Oracle Revenue Management and Billing Installation Guide
E67993-01

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Preface

About This Document

This document will help you to understand the prerequisites, supported platforms, and hardware and software requirements for installing the Oracle Revenue Management and Billing (ORMB) application. It explains how to install Oracle Utilities Application Framework and Oracle Revenue Management and Billing on the application server.

Intended Audience

This document is intended for the following audience:

- End-Users
- System Administrators
- Consulting Team
- Implementation Team

Organization of the Document

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<td>Provides a brief description about the new features, enhancements, UI and database level changes, supported platforms, framework upgrade, supported upgrades, and technology upgrade made in this release. It also highlights the discontinued features, bug fixes, and known issues in this release.</td>
</tr>
<tr>
<td>Oracle Revenue Management and Billing Quick Installation Guide</td>
<td>Provides high-level information on how to install the Oracle Revenue Management and Billing (ORMB) application and selected additional software.</td>
</tr>
<tr>
<td>Oracle Revenue Management and Billing Database Administrator’s Guide</td>
<td>Provides information about the Oracle Database Server and Client required for installing the Oracle Revenue Management and Billing database. It explains how to install database with and without demo data. It provides database configuration guidelines including recommended settings for the Oracle Exadata Database machine.</td>
</tr>
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<td>---------------------------------------------------------------------------------------------------------------------------------------------</td>
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<td><em>Oracle Revenue Management and Billing</em></td>
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<td><em>Server Administration Guide</em></td>
<td>Explains the Oracle Revenue Management and Billing (ORMB) architecture and technical know-how required for configuring and using the ORMB application. It explains how to configure and deploy web and business application servers. In addition, it explains how to monitor client machines, web and/or business application servers, and database connections.</td>
</tr>
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1. Overview

This section provides an overview of the installation of Oracle Revenue Management and Billing (ORMB) application.

1.1 Installation Overview

Installing Oracle Revenue Management and Billing involves the following steps:

1. Review the different tiers of the application architecture as described in the Application Architecture Overview section.

2. Understand the hardware requirements for installing the application and the supported platforms for the application and database servers as described in the Supported Platforms and Hardware Requirements section.

Note: The installation and administration of the database server tier is described in detail in Oracle Revenue Management and Billing Database Administrator’s Guide.

3. Install the database as described in Oracle Revenue Management and Billing Database Administrator’s Guide.

4. Plan your installation as described in the Planning the Installation section.

5. Install all required third-party software as described in the Installing Application Server Prerequisite Software section. The required software is listed for each supported combination of operating system and application server.

6. If you are using the WebSphere application server on AIX, configure your server as described in the Configuring WebSphere Application Server section.

7. Install the framework for the application as described in the Installing the Application Server Component of Oracle Utilities Application Framework section.

8. Install Oracle Revenue Management and Billing as described in the Installing the Application Server Component of Oracle Revenue Management and Billing section.

9. Follow the installation guidelines described in the Additional Tasks section.
2. Application Architecture Overview

This section provides an overview of the Oracle Utilities Application Framework application architecture.

2.1 Application Architecture

The Oracle Utilities Application Framework application is deployed on multiple tiers.

Please see Oracle Revenue Management and Billing Server Administration Guide for a more detailed description of the application architecture and individual tiers.

2.1.1 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 Revenue Management and Billing application.

Note: A desktop machine having Microsoft Windows and Oracle Database Client is required to perform some of the Oracle Revenue Management and Billing product installation steps.

2.1.2 Tier 2: Web Application / Business Application Server, or Business Logic 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 Application Framework 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.

2.1.3 Tier 3: Database, or Persistence Tier

This tier is implemented in a database server. The database server stores data maintained by the Oracle Revenue Management and Billing 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.
3. 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
- Requirements by Tier
- Supported Platforms
- Support for Software Patches and Upgrades

3.1 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 Revenue Management and Billing be deployed?
- Which web server product will Oracle Revenue Management and Billing deploy on?
- Which database product will Oracle Revenue Management and Billing deploy on?
- Do you plan to deploy multiple Oracle Revenue Management and Billing instances on the same physical server?
- How do you plan to deploy the Oracle Revenue Management and Billing?
  - 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 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 the Oracle Revenue Management and Billing product, as described in the rest of this section.
3.2 Requirements by Tier

The application is deployed on multiple Tiers:

- Tier 1, Desktop
- Tier 2, Web/Business Application Server
- Tier 3, Database Server

3.2.1 Tier 1, Desktop: Software and Hardware Requirements

<table>
<thead>
<tr>
<th>Configuration</th>
<th>Processor</th>
<th>Memory (RAM)</th>
<th>Monitor Display</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum</td>
<td>Pentium IV - 2.0 GHz</td>
<td>1024 MB</td>
<td>1024X768(^1) 16-bit Color</td>
</tr>
<tr>
<td>Recommended</td>
<td>Pentium IV - 3.0+ GHz, Or any Core 2 Duo Or any Athlon X2</td>
<td>2048 MB</td>
<td>1280X1024(^2) 32-bit Color</td>
</tr>
</tbody>
</table>

Web Browser Requirements

The following operating system and web browser software are supported:

- Windows 7, 8.1 (64-bit) with Internet Explorer 11.x

3.2.2 Tier 2, Web/Business Application Server: Software and Hardware Requirements

Please refer the Supported Platforms section to determine which web application servers can be used with the operating system that will be hosting this tier.

The recommendations that follow are based on a standard installation with both the web application and business application servers on the same machine and the system running with the default values. The default values may not support a production environment. You should adjust these values according to your production needs. Refer to Oracle Revenue Management and Billing Server Administration Guide on how to change the default values. The minimum resource requirements exclude third-party software installation requirements. Refer to the third-party vendors for specific requirements. The following sizing excludes the Oracle database server installation.

Memory Requirements

For each application server deployment a minimum of 4 GB of real memory is required, plus 6 GB of swap space.

---

\(^1\) 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).

\(^2\) The Recommended configuration improves client performance.
Disk Space Requirements

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

<table>
<thead>
<tr>
<th>Location</th>
<th>Size</th>
<th>Usage</th>
</tr>
</thead>
<tbody>
<tr>
<td>$SPLEBASE</td>
<td>5 GB minimum</td>
<td>This location is where the application and Framework get installed. Startup, shutdown and other online log files are stored here. The size and space that is used should be monitored because various debugging options can significantly affect the size of log files.</td>
</tr>
<tr>
<td>$SPLAPP</td>
<td>2 GB minimum</td>
<td>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.</td>
</tr>
<tr>
<td>Location of the application web work files on the web servers</td>
<td>1.5 GB minimum</td>
<td>This location is used by the various web server vendors to expand the application. It should be considered when installing these products. Refer to the individual web server documentation to determine the location of the temporary files.</td>
</tr>
<tr>
<td>Installation temporary area</td>
<td>4 GB</td>
<td>The application gets installed from this location. You need enough space to uncompress the files and install the application.</td>
</tr>
<tr>
<td>Oracle data area</td>
<td>4 GB minimum</td>
<td>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.</td>
</tr>
</tbody>
</table>

3.2.3 Tier 3, Database Server: Software and Hardware Requirements

See the Supported Platforms section for supported database servers.
3.3 Supported Platforms

The installation has been tested and certified to operate on many operating system, application server, and database server combinations. For the software requirements for each of these combinations, see the Installing Application Server Prerequisite Software section for more information. This section includes the following topics:

- Operating Systems and Application Servers
- Oracle Database Servers
- Oracle WebLogic Server Information

3.3.1 Operating Systems and Application Servers

The following table lists the operating system and application server combinations on which Oracle Revenue Management and Billing Version 2.5.0.0.0 is supported:

<table>
<thead>
<tr>
<th>Operating System and Web Browser (Client)</th>
<th>Operating System (Server)</th>
<th>Chipset</th>
<th>Application Server</th>
<th>Database Server</th>
</tr>
</thead>
<tbody>
<tr>
<td>Windows 7(^3), 8.1 (Internet Explorer 11.x)</td>
<td>AIX 7.1 TL1 (64-bit)</td>
<td>POWER 64-bit</td>
<td>WebSphere 8.5 (64-bit)</td>
<td>Oracle 12.1.0.2</td>
</tr>
<tr>
<td></td>
<td>Oracle Linux 6.5 and 7.0 (64-bit)</td>
<td>x86_64</td>
<td>WebLogic (64-bit)</td>
<td>Oracle 12.1.0.2</td>
</tr>
<tr>
<td></td>
<td>Red Hat Enterprise Linux(^4) 6.5 and 7.0 (64-bit)</td>
<td>x86_64</td>
<td>WebLogic (64-bit)</td>
<td>Oracle 12.1.0.2</td>
</tr>
<tr>
<td></td>
<td>Windows Server 2012 R2 (64-bit)</td>
<td>x86_64</td>
<td>WebLogic (64-bit)</td>
<td>Oracle 12.1.0.2</td>
</tr>
</tbody>
</table>

3 Oracle will not provide any support for Windows XP from 2014
4 Oracle Revenue Management and Billing is tested and certified on Oracle Linux 6.5 and 7.0. Oracle Linux is 100% userspace-compatible with Red Hat Enterprise Linux, and therefore Oracle Revenue Management and Billing is supported on Red Hat Enterprise Linux
Note:
Oracle Corporation distributes Oracle Linux with the following two kernels:

**Red Hat Compatible Kernel** – This kernel is identical to the kernel shipped in Red Hat Enterprise Linux.

**Unbreakable Enterprise Kernel** – This kernel is based on a later Linux 2.6-series kernel, with Oracle's own enhancements for OLTP, InfiniBand, SSD disk access, NUMA-optimizations, Reliable Datagram Sockets (RDS), async I/O, OCFS2, and networking.

Oracle claims that the Unbreakable Enterprise Kernel is compatible with Red Hat Enterprise Linux; and Oracle middleware and third-party Red Hat Enterprise Linux-certified applications can be installed and run unchanged on Unbreakable Enterprise Kernel. However, for users requiring strict compatibility with Red Hat or for users running kernel modules dependent on specific kernel versions, the Red Hat Compatible Kernel offers 100% compatibility with Red Hat Enterprise Linux.

We strongly recommend you to install Oracle Revenue Management and Billing (ORMB) on Windows platform only for non-production activities, such as User Acceptance Testing (UAT), development setup, and so on.

### 3.3.2 Oracle Database Servers

Oracle Revenue Management and Billing Version 2.5.0.0.0 is supported on Oracle Database Server 12.1.0.2 on all operating systems listed above. The following Oracle Database Server Editions are supported:

- Oracle Database Enterprise Edition

Oracle Database Client 12.1.0.1 is required for Oracle Database Server 12.1.0.2.

### 3.3.3 Oracle WebLogic Server Information

The following Oracle WebLogic Server Editions are supported:

- Oracle WebLogic Server Standard Edition 12.1.3.0
- Oracle WebLogic Server Enterprise Edition 12.1.3.0 (required if using application clustering)

### 3.4 Support for Software Patches and Upgrades

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

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

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

Always contact Oracle Revenue Management and Billing support prior to applying vendor updates that do not guarantee backward compatibility.
4. Planning the Installation

This section provides information for planning an Oracle Revenue Management and Billing installation, including:

- Installation and Configuration Overview
- Before You Install
- Installation Checklist
- Installation and Configuration Worksheets

4.1 Installation and Configuration Overview

The following diagram provides an overview of the steps that need to be taken to install and configure Oracle Revenue Management and Billing:
4.2 Before You Install

Refer to My Oracle Support for up-to-date additional information on installing Oracle Revenue Management and Billing.

4.2.1 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)

4.2.2 Native Mode in WebLogic

If you are planning to use Oracle Utilities Application Framework in native mode within Oracle WebLogic (as opposed to embedded mode), refer to the whitepaper “Native Installation Oracle Utilities Application Framework (Doc Id:1544969.1)” on My Oracle Support

4.3 Installation Checklist

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

1. Install the database as described in Oracle Revenue Management and Billing Database Administrator’s Guide.
2. Create Group/User ID.
3. Install prerequisite software (for complete details about installing and configuring the prerequisite third-party software for your specific platform, see the Installing Application Server Prerequisite Software section):
   - Oracle Database Client 12.1.0.1
   - Java 7 Update 45 or Java 8 Update 40
   - Hibernate 4.1.0
4. Install web server.
   - Oracle WebLogic 12.1.3.0
   - IBM WebSphere Basic 8.5 or IBM WebSphere Network Deployment 8.5

**Note:** If you are upgrading and you are currently running Oracle Application Server please contact your Global Support Representative.

5. Verify that the software is installed.
6. Set up environment variables.
8. Install the rollup pack for Oracle Utilities Application Framework (prerequisite single fixes for ORMB).
10. Deploy the Oracle Revenue Management and Billing application.
11. Complete the post installation tasks.
12. Optional third-party product integration (such as Self Service or Reporting tools).
4.4 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 Installing the Application Server Component of Oracle Utilities Application Framework section. 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 Installing Application Server Prerequisite Software section.

4.4.1 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 alphanumerical value in the prompt.
- **Valid Values:** [NUM]. This indicates you will need to enter a numeric value in the prompt.

Once 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 the specified parameter values, type X and then press 'Enter'.

4.4.2 Installation Menu Functionality Details

The Environment Installation Utility requires that Oracle Database 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` or `splenviron.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 Oracle Revenue Management and Billing Server Administration Guide 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 Database Client software specified in the [Supported Platforms](#) section 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 Oracle WebLogic API to encrypt the User ID and password that perform admin functions for the WebLogic application servers. Please refer to the Oracle 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.

### 4.4.3 Third Party Software Configuration

1. **Third Party Software Configuration**

The following menu options appear when you select the 1. Third Party Software Configuration menu while executing the `install` utility:

<table>
<thead>
<tr>
<th>Menu Option</th>
<th>Default Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oracle Client Home Directory</td>
<td></td>
</tr>
<tr>
<td>Web Java Home Directory</td>
<td></td>
</tr>
<tr>
<td>Hibernate JAR Directory</td>
<td></td>
</tr>
</tbody>
</table>
Menu Option | Default Value
---|---
ONS JAR Directory |  
Web Application Server Home Directory |  
ADF Home Directory |  
OIM OAM Enabled Environment | false

The following table describes the third party software configuration menu options:

<table>
<thead>
<tr>
<th>Menu Option</th>
<th>Name Used in Documentation</th>
<th>Usage</th>
<th>Customer Install Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oracle Client Home Directory</td>
<td>ORACLE_CLIENT_HOME</td>
<td>The home directory of Oracle Database Client. The application will use Perl included under Oracle Database Client. Example Location: /oracle/client/product/12.1.0.1.0</td>
<td></td>
</tr>
<tr>
<td>Web Java Home Directory</td>
<td>JAVA_HOME</td>
<td>Java home that will be used by the web application server. Example Location: /ouaf/java/jdk1.7.0_45</td>
<td></td>
</tr>
<tr>
<td>Hibernate JAR Directory</td>
<td>HIBERNATE_JAR_DIR</td>
<td>Location on the disk where the hibernate410.jar is installed.</td>
<td></td>
</tr>
<tr>
<td>ONS JAR Directory&lt;sup&gt;5&lt;/sup&gt;</td>
<td>ONS_JAR_DIR</td>
<td>Location on the disk where the ons-12.1.0.1.jar file is installed. Required for Oracle RAC installation. See <em>Oracle Revenue Management and Billing Server Administration Guide</em> for more information.&lt;sup&gt;6&lt;/sup&gt;</td>
<td></td>
</tr>
</tbody>
</table>

<sup>5</sup> Denotes optional Menu Options that may be required for the product installation and variables.

<sup>6</sup> In order to activate the RAC FCF, the application needs the external ons.jar file. This ons.jar is located under the Oracle Database Software 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.
<table>
<thead>
<tr>
<th>Menu Option</th>
<th>Name Used in Documentation</th>
<th>Usage</th>
<th>Customer Install Value</th>
</tr>
</thead>
</table>
| Web Application Server Home Directory | WEB_SERVER_HOME | Location on the disk where the application server is installed. Example Location:  
**WebLogic:**  
/ouaf/middleware/wlserver_12.1.3  
To validate the home directory, check if the following jar files exist in the appropriate path:  
- `$WEB_SERVER_HOME/server/lib/weblogic.jar`  
- `%WEB_SERVER_HOME%/server/lib/weblogic.jar`  
**WebSphere:**  
/ouaf/IBM/WebSphere/AppServer  
**WebSphere ND:**  
/ouaf/IBM/WebSphereND/ | |
| ADF Home Directory\(^7\) | ADF_HOME | Location on the disk where ADF is installed. Example Location:  
/ouaf/jdev11_1_1_8  
**Note:** This is an optional value. | |
| OIM OAM Enabled Environment | OPEN_SPML_ENABLED_ENV | Denotes if an environment will be integrating with Oracle Identity Manager for user propagation.  
**Valid values:**  
- true  
- false  
**Default Value:** false | |

\(^7\) Denotes optional Menu Options that may be required for the product installation and variables.
4.4.4 Keystore Options

2. Keystore Options

The following menu options appear when you select the 2. Keystore Options menu while executing the install utility:

<table>
<thead>
<tr>
<th>Menu Option</th>
<th>Default Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Import Keystore Directory</td>
<td></td>
</tr>
<tr>
<td>Store Type</td>
<td>JCEKS</td>
</tr>
<tr>
<td>Alias</td>
<td>ouaf.system</td>
</tr>
<tr>
<td>Alias Key Algorithm</td>
<td>AES</td>
</tr>
<tr>
<td>Alias Key Size</td>
<td>128</td>
</tr>
<tr>
<td>HMAC Alias</td>
<td>ouaf.system.hmac</td>
</tr>
<tr>
<td>Padding</td>
<td>PKCS5Padding</td>
</tr>
<tr>
<td>Mode</td>
<td>CBC</td>
</tr>
</tbody>
</table>

The following table describes the keystore menu options:

<table>
<thead>
<tr>
<th>Menu Option</th>
<th>Name Used in Documentation</th>
<th>Usage</th>
</tr>
</thead>
</table>
| Import Keystore Directory     | KS_IMPORT_KEYSTORE_FOLDER   | Specify this option if you want to import the keystore files from an external location or directory, during the installation process. This is needed when the customer has an existing environment that has a keystore and the database your new application server.

After installation is complete, to configure keystore options, perform the following sequence:

configureEnv.sh|cmd –i (enter keystore options)
initialSetup.sh|cmd –s (loads keystore) configureEnv.sh|cmd (reenter ouaf encrypted security information such as passwords)
initialSetup.sh|cmd (distribute the encrypted data)
<table>
<thead>
<tr>
<th>Menu Option</th>
<th>Name Used in Documentation</th>
<th>Usage</th>
<th>Customer Install Value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>If this option is left empty, the install process creates a new keystore from scratch.</td>
<td></td>
</tr>
<tr>
<td>Store Type</td>
<td>KS_STORETYPE</td>
<td>Value used for keytool option – storetype</td>
<td>Default Value: JCEKS</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Default Value: JCEKS</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>The following values are fixed:</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- HMAC Alias Key Algorithm: HmacSHA256</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- HMAC Alias Key Size: 256</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Default Value: ouaf.system.hmac</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Value used for keytool option - keyalg</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Default Value: ouaf.system</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Value used for keytool option - keysize</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Default Value: PKCS5Padding</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Value used for encryption/decryption</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Default Value: PKCS5Padding</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Value used for encryption/decryption</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Default Value: CBC</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Value used for encryption/decryption</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Default Value: CBC</td>
<td></td>
</tr>
</tbody>
</table>

**Note:** Please review *Oracle Revenue Management and Billing Security Guide* for more information on setting up keystores.
4.4.5 Environment Installation Options

50. Environment Installation Options

The following menu options appear when you select the 50. Environment Installation Options menu while executing the install utility:

<table>
<thead>
<tr>
<th>Menu Option</th>
<th>Default Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environment Mount Point</td>
<td></td>
</tr>
<tr>
<td>Log Files Mount Point</td>
<td></td>
</tr>
<tr>
<td>Environment Name</td>
<td></td>
</tr>
<tr>
<td>Web Application Server Type</td>
<td>WLS</td>
</tr>
<tr>
<td>Install Application Viewer Module</td>
<td>true</td>
</tr>
<tr>
<td>Install Demo Generation Cert Script</td>
<td>true</td>
</tr>
<tr>
<td>Install Sample CM Source Code</td>
<td>true</td>
</tr>
</tbody>
</table>

The following table describes the environment installation menu options:

<table>
<thead>
<tr>
<th>Menu Option</th>
<th>Name Used in Documentation</th>
<th>Usage</th>
<th>Customer Install Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environment Mount Point</td>
<td>&lt;SPLDIR&gt;</td>
<td>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 ORMB administrator user ID must be able to write to this directory. (This is the user ID that is created specifically to administer the ORMB environments; the default is cissys). The installation sets permissions on all subdirectories installed under this directory. See &lt;SPLENVIRON&gt; below for more information on how this mount point is used.</td>
<td></td>
</tr>
</tbody>
</table>

Customer Install Value
<table>
<thead>
<tr>
<th>Menu Option</th>
<th>Name Used in Documentation</th>
<th>Usage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Log Files Mount Point</td>
<td>&lt;SPLDIROUT&gt;</td>
<td>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 ORMB administrator user ID must be able to write to this directory. (This is the user ID that is created specifically to administer the ORMB environments; the default is cissys). For each environment initialized the application logs will be written to the directory &lt;SPLDIROUT&gt;/&lt;SPLENVIRON&gt;.</td>
</tr>
</tbody>
</table>

**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 Revenue Management and Billing 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 Revenue Management and Billing.  

