```

Note: Use the following command if this is an upgrade from a previous version:

For WebLogic 12c:

```
cd $SPLEBASE/osbapp
$SPLEBASE/product/apache-ant/bin/ant -buildfile deploy-osb_D4.xml
update_osb -Dadmin.user=weblogic -Dadmin.password=weblogic123
-Douaf.user=weblogic -Douaf.password=weblogic123
```

For WebLogic 11g:

```
cd $SPLEBASE/osbapp
$SPLEBASE/product/apache-ant/bin/ant -buildfile deploy-osb_D4.xml
 update_osb -Dadmin.user=weblogic -Dadmin.password=weblogic123
-Douaf.user=weblogic -Douaf.password=weblogic123 -Dosb.version=11g
```

This will not override any OSB custom changes

Windows:

```
cd %SPLEBASE%\osbapp
```

For WebLogic 12c:

```
%SPLEBASE%\product\apache-ant\bin\ant -buildfile deploy-osb_D4.xml
-Dadmin.user=<OSB_ADMIN_USER>
-Dadmin.password=<OSB_ADMIN_PASSWORD> -Douaf.user=<JMS_USER>
-Douaf.password=<JMS_PASSWORD>

For WebLogic 11g:

%SPLEBASE%\product\apache-ant\bin\ant -buildfile deploy-osb_D4.xml
-Dadmin.user=<OSB_ADMIN_USER>
-Dadmin.password=<OSB_ADMIN_PASSWORD> -Douaf.user=<JMS_USER>
-Douaf.password=<JMS_PASSWORD> -Dosb.version=11g
```

Note: Use the following command if this is an upgrade from a previous version:

For WebLogic 12c:

```
cd %SPLEBASE%/osbapp
%SPLEBASE%/product/apache-ant/bin/ant -buildfile deploy-osb_D4.xml
update_osb -Dadmin.user=weblogic -Dadmin.password=weblogic123
-Douaf.user=weblogic -Douaf.password=weblogic123
```

For WebLogic 11g:

```
cd %SPLEBASE%/osbapp
%SPLEBASE%/product/apache-ant/bin/ant -buildfile deploy-osb_D4.xml
 update_osb -Dadmin.user=weblogic -Dadmin.password=weblogic123
-Douaf.user=weblogic -Douaf.password=weblogic123 -Dosb.version=11g
```

This will not override any OSB custom changes

Deploying the SOA Adapter for Echelon

The SOA adapter can be deployed on the bundled WebLogic example server instance or on a separate WebLogic server instance.

Note: Oracle Enterprise Manager may be required for some of the security setups and for monitoring SOA. If Oracle Enterprise Manager is required, you need to extend the example SOA WebLogic domain and enable Enterprise Manager using WebLogic's configuration utility.

To deploy the SOA adapter, use the following procedures:

To Deploy on the Example WebLogic Instance

1. Start the example SOA WebLogic instance:

   UNIX:

   ```
   cd $SPLEBASE/soaapp
   ./startWebLogic.sh
   ```

   Windows:

   ```
   cd %SPLEBASE%\soaapp startWebLogic.cmd
   ```

2. Deploy the SOA adapter on the example WebLogic instance

   UNIX:

```
cd $SPLEBASE/soaapp
```

For WebLogic 11g:

```
$SPLEBASE/product/apache-ant/bin/ant -buildfile deploy-soa_MDF.xml
-Dserver.user=weblogic -Dserver.password=weblogic123
-Dsoa.version=11g

$SPLEBASE/product/apache-ant/bin/ant -buildfile deploy-soa_D4.xml
-Dserver.user=weblogic -Dserver.password=weblogic123
-Dsoa.version=11g
```

Windows:

```
cd %SPLEBASE%\soaapp
```

For WebLogic 11g:

```
%SPLEBASE%\product\apache-ant\bin\ant -buildfile deploy
-soa_MDF.xml
-Dserver.user=weblogic -Dserver.password=weblogic123
-Dsoa.version=11g

%SPLEBASE%\product\apache-ant\bin\ant -buildfile deploy-soa_D4.xml
-Dserver.user=weblogic -Dserver.password=weblogic123
-Dsoa.version=11g
```

To Deploy on a Separate WebLogic Instance

Note: See Configuration of Oracle Fusion Middleware Components on a Separate Server from Oracle Utilities Service and Measurement Data Foundation for more information about deploying SOA components on a separate WebLogic server.

1. Copy the following jar file to the lib folder under the WebLogic domain directory:

   ```
   spl-d1-soa-security.jar
   ```

   This jar is present under the following location:

   UNIX: $SPLEBASE/etc/lib

   Windows: %SPLEBASE%\etc\lib

2. Start the separate WebLogic instance.

3. Deploy the SOA adapter on the separate WebLogic instance by running the following command from the Oracle Utilities application server:

   UNIX:

   For WebLogic 12c:

   ```
   $SPLEBASE/product/apache-ant/bin/ant -buildfile deploy-soa_MDF.xml
   -Dserver.user=<ADMIN_USER> -Dserver.password=<ADMIN_PASSWORD>

   $SPLEBASE/product/apache-ant/bin/ant -buildfile deploy-soa_D4.xml
   -Dserver.user=<ADMIN_USER> -Dserver.password=<ADMIN_PASSWORD>
   ```

   For WebLogicWebLogic 11g:

   ```
   $SPLEBASE/product/apache-ant/bin/ant -buildfile deploy-soa_MDF.xml
   -Dserver.user=<ADMIN_USER> -Dserver.password=<ADMIN_PASSWORD>
   ```

```
-Dsoa.version=11g

$SPLEBASE/product/apache-ant/bin/ant -buildfile deploy-soa_D4.xml
-Dserver.user=<ADMIN_USER> -Dserver.password=<ADMIN_PASSWORD>
-Dsoa.version=11g
```

Windows:

```
cd %SPLEBASE%\soaapp
```

For WebLogic 12c:

```
%SPLEBASE%\product\apache-ant\bin\ant -buildfile deploy
-soa_MDF.xml
-Dserver.user=<ADMIN_USER> -Dserver.password=<ADMIN_PASSWORD>

%SPLEBASE%\product\apache-ant\bin\ant
-buildfile deploy-soa_D4.xml
-Dserver.user=<ADMIN_USER> -Dserver.password=<ADMIN_PASSWORD>
```

For WebLogic 11g:

```
%SPLEBASE%\product\apache-ant\bin\ant -buildfile deploy
-soa_MDF.xml
-Dserver.user=<ADMIN_USER> -Dserver.password=<ADMIN_PASSWORD>
-Dsoa.version=11g

%SPLEBASE%\product\apache-ant\bin\ant
-buildfile deploy-soa_D4.xml
-Dserver.user=<ADMIN_USER> -Dserver.password=<ADMIN_PASSWORD>
-Dsoa.version=11g
```

Deploying the Test Harness

The test harness is a set of mock web services that can be used to test the SOA configuration setup and functionality in the absence of an actual physical head-end system. This is an optional task.

Note: The test harness is not a supported feature of the application.

Use the following procedures to deploy the test harness SOA adapter:

To Deploy on the Example WebLogic Instance

1. Deploy the test harness on the example WebLogic instance

   Note: Example Domain is only for WebLogic 10.3.6 and not for WebLogic 12.1.3.0+

   UNIX:

   ```
   cd $SPLEBASE/soaapp
   ```

   For WebLogic 11g:

   ```
   $SPLEBASE/product/apache-ant/bin/ant -buildfile deploy-soa_D4.xml
    deployTestHarness -Dserver.user=weblogic
   -Dserver.password=weblogic123 -Dsoa.version=11g
   ```

   Windows:

Note: Open the command prompt as Administrative mode and then select the environment to deploy SOA.

```
cd %SPLEBASE%/soaapp
```

For WebLogic 11g:

```
%SPLEBASE%\product\apache-ant\bin\ant -buildfile
deploy-soa_D4.xml deployTestHarness -Dserver.user=weblogic
-Dserver.password=weblogic123 -Dsoa.version=11g
```

To Deploy on a Separate WebLogic Instance

1. Deploy the SOA adapter on the separate WebLogic instance

UNIX:

```
cd $SPLEBASE/soaapp
```

For WebLogic 12c:

```
$SPLEBASE/product/apache-ant/bin/ant -buildfile deploy-soa_D4.xml
deployTestHarness -Dserver.user=<ADMIN_USER>
-Dserver.password=<ADMIN_PASSWORD>
```

For WebLogic 11g:

```
$SPLEBASE/product/apache-ant/bin/ant -buildfile deploy-soa_D4.xml
 deployTestHarness -Dserver.user=<ADMIN_USER>
-Dserver.password=<ADMIN_PASSWORD> -Dsoa.version=11g
```

Windows:

```
cd %SPLEBASE%\soaapp
```

For WebLogic 12c:

```
%SPLEBASE%\product\apache-ant\bin\ant -buildfile deploy-soa_D4.xml
 deployTestHarness -Dserver.user=<ADMIN_USER>
-Dserver.password=<ADMIN_PASSWORD>
```

For WebLogic 11g:

```
%SPLEBASE%\product\apache-ant\bin\ant -buildfile deploy-soa_D4.xml
 deployTestHarness -Dserver.user=<ADMIN_USER>
-Dserver.password=<ADMIN_PASSWORD> -Dsoa.version=11g
```

Configuring the Echelon Head-End System to Report Events

This section describes how to configure the Echelon head-end system to report events to the Echelon. Configuring the head-end system requires using the NES Diagnostic Tool to specify the following system properties:

- Event Delivery Type
- Event Receiver URL
- Event Receiver Namespace
- API Key Timeout Period

Configuring the Event Delivery Type

To configure the event delivery type:

1. In the NES Diagnostic Tool navigation tree, navigate to **NES System Data, Event Configuration.**
2. In the tree, select the **Add Device Failure** event to view its properties.
3. Set the DELIVERYTYPEID property to **EventDeliveryType.SOAP.**

Repeat this task for each of the following events:

- Add Device Failure
- Add Device Success
- Connect Device Load Command Complete
- Disconnect Device Load Command Complete
- Move Device Success
- Move Device Failure
- Read Device Load Profile On-Demand Command Complete
- Read Device Full Load Profile Command Complete
- Read Device Load Status Command Complete
- Read Device Billing Data On-Demand Command Complete
- Set Device ATM Configuration Command Complete

Configuring the Event Receiver URL

To Configure the Event Receiver URL:

1. In the NES Diagnostic Tool navigation tree, navigate to **NES System Data, Settings, Solution Settings.**
2. Select **Event Receiver URL** to view its properties.
3. Set the VALUE property to the URL that is specified for the web service ReceivePanoramixEvents. For example:

```
http://<NES_HOST>:<PORT_NUMBER>/soa-infra/services/Echelon_NES/
HandleReceiveEvents/ReceivePanoramixEvents
```

4. Restart the application server that hosts the Echelon head-end system. (The World Wide Web and Echelon Local Task Manager services).

Configuring the Event Receiver Namespace

To Configure the Event Receiver Namespace:

1. In the NES Diagnostic Tool navigation tree, navigate to **NES System Data, Settings, Solution Settings.**
2. Select **Event Receiver Namespace.**
3. Set the VALUE property to **http://tempuri.org.** This is the namespace for the Echelon Adapter web service that will receive the events.

Configuring the API Key Timeout Period

> **Note:** This task is optional. By default the API Key Timeout Period is set to 60 minutes.

To configure the API Key Timeout Period:

1. In the NES Diagnostic Tool navigation tree, navigate to NES System Data, Settings, Solution Settings.
2. In the tree, select the API Key Timeout Period to view its properties.

3. Change the VALUE property to set the timeout period for the API key.

Restart the application server that hosts the Echelon head-end system.

Configuring Security for the SOA System

Security is managed through policies attached to the input and output points of each composite. More information on policies and their configuration can be found in the *Oracle Fusion Middleware Administrator's Guide for Oracle SOA Suite*, Chapter 10: Configuring Policies.

This section describes how to configure security credentials for the SOA system, including:

- Configuring Security for the SOA System to Communicate with the Application Framework
- Configuring Security for the SOA System to Communicate with the Head-End System

Configuring Security for the SOA System to Communicate with the Application Framework

Configuring security for the SOA system involves using Oracle Enterprise Manager to create the following security credentials:

- A Credential Map
- A Credential Key for the WebLogic Server.
- A Credential Key for the Oracle Utilities Application Framework

Use the following procedure to create the security credentials:

1. In Oracle Enterprise Manager, expand the WebLogic domain, right-click on the domain, and choose **Security, Credentials**.
2. On the **Credentials** page, click **Create Map.**
3. In the Create Map dialog, name the map **oracle.wsm.security,** then click **OK.**
4. Click **Create Key** and enter the following values:
    - **Select Map:** oracle.wsm.security
    - **Key:** sgg.d4.credentials
    - **Type:** Password
    - **Username:** A valid WebLogic user name
    - **Password:** A valid WebLogic password
5. Click **OK.**
6. Click **Create Key** again and enter the following values:
    - **Select Map:** oracle.wsm.security
    - **Key:** sgg.d4.ouaf.credentials
    - **Type:** Password
    - **Username:** A valid OUAF user name
    - **Password:** A valid OUAF password
7. Click **OK.**

Configuring Security for the SOA System to Communicate with the Head-End System

Configuring security for the SOA system involves creating the security credentials in Oracle Enterprise Manager, and then creating a web service policy that uses the credentials to communicate with the head-end system. These configuration tasks are described in the following sections:

- Creating the Security Credentials
- Importing the Policy Assertion Templates
- Creating the Web Service Policy for the Security Credentials

Creating the Security Credentials

To create the security credential in the Credential File Store (CFS):

1. In Oracle Enterprise Manager, navigate to **WebLogic Domain** and select the required SOA domain.
2. Right click on the domain and navigate to **Security, Credentials.**
3. Click **Create Map** to set up a new credentials store.
4. In the Create Map dialog box, enter a unique value in the Map Name field. For example, nes.credentials.
5. Click **OK.**
6. Select the new map in the Credentials list and click **Create Key.** For example, nes-key.
7. In the Create Key dialog box, enter the appropriate values in the fields. In the Type field, select **Password.**
8. Click **OK.**

Importing the Policy Assertion Templates

The application includes several policy assertion templates that you can use to create security credentials. To import the policy assertion templates:

1. In Oracle Enterprise Manager, navigate to **WebLogic Domain** and select the required SOA domain.
2. Right click on the domain and navigate to **Web Services, Policies**
3. Click on **Web Services Assertion Templates** at the top of the page
4. Click on **Import From File** and import the following templates:
   - sgg_d1_csf_access_client_custom_template.xml
   - sgg_d1_csf_access_client_xpath_template.xml

   These files are located in the following directory:

   UNIX: $SPLEBASE/soaapp

   Windows: %SPLEBASE%\soaapp

Creating the Web Service Policy for the Security Credentials

To create a web service policy for the security credentials:

1. In Oracle Enterprise Manager, navigate to **WebLogic Domain** and select the required SOA domain.
2. Right click on the domain and navigate to **Web Services, Policies.** In the **Applies To** field, select either **All** or **Service Clients.**
3. Select the policy oracle/wss_http_token_client_policy.
4. Click **Create Like.**
   - Give the policy a unique name and an appropriate description.

- Under Assertions, remove the Log Message and the HTTP Security policies.
- Click **Add.**
- Enter a name for the new assertion.
- In the Assertion Template field, select sgg/d1_csf_access_client_xpath_template and click **Save.**
- Click **OK.**

5. In the Assertion Content field, edit property values in the XML according to the example below. The following table lists the property values that should be edited:

Field	Default Value	Description
csf-map		Required. The credential store map to use. This value is specified in the task "Creating the Security Credentials" on page 30.
csf-key		Required. The key in the credential store map that will resolve to a username-password pair. This value is specified in the task "Creating the Security Credentials" on page 30.
namespaceDefinitions		Prefix-namespace definitions used in the xpath fields below. Each should be in the form prefix=namespace. Multiple definitions should be separated by spaces. Default namespaces cannot be set.
soapElement	Body	The context node for xpath searches, either the SOAP header or the SOAP body. Legal values are "header" and "body."
userid.xpath		The xpath to the location to inject the username in the SOAP element. The statement must resolve to an attribute or element that already exists.
password.xpath		The xpath to the location to inject the password in the SOAP element. The statement must resolve to an attribute or element that already exists.
isDebuggingActive	false	Reserved for internal use.

```
<orasp:SGGCredentialStoreInsertionXPath xmlns:orawsp="http://
schemas.oracle.com/ws/2006/01/policy" orawsp:Silent="true"
```

```
orawsp:name="CSF_Echelon" orawsp:description="Properties to add CSF
credentials to a SOAP message" orawsp:Enforced="true"
orawsp:category="security/authentication" xmlns:orasp="http://
schemas.oracle.com/ws/2006/01/securitypolicy">
    <orawsp:bindings>

<orawsp:Implementation>com.splwg.d1.sgg.soa.common.security.policy.Cre
dentialStorageFacilityAccessAssertationExecutor</
orawsp:Implementation>
        <orawsp:Config orawsp:name="CSFKeyInsertionConfig"
orawsp:configType="declarative">
            <orawsp:PropertySet orawsp:name="CSFKeyProperties">
                <orawsp:Property orawsp:type="string"
orawsp:contentType="required" orawsp:name="csf-map">
                    <orawsp:Description>Which CSF map to use</
orawsp:Description>
                    <orawsp:Value>CSF_map_name</orawsp:Value>
                </orawsp:Property>
                <orawsp:Property orawsp:type="string"
orawsp:contentType="required" orawsp:name="csf-key">
                    <orawsp:Description>Which key in the map to use</
orawsp:Description>
                    <orawsp:Value>CSF_Key</orawsp:Value>
                </orawsp:Property>
            </orawsp:PropertySet>
            <orawsp:PropertySet orawsp:name="XPathProperties">
                <orawsp:Property orawsp:type="string"
orawsp:contentType="required" orawsp:name="soapElement">
                  <orawsp:Description>The segment of the soap message
to which to write.  Legal Values are "header" &amp;amp; "body"</
orawsp:Description>
                    <orawsp:Value>body</orawsp:Value>
                </orawsp:Property>
                <orawsp:Property orawsp:type="string"
orawsp:contentType="optional" orawsp:name="namespaceDefinitions">
                    <orawsp:Description>A space-separated list of
prefix-namespace pairs.  For example: ns1=http://myurl.com/ns1
ns2=http://oracle.com xsd=http://www.w3.org/2001/XMLSchema</
orawsp:Description>
                    <orawsp:Value/>    <!-- NOTE: nothing entered in
this space -->
                </orawsp:Property>
                <orawsp:Property orawsp:type="string"
orawsp:contentType="required" orawsp:name="userid.xpath">
                    <orawsp:Description>The xpath relative to the
soapElement property at which to insert the user id.</
orawsp:Description>
                    <orawsp:Value>./sUserLogin</orawsp:Value>
                </orawsp:Property>
                <orawsp:Property orawsp:type="string"
orawsp:contentType="required" orawsp:name="password.xpath">
                    <orawsp:Description>The xpath relative to the
soapElement property at which to insert the password.</
orawsp:Description>
                    <orawsp:Value>./sPassword</orawsp:Value>
                </orawsp:Property>
            </orawsp:PropertySet>
            <orawsp:PropertySet orawsp:name="DebugProperties">
                <orawsp:Property orawsp:type="boolean"
orawsp:contentType="optional" orawsp:name="isDebuggingActive">
                    <orawsp:Description>controls debugging output</
orawsp:Description>
```

```
                        <orawsp:Value>false</orawsp:Value>
                        <orawsp:DefaultValue>false</orawsp:DefaultValue>
                    </orawsp:Property>
                </orawsp:PropertySet>
            </orawsp:Config>
        </orawsp:bindings>
</orasp:SGGCredentialStoreInsertionXPath>
```

6. Save the policy.
7. Attach the policy to the User Manger reference.
    - In Oracle Enterprise Manager, Navigate to the **AuthenticationMgr** composite. The full path is **SOA/soa-infra/Echelon/AuthenticationMgr.**
    - On the Policies tab, from the **Attach To/Detach From** menu, select **UserManager**.
    - In the Available Policies window, select the policy that you just created.
    - Click **Attach** to attach the policy to the UserManager reference.

Starting the Application

The OSB WebLogic server instance should be up and running before starting the main application.

The first time you start Oracle Utilities Smart Grid Gateway, you need to log in to the WebLogic console and give system access to cisusers role. The WebLogic console application can be accessed through the following URL:

http://<hostname>:<portname>/console

1. Start up the environment. Run the following command:

    UNIX: spl.sh start

    Windows: spl.cmd start

    Follow the messages on the screen along with the logs in $SPLSYSTEMLOGS directory to ensure that the environment was started successfully.

    If the startup failed, identify the problem by reviewing the logs. Resolve any issues before attempting to restart the environment.

    You should postpone the startup process until you are done with postinstallation steps.

    Use the following utility to stop the environment:

    UNIX: spl.sh stop

Windows: spl.cmd stop

Configuration Tasks for the Adapter for Itron OpenWay

This section describes the tasks that should be taken after installing Oracle Utilities Smart Grid Gateway Adapter for Itron OpenWay, including:

- Deploying the OSB Adapter for the Itron OpenWay
- Deploying the SOA Adapter for the Itron OpenWay
- Configuring Security for the SOA System
- Starting the Application

> **Note:** Oracle Enterprise Manager may be required for some of the security setups and for monitoring SOA. If Oracle Enterprise Manager is required, you need to extend the example SOA WebLogic domain and enable Enterprise Manager using WebLogic's configuration utility.

Deploying the OSB Adapter for the Itron OpenWay

The OSB adapter can be deployed on the bundled WebLogic example server instance or on a separate WebLogic server instance. To deploy the OSB adapter, use the following procedures:

To Deploy on the Example WebLogic Instance:

1. Create the following directories under <OSB_LOG_DIR>:

```
itronxml
itronxml-arch
itronxml-error
itronexcpetion
itronexception-arch
itronexception-error
```

2. Start the example OSB WebLogic instance.

UNIX:

