

# **Oracle Utilities Smart Grid Gateway**

Quick Install Guide

Release 2.1.0 Service Pack 2

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# Preface

This guide provides an overview of installing Oracle Utilities Smart Grid Gateway.

This preface contains these topics:

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

## Audience

Oracle Utilities Smart Grid Gateway Installation Guide is intended for anyone interested in the process of installing Oracle Utilities Smart Grid Gateway.

## Related Documents

The following documentation is included with this release.

### Installation Guides and Release Notes

- *Oracle Utilities Smart Grid Gateway Release Notes*
- *Oracle Utilities Smart Grid Gateway Quick Install Guide*
- *Oracle Utilities Smart Grid Gateway Installation Guide*
- *Oracle Utilities Smart Grid Gateway Database Administrator's Guide*
- *Oracle Utilities Application Framework Release Notes*

### Configuration and User Guides

- *Oracle Utilities Service and Measurement Data Foundation User's Guide*
- *Oracle Utilities Smart Grid Gateway Configuration Guide*
- *Oracle Utilities Smart Grid Gateway Adapter Configuration Guide*
- *Oracle Utilities Smart Grid Gateway Adapter User's Guide*

### Framework Documents

- *Oracle Utilities Application Framework Business Process Guide*
- *Oracle Utilities Application Framework Administration Guide*

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### Supplemental Documents

- *Oracle Utilities Smart Grid Gateway Batch Server Administration Guide*
- *Oracle Utilities Smart Grid Gateway Server Administration Guide*
- *Oracle Utilities Smart Grid Gateway Security Guide*

## Conventions

The following text conventions are used in this document:

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

## Additional Resources

To contact Oracle support, visit the Oracle Support Web site at:

<http://www.oracle.com/support/index.html>

# Chapter 1

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## Introduction

This chapter provides an overview of the Oracle Utilities Smart Grid Gateway product and installation process. It contains the following sections:

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

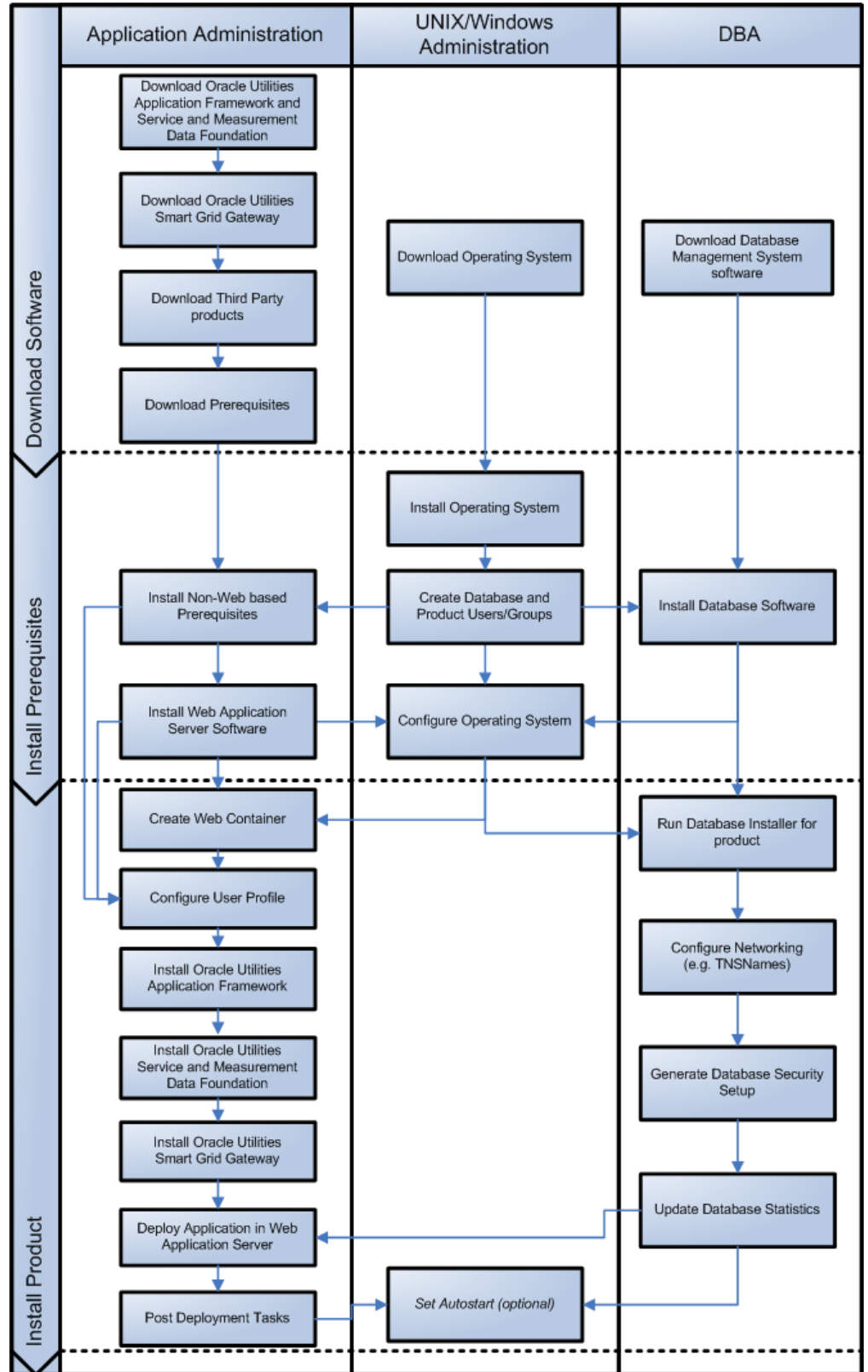
## Installation Overview

This section provides a high-level overview of the installation steps for Oracle Utilities Smart Grid Gateway (SGG) V2.1.0.1 and selected additional software. For more information, see *Oracle Utilities Smart Grid Gateway Installation Guide*.

### **To install Oracle Utilities Smart Grid Gateway V2.1.0.2.0:**

1. Install all required third-party software.
2. Install database. See *Oracle Utilities Smart Grid Gateway Database Administrator's Guide* for complete details.
3. Install Oracle Utilities Application Framework (Application server only).
4. Install Oracle Utilities Application Framework Single Fixes.
5. Install Oracle Utilities Service and Measurement Data Foundation (Application server only).
6. Install Oracle Utilities Smart Grid Gateway V2.1.0.2 Adapter Components (Application server only).
  - MV90 Adapter for Itron
  - Adapter Development Kit
  - Adapter for Echelon
  - Adapter for Itron OpenWay
  - Adapter for Landis+Gyr
  - Adapter for Sensus RNI
  - Adapter for Silver Spring Networks
7. Generate Application Viewer items (this includes the Data Dictionary).

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



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



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# 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.

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## 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 to version 2.1.0.2.

### 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.

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## 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 to 2.1.0.2. 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.

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## Media Pack Components

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

- Oracle Utilities Smart Grid Gateway V2.1.0.2.0 Release Notes
- Oracle Utilities Smart Grid Gateway V2.1.0.2.0 Quick Install Guide
- Oracle Utilities Smart Grid Gateway V2.1.0.2.0 Install Documentation
- Oracle Utilities Smart Grid Gateway V2.1.0.2.0 User Documentation
- Oracle Utilities Smart Grid Gateway V2.1.0.2.0 Supplemental Documentation
- Oracle Utilities Application Framework V4.2.0 Service Pack 2 Multiplatform
- Oracle Utilities Application Framework V4.2.0 Service Pack 2 Single Fix Prerequisite Rollup for SMDF V2.1.0.2.0

For more details about installing the single fix rollup, see the **Readme.txt** that is included with the rollup.