**Note:** Later in the installation process, the splenviron.sh (splenviron.cmd) script will set $SPLEBASE (%SPLEBASE%) environment variable to point to <SPLDIR>/<SPLENVIRON>. |
<table>
<thead>
<tr>
<th>Menu Option</th>
<th>Name Used in Documentation</th>
<th>Usage</th>
<th>Customer Install Value</th>
</tr>
</thead>
</table>
| 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 the [Supported Platforms](#) section for details.                                                                                                                                                                                                                     |                         |
| Install 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.  
**Default 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.                                                                                                                                                                                                                       |                         |
| Install Demo Generation Cert Script | CERT_INSTALL_SCRIPT | You can install/uninstall later by executing the following script: perl [INSTALL_PACKAGE_FOLDER]/installAR.plx  
Valid values:  
true: Demo Generation Cert Script will be installed.  
false: Demo Generation Cert Script will not be installed.  
**Default value:** true                                                                                                                                                                                                                                                                                   |                         |
### 4.4.6 Environment Description

1. Environment Description

The following menu options appear when you select the 1. Environment Description menu while executing the `install` utility:

<table>
<thead>
<tr>
<th>Menu Option</th>
<th>Default Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environment Description:</td>
<td></td>
</tr>
</tbody>
</table>

The following table describes the environment menu options:

<table>
<thead>
<tr>
<th>Menu Option</th>
<th>Name Used in Documentation</th>
<th>Usage</th>
<th>Customer Install Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environment Description</td>
<td>DESC</td>
<td>This is a free form text field to describe the purpose of the environment.</td>
<td></td>
</tr>
</tbody>
</table>

### 4.4.7 WebLogic Business Application Server Configuration

2. Business Application Server Configuration

The following menu options appear when you select the 2. Business Application Server Configuration menu while executing the `install` utility:

<table>
<thead>
<tr>
<th>Menu Option</th>
<th>Default Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Server Host</td>
<td><code>&lt;machine_name&gt;</code></td>
</tr>
<tr>
<td>WebLogic Server Name</td>
<td>myserver</td>
</tr>
<tr>
<td>Business Server Application Name</td>
<td>SPLService</td>
</tr>
<tr>
<td>MPL Admin Port Number</td>
<td></td>
</tr>
<tr>
<td>MPL Automatic startup</td>
<td>false</td>
</tr>
</tbody>
</table>
The following table describes the WebLogic Business Application Server installation menu options:

<table>
<thead>
<tr>
<th>Menu Option</th>
<th>Name Used in Documentation</th>
<th>Usage</th>
<th>Customer Install Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Server Host</td>
<td>BSN_WLHOST</td>
<td>The host name on which the business application server resides.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Default Value:</strong> &lt;current server name&gt;</td>
<td></td>
</tr>
<tr>
<td>WebLogic Server Name</td>
<td>BSN_WLS_SVRNAME</td>
<td>The name of the WebLogic server where the business application resides.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Default Value:</strong> myserver</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Note:</strong> If there is not a previously created WebLogic server, take the default value of “myserver”.</td>
<td></td>
</tr>
<tr>
<td>Business Server Application Name</td>
<td>BSN_APP</td>
<td>The name of the business application server.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Default Value:</strong> SPLService</td>
<td></td>
</tr>
<tr>
<td>MPL Admin Port Number</td>
<td>MPLADMINPORT</td>
<td>The port number for the Multi Purpose Listener (MPL) Admin Server.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Example value:</strong> 6502</td>
<td></td>
</tr>
<tr>
<td>MPL Automatic Startup</td>
<td>MPLSTART</td>
<td>Automatically starts the MPL Listener whenever environment starts.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Default Value:</strong> false</td>
<td></td>
</tr>
</tbody>
</table>

**Note:**

To work with native, managed or clustered WebLogic application servers, the following additional setting must be appended to the Server Start Arguments, within the Oracle WebLogic console, for COBOL sockets to be used:

**AIX, Linux:**

-Djava.library.path=<SPLEBASE>/runtime

**Windows:**

-Djava.library.path=<SPLEBASE>\runtime

Where, <SPLEBASE> is the path where the application environment is installed. This setting does not support environment variables.
4.4.8 WebSphere ND Business Application Server Configuration

The following menu options appear when you select the 2. Business Application Server Configuration menu while executing the install utility:

<table>
<thead>
<tr>
<th>Menu Option</th>
<th>Default Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Server Host</td>
<td>&lt;machine_name&gt;</td>
</tr>
<tr>
<td>Bootstrap Port</td>
<td></td>
</tr>
<tr>
<td>WebSphere Server Name</td>
<td></td>
</tr>
<tr>
<td>WebSphere Node Name</td>
<td></td>
</tr>
<tr>
<td>Business Server Application Name</td>
<td>SPLService</td>
</tr>
<tr>
<td>MPL Admin Port Number</td>
<td></td>
</tr>
<tr>
<td>MPL Automatic startup</td>
<td></td>
</tr>
</tbody>
</table>

The following table describes the WebSphere ND Business Application Server installation menu options:

<table>
<thead>
<tr>
<th>Menu Option</th>
<th>Name</th>
<th>Used in Documentation</th>
<th>Usage</th>
<th>Customer Install Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Server Host</td>
<td>BSN_WLHOST</td>
<td></td>
<td>The host name on which business application server resides.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td><strong>Default Value:</strong> &lt;current server name&gt;</td>
<td></td>
</tr>
<tr>
<td>Bootstrap Port</td>
<td>BSN_WASBOOTSTRAPPORT</td>
<td></td>
<td>The boot strap port number allows the web module to communicate with the EJB module.</td>
<td></td>
</tr>
<tr>
<td>WebSphere Server Name</td>
<td>BSN_SVRNAME</td>
<td></td>
<td>The WebSphere ND Application Server to host the OUAF application. Each OUAF must be installed in a unique</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>WebSphere ND Application Server.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td><strong>Default Value:</strong> server2</td>
<td></td>
</tr>
<tr>
<td>WebSphere Node Name</td>
<td>BSN_NODENAME</td>
<td></td>
<td>The name of the WebSphere ND Node Name where the WebSphere ND Application Server is running.</td>
<td></td>
</tr>
</tbody>
</table>
### 4.4.9 WebSphere Basic Business Application Server Configuration

2. Business Application Server Configuration

The following menu options appear when you select the 2. Business Application Server Configuration menu while executing the `install` utility:

<table>
<thead>
<tr>
<th>Menu Option</th>
<th>Name Used in Documentation</th>
<th>Default Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Server Host</td>
<td>BSN_WLHOST</td>
<td>&lt;machine_name&gt;</td>
</tr>
<tr>
<td>Bootstrap Port</td>
<td></td>
<td></td>
</tr>
<tr>
<td>WebSphere Server Name</td>
<td></td>
<td></td>
</tr>
<tr>
<td>WebSphere Node Name</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Business Server Application Name</td>
<td></td>
<td>SPLService</td>
</tr>
<tr>
<td>MPL Admin Port Number</td>
<td>MPLADMINPORT</td>
<td></td>
</tr>
<tr>
<td>MPL Automatic startup</td>
<td>MPLSTART</td>
<td></td>
</tr>
</tbody>
</table>

The following table describes the WebSphere Basic Business Application Server installation menu options:

<table>
<thead>
<tr>
<th>Menu Option</th>
<th>Name Used in Documentation</th>
<th>Usage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Server Host</td>
<td>BSN_WLHOST</td>
<td>The host name on which business application server resides.</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Default Value</strong>: &lt;current server name&gt;</td>
</tr>
<tr>
<td>Menu Option</td>
<td>Name Used in Documentation</td>
<td>Usage</td>
</tr>
<tr>
<td>-----------------------------</td>
<td>----------------------------</td>
<td>----------------------------------------------------------------------</td>
</tr>
<tr>
<td>Bootstrap Port</td>
<td>BSN_WASBOOTSTRAPPORT</td>
<td>The boot strap port number allows the web module to communicate with the EJB module.</td>
</tr>
<tr>
<td>WebSphere Server Name</td>
<td>BSN_SVRNAME</td>
<td>The WebSphere Application Server to host the OUAF application. Each OUAF must be installed in a unique WebSphere Application Server. Default Value: server2</td>
</tr>
<tr>
<td>WebSphere Node Name</td>
<td>BSN_NODENAME</td>
<td>The name of the WebSphere Node Name where the WebSphere Application Server is running. Note: This is a security value: it will be encrypted with the Oracle Utilities Application Framework Encryption Algorithm.</td>
</tr>
<tr>
<td>Business Server Application Name</td>
<td>BSN_APP</td>
<td>The name of the business application server. Default Value: SPLService</td>
</tr>
<tr>
<td>MPL Admin Port Number</td>
<td>MPLADMINPORT</td>
<td>The port number for the Multi Purpose Listener (MPL) Admin Server. Example value: 6502</td>
</tr>
<tr>
<td>MPL Automatic startup</td>
<td>MPLSTART</td>
<td>Automatically starts the MPL Listener whenever environment starts. Default Value: false</td>
</tr>
</tbody>
</table>
4.4.10 WebLogic Web Application Server Configuration

The following menu options appear when you select the 3. Web Application Server Configuration menu while executing the install utility:

<table>
<thead>
<tr>
<th>Menu Option</th>
<th>Default Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Web Server Host</td>
<td><code>&lt;machine_name&gt;</code></td>
</tr>
<tr>
<td>WebLogic SSL Port Number</td>
<td></td>
</tr>
<tr>
<td>WebLogic Console Port Number</td>
<td></td>
</tr>
<tr>
<td>WebLogic Additional Stop Arguments</td>
<td></td>
</tr>
<tr>
<td>Web Context Root</td>
<td></td>
</tr>
<tr>
<td>WebLogic JNDI User ID</td>
<td></td>
</tr>
<tr>
<td>WebLogic JNDI Password</td>
<td></td>
</tr>
<tr>
<td>WebLogic Admin System User ID</td>
<td></td>
</tr>
<tr>
<td>WebLogic Admin System Password</td>
<td></td>
</tr>
<tr>
<td>WebLogic Server Name</td>
<td><code>myserver</code></td>
</tr>
<tr>
<td>Web Server Application Name</td>
<td><code>SPLWeb</code></td>
</tr>
<tr>
<td>Application Admin User ID</td>
<td></td>
</tr>
<tr>
<td>Application Admin Password</td>
<td></td>
</tr>
<tr>
<td>Deploy using Archive Files</td>
<td><code>true</code></td>
</tr>
<tr>
<td>Deploy Application Viewer Module</td>
<td><code>true</code></td>
</tr>
</tbody>
</table>

The following table describes the WebLogic Web Application Server installation menu options:

<table>
<thead>
<tr>
<th>Menu Option</th>
<th>Name Used in Documentation</th>
<th>Usage</th>
<th>Customer Install Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Web Server Host</td>
<td>WEB_WLHOST</td>
<td>The host name on which the web application server resides.</td>
<td><code>&lt;current server name&gt;</code></td>
</tr>
</tbody>
</table>

Default Value: `<current server name>`
<table>
<thead>
<tr>
<th>Menu Option</th>
<th>Name Used in Documentation</th>
<th>Usage</th>
<th>Customer Install Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>WebLogic SSL Port Number</td>
<td>WEB_WLSSLPORT</td>
<td>The port number assigned to WebLogic Secure Sockets connection. This is the port number that is used for Secure Sockets connecting to the WebLogic server. For Production, additional actions are required. Do NOT run production with Demo certificates.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Example value: 6501</td>
<td></td>
</tr>
<tr>
<td>WebLogic Console Port Number</td>
<td>WLS_ADMIN_PORT</td>
<td>The port number to access the WebLogic Console using https. You will use this port when accessing the WebLogic Console. Example value: 6500</td>
<td></td>
</tr>
<tr>
<td>WebLogic Additional Stop Arguments</td>
<td>ADDITIONAL_STOP_WEB LOGIC</td>
<td>This value will be needed when running the WebLogic Console using a different port number (e.g)-Dweblogic.security.TrustKeyStore=DemoTrust-Dweblogic.security.TrustKeystore Type=CustomTrust</td>
<td></td>
</tr>
<tr>
<td>Web Context Root</td>
<td>WEB_CONTEXT_ROOT</td>
<td>A context root name that allows customers to run multiple instances of web application on the same server. Default Value: ouaf</td>
<td></td>
</tr>
<tr>
<td>WebLogic JNDI User ID</td>
<td>WEB_WLSYSUSER</td>
<td>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.</td>
<td></td>
</tr>
<tr>
<td>Menu Option</td>
<td>Name Used in Documentation</td>
<td>Usage</td>
<td>Customer Install Value</td>
</tr>
<tr>
<td>----------------------------</td>
<td>----------------------------</td>
<td>-----------------------------------------------------------------------------------------------</td>
<td>-------------------------</td>
</tr>
<tr>
<td>WebLogic JNDI Password</td>
<td>WEB_WLSYSPASS</td>
<td>The password the application uses to connect to the EJB component through JNDI.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Note:</strong> The required value for an initial installation is “ouafadmin”. This value will be saved in encrypted format. This is a security value; it will be encrypted with the Oracle Application Framework Encryption Algorithm.</td>
<td></td>
</tr>
<tr>
<td>WebLogic Admin System User ID</td>
<td>WLS_WEB_WLSYSUSER</td>
<td>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.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Note:</strong> 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; it will be encrypted with the WebLogic Encryption Algorithm.</td>
<td></td>
</tr>
<tr>
<td>WebLogic Admin System Password</td>
<td>WLS_WEB_WLSYSPASS</td>
<td>The password to login to Oracle WebLogic console and to administer Oracle WebLogic. The Oracle WebLogic startup and stop script also utilize this password.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Note:</strong> 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; it will be encrypted with the WebLogic Encryption Algorithm.</td>
<td></td>
</tr>
<tr>
<td>Menu Option</td>
<td>Name Used in Documentation</td>
<td>Usage</td>
<td>Customer Install Value</td>
</tr>
<tr>
<td>---------------------</td>
<td>----------------------------</td>
<td>----------------------------------------------------------------------</td>
<td>------------------------</td>
</tr>
<tr>
<td>WebLogic Server Name</td>
<td>WEB_WLS_SVRNAME</td>
<td>The name of the WebLogic server where the web application resides.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Default Value: myserver</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Note:</strong> For an initial installation, use the default value of “myserver”.</td>
<td></td>
</tr>
<tr>
<td>Web Server Application Name</td>
<td>WEB_APP</td>
<td>The name of the web application server.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Default Value: SPLWeb</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Note:</strong> For an initial installation, use the default value of “SPLWeb”.</td>
<td></td>
</tr>
<tr>
<td>Application Admin User ID</td>
<td>WEB_SPLUSER</td>
<td>This is the default user ID to login to the application through the browser.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Example value: SYSUSER</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Note:</strong> The required value for an initial installation is “SYSUSER”. This value is also used in communication within the XAI application.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>This is a security value; it will be encrypted with the Oracle Utilities Application Framework Encryption Algorithm.</td>
<td></td>
</tr>
<tr>
<td>Application Admin Password</td>
<td>WEB_SPLPASS</td>
<td>This is the password of the application admin user.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Example value: sysuser00</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Note:</strong> The required value for an initial installation is “sysuser00”. This value will be saved in encrypted format. This is a Security Value.</td>
<td></td>
</tr>
<tr>
<td>Menu Option</td>
<td>Name Used in Documentation</td>
<td>Usage</td>
<td>Customer Install Value</td>
</tr>
<tr>
<td>-----------------------------</td>
<td>----------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>-------------------------</td>
</tr>
<tr>
<td>Deploy Using Archive Files</td>
<td>WEB_DEPLOY_EAR</td>
<td>When the value is “false” the web application will be deployed in exploded directory format (no WAR/EAR files). When the value is “true”, the web application will be deployed in ear file format.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Note:</strong> The expanded application folders will always exist under the application folder (&lt;SPLEBASE&gt;/splapp/applications), regardless of the setting of this option.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Valid values: true (Deploy EAR files) false (Deploy expanded application folders)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Default value: true</td>
<td></td>
</tr>
<tr>
<td>Menu Option</td>
<td>Name Used in Documentation</td>
<td>Usage</td>
<td></td>
</tr>
<tr>
<td>-----------------------------------</td>
<td>-----------------------------</td>
<td>----------------------------------------------------------------------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>Deploy Application Viewer Module</td>
<td>WEB_DEPLOY_APPVIEWER</td>
<td>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.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Note:</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>With either value the application viewer module will still be managed by the upgrade process.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>When the ‘Install Application Viewer module’ value is set to false from the installation menu, you will not be able to change this value to true, to deploy the application viewer.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Valid values:</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• true: The application viewer module will be deployed to the web server.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• false: The application viewer module will not be deployed to the web server.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Default value: true</td>
<td></td>
</tr>
</tbody>
</table>

### 4.4.11 WebSphere ND Web Application Server Configuration

3. Web Application Server Configuration

The following menu options appear when you select the 3. WebSphere ND Web Application Server Configuration menu while executing the `install` utility:

<table>
<thead>
<tr>
<th>Menu Option</th>
<th>Default Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Web Server Host</td>
<td>&lt;machine name&gt;</td>
</tr>
<tr>
<td>WebSphere SSL Port Number</td>
<td></td>
</tr>
<tr>
<td>Web Context Root</td>
<td></td>
</tr>
<tr>
<td>WebSphere Server Name</td>
<td></td>
</tr>
<tr>
<td>WebSphere Node Name</td>
<td></td>
</tr>
</tbody>
</table>
### Menu Option

<table>
<thead>
<tr>
<th>Menu Option</th>
<th>Default Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Web Server Application Name</td>
<td></td>
</tr>
<tr>
<td>WebSphere JNDI System User ID</td>
<td></td>
</tr>
<tr>
<td>WebSphere JNDI System Password</td>
<td></td>
</tr>
<tr>
<td>Application Admin User ID</td>
<td></td>
</tr>
<tr>
<td>Application Admin Password</td>
<td></td>
</tr>
<tr>
<td>Deploy Using Archive Files</td>
<td></td>
</tr>
<tr>
<td>Deploy Application Viewer Module</td>
<td></td>
</tr>
</tbody>
</table>

The following table describes the WebSphere ND Web Application Server Configuration menu options:

<table>
<thead>
<tr>
<th>Menu Option</th>
<th>Name Used in Documentation</th>
<th>Usage</th>
<th>Customer Install Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Web Server Host</td>
<td>WEB_WLHOST</td>
<td>The host name on which the web application server resides.</td>
<td></td>
</tr>
<tr>
<td>WebSphere SSL Port Number</td>
<td>WEB_WLPORT</td>
<td>The WC_defaulthost_secure number for your WebSphere ND server. This is the port number that is used as a part of the client URL request to connect to the host. Example value: 9081</td>
<td></td>
</tr>
<tr>
<td>Web Context Root</td>
<td>WEB_CONTEXT_ROOT</td>
<td>A context root name that allows customers to run multiple instances of web application on the same installation of WebSphere ND server. Default Value: ouaf</td>
<td></td>
</tr>
<tr>
<td>WebSphere Server Name</td>
<td>WEB_SVRNAME</td>
<td>The WebSphere Application Server to host the ORMB application. Each ORMB must be installed in a unique WebSphere Application Server. Default Value: server2</td>
<td></td>
</tr>
<tr>
<td>WebSphere Node Name</td>
<td>WEB_NODENAME</td>
<td>The name of the WebSphere Node Name where the WebSphere Application Server is running.</td>
<td></td>
</tr>
<tr>
<td>Web Server Application Name</td>
<td>WEB_APP</td>
<td>The name of the web application server. Default Value: SPLWeb</td>
<td>Web Server Application Name</td>
</tr>
<tr>
<td>Menu Option</td>
<td>Name Used in Documentation</td>
<td>Usage</td>
<td>Customer Install Value</td>
</tr>
<tr>
<td>-----------------------------------</td>
<td>----------------------------</td>
<td>----------------------------------------------------------------------</td>
<td>------------------------</td>
</tr>
<tr>
<td>WebSphere JNDI System User ID</td>
<td>WEB_WASUSER</td>
<td>User ID the application utilizes to connect to the EJB component through JNDI. This is the EJB container user ID.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Note</strong>: This value must be a valid User in the WebSphere ND console.</td>
<td></td>
</tr>
<tr>
<td>WebSphere JNDI System Password</td>
<td>WEB_WASPASS</td>
<td>The password the application utilizes to connect to the EJB component through JNDI.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Note</strong>: This value will be saved in encrypted format.</td>
<td></td>
</tr>
<tr>
<td>Application Admin User ID</td>
<td>WEB_SPLUSER</td>
<td>This is the default user ID to login to the application through the browser. <strong>Example value</strong>: SYSUSER</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Note</strong>: This value is also used in communication within the XAI application. This value must be a valid User in the WebSphere ND console. This is a security value.</td>
<td></td>
</tr>
<tr>
<td>Application Admin Password</td>
<td>WEB_SPLPASS</td>
<td>This is the password of the application admin user. <strong>Example value</strong>: sysuser00</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Note</strong>: This value will be saved in encrypted format. This is a security value.</td>
<td></td>
</tr>
<tr>
<td>Menu Option</td>
<td>Name Used in Documentation</td>
<td>Usage</td>
<td></td>
</tr>
<tr>
<td>---------------------</td>
<td>----------------------------</td>
<td>----------------------------------------------------------------------</td>
<td></td>
</tr>
</tbody>
</table>
| 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.  
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

| Deploy Using Archive Files | WEB_DEPLOY_EAR     | When the value is “false” the web application will be deployed in exploded directory format (no WAR/EAR files).  
When the value is “true”, the web application will be deployed in ear file format.  