```
cd $SPLEBASE/osbapp
./startWebLogic.sh
```

Windows:

```
cd %SPLEBASE%\osbapp  startWebLogic.cmd
```

3. Deploy the OSB adapter on the example WebLogic instance.

> **Note**: Example Domain is only for WebLogic 10.3.6 and not for WebLogic 12.1.3.0+

UNIX:

```
cd $SPLEBASE/osbapp
```

For WebLogic 11g:

```
$SPLEBASE/product/apache-ant/bin/ant -buildfile deploy-osb_D8.xml
-Dadmin.user=<OSB_Server_Username> -Dadmin.password=<
 OSB_Server_Password> -Douaf.user=<JMS_USER>
-Douaf.password=<JMS_PASSWORD> -Dosb.version=11g
```

> **Note:** Use the following command if this is an upgrade from a previous version:

```
cd $SPLEBASE/osbapp
```

```
$SPLEBASE/product/apache-ant/bin/ant -buildfile deploy-osb_D8.xml
 update_osb -Dadmin.user=weblogic -Dadmin.password=weblogic123
-Douaf.user=weblogic -Douaf.password=weblogic123 -Dosb.version=11g
```

This will not override any OSB custom changes

Windows:

```
cd %SPLEBASE%\osbapp
%SPLEBASE%\product\apache-ant\bin\ant -buildfile deploy-osb_D8.xml
-Dadmin.user=<OSB_Server_Username> -Dadmin.password=<
 OSB_Server_Password> -Douaf.user=<JMS_USER> -
 Douaf.password=<JMS_PASSWORD> -Dosb.version=11g
```

Note: Use the following command if this is an upgrade from a previous version:

```
cd %SPLEBASE%/osbapp
%SPLEBASE%/product/apache-ant/bin/ant -buildfile deploy-osb_D8.xml
 update_osb -Dadmin.user=weblogic -Dadmin.password=weblogic123
-Douaf.user=weblogic -Douaf.password=weblogic123 -Dosb.version=11g
```

This will not override any OSB custom changes

To Deploy on a Separate WebLogic Instance:

Note: See Configuration of Oracle Fusion Middleware Components on a Separate Server from Oracle Utilities Service and Measurement Data Foundation for more information about deploying OSB components on a separate WebLogic server.

1. Create the following directories under <OSB_LOG_DIR>:

```
itronxml
itronxml-arch
itronxml-error
itronexception
itronexception-arch
itronexception-error
```

2. Copy the following jars to the lib folder under the WebLogic's domain directory:

```
spl-d1-osb-2.1.0.3.0.jar
spl-d8-osb-2.1.0.3.0.jar
```

These jars are present under the following location:

UNIX: $OSB_HOME/etc/lib

Windows: %OSB_HOME%\etc\lib

3. Start the separate WebLogic instance.
4. Create JMS queues and target them to the OSB admin server:
   - Create a JMS server "OSB-JMSServer" and target it to osb managed server. Create a JMS module "D8-SystemModule"
   - Under "D8-SystemModule" create a sub-deployment "D8-JMSFAServer" and target it to "OSB-JMSServer"
   - Create the following JMS queues:

     Queue Name: DestinationQueue-D8

JNDI Name: DestinationQueue-D8

Sub-deployment: D8-JMSFAServer

Targets: OSB-JMSServer

Queue Name: NotificationQueue-D8

JNDI Name: NotificationQueue-D8

Sub-deployment: D8-JMSFAServer

Targets: OSB-JMSServer

5. Deploy the OSB adapter on the separate WebLogic instance.

   Note: Modify the OSB Host Server,OSB Port Number according to Stnadalone domain using "OSB Configuration Menu item 8".

   UNIX:

   ```
   cd $SPLEBASE/osbapp
   ```
   For WebLogic 12c:

   ```
   $SPLEBASE/product/apache-ant/bin/ant -buildfile deploy-osb_D8.xml
   -Dadmin.user=<OSB_ADMIN_USER>
   -Dadmin.password=<OSB_ADMIN_PASSWORD>
   -Douaf.user=<JMS_USER> -Douaf.password=<JMS_PASSWORD>
   ```

   For WebLogic 11g:

   ```
   $SPLEBASE/product/apache-ant/bin/ant -buildfile deploy-osb_D8.xml
   -Dadmin.user=<OSB_ADMIN_USER>
   -Dadmin.password=<OSB_ADMIN_PASSWORD>
   -Douaf.user=<JMS_USER> -Douaf.password=<JMS_PASSWORD> -
Dosb.version=11g
   ```

   Note: Use the following command if this is an upgrade from a previous version:

   ```
   cd $SPLEBASE/osbapp
   ```
   For WebLogic 12c:

   ```
   $SPLEBASE/product/apache-ant/bin/ant -buildfile deploy-osb_D8.xml
    update_osb -Dadmin.user=weblogic -Dadmin.password=weblogic123
   -Douaf.user=weblogic -Douaf.password=weblogic123
   ```

   For WebLogic 11g:

   ```
   $SPLEBASE/product/apache-ant/bin/ant -buildfile deploy-osb_D8.xml
    update_osb -Dadmin.user=weblogic -Dadmin.password=weblogic123
   -Douaf.user=weblogic -Douaf.password=weblogic123 -Dosb.version=11g
   ```

   This will not override any OSB custom changes

   Windows:

   ```
   cd %SPLEBASE%\osbapp
   ```
   For WebLogic 12c:

   ```
   %SPLEBASE%\product\apache-ant\bin\ant -buildfile deploy-osb_D8.xml
   -Dadmin.user=<OSB_ADMIN_USER>
   ```

```
-Dadmin.password=<OSB_ADMIN_PASSWORD> -Douaf.user=<JMS_USER>
-Douaf.password=<JMS_PASSWORD>
```

For WebLogic 11g:

```
%SPLEBASE%\product\apache-ant\bin\ant -buildfile deploy-osb_D8.xml
-Dadmin.user=<OSB_ADMIN_USER>
-Dadmin.password=<OSB_ADMIN_PASSWORD> -Douaf.user=<JMS_USER>
-Douaf.password=<JMS_PASSWORD> -Dosb.version=11g
```

Note: Use the following command if this is an upgrade from a previous version:

```
cd %SPLEBASE%/osbapp
```

For WebLogic 12c:

```
%SPLEBASE%/product/apache-ant/bin/ant -buildfile deploy-osb_D8.xml
 update_osb -Dadmin.user=weblogic -Dadmin.password=weblogic123
-Douaf.user=weblogic -Douaf.password=weblogic123
```

For WebLogic 11g:

```
%SPLEBASE%/product/apache-ant/bin/ant -buildfile deploy-osb_D8.xml
 update_osb -Dadmin.user=weblogic -Dadmin.password=weblogic123
-Douaf.user=weblogic -Douaf.password=weblogic123 -Dosb.version=11g
```

This will not override any OSB custom changes

Deploying the SOA Adapter for the Itron OpenWay

The SOA adapter can be deployed on the bundled WebLogic example server instance or on a separate WebLogic server instance.

Note: Oracle Enterprise Manager may be required for some of the security setups and for monitoring SOA. If Oracle Enterprise Manager is required, you need to extend the example SOA WebLogic domain and enable Enterprise Manager using WebLogic's configuration utility.

To deploy on the Example WebLogic Instance:

1. Start the example SOA WebLogic instance:

   UNIX:

   ```
   cd $SPLEBASE/soaapp
   ./startWebLogic.sh
   ```

   Windows:

   ```
   cd %SPLEBASE%\soaapp startWebLogic.cmd
   ```

2. Deploy the SOA adapter on the example WebLogic instance:

   UNIX:

   ```
   cd $SPLEBASE/soaapp
   ```

   ```
   For WebLogic 11g:
   ```

```
$SPLEBASE/product/apache-ant/bin/ant -buildfile deploy-soa_MDF.xml
-Dserver.user=weblogic -Dserver.password=weblogic123
-Dsoa.version=11g

$SPLEBASE/product/apache-ant/bin/ant -buildfile deploy-soa_D8.xml
-Dserver.user=weblogic -Dserver.password=weblogic123
 -Dsoa.version=11g
```

Windows:

```
cd %SPLEBASE%\soaapp
```

For WebLogic 11g:

```
%SPLEBASE%\product\apache-ant\bin\ant -buildfile deploy
-soa_MDF.xml
-Dserver.user=weblogic -Dserver.password=weblogic123
-Dsoa.version=11g

%SPLEBASE%\product\apache-ant\bin\ant -buildfile deploy-soa_D8.xml
-Dserver.user=weblogic -Dserver.password=weblogic123
-Dsoa.version=11g
```

3. Deploy the TestHarness SOA composites on example WebLogic instance.

UNIX:

```
cd $SPLEBASE/soaapp
```

For WebLogic 11g:

```
$SPLEBASE/product/apache-ant/bin/ant -buildfile deploy-soa_D8.xml
 deployTestHarness -Dserver.user=weblogic
-Dserver.password=weblogic123 -Dsoa.version=11g
```

Windows:

Note: Open the command prompt as Administrative mode and then select the environment to deploy SOA.

```
 cd %SPLEBASE%/soaapp
```

For WebLogic 11g:

```
%SPLEBASE%\product\apache-ant\bin\ant -buildfile
deploy-soa_D8.xml deployTestHarness -Dserver.user=weblogic
-Dserver.password=weblogic123 -Dsoa.version=11g
```

To Deploy on a Separate SOA on a WebLogic Instance:

Note: See Configuration of Oracle Fusion Middleware Components on a Separate Server from Oracle Utilities Service and Measurement Data Foundation for more information about deploying SOA components on a separate WebLogic server.

1. Create WebLogic SOA Domain and select Enterprise Manager option also.
2. Copy the following jar file to the lib folder under the WebLogic domain directory, spl-d1-soa-security.jar

   This jar is present under the following location:

UNIX:

```
 $SPLEBASE/etc/lib
```

Windows:

```
%SPLEBASE%\etc\lib
```

3. Append following XML snippet to <MIDDLEWARE_HOME>\user_projects\domains\<SOA Domain>\config\fmwconfig\system-jazn-data.xml:

```
<grant>
<grantee>
<codesource>
<url>file:${domain.home}/lib/spl-d1-soa-security.jar</url>
</codesource>
</grantee>
<permissions>
<permission>
<class>oracle.security.jps.service.credstore.CredentialAccessPermi
ssion</class>
<name>context=SYSTEM,mapName=*,keyName=*</name>
<actions>*</actions>
</permission>
</permissions>
<permission-set-refs>
</permission-set-refs>
</grant>
```

4. Start the separate SOA WebLogic instance.

5. Deploy the SOA cartridge on the separate WebLogic instance

   Note: Modify the SOA Host Server, SOA Port Number, SOA WebLogic User Name, SOA WebLogic User Password and Endpoint URLs menu items according to separate domain using "SOA Configuration Menu item 9".

UNIX:

```
cd $SPLEBASE/soaapp
```

For WebLogic 12c:

```
$SPLEBASE/product/apache-ant/bin/ant -buildfile deploy-soa_MDF.xml
-Dserver.user=<ADMIN_USER> -Dserver.password=<ADMIN_PASSWORD>


$SPLEBASE/product/apache-ant/bin/ant -buildfile deploy-soa_D8.xml
-Dserver.user=<ADMIN_USER> -Dserver.password=<ADMIN_PASSWORD>
```

For WebLogic 11g:

```
$SPLEBASE/product/apache-ant/bin/ant -buildfile deploy-soa_MDF.xml
-Dserver.user=<ADMIN_USER> -Dserver.password=<ADMIN_PASSWORD>
-Dsoa.version=11g

$SPLEBASE/product/apache-ant/bin/ant -buildfile deploy-soa_D8.xml
-Dserver.user=<ADMIN_USER> -Dserver.password=<ADMIN_PASSWORD>
-Dsoa.version=11g
```

Windows:

```
cd %SPLEBASE%\soaapp
```

For WebLogic 12c:

```
%SPLEBASE%\product\apache-ant\bin\ant -buildfile deploy
 -soa_MDF.xml
-Dserver.user=<ADMIN_USER> -Dserver.password=<ADMIN_PASSWORD>

%SPLEBASE%\product\apache-ant\bin\ant
-buildfile deploy-soa_D8.xml
-Dserver.user=<ADMIN_USER> -Dserver.password=<ADMIN_PASSWORD>
```

For WebLogic 11g:

```
%SPLEBASE%\product\apache-ant\bin\ant -buildfile deploy
-soa_MDF.xml
-Dserver.user=<ADMIN_USER> -Dserver.password=<ADMIN_PASSWORD>
-Dsoa.version=11g

%SPLEBASE%\product\apache-ant\bin\ant
-buildfile deploy-soa_D8.xml
-Dserver.user=<ADMIN_USER> -Dserver.password=<ADMIN_PASSWORD>
-Dsoa.version=11g
```

6. Deploy the TestHarness SOA composites on the separate WebLogic instance.

UNIX:

```
cd $SPLEBASE/soaapp
```

For WebLogic 12c:

```
$SPLEBASE/product/apache-ant/bin/ant -buildfile deploy-soa_D8.xml
deployTestHarness -Dserver.user=<ADMIN_USER>
-Dserver.password=<ADMIN_PASSWORD>
```

For WebLogic 11g:

```
$SPLEBASE/product/apache-ant/bin/ant -buildfile deploy-soa_D8.xml
 deployTestHarness -Dserver.user=<ADMIN_USER>
-Dserver.password=<ADMIN_PASSWORD> -Dsoa.version=11g
```

Windows:

```
cd %SPLEBASE%\soaapp
```

For WebLogic 12c:

```
%SPLEBASE%\product\apache-ant\bin\ant -buildfile deploy-soa_D8.xml
 deployTestHarness -Dserver.user=<ADMIN_USER>
-Dserver.password=<ADMIN_PASSWORD>
```

For WebLogic 11g:

```
%SPLEBASE%\product\apache-ant\bin\ant -buildfile deploy-soa_D8.xml
 deployTestHarness -Dserver.user=<ADMIN_USER>
-Dserver.password=<ADMIN_PASSWORD> -Dsoa.version=11g
```

Configuring Security for the SOA System

This section describes how to configure security credentials for the SOA system, including:

Configuring Security for the SOA System to Communicate with the Application Framework

Configuring security for the SOA system involves using Oracle Enterprise Manager to create the following security credentials:

- A Credential Map
- A Credential Key for the WebLogic Server.
- A Credential Key for the Oracle Utilities Application Framework

Use the following procedure to create the security credentials:

1. In Oracle Enterprise Manager, expand the WebLogic domain, right-click on the domain, and choose **Security**, **Credentials**.
2. On the **Credentials** page, click **Create Map**.
3. In the Create Map dialog, name the map **oracle.wsm.security**, then click **OK**.
4. Click **Create Key** and enter the following values:
    - **Select Map**: oracle.wsm.security
    - **Key**: sgg.d8.credentials
    - **Type**: Password
    - **Username**: A valid WebLogic user name
    - **Password**: A valid WebLogic password
5. Click **OK**.
6. Click **Create Key** again and enter the following values:
    - **Select Map**: oracle.wsm.security
    - **Key**: sgg.d8.ouaf.credentials
    - **Type:** Password
    - **Username**: A valid OUAF user name
    - **Password**: A valid OUAF password
7. Click **OK**.

Configuring Security for the SOA System to Communicate with the Head-End System

According to the Itron OpenWay Web Service Reference Guide, the head end system can accommodate many different types of security schemes including Basic HTTP, HTTPS, and X.509. Oracle SOA Server supports these, as well. By default, Basic HTTP is enabled, but as always users should evaluate the most appropriate type of security for their environment. Please refer to the Oracle SOA Server product documentation for detailed instructions on securing web services.

Starting the Application

The OSB WebLogic server instance should be up and running before starting the main application.

The first time you start Oracle Utilities Smart Grid Gateway, you need to log in to the WebLogic console and give system access to cisusers role. The WebLogic console application can be accessed through the following URL:

http://<hostname>:<portname>/console

To start up the environment, run the following command:

UNIX: spl.sh start

Windows: spl.cmd start

Follow the messages on the screen along with the logs in $SPLSYSTEMLOGS directory to ensure that the environment was started successfully.

If the startup failed, identify the problem by reviewing the logs. Resolve any issues before attempting to restart the environment.

You should postpone the startup process until you are done with post installation steps. Use the following utility to stop the environment:

UNIX: spl.sh stop

Windows: spl.cmd stop

Configuration Tasks for the Adapter for Landis+Gyr

This section describes the tasks that should be taken after installing Oracle Utilities Smart Grid Gateway Adapter for Landis+Gyr, including:

- Deploying the OSB Adapter for Landis+Gyr
- Deploying the SOA Adapter for Landis+Gyr
- Configuring Security for the SOA System
- Starting the Application

> **Note:** Oracle Enterprise Manager may be required for some of the security setups and for monitoring SOA. If Oracle Enterprise Manager is required, you need to extend the example SOA WebLogic domain and enable Enterprise Manager using WebLogic's configuration utility.

Deploying the OSB Adapter for Landis+Gyr

The OSB adapter can be deployed on the bundled WebLogic example server instance or on a separate WebLogic server instance. To deploy the OSB adapter, use the following procedures:

To Deploy on the Example WebLogic Instance

1. Create the following directories under <OSB_LOG_DIR>:

```
lg-cim-event
lg-cim-event-arch
lg-cim-event-error
lg-event
lg-event-arch
lg-event-error
lg-usage
lg-usage-arch
lg-usage-error
```

2. Start the example OSB WebLogic instance.

UNIX:

```
cd $SPLEBASE/osbapp
./startWebLogic.sh
```

Windows:

```
cd %SPLEBASE%\osbapp
startWebLogic.cmd
```

3. Deploy the OSB adapter on the example WebLogic instance.

> **Note**: Example Domain is only for WebLogic 10.3.6 and not for WebLogic 12.1.3.0+

UNIX:

```
cd $SPLEBASE/osbapp
```

For WebLogic 11g:

```
$SPLEBASE/product/apache-ant/bin/ant -buildfile deploy-osb_LG.xml
-Dadmin.user=<OSB_Server_Username> -Dadmin.password=<
 OSB_Server_Password> -Douaf.user=<JMS_USER>
-Douaf.password=<JMS_PASSWORD> -Dosb.version=11g
```

Note: Use the following command if this is an upgrade from a previous version:

```
cd $SPLEBASE/osbapp
$SPLEBASE/product/apache-ant/bin/ant -buildfile deploy-osb_LG.xml
update_osb -Dadmin.user=weblogic -Dadmin.password=weblogic123
-Douaf.user=weblogic -Douaf.password=weblogic123 -Dosb.version=11g
```

This will not override any OSB custom changes

Windows:

```
cd %SPLEBASE%\osbapp
%SPLEBASE%\product\apache-ant\bin\ant -buildfile deploy-osb_LG.xml
-Dadmin.user=<OSB_Server_Username> -Dadmin.password=<
 OSB_Server_Password> -Douaf.user=<JMS_USER> -
 Douaf.password=<JMS_PASSWORD> -Dosb.version=11g
```

Note: Use the following command if this is an upgrade from a previous version:

```
cd %SPLEBASE%/osbapp
 %SPLEBASE%/product/apache-ant/bin/ant -buildfile deploy-osb_LG.xml
update_osb -Dadmin.user=weblogic -Dadmin.password=weblogic123
-Douaf.user=weblogic -Douaf.password=weblogic123 -Dosb.version=11g
```

This will not override any OSB custom changes

To Deploy on a Separate WebLogic Instance

Note: See Configuration of Oracle Fusion Middleware Components on a Separate Server from Oracle Utilities Service and Measurement Data Foundation for more information about deploying OSB components on a separate WebLogic server.

1. Create the following directories under <OSB_LOG_DIR>:

```
lg-cim-event
lg-cim-event-arch
lg-cim-event-error
lg-event
lg-event-arch
lg-event-error
lg-usage
lg-usage-arch
lg-usage-error
```

2. Copy the following jars to the lib folder under the WebLogic's domain directory:

```
spl-d1-osb-2.1.0.3.0.jar
spl-d3-osb-2.1.0.3.0.jar
```

These jars are present under the following location:

UNIX: $OSB_HOME/etc/lib

Windows: %OSB_HOME%\etc\lib

3. Start the separate WebLogic instance.
4. Create JMS queues and target them to the OSB admin server:

- Create a JMS server "OSB-JMSServer" and target it to admin server.
- Create a JMS module "D3-SystemModule".
- Under "D3-SystemModule" create a sub-deployment "D3-JMSFAServer" and target it to "OSB-JMSServer".
- Create the following JMS queues:

  Queue Name: DestinationQueue-D3

  JNDI Name: DestinationQueue-D3

  Sub-deployment: D3-JMSFAServer

  Targets: OSB-JMSServer

  Queue Name: NotificationQueue-D3

  JNDI Name: NotificationQueue-D3

  Sub-deployment: D3-JMSFAServer

  Targets: OSB-JMSServer

5. Deploy the OSB adapter on the separate WebLogic instance.

   UNIX:

```
cd $SPLEBASE/osbapp
```

For WebLogic 12c:

```
$SPLEBASE/product/apache-ant/bin/ant -buildfile deploy-osb_LG.xml
-Dadmin.user=<OSB_ADMIN_USER>
-Dadmin.password=<OSB_ADMIN_PASSWORD>
-Douaf.user=<JMS_USER> -Douaf.password=<JMS_PASSWORD>
```

For WebLogic 11g:

```
$SPLEBASE/product/apache-ant/bin/ant -buildfile deploy-osb_LG.xml
-Dadmin.user=<OSB_ADMIN_USER>
-Dadmin.password=<OSB_ADMIN_PASSWORD>
-Douaf.user=<JMS_USER> -Douaf.password=<JMS_PASSWORD>
-Dosb.version=11g
```

Note: Use the following command if this is an upgrade from a previous version:

```
cd $SPLEBASE/osbapp
```

For WebLogic 12c:

```
$SPLEBASE/product/apache-ant/bin/ant -buildfile deploy-osb_LG.xml
update_osb -Dadmin.user=weblogic -Dadmin.password=weblogic123
-Douaf.user=weblogic -Douaf.password=weblogic123
```

For WebLogic 11g:

```
$SPLEBASE/product/apache-ant/bin/ant -buildfile deploy-osb_LG.xml
update_osb -Dadmin.user=weblogic -Dadmin.password=weblogic123
-Douaf.user=weblogic -Douaf.password=weblogic123 -Dosb.version=11g
```

This will not override any OSB custom changes

Windows:

```
cd %SPLEBASE%\osbapp
For WebLogic 12c:

%SPLEBASE%\product\apache-ant\bin\ant -buildfile deploy-osb_LG.xml
-Dadmin.user=<OSB_ADMIN_USER>
-Dadmin.password=<OSB_ADMIN_PASSWORD> -Douaf.user=<JMS_USER>
-Douaf.password=<JMS_PASSWORD>

 For WebLogic 11g:

%SPLEBASE%\product\apache-ant\bin\ant -buildfile deploy-osb_LG.xml
-Dadmin.user=<OSB_ADMIN_USER>
-Dadmin.password=<OSB_ADMIN_PASSWORD> -Douaf.user=<JMS_USER>
-Douaf.password=<JMS_PASSWORD> -Dosb.version=11g
```

Note: Use the following command if this is an upgrade from a previous version:

```
cd %SPLEBASE%/osbapp
```

For WebLogic 12c:

```
%SPLEBASE%/product/apache-ant/bin/ant -buildfile deploy-osb_LG.xml
 update_osb -Dadmin.user=weblogic -Dadmin.password=weblogic123
-Douaf.user=weblogic -Douaf.password=weblogic123
```

For WebLogic 11g:

```
%SPLEBASE%/product/apache-ant/bin/ant -buildfile deploy-osb_LG.xml
 update_osb -Dadmin.user=weblogic -Dadmin.password=weblogic123
-Douaf.user=weblogic -Douaf.password=weblogic123 -Dosb.version=11g
```

This will not override any OSB custom changes

Deploying the SOA Adapter for Landis+Gyr

The SOA adapter can be deployed on the bundled WebLogic example server instance or on a separate WebLogic server instance.

Note: Oracle Enterprise Manager may be required for some of the security setups and for monitoring SOA. If Oracle Enterprise Manager is required, you need to extend the example SOA WebLogic domain and enable Enterprise Manager using WebLogic's configuration utility.

To deploy the SOA adapter, use the following procedures:

To Deploy on the Example WebLogic Instance

1. Start the example SOA WebLogic instance:

UNIX:

```
cd $SPLEBASE/soaapp
./startWebLogic.sh
```

Windows:

```
cd %SPLEBASE%\soaapp
startWebLogic.cmd
```

2. Deploy the SOA adapter on the example WebLogic instance

UNIX:

For WebLogic 11g:

```
$SPLEBASE/product/apache-ant/bin/ant -buildfile deploy-soa_MDF.xml
-Dserver.user=weblogic -Dserver.password=weblogic123
-Dsoa.version=11g

$SPLEBASE/product/apache-ant/bin/ant -buildfile deploy-soa_LG.xml
-Dserver.user=weblogic -Dserver.password=weblogic123
-Dsoa.version=11g
```

Windows:

For WebLogic 11g:

```
%SPLEBASE%\product\apache-ant\bin\ant -buildfile deploy
 -soa_MDF.xml
-Dserver.user=weblogic -Dserver.password=weblogic123
-Dsoa.version=11g

%SPLEBASE%\product\apache-ant\bin\ant -buildfile deploy-soa_LG.xml
-Dserver.user=weblogic -Dserver.password=weblogic123
 -Dsoa.version=11g
```

3. Deploy the TestHarness SOA composites on example WebLogic instance.

UNIX:

For WebLogic 11g:

```
$SPLEBASE/product/apache-ant/bin/ant -buildfile deploy-soa_LG.xml
deployTestHarness -Dserver.user=weblogic
-Dserver.password=weblogic123 -Dsoa.version=11g
```

Windows:

Note: Open the command prompt as Administrative mode and then select the environment to deploy SOA.

```
cd %SPLEBASE%/soaapp
```

For WebLogic 11g:

```
%SPLEBASE%\product\apache-ant\bin\ant -buildfile
deploy-soa_LG.xml deployTestHarness -Dserver.user=weblogic
-Dserver.password=weblogic123 -Dsoa.version=11g
```

To Deploy on a Separate WebLogic Instance

Note: See Configuration of Oracle Fusion Middleware Components on a Separate Server from Oracle Utilities Service and Measurement Data Foundation for more information about deploying SOA components on a separate WebLogic server.

1. Start the separate WebLogic instance.

2. Deploy the SOA adapter on the separate WebLogic instance

UNIX:

```
cd $SPLEBASE/soaapp
```

For WebLogic 12c:

```
$SPLEBASE/product/apache-ant/bin/ant -buildfile deploy-soa_MDF.xml
-Dserver.user=<ADMIN_USER> -Dserver.password=<ADMIN_PASSWORD>

$SPLEBASE/product/apache-ant/bin/ant -buildfile deploy-soa_LG.xml
-Dserver.user=<ADMIN_USER> -Dserver.password=<ADMIN_PASSWORD>
```

For WebLogic 11g:

```
$SPLEBASE/product/apache-ant/bin/ant -buildfile deploy-soa_MDF.xml
-Dserver.user=<ADMIN_USER> -Dserver.password=<ADMIN_PASSWORD>
-Dsoa.version=11g

$SPLEBASE/product/apache-ant/bin/ant -buildfile deploy-soa_LG.xml
-Dserver.user=<ADMIN_USER> -Dserver.password=<ADMIN_PASSWORD>
-Dsoa.version=11g
```

Windows:

```
cd %SPLEBASE%\soaapp
```

For WebLogic 12c:

```
%SPLEBASE%\product\apache-ant\bin\ant -buildfile deploy
-soa_MDF.xml
-Dserver.user=<ADMIN_USER> -Dserver.password=<ADMIN_PASSWORD>

%SPLEBASE%\product\apache-ant\bin\ant
-buildfile deploy-soa_LG.xml
-Dserver.user=<ADMIN_USER> -Dserver.password=<ADMIN_PASSWORD>
```

For WebLogic 11g:

```
%SPLEBASE%\product\apache-ant\bin\ant -buildfile deploy
-soa_MDF.xml
-Dserver.user=<ADMIN_USER> -Dserver.password=<ADMIN_PASSWORD>
-Dsoa.version=11g

%SPLEBASE%\product\apache-ant\bin\ant
-buildfile deploy-soa_LG.xml
-Dserver.user=<ADMIN_USER> -Dserver.password=<ADMIN_PASSWORD>
-Dsoa.version=11g
```

3. Deploy the TestHarness SOA composites on the separate WebLogic instance.

UNIX:

For WebLogic 12c:

```
$SPLEBASE/product/apache-ant/bin/ant -buildfile deploy-soa_LG.xml
 deployTestHarness -Dserver.user=<ADMIN_USER>
-Dserver.password=<ADMIN_PASSWORD>
```

For WebLogic 11g:

```
$SPLEBASE/product/apache-ant/bin/ant -buildfile deploy-soa_LG.xml
 deployTestHarness -Dserver.user=<ADMIN_USER>
-Dserver.password=<ADMIN_PASSWORD> -Dsoa.version=11g
```

Windows:

```
cd %SPLEBASE%\soaapp
```

For WebLogic 12c:

```
%SPLEBASE%\product\apache-ant\bin\ant -buildfile deploy-soa_LG.xml
deployTestHarness -Dserver.user=<ADMIN_USER>
-Dserver.password=<ADMIN_PASSWORD>
```

For WebLogic 11g:

```
%SPLEBASE%\product\apache-ant\bin\ant -buildfile deploy-soa_LG.xml
 deployTestHarness -Dserver.user=<ADMIN_USER>
-Dserver.password=<ADMIN_PASSWORD> -Dsoa.version=11g
```

Configuring Security for the SOA System

Security is managed through policies attached to the input and output points of each composite. More information on policies and their configuration can be found in the *Oracle Fusion Middleware Administrator's Guide for Oracle SOA Suite*, Chapter 10: Configuring Policies.

This section describes how to configure security credentials for the SOA system, including:

- Configuring Security for the SOA System to Communicate with the Application Framework
- Configuring Security for the SOA System to Communicate with the Head-End System

Configuring Security for the SOA System to Communicate with the Application Framework

Configuring security for the SOA system involves using Oracle Enterprise Manager to create the following security credentials:

- A Credential Map
- A Credential Key for the WebLogic Server.
- A Credential Key for the Oracle Utilities Application Framework

Use the following procedure to create the security credentials:

1. In Oracle Enterprise Manager, expand the WebLogic domain, right-click on the domain, and choose **Security, Credentials**.
2. On the **Credentials** page, click **Create Map.**
3. In the Create Map dialog, name the map **oracle.wsm.security,** then click **OK.**
4. Click **Create Key** and enter the following values:
   - **Select Map:** oracle.wsm.security
   - **Key:** sgg.d3.credentials
   - **Type:** Password
   - **Username:** A valid WebLogic user name
   - **Password:** A valid WebLogic password
5. Click **OK.**

6. Click **Create Key** again and enter the following values:
   - **Select Map:** oracle.wsm.security
   - **Key: s**gg.d3.ouaf.credentials
   - **Type:** Password
   - **Username:** A valid OUAF user name
   - **Password:** A valid OUAF password
7. Click **OK.**

Configuring Security for the SOA System to Communicate with the Head-End System

Configuring security for the SOA system involves creating the security credentials in Oracle Enterprise Manager, and then creating a web service policy that uses the credentials to communicate with the head-end system. These configuration tasks are described in the following sections:

- Creating the Security Credentials
- Importing the Policy Assertion Templates
- Creating the Web Service Policy for the Security Credentials

Creating the Security Credentials

To create the security credential in the Credential File Store (CFS):

1. In Oracle Enterprise Manager, navigate to **WebLogic Domain** and select the required SOA domain.
2. In the WebLogic Domain menu, navigate to **Security, Credentials.**
3. Click **Create Map** to set up a new credentials store.
4. In the Create Map dialog box, enter a unique value in the Map Name field.
5. Click **OK.**
6. Select the new map in the Credentials list and click **Create Key.**
7. In the Create Key dialog box, enter the appropriate values in the fields. In the Type field, select **Password.**
8. Click **OK.**

Importing the Policy Assertion Templates

The application includes several policy assertion templates that you can use to create security credentials. To import the policy assertion templates:

1. In Oracle Enterprise Manager, navigate to **WebLogic Domain** and select the required SOA domain.
2. Right click on the domain and navigate to **Web Services, Policies**
3. Click on **Web Services Assertion Templates** at the top of the page
4. Click on **Import From File** and import the following templates:
   - sgg_d1_csf_access_client_custom_template.xml
   - sgg_d1_csf_access_client_xpath_template.xml

These files are located in the following directory:

UNIX: $SPLEBASE/soaapp

Windows: %SPLEBASE%\soaapp

Creating the Web Service Policy for the Security Credentials

To create a web service policy for the security credentials:

1. In Oracle Enterprise Manager, navigate to **WebLogic Domain** and select the required SOA domain.
2. In the WebLogic Domain menu, navigate to **Web Services, Policies**.
3. Select the policy oracle/wss_http_token_client_policy.
4. Click **Create Like.**
   - Give the policy a unique name and an appropriate description.
   - Under Assertions, remove the Log Message and the HTTP Security policies.
   - Click **Add.**
   - Enter a name for the new assertion.
   - In the Assertion Template field, select sgg/d1_csf_access_client_xpath_template.
   - Click **OK.**
5. In the Assertion Content field, edit property values in the XML according to the example below. The following table lists the property values that should be edited:

Field	Default Value	Description
csf-map		Required. The credential store map to use. This value is specified in the task Creating the Security Credentials.
csf-key		Required. The key in the credential store map that will resolve to a username-password pair. This value is specified in the task Creating the Security Credentials.
namespaceDefinitions		Prefix-namespace definitions used in the xpath fields below. Each should be in the form prefix=namespace. Multiple definitions should be separated by spaces. Default namespaces cannot be set.
soapElement	Header	The context node for xpath searches, either the SOAP header or the SOAP body. Legal values are "header" and "body."

Field	Default Value	Description
userid.xpath		The xpath to the location to inject the username in the SOAP element. The statement must resolve to an attribute or element that already exists.
password.xpath		The xpath to the location to inject the password in the SOAP element. The statement must resolve to an attribute or element that already exists.
isDebuggingActive	false	Reserved for internal use.

```
<orasp:SGGCredentialStoreInsertionXPath xmlns:orawsp="http://
schemas.oracle.com/ws/2006/01/policy" orawsp:Silent="true"
orawsp:name="CSF_CIM_L+G" orawsp:description="Properties to add CSF
credentials to a SOAP message" orawsp:Enforced="true"
orawsp:category="security/authentication" xmlns:orasp="http://
schemas.oracle.com/ws/2006/01/securitypolicy">
    <orawsp:bindings>

<orawsp:Implementation>com.splwg.d1.sgg.soa.common.security.policy.Cre
dentialStorageFacilityAccessAssertationExecutor</
orawsp:Implementation>
        <orawsp:Config orawsp:name="CSFKeyInsertionConfig"
orawsp:configType="declarative">
            <orawsp:PropertySet orawsp:name="CSFKeyProperties">
                <orawsp:Property orawsp:type="string"
orawsp:contentType="required" orawsp:name="csf-map">
                    <orawsp:Description>Which CSF map to use</
orawsp:Description>
                    <orawsp:Value>CSF_map_name</orawsp:Value>
                </orawsp:Property>
                <orawsp:Property orawsp:type="string"
orawsp:contentType="required" orawsp:name="csf-key">
                    <orawsp:Description>Which key in the map to use</
orawsp:Description>
                    <orawsp:Value>CSF_CIM_Key</orawsp:Value>
                </orawsp:Property>
            </orawsp:PropertySet>
            <orawsp:PropertySet orawsp:name="XPathProperties">
                <orawsp:Property orawsp:type="string"
orawsp:contentType="required" orawsp:name="soapElement">
                  <orawsp:Description>The segment of the soap message
to which to write. Legal Values are "header" &amp;amp; "body"</
orawsp:Description>
                    <orawsp:Value>header</orawsp:Value>
                </orawsp:Property>
                <orawsp:Property orawsp:type="string"
orawsp:contentType="optional" orawsp:name="namespaceDefinitions">
                    <orawsp:Description>A space-separated list of
prefix-namespace pairs. For example: ns1=http://myurl.com/ns1
ns2=http://oracle.com xsd=http://www.w3.org/2001/XMLSchema</
orawsp:Description>
                  <orawsp:Value>ns1=http://www.landisgyr.com/iec61968/
2010/03</orawsp:Value>
                </orawsp:Property>
```

```
                <orawsp:Property orawsp:type="string"
orawsp:contentType="required" orawsp:name="userid.xpath">
                    <orawsp:Description>The xpath relative to the
soapElement property at which to insert the user id.</
orawsp:Description>
                    <orawsp:Value>./UserName</orawsp:Value>
                </orawsp:Property>
                <orawsp:Property orawsp:type="string"
orawsp:contentType="required" orawsp:name="password.xpath">
                    <orawsp:Description>The xpath relative to the
soapElement property at which to insert the password.</
orawsp:Description>
                    <orawsp:Value>./Password</orawsp:Value>
                </orawsp:Property>
            </orawsp:PropertySet>
            <orawsp:PropertySet orawsp:name="DebugProperties">
                <orawsp:Property orawsp:type="boolean"
orawsp:contentType="optional" orawsp:name="isDebuggingActive">
                    <orawsp:Description>controls debugging output</
orawsp:Description>
                    <orawsp:Value>false</orawsp:Value>
                    <orawsp:DefaultValue>false</orawsp:DefaultValue>
                </orawsp:Property>
            </orawsp:PropertySet>
        </orawsp:Config>
    </orawsp:bindings>
</orasp:SGGCredentialStoreInsertionXPath>
```

6. Save the policy.
7. Attach the policy to the MR_CB reference on the CommissionDecommission composite.
    - In Oracle Enterprise Manager, navigate to the **CommissionDecommission** composite.
    - From the **Attach To/Detach From** menu, select **MR_CB.**
    - In the Available Policies window, select the policy that you just created.
    - Click **Attach** to attach the policy to the MR_CB reference.
8. Attach the policy to the CD_CB reference on the ConnectDisconnect composite
    - Navigate to the **ConnectDisconnect** composite.
    - From the **Attach To/Detach From** menu, select **CD_CB.**
    - In the Available Policies window, select the policy that you just created.
    - Click **Attach** to attach the policy to the CD_CB reference.
9. Attach the policy to the MR_CB reference on the OnDemandRead composite.
    - Navigate to the **OnDemandRead** composite.
    - From the **Attach To/Detach From** menu, select **MR_CB.**
    - In the Available Policies window, select the policy that you just created.
    - Click **Attach** to attach the policy to the MR_CB reference.

Starting the Application

The OSB WebLogic server instance should be up and running before starting the main application.

The first time you start Oracle Utilities Smart Grid Gateway, you need to log in to the WebLogic console and give system access to cisusers role. The WebLogic console application can be accessed through the following URL:

http://<hostname>:<portname>/console

1. Start up the environment. Run the following command:

   UNIX: spl.sh start

   Windows: spl.cmd start

   Follow the messages on the screen along with the logs in $SPLSYSTEMLOGS directory to ensure that the environment was started successfully.

   If the startup failed, identify the problem by reviewing the logs. Resolve any issues before attempting to restart the environment.

   You should postpone the startup process until you are done with postinstallation steps.

   Use the following utility to stop the environment:

   UNIX: spl.sh stop

   Windows: spl.cmd stop

Configuration Tasks for the Adapter for Sensus RNI

This section describes the tasks that should be taken after installing Oracle Utilities Smart Grid Gateway, including:

- Deploying the OSB Adapter for Sensus RNI
- Deploying the SOA Adapter for Sensus RNI
- Configuring Security for the SOA System
- Starting the Application

> **Note:** Oracle Enterprise Manager may be required for some of the security setups and for monitoring SOA. If Oracle Enterprise Manager is required, you need to extend the example SOA WebLogic domain and enable Enterprise Manager using WebLogic's configuration utility.

Deploying the OSB Adapter for Sensus RNI

The OSB adapter can be deployed on the bundled WebLogic example server instance or on a separate WebLogic server instance. To deploy the OSB adapter, use the following procedures:

To Deploy on the Example WebLogic Instance

1. Create the following directories under <OSB_LOG_DIR>:

```
d6-usage
d6-usage-arch
d6-usage-error
d6-event
d6-event-arch
d6-event-error
```

2. Start the example OSB WebLogic instance.

UNIX:

```
cd $SPLEBASE/osbapp
./startWebLogic.sh
```

Windows:

```
cd %SPLEBASE%\osbapp
startWebLogic.cmd
```

3. Deploy the OSB adapter on the example WebLogic instance.

> **Note**: Example Domain is only for WebLogic 10.3.6 and not for WebLogic 12.1.3.0+

UNIX:

```
cd $SPLEBASE/osbapp
$SPLEBASE/product/apache-ant/bin/ant -buildfile deploy-osb_D6.xml
-Dadmin.user=<OSB_Server_Username> -Dadmin.password=<
 OSB_Server_Password> -Douaf.user=<JMS_USER>
-Douaf.password=<JMS_PASSWORD> -Dosb.version=11g
```

> **Note:** Use the following command if this is an upgrade from a previous version:

```
cd $SPLEBASE/osbapp
$SPLEBASE/product/apache-ant/bin/ant -buildfile deploy-osb_D6.xml
 update_osb -Dadmin.user=weblogic -Dadmin.password=weblogic123
-Douaf.user=weblogic -Douaf.password=weblogic123 -Dosb.version=11g
```

This will not override any OSB custom changes

Windows:

```
cd %SPLEBASE%\osbapp
%SPLEBASE%\product\apache-ant\bin\ant -buildfile deploy-osb_D6.xml
-Dadmin.user=<OSB_Server_Username> -Dadmin.password=<
 OSB_Server_Password> -Douaf.user=<JMS_USER> -
 Douaf.password=<JMS_PASSWORD> -Dosb.version=11g
```

Note: Use the following command if this is an upgrade from a previous version:

```
cd %SPLEBASE%/osbapp
%SPLEBASE%/product/apache-ant/bin/ant -buildfile deploy-osb_D6.xml
 update_osb -Dadmin.user=weblogic -Dadmin.password=weblogic123
-Douaf.user=weblogic -Douaf.password=weblogic123 -Dosb.version=11g
```

This will not override any OSB custom changes

To Deploy on a Separate WebLogic Instance

Note: See Configuration of Oracle Fusion Middleware Components on a Separate Server from Oracle Utilities Service and Measurement Data Foundation for more information about deploying OSB components on a separate WebLogic server.

1. Create the following directories under <OSB_LOG_DIR>:

   ```
   d6-usage
   d6-usage-arch
   d6-usage-error
   d6-event
   d6-event-arch
   d6-event-error
   ```

2. Copy the following jars to the lib folder under the WebLogic's domain directory:

   ```
   spl-d1-osb-2.1.0.3.0.jar
   spl-d6-osb-2.1.0.3.0.jar
   ```

   These jars are present under the following location:

   UNIX: $OSB_HOME/etc/lib

   Windows: %OSB_HOME%\etc\lib

3. Start the separate WebLogic instance.
4. Create JMS queues and target them to the OSB admin server:
   - Create a JMS server “OSB-JMSServer” and target it to admin server.
   - Create a JMS module “D6-SystemModule”.
   - Under “D6-SystemModule” create a sub-deployment “D6-JMSFAServer” and target it to “OSB-JMSServer”.
   - Create the following JMS queues:

     Queue Name: DestinationQueue-D6

     JNDI Name: DestinationQueue-D6

     Sub-deployment: D6-JMSFAServer

Targets: OSB-JMSServer

Queue Name: NotificationQueue-D6

JNDI Name: NotificationQueue-D6

Sub-deployment: D6-JMSFAServer

Targets: OSB-JMSServer

5. Deploy the OSB adapter on the separate WebLogic instance.

   UNIX:

   ```
   cd $SPLEBASE/osbapp
   ```
   For WebLogic 12c:

   ```
   $SPLEBASE/product/apache-ant/bin/ant -buildfile deploy-osb_D6.xml
   -Dadmin.user=<OSB_ADMIN_USER>
   -Dadmin.password=<OSB_ADMIN_PASSWORD>
   -Douaf.user=<JMS_USER> -Douaf.password=<JMS_PASSWORD>
   ```

   For WebLogic 11g:

   ```
   $SPLEBASE/product/apache-ant/bin/ant -buildfile deploy-osb_D6.xml
   -Dadmin.user=<OSB_ADMIN_USER>
   -Dadmin.password=<OSB_ADMIN_PASSWORD>
   -Douaf.user=<JMS_USER> -Douaf.password=<JMS_PASSWORD>
   -Dosb.version=11g
   ```

   Note: Use the following command if this is an upgrade from a previous version:

   ```
   cd $SPLEBASE/osbapp
   ```
   For WebLogic 12c:

   ```
   $SPLEBASE/product/apache-ant/bin/ant -buildfile deploy-osb_D6.xml
    update_osb -Dadmin.user=weblogic -Dadmin.password=weblogic123
   -Douaf.user=weblogic -Douaf.password=weblogic123
   ```

   For WebLogic 11g:

   ```
   $SPLEBASE/product/apache-ant/bin/ant -buildfile deploy-osb_D6.xml
    update_osb -Dadmin.user=weblogic -Dadmin.password=weblogic123
   -Douaf.user=weblogic -Douaf.password=weblogic123 -Dosb.version=11g
   ```

   This will not override any OSB custom changes

   Windows:

   ```
   cd %SPLEBASE%\osbapp
   ```
   For WebLogic 12c:

   ```
   %SPLEBASE%\product\apache-ant\bin\ant -buildfile deploy-osb_D6.xml
   -Dadmin.user=<OSB_ADMIN_USER>
   -Dadmin.password=<OSB_ADMIN_PASSWORD> -Douaf.user=<JMS_USER>
   -Douaf.password=<JMS_PASSWORD>
   ```

For WebLogic 11g:

```
%SPLEBASE%\product\apache-ant\bin\ant -buildfile deploy-osb_D6.xml
-Dadmin.user=<OSB_ADMIN_USER>
-Dadmin.password=<OSB_ADMIN_PASSWORD> -Douaf.user=<JMS_USER>
-Douaf.password=<JMS_PASSWORD> -Dosb.version=11g
```

Note: Use the following command if this is an upgrade from a previous version:

```
cd %SPLEBASE%/osbapp
```

For WebLogic 12c:

```
%SPLEBASE%/product/apache-ant/bin/ant -buildfile deploy-osb_D6.xml
 update_osb -Dadmin.user=weblogic -Dadmin.password=weblogic123
-Douaf.user=weblogic -Douaf.password=weblogic123
```

For WebLogic 11g:

```
%SPLEBASE%/product/apache-ant/bin/ant -buildfile deploy-osb_D6.xml
 update_osb -Dadmin.user=weblogic -Dadmin.password=weblogic123
-Douaf.user=weblogic -Douaf.password=weblogic123 -Dosb.version=11g
```

This will not override any OSB custom changes

Deploying the SOA Adapter for Sensus RNI

The SOA adapter can be deployed on the bundled WebLogic example server instance or on a separate WebLogic server instance.

Note: Oracle Enterprise Manager may be required for some of the security setups and for monitoring SOA. If Oracle Enterprise Manager is required, you need to extend the example SOA WebLogic domain and enable Enterprise Manager using WebLogic's configuration utility.

To deploy the SOA adapter, use the following procedures:

To Deploy on the Example WebLogic Instance

1. Start the example SOA WebLogic instance:

   UNIX:

   ```
   cd $SPLEBASE/soaapp
   ./startWebLogic.sh
   ```

   Windows:

   ```
   cd %SPLEBASE%\soaapp
   startWebLogic.cmd
   ```

2. Deploy the SOA adapter on the example WebLogic instance.

   Note: Example Domain is only for WebLogic 10.3.6 and not for WebLogic 12.1.3.0+.

   UNIX:

   For WebLogic 11g:

   ```
   $SPLEBASE/product/apache-ant/bin/ant -buildfile deploy-soa_MDF.xml
   ```

```
-Dserver.user=weblogic -Dserver.password=weblogic123
-Dsoa.version=11g

$SPLEBASE/product/apache-ant/bin/ant -buildfile deploy-soa_D6.xml
-Dserver.user=weblogic -Dserver.password=weblogic123
-Dsoa.version=11g
```

Windows:

```
cd %SPLEBASE%\soaapp
```

For WebLogic 11g:

```
%SPLEBASE%\product\apache-ant\bin\ant -buildfile deploy
 -soa_MDF.xml
-Dserver.user=weblogic -Dserver.password=weblogic123
-Dsoa.version=11g

%SPLEBASE%\product\apache-ant\bin\ant -buildfile deploy-soa_D6.xml
-Dserver.user=weblogic -Dserver.password=weblogic123
-Dsoa.version=11g
```

3. Deploy the Test Harness SOA composites on example WebLogic instance.

UNIX:

```
cd $SPLEBASE/soaapp
```

For WebLogic 11g:

```
$SPLEBASE/product/apache-ant/bin/ant -buildfile deploy-soa_D6.xml
 deployTestHarness -Dserver.user=weblogic
-Dserver.password=weblogic123 -Dsoa.version=11g
```

Windows:

Note: Open the command prompt as Administrative mode and then select the environment to deploy soa

```
cd %SPLEBASE%/soaapp
%SPLEBASE%\product\apache-ant\bin\ant -buildfile
deploy-soa_D6.xml deployTestHarness -Dserver.user=weblogic
-Dserver.password=weblogic123 -Dsoa.version=11g
```

4. Import the Policy Templates and Policies.

   a. First, import the two policy template files using Enterprise Manager.

      i. In Oracle Enterprise Manager, navigate to **WebLogic Domain** and select the required SOA domain.

      ii. Right click on the domain and navigate to **Web Services, Policies.**

      iii. Click on **Web Services Assertion Templates** at the top of the page

      iv. Click on **Import From File** and import the following templates:

      - sgg_d1_csf_access_client_custom_template.xml
      - sgg_d1_csf_access_client_xpath_template.xml

      These files are located in the following directory:

      UNIX: $SPLEBASE/soaapp

      Windows: %SPLEBASE%\soaapp

b. For SOA 11g version, perform the following steps to import policies:

i. Next import the "sgg_d6_cfs_multispeak_header_client_policy.xml" policy file ($SPLEBASE/soaapp) using Enterprise Manager.

ii. In Oracle Enterprise Manager, navigate to **WebLogic Domain** and select the required SOA domain.

iii. Right click on the domain and navigate to **Web Services, Policies.**

iv. Click on **Import From File** and import the following template:

- sgg_d6_cfs_multispeak_header_client_policy.xml

This file is located in the following directory:

UNIX: $SPLEBASE/soaapp

Windows: %SPLEBASE%\soaapp

c. For SOA 12c version, perform the following steps to import policies:

i. Import the "sgg_d6_cfs_multispeak_header_client_policy" policy file ($SPLEBASE/soaapp) using Enterprise Manager.

ii. In Oracle Enterprise Manager, navigate to **WebLogic Domain** and select the required SOA domain.

iii. Create a "META-INF\policies\oracle" folder structure and copy the policy under oracle folder and zip the entire folder as "sgg_d6_cfs_multispeak_header_client_policy.zip"

iv. Right click on the domain and navigate to **Web Services, WSM Policies.**

iv. Click on **Import** and import the following zip:

- sgg_d6_cfs_multispeak_header_client_policy.zip

This file is located in the following directory:

UNIX: $SPLEBASE/soaapp

Windows: %SPLEBASE%\soaapp

To Deploy on a Separate WebLogic Instance

Note: See Configuration of Oracle Fusion Middleware Components on a Separate Server from Oracle Utilities Service and Measurement Data Foundation for more information about deploying SOA components on a separate WebLogic server.

1. Create WebLogic SOA Domain and select Enterprise Manager option.
2. Copy the following jar file to the lib folder under the WebLogic domain directory, spl-d1-soa-security.jar

   This jar is present under the following location:

   UNIX: $SPLEBASE/etc/lib

   Windows: %SPLEBASE%\etc\lib
3. Append following XML snippet to <MIDDLEWARE_HOME>\user_projects\domains\<SOA Domain>\config\fmwconfig\system-jazn-data.xml :

```
<grant>
<grantee>
<codesource>
```

```
    <url>file:${domain.home}/lib/spl-d1-soa-security.jar</url>
    </codesource>
    </grantee>
    <permissions>
    <permission>
    <class>oracle.security.jps.service.credstore.CredentialAccessPermi
ssion</class>
    <name>context=SYSTEM,mapName=*,keyName=*</name>
    <actions>*</actions>
    </permission>
    </permissions>
    <permission-set-refs>
    </permission-set-refs>
    </grant>
```

4. Start the separate WebLogic instance.
5. Before SOA composites deployment, import the Policy Templates and Policies.

    a. First, import the two policy template files using Enterprise Manager.

    i. In Oracle Enterprise Manager, navigate to **WebLogic Domain** and select the required SOA domain.

    ii. Right click on the domain and navigate to **Web Services, Policies.**

    iii. Click on **Web Services Assertion Templates** at the top of the page

    iv. Click on **Import From File** and import the following templates:

    - sgg_d1_csf_access_client_custom_template.xml
    - sgg_d1_csf_access_client_xpath_template.xml

      These files are located in the following directory:

      UNIX: $SPLEBASE/soaapp

      Windows: %SPLEBASE%\soaapp

    b. For SOA 11g version, perform the following steps to import policies:

    i. Next, import the "sgg_d6_cfs_multispeak_header_client_policy.xml" policy file ($SPLEBASE/soaapp) using Enterprise Manager.

    ii. In Oracle Enterprise Manager, navigate to **WebLogic Domain** and select the required SOA domain.

    iii. Right click on the domain and navigate to **Web Services, Policies.**

    iv.. Click on **Import From File** and import the following templates

    - sgg_d6_cfs_multispeak_header_client_policy.xml

      The file is located in the following directory:

      UNIX: $SPLEBASE/soaapp

      Windows: %SPLEBASE%\soaapp

    c. For SOA 12c version, perform the following steps to import policies:

    i. Import the "sgg_d6_cfs_multispeak_header_client_policy" policy file ($SPLEBASE/soaapp) using Enterprise Manager.

    ii. In Oracle Enterprise Manager, navigate to **WebLogic Domain** and select the required SOA domain.

iii. Create a "META-INF\policies\oracle" folder structure and copy the policy under oracle folder and zip the entire folder as "sgg_d6_cfs_multispeak_header_client_policy.zip"

iv. Right click on the domain and navigate to **Web Services, WSM Policies.**

iv. Click on **Import** and import the following zip:

- sgg_d6_cfs_multispeak_header_client_policy.zip

This file is located in the following directory:

UNIX: $SPLEBASE/soaapp

Windows: %SPLEBASE%\soaapp

4. Deploy the SOA cartridge on the separate WebLogic instance

Note: Modify the SOA Host Server, SOA Port Number, SOA WebLogic User Name, SOA WebLogic User Password and Endpoint URLs menu items according to separate domain using "SOA Configuration Menu item 9".

UNIX:

```
cd $SPLEBASE/soaapp
```

For WebLogic 12c:

```
$SPLEBASE/product/apache-ant/bin/ant -buildfile deploy-soa_MDF.xml
-Dserver.user=<ADMIN_USER> -Dserver.password=<ADMIN_PASSWORD>

$SPLEBASE/product/apache-ant/bin/ant -buildfile deploy-soa_D6.xml
-Dserver.user=<ADMIN_USER> -Dserver.password=<ADMIN_PASSWORD>
```

For WebLogic 11g:

```
$SPLEBASE/product/apache-ant/bin/ant -buildfile deploy-soa_MDF.xml
-Dserver.user=<ADMIN_USER> -Dserver.password=<ADMIN_PASSWORD>
-Dsoa.version=11g

$SPLEBASE/product/apache-ant/bin/ant -buildfile deploy-soa_D6.xml
-Dserver.user=<ADMIN_USER> -Dserver.password=<ADMIN_PASSWORD>
 -Dsoa.version=11g
```

Windows:

```
cd %SPLEBASE%\soaapp
```

For WebLogic 12c:

```
%SPLEBASE%\product\apache-ant\bin\ant -buildfile deploy
 -soa_MDF.xml
-Dserver.user=<ADMIN_USER> -Dserver.password=<ADMIN_PASSWORD>

%SPLEBASE%\product\apache-ant\bin\ant
-buildfile deploy-soa_D6.xml
-Dserver.user=<ADMIN_USER> -Dserver.password=<ADMIN_PASSWORD>
```

For WebLogic 11g:

```
%SPLEBASE%\product\apache-ant\bin\ant -buildfile deploy
```

```
 -soa_MDF.xml
-Dserver.user=<ADMIN_USER> -Dserver.password=<ADMIN_PASSWORD>
-Dsoa.version=11g

%SPLEBASE%\product\apache-ant\bin\ant
-buildfile deploy-soa_D6.xml
-Dserver.user=<ADMIN_USER> -Dserver.password=<ADMIN_PASSWORD>
 -Dsoa.version=11g
```

5. Deploy the Test Harness SOA composites on the separate WebLogic instance.

UNIX:

```
cd $SPLEBASE/soaapp

For WebLogic 12c:

$SPLEBASE/product/apache-ant/bin/ant -buildfile deploy-soa_D6.xml
deployTestHarness -Dserver.user=<ADMIN_USER>
-Dserver.password=<ADMIN_PASSWORD>

For WebLogic 11g:

$SPLEBASE/product/apache-ant/bin/ant -buildfile deploy-soa_D6.xml
deployTestHarness -Dserver.user=<ADMIN_USER>
-Dserver.password=<ADMIN_PASSWORD> -Dsoa.version=11g
```

Windows:

```
cd %SPLEBASE%\soaapp
```

For WebLogic 12c:

```
%SPLEBASE%\product\apache-ant\bin\ant -buildfile deploy-soa_D6.xml
 deployTestHarness -Dserver.user=<ADMIN_USER>
-Dserver.password=<ADMIN_PASSWORD>
```

For WebLogic 11g:

```
%SPLEBASE%\product\apache-ant\bin\ant -buildfile deploy-soa_D6.xml
 deployTestHarness -Dserver.user=<ADMIN_USER>
-Dserver.password=<ADMIN_PASSWORD> -Dsoa.version=11g
```

Configuring Security for the SOA System

Security is managed through policies attached to the input and output points of each composite. More information on policies and their configuration can be found in the *Oracle Fusion Middleware Administrator's Guide for Oracle SOA Suite*, Chapter Configuring Policies.

This section describes how to configure security credentials for the SOA system, including:

- Configuring Security for the SOA System to Communicate with the Application Framework
- Configuring Security for the SOA System to Communicate with the Head-End System

Configuring Security for the SOA System to Communicate with the Application Framework

Configuring security for the SOA system involves using Oracle Enterprise Manager to create the following security credentials:

- A Credential Map
- A Credential Key for the WebLogic Server.

- A Credential Key for the Oracle Utilities Application Framework

Use the following procedure to create the security credentials:

1. In Oracle Enterprise Manager, expand the WebLogic domain, right-click on the domain, and choose **Security, Credentials**.
2. On the **Credentials** page, click **Create Map.**
3. In the Create Map dialog, name the map **oracle.wsm.security,** then click **OK.**
4. Click **Create Key** and enter the following values:
   - **Select Map:** oracle.wsm.security
   - **Key:** sgg.d6.credentials
   - **Type:** Password
   - **Username:** A valid WebLogic user name
   - **Password:** A valid WebLogic password
5. Click **OK.**
6. Click **Create Key** again and enter the following values:
   - **Select Map:** oracle.wsm.security
   - **Key: s**gg.d6.ouaf.credentials
   - **Type:** Password
   - **Username:** A valid OUAF user name
   - **Password:** A valid OUAF password
7. Click **OK.**

Configuring Security for the SOA System to Communicate with the Head-End System

Configuring security for the SOA system involves creating the security credentials in Oracle Enterprise Manager, and then creating a web service policy that uses the credentials to communicate with the head-end system. These configuration tasks are described in the following sections:

- Creating the Security Credentials
- Creating the Web Service Policy for the Security Credentials

Creating the Security Credentials

To create the security credential in the Credential File Store (CFS):

1. In Oracle Enterprise Manager, navigate to **WebLogic Domain** and select the required SOA domain.
2. In the WebLogic Domain menu, navigate to **Security, Credentials.**
3. Click **Create Map** to set up a new credentials store.
4. In the Create Map dialog box, enter a unique value in the Map Name field.
5. Click **OK.**
6. Select the new map in the Credentials list and click **Create Key.**

7. In the Create Key dialog box, enter the appropriate values in the fields. In the Type field, select **Password.**
8. Click **OK.**

   By default, the sgg_dg_cfs_multispeak_header_client_policy policy imported previously uses a Credential Map named "dg.security" and a Credential Key called "dg.credentials." Use these values unless making changes to the template values.

   Test Harness Note: By default, the Test Harness expects a user name of "MultiSpeakUserID" and a password of "MultiSpeakPwd."

Creating the Web Service Policy for the Security Credentials

To create a web service policy for the security credentials:

1. In Oracle Enterprise Manager, navigate to **WebLogic Domain** and select the required SOA domain.
2. In the WebLogic Domain menu, navigate to **Web Services, Policies**.
3. Select the policy oracle/wss_http_token_client_policy.
4. Click **Create Like.**
   - Give the policy a unique name and an appropriate description.
   - Under Assertions, remove the Log Message and the HTTP Security policies.
   - Click **Add.**
   - Enter a name for the new assertion.
   - In the Assertion Template field, select sgg/d1_csf_access_client_xpath_template.
   - Click **OK.**
5. In the Assertion Content field, edit property values in the XML according to the example below. The following table lists the property values that should be edited:

Field	Default Value	Description
csf-map		Required. The credential store map to use. This value is specified in the task "Creating the Security Credentials" on page 64.
csf-key		Required. The key in the credential store map that will resolve to a username-password pair. This value is specified in the task "Creating the Security Credentials" on page 64.
namespaceDefinitions		Prefix-namespace definitions used in the xpath fields below. Each should be in the form prefix=namespace. Multiple definitions should be separated by spaces. Default namespaces cannot be set.

Field	Default Value	Description
soapElement	Header	The context node for xpath searches, either the SOAP header or the SOAP body. Legal values are "header" and "body."
userid.xpath		The xpath to the location to inject the username in the SOAP element. The statement must resolve to an attribute or element that already exists.
password.xpath		The xpath to the location to inject the password in the SOAP element. The statement must resolve to an attribute or element that already exists.
isDebuggingActive	false	Reserved for internal use.

