Oracle Utilities Customer Care and Billing

Installation Guide

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Contents

Chapter 5

Chapter 6

Chapter 7

Chapter 8

Preface

Welcome to the Oracle Utilities Customer Care and Billing Installation Guide.

This guide provides an overview about how to install Oracle Utilities Customer Care and Billing V2.7.0.1.0.

The preface includes:

- Audience
- Related Documents
- Updates to Documentation
- Conventions
- Acronyms
- Additional Resources

Audience

This guide is intended for anyone interested in the installation process.

To complete installation you should have:

- Administrative privileges on the host where you are installing the software.

- Experience installing and configuring application servers and other software.

Related Documents

For more information, refer to these Oracle documents:

Installation Guides and Release Notes
- *Oracle Utilities Customer Care and Billing Release Notes*

- *Oracle Utilities Customer Care and Billing Quick Install Guide*

- *Oracle Utilities Customer Care and Billing Installation Guide*

- *Oracle Utilities Customer Care and Billing Database Administrator's Guide*

- *Oracle Utilities Customer Care and Billing Optional Products Installation Guide*

- *Oracle Utilities Customer Care and Billing Licensing Information User Manual*

Administrative and Business User Guides
- *Oracle Utilities Customer Care and Billing Administrative User Guide*

- *Oracle Utilities Customer Care and Billing Business User Guide*

Supplemental Documents
- *Oracle Utilities Customer Care and Billing Server Administration Guide*

- *Oracle Utilities Customer Care and Billing Security Guide*

Updates to Documentation

Additional and updated information about the product is available from the Knowledge Base section of My Oracle Support (http://support.oracle.com). Please refer to My Oracle Support for more information.

Documentation updates are also posted on the Oracle Technology Network documentation page as they become available (http://docs.oracle.com/cd/E72219_01/documentation.html).

Conventions

The following text conventions are used in this document:

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

Acronyms

The following acronyms and terms are used in this document:

Acronym	Definition
CCB	Oracle Utilities Customer Care and Billing
WLS	WebLogic Server
FW	Framework
OUAF	Oracle Utilities Application Framework

Additional Resources

For more information and support, visit the Oracle Support Web site at:
http://www.oracle.com/support/index.html

Chapter 1

Overview

This chapter provides an overview of the Oracle Utilities Customer Care and Billing installation.

Installation Overview

Installing Oracle Utilities Customer Care and Billing involves the following steps:

1. Review the different tiers of the application architecture as described in Chapter 2: Application Architecture Overview.

2. Understand the hardware requirements for installing the application and the supported platforms for the application and database servers as described in Chapter 3: Supported Platforms and Hardware Requirements.

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

3. Install the database as described in the document Oracle Utilities Customer Care and Billing *Database Administrator's Guide.*

4. Plan your installation as described in Chapter 4: Planning the Installation.

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

6. Install the framework for the application as described in Chapter 6: Installing the Application Server Component of Oracle Utilities Application Framework.

7. Install Oracle Utilities Customer Care and Billing as described in Chapter 7: Installing the Application Server Component of Oracle Utilities Customer Care and Billing.

8. Follow the installation guidelines described in Chapter 8: Additional Tasks.

Chapter 2

Application Architecture Overview

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

Application Architecture

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

Refer to the *Oracle Utilities Customer Care and Billing Server Administration Guide* for a more detailed description of the application architecture and individual tiers.

Tier 1: Desktop/Client, or Presentation Tier

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

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.

Tier 3: Database, or Persistence Tier

This tier is implemented in a database server. The database server stores data maintained by the Oracle Utilities Customer Care 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.

Chapter 3

Supported Platforms and Hardware Requirements

This chapter provides an overview of the tiers on which the product is implemented, and shows each of the operating system/server combinations that the product is supported on. It includes:

- Software and Hardware Considerations

- Requirements by Tier

- Supported Platforms

- Application Server Memory Requirements

- Support for Software Patches and Upgrades

Software and Hardware Considerations

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

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

- On which hardware platform and operating system will Oracle Utilities Customer Care and Billing be deployed?

- Which web server product will Oracle Utilities Customer Care and Billing deploy on?

- Which database product will Oracle Utilities Customer Care and Billing deploy on?

- Do you plan to deploy multiple Oracle Utilities Customer Care and Billing instances on the same physical server?

- How do you plan to deploy Oracle Utilities Customer Care 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, refer to *Oracle Utilities Application Framework Architecture Guidelines (Document ID 807068.1)* available on My Oracle Support.