**Note:** The expanded application folders will always exist under the application folder (<SPLBASE>/splapp/applications), regardless of the setting of this option.  
Valid values:  
true (Deploy EAR files)  
false (Deploy expanded application folders)  
Default value: true |
4.4.12 WebSphere Basic Web Application Server Configuration

3. Web Application Server Configuration

The following menu options appear when you select the 3. WebSphere Basic Web Application Server Configuration menu while executing the `install` utility:

<table>
<thead>
<tr>
<th>Menu Option</th>
<th>Default Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Web Server Host</td>
<td>&lt;machine name&gt;</td>
</tr>
<tr>
<td>WebSphere SSL Port Number</td>
<td></td>
</tr>
<tr>
<td>Web Context Root</td>
<td></td>
</tr>
<tr>
<td>WebSphere Server Name</td>
<td></td>
</tr>
<tr>
<td>WebSphere Node Name</td>
<td></td>
</tr>
<tr>
<td>Web Server Application Name</td>
<td></td>
</tr>
<tr>
<td>WebSphere JNDI System User ID</td>
<td></td>
</tr>
</tbody>
</table>
### WebSphere JNDI System Password

Default Value:

### Application Admin User ID

Default Value:

### Application Admin Password

Default Value:

### Deploy Using Archive Files

### Deploy Application Viewer Module

The following table describes the WebSphere Basic Web Application Server Configuration menu options:

<table>
<thead>
<tr>
<th>Menu Option</th>
<th>Name Used in Documentation</th>
<th>Usage</th>
<th>Customer Install Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Web Server Host</td>
<td>WEB_WLHOST</td>
<td>The host name on which the web application server resides.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Default Value: &lt;machine_name&gt;</td>
<td></td>
</tr>
<tr>
<td>WebSphere SSL Port Number</td>
<td>WEB_WLPORT</td>
<td>The WC_defaulthost_secure number for your WebSphere Basic server.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>This is the port number that is used as a part of the client URL request to connect to the host.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Example value: 9081</td>
<td></td>
</tr>
<tr>
<td>Web Context Root</td>
<td>WEB_CONTEXT_ROOT</td>
<td>A context root name that allows customers to run multiple instances of web application on the same installation of WebSphere server.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Default Value: ouaf</td>
<td></td>
</tr>
<tr>
<td>WebSphere Server Name</td>
<td>WEB_SVRNAME</td>
<td>The WebSphere Basic Application Server to host the ORMB application.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Each ORMB must be installed in a unique WebSphere Basic application server.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Default Value: server2</td>
<td></td>
</tr>
<tr>
<td>WebSphere Node Name</td>
<td>WEB_NODENAME</td>
<td>The name of the WebSphere Basic Node Name where the WebSphere Basic application server is running.</td>
<td></td>
</tr>
<tr>
<td>Web Server Application Name</td>
<td>WEB_APP</td>
<td>The name of the web application server.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Default Value: SPLWeb</td>
<td></td>
</tr>
</tbody>
</table>

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<table>
<thead>
<tr>
<th>Menu Option</th>
<th>Name Used in Documentation</th>
<th>Usage</th>
<th>Customer Install Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>WebSphere JNDI System User ID</td>
<td>WEB_WASUSER</td>
<td>User ID the application utilizes to connect to the EJB component through JNDI. This is the EJB container user ID.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Note:</strong> This value must be a valid User in the WebSphere console.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>This is a security value.</td>
<td></td>
</tr>
<tr>
<td>WebSphere JNDI System Password</td>
<td>WEB_WASPASS</td>
<td>The password the application utilizes to connect to the EJB component through JNDI.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Note:</strong> This value will be saved in encrypted format. This is a security value.</td>
<td></td>
</tr>
<tr>
<td>Application Admin User ID</td>
<td>WEB_SPLUSER</td>
<td>This is the default user ID to login to the application through the browser. Example value: SYSUSER</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Note:</strong> This value is also used in communication within the XAI application. This value must be a valid User in the WebSphere console. This is a security value.</td>
<td></td>
</tr>
<tr>
<td>Application Admin Password</td>
<td>WEB_SPLPASS</td>
<td>This is the password of the application admin user. Example value: sysuser00</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Note:</strong> This value will be saved in encrypted format. This is a security value.</td>
<td></td>
</tr>
<tr>
<td>Menu Option</td>
<td>Name Used in Documentation</td>
<td>Usage</td>
<td>Customer Install Value</td>
</tr>
<tr>
<td>---------------------------</td>
<td>-----------------------------</td>
<td>----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>-------------------------</td>
</tr>
<tr>
<td>Deploy Using Archive Files</td>
<td>WEB_DEPLOY_EAR</td>
<td>When the value is “false” the web application will be deployed in exploded directory format (no WAR/EAR files). When the value is “true”, the web application will be deployed in ear file format. <strong>Note:</strong> The expanded application folders will always exist under the application folder (&lt;SPLBASE&gt;/splapp/applications), regardless of the setting of this option.</td>
<td></td>
</tr>
</tbody>
</table>
### 4.4.13 Database Configuration

4. Database Configuration

The following menu options appear when you select the 4. Database Configuration menu while executing the install utility:

<table>
<thead>
<tr>
<th>Menu Option</th>
<th>Default Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application Database User ID</td>
<td></td>
</tr>
<tr>
<td>Application Database Password</td>
<td></td>
</tr>
<tr>
<td>MPL Database User ID</td>
<td></td>
</tr>
<tr>
<td>MPL Database Password</td>
<td></td>
</tr>
<tr>
<td>XAI Database User ID</td>
<td></td>
</tr>
</tbody>
</table>
### Menu Option

<table>
<thead>
<tr>
<th>Menu Option</th>
<th>Default Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>XAI Database Password</td>
<td></td>
</tr>
<tr>
<td>Batch Database User ID</td>
<td></td>
</tr>
<tr>
<td>Batch Database Password</td>
<td></td>
</tr>
<tr>
<td>Database Name</td>
<td></td>
</tr>
<tr>
<td>Database Server</td>
<td></td>
</tr>
<tr>
<td>Database Port</td>
<td></td>
</tr>
<tr>
<td>ONS Server Configuration</td>
<td></td>
</tr>
<tr>
<td>Database Override Connection String</td>
<td></td>
</tr>
<tr>
<td>Oracle Client Character Set NLS_LANG</td>
<td>AMERICAN_AMERICA.AL32UTF8</td>
</tr>
</tbody>
</table>

**Note:**
If any of the database menu option items below are changed, the system displays the following warning next to the actual option that has been changed:

“This database option has been changed. Since the keystore and encrypted data in the database must be compatible, you have two options:

- > load the compatible keystore into the environment;
- > keep the current keystore, re-enter any encrypted information online through the application, and re-generate the database hashes.”

Refer to *Oracle Revenue Management and Billing Security Guide* for more information.

The following table describes the database configuration menu options:

<table>
<thead>
<tr>
<th>Menu Option</th>
<th>Name Used in Documentation</th>
<th>Usage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application Database User ID</td>
<td>DBUSER</td>
<td>The database user ID that has been configured on the database for the application server connection.</td>
</tr>
</tbody>
</table>

**Note:** This is a security value.
<table>
<thead>
<tr>
<th>Menu Option</th>
<th>Name Used in Documentation</th>
<th>Usage</th>
<th>Customer Install Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application Database Password</td>
<td>DBPASS</td>
<td>The database password that has been configured on the database for the application connection.</td>
<td><strong>Note:</strong> This value will be saved in encrypted format.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>This is a security value; it will be encrypted with the Oracle Utilities Framework Encryption Algorithm.</td>
<td></td>
</tr>
<tr>
<td>MPL Database User ID</td>
<td>MPL_DBUSER</td>
<td>The database user ID that has been configured on the database for the MPL server connection.</td>
<td><strong>Note:</strong> This is a security value.</td>
</tr>
<tr>
<td>MPL Database Password</td>
<td>MPL_DBPASS</td>
<td>The database password that has been configured on the database for the MPL server connection.</td>
<td><strong>Note:</strong> This value will be saved in encrypted format.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>This is a security value; it will be encrypted with the Oracle Utilities Application Framework Encryption Algorithm.</td>
<td></td>
</tr>
<tr>
<td>XAI Database User ID</td>
<td>XAI_DBUSER</td>
<td>The database user ID that has been configured on the database for the XAI server connection.</td>
<td><strong>Note:</strong> This is a security value.</td>
</tr>
<tr>
<td>Menu Option</td>
<td>Name Used in Documentation</td>
<td>Usage</td>
<td>Customer Value</td>
</tr>
<tr>
<td>-----------------------------</td>
<td>----------------------------</td>
<td>----------------------------------------------------------------------</td>
<td>-----------------</td>
</tr>
<tr>
<td>XAI Database Password</td>
<td>XAI_DBPASS</td>
<td>The database password that has been configured on the database for the XAI server connection.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Note:</strong> This value will be saved in encrypted format.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>This is a security value; it will be encrypted with the Oracle Utilities Application Framework Encryption Algorithm.</td>
<td></td>
</tr>
<tr>
<td>Batch Database User ID</td>
<td>BATCH_DBUSER</td>
<td>The database user ID that has been configured on the database for the batch connection.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Note:</strong> This is a security value.</td>
<td></td>
</tr>
<tr>
<td>Batch Database Password</td>
<td>BATCH_DBPASS</td>
<td>The database password that has been configured on the database for the batch connection.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Note:</strong> This value will be saved in encrypted format.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>This is a security value; it will be encrypted with the Oracle Utilities Application Framework Encryption Algorithm.</td>
<td></td>
</tr>
<tr>
<td>Database Name</td>
<td>DBNAME</td>
<td>The name of the database instance that the application will be connecting to.</td>
<td></td>
</tr>
<tr>
<td>Database Server</td>
<td>DBSERVER</td>
<td>Host name of the server where database resides.</td>
<td></td>
</tr>
<tr>
<td>Database Port</td>
<td>DBPORT</td>
<td>Database port number on the database server used for connecting to the database</td>
<td></td>
</tr>
<tr>
<td>ONS Server Configuration</td>
<td>ONSCONFIG</td>
<td>ONS Server Configuration is required for Oracle RAC FCF. See Oracle Revenue Management and Billing Server Administration Guide for more information. This is an optional value.</td>
<td></td>
</tr>
</tbody>
</table>
## Menu Option

<table>
<thead>
<tr>
<th>Database Override Connection String</th>
<th>DB OVERRIDE_CONNECTION</th>
</tr>
</thead>
</table>

### Usage

It is used to specify custom JDBC URL. This connection string overrides the standard database connection string which is specified during RAC installation. If the database SID and service name are different, it is mandatory to specify the database override connection string. In addition, if there is a need to configure a Scan IP in JDBC URL (for a RAC database); it is mandatory to specify the database override connection string.

See *Oracle Revenue Management and Billing Server Administration Guide* for more information.

<table>
<thead>
<tr>
<th>Oracle Client Character Set</th>
<th>NLS_LANG</th>
</tr>
</thead>
</table>

### The Oracle Database Character Set

Select the Language and Territory that are in use in your country.

**Default Value:** AMERICAN_AMERICA.AL32UTF8

## 4.4.14 General Configuration Options

### 5. General Configuration Options

The following menu options appear when you select the 5. General Configuration Options menu while executing the **install utility**:

<table>
<thead>
<tr>
<th>Menu Option</th>
<th>Default Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Batch RMI Port</td>
<td></td>
</tr>
<tr>
<td>RMI Port number for JMX Business</td>
<td></td>
</tr>
<tr>
<td>RMI Port number for JMX Web</td>
<td></td>
</tr>
<tr>
<td>JMX Enablement System User ID</td>
<td></td>
</tr>
<tr>
<td>JMX Enablement System Password</td>
<td></td>
</tr>
<tr>
<td>Batch Mode</td>
<td>CLUSTERED</td>
</tr>
<tr>
<td>Coherence Cluster Name</td>
<td></td>
</tr>
</tbody>
</table>

---

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### Menu Option

<table>
<thead>
<tr>
<th>Menu Option</th>
<th>Default Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coherence Cluster Address</td>
<td></td>
</tr>
<tr>
<td>Coherence Cluster Port</td>
<td></td>
</tr>
<tr>
<td>Coherence Cluster Mode</td>
<td>dev</td>
</tr>
</tbody>
</table>

**Note:** See *Oracle Revenue Management and Billing Batch Server Administration Guide* for additional details on this configuration.

The following table describes the general configuration menu options:

<table>
<thead>
<tr>
<th>Menu Option</th>
<th>Name Used in Documentation</th>
<th>Usage</th>
<th>Customer Install Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Batch RMI Port</td>
<td>BATCH_RMI_PORT</td>
<td>Unique port used by the Batch RMI. Example value: 6540</td>
<td></td>
</tr>
<tr>
<td>RMI Port number for JMX Business</td>
<td>BSN_JMX_RMI_PORT_PERFORMANCE</td>
<td>Example value: 6550 &lt;br&gt;<strong>Note:</strong> This is an optional value.</td>
<td></td>
</tr>
<tr>
<td>RMI Port number for JMX Web</td>
<td>WEB_JMX_RMI_PORT_PERFORMANCE</td>
<td>Example value: 6570 &lt;br&gt;<strong>Note:</strong> This is an optional value.</td>
<td></td>
</tr>
<tr>
<td>JMX Enablement System User ID</td>
<td>BSN_JMX_SYSUSER</td>
<td>This is used to authenticate incoming JMX requests. Populate if RMI Port numbers are set. &lt;br&gt;<strong>Note:</strong> This is an optional value.</td>
<td></td>
</tr>
<tr>
<td>JMX Enablement System Password</td>
<td>BSN_JMX_SYSPASS</td>
<td>This is used to authenticate incoming JMX requests. Populate if RMI Port numbers are set. &lt;br&gt;This is a security value; it will be encrypted with the Oracle Utilities Application Framework Encryption Algorithm. &lt;br&gt;<strong>Note:</strong> This is an optional value.</td>
<td></td>
</tr>
<tr>
<td>Batch Mode</td>
<td>BATCH_MODE</td>
<td>Valid values: CLUSTERED or DISTRIBUTED &lt;br&gt;Default Value: CLUSTERED &lt;br&gt;<strong>Note:</strong> CLUSTERED is currently the only supported mode for production environments.</td>
<td></td>
</tr>
<tr>
<td>Menu Option</td>
<td>Name Used in Documentation</td>
<td>Usage</td>
<td>Customer Install Value</td>
</tr>
<tr>
<td>--------------------------</td>
<td>----------------------------</td>
<td>----------------------------------------------------------------------</td>
<td>------------------------</td>
</tr>
<tr>
<td>Coherence Cluster Name</td>
<td>COHERENCE_CLUSTER_NAME</td>
<td>Unique name for the batch CLUSTER</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Note:</strong> Value is required when batch mode is CLUSTERED.</td>
<td></td>
</tr>
<tr>
<td>Coherence Cluster Address</td>
<td>COHERENCE_CLUSTER_ADDRESS</td>
<td>Unique multicast address.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Note:</strong> Value is required when batch mode is CLUSTERED.</td>
<td></td>
</tr>
<tr>
<td>Coherence Cluster Port</td>
<td>COHERENCE_CLUSTER_PORT</td>
<td>Unique port for the batch CLUSTER</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Note:</strong> Value is required when batch mode is CLUSTERED.</td>
<td></td>
</tr>
<tr>
<td>Coherence Cluster Mode</td>
<td>COHERENCE_CLUSTER_MODE</td>
<td>Valid values: dev (Development) prod (Production)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Default Value: dev</td>
<td></td>
</tr>
</tbody>
</table>

### 4.4.15 SSL Certificate Keystore (WebLogic Only)

6. SSL Certificate Keystore

The following menu options appear when you select the 6. SSL Certificate Keystore menu while executing the `install` utility:

<table>
<thead>
<tr>
<th>Menu Option</th>
<th>Default Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Certificate Keystore Type</td>
<td>CUSTOM</td>
</tr>
<tr>
<td>Identify Keystore File</td>
<td></td>
</tr>
<tr>
<td>Identify Keystore File Type</td>
<td>jks</td>
</tr>
<tr>
<td>Identify Keystore Password</td>
<td></td>
</tr>
<tr>
<td>Identify Private Key Alias</td>
<td>ouaf demo cert</td>
</tr>
<tr>
<td>Trust Keystore File</td>
<td></td>
</tr>
<tr>
<td>Trust Keystore File Type</td>
<td>jks</td>
</tr>
<tr>
<td>Trust Keystore Password</td>
<td></td>
</tr>
<tr>
<td>Trust Private Key Alias</td>
<td>ouaf demo cert</td>
</tr>
</tbody>
</table>

**Note:** See *Oracle Revenue Management and Billing Security Guide* for additional details on this configuration. By default, SSL (Secure Sockets Layer) certificates are required for authentication. The product provides demo certificates generated with 1024 byte keys. For production environments, please use your own custom certificates.
The following table describes the SSL certificate keystore menu options:

<table>
<thead>
<tr>
<th>Menu Option</th>
<th>Name Used in Documentation</th>
<th>Usage</th>
</tr>
</thead>
</table>
| Certificate Keystore Type| CERT_KS                    | If you choose demo, you need to execute the following script at least once perl[SPLEBASE]/bin/demo_gen_cert.plx  
If you change DEFAULT/CUSTOM to DEMO you need to have installed the demo_gen_cert.plx script, it is part of the demo source in the installation package.  
Default value: CUSTOM  
Valid values: DEFAULT, DEMO, CUSTOM  
The demo_gen_cert.plx script is available if you select the 'Install Demo Generation Cert Script' option during installation. It automates the creation of the WebLogic provided demo certificate using 1024 byte keys. |
| Identify Keystore Type   | CERT_IDENT_KS_FILE         | Mandatory if the type is CUSTOM.  
No need to populate if type is DEMO, it will use: [SPLEBASE]/splapp/certs/ouaf_demo_ident.jks |
| Identify Keystore File Type| CERT_IDENT_KS_TYPE         | Default value: jks |
| Identify Keystore Password| CERT_IDENT_KS_PWD          | This is a security value; it will be encrypted with the WebLogic Encryption Algorithm.                                                                                                             |
| Identity Private Key Alias| CERT_IDENT_KS_ALIAS        | Default value: ouaf_demo_cert |
| Trust Keystore File      | CERT_TRUST_KS_FILE         | Mandatory if the type is CUSTOM.  
No need to populate if type is DEMO, it will use: [SPLEBASE]/splapp/certs/ouaf_demo_trust.jks |
### 4.4.16 Advanced Menu Options

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

**AIX, Linux:**

```
$SPLEBASE/bin/configureEnv.sh -a
```

**Windows:**

```
%SPLEBASE%/bin\configureEnv.cmd -a
```
4.4.16.1 Advanced Environment Miscellaneous Configuration

The following menu options appear when you select the Advanced Environment Miscellaneous Configuration menu while executing the `configureEnv` utility:

<table>
<thead>
<tr>
<th>Menu Option</th>
<th>Default Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Populate the Web Server SOAP Port</td>
<td>SOAP_CONNECTOR_ADDRESS</td>
</tr>
<tr>
<td>Populate the Business Server SOAP Port</td>
<td>SOAP_CONNECTOR_ADDRESS</td>
</tr>
<tr>
<td>Enter the location of the Application Server Profile Home</td>
<td></td>
</tr>
<tr>
<td>WebSphere Deployment Manager Host Name</td>
<td></td>
</tr>
<tr>
<td>Online JVM Batch Server Enabled</td>
<td>false</td>
</tr>
<tr>
<td>Online JVM Batch Number of Threads</td>
<td>5</td>
</tr>
<tr>
<td>Online JVM Batch Scheduler Daemon Enabled</td>
<td>false</td>
</tr>
<tr>
<td>Enable Batch Edit Functionality</td>
<td>false</td>
</tr>
<tr>
<td>Enable Web Services Functionality</td>
<td>false</td>
</tr>
<tr>
<td>Web Services War File Name</td>
<td>Webservices</td>
</tr>
<tr>
<td>GIS Service Running on the same Web Server</td>
<td>true</td>
</tr>
<tr>
<td>GIS Service URL</td>
<td></td>
</tr>
<tr>
<td>GIS WebLogic System User ID</td>
<td></td>
</tr>
<tr>
<td>GIS WebLogic System Password</td>
<td></td>
</tr>
<tr>
<td>Online Display Software Home</td>
<td></td>
</tr>
</tbody>
</table>

The following table describes the advanced environment miscellaneous configuration menu options:

<table>
<thead>
<tr>
<th>Menu Option</th>
<th>Name Used in Documentation</th>
<th>Usage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Populate the Web Server SOAP Port - SOAP_CONNECTOR_ADDRESS</td>
<td>WAS_WEB_SOAP_PORT</td>
<td>WebSphere Web Server SOAP Port Number This is the SOAP port used for WebSphere Basic when executing <code>wsadmin.sh</code> commands.</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Note:</strong> This value will only appear for WebSphere Basic and WebSphere ND</td>
</tr>
<tr>
<td>Menu Option</td>
<td>Name Used in Documentation</td>
<td>Usage</td>
</tr>
<tr>
<td>------------------------------------------------</td>
<td>-----------------------------</td>
<td>----------------------------------------------------------------------</td>
</tr>
<tr>
<td>Populate the Business Server SOAP Port - SOAP_CONNECTORADDRESS</td>
<td>WAS_BSN_SOAP_PORT</td>
<td>WebSphere Business Server SOAP Port Number. This is the SOAP port used for WebSphere Basic when executing wsadmin.sh commands.</td>
</tr>
<tr>
<td>Enter the location of the Application Server Profile Home</td>
<td>WAS_PROFILE_NAME_HOME</td>
<td>The profile home will be used when tracking log files, under WebSphere home.</td>
</tr>
<tr>
<td>WebSphere Deployment Manager Host Name</td>
<td>WASND_DMGR_HOST</td>
<td>WebSphere Deployment Manager Host name, this value is used for WebSphere ND, when connecting to the WebSphere Deployment Manager.</td>
</tr>
<tr>
<td>Online JVM Batch Server Enabled</td>
<td>BATCHENABLED</td>
<td>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</td>
</tr>
<tr>
<td>Menu Option</td>
<td>Name Used in Documentation</td>
<td>Usage</td>
</tr>
<tr>
<td>-----------------------------------</td>
<td>-----------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Online JVM Batch Number of Threads</td>
<td>BATCHTHREADS</td>
<td>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</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Note:</strong> This will be only used and activated when BATCHENABLED is set to true.</td>
</tr>
<tr>
<td>Online JVM Batch Scheduler Daemon Enabled</td>
<td>BATCHDAEMON</td>
<td>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</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Note:</strong> This will be only used and activated when BATCHENABLED is set to true.</td>
</tr>
<tr>
<td>Enable Batch Edit Functionality</td>
<td>BATCHEDIT_ENABLED</td>
<td>Used to indicate whether you want to enable the batch edit functionality. If this functionality is enabled, you can use the bedit.sh or bedit.cmd utility to configure the batch. The valid values are: true, false</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Default Value:</strong> false</td>
</tr>
<tr>
<td>Menu Option</td>
<td>Name Used in Documentation</td>
<td>Usage</td>
</tr>
<tr>
<td>-----------------------------------------</td>
<td>----------------------------</td>
<td>----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Enable Web Services Functionality</td>
<td>WEBSERVICES_ENABLED</td>
<td>If you enable the Web Services functionality, you can execute the following command to re-deploy the Web services without specifying the user name and password: java weblogic.Admin -username [USER NAME] -password [PASSWORD] STOREUSERCONFIG -userconfigfile /etc/.wlsuserconfig -userkeyfile /etc/.wlsuserkey This command is executed successfully only when the weblogic.jar is added in the CLASSPATH. The valid values are: true, false Default Value: false</td>
</tr>
<tr>
<td>Web Services War File Name</td>
<td>IWSWAR</td>
<td>Used to specify the name of Web Services War file. The file name must not be suffixed with the .WAR extension. Default Value: Webservices</td>
</tr>
<tr>
<td>GIS Service Running on the same Web Server</td>
<td>GIS</td>
<td>Geographical information (GEOCODING) - GIS Service running on the same web application server. Valid values: true, false This value is optional.</td>
</tr>
<tr>
<td>GIS Service URL</td>
<td>GIS_URL</td>
<td>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.</td>
</tr>
<tr>
<td>GIS WebLogic System User ID</td>
<td>GIS_WLSYSUSER</td>
<td>GIS WebLogic System User ID Note: This value will be only be used when GIS is set to true. This value is optional.</td>
</tr>
<tr>
<td>Menu Option</td>
<td>Name Used in Documentation</td>
<td>Usage</td>
</tr>
<tr>
<td>----------------------------------</td>
<td>-----------------------------</td>
<td>----------------------------------------------------------------------</td>
</tr>
<tr>
<td>GIS WebLogic System Password</td>
<td>GIS_WLSYS_PASS</td>
<td>GIS WebLogic System Password. Note: This value will be only be used when GIS is set to true. This is a security value; it will be encrypted with the Oracle Utilities Application Framework Encryption Algorithm.</td>
</tr>
<tr>
<td>Online Display Software Home</td>
<td>ONLINE_DISPLAY_HOME</td>
<td>The location of the Online Display Software installation directory. This value is optional.</td>
</tr>
</tbody>
</table>
4.4.16.2 Advanced Environment Memory Configuration

51. Advanced Environment Memory Configuration

The following menu options appear when you select the 51. Advanced Environment Memory Configuration menu while executing the configureEnv utility:

<table>
<thead>
<tr>
<th>Menu Option</th>
<th>Default Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Web Application Java Initial Heap Size</td>
<td>2048</td>
</tr>
<tr>
<td>Web Application Java Max Heap Size</td>
<td>2048</td>
</tr>
<tr>
<td>Web Application Java Max Perm Size</td>
<td>1024</td>
</tr>
<tr>
<td>Web Application Additional Options</td>
<td></td>
</tr>
<tr>
<td>Ant Min Heap Size</td>
<td>200</td>
</tr>
<tr>
<td>Ant Max Heap Size</td>
<td>800</td>
</tr>
<tr>
<td>Ant Additional Options</td>
<td></td>
</tr>
<tr>
<td>Thread Pool Worker Java Min Heap Size</td>
<td>512</td>
</tr>
<tr>
<td>Thread Pool Worker Java Max Heap Size</td>
<td>1024</td>
</tr>
<tr>
<td>Thread Pool Worker Java Max Perm Size</td>
<td>512</td>
</tr>
<tr>
<td>Thread Pool Worker Additional Options</td>
<td></td>
</tr>
<tr>
<td>Additional Runtime Classpath</td>
<td></td>
</tr>
</tbody>
</table>

The following table describes the advanced environment memory configuration menu options:

<table>
<thead>
<tr>
<th>Menu Option</th>
<th>Name Used in Documentation</th>
<th>Usage</th>
<th>Customer Install Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Web Application Java Initial Heap Size</td>
<td>WEB_MEMORY_OPT_MIN</td>
<td>Initial heap size for the application server. Default Value: 2048</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Note:</strong> For WebLogic installation only.</td>
<td></td>
</tr>
<tr>
<td>Web Application Java Max Heap Size</td>
<td>WEB_MEMORY_OPT_MAX</td>
<td>Maximum heap size for the application server. Default Value: 2048</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Note:</strong> For WebLogic installation only.</td>
<td></td>
</tr>
<tr>
<td>Menu Option</td>
<td>Name Used in Documentation</td>
<td>Usage</td>
<td>Customer Install Value</td>
</tr>
<tr>
<td>------------------------------</td>
<td>----------------------------</td>
<td>----------------------------------------------------------------------</td>
<td>-------------------------</td>
</tr>
<tr>
<td>Web Application Java Max Perm Size</td>
<td>WEB_MEMORY_OPT_MAXPERMSIZE</td>
<td>Maximum Perm Size for the application server. Default Value: 1024 MB (Linux) 1024 MB (Windows)</td>
<td>Note: For WebLogic installation only.</td>
</tr>
<tr>
<td>Web Application Additional Options</td>
<td>WEB_ADDITIONAL_OPT</td>
<td>Additional options that will be passed in to the web application server JVM. This is optional.</td>
<td>Note: For WebLogic installation only.</td>
</tr>
<tr>
<td>Ant Min Heap Size</td>
<td>ANT_OPT_MIN</td>
<td>Minimum Heap Size passed to ANT JVM. Default Value: 200</td>
<td></td>
</tr>
<tr>
<td>Ant Max Heap Size</td>
<td>ANT_OPT_MAX</td>
<td>Maximum Heap Size passed to ANT JVM. Default Value: 800</td>
<td></td>
</tr>
<tr>
<td>Ant Additional Options</td>
<td>ANT_ADDITIONAL_OPT</td>
<td>Additional options that are passed into the ANT JVM.</td>
<td></td>
</tr>
<tr>
<td>Thread Pool Worker Java Min Heap Size</td>
<td>BATCH_MEMORY_OPT_MIN</td>
<td>Minimum heap size passed to the Thread Pool Worker. Default Value: 512</td>
<td></td>
</tr>
<tr>
<td>Thread Pool Worker Java Max Heap Size</td>
<td>BATCH_MEMORY_OPT_MAX</td>
<td>Maximum heap size passed to the Thread Pool Worker. Default Value: 1024</td>
<td></td>
</tr>
<tr>
<td>Thread Pool Worker Java Max Perm Size</td>
<td>BATCH_MEMORY_OPT_MAXPERMSIZE</td>
<td>Maximum perm size passed to the Thread Pool Worker Default Value: 512</td>
<td></td>
</tr>
<tr>
<td>Thread Pool Worker Additional Options</td>
<td>BATCH_MEMORY_ADDITIONAL_OPT</td>
<td>Additional Memory Options passed into the Thread Pool Worker. This is an optional free form field.</td>
<td></td>
</tr>
</tbody>
</table>
### 4.4.16.3 Advanced Web Application Configuration

52. Advanced Web Application Configuration

The following menu options appear when you select the 52. Advanced Web Application Configuration menu while executing the `configureEnv` utility:

<table>
<thead>
<tr>
<th>Menu Option</th>
<th>Default Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Web Application Cache Settings</td>
<td>off</td>
</tr>
<tr>
<td>Web Server Port Number</td>
<td></td>
</tr>
<tr>
<td>WebLogic Overload Protection</td>
<td>system-exit</td>
</tr>
<tr>
<td>Domain Home Location</td>
<td></td>
</tr>
<tr>
<td>Batch Cluster URL</td>
<td></td>
</tr>
<tr>
<td>Strip HTML Comments</td>
<td>false</td>
</tr>
<tr>
<td>Authentication Login Page Type</td>
<td>FORM</td>
</tr>
<tr>
<td>Web Form Login Page</td>
<td>/loginPage.jsp</td>
</tr>
<tr>
<td>Web Form Login Error Page</td>
<td>/formLoginError.jsp</td>
</tr>
<tr>
<td>Application Viewer Form Login Page</td>
<td>/loginPage.jsp</td>
</tr>
<tr>
<td>Application Viewer Form Login Error Page</td>
<td>/formLoginError.jsp</td>
</tr>
<tr>
<td>Help Form Login Page</td>
<td>/loginPage.jsp</td>
</tr>
<tr>
<td>Help Form Login Error Page</td>
<td>/formLoginError.jsp</td>
</tr>
<tr>
<td>Web Security Role</td>
<td>cisusers</td>
</tr>
<tr>
<td>Web Principal Name</td>
<td>cisusers</td>
</tr>
<tr>
<td>Application Viewer Security Role</td>
<td>cisusers</td>
</tr>
<tr>
<td>Application Viewer Principal Name</td>
<td>cisusers</td>
</tr>
<tr>
<td>This is a development environment</td>
<td>false</td>
</tr>
<tr>
<td>Preload All Pages on Startup</td>
<td>false</td>
</tr>
<tr>
<td>Maximum Age of a Cache Entry for Text</td>
<td>28800</td>
</tr>
<tr>
<td>Maximum Age of a Cache Entry for Images</td>
<td>28800</td>
</tr>
</tbody>
</table>
The following table describes the advanced web application configuration menu options:

<table>
<thead>
<tr>
<th>Menu Option</th>
<th>Default Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>JSP Recompile Interval (s)</td>
<td>43200</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Menu Option</th>
<th>Name Used in Documentation</th>
<th>Usage</th>
<th>Customer Install Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Web Application Cache Settings</td>
<td>WEB_L2_CACHE_MODE</td>
<td>Default Value: off&lt;br&gt;Valid Values: off read_write read_only</td>
<td></td>
</tr>
<tr>
<td>Web Server Port Number</td>
<td>WEB_WLPORT</td>
<td>The port number assigned to WebLogic connection. Set this port if the environment is not configured as SSL. Note: For WebLogic installation only. Example Value: 6500 This value is optional.</td>
<td></td>
</tr>
<tr>
<td>WebLogic Overload Protection</td>
<td>WLS_OVERRIDE_PROTECT</td>
<td>The overload protection allows for a WebLogic server to be “stopped / exited” when there is an out of memory exception&lt;br&gt;Valid Values: system-exit (Exit the server process) no-action (Ignore take no action)&lt;br&gt;Default Value: system-exit</td>
<td></td>
</tr>
<tr>
<td>Domain Home Location</td>
<td>WLS_DOMAIN_HOME</td>
<td>The WebLogic Domain Home location, when this parameter is populated you will need to use the native WebLogic tools for maintenance (starting, stopping, deployment, and undeployment).&lt;br&gt;Note: For WebLogic installation only&lt;br&gt;This value is optional</td>
<td></td>
</tr>
<tr>
<td>Batch Cluster URL</td>
<td>WEB_BATCH_CLUSTER_URL</td>
<td>Used to specify the batch cluster URL. Example: service:jmx:rmi:///jndi/rmi://[host]:[TPW JMX port]/oracle/ouaf/batchConnector</td>
<td></td>
</tr>
<tr>
<td>Menu Option</td>
<td>Name Used in Documentation</td>
<td>Usage</td>
<td>Customer Install Value</td>
</tr>
<tr>
<td>-------------------------------------------</td>
<td>----------------------------</td>
<td>----------------------------------------------------------------------</td>
<td>------------------------</td>
</tr>
</tbody>
</table>
| Strip HTML Comments                       | STRIP_HTML_COMMENTS        | Stripping HTML (and JavaScript) comments will increase the security of the system.  
Default Value: false  
Valid values: true, false                  |                        |
| Authentication Login Page Type            | WEB_WLAUTHMETHOD           | Specifies which authentication mode should be used. To switch off OUAF Login  
Page enter: BASIC  
Valid values: FORM, BASIC  
Default Value: FORM |                        |
| Web Form Login Page                       | WEB_FORM_LOGIN_PAGE        | Specify the jsp file used to login into the application.  
Default Value: /loginPage.jsp |                        |
| Web Form Login Error Page                 | WEB_FORM_LOGIN_ERROR_PAGE  | Specify the jsp file used when there is an error when logging into the application.  
Default Value: /formLoginError.jsp |                        |
| Application Viewer Form Login Page        | WEB_APPVIEWER_FORM LOGIN_PAGE | Used to specify the JSP file name. The contents of this file appear when you want to login to the application viewer.  
Default Value: /loginPage.jsp |                        |
| Application Viewer Form Login Error Page  | WEB_APPVIEWER_FORM LOGIN_ERROR_PAGE | Used to specify the JSP file name. The contents of this file appear when an error occurs while logging into the application viewer. |                        |
| Help Form Login Page                      | WEB_HELP_FORM_LOGIN_PAGE   | Used to specify the JSP file name. The contents of this file appear when you want to login to the online help.  
Default Value: /loginPage.jsp |                        |
| Help Form Login Error Page                | WEB_HELP_FORM_LOGIN_ERROR_PAGE | Used to specify the JSP file name. The contents of this file appear when an error occurs while logging into the online help.  
Default Value: /formLoginError.jsp |                        |
| Web Security Role                         | WEB_PRINCIPAL_NAME         | Specify the name of the security role.  
Default Value: cisusers |                        |
<table>
<thead>
<tr>
<th>Menu Option</th>
<th>Name Used in Documentation</th>
<th>Usage</th>
<th>Customer Install Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Web Principal Name</td>
<td>WEB_PRINCIPAL_NAME</td>
<td>Specify the name of a principal that is defined in the security realm.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Default Value:</strong> cisusers</td>
<td></td>
</tr>
<tr>
<td>Application Viewer Security Role</td>
<td>WEB_APPVIEWER_ROLE_NAME</td>
<td>Used to specify the name of the security role.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Default Value:</strong> cisusers</td>
<td></td>
</tr>
<tr>
<td>Application Viewer Principal Name</td>
<td>WEB_APPVIEWER_PRINCIPAL_NAME</td>
<td>Used to specify the name of a principal that is defined in the security realm.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Default Value:</strong> cisusers</td>
<td></td>
</tr>
<tr>
<td>This is a development environment</td>
<td>WEB_ISDEVELOPMENT</td>
<td>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. <strong>Valid values:</strong> true, false <strong>Default value:</strong> false</td>
<td></td>
</tr>
<tr>
<td>Preload All Pages on Startup</td>
<td>WEB_PRELOADALL</td>
<td>This controls if the pages should be pre-loaded during the startup of the application or not. <strong>Valid values:</strong> true, false <strong>Default value:</strong> false</td>
<td></td>
</tr>
<tr>
<td>Maximum Age of a Cache Entry for Text</td>
<td>WEB_MAXAGE</td>
<td><strong>Default Value:</strong> 28800</td>
<td></td>
</tr>
<tr>
<td>Maximum Age of a Cache Entry for Images</td>
<td>WEB_MAXAGEI</td>
<td><strong>Default Value:</strong> 28800</td>
<td></td>
</tr>
</tbody>
</table>
### 4.4.16.4 OIM Configuration Settings

53. OIM Configuration Settings

The following menu options appear when you select the 53. OIM Configuration Settings menu while executing the `configureEnv` utility:

<table>
<thead>
<tr>
<th>Menu Option</th>
<th>Default Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPML SOAP Trace Setting</td>
<td>false</td>
</tr>
<tr>
<td>SPML IDM Schema Name</td>
<td>F1-IDMUser</td>
</tr>
<tr>
<td>SPML OIM Name Space</td>
<td><code>http://xmlns.oracle.com/OIM/provisioning</code></td>
</tr>
<tr>
<td>SPML OIM Enclosing Element</td>
<td>sOAPElement</td>
</tr>
</tbody>
</table>

The following table describes the OIM configuration menu options:

<table>
<thead>
<tr>
<th>Menu Option</th>
<th>Name Used in Documentation</th>
<th>Usage</th>
<th>Customer Install Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPML SOAP Trace Setting</td>
<td>OIM_SPML_SOAP_DEBUG_SETTING</td>
<td>Name of Oracle Identity Manager library for debug.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Default Value: false</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Valid values: true, false</td>
<td></td>
</tr>
<tr>
<td>SPML IDM Schema Name</td>
<td>OIM_SPML_UBER_SCHEMA_NAME</td>
<td>Name of Oracle Identity Manager library for schema.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Default Value: F1-IDMUser</td>
<td></td>
</tr>
<tr>
<td>SPML OIM Name Space</td>
<td>OIM_SPML_NAME_SPACE</td>
<td>Default Namespace for Oracle Identity Manager integration.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Default Value: <code>http://xmlns.oracle.com/OIM/provisioning</code></td>
<td></td>
</tr>
<tr>
<td>SPML OIM Enclosing Element</td>
<td>OIM_SPML_SOAP_ELEMENT</td>
<td>Default top level SOAP Element name for Oracle Identity Manager integration.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Default Value: sOAPElement</td>
<td></td>
</tr>
</tbody>
</table>
5. Installing Application Server Prerequisite Software

This section describes the software that needs to be installed for each of the supported operating system and application server combinations. This section includes:

- AIX 7.1 Application Server
- Oracle Linux 6.5 or 7.0 and Red Hat Enterprise Linux 6.5 or 7.0 Application Server
- Windows 2012 Application Server

5.1 AIX 7.1 Application Server

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

5.1.1 Supported Application Servers

<table>
<thead>
<tr>
<th>Operating System</th>
<th>Chipsets</th>
<th>Application Server</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIX 7.1 TL1 (64-bit)</td>
<td>POWER 64-bit</td>
<td>WebSphere 8.5 64-bit version</td>
</tr>
</tbody>
</table>

5.1.2 Web/Application Server Tier

AIX 7.1 TL1 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:

<table>
<thead>
<tr>
<th>Description</th>
<th>Default Value</th>
<th>Customer Defined Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>ORMB Administrator UserID</td>
<td>cissys</td>
<td>-</td>
</tr>
<tr>
<td>ORMB User Group</td>
<td>cisusr</td>
<td>-</td>
</tr>
</tbody>
</table>

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

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

Please replace these users and groups for your installation defaults:

<table>
<thead>
<tr>
<th>User</th>
<th>Group</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>cissys</td>
<td>cisusr</td>
<td>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.</td>
</tr>
<tr>
<td>cisadm</td>
<td>cisusr</td>
<td>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.</td>
</tr>
<tr>
<td>cisoper</td>
<td>------</td>
<td>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.</td>
</tr>
</tbody>
</table>

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

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

**Oracle Database Client 12.1.0.1**

Install Oracle Database Client as described in the Oracle Database Client Installation documentation. Use the cissys account to install Oracle Database Client. If another user installs Oracle Database Client, make sure the cissys user ID has the proper execute permissions.