```
<orasp:SGGCredentialStoreInsertionXPath xmlns:orawsp="http://
schemas.oracle.com/ws/2006/01/policy" orawsp:Silent="true"
orawsp:name="CSF_Sensus" orawsp:description="Properties to add CSF
credentials to a SOAP message" orawsp:Enforced="true"
orawsp:category="security/authentication" xmlns:orasp="http://
schemas.oracle.com/ws/2006/01/securitypolicy">
    <orawsp:bindings>

<orawsp:Implementation>com.splwg.d1.sgg.soa.common.security.policy.Cre
dentialStorageFacilityAccessAssertationExecutor</
orawsp:Implementation>
        <orawsp:Config orawsp:name="CSFKeyInsertionConfig"
orawsp:configType="declarative">
            <orawsp:PropertySet orawsp:name="CSFKeyProperties">
                <orawsp:Property orawsp:type="string"
orawsp:contentType="required" orawsp:name="csf-map">
                    <orawsp:Description>Which CSF map to use</
orawsp:Description>
                    <orawsp:Value>CSF_map_name</orawsp:Value>
                </orawsp:Property>
                <orawsp:Property orawsp:type="string"
orawsp:contentType="required" orawsp:name="csf-key">
                    <orawsp:Description>Which key in the map to use</
orawsp:Description>
                    <orawsp:Value>CSF_Key</orawsp:Value>
                </orawsp:Property>
            </orawsp:PropertySet>
            <orawsp:PropertySet orawsp:name="XPathProperties">
                <orawsp:Property orawsp:type="string"
orawsp:contentType="required" orawsp:name="soapElement">
                  <orawsp:Description>The segment of the soap message
to which to write.  Legal Values are "header" &amp;amp; "body"</
orawsp:Description>
                    <orawsp:Value>header</orawsp:Value>
                </orawsp:Property>
                <orawsp:Property orawsp:type="string"
orawsp:contentType="optional" orawsp:name="namespaceDefinitions">
```

```
                    <orawsp:Description>A space-separated list of
prefix-namespace pairs.  For example: ns1=http://myurl.com/ns1
ns2=http://oracle.com xsd=http://www.w3.org/2001/XMLSchema</
orawsp:Description>
                    <orawsp:Value>ns1=http://www.multispeak.org/
Version_4.1_Release</orawsp:Value/>
                </orawsp:Property>
                <orawsp:Property orawsp:type="string"
orawsp:contentType="required" orawsp:name="userid.xpath">
                    <orawsp:Description>The xpath relative to the
soapElement property at which to insert the user id.</
orawsp:Description>
                    <orawsp:Value>./ns1:MultiSpeakMsgHeader/@UserID</
orawsp:Value>
                </orawsp:Property>
                <orawsp:Property orawsp:type="string"
orawsp:contentType="required" orawsp:name="password.xpath">
                    <orawsp:Description>The xpath relative to the
soapElement property at which to insert the password.</
orawsp:Description>
                    <orawsp:Value>./ns1:MultiSpeakMsgHeader/@Pwd</
orawsp:Value>
                </orawsp:Property>
            </orawsp:PropertySet>
            <orawsp:PropertySet orawsp:name="DebugProperties">
                <orawsp:Property orawsp:type="boolean"
orawsp:contentType="optional" orawsp:name="isDebuggingActive">
                    <orawsp:Description>controls debugging output</
orawsp:Description>
                    <orawsp:Value>false</orawsp:Value>
                    <orawsp:DefaultValue>false</orawsp:DefaultValue>
                </orawsp:Property>
            </orawsp:PropertySet>
        </orawsp:Config>
    </orawsp:bindings>
</orasp:SGGCredentialStoreInsertionXPath>
```

6. Save the policy.
7. Attach the policy to the MR_Server reference on the Common composite.
    - In Oracle Enterprise Manager, navigate to the **Sensus/Common** composite.
    - Navigate to the Policies tab.
    - From the **Attach To/Detach From** menu, select **MR_Server.**
    - In the Attached Policies window, select the oracle/wss_http_token_client_policy.
    - Click **Detach** to remove the default security policy.
    - In the Available Policies window, select the policy that you just created.
    - Click **Attach** to attach the policy to the MR_Server reference.
8. Attach the policy to the CD_Server reference on the Common composite.
    - Navigate to the **Sensus/Common** composite.
    - Navigate to the Policies tab.
    - From the **Attach To/Detach From** menu, select **CD_Server.**
    - In the Attached Policies window, select the oracle/wss_http_token_client_policy.
    - Click **Detach** to remove the default security policy.

- In the Available Policies window, select the policy that you just created.
- Click **Attach** to attach the policy to the CD_Server reference.

9. Attach the policy to the OD_Server reference on the Common composite.
   - Navigate to the **Sensus/Common** composite.
   - Navigate to the Policies tab.
   - From the **Attach To/Detach From** menu, select **OD_Server.**
   - In the Attached Policies window, select the oracle/wss_http_token_client_policy.
   - Click **Detach** to remove the default security policy.
   - In the Available Policies window, select the policy that you just created.
   - Click **Attach** to attach the policy to the OD_Server reference.

Starting the Application

The OSB WebLogic server instance should be up and running before starting the main application.

The first time you start Oracle Utilities Smart Grid Gateway, you need to log in to the WebLogic console and give system access to cisusers role. The WebLogic console application can be accessed through the following URL:

http://<hostname>:<portname>/console

1. Start up the environment. Run the following command:

   UNIX: spl.sh start

   Windows: spl.cmd start

   Follow the messages on the screen along with the logs in $SPLSYSTEMLOGS directory to ensure that the environment was started successfully.

   If the startup failed, identify the problem by reviewing the logs. Resolve any issues before attempting to restart the environment.

   You should postpone the startup process until you are done with postinstallation steps.

   Use the following utility to stop the environment:

   UNIX: spl.sh stop

Windows: spl.cmd stop

Configuration Tasks for the Adapter for Silver Spring Networks

This section describes the tasks that should be taken after installing Oracle Utilities Smart Grid Gateway, including:

- Deploying the OSB Adapter for Silver Spring Networks
- Deploying the SOA Adapter for Silver Spring Networks
- Configuring Security for the SOA System
- Starting the Application

Note: Oracle Enterprise Manager may be required for some of the security setups and for monitoring SOA. If Oracle Enterprise Manager is required, you need to extend the example SOA WebLogic domain and enable Enterprise Manager using WebLogic's configuration utility.

Deploying the OSB Adapter for Silver Spring Networks

The OSB adapter can be deployed on the bundled WebLogic example server instance or on a separate WebLogic server instance. To deploy the OSB adapter, use the following procedures:

To Deploy on the Example WebLogic Instance

1. Create the following directories under <OSB_LOG_DIR>:

```
d7-csv
d7-csv-arch
d7-csv-error
d7-ssnxml
d7-ssnxml-arch
d7-ssnxml-error
```

2. Start the example OSB WebLogic instance.

UNIX:

```
cd $SPLEBASE/osbapp
./startWebLogic.sh
```

Windows:

```
cd %SPLEBASE%\osbapp
startWebLogic.cmd
```

3. Deploy the OSB adapter on the example WebLogic instance.

Note: Example Domain is only for WebLogic 10.3.6 and not for WebLogic 12.1.3.0+.

UNIX:

```
cd $SPLEBASE/osbapp
```

For WebLogic 11g:

```
$SPLEBASE/product/apache-ant/bin/ant -buildfile deploy-osb_D7.xml
-Dadmin.user=<OSB_Server_Username> -Dadmin.password=<
 OSB_Server_Password> -Douaf.user=<JMS_USER>
-Douaf.password=<JMS_PASSWORD> -Dosb.version=11g
```

Note: Use the following command if this is an upgrade from a previous version:

```
cd $SPLEBASE/osbapp
$SPLEBASE/product/apache-ant/bin/ant -buildfile deploy-osb_D7.xml
 update_osb -Dadmin.user=weblogic -Dadmin.password=weblogic123
-Douaf.user=weblogic -Douaf.password=weblogic123 -Dosb.version=11g
```

This will not override any OSB custom changes

Windows:

```
cd %SPLEBASE%\osbapp
%SPLEBASE%\product\apache-ant\bin\ant -buildfile deploy-osb_D7.xml
-Dadmin.user=<OSB_Server_Username> -Dadmin.password=<
 OSB_Server_Password> -Douaf.user=<JMS_USER>
- Douaf.password=<JMS_PASSWORD> -Dosb.version=11g
```

Note: Use the following command if this is an upgrade from a previous version:

```
cd %SPLEBASE%/osbapp
%SPLEBASE%/product/apache-ant/bin/ant -buildfile deploy-osb_D7.xml
 update_osb -Dadmin.user=weblogic -Dadmin.password=weblogic123
-Douaf.user=weblogic -Douaf.password=weblogic123 -Dosb.version=11g
```

This will not override any OSB custom changes.

To Deploy on a Separate WebLogic Instance

Note: See Configuration of Oracle Fusion Middleware Components on a Separate Server from Oracle Utilities Service and Measurement Data Foundation for more information about deploying OSB components on a separate WebLogic server.

1. Create the following directories under <OSB_LOG_DIR>:

```
d7-csv
d7-csv-arch
d7-csv-error
d7-ssnxml
d7-ssnxml-arch
d7-ssnxml-error
```

2. Copy the following jars to the lib folder under the WebLogic's domain directory:

```
spl-d1-osb-2.1.0.3.0.jar
spl-d7-osb-2.1.0.3.0.jar
```

These jars are present under the following location:

UNIX: $OSB_HOME/etc/lib

Windows: %OSB_HOME%\etc\lib

3. Start the separate WebLogic instance.
4. Create JMS queues and target them to the OSB admin server:
   - Create a JMS server OSB-JMSServer" and target it to admin server.
   - Create a JMS module D7-SystemModule.
   - Under D7-SystemModule create a sub-deployment D7-JMSFAServer and target it to OSB-JMSServer.

- Create the following JMS queues:

  Queue Name: DestinationQueue-D7

  JNDI Name: DestinationQueue-D7

  Sub-deployment: D7-JMSFAServer

  Targets: OSB-JMSServer

  Queue Name: NotificationQueue-D7

  JNDI Name: NotificationQueue-D7

  Sub-deployment: D7-JMSFAServer

  Targets: OSB-JMSServer

5. Deploy the OSB adapter on the separate WebLogic instance.

   UNIX:

   ```
   cd $SPLEBASE/osbapp
   ```
   For WebLogic 12c:

   ```
   $SPLEBASE/product/apache-ant/bin/ant -buildfile deploy-osb_D7.xml
   -Dadmin.user=<OSB_ADMIN_USER>
   -Dadmin.password=<OSB_ADMIN_PASSWORD>
   -Douaf.user=<JMS_USER> -Douaf.password=<JMS_PASSWORD>
   ```

   For WebLogic 11g:

   ```
   $SPLEBASE/product/apache-ant/bin/ant -buildfile deploy-osb_D7.xml
   -Dadmin.user=<OSB_ADMIN_USER>
   -Dadmin.password=<OSB_ADMIN_PASSWORD>
   -Douaf.user=<JMS_USER> -Douaf.password=<JMS_PASSWORD>
   -Dosb.version=11g
   ```

   Note: Use the following command if this is an upgrade from a previous version:

   ```
   cd $SPLEBASE/osbapp
   ```
   For WebLogic 12c:

   ```
   $SPLEBASE/product/apache-ant/bin/ant -buildfile deploy-osb_D7.xml
    update_osb -Dadmin.user=weblogic -Dadmin.password=weblogic123
   -Douaf.user=weblogic -Douaf.password=weblogic123
   ```

   For WebLogic 11g:

   ```
   $SPLEBASE/product/apache-ant/bin/ant -buildfile deploy-osb_D7.xml
   update_osb -Dadmin.user=weblogic -Dadmin.password=weblogic123
   -Douaf.user=weblogic -Douaf.password=weblogic123 -Dosb.version=11g
   ```

   This will not override any OSB custom changes

   Windows:

   ```
   cd %SPLEBASE%\osbapp
   ```
   For WebLogic 12c:

```
%SPLEBASE%\product\apache-ant\bin\ant -buildfile deploy-osb_D7.xml
-Dadmin.user=<OSB_ADMIN_USER>
-Dadmin.password=<OSB_ADMIN_PASSWORD> -Douaf.user=<JMS_USER>
-Douaf.password=<JMS_PASSWORD>
```

For WebLogic 11g:

```
%SPLEBASE%\product\apache-ant\bin\ant -buildfile deploy-osb_D7.xml
-Dadmin.user=<OSB_ADMIN_USER>
-Dadmin.password=<OSB_ADMIN_PASSWORD> -Douaf.user=<JMS_USER>
-Douaf.password=<JMS_PASSWORD> -Dosb.version=11g
```

Note: Use the following command if this is an upgrade from a previous version:

For WebLogic 12c:

```
%SPLEBASE%/product/apache-ant/bin/ant -buildfile deploy-osb_D7.xml
 update_osb -Dadmin.user=weblogic -Dadmin.password=weblogic123
-Douaf.user=weblogic -Douaf.password=weblogic123
```

For WebLogic 11g:

```
%SPLEBASE%/product/apache-ant/bin/ant -buildfile deploy-osb_D7.xml
 update_osb -Dadmin.user=weblogic -Dadmin.password=weblogic123
-Douaf.user=weblogic -Douaf.password=weblogic123 -Dosb.version=11g
```

This will not override any OSB custom changes

Deploying the SOA Adapter for Silver Spring Networks

The SOA adapter can be deployed on the bundled WebLogic example server instance or on a separate WebLogic server instance.

Note: Oracle Enterprise Manager may be required for some of the security setups and for monitoring SOA. If Oracle Enterprise Manager is required, you need to extend the example SOA WebLogic domain and enable Enterprise Manager using WebLogic's configuration utility.

To deploy the SOA adapter, use the following procedures:

To Deploy on the Example WebLogic Instance

1. Start the example SOA WebLogic instance:

   UNIX:

   ```
   cd $SPLEBASE/soaapp
   ./startWebLogic.sh
   ```

   Windows:

   ```
   cd %SPLEBASE%\soaapp
   startWebLogic.cmd
   ```

2. Deploy the SOA adapter on the example WebLogic instance

Note: Example Domain is only for WebLogic 10.3.6 and not for WebLogic 12.1.3.0+.

UNIX:

```
cd $SPLEBASE/soaapp
```

For WebLogic 11g:

```
$SPLEBASE/product/apache-ant/bin/ant -buildfile deploy-soa_MDF.xml
-Dserver.user=weblogic -Dserver.password=weblogic123
-Dsoa.version=11g

$SPLEBASE/product/apache-ant/bin/ant -buildfile deploy-soa_D7.xml
-Dserver.user=weblogic -Dserver.password=weblogic123
-Dsoa.version=11g
```

Windows:

For WebLogic 11g:

```
%SPLEBASE%\product\apache-ant\bin\ant -buildfile deploy
-soa_MDF.xml
-Dserver.user=weblogic -Dserver.password=weblogic123
-Dsoa.version=11g

%SPLEBASE%\product\apache-ant\bin\ant -buildfile deploy-soa_D7.xml
-Dserver.user=weblogic -Dserver.password=weblogic123
-Dsoa.version=11g
```

3. Deploy the TestHarness SOA composites on example WebLogic instance.

UNIX:

```
cd $SPLEBASE/soaapp
```

For WebLogic 11g:

```
$SPLEBASE/product/apache-ant/bin/ant -buildfile deploy-soa_D7.xml
 deployTestHarness -Dserver.user=weblogic
-Dserver.password=weblogic123 -Dsoa.version=11g
```

Windows:

Note: Open the command prompt as Administrative mode and then select the environment to deploy SOA.

```
cd %SPLEBASE%/soaapp
```

For WebLogic 11g:

```
%SPLEBASE%\product\apache-ant\bin\ant -buildfile
deploy-soa_D7.xml deployTestHarness -Dserver.user=weblogic
-Dserver.password=weblogic123 -Dsoa.version=11g
```

To Deploy on a Separate WebLogic Instance

Note: See Configuration of Oracle Fusion Middleware Components on a Separate Server from Oracle Utilities Service and Measurement Data Foundation for more information about deploying SOA components on a separate WebLogic server.

1. Create WebLogic SOA Domain and select Enterprise Manager option also.
2. Copy the following jar file to the lib folder under the WebLogic domain directory, spl-d1-soa-security.jar

   This jar is present under the following location:

   UNIX: $SPLEBASE/etc/lib

   Windows: %SPLEBASE%\etc\lib

3. Append following XML snippet to <MIDDLEWARE_HOME>\user_projects\domains\SGG_2007_SOADomain\config\fmwconfig\system-jazn-data.xml:

```
<grant>
<grantee>
<codesource>
<url>file:${domain.home}/lib/spl-d1-soa-security.jar</url>
</codesource>
</grantee>
<permissions>
<permission>
<class>oracle.security.jps.service.credstore.CredentialAccessPermi
ssion</class>
<name>context=SYSTEM,mapName=*,keyName=*</name>
<actions>*</actions>
</permission>
</permissions>
<permission-set-refs>
</permission-set-refs>
</grant>
```

4. Start the separate WebLogic instance.
5. Deploy jms-notran-adp.rar file as an application deployment from <WL_HOME>/wlserver_10.3/server/lib folder.
6. Create JMS queues and target them to the SOA managed server:
   a. Create a JMS Server:
      - Under Domain Structure, navigate to **Services, Messaging, JMS Servers**
      - On the JMS Servers Page, Click on **New**.
      - On the Create a New JMS Server page:
        - Provide a name for your JMS Server, for example, SSN-JMSServer.
        - Select a Persistent Store to SOAJMSFileStore, click **Next**
        - On the next screen, select the SOA_Server as Target Server instance where you would like to deploy this JMS Server.
        - Select the Target Server from the dropdown list and click **Finish** to complete the JMS server creation. Make sure you activate the changes.
      - You should now find your new JMS Server in the JMS Servers List.
   b. Create a JMS Module.
      - On the Create JMS System Module screen, enter name, for example, SSN-SystemModule (You can leave other fields empty if you want.)

- Select the SOA Server you would like to target (ideally, this would be the same server that is hosting the JMS server you created above). For example, soa_server1
- On the next screen click **Finish and Activate changes.**

c. Create Queues:

- Click on **New** in JMS Module to create the Queue.
- Provide a name (for example, SSNTestSSNODRQ) and a JNDI name (for example, queue/SSNTestSSNODRQ).
- Select a subdeployment (for example, SSN-JMSFAServer) if you already created or follow below steps to create a new subdeployment. (A subdeployment is a convenient way for grouping and targeting JMS module resources.)
- Provide a name for the subdeployment (E.g. SSN-JMSFAServer) and click **OK.**
- Select the target JMS Server we created (E.g. SSN-JMSServer) and Click **finish**.
- Click on **New** in JMS Module to create the Queue.
- Provide a name (e.g., SSNODRQ) and a JNDI name (e.g., queue/SSNODRQ)
- Select a subdeployment (for example, SSN-JMSFAServer) if you already created or follow below steps to create a New Subdeployment.(A subdeployment is a convenient way for grouping and targeting JMS module resources.)
- Provide a name for the subdeployment (for example, SSN-JMSFAServer) and click **OK**.
- Select the target JMS Server we created (for example, SSN-JMSServer) and Click **finish**.

d. Create JMS Connection Factory

- Click on **New** in JMS Module to create the Connection factory
- Give the Connection factory a name (for example, SSNTestHarnessConnectionFactory and JNDI name (for example, jms/ SSNTestHarnessConnectionFactory). Click **Next**.
- Select **Advance Targeting** and on the next page select the subdeployment you created above (SSN-JMSFAServer). Wait for the page to refresh and click on **Finish**.
- Click on **New** in JMS Module to create the Connection factory.
- Give the Connection factory a name (for example, SSNConnectionFactory) and JNDI name (for example, jms/SSNConnectionFactory). Click **Next.**
- Select **Advance Targeting** and on the next page select the subdeployment you created above (SSN-JMSFAServer). Wait for the page to refresh and click **Finish**.

e. Create a Source JMS Bridge Destination:

- Under Domain Structure, navigate to **Services, Messaging, Bridge, JMS Bridge Destinations**
- On the JMS Bridge Destinations Page, Click on **New** button. On the Create a New JMS Bridge Destination page:
  - Provide a name for your JMS Bridge destination SSNTestHarnessBridgeDestination.
  - Select Adapter JNDI named eis.jms.WLSConnectionFactoryJNDINoTX.

- Provide Initial Context Factory as weblogic.jndi.WLInitialContextFactory.
- Provide Connection URL as t3://@SSN_UIQ_HOST@:@SSN_UIQ_PORT@. For example t3://tudevwp0169.us.oracle.com:8001
- Provide Connection Factory JNDI name as jms/SSNTestHarnessConnectionFactory
- Provide Destination JNDI name as queue/SSNTestSSNODRQ
- Select Destination type as queue
- Provide username.
- Provide password.
- Confirm the password

Note: Once you created JMS Bridge Destination, Click on Services > Messaging > Bridge > JMS Bridge Destinations > SSNSOABridgeDestination.

- On the SSNSOABridgeDestination page, Enter username and password values, Click **Save**.

f. Create a Target JMS Bridge Destination

- Under Domain Structure, navigate to **Services, Messaging, Bridge, JMS Bridge Destinations.**
- On the JMS Bridge Destinations Page, Click **New**. On the Create a New JMS Bridge Destination page:
  - Provide a name for your JMS Bridge destination SSNSOABridgeDestination.
  - Select Adapter JNDI name as eis.jms.WLSConnectionFactoryJNDINoTX.
  - Provide Initial Context Factory as weblogic.jndi.WLInitialContextFactory.
  - Provide Connection URL as t3://@SOA_HOST@:@SOA_PORT_NUMBER.
  - Provide Connection Factory JNDI name as jms/SSNConnectionFactory"
  - Provide Destination JNDI name as queue/SSNODRQ.
  - Select Destination type as queue.

Note: Once you created JMS Bridge Destination, navigate to **Services, Messaging, Bridge, JMS Bridge Destinations, SSNSOABridgeDestination**.

- On the SSNSOABridgeDestination page, Enter username and password values, Click Save.

g. Create a Bridge:

- Under Domain Structure, navigate to **Services, Messaging, Bridges On the Bridges Page.** Click on **New** button. On the Create a New Bridge page:
  - Provide a name for Bridge as SSNODRQBridge.
  - Select Quality of Service as At most-Once.
  - Check Started.
  - Click **Next.**
  - Select Source Bridge Destination as SSNTestHarnessBridgeDestination.

- Select Messaging Provider as WebLogic Server 7.0 or Higher.

Note: In real time depending on SSN environment this should be changed

- Select Target Bridge Destination as SSNSOABridgeDestination.
- Select Messaging Provider as WebLogic Server 7.0 or Higher.
- Select server as soa_server1.

Note: Any web logic managed server

- Click **Finish**.

7. Deploy the SOA adapter on the separate WebLogic instance

   Note: Modify the SOA Host Server, SOA Port Number, SOA WebLogic User Name, SOA WebLogic User Password menu items according to separate domain using SOA Configuration Menu item 9.

   UNIX:

   ```
   cd $SPLEBASE/soaapp
   ```
   For WebLogic 12c:

   ```
   $SPLEBASE/product/apache-ant/bin/ant -buildfile deploy-soa_MDF.xml
   -Dserver.user=<ADMIN_USER> -Dserver.password=<ADMIN_PASSWORD>

   $SPLEBASE/product/apache-ant/bin/ant -buildfile deploy-soa_D7.xml
   -Dserver.user=<ADMIN_USER> -Dserver.password=<ADMIN_PASSWORD>
   ```

   For WebLogic 11g:

   ```
   $SPLEBASE/product/apache-ant/bin/ant -buildfile deploy-soa_MDF.xml
   -Dserver.user=<ADMIN_USER> -Dserver.password=<ADMIN_PASSWORD>
   -Dsoa.version=11g

   $SPLEBASE/product/apache-ant/bin/ant -buildfile deploy-soa_D7.xml
   -Dserver.user=<ADMIN_USER> -Dserver.password=<ADMIN_PASSWORD>
   -Dsoa.version=11g
   ```

   Windows:

   ```
   cd %SPLEBASE%\soaapp
   ```

   For WebLogic 12c:

   ```
   %SPLEBASE%\product\apache-ant\bin\ant -buildfile deploy
   -soa_MDF.xml
   -Dserver.user=<ADMIN_USER> -Dserver.password=<ADMIN_PASSWORD>

   %SPLEBASE%\product\apache-ant\bin\ant
   -buildfile deploy-soa_D7.xml
   -Dserver.user=<ADMIN_USER> -Dserver.password=<ADMIN_PASSWORD>
   ```

   For WebLogic 11g:

   ```
   %SPLEBASE%\product\apache-ant\bin\ant -buildfile deploy
   -soa_MDF.xml
   -Dserver.user=<ADMIN_USER> -Dserver.password=<ADMIN_PASSWORD>
   -Dsoa.version=11g
   ```