- Oracle Utilities Service and Measurement Data Foundation V2.1.0.2.0 Multiplatform
- Oracle Utilities Smart Grid Gateway V2.1.0.2.0 Oracle Database Multiplatform

The Oracle Utilities Smart Grid Gateway MV-90 Adapter for Itron Media Pack consists of the following additional packages:

- Oracle Utilities Smart Grid Gateway MV-90 Adapter for Itron V2.1.0.2.0 User Documentation
- Oracle Utilities Smart Grid Gateway MV-90 Adapter for Itron V2.1.0.2.0 Multiplatform

The Oracle Utilities Smart Grid Gateway Adapter Development Kit Media Pack consists of the following additional components:

- Oracle Utilities Smart Grid Gateway Adapter Development Kit V2.1.0.2.0 User Documentation
- Oracle Utilities Smart Grid Gateway Adapter Development Kit V2.1.0.2.0 Multiplatform

The Oracle Utilities Smart Grid Gateway Adapter for Echelon Media Pack consists of the following additional components:

- Oracle Utilities Smart Grid Gateway Adapter for Echelon V2.1.0.2.0 User Documentation
- Oracle Utilities Smart Grid Gateway Adapter for Echelon V2.1.0.2.0 Multiplatform

The Oracle Utilities Smart Grid Gateway Adapter for Itron OpenWay Media Pack consists of the following additional components:

- Oracle Utilities Smart Grid Gateway Adapter for Itron OpenWay V2.1.0.2.0 User Documentation
- Oracle Utilities Smart Grid Gateway Adapter for Itron OpenWay V2.1.0.2.0 Multiplatform

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The Oracle Utilities Smart Grid Gateway Adapter for Landis+Gyr Media Pack consists of the following additional components:

- Oracle Utilities Smart Grid Gateway Adapter for Landis+Gyr V2.1.0.2.0 User Documentation
- Oracle Utilities Smart Grid Gateway Adapter for Landis+Gyr V2.1.0.2.0 Multiplatform

The Oracle Utilities Smart Grid Gateway Adapter for Sensus RNI Media Pack consists of the following additional components:

- Oracle Utilities Smart Grid Gateway Adapter for Sensus RNI V2.1.0.2.0 User Documentation
- Oracle Utilities Smart Grid Gateway Adapter for Sensus RNI V2.1.0.2.0 Multiplatform

The Oracle Utilities Smart Grid Gateway Adapter for Silver Spring Networks Media Pack consists of the following additional components:

- Oracle Utilities Smart Grid Gateway Adapter for Silver Spring Networks V2.1.0.2.0 User Documentation
- Oracle Utilities Smart Grid Gateway Adapter for Silver Spring Networks V2.1.0.2.0 Multiplatform

# Chapter 2

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## Supported Platforms and Hardware Requirements

This chapter includes the following details:

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

# 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 Adapters

Operating System and Web Browser (Client)	Operating System (Server)	Chipset	Application Server	Database
	AIX 7.1 TL01	POWER 64-bit	WebLogic 10.3.6	Oracle 12.1.0.1+ Oracle 11.2.0.1+
Windows 7* (Internet Explorer 8.x, 9.x, or 10.x, in Compatibility Mode)	Oracle Linux 5.8/6.2/6.3/6.4/6.5 64-bit) (based on Red Hat Enterprise Linux (64-bit)**	x86_64	WebLogic 10.3.6	Oracle 12.1.0.1+ Oracle 11.2.0.1+
	Oracle Solaris 10 (64-bit) Oracle Solaris 11 (64-bit)	SPARC	WebLogic 10.3.6	Oracle 12.1.0.1+ Oracle 11.2.0.1+
	Windows Server 2008 R2 (64-bit) Windows Server 2012 R2 (64-bit)	x86_64	WebLogic 10.3.6	Oracle 12.1.0.1+ Oracle 11.2.0.1+