For the cissys user ID, ensure that the ORACLE_CLIENT_HOME environment variable 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 7.0 or 7.1 (64-bit)

If you use WebSphere, the Java runtime engine from the Web application server is used. At the time of release, AIX Java packages could be obtained from:


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

You must install Hibernate 4.1.0 before installing Oracle Revenue Management and Billing.

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
   
   
   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:
   
   ```
   cp hibernate-release-4.1.0.Final/lib/optional/ehcache/ehcache-core-2.4.3.jar $HIBERNATE_JAR_DIR
   cp hibernate-release-4.1.0.Final/lib/optional/ehcache/hibernate-ehcache-4.1.0.Final.jar $HIBERNATE_JAR_DIR
   cp hibernate-release-4.1.0.Final/lib/required/hibernate-commons-annotations-4.0.1.Final.jar $HIBERNATE_JAR_DIR
   cp hibernate-release-4.1.0.Final/lib/required/hibernate-core-4.1.0.Final.jar $HIBERNATE_JAR_DIR
   cp hibernate-release-4.1.0.Final/lib/required/hibernate-jpa-2.0-api-1.0.1.Final.jar $HIBERNATE_JAR_DIR
   cp hibernate-release-4.1.0.Final/lib/required/javassist-3.15.0-GA.jar $HIBERNATE_JAR_DIR
   cp hibernate-release-4.1.0.Final/lib/required/jboss-logging-3.1.0.CR2.jar $HIBERNATE_JAR_DIR
   cp hibernate-release-4.1.0.Final/lib/required/jboss-transaction-api_1.1_spec-1.0.0.Final.jar $HIBERNATE_JAR_DIR
   ```
IBM WebSphere Application Server 8.5 64-bit

WebSphere must be purchased and downloaded from IBM. It must be installed and configured prior to the Oracle Revenue Management and Billing installation. This Web application server will run as a 64-bit application.

IBM WebSphere Application Server 8.5 supports SDK 1.6 as the basic configuration but with SDK 1.7 or 1.7.1_64 as an optional configuration. For Oracle Revenue Management and Billing, the implementation requires SDK 1.7 or 1.7.1_64 as the default run-time configuration for WebSphere Application Server 8.5. Therefore, after WebSphere Application Server is installed with the basic configuration, you MUST change the default SDK to 1.7 or 1.7.1_64.

A single WebSphere server represents a single Oracle Revenue Management and Billing environment. You can install multiple environments on a single WebSphere Installation by creating additional WebSphere servers. Refer to the Configuring WebSphere Application Server section for the configuration steps.

IBM WebSphere ND Application Server 8.5 64-bit

WebSphere must be purchased and downloaded from IBM. It must be installed and configured prior to the Oracle Revenue Management and Billing installation. This Web application server will run as a 64-bit application.

IBM WebSphere Application Server 8.5 supports SDK 1.6 as the basic configuration but with SDK 1.7 or 1.7.1_64 as an optional configuration. For Oracle Revenue Management and Billing, the implementation requires SDK 1.7 or 1.7.1_64 as the default run-time configuration for WebSphere Application Server 8.5. Therefore, after WebSphere Application Server is installed with the basic configuration, you MUST change the default SDK to 1.7 or 1.7.1_64.

A single WebSphere server represents a single Oracle Revenue Management and Billing environment. You can install multiple environments on a single WebSphere Installation by creating additional WebSphere servers. Refer to Chapter 5: Configuring WebSphere Application Server for the configuration steps.

5.2 Oracle Linux 6.5 or 7.0 and Red Hat Enterprise Linux 6.5 or 7.0 Application Server

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

5.2.1 Supported Application Servers

<table>
<thead>
<tr>
<th>Operating System</th>
<th>Chipsets</th>
<th>Application Server</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oracle Linux 6.5 and 7.0 (64-bit)</td>
<td>x86_64</td>
<td>WebLogic 12.1.3.0 (64-bit)</td>
</tr>
<tr>
<td>Red Hat Enterprise Linux 6.5 and 7.0 (64-bit)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
5.2.2 Web/Application Server Tier

Oracle Linux 6.5 or 7.0 or Red Hat Enterprise Linux 6.5 or 7.0 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:

<table>
<thead>
<tr>
<th>Description</th>
<th>Default Value</th>
<th>Customer Defined Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>ORMB Administrator UserID</td>
<td>cissys</td>
<td></td>
</tr>
<tr>
<td>ORMB User Group</td>
<td>cisusr</td>
<td></td>
</tr>
</tbody>
</table>

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

The following users and group categories must be defined to implement this security. For demonstration purposes the following users and groups will be used. These users must be created according to industry standards (including password policies). All users should be created with a default umask of 077 to ensure files created during normal operation have the correct permissions.
Please replace these users and groups for your installation defaults:

<table>
<thead>
<tr>
<th>User</th>
<th>Group</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>cissys</td>
<td>cisusr</td>
<td>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.</td>
</tr>
<tr>
<td>cisadm</td>
<td>cisusr</td>
<td>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.</td>
</tr>
<tr>
<td>cisoper</td>
<td>-------</td>
<td>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.</td>
</tr>
</tbody>
</table>

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

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

**Oracle Database Client 12.1.0.1**

Install Oracle Database Client as described in the Oracle Database Client Installation documentation. Use the cissys account to install Oracle Database Client. If another user installs Oracle Database Client, make sure the cissys user ID has the proper execute permissions.

For the cissys user ID, ensure that the ORACLE_CLIENT_HOME environment variable 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 7.0 Update 45 or Later, 64-Bit**

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


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

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

**Oracle Java Development Kit Version 8.0 Update 40 or Later, 64-Bit**

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


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.

**Hibernate 4.1.0**

You must install Hibernate 4.1.0 before installing Oracle Revenue Management and Billing.

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**
   

   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:**
   
   ```
   cp hibernate-release-4.1.0.Final/lib/optional/ehcache/ehcache-core-2.4.3.jar $HIBERNATE_JAR_DIR
   cp hibernate-release-4.1.0.Final/lib/optional/ehcache/hibernate-ehcache-4.1.0.Final.jar $HIBERNATE_JAR_DIR
   cp hibernate-release-4.1.0.Final/lib/required/hibernate-commons-annotations-4.0.1.Final.jar $HIBERNATE_JAR_DIR
   cp hibernate-release-4.1.0.Final/lib/required/hibernate-core-4.1.0.Final.jar $HIBERNATE_JAR_DIR
   cp hibernate-release-4.1.0.Final/lib/required/hibernate-jpa-2.0-api-1.0.1.Final.jar $HIBERNATE_JAR_DIR
   cp hibernate-release-4.1.0.Final/lib/required/javassist-3.15.0-GA.jar $HIBERNATE_JAR_DIR
   cp hibernate-release-4.1.0.Final/lib/required/jboss-logging-3.1.0.CR2.jar $HIBERNATE_JAR_DIR
   cp hibernate-release-4.1.0.Final/lib/required/jboss-transaction-api_1.1_spec-1.0.0.Final.jar $HIBERNATE_JAR_DIR
   ```
Oracle WebLogic Server 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 12.1.3.0 (64-bit), as required.

**Note:** If you plan on using the Oracle Utilities Application Framework in native mode within Oracle WebLogic (as opposed to embedded mode), refer to the whitepaper “Native Installation Oracle Utilities Application Framework” (Doc Id: 1544969.1) on My Oracle Support.
5.3 Windows 2012 Application Server

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

5.3.1 Supported Application Servers

<table>
<thead>
<tr>
<th>Operating System</th>
<th>Chipsets</th>
<th>Application Server</th>
</tr>
</thead>
<tbody>
<tr>
<td>Windows Server 2012 R2 (64-bit)</td>
<td>x86_64</td>
<td>WebLogic 12.1.3.0 (64-bit)</td>
</tr>
</tbody>
</table>

5.3.2 Web/Application Server Tier

**Oracle Database Client 12.1.0.1 — Runtime Option**

Install Oracle Database Client as described in the Oracle Database Client Installation documentation. Use the cissys account to install Oracle Database Client. If another user installs Oracle Database Client, make sure the cissys user ID has the proper execute permissions.

For the cissys user ID, ensure that the ORACLE_CLIENT_HOME environment variable 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 7.0 Update 45 or Later, 64-Bit**

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


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

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

**Oracle Java Development Kit Version 8.0 Update 40 or Later, 64-Bit**

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


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.

**Hibernate 4.1.0**

You must install Hibernate 4.1.0 before installing Oracle Revenue Management and Billing.

To install Hibernate:

1. Create a Hibernate jar external depot:

   ```
   set HIBERNATE_JAR_DIR=<Hibernate 3rd party jars depot>
   ```
2. Download the hibernate-release-4.1.0.Final.zip file from
   \[http://sourceforge.net/projects/hibernate/files/hibernate4/\]
   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:
   \[cp hibernate-release-4.1.0.Final/lib/optional/ehcache/ehcache-core-2.4.3.jar $HIBERNATE_JAR_DIR\]
   \[cp hibernate-release-4.1.0.Final/lib/optional/ehcache/hibernate-ehcache-4.1.0.Final.jar $HIBERNATE_JAR_DIR\]
   \[cp hibernate-release-4.1.0.Final/lib/required/hibernate-commons-annotations-4.0.1.Final.jar $HIBERNATE_JAR_DIR\]
   \[cp hibernate-release-4.1.0.Final/lib/required/hibernate-core-4.1.0.Final.jar $HIBERNATE_JAR_DIR\]
   \[cp hibernate-release-4.1.0.Final/lib/required/hibernate-jpa-2.0-api-1.0.1.Final.jar $HIBERNATE_JAR_DIR\]
   \[cp hibernate-release-4.1.0.Final/lib/required/javassist-3.15.0-GA.jar $HIBERNATE_JAR_DIR\]
   \[cp hibernate-release-4.1.0.Final/lib/required/jboss-logging-3.1.0.CR2.jar $HIBERNATE_JAR_DIR\]
   \[cp hibernate-release-4.1.0.Final/lib/required/jboss-transaction-api_1.1_spec-1.0.0.Final.jar $HIBERNATE_JAR_DIR\]

**Oracle WebLogic Server 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 12.1.3.0 (64-bit).
6. Configuring WebSphere Application Server

**Note:** This section applies only to installations using WebSphere as an application server.

This section describes tasks that you should complete before you install the Oracle Utilities Application Framework. It also describes configuration tasks you should complete after installing Oracle Revenue Management and Billing. It includes the following:

- Configuring WebSphere Basic
- Configuring WebSphere Network Deployment

### 6.1 Configuring WebSphere Basic

#### 6.1.1 Preinstallation Tasks

This section describes tasks that you should complete to configure a WebSphere Basic application server before you install the Oracle Utilities Application Framework.

**Note:** When working within the WebSphere console make sure to apply and save your changes to the Master Configuration when appropriate.

#### 6.1.1.1 Setting of WebSphere Security

There are several security configuration options within WebSphere. In a production environment you must use the security implementation appropriate for your security requirements. During the Release cycle we used the User account repository of the Federated repository. The following procedures describe how to apply these security settings.

**Note:** Refer to the WebSphere Application Server documentation for more details.

1. Start the WebSphere Administrative Console and log in.
2. Go to Security, Global security.
   - Check Enable administrative security.
   - Check Enable application security.
   - Select Federated repositories from the Available realm definitions
3. Click Apply.

#### 6.1.1.2 Setting WebSphere Application Groups

1. Start the WebSphere Administrative Console and log in.
2. Go to Users and Groups - Manage Groups.
   - Create the group name of cisusers (default group).
3. Click Create.
6.1.1.3 Setting WebSphere Application Users

1. Start the WebSphere Administrative Console and log in.
2. Go to Users and Groups - Manage Users.
   - Create the user Id of SYSUSER (example user)
   - Add the Group Membership of cisusers (created in the previous step) to the user.
3. Click Create.

6.1.1.4 Setting WebSphere JNDI Users

1. Start the WebSphere Administrative Console and log in.
2. Go to Users and Groups, Manage Users.
   - Create the user id of JNDI (example user).
   - Add the Group Membership of cisusers (created in the previous step) to the JNDI user, created in this step.
3. Click Create.

6.1.1.5 Setting WebSphere JNDI Users - CORBA Naming Service Users

1. Start the WebSphere Administrative Console and log in.
2. Go to Environment, Naming, CORBA Naming Service Users.
   - Add the user id of JNDI (example user).
   - Highlight all of the Roles (Cos Naming Read, Cos Naming Write, Cos Naming Create, Cos Naming Delete)
3. Click Apply.

**Note:** Prior to this step you will need to restart the server1 since when adding CORBA Naming Service Users, the User is not recognized.

4. Note the values for JNDI User and Password. The Oracle Utilities Application Framework will prompt you for this information during the installation.

6.1.1.6 Creation of Additional Servers in WebSphere - Sample Script

You must also provide the name of servers during OUAF installation. You can use the following sample script to create additional servers using the wsadmin.sh tool.

**Note:** There are several other ways to accomplish this task.

1. Initialize a wsadmin.sh session:
   ```bash
   <$WAS_HOME>/bin/wsadmin.sh -host localhost -port <SoapConnectorPort> -conntype SOAP -username <webSphereUserName> -password <webSphereUserPassword>
   ```
Note: Substitute $WAS_HOME, webSphereUserName, SoapConnectorPort, webSphereUserPassword, with values that are appropriate for your installation:

For example:

```
/ouaf/IBM/WebSphere85/AppServer/bin/wsadmin.sh -host localhost -port8889 -conntype SOAP
```

2. Create the server instance:

   ```
   <wsadmin> $AdminTask createApplicationServer
   <nodeName> {-name <serverName>}
   ```

### 6.1.1.7 Setting General Server Properties

1. Connect to the WebSphere administrative console.
2. Select Servers, Server Types, WebSphere application servers, and then select Application Servers.
3. Select your server name.
4. Under the section General Properties:
   - Deselect Parallel start.
   - Deselect Run in development mode.
5. Click OK.
6. Click Save to commit the setting.

### 6.1.1.8 Enabling SOAP Communication with WebSphere

The OUAF configuration scripts communicate with WebSphere as a SOAP client by using Jython commands to perform environment maintenance (for example, stop, start, deploy, undeploy).

To enable SOAP communication with WebSphere:

1. In a text editor, open the following file:
   ```
   $WAS_HOME/profiles/<PROFILE_NAME>/properties/soap.client.props
   ```
   Edit the property lines as follows:
   ```
   com.ibm.SOAP.requestTimeout=0
   com.ibm.SOAP.loginUserid=< WebSphere_UserId >
   com.ibm.SOAP.loginPassword=< WebSphere_Password >
   ```
   Note: Refer to IBM WebSphere Application Server documentation for more details.

2. If you want to encode the password in the `soap.client.props` file, then run the `PropFilePasswordEncoder` command from the `$WAS_HOME/profiles/<PROFILE_NAME>/bin` directory. This command is specific to IBM WebSphere Application Server. It encodes passwords located in plain-text property files.
3. Save and close the file.
6.1.1.9 Enabling RMI Communication with WebSphere (Webservices Enable Environment)

The IWS (Inbound Web Services Deployment) configuration scripts communicate with WebSphere using RMI for IWS commands to perform actions for IWS (for example, deploy, undeploy of the WebService.war file. When the following items are not completed, the deployment run would appear to "hang", most importantly if submitted from the OUAF online Inbound Web Services Deployment page.

To allow the deployment tasks to no RMI communication with WebSphere:

1. In a text editor, open the following file:
   $WAS_HOME/profiles/<PROFILE_NAME>/properties/sas.client.props
2. Edit the property lines as follows:
   com.ibm.CORBA.loginSource=properties
   com.ibm.CORBA.loginUserid=<websphere user id>
   com.ibm.CORBA.loginPassword=<websphere user password>

**Note:** Refer to IBM WebSphere Application Server documentation for more details. If you want to encode the password in the sas.client.props file, then run the PropFilePasswordEncoder command from the $WAS_HOME/profiles/<PROFILE_NAME>/bin directory.

   This command is specific to IBM WebSphere Application Server. It encodes passwords located in plain-text property files.
3. Save and close the file.

6.1.1.10 Obtaining the Bootstrap Port and WC_defaulthost_secure

You must also provide these port numbers during OUAF installation. Obtain the bootstrap port number and the WC_defaulthost_secure by using the WebSphere administrative console.

**Note:** The WebSphere application server1 must be running to obtain the bootstrap port number and the WC_defaulthost_secure port number.

To view the bootstrap port number and the WC_defaulthost_secure:

1. Log on to the WebSphere administrative console.
2. Select Servers, Server Types, WebSphere application servers, <server_name> and then select Ports under Communications.
3. The bootstrap port is displayed as BOOTSTRAP_ADDRESS.
4. The WC_defaulthost_secure is displayed as WC_defaulthost_secure.
5. Note the values for WC_defaulthost_secure and BOOTSTRAP_ADDRESS. The Oracle Utilities Application Framework will prompt you for this information during the installation.

6.1.1.11 Set Up a Virtual Host for the Server

1. Select Environment, Virtual Host, default_host, and then select Host Alias.
2. Click New.
3. Enter the following:
• Host Name: *
• Port: WC_defaulthost_secure Port Number

6.1.1.12 Obtaining the WebSphere Node Name
You must also provide the node name during the installation. Obtain the node name by using the WebSphere administrative console.

**Note**: The WebSphere application server must be running to obtain the bootstrap port number.

To obtain the node name:

1. Connect to the WebSphere administrative console.
2. Select Servers, Server Types, WebSphere application servers, <server_name>.

**Note**: Take note of the value for the Node Name.

6.1.1.13 Installing Oracle Utilities Application Framework as a Non-Root User with IBM WebSphere Installed as Root
Installing Oracle Utilities Application Framework as a non-root user on a WebSphere application server running on AIX requires certain permissions. Prior to the installation, verify that the operating system user account installing the framework has write and execute permissions on the directories in which WebSphere will be installed.

6.1.2 Post Installation Tasks
This sections describes tasks that you should complete after you have installed Oracle Revenue Management and Billing on a WebSphere application server.

6.1.2.1 Setting Environment Entries

1. Connect to the WebSphere administrative console.
2. Select **Servers, Server Types, WebSphere application servers**.
3. Select the server name.
4. Go to Server Infrastructure, and then click Java and Process Management.
5. Select Process Definition.
6. Go to Environment Entries.
7. Click New and add the following Environment Entries:
   • Name: SPLENVIRON
   • Value: <$SPLENVIRON>

**Note**: Substitute $SPLENVIRON with appropriate values for your installation.

• Name: SPLBASE
• Value: <$SPLBASE>

**Note**: Substitute $SPLBASE with appropriate values for your installation.
6.1.2.2 Setting JVM Memory and Arguments

For Oracle Utilities Application Framework, JVM memory settings must be changed for production environments and/or when processing large volume in a nonproduction environment.

Perform the following steps to set the JVM memory size. The WebSphere application server must be running to set the memory size.

To set the JVM memory size:

1. Connect to the WebSphere administrative console.
2. Select Servers, Server Types, WebSphere application servers.
3. Select the server name.
4. Go to Server Infrastructure, and then click Java and Process Management.
5. Select Process Definition.
6. Go to Additional Properties, and then click Java Virtual Machine.
7. Enter 2048 for Minimum Heap Size.
8. Enter 2048 for Maximum Heap Size.

**Note:** Modify the memory settings based on your production installation needs.

9. Enter `-Djava.security.auth.login.config=<$SPLEBASE>/splapp/config/java.login.config` for Generic JVM arguments.

**Note:** Substitute $SPLEBASE with appropriate values for your installation. You will need to restart the server_name before you attempt to start the application on the server.