```
%SPLEBASE%\product\apache-ant\bin\ant
-buildfile deploy-soa_D7.xml
-Dserver.user=<ADMIN_USER> -Dserver.password=<ADMIN_PASSWORD>
-Dsoa.version=11g
```

8. Deploy the TestHarness SOA composites on the separate WebLogic instance.

   UNIX:

   ```
   cd $SPLEBASE/soaapp
   ```

   For WebLogic 12c:

   ```
   $SPLEBASE/product/apache-ant/bin/ant -buildfile deploy-soa_D7.xml
    deployTestHarness -Dserver.user=<ADMIN_USER>
   -Dserver.password=<ADMIN_PASSWORD>
   ```

   For WebLogic 11g:

   ```
   $SPLEBASE/product/apache-ant/bin/ant -buildfile deploy-soa_D7.xml
   deployTestHarness -Dserver.user=<ADMIN_USER>
   -Dserver.password=<ADMIN_PASSWORD> -Dsoa.version=11g
   ```

   Windows:

   ```
   cd %SPLEBASE%\soaapp
   ```

   For WebLogic 12c:

   ```
   %SPLEBASE%\product\apache-ant\bin\ant -buildfile deploy-soa_D7.xml
    deployTestHarness -Dserver.user=<ADMIN_USER>
   -Dserver.password=<ADMIN_PASSWORD>
   ```

   For WebLogic 11g:

   ```
   %SPLEBASE%\product\apache-ant\bin\ant -buildfile deploy-soa_D7.xml
    deployTestHarness -Dserver.user=<ADMIN_USER>
   -Dserver.password=<ADMIN_PASSWORD> -Dsoa.version=11g
   ```

Configuring Security for the SOA System

Security is managed through policies attached to the input and output points of each composite. More information on policies and their configuration can be found in the *Oracle Fusion Middleware Administrator's Guide for Oracle SOA Suite*, Chapter 10: Configuring Policies.

This section describes how to configure security credentials for the SOA system, including:

- Configuring Security for the SOA System to Communicate with the Application Framework
- Configuring Security for the SOA System to Communicate with the Head-End System

Configuring Security for the SOA System to Communicate with the Application Framework

Configuring security for the SOA system involves using Oracle Enterprise Manager to create the following security credentials:

- A Credential Map
- A Credential Key for the WebLogic Server.
- A Credential Key for the Oracle Utilities Application Framework

Use the following procedure to create the security credentials:

1. In Oracle Enterprise Manager, expand the WebLogic domain, right-click on the domain, and choose **Security, Credentials**.
2. On the **Credentials** page, click **Create Map.**
3. In the Create Map dialog, name the map **oracle.wsm.security,** then click **OK.**
4. Click **Create Key** and enter the following values:
    - **Select Map:** oracle.wsm.security
    - **Key:** sgg.d7.credentials
    - **Type:** Password
    - **Username:** A valid WebLogic user name
    - **Password:** A valid WebLogic password
5. Click **OK.**
6. Click **Create Key** again and enter the following values:
    - **Select Map:** oracle.wsm.security
    - **Key: s**gg.d7.ouaf.credentials
    - **Type:** Password
    - **Username:** A valid OUAF user name
    - **Password:** A valid OUAF password
7. Click **OK.**

Configuring Security for the SOA System to Communicate with the Head-End System

Configuring security for the SOA system involves creating the security credentials in Oracle Enterprise Manager and establishing a secure socket layer communications channel to the head end system. These configuration tasks are described in the following sections:

- Creating the Security Credentials
- Attaching Secure Socket Layer (SSL) Policies

Creating the Security Credentials

Configuring security for the SOA system involves using Oracle Enterprise Manager to create the following security credentials:

- A Credential Map
- A Credential Key for the WebLogic Server.
- A Credential Key for the Oracle Utilities Application Framework

Use the following procedure to create the security credentials:

1. In Oracle Enterprise Manager, expand the WebLogic domain, right-click on the domain, and choose **Security, Credentials.**
2. On the **Credentials** page, click **Create Map.**
3. In the Create Map dialog, name the map **oracle.wsm.security,** then click **OK.**
4. Click **Create Key** and enter the following values:
    - **Select Map:** oracle.wsm.security
    - **Key:** sgg.d7.ssn.credentials
    - **Type:** Password
    - **Username:** A valid WebLogic user name
    - **Password:** A valid WebLogic password
5. Click OK.

Attaching Secure Socket Layer (SSL) Policies

Silver Springs Networks accepts SSL transmissions to secure web service calls to their head-end system. Oracle web service references communicating with the head-end system include OWSM policies that implement HTTPS over SSL. The following services are all contained in the Common composite:

- JobManager
- DeviceManager
- DataAggregation
- DeviceResults

Each of these is configured to use the credential created above that uses the "sgg.d7.ssn.credentials" key.

Starting the Application

The OSB WebLogic server instance should be up and running before starting the main application.

The first time you start Oracle Utilities Smart Grid Gateway, you need to log in to the WebLogic console and give system access to cisusers role. The WebLogic console application can be accessed through the following URL:

http://<hostname>:<portname>/console

1. Start up the environment. Run the following command:

    UNIX: spl.sh start

    Windows: spl.cmd start

Follow the messages on the screen along with the logs in $SPLSYSTEMLOGS directory to ensure that the environment was started successfully.

If the startup failed, identify the problem by reviewing the logs. Resolve any issues before attempting to restart the environment.

You should postpone the startup process until you are done with postinstallation steps.

Use the following utility to stop the environment:

UNIX: spl.sh stop

Windows: spl.cmd stop

Operating the Application

At this point your installation and custom integration process is complete. Be sure to read the *Oracle Utilities Smart Grid Gateway Server Administration Guide* for more information on further configuring and operating the system.

Chapter 8

Installing Oracle Utilities Service Order Management

This chapter describes steps required for a successful Oracle Utilities Service Order Management installation.

Installation Overview

The following overview guides you through the installation process. The details for each step are presented as individual chapters in the rest of this guide.

1. Confirm that the recommended hardware is ready. Refer to Operating Systems and Application Servers for more details.
2. Install prerequisite software. Refer to the Installing Prerequisite Software for more details.

   Note: Oracle Utilities Service Order Management only supports WebLogic version 10.3.6 (11gR1) and Oracle Service Bus/Oracle SOA Suite 11.1.1.7.0.
3. Ensure that you have downloaded the Oracle Utilities Service Order Management V2.1.0.3 components from Oracle Software Delivery Cloud.
4. Go through the Appendix B**:** Installation and Configuration Worksheets to understand the configuration menu.
5. Determine the type of the installation: initial or demo.

   Refer to the sections Initial Installation or Demo Installation for more information.
6. Integrate Oracle Utilities Customer Care and Billing (CCB) with Oracle Utilities Service Order Management (SOM) by following the instructions in the document *Oracle Utilities Customer Care and Billing Integration to Oracle Utilities Service Order Management Installation Guide*.
7. Integrate Oracle Utilities Service Order Management (SOM) with Oracle Utilities Mobile Workforce Management (MWM) by following the instructions in the document *Oracle Utilities Service Order Management Integration to Oracle Utilities Mobile Workforce Management Installation Guide*.

Initial Installation

A successful initial installation of SOM involves the installation of the following components:

- Oracle Utilities Smart Grid Gateway Database Component
- Oracle Utilities Application Framework V4.2.0 Service Pack 3 (4.2.0.3) Application Component

- Installing Oracle Utilities Application Framework V4.2.0.3 Single Fix Prerequisite Rollup for SMDF V2.1.0.3
- Installing Oracle Utilities Service and Measurement Data Foundation V2.1.0.3 Application Component

To install all of the above components, follow the instructions mentioned in Chapter 4: Installing Oracle Utilities Smart Grid Gateway—Initial Installation.

Demo Installation

A successful installation of SOM involves the installation of the following components:

- Oracle Utilities Smart Grid Gateway Database Component
- Oracle Utilities Application Framework V4.2.0 Service Pack 3 (4.2.0.3) Application Component
- Installing Oracle Utilities Application Framework V4.2.0.3 Single Fix Prerequisite Rollup for SMDF V2.1.0.3
- Installing Oracle Utilities Service and Measurement Data Foundation V2.1.0.3 Application Component.

To install all of the above components, follow the instructions mentioned in chapter Chapter 5: Installing Oracle Utilities Smart Grid Gateway—Demo Installation.

Chapter 9

Additional Tasks

`This section describes tasks that should be completed after installing Oracle Utilities Smart Grid Gateway, including:

- WebLogic Production Server Considerations
- Building Javadoc Indexes
- Configuring the Environment for Batch Processing
- Customizing the Logo
- Generating the Application Viewer
- Deploying Inbound WebServices (IWS)

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

Customizing the Logo

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

This section details the steps necessary to generate the additional items.

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.

   For 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 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 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
```

For Unix:

You will need to logon to your UNIX box as the Oracle Utilities Administrator (default cissys) and open a shell prompt.

In the below 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 type:

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

For example:

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

3. Execute the script to generate all information

   Execute the following command for your operating system

   UNIX:

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

   Windows:

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

4. Restart your application

Deploying Inbound WebServices (IWS)

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

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

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

For deploying IWS, please follow the steps below:

UNIX:

1. Enable the Web Services Functionality as shown below:
   a. cd $SPLEBASE/bin

b. Execute configureEnv.sh –a

Select option 50 and set the option “Enable Web Services Functionality” to true. Enter "P" to process.

2. Execute initialSetup.sh as shown below:

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

3. Set the classpath as shown below:

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

4. Execute the following command:

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

Select y

5. 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:

1. Enable the Web Services Functionality as shown below:

```
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. Set the classpath as shown below:

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

5. Execute the following command:

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

Select y

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

```
iwsdeploy.cmd
```

Appendix A

Installation Menu Functionality

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 B

Installation and Configuration Worksheets

This section includes the following topics:

- Application Framework Installation and Configuration Worksheets
- Service and Measurement Data Foundation Installation and Configuration Worksheets
- Smart Grid Gateway Installation and Configuration Worksheets
  - For the Adapter Development Kit
  - For the Adapter for Echelon
  - For the Adapter for Itron OpenWay
  - For the Adapter for Landis+Gyr
  - For the Adapter for Sensus RNI
  - For the Adapter for Silver Spring Networks

Application Framework 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. They should be completed before installing the application framework, as described in the Chapter 5**:** Installing the Application Server Component of Oracle Utilities Application Framework. 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 Chapter 6**:** Installing Application Server Prerequisite Software.

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	
* 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_20	
* COBOL Home Directory	COBDIR	COBOL installation location directory. Example Location: /opt/SPLcobAS51WP6	
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-11.2.0.2.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/11.2.0.1 Note: This value will be the same as the previously entered for Oracle.	

Menu Option	Name Used in Documentation	Usage	Customer Install Value
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	
* ADF Home Directory	ADF_HOME	Location on the disk where ADF is installed. Example Location: /ouaf/jdev11_1_1_4	
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 11.2.0.2, at the following path:

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

The ons.jar should be copied to the Application Server. During the OUAF installation the relevant option should be populated with the folder location of the ons.jar.

Keystore Options

```
2. 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
```

Table 1:

Menu Option	Name Used in Documentation	Usage	Customer Install Value
Store Type	KS_STORETYPE	Value used for keytool option –storetype Default Value: JCEKS	
Alias	KS_ALIAS	Value used for keytool option –alias Default Value: ouaf.system	
Alias Key Algorithm	KS_ALIAS_KEYALG	Value used for keytool option -keyalg	
Alias Key Size	KS_ALIAS_KEYSIZE	Value used for keytool option -keysize	
HMAC Alias	KS_HMAC_ALIAS	Value used for keytool option -alias The following values are fixed: - HMAC Alias Key Algorithm: HmacSHA256 - HMAC Alias Key Size: 256 Default Value: ouaf.system.hmac	
Padding	KS_PADDING	Value used for encryption/decryption Default Value: PKCS5Padding	
Mode	KS_MODE	Value used for encryption/decryption Default Vaule: CBC	

Environment Installation Options

```
50. Environment Installation Options
       Environment Mount Point:
       Log Files Mount Point:
       Environment Name:
       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 SGG administrator user ID MUST be able to write to this directory. (This is the user ID that is created specifically to administer the (SGG) 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 SGG administrator user ID MUST be able to write to this directory. (This is the user ID that is created specifically to administer the (SGG) 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 Utilities Smart Grid Gateway 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 Utilities Smart Grid Gateway. 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
       Web Application Database User ID:
       Web Application Database Password:
       MPL Database User ID:
       MPL Database Password:
       XAI Database User ID:
       XAI Database Password:
       Batch Database User ID:
       Batch Database Password:
       Database Name
       Database Server:
       Database Port:
       ONS Server Configuration:
       Database Override Connection String:
      Oracle Client Character Set NLS_LANG:  AMERICAN_AMERICA.AL32UTF8
```

Menu Option	Name Used in Documentation	Usage	Customer Install Value
Web Application 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.	
Web Application 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 Utilities Smart Grid Gateway *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
       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:
```

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.	
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.	
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.	

Menu Option	Name Used in Documentation	Usage	Customer Value Install
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.	

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:
       Release Cobol Thread Memory Options:
-Dspl.runtime.cobol.remote.releaseThreadMemoryAfterEachCall=...
```

Menu Option	Name Used in Documentation	Usage	Customer Install Value
JVM Child Memory Allocation	JVMMEMORYARG	Heap size for the JVM Child. Default value: 512	
JVM Child Additional Options	JVM_ADDITIONAL_OPT	Additional JVM options that are passed to the Child JVM. Note: For WebLogic installation only.	
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.	
Web Application Java Max Perm Size	WEB_MEMORY_OPT_MAXPERMSIZE	Maximum Perm Size for the application server. Default value: 500MB (Linux, Solaris) 300MB (Windows, HP-UX) 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. Optional Entry. Note: For WebLogic installation only.	
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	
Thread Pool Worker Java Max Heap Size	BATCH_MEMORY_OPT_MAX	Maximum heap size passed to the Thread Pool Worker. Default value: 1024	
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. This is an optional value.	

Menu Option	Name Used in Documentation	Usage	Customer Install Value
Release Cobol Thread Memory Options	REL_CBL_THREAD_MEM	Allow for child JVMs to be optionally configured to release thread-bound memory when each thread is returned to its thread pool. This will increase the number of memory allocations and memory free calls performed by the Microfocus runtime. It will also lower the amount of C-heap memory consumed by child JVMs. Valid values: true, false Default value: false	

Advanced Web Application Configuration

```
52. Advanced Web Application Configuration
       Web Application Cache Settings:                    off
       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
      Web Form Login Page:                            /loginPage.jsp
      Web Form Login Error Page:                   /formLoginError.jsp
       Web Security Role:                                 cisusers
       Web 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	Default Value: off Valid Values: off read_write read_only	
Socket Location Folder	SPLJVMSOCKET	Folder where the socket files will be created (splSock*). If empty, the application will use the following default: [SPLEBASE]/runtime	
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.	

Menu Option	Name Used in Documentation	Usage	Customer Install Value
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.	
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.	
Batch Cluster URL	WEB_BATCH_CLUSTER_URL	Example: service:jmx:rmi:///jndi/rmi://[host]:[TPW JMX port]/oracle/ouaf/batchConnector	
StripHTMLComments: false	STRIP_HTML_COMMENTS	Stripping HTML (and JavaScript) comments will increase the security of the system. Default value: false Valid values: true, false	
Authentication Login Page Type	WEB_WLAUTHMETHOD	Specifies which authentication mode should be used. To switch off OUAF Login Page enter: BASIC Valid values: FORM, BASIC Default value: FORM	

Menu Option	Name Used in Documentation	Usage	Customer Install Value
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	
This is a development environment	WEB_ISDEVELOPMENT	If the value is "true", the web application may be used for application development, which will trigger certain generation processes. If the value is "false" the environment will be used as a runtime environment. When you choose "true" (development environment) the startup preload pages will be disabled, and the application security will be less strict. This value also controls the amount of logging information written to the application log files. Valid values: true, false Default value: false	
Preload All Pages on Startup	WEB_PRELOADALL	This controls if the pages should be pre-loaded during the startup of the application or not. Valid values: true, false Default value: false	
Maximum Age of a Cache Entry for Text	WEB_MAXAGE	Default value: 28800	
Maximum Age of a Cache Entry for Images	WEB_MAXAGEI	Default value: 28800	
JSP Recompile Interval (s)	WEB_wlpageCheckSeconds	Default value: 43200	

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	

Service and Measurement Data Foundation 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. They should be completed before installing the application framework, as described in Chapter 6: Installing the Application Server Component of Oracle Utilities Service and Measurement Data Foundation. 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 Chapter 6: Installing Application Server Prerequisite Software.

WebLogic OSB Configuration

```
8. OSB Configuration
      OSB Home:
      OSB Host Server:                                  <machine name>
      OSB Port Number:
      JDBC URL for database:
      Database User Name:
      Database Password:
      JNDI name for datasource:                      wlsbjmsrpDataSource
      Mount point for OSB files:                      /spl/sploutput/osb
      OSB Weblogic User Name:
      OSB Weblogic User Password:
```

Table 2:

Menu Option	Name Used In Documentation	Usage	Customer Install Value
OSB Home	OSB_HOME	Location of the directory where OSB is installed. For Example: Unix: /middleware/Oracle_OSB1 Windows: C:\middleware\Oracle_OSB1	
OSB Host Server	OSB_HOST	Host name of the server where the OSB WebLogic server instance will run. Default Value: <current server name>	
OSB Port Number:	OSB_PORT_NUMBER	Admin port number of the OSB WebLogic server instance. Note: This also specifies the port number on which the example OSB WebLogic server will listen.	

Table 2:

Menu Option	Name Used In Documentation	Usage	Customer Install Value
JDBC URL for database	DBURL_OSB	The JDBC URL of the database where the OSB schemas are located. For Example: jdbc:oracle:thin:@localhost:1521:OSBDB This value is required for the example WebLogic server instance.	
Database User Name	DBUSER_OSB	OSB database user ID. This value is required for the example WebLogic server instance.	
Database Password	DBPASS_OSB_WLS	OSB database password. This value is required for the example WebLogic server instance.	
JNDI name for datasource	JNDI_OSB	JNDI name for accessing the OSB database Note: Retain the default value. Default Value: wlsbjmsrpDataSource.	
Mount point for OSB files	OSB_LOG_DIR	Location of the network share or mount point where the OSB files will be dropped. This path should be accessible from the machine where OSB WebLogic instance is running. For example: /ouaf/osb/<ENVIRONMENT NAME>/ Default Value: /spl/sploutput/osb	
OSB WebLogic User Name	OSB_USER	WebLogic JMS user ID for the WebLogic instance where the OSB adapter will be deployed. Note: For the example OSB WebLogic instance this should be specified as **weblogic.**	
OSB WebLogic User Password	OSB_PASS_WLS	WebLogic JMS user password for the WebLogic instance where the OSB adapter will be deployed. Note: For the example OSB WebLogic instance this should be specified as **weblogic123.**	

WebSphere OSB Configuration

This configuration menu does not apply to Oracle Utilities Smart Grid Gateway.

```
8. OSB Configuration
      OSB Home:
      OSB Host Server:                                  <machine name>
      OSB Port Number:
     Mount point for OSB files:                      /spl/sploutput/osb
```

Table 3:

Menu Option	Name Used in this Documentation	Usage	Customer Install Value
OSB Home	OSB_HOME	Location of the directory where OSB is installed. For Example: **Unix:** /middleware/Oracle_OSB1 **Windows:** C:\middleware\Oracle_OSB1	
OSB Host Server	OSB_HOST	Host name of the server where the OSB WebLogic server instance will run. Default Value: <current server name>	
OSB Port Number:	OSB_PORT_NUMBER	Admin port number of the OSB WebLogic server instance. Note: This also specifies the port number on which the example WebLogic server will listen.	
Mount point for OSB files	OSB_LOG_DIR	Location of the network share or mount point where the OSB files will be dropped. This path should be accessible from the machine where OSB WebLogic instance is running. For example: /ouaf/osb/<ENVIRONMENT NAME>/ Default Value: /spl/sploutput/osb	

WebLogic SOA Configuration

```
9. SOA Configuration
     SOA Home:
     SOA Host Server:                                <machine name>
     SOA Port Number:
     JDBC URL for database:
     Database User Name (SOAINFRA):
     Database Password (SOAINFRA):
     Database User Name (MDS):
     Database Password (MDS):
     Database User Name (ORASDPM):
     Database Password (ORASDPM):
      Specify the path for XAI/IWS Service
```

Table 4:

Menu Option	Name Used in this Documentation	Usage	Customer Install Value
SOA Home	SOA_HOME	Location of the directory where SOA is installed. For Example: Unix: /middleware/Oracle_SOA1 Windows: C:\middleware\Oracle_SOA1	
SOA Host Server	SOA_HOST	Host name of the server where the SOA WebLogic server instance will run. Default Value: <current server name>	
SOA Port Number:	SOA_PORT_NUMBER	Admin port number of the SOA WebLogic server instance. This is the port number that is used as a part of the SOA URL request to connect to the host.	
JDBC URL for database	DBURL_SOA	The JDBC URL of the database where the SOA schemas are located. For Example: jdbc:oracle:thin:@localhost:1521:SOADB This value is required for the example WebLogic server instance.	
Database User Name (SOAINFRA)	DBUSER_SOAINFRA	SOAINFRA database user ID. This value is required for the example WebLogic server instance.	