## Oracle Utilities Smart Grid Gateway OSB and SOA Adapters

Adapter	Operating System (Server)	Chipset	Application Server	Database
	AIX 7.1 TL01	POWER 64-bit	WebLogic 10.3.6	Oracle 12.1.0.1+ Oracle 11.2.0.1+
OSB Adapters	Oracle Linux 5.8/6.2/6.3/6.4/6.5 (64-bit) (based on Red Hat Enterprise Linux (64-bit)**	x86_64	WebLogic 10.3.6	Oracle 12.1.0.1+ Oracle 11.2.0.1+
SOA Adapters (Not applicable for MV90 Adapter for Itron)	Oracle Solaris 10 (64-bit) Oracle Solaris 11 (64-bit)	SPARC	WebLogic 10.3.6	Oracle 12.1.0.1+ Oracle 11.2.0.1+
	Windows Server 2008 R2 (64-bit) Windows Server 2012 R2 (64-bit)	x86_64	WebLogic 10.3.6	Oracle 12.1.0.1+ Oracle 11.2.0.1+

\* Oracle support for Windows XP ended December 2013. Microsoft support for Windows XP ended April 2014.

\*\* 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.

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# 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 Oracle Utilities Smart Grid Gateway is supported on Oracle Database Server 11.2.0.1+ on operating systems listed in above section. The following versions of the database are supported:

- Oracle Database Enterprise Edition

### 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

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## 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.

### 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

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## Prerequisite Software for Application Server

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

- Oracle Database 11g Release 2 Client
- JDK 1.6.0\_20 (64-bit)
- Oracle WebLogic 11gR1 (10.3.6)
- Hibernate 4.1.0 Final
- Oracle Service Bus 11.1.1.6.0 or 11.1.1.7.0

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 SOA Suite 11.1.1.6.0 or 11.1.1.7.0

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.

## 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

**Notes:** Internet Explorer 8.x, 9.x, and 10.x must have Compatibility Mode enabled.

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## Installing Prerequisite Software

Refer to the section “**Installing Prerequisite Software**” in the *Oracle Utilities Smart Grid Gateway Installation Guide* for detailed instructions on installing the prerequisite software.

## Readiness Checklist

The following checklist will guide you through the installation process of Oracle Utilities Smart Grid Gateway. The details for each step are presented in the *Oracle Utilities Smart Grid Gateway Installation Guide*.

1. Confirm recommended hardware is ready. Refer to **Supported Platforms and Hardware Requirements** for more details.
2. Install prerequisite software, refer to **Prerequisite Software List** for more details.
3. Ensure that you have downloaded Oracle Utilities Smart Grid Gateway v2.1.0.2 components.
4. Go through the installation and configuration worksheets to understand the configuration menu.
5. Determine type of the installation:
  - **Initial Installation** - For initial installation follow the instructions mentioned in *Oracle Utilities Smart Grid Gateway Installation Guide*.
  - **Demo Installation** - For demo installation follow the instructions mentioned in *Oracle Utilities Smart Grid Gateway Installation Guide*.
  - **Upgrade Installation** - For upgrade installation from v2.0.0.9 or 2.1.0.1 to v2.1.0.2, follow the instructions mentioned in *Oracle Utilities Smart Grid Gateway Installation Guide*.
6. Perform post-installation tasks.

# Chapter 4

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## Installing Oracle Utilities Smart Grid Gateway - Initial Installation

This chapter provides an overview of installing Oracle Utilities Smart Grid Gateway from scratch. This chapter includes:

- [Before You Install](#)
- [Initial Installation Procedure](#)

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

### 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

Refer to the chapter “**Installing Oracle Utilities Smart Grid Gateway - Initial Installation**” of the *Oracle Utilities Smart Grid Gateway Installation Guide*, which provides instructions on installing the application components.

# Chapter 5

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## Installing Oracle Utilities Smart Grid Gateway - Demo Installation

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

- [Before You Install](#)
- [Demo Installation Procedure](#)

### Before You Install

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

### Demo Installation Procedure

The demo installation procedure consists of:

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

### 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 with pre-populated demo data.

### Application Components Installation

Refer to the chapter “**Installing Oracle Utilities Smart Grid Gateway - Demo Installation**” of the Oracle Utilities Smart Grid Gateway *Installation Guide*, which provides instructions on installing the application components.