10. Click OK.
11. Click Save to commit the setting.

6.1.2.3 Setting Server Custom Properties

The following custom properties have been need in the past to enable WebSphere Classloader to load the correct xalan.jar file.

To set the Custom Properties:

1. Connect to the WebSphere administrative console.
2. Select Servers, Server Types, WebSphere application servers.
3. Select the server name.
4. Go to Server Infrastructure, and then click Java and Process Management.
5. Select Process Definition.
6. Go to Additional Properties, and then click Java Virtual Machine.
7. Go to Additional Properties, and then click Custom Properties.
8. Click New.
9. Enter the following information:
   - Name: javax.xml.transform.TransformerFactory
   - Value: org.apache.xalan.processor.TransformerFactoryImpl
10. Click OK.
11. Click Save to commit the setting.

6.1.2.4 Setting the Web Container Custom Properties

To set the Web Container Custom Properties:

1. Connect to the WebSphere administrative console.
2. Select Servers, Server Types, WebSphere application servers.
3. Select the server name.
4. Go to Container Settings, and then click Web Container Settings.
5. Select Web container.
6. Go to Additional Properties, and then click Custom properties.
7. Click New.
8. Enter the following information:
   - Name: com.ibm.ws.webcontainer.invokefilterscompatibility
   - Value: true
9. Click OK.
10. Click Save to commit the setting.

6.1.2.5 Starting and Stopping WebSphere Servers

To start WebSphere on AIX, use the following script:

$WAS_HOME/profiles/<profile_name>/bin/startServer.sh

For example, execute:

$WAS_HOME/profiles/<profile_name>/bin/startServer.sh <server_name>

To stop WebSphere on AIX, use the following script:

$WAS_HOME/profiles/<profile_name>/bin/stopServer.sh

For example, execute:

$WAS_HOME/profiles/<profile_name>/bin/stopServer.sh <server_name>

**Note:** The Oracle Utilities Application Framework script spl.sh does not stop or start the IBM WebSphere servers. It only stops and starts the Oracle Utilities Application Framework-based applications.
6.1.2.6  Deployment Using Supplied Script

The application deployment script is `initialSetup.sh -d`, located in `$SPLEBASE/bin` (this script deploys both the SPLService.ear and SPLWeb.ear)

**Note:** Before running the script ensure you have initialized the environment by running `splenviron.sh`

6.1.2.7  Deployment via the Admin Console

The following sections describe how to deploy the application using the Admin Console.

**Deployment Overview**

The application needs to be deployed in the following order:

1. SPLService.ear
2. SPLWeb.ear

**Note:** The SPLService.ear must be successfully deployed before deploying SPLWeb.ear

**Deploy SPLService.ear**

1. Select the ear file to deploy.
   - Select Applications, Install New Application.
   - Select Remote file system.
   - Browse to the SPLService.ear or enter the full path to the file.
   - The ear files can be found under `$SPLEBASE/splapp/applications`.
   - Click Next.
2. Select Option Fast Path - Prompt only when additional information is required. Click Next.
3. On the Select Installation Options page ensure that Deploy enterprise beans is checked. Click Next.
4. Assign the module to the WebSphere server instance.
   - When deploying an application from the console, make sure you select the correct server and then click Apply.
5. Review the summary page. Review the installation options.
6. Click Finish. The application will then deploy. The deployment process takes about 5 minutes.
7. Click Save. The save process can take more than 20 minutes.

**Deploying SPLWeb.ear**

1. Select the ear file to deploy.
   - Select Applications, Install New Application.
   - Select Remote file system.
   - Browse to the SPLWeb.ear or enter the full path to the file.
   - The ear files can be found under `$SPLEBASE/splapp/applications`.
   - Click Next.
2. Select Option Fast Path - Prompt only when additional information is required. Click Next.
3. Assign the module to the WebSphere server instance.

**Note:** When deploying an application from the console, make sure you select the correct server and then click Apply.

4. Review the summary page. Review the installation options.
5. Click Finish. The application will then deploy. The deployment process takes about 5 minutes.
6. Click Save. The save process may take about more than 20 minutes.

**Configure the Applications**

You need to apply these steps to both the SPLWeb and SPLService applications unless specified.

1. Set the startup order of the applications (this applies only to SPLWeb):
   - Select the SPLWeb application from Applications, Enterprise Applications.
   - Select Startup behavior.
   - Change the startup order to 2.
   - Click OK.
   - Click OK and Save directly to master configuration.

2. Set the class loading order (for both SPLService.ear and SPLWeb.ear): Select Class loading and update detection.
   - Set Polling interval to 0.
   - Under Class loader order select Classes loaded with application class loader first. Click OK and Save to master configuration.

3. Set the module starting weight:
   - SPLService only: Set the Starting weight to 1.
   - SPLWeb only: For each module (.war) set the Starting weight to 10000 and change the Class loader order to Classes loaded with application class loader first.

4. Set EJB JNDI names (this applies only to SPLService). Select Enterprise Java Bean Properties and enter the following values:
   - EJB module: SPLServiceBean
     JNDI name for all interfaces
     Target Resource JNDI Name: [ Web Context Root ]/servicebean
   - EJB module: TUGBULiteServiceBean
     JNDI name for all interfaces
     Target Resource JNDI Name: [ Web Context Root ]/liteservicebean

5. Click Ok.
Configure Application Security

After using the supplied script to deploy the application to WebSphere you will need to configure each application's security before starting the application.

Using the WebSphere administration console select Applications, Application Types, WebSphere enterprise applications, <Business Server Application Name>, <server name> (for example, SPLService-server2), Security role to user/group mapping.

For role cisusers:

Check Select and the click Map Users:

Search for SYSUSER and add to the Selected users list.

Click OK.

Note: Repeat the process for <Web Server Application Name>-<server name> (for example, SPLWeb-server2).

Restart the WebSphere Server

It is recommended to stop and then restart the WebSphere server. If the application is deployed in server1 you can use the admin console to stop and start the server. If the application is deployed in another server you will need to use the scripts that are supplied with WebSphere (stopServer.sh, startServer.sh).

Note: WebSphere admin console runs under server1.

Application URL

The Web link to the WebSphere application will be:

http://<hostname>:<WC_defaulthost_secure>/<context_root>/loginPage.jsp

For example, http://oracle:9081/ouaf/loginPage.jsp

6.2 Configuring WebSphere Network Deployment

6.2.1 Preinstallation Tasks

This section describes tasks that you should complete to configure a WebSphere ND application server before you install the Oracle Utilities Application Framework.

When working within the WebSphere Network Deployment (WebSphere ND) console make sure to apply and save your changes to the Master Configuration when appropriate.
6.2.1.1 Setting of WebSphere ND Security

There are several security configuration options within WebSphere ND. In a production environment you must use the security implementation appropriate for your security requirements. During the Release cycle we used the User account repository of the Federated repository. The following procedures describe how to apply these security settings.

Note: Refer to IBM WebSphere ND Application Server documentation for more details.

1. Start the WebSphere ND DPMGR Administrative Console and log in.
2. Go to Security, Global security.
   - Check Enable administrative security.
   - Check Enable application security.
   - Select Federated repositories from the Available realm definitions.
3. Click Apply.

6.2.1.2 Setting WebSphere ND Application Groups

1. Start the WebSphere ND Administrative Console and log in.
2. Go to Users and Groups - Manage Groups.
   - Create the group name of cisusers (default group).
3. Click Create.

6.2.1.3 Setting WebSphere ND Application Users

1. Start the WebSphere ND Administrative Console and log in.
2. Go to Users and Groups - Manage Users.
   - Create the user Id of SYSUSER (example user).
   - Add the Group Membership of cisusers (created in the previous step) to the user.
3. Click Create.

6.2.1.4 Setting WebSphere ND JNDI Users

1. Start the WebSphere Administrative Console and log in.
2. Go to Users and Groups - Manage Users.
   - Create the user id of JNDI (example user).
   - Add the Group Membership of cisusers to the user id of JNDI (created above)
3. Click Create.

6.2.1.5 Setting WebSphere ND JNDI Users - CORBA Naming Service Users

1. Start the WebSphere ND Administrative Console and log in.
2. Go to Environment, Naming - CORBA Naming Service Users.
   - Add the user id of JNDI (example user).
   - Highlight all of the Roles (Cos Naming Read, Cos Naming Write, Cos Naming Create, Cos Naming Delete).
3. Click Apply.

**Note:** the values for JNDI User and Password. The Oracle Utilities Application Framework will prompt you for this information during the installation.

### 6.2.1.6 Setting General Server Properties.
1. Connect to the WebSphere ND DPMGR administrative console  
2. Select Servers, Server Types, WebSphere application servers.  
3. Select the server name.  
4. Under the section General Properties:  
   - Deselect Parallel start.  
   - Deselect Run in development mode.  
5. Click OK.  
6. Click Save to commit the setting.

### 6.2.1.7 Enabling SOAP Communication with WebSphere ND

The OUAF configuration scripts communicates with WebSphere ND Deployment Manager as a SOAP client by using Jython commands to perform environment maintenance (e.g. stop, start, deploy, undeploy).

To enable SOAP communication with WebSphere ND:

1. In a text editor, open the following file:  
   `$WAS_HOME/profiles/<PROFILE_NAME>/properties/soap.client.props`  
   Edit the property lines as follows:  
   ```
   com.ibm.SOAP.requestTimeout=0  
   com.ibm.SOAP.loginUserid=<WebSphere_User_Id>  
   com.ibm.SOAP.loginPassword=<WebSphere_Password>
   ```

   **Note:** Refer to IBM WebSphere Application Server documentation for more details.

2. If you want to encode the password in the `soap.client.props` file, then run the `PropFilePasswordEncoder` command from the `$WAS_HOME/profiles/<PROFILE_NAME>/bin` directory.  
   This command is specific to IBM WebSphere ND Application Server, and it encodes passwords located in plain-text property files.

3. Save and close the file.

### 6.2.1.8 Enabling RMI Communication with WebSphere (Webservices Enable Environment)

The IWS (Inbound Web Services Deployment) configuration scripts communicate with WebSphere using RMI for IWS commands to perform actions for IWS (for example, deploy, undeploy of the WebService.war file. When the following items are not completed, the deployment run would appear to "hang", most importantly if submitted from the OUAF online Inbound Web Services Deployment page.
To allow the deployment tasks to no RMI communication with WebSphere:

1. In a text editor, open the following file:
   
   `$WAS_HOME/profiles/<PROFILE_NAME>/properties/sas.client.props`

2. Edit the property lines as follows:
   
   ```
   com.ibm.CORBA.loginSource=properties
   com.ibm.CORBA.loginUserid=<websphere user id>
   com.ibm.CORBA.loginPassword=<websphere user password>
   ```

   **Note**: Refer to IBM WebSphere Application Server documentation for more details. If you want to encode the password in the sas.client.props file, then run the PropFilePasswordEncoder command from the `$WAS_HOME/profiles/<PROFILE_NAME>/bin` directory.

   This command is specific to IBM WebSphere Application Server. It encodes passwords located in plain-text property files.

3. Save and close the file.

### 6.2.1.9 Creation of Additional Servers in WebSphere ND

You must also provide the server names during the installation.

**Note**: There are several other ways to accomplish this task.

   
   This will lead you through a list of steps for creating a new server.

2. Select server type from the drop down list: WebSphere application server. Click Next.

3. Select node from the drop down list that has been created for to host the WebSphere server.
   
   Enter the Server name.

   **Note**: Both the Node Name and Server Name will be needed for during the OUAF installation process.

4. Select a server template of default. Click Next

5. Check the box to Generate Unique Ports. Click Next

6. Confirm new server. Click Finished.

### 6.2.1.10 Obtaining the Bootstrap Port and WC_defaulthost_secure

You must also provide these port numbers during OUAF installation. Obtain the bootstrap port number and the WC_defaulthost_secure port number by using the WebSphere ND administrative console.

**Note**: The WebSphere ND Deployment Manager server must be running to obtain the bootstrap port number and the WC_defaulthost_secure port number.

To view the bootstrap port number and the WC_defaulthost_secure:

1. Log on to the WebSphere ND administrative console.

2. Select Servers, Application Servers, `<server_name>`, and then select Ports under Communication.
The bootstrap port is displayed as BOOTSTRAP_ADDRESS. The WC_defaulthost_secure is displayed as WC_defaulthost_secure.

3. Note the values for WC_defaulthost_secure and BOOTSTRAP_ADDRESS. The Oracle Utilities Application Framework will prompt you for this information during the installation.

### 6.2.1.11 Set up a New Virtual Host for your Server

1. Select Environment, Virtual Host, default_host, and then select Host Alias.
2. Click New.
3. Enter the following:
   - Host Name:
   - Port: WC_defaulthost_secure Port Number

### 6.2.1.12 Obtaining the WebSphere ND Node Name

You must also provide the node name during OUAF installation. Obtain the node name by using the WebSphere ND administrative console.

| Note: The IBM WebSphere ND application server must be running to obtain the bootstrap port number. |

To obtain the node name

1. Connect to the WebSphere ND administrative console
2. In the left pane, click Servers.
3. Click Application Servers under Servers.
4. Click the server instance (server_name, default) on the right section.
5. Click the Runtime tab.

| Note: The value for the Node Name. |
| If the value of State is not started, then restart the server instance. |

### 6.2.1.13 Installing Oracle Utilities Application Framework as a Non-Root User with IBM WebSphere Installed as Root

Prior to attempting to install Oracle Utilities Application Framework as a non-root user on the IBM WebSphere ND application server running on AIX, verify that the operating system user account installing Oracle Utilities Application Framework has write and execute permissions on the directories in which IBM WebSphere ND will be installed.

### 6.2.2 Post-Installation Tasks

This sections describes tasks that you should complete after you have installed the Oracle Utilities Application Framework and Oracle Revenue Management and Billing on a WebSphere application server.
6.2.2.1 Setting Environment Entries.

1. Connect to the IBM WebSphere ND administrative console.
2. Select Servers and then select Application Servers.
3. Select the server name.
4. Go to Server Infrastructure, and then click Java and Process Management.
5. Select Process Definition.
6. Go to Environment Entries.
7. Click New and add the following Environment Entries:
   - Name: SPLENVIRON
   - Value: <$SPLENVIRON>
   
   **Note:** Substitute $SPLENVIRON with appropriate values for your installation.

   - Name: SPLEBASE
   - Value: <$SPLEBASE>
   
   **Note:** Substitute $SPLEBASE with appropriate values for your installation.

   You will need to restart the server_name before you attempt to start the application on the server.

8. Click OK.
9. Click Save to commit the setting.

6.2.2.2 Setting JVM Memory and Arguments

For Oracle Utilities Application Framework, JVM memory settings must be changed for production environments and/or when processing large volume in a nonproduction environment.

Perform the following steps to set the JVM memory size. The IBM WebSphere ND application server must be running to set the memory size.

To set the JVM memory size:

1. Connect to the IBM WebSphere ND administrative console.
2. Select Servers, and then select Application Servers.
3. Select the server name.
4. Go to Server Infrastructure, and then click Java and Process Management.
5. Select Process Definition.
6. Go to Additional Properties, and then click Java Virtual Machine.
7. Enter 2048 for Minimum Heap Size.
8. Enter 2048 for Maximum Heap Size.
Note: Modify the memory settings based on your production installation needs.

9. Enter -Djava.security.auth.login.config=<$SPLEBASE>/splapp/config/java.login.config for Generic JVM arguments.

Note: Substitute $SPLEBASE with appropriate values for your installation.

10. You will need to restart the server_name before you attempt to start the application on the server.
11. Click OK.
12. Click Save to commit the setting.

6.2.2.3 Setting Server Custom Properties.
The following custom properties have been need in the past to enable WebSphere ND Classloader to load the correct xalan.jar file.

To set the Custom Properties:
1. Connect to the WebSphere ND administrative console.
2. Select Servers, and then select Application Servers.
3. Select the server name.
4. Go to Server Infrastructure, and then click Java and Process Management.
5. Select Process Definition.
6. Go to Additional Properties, and then click Java Virtual Machine.
7. Go to Additional Properties, and then click Custom Properties.
8. Click New.
9. Enter the following information:
   - Name: javax.xml.transform.TransformerFactory
   - Value: org.apache.xalan.processor.TransformerFactoryImpl
10. Click OK.
11. Click Save to commit the setting.

6.2.2.4 Setting Up the Web Container Custom Properties
To set the Web Container Custom Properties:
1. Connect to the WebSphere ND administrative console.
2. Select Servers, and then select Application Servers.
3. Select the server name.
4. Go to Container Settings, and then click Web Container Settings.
5. Select Web container
6. Go to Additional Properties, and then click Custom properties.
7. Click New.
8. Enter the following information:
   - Name: com.ibm.ws.webcontainer.invokefilterscompatibility
   - Value: true
9. Click OK.
10. Click Save to commit the setting.

### 6.2.2.5 Starting and Stopping WebSphere ND servers

You can use the WebSphere ND console to stop and start the servers. You can also use the command line scripts supplied with WebSphere ND.

**Note:** The Oracle Utilities Application Framework utility script `spl.sh` does not stop or start the IBM WebSphere ND servers. It only stops and starts the Oracle Revenue Management and Billing applications.

### 6.2.2.6 Deployment Using Supplied Script

The application deployment script is `initialSetup.sh`, located in `$SPLEBASE/bin` (this deploys both the SPLService.ear and SPLWeb.ear).

**Note:** Before running the script ensure you have initialized the environment by running `splenviron.sh`.

### 6.2.2.7 Deployment via the Admin Console

The following sections describe how to deploy the application using the Admin Console.

**Deployment Overview**

The application needs to be deployed in the following order:

1. SPLService.ear
2. SPLWeb.ear

**Note:** The SPLService.ear must be successfully deployed before deploying SPLWeb.ear.

**Deploy SPLService.ear**

1. Select the ear file to deploy.
   b. Select Remote file system.
   c. Browse to the SPLService.ear or enter the full path to the file.
   d. The ear files can be found under `$SPLEBASE/splapp/applications`.

   Click Next.

2. Select Option Fast Path - Prompt only when additional information is required.

   Click Next.

3. On the Select Installation Options page, ensure that the Deploy enterprise beans option is selected. Click Next.

4. Assign the module to the IBM WebSphere ND server instance.

5. When deploying an application from the console, make sure you select the correct server and then click Apply.

6. Review the summary page. Review the installation options.

7. Click Finish. The application will then deploy. The deployment process takes about 5 minutes.
8. Click Save. The save process can take about more than 20 minutes.

**Deploying SPLWeb.ear**

1. Select the ear file to deploy.
   b. Select Remote file system.
   c. Browse to the SPLWeb.ear or enter the full path to the file.
   d. The ear files can be found under $SPLEBASE/splapp/applications.

   Click Next.

2. Select Option Fast Path - Prompt only when additional information is required. Click Next.

3. Assign the module to the IBM WebSphere ND server instance.

4. When deploying an application from the console, make sure you select the correct server and then click Apply.

5. Review the summary page. Review the installation options

6. Click Finish. The application will then deploy. The deployment process takes about 5 minutes.

7. Click Save. The save process can take about more than 20 minutes.

**Configure the Applications**

You need to apply these steps to both the SPLWeb and SPLService applications unless specified.

1. Set the startup order of the applications (this applies only to SPLWeb):
   a. Select the SPLWeb application from Applications, Enterprise Applications.
   b. Select Startup behavior.
   c. Change the startup order to 2.
   d. Click OK.

   Click OK and Save directly to master configuration.

2. Set the class loading order (for both SPLService.ear and SPLWeb.ear): Select Class loading and update detection.
   a. Set Polling interval to 0.
   b. Under Class loader order select Classes loaded with application class loader first. Click OK and Save to master configuration.

3. Set the module starting weight:
   a. SPLService only - set the Starting weight to 1.
   b. SPLWeb only - for each module (.war) set the Starting weight to 10000 and change the Class loader order to Classes loaded with application class loader first

4. Set EJB JNDI names (this applies only to SPLService). Select Enterprise Java Bean Properties and enter the following values:
   - EJB module: SPLServiceBean
     JNDI name for all interfaces
     Target Resource JNDI Name: [ Web Context Root ]/servicebean
   - EJB module: TUGBULiteServiceBean
JNDI name for all interfaces
Target Resource JNDI Name: [ Web Context Root ]/liteservicebean

5. Click Ok.

Configure Application Security
After using the supplied script to deploy the application to IBM WebSphere ND you will need to configure each application's security before starting the application.

Using the IBM WebSphere ND administration console select Applications, Enterprise Applications, Business-<server name> (for example, SPLService-server2), Security role to user/group mapping.

For role cisusers:
1. Check All Authenticated.
2. Check Select and click Look up users:
3. Search for SYSUSER and add to the Selected users list.
4. Click OK.