Table 4:

Menu Option	Name Used in this Documentation	Usage	Customer Install Value
Database Password (SOAINFRA)	DBPASS_SOAINFRA	SOAINFRA database password. This value is required for the example WebLogic server instance.	
Database User Name (MDS)	DBUSER_MDS	MDS database user ID. This value is required for the example WebLogic server instance.	
Database Password (MDS)	DBPASS_MDS	MDS database password. This value is required for the example WebLogic server instance.	
Database User Name (ORASDPM)	DBUSER_ORASDPM	ORASDPM database user ID. This value is required for the example WebLogic server instance.	
Database Password (ORASDPM)	DBPASS_ORASDPM	ORASDPM database password. This value is required for the example WebLogic server instance.	
Specify the path for XAI/IWS Service	WEB_SERVICE_PATH	Path for XAI/IWS Service. This value is required to choose between XAI/IWS Services	

WebSphere SOA Configuration

This configuration menu does not apply to Oracle Utilities Smart Grid Gateway.

```
9. SOA Configuration
       SOA Home:
       SOA Host Server:                                    <machine name>
       SOA Port Number:
```

Table 5:

Menu Option	Name Used in this Documentation	Usage	Customer Install Value
SOA Home	SOA_HOME	Location of the directory where SOA is installed. For Example: **Unix:** /middleware/Oracle_SOA1 **Windows:** C:\middleware\Oracle_SOA1	
SOA Host Server	SOA_HOST	Host server where SOA WebLogic server instance will run. Default Value: <current server name>	
SOA Port Number:	SOA_PORT_NUMBER	Port number of the SOA WebLogic server instance. If SOA is deployed on a managed server, specify the managed server port number. Note: This also specifies the port number on which the example SOA WebLogic server will listen.	

WebLogic SOA Configuration Plan

This configuration is required for installing the following adapters:

- Oracle Utilities Smart Grid Gateway Adapter for Itron OpenWay

```
10. SOA Configuration Plan (MDF)
      MDF Bulk Request Callback URL:
      MDF Headend http connection timeout:                    50000
      MDF Headend http read timeout:                         500000
      MDF SOA Request Queue JNDI Name:          queue/BulkRequestQueue
      MDF SOA Notify Queue JNDI Name:           queue/BulkNotifyQueue
      MDF SOA Commnad Queue JNDI Name:          queue/BulkCommandQueue
      SGG-NMS Test Harness Partition Name:      SGG-NMS Test
```

Table 6:

Menu Option	Name Used In Documentation	Usage	Customer Install Value
MDF Bulk Request Callback URL	D1_BULK_REQUEST_CALLBACK_URL	This is the URL from the edge application that receives any fault responses in Bulk Command BPEL processing. Default value: empty	
MDF Headend http connection timeout	D1_HEADEND_HTTP_CONN_TIMEOUT	MDF Headend http connection timeout value. Default value: 50000	
MDF Headend http read timeout	D1_HEADEND_HTTP_READ_TIMEOUT	MDF Headend http read timeout value. Default value: 500000	
MDF SOA Request Queue JNDI Name	SOA_REQUEST_QUEUE_D1	MDF SOA Request Queue JNDI Name. Default Value: queue/BulkRequestQueue	
MDF SOA Notify Queue JNDI Name	SOA_NOTIFY_QUEUE_D1	MDF SOA Notify Queue JNDI Name. Default Value: queue/BulkNotifyQueue	
MDF SOA Commnad Queue JNDI Name	SOA_COMMAND_QUEUE_D1	MDF SOA Commnad Queue JNDI. Default Value: queue/BulkCommandQueue	
SGG-NMS TestHarness Partition Name	SOA_PARTITION_D1	SGG-NMS TestHarness Partition Name Default Value: SGG-NMS_Test	

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 Menu Option for OSB SSL Deployment

```
60. Advanced Configurations for OSB
          OSB ssl Port Enabled:
          OSB ssl Port Number:
          DemoTrust, CustomTrust:
          The path and file name of the Trust Keystore:
```

Table 7:

Menu Option	Name Used In Documentation	Usage	Customer Install Value
OSB SSL Port Enabled	OSB_SSL	To enable SSL on OSB set this as 'true' else set to 'false' Default value: false	
OSB SSL Port Number	OSB_SSL_PORT	OSB SSL Port Number.	
DemoTrust,CustomTrust	KeyStoreName	DemoTrust,CustomTrust Default value: DemoTrust	
The path and file name of the Trust Keystore	TrustKeyStoreFilePath	The path and file name of the Trust Keystore.	

Advanced Environment Memory Configurations

```
61. Advanced Memory Configurations for SOA
       SOA Initial Heap Size:             1024
       SOA Maximum Heap Size:             2048
       SOA Minimum Perm Size:             512
       SOA Maximum Perm Size:             1024
      SOA Application Additional Options:

62. Advanced Memory Configurations for OSB
       OSB Initial Heap Size:          512
       OSB Maximum Heap Size:          1024
       OSB Minimum Perm Size:          512
       OSB Maximum Perm Size:          1024
       OSB Application Additional Options:
```

Table 8:

Menu Option	Name Used In Documentation	Usage	Customer Install Value
OSB Initial Heap Size	OSB_MEMORY_OPT_MIN	Initial heap size for the OSB server. Default value: 512 Note: For WebLogic installation only	
OSB Maximum Heap Size	OSB_MEMORY_OPT_MAX	Maximum heap size for the OSB server. Default value: 1024 Note: For WebLogic installation only.	
OSB Minimum Perm Size	OSB_MEMORY_OPT_MINPERMSIZE	Maximum Perm Size for the OSB server. Default value: 512 Note: For WebLogic installation only.	
OSB Maximum Perm Size	OSB_MEMORY_OPT_MAXPERMSIZE	Maximum Perm Size for the OSB server. Default value: 1024 Note: For WebLogic installation only.	
OSB Application Additional Options	OSB_JVM_ADDITIONAL_OPT	Additional options that will be passed in to the OSB server JVM. Optional Entry. Note: For WebLogic installation only.	

Smart Grid Gateway 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. They should be completed before installing the application framework, as described in Chapter 6: Installing the Application Server Component of Oracle Utilities Service and Measurement Data Foundation. 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 Chapter 6: Installing Application Server Prerequisite Software.

This section includes worksheets for the following adapters:

- For the Adapter Development Kit
- For the Adapter for Echelon
- For the Adapter for Itron OpenWay
- For the Adapter for Landis+Gyr
- For the Adapter for Sensus RNI
- For the Adapter for Silver Spring Networks

For the Adapter Development Kit

```
21. DG Reference Implementation SOA Configurations
      DG SOA Partition Name: DG
      MR Server Endpoint URI: CD Server Endpoint URI:
      OD Server Endpoint URI:
      Headend Http Read Timeout:          500000
      Headend Http Connection Timeout:    50000
```

Menu Option	Name Used in this Documentation	Usage	Customer Install Value
DG SOA Partition Name	SOA_PARTITION_DG	SOA DG partition name. Default Value: DG	
MR Server Endpoint URI	Headend_MR_Server_DG	URL for the headend system running the MR service. For Example: http://localhost:port/soa-infra/services/DG_Test/DGTestHarness/MR_Server	
CD Server Endpoint URI	Headend_CD_Server_DG	URL for the headend system running CD service For Example: http://localhost:port/soa-infra/services/DG_Test/DGTestHarness/CD_Server	

Menu Option	Name Used in this Documentation	Usage	Customer Install Value
OD Server Endpoint URI	Headend_OD_Server_DG	URL for the headend system running OD service For Example: http://localhost:port/soa-infra/services/DG_Test/DGTestHarness/OD_Server	
Headend Http Read Timeout	Headend_http_read_timeout_DG	Headend http read timeout value Default Value: 500000	
Headend Http Connection Timeout	Headend_http_conn_timeout_DG	Headend Http Connection Timeout value Default Value: 50000	

For the Adapter for Echelon

```
17. SOA Configuration Plan (Echelon)
    NES endpoint URI:
    SOA_PARTITION_D4:
    HEADEND_EVENTMANAGER_D4:
    HEADEND_GATEWAYMANAGER_D4:
    HEADEND_DEVICEMANAGER_D4:
    HEADEND_SETTINGMANAGER_D4:
    HEADEND_USERMANAGER_D4
```

Menu Option	Name Used in this Documentation	Usage	Customer Install Value
NES endpoint URI	HEADEND_NES	NES endpoint URI	
SOA_PARTITION_D4	SOA_PARTITION_D4	The SOA partition to which the application is installed: Echelon	
HEADEND_EVENT MANAGER_D4	HEADEND_EVENT MANAGER_D4	The path to the NES EventManager web service on the head end system: CoreServices/EventManager.asmx	
HEADEND_GATEW AYMANAGER_D4	HEADEND_GATEW AYMANAGER_D4	The path to the NES GatewayManager web service: CoreServices/GatewayManager.asmx	
HEADEND_DEVICE MANAGER_D4	HEADEND_DEVICE MANAGER_D4	The path to the NES DeviceManager web service on the head end system: CoreServices/DeviceManager.asmx	
HEADEND_SETTIN GMANAGER_D4	HEADEND_SETTIN GMANAGER_D4	The path to the NES SettingManager web service on the head end system: CoreServices/SettingManager.asmx	
HEADEND_USERMA NAGER_D4	HEADEND_USERMA NAGER_D4	The path to the NES UserManager web service on the head end system: CoreServices/UserManager.asmx	

For the Adapter for Itron OpenWay

```
22. SOA Configuration Plan (Itron OpenWay)
      Itron SOA Partition Name: Itron
      Headend Http Read Timeout: 500000
      Headend Http Connection Timeout: 50000
      DataSubscriberService Output Path:
       ExceptionSubscriberService Output Path:
      Itron Headend DataService Endpoint URI:
      Itron Headend DiagnosticService Endpoint URI:
      Itron Headend UtilService Endpoint URI:
      Itron Headend ControlService Endpoint URI:
      Itron Headend ProvisioningService Endpoint URI:
      Itron Headend ProvisioningService370 Endpoint URI:
      Itron Headend ControlService370 Endpoint URI:
```

Note: Replace localhost and port with respective host and port for the below mentioned Endpoint URLs.

Menu Option	Name Used in this Documentation	Usage	Customer Install Value
Itron SOA Partition Name	SOA_PARTITION_D8	Itron SOA Partition Name Default Value: Itron	
Headend Http Read Timeout	HEADEND_HTTP_READ_TIMEOUT_D8	Headend Http Read Timeout Default Value: 500000	
Headend Http Connection Timeout	HEADEND_HTTP_CONN_TIMEOUT_D8	Headend Http Connection Timeout Default Value: 50000	
DataSubscriberService Output Path	DATASUBSCRIBER_OUTPUT_PATH_D8	Directory path for DataSubscriberService Output	
ExceptionSubscriberService Output Path	EXCEPTIONSUBSCRIBER_OUTPUT_PATH_D8	Directory path for ExceptionSubscriberService For example: Output	
Itron Headend DataService Endpoint URI	Headend_DataService_D8	URL for Itron Headend DataService Endpoint For Example: http://localhost:port/soa-infra/services/Itron_Test/ItronTestHarness/DataService390	
Itron Headend DiagnosticService Endpoint URI	Headend_DiagnosticService_D8	URL for Itron Headend DiagnosticService Endpoint For Example: http://localhost:port/soa-infra/services/Itron_Test/ItronTestHarness/DiagnosticService390	

Menu Option	Name Used in this Documentation	Usage	Customer Install Value
Itron Headend UtilService Endpoint URI	Headend_UtilService_D8	URL for Itron Headend UtilService Endpoint For Example: http://localhost:port/soa-infra/services/Itron_Test/ItronTestHarness/UtilService	
Itron Headend ControlService Endpoint URI	Headend_ControlService_D8	URL for Itron Headend ControlService Endpoint For Example: http://localhost:port/soa-infra/services/Itron_Test/ItronTestHarness/ControlService39	
Itron Headend ProvisioningService Endpoint URI	Headend_ProvisioningService_D8	URL for Itron Headend ProvisioningService Endpoint For Example: http://localhost:port/soa-infra/services/Itron_Test/ItronTestHarness/ProvisioningService39	
Itron Headend ProvisioningService370 Endpoint URI	Headend_ProvisioningService370_D8	URL for Itron Headend ProvisioningService370 Endpoint For Example: http://localhost:port/soa-infra/services/Itron_Test/ItronTestHarness/ProvisioningService37	
Itron Headend ControlService370 Endpoint URI	Headend_ControlService370_D8	URL for Itron Headend ControlService370 Endpoint For Example: http://localhost:port/soa-infra/services/Itron_Test/ItronTestHarness/ControlService370	

For the Adapter for Landis+Gyr

```
16. SOA Configuration Plan
      MR_CB endpoint URI:
      CD_CB endpoint URI:
      LG SOA Partition Name:
      LG SOA TestHarness Partition Name:
```

Menu Option	Name Used in this Documentation	Usage	Customer Install Value
MR_CB endpoint URI	HEADEND_MR_CB	URL for the head-end system running the MR_CB service. For Example: http://localhost:port/mockMR_CBSoap	
CD_CB endpoint URI	HEADEND_CD_CB	URL for the head-end system running CD_CB service For Example: http://localhost:port/mockCD_CBSoap	
LG SOA Partition Name	SOA_PARTITION_D3	SOA LG partition name. Default Value: LG	
LG SOA TestHarness Partition Name	SOA_PARTITION_TEST_D3	SOA LG Test Harness Partition Name Default Value: LG_Test	

For the Adapter for Sensus RNI

```
18. SOA Configuration Plan (Sensus)
       Sensus SOA TestHarness Partition Name          Sensus_Test
       MR Server Endpoint URI:
       CD Server Endpoint URI:
       OD Server Endpoint URI
       Headend Http Read Timeout:                        500000
       Headend Http Connection Timeout:                  50000
```

Menu Option	Name Used in this Documentation	Usage	Customer Install Value
Sensus SOA TestHarness Partition Name	SOA_PARTITION_TEST_D6	Sensus SOA Test Harness Partition Name Default Value: Sensus_Test	
MR Server Endpoint URI	HEADEND_MR_D6	URL for the headend system running the MR service. For Example: http://10.241.39.88:11080/multispeakv4-mr-ws	
CD Server Endpoint URI	HEADEND_CD_D6	URL for the headend system running CD service For Example: http://10.241.39.88:11080/multispeakv4-cd-ws	
OD Server Endpoint URI	HEADEND_OD_D6	URL for the headend system running OD service For Example: http://10.241.39.88:11080/multispeakv4-cd-ws	
Headend Http Read Timeout	Headend_http_read_timeout_D6	Headend http read timeout value Default Value: 500000	
Headend Http Connection Timeout	Headend_http_conn_timeout_D6	Headend Http Connection Timeout value Default Value: 50000	

For the Adapter for Silver Spring Networks

SOA Configuration Plan (SSN)

```
19. SOA Configuration Plan (SSN)
       SSN SOA Partition Name:                                    SSN
       SOA WebLogic User Name:
       SOA Weblogic User Password:
       SSN SOA Queue JNDI Name:                          queue/SSNODRQ
       SSN Headend DataAggregation Endpoint URI:
       The url for the SSN 4.7 DataAggregation service
             (DataAggregation.asmx):
       SSN Headend DeviceManager Endpoint URI:
       The url for the SSN 4.7 DeviceManager service
             (DeviceManager.asmx):
       SSN Headend DeviceResults Endpoint URI:
       The url for the SSN 4.7 DeviceResults service
             (DeviceResults.asmx):
       SSN Headend JobManager Endpoint URI:
       The url for the SSN 4.7 JobManager service(JobManager.asmx):
```

Note: Replace localhost and port with your respective host and port for the Endpoint URLs listed below.

Menu Option	Name Used in this Documentation	Usage	Customer Install Value
SOA Partition Name	SOA_PARTITION_D7	SOA SSN partition name. Default Value: SSN	
SOA Queue JNDI Name	SOA_QUEUE_D7	SOA queue JNDI name. Default Value: queue/SSNODRQ	
Headend DataAggregation Endpoint URI	Headend_DataAggregation_Server_D7	URL for headend DataAggregation Endpoint. Example: http://localhost:7001/soa-infra/services/SSN_Test/SSNTestHarness / DataAggregationService	
The url for the SSN 4.7 DataAggregation service (DataAggregation.asmx)	Headend_DataAggregation_47_Server_D7	URL for version 4.7 headend DataAggregation End- point. Example: http://127.0.0.1/CoreServices/DataAggregation.asmx	
Headend DeviceManager Endpoint URI	Headend_DeviceManager_Server_D7	URL for headend DeviceManager Endpoint. Example: http://localhost:7001/soa-infra/services/SSN_Test/SSNTestHarness/DeviceManagerService	

Menu Option	Name Used in this Documentation	Usage	Customer Install Value
The url for the SSN 4.7 DeviceManager service (DeviceManager.asmx)	Headend_DeviceManager_47_Server_D7	URL for version 4.7 headend DeviceManager Endpoint. Example: http://127.0.0.1/CoreServices/DeviceManager.asmx	
Headend DeviceResults Endpoint URI	Headend_DeviceResults_Server_D7	URL for headend DeviceResults Endpoint. Example: http://localhost:7001/soa-infra/services/SSN_Test/SSNTestHarness/DeviceResultsService	
The url for the SSN 4.7 DeviceResults service (DeviceResults.asmx)	Headend_DeviceResults_47_Server_D7	URL for version 4.7 headend DeviceResults Endpoint. Example: http://127.0.0.1/CoreServices/DeviceResults.asmx	
Headend JobManager Endpoint URI	Headend_JobManager_Server_D7	URL for headend JobManager endpoint. Example: http://localhost:7001/soa-infra/services/SSN_Test/SSNTestHarness / JobManagerService	
The url for the SSN 4.7 JobManager service (JobManager.asmx)	Headend_JobManager_47_Server_D7	URL for version 4.7 headend JobManager endpoint. Example: http://127.0.0.1/CoreServices/JobManager.asmx	

SSN JMS Source Destination Bridge Configuration

```
20. SSN JMS Source Destination Bridge Configuration
   SSN Bridge Destination Name:        SSNTestHarnessBridgeDestination
   SSN Bridge Destination Additional Classpath:
   SSN Bridge Destination Connection URL:
   SSN Bridge Destination Initial Context Factory:
                                  weblogic.jndi.WLInitialContextFactory
   SSN Bridge Connection Factory JNDI Name:
                                    jms/SSNTestHarnessConnectionFactory
   SSN Bridge Destination Queue JNDI Name:       queue/SSNTestSSNODRQ
   SSN Destination Bridge Username:
   SSN Destination Bridge Password:
```

Parameter Description	Name Used in this Documentation	Usage	Customer Install Value
Source Bridge Destination Name	SRC_BRG_NAME_D7	Source bridge Destination name. Default Value: SSNTestHarnessBridgeDestination	
Classpath	SRC_BRG_CLASSPATH_D7	Source bridge destination classpath. Default Value: empty	
Connection URL	SRC_BRG_CONN_URL_D7	Source bridge destination connection URL. Example: t3://JMS_PROVIDER_HOST:JMS_PORT_NUMBER	
Initial Context Factory	SRC_BRG_INITIAL_CONTEXT_D7	Source bridge destination initial context factory. Default: weblogic.jndi.WLInitialContextFactory	
Connection Factory JNDI Name	SRC_BRG_CONN_FACTORY_D7	SSN bridge connection factory JNDI Name. Default: jms/SSNTestHarnessConnectionFactory	
Destination Queue JNDI Name	SRC_BRG_QUEUE_JNDI_D7	SSN bridge destination queue JNDI name. Default: queue/SSNTestSSNODRQ	
JMS Provider User Name	SRC_BRD_WLS_USER_D7	Source destination bridge username.	
JMS Provider User Password	SRC_BRD_WLS_PASS_D7	Source destination bridge password.	