# Chapter 6

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## Upgrading Oracle Utilities Smart Grid Gateway

This chapter provides an overview of upgrading Oracle Utilities Smart Grid Gateway from version 2.0.0.9 or 2.1.0.1 to version 2.1.0.2.

This chapter includes:

- [Before You Upgrade](#)
- [Upgrade Procedure](#)

### Before You Upgrade

Review the list of operating system, application server and database server combinations that Oracle Utilities Smart Grid Gateway is certified to operate on, in the chapter [Supported Platforms and Hardware Requirements](#).

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

### Upgrade Procedure

The initial installation procedure consists of:

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

### 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 chapter “**Upgrade Install**” of the *Oracle Utilities Smart Grid Gateway Database Administrator's Guide*, which provides instructions on upgrading the database component.

### Application Components Upgrade

Refer to the chapter “**Upgrading Oracle Utilities Smart Grid Gateway**” of the *Oracle Utilities Smart Grid Gateway Installation Guide*, which provides instructions on installing the application components.



# Appendix A

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## Additional Information for Installing Other Oracle Software

Please read this section and the follow directions if you purchased a license from Oracle for Oracle WebLogic 11gR1 (10.3.6)

### Oracle WebLogic 11gR1 (10.3.6)

Customers must download Oracle WebLogic Server from the Oracle Software Delivery Cloud. The version of Oracle WebLogic Server is in the Oracle Utilities Smart Grid Gateway Supported Platforms Summary section.

**Note:** If you install a temporary license for Oracle WebLogic, please note that this license is limited to 5 non-current users. You will need to install the full license.

### Install the Oracle WebLogic license

To apply a full license you will need to complete the following steps:

1. The license keys for Oracle WebLogic products are located at:  
<http://licensecodes.oracle.com/bea.html>
2. The following products are supported: Oracle WebLogic Server Standard Edition and Oracle WebLogic Server Enterprise Edition.
3. At the time of release of this document the license key on the web site for Oracle WebLogic Server Standard Edition is BEA WebLogic Server Advantage Edition. The license key for Oracle WebLogic Server Enterprise Edition on the web site is BEA WebLogic Server Premium Edition.
4. Shut down the Oracle Utilities Smart Grid Gateway application server.
5. Follow the instructions from the Oracle WebLogic installation document to install the license key.
6. Start the Oracle Utilities Smart Grid Gateway application server.

# Appendix B

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## Oracle Utilities Smart Grid Gateway Licensing Restrictions

This guide outlines licensing restrictions related to Oracle Utilities Service and Measurement Data Foundation, including:

- [License Restrictions Matrix](#)
- [Service and Measurement Data Foundation Functionality](#)
  - [Restricted Service Order Management Functionality in Release v2.1.0.2](#)

## License Restrictions Matrix

The Oracle Utilities Service and Measurement Data Foundation provides functionality used by multiple Oracle Utilities products, including Oracle Utilities Meter Data Management and Oracle Utilities Smart Grid Gateway. Some of the functionality provided with the Oracle Utilities Service and Measurement Data Foundation is restricted, and can only be used if specific products have been licensed. The table below indicates the specific functional areas included with each of the listed products based on the Oracle Utilities Service and Measurement Data Foundation.

- “✓” indicates that the functional area is included with the product.
- “X” indicates that the functional area is not included with the product.

In order to use functionality listed as “not included”, customers must license the product that includes the desired functionality. For example, a customer licensing Oracle Utilities Smart Grid Gateway who wishes to perform validation, editing, and estimations on incoming measurement data must also license Oracle Utilities Meter Data Management.

- “C” indicates that customers can develop custom implementations and interfaces to support this functionality. Note that use of any base package business objects (and related algorithms, business services, etc.) provided with the Oracle Utilities Service and Measurement Data Foundation to support this functionality is prohibited unless the customer has also licensed Oracle Utilities Smart Grid Gateway. Refer to the Oracle Utilities Meter Data Management and Oracle Utilities Smart Grid Gateway configuration guides for information about the business objects available for use only with Oracle Utilities Smart Grid Gateway.