**Note:** Repeat the process for <Web Server Application Name>-<server name> (for example, SPLWeb-server2).

Restart the IBM WebSphere ND Server
It is recommended to stop and then restart the WebSphere ND server.

Application URL
The Web link to the IBM WebSphere ND application will be:
http://<hostname>:<WC_defaulthost_secure>/<context_root>/loginPage.jsp
For example, [http://oracle:9085/ouaf/loginPage.jsp](http://oracle:9085/ouaf/loginPage.jsp)
Installing the Oracle Utilities Application Framework is the prerequisite and foundation for installing a framework-based application such as Oracle Revenue Management and Billing. This section describes the process for installing the Oracle Utilities Application Framework, including:

- Installation Overview
- Preinstallation Tasks
- Installing Oracle Utilities Application Framework

### 7.1 Installation Overview

The installation packages for your Oracle Utilities Application Framework-based application must be downloaded from Oracle Software Delivery Cloud. You need to do a fresh installation of the application server and you cannot upgrade an existing application server.

Before you proceed with the installation:

1. Complete the database installation process. For more information, refer to Oracle Revenue Management and Billing Database Administrator's Guide.
2. Make sure that you have installed all required third-party software as described in the Installing Application Server Prerequisite Software section.

Once the Oracle Utilities Application Framework installation is successfully completed and the framework application environment is created, Oracle Revenue Management and Billing can be installed on top of the framework environment.

You can download the installation packages from Oracle Software Delivery Cloud.

This section describes how to install a working Oracle Utilities Application Framework Server, which can then be further configured manually to allow for production performance levels.

Application server installation packages delivered for this version are multi-platform and are ready to install on any supported platform (as described in the Supported Platforms section). We recommend that you complete the database installation before installing the application server.

### 7.2 Preinstallation Tasks

#### 7.2.1 Hardware and Software Version Prerequisites

The Supported Platforms section contains all of the available platforms that are required with this release of the product.
7.2.2 Database Installation

Verify that the database has been installed and is operational. See Oracle Revenue Management and Billing Database Administrator’s Guide for more information.

7.2.3 Installation Prerequisites

The Installing Application Server Prerequisite Software section describes all preparations that need to be done on the server prior to installing the application server. Please read carefully the server setup requirements and make sure that all prerequisite software is installed and that all required environment variables are set. Correct server setup and proper environment variable settings are an essential prerequisite for successful environment installation.

7.2.4 System Architecture Overview

Oracle Utilities Application Framework V4.3.0.0.1 is a decoupled system architecture involving a business service application tier and a web application tier. Typically both will run on the same server, but the design does allow each tier to be installed on separate servers.

The design implements a stateless session bean (EJB technology, under Java EE 7), to provide remote access to service invocations. The root web app and XAI web apps can be configured to access service processing locally (as in previous versions), or to make a remote EJB call to perform the service request. In the latter case, the served containers, effectively, run as very thin servlet wrappers around the remote call.

For all supported application servers except for WebLogic expanded configuration (SDK environment), the deployment is in the form of two Enterprise Archive (ear) Files: SPLService.ear and SPLWeb.ear. Web Archive (war) files are created during the installation process but are not deployed.

7.2.5 Copying and Decompressing Install Media

The Oracle Utilities Application Framework V4.3.0.0.1 installation file is delivered in jar format for both UNIX and Windows platforms.

If you are planning to install multiple Oracle Utilities Application Framework V4.3.0.0.1 environments operated by different Oracle Utilities administrator user IDs, you must complete each of the following installation steps for each administrator user ID.

To copy and decompress the install media, perform the following 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 V4.3.0.0.1 Multiplatform package from the Oracle Revenue Management and Billing V2.5.0.0.0 media pack which is available on Oracle Software Delivery Cloud. A zip file is downloaded.
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. Unzip the downloaded file in your local folder. The contents include the FW-V4.3.0.0.1-MultiPlatform.jar file.

5. Copy the FW-V4.3.0.0.1-MultiPlatform.jar file from your local folder to <TEMPDIR>. If you are using FTP to transfer this file, remember to use the BINARY option for the FTP transfer.

6. Decompress the file:
   - cd <TEMPDIR>
   - jar -xvf FW-V4.3.0.0.1-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:


The contents of the JAR file include a sub-directory named FW.V4.3.0.0.1.

### 7.2.6 Set Permissions for the CISTAB File in UNIX

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

The install utility checks permissions and if it identifies a lack of the necessary permissions, it generates a script in the <TEMPDIR>/FW.V4.3.0.0.1 directory named cistab_<SPLENviron>.sh. Run the generated script using the root account before continuing with the installation process. The script initializes the cistab file in /etc directory (if it is the first Oracle Utilities Application 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 Application 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.

### 7.3 Installing Oracle Utilities Application Framework Version 4.3.0.0.1

To install Oracle Utilities Application Framework (OUAF) Version 4.3.0.0.1:

1. Login to the application server using the administrator’s credentials.

   **Note:** On UNIX machine, login using the cissys credentials. And, on Windows machine, login using the administrator’s credentials.

2. Install and configure the required third-party software for the application server.

   **Note:** You must install the prerequisite third party software depending on the platform on which you want to install Oracle Utilities Application Framework. For more details, refer to the Installing Application Server Prerequisite Software section.
3. Set the Java Home path using the following command:

   ```
   export PATH=<Java_Home>/bin:$PATH
   ```

   **Note:**
   The `<Java_Home>` is the location where you have installed Java 1.7.
   The above command is applicable only for UNIX platform.

4. Change to the `<TEMPDIR>/FW.V4.3.0.0.1` directory.

   **Note:** The `<TEMPDIR>` folder is the location where you have extracted the contents of the `FW-V4.3.0.0.1-MultiPlatform.jar` file.

5. Execute the install utility using the following command:

   **AIX, Linux:**
   ```
   ksh ./install.sh
   ```

   **Windows:**
   ```
   install.cmd
   ```

   The following message appears in the command line:

   Enter Oracle Client Home Directory (<Enter> quit):

6. Type `<ORACLE_CLIENT_HOME>`, and then press Enter. The following options appear in the command line:

   - 1. Third Party Software Configuration
   - 2. Keystore Options
   - 50. Environment Installation Options

   **Note:**
   The `<ORACLE_CLIENT_HOME>` is the location where Oracle Database Client is installed. This is required to execute the Perl installation utilities.

   If the `ORACLE_CLIENT_HOME` environment variable is set, the installation utility will not request you to provide this information.

7. Type 1 to define values for the third party software configuration, and then press Enter. The utility prompts you to enter values for a list of menu options.

8. Specify the required value for menu options, and then press Enter.

   **Note:** For more details about these menu options, refer to the Third Party Software Configuration section.

9. Type 2 to define values for the keystore options, and then press Enter. The utility prompts you to enter values for a list of menu options.

10. Specify the required value for menu options, and then press Enter.

    **Note:** For more details about these menu options, refer to the Keystore Options section.

11. Type 50 to define values for the environment installation options, and then press Enter. The utility prompts you to enter values for a list of menu options.
12. Specify the required value for menu options, and then press Enter. The specified values are stored in the $SPLEBASE/etc/ENVIRON.INI file.

**Note:**

$SPLEBASE or %SPLEBASE% is the path where the application environment is installed.

Before you specify the environment installation options, ensure that you have created an output directory named Log File Mount Point. If this output directory does not exist, the installation will not be successfully executed.

For more details about these menu options, refer to the Environment Installation Options section.

13. Type P to proceed with the installation. The following options appear in the command line:

- 1. Environment Description
- 2. Business Application Server Configuration
- 3. Web Application Server Configuration
- 4. Database Configuration
- 5. General Configuration Options
- 6. SSL Certificate Keystore

**Note:** The options appear depending on the type of application server that you have selected while configuring the environment installation options. The above options appear when you set the Web Application Server Type parameter to WLS (i.e. WebLogic). If you set the Web Application Server Type parameter to WAS (i.e. WebSphere), the following options appear in the command line:

→ 1. Environment Description
→ 2. Business Application Server Configuration
→ 3. Web Application Server Configuration
→ 4. Database Configuration
→ 5. General Configuration Options

However, if you set the Web Application Server Type parameter to WASND (i.e. WebSphere ND), the following options appear in the command line:

→ 1. Environment Description
→ 2. Business Application Server Configuration
→ 3. Web Application Server Configuration
→ 4. Database Configuration
→ 5. General Configuration Options

For more information about the menu options that you need to set for each option, refer to the respective worksheet in the Installation and Configuration Worksheets section.

14. Type 1, and then press Enter. The utility prompts you to enter the environment description.

15. Specify the environment description, and then press Enter.

**Note:** For more details, refer to the Environment Description section.
16. **Type 2** to define values for the business application server configuration, and then press **Enter**. The utility prompts you to enter values for a list of menu options.

17. Specify the required value for menu options, and then press **Enter**.

18. **Type 3** to define values for the web application server configuration, and then press **Enter**. The utility prompts you to enter values for a list of menu options.

19. Specify the required value for menu options, and then press **Enter**.

20. **Type 4** to define values for the database configuration, and then press **Enter**. The utility prompts you to enter values for a list of menu options.

21. Specify the required value for menu options, and then press **Enter**.

**Note:** For more details about these menu options, refer to the [Database Configuration](#) section.

22. **Type 5** to define values for the general configuration options, and then press **Enter**. The utility prompts you to enter values for a list of menu options.

23. Specify the required value for menu options, and then press **Enter**.

**Note:** For more details about these menu options, refer to the [General Configuration Options](#) section.

24. **Type 6** to define values for the SSL certificate keystore options, and then press **Enter**. The utility prompts you to enter values for a list of menu options.

25. Specify the required value for menu options, and then press **Enter**.

**Note:** For more details about these menu options, refer to the [SSL Certificate Keystore](#) section.

26. **Type P** to proceed with the installation. The Oracle Utilities Application Framework Version 4.3.0.0.1 is installed on the application server.

**Note:**

The utility contains default values for some of the parameters. If required, you can change these parameter values. While executing the `install` utility, you must set the value for all parameters. Otherwise, the installation process will not be completed successfully.

Once the installation process is completed, the following utilities are automatically executed in the specified order:

1. `initialSetup` - The `initialSetup` utility updates the configuration files including the WAR files on the system. On the UNIX machine, this utility is available in the `$SPLEBASE/bin` directory. And, on the Windows machine, this utility is available in the `%SPLEBASE%\bin` directory.

2. `splenviron` - The `splenviron` utility sets the environment variables using the `ENVIRON.INI` file. On the UNIX machine, this utility is available in the `$SPLEBASE/bin` directory. And, on the Windows machine, this utility is available in the `%SPLEBASE%\bin` directory. The following are some of the key environment variables that are set using the `splenviron` utility:

   → `$PATH`
   → `$SPLEBASE (%SPLEBASE%)` – Indicates the `<SPLDIR>/SPLENVIRON>` directory
   → `$SPLOUTPUT (%SPLOUTPUT%)` - Indicates the `<SPLDIROUT>/SPLENVIRON>` directory
   → `$SPLENVIRON (%SPLENVIRON%)` – Indicates the environment name.
For future operations or any post installation steps, you need to first execute the following command to connect your session to the new environment:

**UNIX:**

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

**Windows:**

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

You need to execute this script each time you want to be connected to the specific environment before performing manual operations such as shutdown, startup or performing an additional application product installation.

When you have finished the install process, your current online session will be connected to the new environment.

For more information, see the [Planning the Installation](#) section for settings and configuration.
7.4 Post Installation Tasks

Once you install Oracle Utilities Application Framework V4.3.0.0.1, you need to do the following:

1. Install Rollup Pack for Oracle Utilities Application Framework Version 4.3.0.0.1

7.4.1 Installing Rollup Pack for OUAF Version 4.3.0.0.1

To install the rollup pack for Oracle Utilities Application Framework Version 4.3.0.0.1:

1. Download the Oracle Utilities Application Framework V4.3.0.0.1 Single Fix Prerequisite Rollup for RMB V2.5.0.0.0 package from the Oracle Revenue Management and Billing V2.5.0.0.0 media pack which is available on Oracle Software Delivery Cloud. A zip file is downloaded.

2. Unzip the downloaded file in the TEMPDIR directory. The contents include the _ORMB-V25000-FW-PREREQ-MultiPlatform.jar file.

3. Decompress the JAR file using the following command:
   
   ```
   cd TEMPDIR
   jar -xvf ORMB-V25000-FW-PREREQ-MultiPlatform.jar
   ```

   A sub-directory named FW-V4.3.0.0.1-Rollup is extracted. It contains the following two sub-folders:
   
   - Application
   - Database

4. Initialize the application environment where you want to install the rollup pack using the following command:

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

   **Windows:**
   
   ```
   $SPLEBASE\bin\splenviron.cmd -e %SPLENVIRON%
   ```

5. Change to the Application directory using the following command:

   ```
   cd TEMPDIR/FW-V4.3.0.0.1-Rollup/Application
   ```

6. Execute the installSFgroup utility using the following command:

   **UNIX:**
   
   ```
   chmod a+x installSFgroup.sh
   chmod a+x FW*/*.sh
   ./installSFgroup.sh
   ```

   **Windows:**
   
   ```
   installSFgroup.cmd
   ```
8. Installing the Application Server Component of Oracle Revenue Management and Billing

This section describes the procedure for installing Oracle Revenue Management and Billing on top of the previously created Oracle Utilities Application Framework environment. This section includes:

- Preinstallation Tasks
- Installing the Application
- Updating and Synchronizing the `mfcobol.jar` File
- Installing User Documentation
- Operating the Application
- Installing Service Packs and Patches

You can download the installation package from Oracle Software Delivery Cloud.

To proceed with the Oracle Revenue Management and Billing installation, you need to be connected to the target framework application environment. See the detailed installation instructions in the following section.

You must initialize the Framework environment along with the required Patch Set prior to proceeding with Oracle Revenue Management and Billing Application product installation.

8.1 Preinstallation Tasks

This section describes the steps that should be taken before installing Oracle Revenue Management and Billing.

8.1.1 Copying and Decompressing Install Media

The installation file is delivered in zip format for AIX, Linux and Windows platforms. Oracle Revenue Management and Billing is delivered in a separate installation package for each supported Operating System.

Please refer to the Supported Platforms section for version and installation details regarding the database and operating system versions. Also refer Installing Application Server Prerequisite Software section for prerequisite third-party software installation instructions.

To copy and decompress the install media, perform the following steps:

1. Login to the host server using the Oracle Revenue Management and Billing 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 Revenue Management and Billing V2.5.0.0.0 Multiplatform package from the Oracle Revenue Management and Billing V2.5.0.0.0 media pack which is available on Oracle Software Delivery Cloud. A zip file is downloaded.

3. Unzip the downloaded file in the <TEMPDIR> directory.

**Note:**

You will need to have Java JDK installed on the machine used to unjar 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:


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

The contents of the zip file include a directory named ORMB.V2.5.0.0.0.

## 8.2 Installing the Application

To install Oracle Revenue Management and Billing (ORMB) Version 2.5.0.0.0:

1. Login to the application server using the administrator’s credentials.

2. Initialize the application environment (on which you want to install the application) using the following command:

   **AIX, Linux:**
   
   `$SPLEBASE/bin/splenviron.sh -e $SPLENVIRON`

   **Windows:**
   
   `%SPLEBASE%\bin\splenviron.cmd -e %SPLENVIRON%`

   Where, `$SPLEBASE` or `%SPLEBASE%` is the path where the application environment is installed, and `$SPLENVIRON` or `%SPLENVIRON%` is the name of the application environment for which you want to set the environment variables.

3. Stop the application environment using the following command:

   **AIX, Linux:**
   
   `$SPLEBASE/bin/spl.sh stop`

   **Windows:**
   
   `%SPLEBASE%\bin\spl.cmd stop`

   **Note:** If you have the WebLogic application server, you need to stop the application environment before you proceed with the installation. However, if you have the WebSphere application server, you need to stop the application server before you proceed with the installation. To stop the application server, use the following command:

   `/opt/IBM/WebSphere/AppServer/bin/stopServer.sh <Server_Name>`
4. Set the Java Home path using the following command:
   
   **AIX, Linux:**
   
   ```
   export PATH=<Java_Home>/bin:$PATH
   ```

   **Note:**
   The `<Java_Home>` is the location where you have installed Java 1.7.
   The above command is applicable only for UNIX platform.

5. Change to the `ORMB.V2.5.0.0.0` folder using the following command:
   
   **AIX, Linux:**
   
   ```
   cd <TEMPDIR>/ORMB.V2.5.0.0.0
   ```
   
   **Windows:**
   
   ```
   cd <TEMPDIR>\ORMB.V2.5.0.0.0
   ```

6. Execute the `install` utility using the following command:
   
   **AIX, Linux:**
   
   ```
   ./install.sh
   ```
   
   **Windows:**
   
   ```
   install.cmd
   ```

   The following message appears in the command line:
   
   Do you wish to proceed with the installation? Y/N:

7. Type **Y** and then press Enter. A message appears informing you to type **P** if you want to proceed with the installation.

8. Type **P**, and then press Enter. The installation process might take some time to generate the WAR files. Once the build is deployed successfully, the following message appears in the command line:

   Do you wish to start the environment now? Y/N:

9. Type **N** and then press Enter.

   **Note:**
   If you are installing application on the WebSphere application server, the following message appears before you are prompted to start the environment:

   Would you wish to deploy web application to WebSphere now? Y/N:

   Type **N** and then press Enter.

   If you want to set the advanced menu options, execute the `configureEnv` utility using the following command:

   **AIX, Linux:**
   
   ```
   $SPLEBASE/bin/configureEnv.sh -a
   ```
**Windows:**

$SPLEBASE%\bin\configureEnv.cmd -a

You cannot set the advanced menu options during the installation process. These options can be set only after the application is installed. For more information, refer to the Advanced Menu Options section.

10. Execute the initialSetup utility using the following command:

   **AIX, Linux:**
   
   $SPLEBASE/bin/initialSetup.sh

   **Windows:**
   
   %SPLEBASE%\bin\initialSetup.cmd

   **Note:**
   In case you are using demo certificates, please execute the below command before starting the environment:
   
   cd $SPLEBASE/bin
   perl demo_gen_cert.plx

11. Start the application environment using the following command:

   **AIX, Linux:**
   
   $SPLEBASE/bin/spl.sh start

   **Windows:**
   
   %SPLEBASE%\bin\spl.cmd start

   A log file is generated. It indicates whether the application environment has started successfully or not. If any error occurred during startup, the same is recorded in the log file. By default, the log file is stored in the $SPLSYSTEMLOGS (%SPLSYSTEMLOGS% on Windows) directory.

   **Note:** If you have the WebLogic application server, you need to start the application environment. However, if you have the WebSphere application server, you need to start the application server. To start the application server, use the following command:

   /opt/IBM/WebSphere/AppServer/bin/startServer.sh <Server_Name>

   But, before you start the server, you need to manually deploy the application on the WebSphere application server. For more information on how to deploy the application on the WebSphere Basic application server, refer to the Deployment via the Admin Console section. And, for more information on how to deploy the application on the WebSphere ND application server, refer to the Deployment via the Admin Console section.

### 8.3 Installing User Documentation

User manuals and other technical documents are available in the Portable Document Format (PDF) format. You can download Oracle Revenue Management and Billing release specific documentation library (for example, Oracle Revenue Management and Billing Version 2.5.X.X.X Documentation Library) using the following URL:
The documentation is also provided in HTML format located inside the Oracle Revenue Management and Billing application server installation package. It is automatically installed and can be launched from the user interface. The online help files are available under the applications directory and packaged in the file named help.war. The online help is provided in English (ENG). The online help files are categorized into the following subdirectories underneath the language directory:

- C1: Contains Oracle Revenue Management and Billing Administration and Business Process HTML Files
- F1: Contains Oracle Utilities Application Framework Administration and Business Process HTML Files
- Banking: Contains Oracle Revenue Management and Billing Banking Process HTML Files

### 8.3.1 Installing Stand-Alone Online Help

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

To install the Oracle Revenue Management and Billing help for stand-alone operation, copy the help.war from the Oracle Revenue Management and Billing server (environment) or from the Oracle Revenue Management and Billing 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 Revenue Management and Billing 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 Revenue Management and Billing help in stand-alone mode, open the SPLHelp.html file (located inside the language directory that you wish to use).

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

#### 8.3.1.1 Customizing Help for Stand-Alone Operation

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

#### 8.3.1.2 Installing Stand-Alone Help Under Web Server

You can also install Oracle Revenue Management and Billing online help as a stand-alone web application. Use any Web Application server like WebLogic or WebSphere. 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"
- For WebSphere, configure application.xml with module id="WebModule_help" and <web-uri>help.war</web-uri>
Access the documentation from the browser by the following URL:

http://<host name>:<port name>/SPL/<Lang>/SPLHelp.html, where <hostname>:<portname> is the URL of the web server, <Lang> is the name of the language directory, for example, ENG.