Advance Menu Option for Test Harness Configuration

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
```

```
70. SSN SOA TestHarness Configurations
      SSN TestHarness SOA Host Server:
      SSN TestHarness SOA Port Number:
      SSN SOA TestHarness Partition Name:                    SSN_Test
      SSN SOA TestHarness Queue JNDI Name:          queue/SSNTestSSNODRQ
```

Parameter Description	Name used in this Document	Usage	Customer Install Value
TestHarness SOA Host Server	SOA_HOST_TEST_D7	TestHarness SOA Host Server	
TestHarness SOA Port Server	SOA_PORT_NUMBER_TEST_D7	TestHarness SOA Port Server	
SOA TestHarness Partition Name	SOA_PARTITION_TEST_D7	TestHarness SOA partition name. Default Value: SSN_Test	
SOA TestHarness Queue JNDI Name	SOA_QUEUE_TEST_D7	TestHarness SOA Queue JNDI Name. Default Value: queue/SSNTestSSNODRQ	

Appendix C

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 WebLogic Server

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

   UNIX:

   ```
   ./spl.sh stop
   ```

   Windows:

   ```
   spl.cmd stop
   ```

To Start the Thread Pool Worker

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

   UNIX:

   ```
   ./spl.sh -b start
   ```

   Windows:

   ```
   spl.cmd -b start
   ```

To Stop the Thread Pool Worker

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

   UNIX:

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

   Windows:

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

To Modify the Configuration Values

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

   UNIX:

   ```
   configureEnv.sh
   ```

   Windows:

   ```
   configureEnv.cmd
   ```

   The configuration utility launches menu items. Select any Menu option.
3. Change the menu values.
4. After you change the menu values, press P to write the changes to the configuration file.
5. To apply the changes to the environment, run the initial setup script:

   ```
   initialSetup.sh
   ```

To Modify the Advanced Menu Option Values

1. Initialize the environment.

   The configuration utility launches menu items.
2. Run the following command:

   UNIX:

   ```
   configureEnv.sh -a
   ```

Windows:

```
configureEnv.cmd -a
```

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

```
initialSetup.sh
```

Appendix D

Installing User Documentation as a Standalone Application

This section describes the procedure for configuring the Oracle Utilities Smart Grid Gateway adapters. This section includes:

Installing User Documentation

This section provides instructions for installing the Oracle Utilities Smart Grid Gateway user documentation that is supplied with the system. The Oracle Utilities Smart Grid Gateway user documentation is provided in PDF format for printing.

The documentation is also provided in HTML format located inside the Oracle Utilities Smart Grid Gateway 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:

-
- D3: Oracle Utilities Smart Grid Gateway Adapter for Landis+Gyr
- D4: Oracle Utilities Smart Grid Gateway Adapter for Echelon
- D5: Oracle Utilities Smart Grid Gateway for MV90 User Guide
- DG: Oracle Utilities Smart Grid Gateway Adapter Development Kit
- D6: Oracle Utilities Smart Grid Gateway Adapter for Sensus RNI
- D7: Oracle Utilities Smart Grid Gateway Adapter for Silver Spring Networks User Guide
- D8: Oracle Utilities Smart Grid Gateway Adapter for Itron OpenWay User Guide
- F1: Oracle Utilities Application Framework Administration and Business Process Guides

Installing Standalone Online Help

You can also use the Oracle Utilities Smart Grid Gateway online help in standalone mode (that is, you do not have to launch it from the Oracle Utilities Smart Grid Gateway application or access it on the application server).

To install the Oracle Utilities Smart Grid Gateway help for standalone operation, copy the help.war from the Oracle Utilities Smart Grid Gateway server (environment) or from the Oracle Utilities Smart Grid Gateway 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 Oracle Utilities Smart Grid Gateway 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 Utilities Smart Grid Gateway help in standalone 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 Standalone 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 Standalone Help Under Web Server

You can also install Oracle Utilities Smart Grid Gateway online help as a standalone 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 standalone online help files.

Operating the Application

At this point your installation and custom integration process is complete.

Be sure to read the Oracle Utilities Smart Grid Gateway *Server Administration Guide* for more information on further configuring and operating the Oracle Utilities Smart Grid Gateway system.

Appendix E

Oracle Utilities Application Framework 4.2.0 Service Pack 3 (4.2.0.3.0) Fixes

The following table lists the Oracle Utilities Application Framework 4.2.0 Service Pack 3 (4.2.0.3.0) fixes included in this release.

Bug	Description
20745796	COPY OF 18537889: HIBERNATE REFRESH AFTER RAW UPDT =>A JOIN AGAINST 1ST COLL.
20764407	XAI OPTION "XSD COMPLIANCE" NOT GETTING PICKED UP CORRECTLY
20777697	COPY OF 18534322 - PAGINATION: ROW SERIAL NUMBERS RESET UPON COLUMN SORT ON ANY
20798267	"VIEW MO" LINK ON THE BUSINESS OBJECT UI DISPLAYS AN ERROR IN MDM 2.1 SP3
20808697	UNABLE TO START WEBLOGIC 12.1.3 USING SUPPLIED TEMPLATES

Appendix F

Oracle Utilities Service and Measurement Data Foundation Fixes

The following table lists the Oracle Utilities Service and Measurement Data Foundation fixes included in this release.

Bug	Description
9811867	DYNAMIC OPTION EVENT LIST SHOULD HAVE DESC ORDER BY
14581921	DEVICE COMMISSIONING ACTIVITY UI MAP USES RC HELP (UI: D1-DEVICECOMMISSIONMAINT)
14740293	DISABLE SERVICE TYPE MAINT UI - DISCARD REASON DROPDOWN HAS NO VALUES.
15985648	DATE FILTER IS IGNORED FOR THE SIM QUERY
16365795	ABLE TO CREATE DEVICE WHEN ¿BO STATUS¿ IS SET AS ¿ACTIVE¿ AND ¿RETIREMENTDTTIM"
17557461	USAGE RULES LIST DASHBOARD ZONE LOSES CONTEXT AFTER RULE DELETION
17577230	ZONES UNECESSARILY SHIFTING LOG DATE/TIME
18595709	COPY 18595705 CAN'T CREATE MTPLE COMM TYPES W SAME COMMTYPE BO BUT DIFF COMM BO
18601815	D2-RETINSTSP RETRUNS INCORRECT VALUE FOR DVC CFG ID.
18629838	COPY OF 18503847 - CONVERT DATE TIME TO LOCAL DATE TIME BEFORE RETRIEVING IE
18684214	COPY OF 18442262 - BATCH D1-MC HAS WRONG PARAMETER FOR MAINTENANCEOBJECT
18703272	COPY OF BUG 18703248 - COPY OF BUG 18695548 - INTERVAL MEASUREMENT VALUES NOT TR
18706110	IMD OPTIMIZATION: USE ENTITY PROCESSING TO RETRIEVE INFORMATION INSTEAD OF BO.

Bug	Description
18706184	INCORRECT WORKLIST ON MC SEARCH RESULTS WHEN USING ID TYPE/VALUE CONDITION
18709380	COPY OF BUG 18670251 - COPY OF 18640834 : SCALAR IMD OPTIMIZATION: PREVIOUS MSRM
18748277	COPY OF BUG 18723369 - REMAP MOST RECENT MSRMT DTTM TO CLOB IN REGIST
18757682	COPY OF BUG 18703243 - OPTIMIZE THE CALL OF SQL TO DETERMINE LATEST C
18760202	COPY OF BUG 18590296 - PERFORMANCE: READ REMARK ALGORITHM PERFORMANCE
18781316	COPY OF 19345739 - 75075 DIRECT CHANNELS ON USAGE SUBSCRIPTIONS
18796781	COPY OF BUG 18664813 - COPY OF 18632268 - LOADING IMD WITH OSB PERFORMANCE
18797536	COPY OF 18742153 - COPY OF 18722047 - IMPLEMENT CACHING ON DEVICE CONFIGURATION
18816141	COPY OF 17243837 - FACTOR CHAR VALUES ARE NOT DISPLAYED IN EDIT MODE
18819112	BUG 18755681 - DEVICE EVENT DATE/TIME IS SHIFTED WHEN DEVICE EVENT SEEDER RE-PRO
18823031	COPY OF 18823008 - COPY OF 18775049 - NULLIFY INSTALL EVENT HASH MAP ON DEVICE
18835794	COPY OF 17059401 - SP SHOULD HAVE VALIDATION FOR DISCONNECT LOCATION IF SOURCE S
18835828	COPY OF 18813630 - AMR OPTIMIZATION: ADD ELEMENT MOST RECENT MEASUREMENT DATE/TI
18855625	VALIDATION ERROR MESSAGE MUST BE DISPLAYED UNDER MAP HEADER.
18867477	COPY OF 18554236 - COPY OF 18537170 - ADD EXCLUDED MEASUREMENT CONDITIONS UNDER
18870370	MEASUREMENT LOG DOESN'T DISPLAY CHANGES WHEN ENTITY IS MODIFIED MULTIPLE TIMES
18898077	PERFORMANCE: MISSING INDEX ON D1_SP LEADS TO FULL SCANS WHEN RUNNING D1-CSPSR
18910152	COPY OF 18590387 - ADD JOIN IN SQL WITH LIFECYCLE BO IN AGGREGATION BATCH
18961183	COPY OF 18958363 - DUPLICATING SECURITY GROPUP FAILS DUE TO IMPROPER ACCESS MODE
18978466	ENABLE OPTIONAL EFFECTIVE-DATED CHARACTERISTICS ON MO

Bug	Description
19017978	COPY OF 18947146 - PERFORMANCE ISSUE ON 360 VIEW CAUSED BY ZONE D1-MSRMTS QUERY
19047299	COPY OF 18553026 - POPULATE LAST_UPDATE_DTTM FOR IMD AND MEASUREMENT TABLES TO S
19048286	COPY BUG: SGG-NMS: DEVICE EVENT NOTIFICATION AUTOMATICALLY USES STANDARD TIME IN
19051951	COPY OF 18956872 - INACTIVE USAGE SUBSCRIPTION RETURNS DEFAULT FACTOR VALUE AND
19058202	PERFORMANCE: MDM ONLINE PERFORMANCE ISSUES RELATED TO UNBOUNDED ZONE SQL STMTS
19058223	DEVICE HISTORY ZONE ON SERVICE POINT RETAINS DEVICE ID ON FILTER INCORRECTLY
19058320	CHANGE THE FORMAT OF OUCSS SP/DEVICE INFO - D1-SPDCINFO
19059382	CHANGE ERROR MESSAGE FOR VALUE IDENTIFIERS SHORT HAND DESCRIPTION MISSING
19065460	PERFORMANCE IMPROVEMENT FOR DEVICE EVENT INFO STRING DISPLAY
19076593	COPY OF 19050777 - NPE FOR AUTO READ REGISTERS
19136617	COPY BUG: EXTERNAL STATUS DATE TIME SHOWS IN STANDARD TIME ON UI MAP
19168816	COPY OF 19168784 - INTERVAL IMD OPTIMIZATION: INTRODUCE MOST RECENT MSRMT DTTM
19179504	COPY OF 19179435 - DUPLICATE IMD CHECK DOES NOT WORK WITH CHILD BO'S
19197718	COPY OF 16516788 - METER EXCHANGE SYNC REQUESTS PROCESS OUT OF ORDER
19225928	COPY OF 19190521 - PERIODIC ESTIMATION CREATING 23 HOURS OF INTERVALS WHEN 24 IS
19244161	COPY OF 19244145 - PERFORMANCE: UNNECESSARY MC TYPE BO READ IN D1-MCINFO SCRIPT
19289372	COPY BUG 18505416 (ADK) NEED TO ADD RETRY LOGIC TO DEVICE EVENTS
19394007	COPY OF 19328191 - LATEST READ DATE/TIME OUT OF SYNC ON SCALAR MCS
19448303	COPY OF 19448298 - COPY OF 19384770 - IMD RECORDS WITH BO D1-SYNCIMDSCALAR IN ST
19480276	COPY OF 19388605 - EXTERNAL UOM NOT BEING CONVERTED TO UOM
19480289	COPY OF 19452851 - ADJUSTED READ DATE TIME IS NOT POPULATED AND NOT IN SYNC WITH

Bug	Description
19505856	COPY OF 19435803 - COPY OF 19403353 - MOST RECENT MSRMT DTTM ELEMENT IS NOT BEIN
19511035	COPY OF 19314306 - COPY OF 19278517 - 360 CHARTS - PERFORMANCE - REPLACE ORDER B
19522676	COPY OF 19259706 - SCALAR IMD PERFORMANCE ISSUES.
19582322	ILM RELATED ENHANCEMENTS FOR IMD AND VEE EXCEPTION
19598919	ILM RELATED ENHANCEMENT FOR USAGE TRANSACTION
19608685	COPY OF 19587188 - REESTIMATION ACTIVITIES ARE GOING TO DISCARDED STATUS IN ALL
19644997	COPY BUG MDM - SEARCH FOR ACTIVITY BY NAME DOES NOT WORK
19650736	COPY OF 19613463 - MULTIPLE IMDS NEEDED TO INITIATE REESTIMATION ACTIVITY
19674075	75083 ODI-BASED BI ETL SUPPORTING OBJECTS
19693052	COPY OF 19663054 - D1-RMCRR BATCH DOES NOT COMPLETE WHEN WE HAVE RE-ESTIMATION A
19704523	COPY OF 19636581 - INCONSISTENT LOGIC IN INSTALL EVENT OVERLAPPING VALIDATION
19705863	COPY OF 19279357 - PERFORMVEE, CALC INTERVAL CON, IMD PREVEE AND UPD LATEST DTTM
19715160	DUPLICATE STATUS REASON DISPLAYED IN RECORD INFORMATION SECTION OF ONDEMAND READ
19722729	COPY OF 19289737 - SCALAR IMD PROCESSING OPTIMIZATION BY DOING ENTITY READS TO R
19769488	COPY BUG 19058976 - DEVICE EVENT DESIGN ISSUE LEADING TO SLOW ONLINE RESPONS
19770439	COPY OF 19624794 - TEMPLATE DEVICE DOES NOT SETUP DEPENDENT MCS
19784944	COPY OF 19779848 - DO NOT USE FLAG NOT PROPERLY POPULATED WHEN IMD IS CREATED MA
19789943	INCORRECT IMD START DATE AND MISLEADING ERROR MSG SEEN FOR REPLACEMENT IMD.
19797183	COPY OF 19531184 - MODIFY IMD SEEDER ALGORITHMS TO IMPROVE PERFORMANCE
19818462	IMD QUERY PORTAL LIMIT IMD SEARCH ONLY FOR 30 DAYS.
19849641	COPY BUG - IMPLEMENT NON-BLOCKING INVOKES FOR XAI WS CALLS
19852957	VEE RULE CODE CAN'T BE EDITED

Bug	Description
19878715	COPY OF 19872569 - (SMDF) PERFORMANCE ISSUE - 360 VIEW - MEASURING COMPONENT TAB
19889468	IMD SEEDER POPULATES INCOORECT/INSUFFICIENT RELATED OBJECTS IN PROCESSING METHOD
19911255	D1-PAYLOADEXTSCHEDTYPEMAINT INCLUDE REF. TO SERVICEISSUEMONITORTYPE ELEMENT
19943588	CMA: ENVIRONMENT REFERENCE IN MIGRATION REQUEST D1-ADMINDATA IS UNNECESSARY
19987602	COPY 19987593 INFO STRING GENERATED BY D1-COMMINFO SHOULD SHOW COMMUNICATION TY
19987988	COPY BUG 19581855 - PERFORMANCE: MODIFY ALGORITHM D1-PBSCMTOCC TO BE ENTITY BASE
20014110	COPY OF 19931430 - 360 MEASURING COMPONENT TAB PERFORMANCE - CHANGE BO INFO PLUG
20017016	COPY OF 19911065 - SP NOT FOUND ERROR WHILE D2-DETERMINEESTIMATEDANDHIGHLOWSCALA
20030657	COPY OF 20030611 - DUPLICATE RECORDS EXTRACTED D1-SPSFX BATCH WHEN QUERY ITERATO
20031627	COPY OF 19505316 - COPY OF 19242842 - ERROR UPDATING OVERRIDE DESC ON D1-MEASURE
20033997	COPY OF 19888393 - MANUAL IMDS AND INITIAL LOAD IMD FROM UPLOAD TOOL DO NOT HAVE
20048413	COPY OF 19618630 - UNNECESSARY 'H' SHOWN ON THE SERVICE PROVIDER EDIT PAGE
20062491	COPY OF 20012598 - PERFORMANCE: SEEDER PROCESSING QUERY IMPROVEMENT
20062493	COPY OF 20047298 - PERFORMANCE: D1-CURRENTCONTEXTS UNNECESSARY FKREF CALLS.
20070223	COPY OF 19987600 - INDEX D1T304S2 ON D1_INIT_MSRMT_DATA TABLE NEEDS TO BE REINST
20091235	COPY OF BUG 20025775 - IMD AUDITING ALGORITHM DOES NOT LOG CONDITION CODE CHANG
20125939	COPY OF BUG 19858244 - GUI PAGE FOR COMMAND REQUEST DEVICE CHECK IS NOT IN ALIG
20126999	COPY OF 19826587 - PERFORMANCE : INTRODUCE CACHING OF PROCESSING METHOD CALL
20201747	COPY OF 19641350 -D1-SYNCIMDSCALAR - ESTIMATED IMD NOT REEVALUATED FOR ADDITIVE
20215960	USE MOST RECENT MEASUREMENT DATETIME TO EVALUATE RELATED MC MEASUREMENT EXISTANC

Bug	Description
20267563	COPY OF 19624908 - DEVICE CONFIG EFF. DATE TIME SET TO TEMPLATE DEVICE EFF. DATE
20287757	SPR DISPLAY UI SHOWS ERRONEOUS ELEMENTS
20306094	MEASUREMENT ZONE IN MC AND 360 VIEW PAGES IS REGRESSED BY ILM ARCHIVED IMD.
20315712	UPDATE DETAIL DESCRIPTION OF ALGORITHM D1-CREDCMC
20332190	COPY BUG - PERFORMANCE IMPROVEMENTS FOR BULK DEVICE STATUS CHECK COMMAND
20374249	75081 MULTIPLE TIME ZONE SUPPORT IN IMD
20380342	COPY OF 20380334 - ALGORITHM D1-MC-CDCP ON THE MC MO CAUSES EXPENSIVE QUERY IN D
20380650	75081 MULTIPLE TIME ZONE SUPPORT FOR MASTER DATA & SYNC, TOU MAPPING & ITEM
20384359	75081 MULTIPLE TIME ZONE SUPPORT FOR COMMON
20388715	75081 MULTIPLE TIME ZONE SUPPORT FOR US/DYNAMIC OPTION
20399888	COPY OF 18801277 - ERROR IS HIT WHEN EXTRACTING DEVICE EVENT TYPE WITH NO STANDA
20433322	75081 MULTIPLE TIME ZONE SUPPORT FOR PERIODIC ESTIMATION
20449156	COPY OF 20402702 - UT MEASUREMENTCYCLE WILL ONLY POPULATE IF MEASURMENTCYCLEROUT
20478254	COPY OF 20464968 - MC BO DOES NOT DISPLAY FALLBACK VEE GROUPS
20511819	COPY OF 20511806 - IMD SEARCH QUERY IS NOT EFFICIENT
20532562	COPY BUG 19715135 - DUPLICATE STATUS REASON DISPLAYED IN RECORD INFORMATION SECT
20551563	COPY OF 20523462 - GO TO ODM IN SP CONTEXT MENU FAILS BC SP ID HARD CODED IN UI
20573532	COPY OF 20517577 - F1-SYNRQ FAILS FOR D1-MEASURINGCOMPONENTDIMENSION WHEN ST
20596925	CREATING AN IMD WITH MC IDENTIFIER AND DEVICE IDENTIFIER RESULTS IN NPE.
20612005	COPY BUG BUG 19987988 - PERFORMANCE: MODIFY ALGORITHM D1-PBSCMTOCC TO
20615005	COPY OF 20466663 - IMD IN Z TIME FAILS ON OVERCOUNT WHEN FALL START TRANSLATES T
20618912	PROFILE MC CONSUMPTION SHOULD PAD MISSING INTERVALS.

Bug	Description
20629918	COPY 16732307 - DETAILS MISSING FROM PAYLOAD ERROR NOTIFICATION IN NEGATIVE SCEN
20642206	COPY OF BUG 20548812 - PERIODIC EST ISSUE CAUSES D1-EVAL-EXMS ERRORS WHILE PROCE
20664077	IMD ENDING IN DUPLICATE HOUR PERIOD HAS OVERCOUNT DETECTED
20671408	COPY BUG 20663863 - NPE WHEN NO STATUS CODE IS PROVIDED
20737170	2 BULK RESPONSES CREATED WHEN CREATION METHOD IS D1WT
20767442	COPY OF 20714999 - AUDIT ALGORITHM CREATES INCORRECT OUTBOUND SYNC.
20772340	COPY 20764747 - ISSUE WITH DEVICE STATUS CHECK ACTIVITY VALIDATION
20799196	COPY OF 20786904 - INCORRECT PRIORITY BASED INTERVAL STATUS CODE MAPPING
20810787	COPY OF 20757959 - LOOKUP "SP_REL_TYPE_FLG" NOT CUSTOM... WHY

Appendix G

Smart Grid Gateway Fixes

The following tables lists the Smart Grid Gateway fixes included in this release.

Adapter for Landis+Gyr (D3) Fixes included in this release:

Bug Number	Description
20524589	COPY 20465615 - ISSUE WITH NOT HAVING CORRECT ENDTIME FOR FALL DST FOR OSB FILE

Adapter for Echelon (D4) Fixes included in this release:

Bug Number	Description
19849666	ECHELON ADAPTER STRIPPING OF INTERVAL DATE TIMES.

MV-90 Adapter for Itron (D5) Fixes included in this release:

Bug Number	Description
19925938	ADD NEW ENVIRONMENT VARIABLE TO PROCESS DIFFERENT DATE FORMATS

Adapter for Sensus (D6) Fixes included in this release:

Bug Number	Description
19852508	SENSUS ADAPTER ISSUE WITH PROCESSING PAYLOAD STARTING WITH 12 PM

Adapter for Silver Spring Networks (D7) Fixes included in this release:

Bug Number	Description
19825840	COPY BUG - SSN ADAPTER STRIPPING OF INTERVAL DATE TIMES.

Adapter Development Kit Fixes included in this release:

Bug Number	Description
20852444	ERROR APPEARS SOA FAULT: UNABLE TO INVOKE ENDPOINT URI WHEN INVOKING DSC CMD

Adapter for Itron OpenWay (D8) Fixes included in this release:

Bug Number	Description
19056389	BATCH D1-MC FAILING WITH OUT OF MEMORY ERROR
19064116	UPDATE STATUSCHANGED TIMEOUTS TO BE CONSISTENT WITH REAL WORLD
19249250	COPY 19246790 - XQUERY EXCEPTION FOR ITRON FILE IN SP2
20003549	COPY BUG 20003439 - D8 INTERVAL PERFORM ADDITION MAPPING FAILED DUE TO BUG 17363
20078469	COPY BUG - UNABLE TO LOAD RE-READ USAGE FILES WHICH DON'T HAVE <REQUESTMETADATA>
20088291	ITRON ADAPTER DOES NOT TRUNCATE/ROUND INTERVAL READS WITH MORE THAN 6 DECIMALS
20360761	RAW ELEMENT FOR IMDS AND EVENTS ARE BEING POPULATED WITH ALL IMD AND EVENT DATA

Appendix H

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- castor-1.3.2-xml-schema.jar
- castor-1.3.2-xml.jar
- cglib-2.2.jar
- commonj-3.7.1.jar
- commons-beanutils-core-1.8.3.jar
- commons-cli-1.1.jar
- commons-codec-1.6.jar
- commons-collections-3.2.1.jar
- commons-fileupload-1.2.2.jar
- commons-httpclient-3.0.1.jar
- commons-io-1.3.2.jar

- commons-lang-2.2.jar
- ehcache-core-2.5.2.jar
- joda-time-2.3.jar
- jackson-core-asl-1.9.2.jar
- jackson-jaxrs-1.9.2.jar
- jackson-mapper-asl-1.9.2.jar
- jackson-xc-1.9.2.jar
- log4j-1.2.17.jar
- serializer-2.7.1.jar
- stax2-2.1.jar
- stax2-api-3.0.4.jar
- velocity.1.4.jar
- wstx-asl-3.2.7.jar
- xalan-mod-2.7.1.jar
- xmlparserv2-11.1.1.3.0.jar

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2001-12-12

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