Functionality	Oracle Utilities Meter Data Management	Oracle Utilities Smart Grid Gateway	Oracle Utilities Analytics	Oracle Utilities Customer Self Service
Measurement and Service Data Model	✓	✓	X	X
Validation, Editing, and Estimation Functionality	✓	X	X	X
Measurement Services	✓	X	X	X
Usage and Bill Determinant Calculations	✓	X	X	X
Business Intelligence	X	X	✓	X
Customer Self Service	X	X	X	✓
Usage and Event Upload Statistics Processing	X	✓	X	X
Smart Meter Command Processing	C	✓	X	X
Outage Integration	X	✓	X	X

## Service and Measurement Data Foundation Functionality

The table below describes the functional areas provided with the Oracle Utilities Service and Measurement Data Foundation.

Functional Area	Description
Measurement and Service Data Model	The measurement and service data model contains database tables and related functionality used to define and store meters, devices, unmetered items, service points, and measurement data.
Validation, Editing, and Estimation Engine	The VEE engine provides the core functionality used to perform validation, editing, and estimation on usage data. Specific VEE rules are included with Oracle Utilities Meter Data Management.
Measurement Services	Measurement services are used to process meter reading data and manipulate measurements to support billing or other downstream processes.
Usage and Bill Determinant Calculations	The usage engine and generic usage rules provide the core functionality used to perform usage calculations based on measurement data. Specific usage rules are included with Oracle Utilities Meter Data Management.
Business Intelligence	Base package batch processes are used to extract and load data for use in business intelligence applications.
Customer Self Service	Web services are used to access data via the Oracle Utilities Customer Self Service application.
Usage and Event Upload Statistics Processing	Processing and compiling upload statistics related to upload of usage and device events.
Smart Meter Command Processing	Executing smart meter commands and communicating with a head-end system for purposes of issuing commands such as remote connect, commission meter, etc.
	<p><b>Note:</b> Customers who license Oracle Utilities Meter Data Management can build custom interfaces to AMI vendor head-end systems to support smart meter command processes. However, use of the command business objects (and related objects) included with the Oracle Utilities Service and Measurement Data Foundation without licensing Oracle Utilities Smart Grid Gateway is prohibited. Refer to the <i>Oracle Utilities Smart Grid Gateway Configuration Guide</i> for more information about command business objects.</p>
Outage Integration	Communicating with Oracle Utilities Network Management System, including sending/receiving bulk ping commands, receiving device events from Oracle Utilities Smart Grid Gateway, and suppression of device event notifications (allowing a suppression activity to be configured for a meter or service point so that specified device event notifications will not be sent to Oracle Utilities Network Management System).
Service Order Management	Orchestration of service orders that involve field work and/or smart meter commands through integration with customer information systems, mobile field work systems, and head-end systems.
	See “Restricted Service Order Management Functionality in Release v2.1.0.2” on page 4 for more information about the service order management functionality included with this release.

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## Restricted Service Order Management Functionality in Release v2.1.0.2

The v2.1.0.2 release of the Oracle Utilities Service and Measurement Data Foundation contains objects and data intended for use with service order management functionality to be released at a future date.

As of this release, the following business objects and portals (and any related objects, including but not limited to UI maps, algorithms, service scripts, business services, extendable lookups, and zones) are **restricted** and are **NOT** available for use.

Business Objects:

- Enable Service (D1-EnableService)
- Disable Service (D1-DisableService)
- Cut for Service for Non-Payment (D1-CutServiceForNonPayment)
- Reconnect Service for Payment (D1-ReconnectForPayment)
- Exchange Meter (D1-ExchangeMeter)
- Back to Back Service (D1-BackToBackService)
- Cancel Orchestration (D1-CancelOrchestration)
- Update Orchestration (D1-UpdateOrchestration)
- Field Activity (D1-FieldActivity)
- Field Task Type (D1-FieldTaskTypeLookup)

Portals:

- Appointment Query (D1APPTQ)/ Appointment Booking (D1APPT)
- Service Order Operational Dashboard (D1SOMOP)