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

### 8.4 Operating the Application

At this point your installation and custom integration process is complete. Be sure to read *Oracle Revenue Management and Billing Server Administration Guide* for more information on further configuring and operating the Oracle Revenue Management and Billing system.

### 8.5 Installing Service Packs and Patches

Periodically, Oracle Revenue Management and Billing releases a service pack of single fixes for its products. A service pack is an update to an existing release that includes solutions to known problems and other product enhancements. A service pack is not a replacement for an installation, but a pack consisting of a collection of changes and additions for it. The service pack may include changes to be applied to the application server, the database, or both. The service pack includes all files necessary for installing the collection of changes, including installation instructions.

Between services packs, Oracle Revenue Management and Billing releases patches to fix individual bugs. For information on installing patches, see knowledge base article ID 974985.1 on My Oracle Support. Service packs and patches can be downloaded from My Oracle Support.

Service packs and patches can be downloaded from My Oracle Support (https://support.oracle.com/).
9. Additional Tasks

This section describes tasks that should be completed after installing Oracle Revenue Management and Billing, including:

- Customizing Configuration Files
- Generating the Application Viewer
- Building Javadocs Indexes
- Configuring the Environment for Batch Processing
- Customizing the Logo
- Configuring Secure Sockets Layer (SSL)
- Setting Up an Application Keystore
- Deploying Inbound Web Services (IWS)
- Domain Templates (Linux WebLogic 12.1.3.0 only)
- Database Patching

9.1 Customizing Configuration Files

You may wish to modify various configuration files. If you wish to make custom modifications in configuration files, create a ‘CM copy’ of the template file or user exit. This preserves your changes whenever initialSetup is executed; otherwise, your changes to the delivered template files will be lost if it is patched in the future.

For example, to customize hibernate properties of the SPLWeb web application, perform the following:

1. Locate the hibernate.properties.template file in the $SPLEBASE/templates directory
2. Copy the file and rename it to cm.hibernate.properties.template.
3. Make the required changes in the cm.hibernate.properties.template file.
4. Update the application war file with the latest changes by executing the following command:

   **AIX, Linux:**
   
   `$SPLEBASE/bin/initialSetup.sh`

   **Windows:**
   
   `%SPLEBASE%\bin\initialSetup.cmd`
Note:
It is recommended that you set the following properties in the spl.properties template file for Java memory management:

- **com.oracle.XPath.LRUSize** – Used to specify the maximum number of PreparedXQuery objects that can be preserved in the cache. The number of the PreparedXQuery objects across all threads must not exceed the value specified in this property. If you enter the value as -1 (default), it means no maximum (default value). If you enter the value as 0, it means no caching at all (this may adversely impact performance).

- **com.oracle.XPath.flushTimeout** – Used to indicate the interval after which the PreparedXQuery cache must be flushed. If you enter the value as 0 (default), it means no automatic flushing.

Refer to the Oracle Utilities Application Framework SDK documentation for more details.

### 9.2 Generating the Application Viewer

You may extend application viewer capabilities within an environment by generating additional items. The items that can be generated include information about algorithm types and algorithms, maintenance object information and data dictionary information. The Javadoc indexes are also re-built.

To generate the additional items in the application viewer:

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

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

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

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

   To initialize the environment enter:

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

   For example:

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

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

   In the below example you should replace the following variables:

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

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

%SPLEBASE%/bin/splenviron.cmd -e %SPLENVIRON%

For example:

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

3. Execute the following script to generate all information:

   AIX, Linux:
   ksh $SPLEBASE/bin/genappvieweritems.sh

   Windows:
   %SPLEBASE%/bin/genappvieweritems.cmd

4. Restart your application.

9.3 Building Javadoc Indexes

Rebuilding Javadoc indexes is already part of generating application viewer above. However, there are times when you need to run it separately. For example, this is required after customer modifications (CM) have been applied to an environment when it includes Java code.

Perform the following to rebuild the Javadoc indexes.

   Windows:
   %SPLEBASE%/bin/buildJavadocsIndex.cmd

   AIX, Linux:
   ksh $SPLEBASE/bin/buildJavadocsIndex.sh

9.4 Configuring the Environment for Batch Processing

See Oracle Revenue Management and Billing Batch Server Administration Guide for information on configuring the environment for batch processing.

9.5 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
9.6 Configuring Secure Sockets Layer (SSL)

Secure Sockets Layer (SSL) provides secure connections by allowing two applications connecting over a network to authenticate each other’s identity and by encrypting the data exchanged between the applications. Authentication allows a server, and optionally a client, to verify the identity of the application on the other end of a network connection. Encryption makes data transmitted over the network intelligible only to the intended recipient.

Follow these steps to configure Secure Sockets Layer:

1. Obtain an identity (private key and digital certificates) and trust (certificates of trusted certificate authorities) for WebLogic Server.

   Use the digital certificates, private keys, and trusted CA certificates provided by the WebLogic Server, the CertGen utility, the keytool utility, or a reputable vendor such as Entrust or Verisign to perform this step.

2. Store the identity and trust.

   Private keys and trusted CA certificates which specify identity and trust are stored in keystores.

3. Configure the identity and trust keystores for WebLogic Server in the WebLogic Server Administration Console.

   See "Configure keystores" in the Oracle WebLogic Server Administration Console Online Help.

   For additional information on configuring keystores, refer to the following URL:

   http://docs.oracle.com/middleware/1213/wls/WLACH/taskhelp/security/ConfigureKeystoresAndSSL.html

4. Set SSL configuration options for the private key alias and password in the WebLogic Server Administration Console.

   Optionally, set configuration options that require the presentation of client certificates (for two-way SSL).

   For additional information, refer to the following topics:

<table>
<thead>
<tr>
<th>Topic Name</th>
<th>Refer To</th>
</tr>
</thead>
<tbody>
<tr>
<td>Configure two-way SSL</td>
<td><a href="http://docs.oracle.com/middleware/1213/wls/WLACH/taskhelp/security/ConfigureTwowaySSL.html">http://docs.oracle.com/middleware/1213/wls/WLACH/taskhelp/security/ConfigureTwowaySSL.html</a></td>
</tr>
<tr>
<td>Obtaining and Storing Certificates for Production Environments</td>
<td><a href="http://docs.oracle.com/middleware/1213/wls/SECMG/identity_trust.htm#SECMG798">http://docs.oracle.com/middleware/1213/wls/SECMG/identity_trust.htm#SECMG798</a></td>
</tr>
</tbody>
</table>
9.7 Setting Up an Application Keystore

This section describes how to set up a keystore in your system. The keystore is used for functionality such as digital signatures for document numbers, and encryption for credit card security.

Note that this different from the Oracle Utilities Application Framework (also called the system) keystore and the weblogic SSL keystores.

For additional information about using the Java keytool utility, see the following section of the Oracle Java SE documentation:

http://docs.oracle.com/javase/7/docs/technotes/tools/solaris/keytool.html

Follow this procedure to set up the keystore in your environment:

1. Generate the keystore. The following command creates the file ".mykeystore" in directory ${SPLEBASE}:

   keytool -genkeypair -alias <keyalias> -keyalg RSA -sigalg SHA256withRSA -keystore ${SPLEBASE}/<filename> -keysize 1024 -storetype JCEKS -dname "CN=<name>, OU=<unit>, O=<organization>, C=<country>" -validity 365

   For example:

   keytool -genkeypair -alias ouaf.application -keyalg RSA -sigalg SHA256withRSA -keystore ${SPLEBASE}/.mykeystore -keysize 1024 -storetype JCEKS -dname "CN=Mark Jones, OU=TUGBU, O=Oracle, C=US" -validity 365

   The utility will prompt you for the keystore and key passwords. Make sure that they are the same.

2. Configure the following template files by adding the following entries:

   For WebLogic Server:

   To enable in WebLogic, edit the following in ${SPLEBASE}/templates/startWeblogic.sh.template:

   JAVA_OPTIONS="$JAVA_OPTIONS
   -Dcom.oracle.ouaf.keystore.file=${SPLEBASE}/<filename>"
   JAVA_OPTIONS="$JAVA_OPTIONS
For <keystore_password>, use the same password entered in the keytool utility.

To enable this in batch, edit the threadpoolworker.properties.template:

```java
com.oracle.ouaf.keystore.file=@force_forward_slash(SPLEBASE)@/mykeystore
com.oracle.ouaf.keystore.password=<keystore_password>
```

Note: Because the path needs to be passed with forward slashes even on Windows platforms, the `force_forward_slash` function will convert any "\" to "/".

For <keystore_password>, use the same password entered in the keytool utility.

For WebSphere Server:

Create the password file.

```bash
echo ab987c | tr -d ' \
' >$SPLEBASE/.passFile
```

Note: In above command, please replace "ab987c" with your password string.

Add Keystore entries to spl.properties templates:

- Open each of the five spl.properties templates mentioned below and add the following two lines in each of the templates

```java
com.oracle.ouaf.keystore.file=@SPLEBASE@/mykeystore
com.oracle.ouaf.keystore.passwordFileName=@force_forward_slash(SPLEBASE)@/passFile
```

- List of spl.properties templates (located in ${SPLEBASE}/templates/ folder):
  - spl.properties.iws.template
  - spl.properties.template
  - spl.properties.service.template
  - spl.properties.XAIApp.template
  - spl.properties.standalone.template

3. Re-initialize the environment to propagate these changes by executing the `initialSetup.sh/cmd`.

4. Restart the environment.

### 9.8 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:
   a. cd $SPLEBASE/bin
   b. ksh ./initialSetup.sh

3. Set the classpath as shown below:
   a. $ CLASSPATH=$WL_HOME/server/lib/weblogic.jar:$CLASSPATH
   b. $ export CLASSPATH
   c. $ cd $SPLEBASE/bin

4. Execute the following command:
   a. $ 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.
   a. 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

### 9.9 Domain Templates (Linux WebLogic 12.1.3.0 only)

The intended use of the domain templates is for “native” installation of the Oracle Utilities Application Framework (OUAF) environment into a WebLogic domain. The domain template(s) defines the core set of resources within a WebLogic domain, including an Administration Server along with the basic configuration information for a Oracle Utilities Application Framework based application. The domain template is a “snapshot” of the delivered embedded “splapp” domain. When working with domain templates you will need to manage the application (stopping, starting, deployment, undeployment) utilizing the WebLogic delivered utilities.

- Install and configure application stack (OUAF and Edge Product)

**Note:** Environment will need to be configuring to deploy in ear format.

- Review domain templates (Simple /Complex)
- Execute config.sh
- Configure domain
- Complete domain configuration

**Note:** Configure nodemanager.properties and setDomainEnv.sh

- Update SPLEBASE (ENVIRON.INI)

### Detailed Description

The product installation includes a two predefined WebLogic Server Domain templates. The delivered domain templates are located under the SPLEBASE:

`${SPLEBASE}/tools/domaintemplates`

- Oracle-Utilities-Simple-Linux-12.1.3.0.0.jar
- Oracle-Utilities-Complex-Linux-12.1.3.0.0.jar

The Simple Domain Template is for use with one machine not included in a weblogic clustered, this domain configuration is similar to current delivered embedded splapp domain, with the exception that there will be two weblogic servers (utilities_server1 and a "Admin Server").

The Complex Domain Template is configured for use with a pre-configured WebLogic cluster, with one machine configured, node manager settings, and one managed server configured.

You are able to create a custom domain template from the existing domain by using the Domain Template Builder or the pack command. By using the Domain Template Builder, you can also create a custom domain template from an existing template.

The delivered domain templates defines the full set of resources within an Oracle Utilities Application Framework domain including:

- Demo certificates (the demo certificates will need to be updated for production use)
Setting of XML Registry Settings
Setting of Default users and groups
Machine configuration
Default Users and Groups

Note: The Users and Groups match the delivered values delivered with the embedded domain.

- JTA Settings
- Node Manager Settings
- WebLogic Server

Configure Node Manager Properties to allow SSL
Follow the steps below to update the nodemanager.properties with the correct Private Key Passphrase. Under the following location: DOMAIN_HOME/nodemanager update the following properties in the nodemanager.properties file:
  - CustomIdentityKeyStorePassPhrase=
  - CustomIdentityPrivateKeyPassPhrase=

Set these to the value “0uaf_demo_c3rt”

Note: At first when the node manager is started, the values in the file will be encrypted. These values will need to updated in production configuration with the proper values based on your configuration.

Configure setDomainEnv.sh Script
Set the value of SPLEBASE with the proper value as per your configuration. Under DOMAIN_HOME/bin location, update the following file:

setDomainEnv.sh:SPLEBASE="${SPLEBASE}"

Update SPLEBASE
The following update in the configuration indicates if the embedded configuration is being utilized or if the environment is a native installation to WebLogic. When this item is populated in the environment, the delivered base tools will be able to identify that the starting and stopping of the environment are being done under the domain home.

1. Initialize the Environment: splenviron.sh –e <Environment_Name>
2. Execute: configureEnv.sh –a
3. Select Menu Item: 52. Advanced Web Application Configuration
4. 02. Configuration Option: Domain Home Location
5. Current Value <ENTER>:
   - The WebLogic Domain Home location, when this parameter is populated you will need to use the native WebLogic tools for maintenance (starting, stopping, deployment, and undeployment).
6. Enter Value: <Enter your domain home location>
7. Once the Domain Home location has been completed, Enter <P> Process
9.10 Database Patching

The database patching utility is delivered under SPLEBASE. Using this utility, you are able to create a standalone package to be able to install database patches on a separate server that has Java 7 installed on the server, or you are also able to install database patches using the components that are delivered under SPLEBASE without the need to move the database patching utility to a different server.

The following is an overview of the process. To install database patches on a separate server, you must create a jar file to copy onto a separate server where you would like to install the database patches.

To generate the jar file to be able to install database patches on a separate server:

1. Initialize a command shell:

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

   **UNIX:**

   Log on to your UNIX box as the Oracle Utilities Administrator (default cissys) and open a shell prompt.

   In the following example, replace the variables
   - `$SPLEBASE` with the Full directory name that you installed the application into
   - `$SPLENVIRON` with the name you gave to the environment at installation time

   To initialize the environment enter:
   
   `$SPLEBASE/bin/splenviron.sh -e $SPLENVIRON`
   
   For example:
   
   `/ouaf/DEMO/bin/splenviron.sh -e DEMO`

   **Windows:**

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

   In the below example you should replace the following variables:
   - `%SPLEBASE%`: The Full directory name that you installed the application into
   - `%SPLENVIRON%`: The name you gave to the environment at installation time

   To initialize the environment, type the following in your command prompt:
   
   `%SPLEBASE%/bin/splenviron.cmd -e %SPLENVIRON%`
   
   For example:
   
   `D:\ouaf\DEMO\bin\splenviron.cmd -e DEMO`

2. Execute the following script to generate all information.

   **UNIX:**

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

%SPLEBASE%\bin\createDBStandlone.cmd

3. Transfer the package (db_patch_standalone.jar) created to the Windows /Unix box
4. Extract the contents of the archive file:
   
   jar xvf db_patch_standalone.jar

**Note:** You must have Java 7 JDK installed on the machine to use the jar command. Be sure to install the JDK that is supported for your platform.

**Script Overview**

createDBStandlone.sh[cmd] [-h] [-l]

- Creates the following file (db_patch_standalone.jar) the file contains the needed components to be able to patch database fixes on a different server.
- Packages bin directory
- Packages lib directory
- Packages config file

**Sample execution**

createDBStandlone.sh     # complete setup
createDBStandlone.sh -h  # display usage information
createDBStandlone.sh -l  # output location for jar file

**Note:** When Option -l is not passed the default output location is SPLEBASE/tools/dbstandalone

**Overview of Database Patching Application**

The database patching utility requires you have Java 7 JDK installed on the machine to execute the database patch application process.

The patch application process will perform following items to account for executing patch application under SPLEBASE or on a standalone server.

The database patch application utility will look do the following when it is executed:

- Checks to see if the environment variable splebase is set.
  
  If the splebase variable is set, the utility uses the libraries under splebase to apply the patch.

- When the splebase is not set, the utility checks to see if the TOOLSBIN environment variable is set.
  
  If the TOOLSBIN is set, the utility uses the libraries under the TOOLSBIN location.

- When both SPLEBASE and TOOLSBIN environment are not set, the utility prompts for the location of the TOOLSBIN.

The TOOLSBIN is the location of the of the application scripts ouafDatabasePatch.sh[cmd]

**Unix Example:** - The TOOLSBIN location would be set to /ouaf/dbpatch/bin

   export TOOLSBIN=/ouaf/dbpatch/bin
Unix Sample - Database Patch Application (ouafDatabasePatch.sh)

```
Note: The default permissions (ouafDatabasePatch.sh), may need to be adjusted to be executed by your
user and group, when applying database fixes.
```

- Sample Execution – Passing a Password
  ```
  ./ouafDatabasePatch.sh -x ouafadm -p "-t O -d CISADM_Z1_12C_43001_BLD001,slc04lds:1522:Z143Q12C"
  ```

- Sample Execution – Prompting for a Password
  ```
  ./ouafDatabasePatch.sh -p "-t O -d CISADM_Z1_12C_43001_BLD001,slc04lds:1522:Z143Q12C"
  ```

- Sample Execution - passing in the tools bin location
  ```
  /ouafDatabasePatch.sh -u
  ```

  o  `-h` displays help of ouafpatch
  o  `-u` displays usage of ouafDatabasePatch.sh
  o  `-v` displays version of ouafpatch
  o  `-x` password to be passed to ouafpatch
  o  `-b` location of the tools bin directory
  o  `-p` parameters directly passed to ouafpatch must be the last parameter passed and be
     enclosed with quotes

**WINDOWS Example:** - The TOOLSBIN location would be set to c:\ouaf\dbpatch\bin

```
SET TOOLSBIN=c:\ouaf\dbpatch\bin
c:\ouaf\dbpatch\lib\commons-cli-1.1.jar
c:\ouaf\dbpatch\lib\commons-collections-3.2.1.jar
```
Windows Sample - Database Patch Application (ouafDatabasePatch.cmd)

- Sample Execution – Passing a Password
  ouafDatabasePatch.cmd -x password -p \
  "-t O -d SCHEMA_NAME,DBSERVER:DBPORT:DBSID"

- Sample Execution – Prompting for a Password
  ouafDatabasePatch.cmd -p \
  "-t O -d SCHEMA_NAME,DBSERVER:DBPORT:DBSID C"

- Sample Execution - passing in the tools bin location
  ouafDatabasePatch.cmd -b "C:\temp\db_patch_standalone\bin" -p \
  "-t O -d SCHEMA_NAME, DBSERVER:DBPORT:DBSID -c C:\temp\dbrollup\CDXPatch2\CDXPatch.ini"

Windows Sample Usage

ouafDatabasePatch.cmd -u

Where:
  o -h:       displays help of ouafpatch
  o -u:       displays usage of ouafDatabasePatch.cmd
  o -v:       displays version of ouafpatch
  o -x:       password to be passed to ouafpatch
  o -b:       location of the tools bin directory
  o -p:       parameters directly passed to ouafpatch must be enclosed with quotes: " "

9.11 Invoking Custom Batch Notifier

You need to do this additional task to ensure that the To Dos are generated once the following batches are executed:

- Upload and Validate Usage Data File (C1-ODFU)
- Billable Charge Creation (C1-ODBCH)
- Adhoc Billing (C1-FABL)
- Freeze and Complete Adhoc Bills (C1-FCADH)
• Any other standard or custom batch which is configured to generate notification once the batch is completed.

To generate custom notification once a batch is completed, you need to do the following:

1. Add the following line in the
   
   ../$SPLEBASE/templates/threadpoolworker.properties.template file:
   
   com.splwg.batch.custom.notifier=com.splwg.ccb.domain.batch.CustomBatchNotifier

2. Re-initialize the environment using the following command:

   **AIX, Linux:**
   
   `$SPLEBASE/bin/initialSetup.sh`

   **Windows:**
   
   `%SPLEBASE%\bin\initialSetup.cmd`

3. Restart your application.
Appendix A : Application Framework Prerequisite Patches

Oracle Utilities Application Framework patches must be installed prior to installing Oracle Revenue Management and Billing. These patches are available in the rollup pack named Oracle Utilities Application Framework V4.3.0.0.1 Single Fix Prerequisite Rollup for RMB V2.5.0.0.0. The BUGLIST.txt file in the FW-V4.3.0.0.1-Rollup\Application directory lists the bugs for which patches are available in the rollup pack.
Appendix B : ORMB V2.5.0.0.0 Bug Fixes

To view a list of bugs fixed in the current release, refer to Oracle Revenue Management and Billing Version 2.5.0.0.0 Release Notes.
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- commons-cli-1.1.jar
- commons-codec-1.6.jar
- commons-collections-3.2.1.jar
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- jackson-jaxrs-1.9.2.jar
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