The final hardware and software decisions must comply with the specific requirements of the Oracle Utilities Customer Care and Billing product, as described in the rest of this chapter.

Requirements by Tier

The application is deployed on multiple Tiers:

- Tier 1, Desktop

- Tier 2, Web/Business Application Server

- Tier 3, Database Server

Tier 1, Desktop: Software and Hardware Requirements

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

* The recommended configuration improves client performance.

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

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

Refer to the Supported Platforms section in this chapter 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 the 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 sizing excludes the Oracle database server installation.

Tier 3, Database Server: Software and Hardware Requirements

Refer to the Supported Platforms section in this chapter for information about supported database servers.

Supported Platforms

The installation has been tested to operate on many operating system, application server, and database server combinations. For the software requirements for each of these combinations, refer to Chapter 5: Installing Application Server Prerequisite Software.

Operating Systems and Application Servers

This section details the operating system and application server combinations on which this version of Oracle Utilities Customer Care and Billing is supported.

Application Server Operating Systems

- Oracle Linux 7.x for x86_64

- Oracle Solaris 11.x for SPARC (64-bit)

- IBM AIX 7.2 TLx for POWER (64-bit)

- HP-UX 11.31 (64-bit)

Prerequisite Application Server Software

- Oracle Database Client 12.1.0.2+, 12.2.0.x

- Oracle Java SE Development Kit 1.8.0_x (Oracle platforms only)

- IBM 64-bit SDK for AIX 8.0.0.x (IBM platforms only)

- Hibernate ORM 4.1.0 and Hibernate 5.2.3 jars

- Oracle WebLogic Server 12c Release 2 (12.2.1.3+) 64-bit

Notes

- Oracle Linux is 100% user space-compatible with Red Hat Enterprise Linux, therefore, OUAF is also supported on Red Hat Enterprise Linux.

- Refer to the *Oracle Utilities Application Framework Database Administrator's Guide* for the Oracle Database Server Requirements.

Refer to the *Product Support Matrix (Document ID 1454143.1)* on My Oracle Support to determine if support for newer versions of the listed products have been added.

Please note the following:

- Version numbers marked with a "+" are the MINIMUM version supported. That version and all future 4th digit updates will be supported.

    Example: Oracle 12.2.0.1+ means that 12.2.0.1 and any higher 12.2.0.x versions of Oracle are supported.

    * An "x" indicates that any version of the digit designed by the "x" is supported.

    Example: Linux 7.x indicates that any version of Linux 7 (7.0, 7.1, 7.2 etc) will be supported.

Windows Server

- Windows Server is **not** supported for Production environments. Wherever Windows Server is referenced within this guide, it is supported for Test or Development environments **only**.

WebLogic Server
- Oracle WebLogic Server (Fusion Middleware Infrastructure) Release 2 (12.2.1.3+) and any higher versions of Oracle are supported.

- Customers must download Oracle WebLogic Server from the Oracle Software Delivery Cloud.

Oracle Database Server

Prerequisite Database Server Software (on any vendor supported platform where x is vendor supported version):

- Oracle Database Server Enterprise Edition 12.1.0.

- Oracle Database Server Standard Edition 2 12.1.0.

- Oracle Database Server Enterprise Edition 12.2.0.x

- Oracle Database Server Standard Edition 2 12.2.0.x

  Note: Oracle Database Enterprise Edition and the Partitioning and Advanced Compression options are not mandatory but are recommended. Standard Edition should only be considered suitable for very small, pilot projects or development environments where scalability, performance, and database size-on-disk are not important considerations. Oracle Database Enterprise Edition, including the Advanced Compression and Partitioning options, is strongly recommended in all other situations.

Oracle VM Support

This version of Oracle Utilities Customer Care and Billing is supported on Oracle VM Server for x86 for supported releases of Oracle Linux and Microsoft Windows operating systems.

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

Application Server Memory Requirements

For each application server environment a minimum of 4 GB of real memory is required, plus 6 GB of swap space. The approximate disk space requirements in a standard installation are as follows (the size represents the MINIMUM required):

Location	Size	Usage
Install Dir ("$SPLEBASE") Location	10 GB recommended 5 GB minimum	This is the location where the application and Framework get installed. Startup, shutdown and other online log files are stored here. The size and space that is used should be monitored because various debugging options can significantly affect the size of log files. **Note**: This does not include the size of the edge product.
Log Dir ("$SPLOUTPUT") Location	10 GB recommended 2 GB minimum	This location is used for storing batch log files and output from batch jobs. The size of this space should be influenced by which batches are run and how often, and the amount of debugging information that is collected.
Location of the application web work files on the web servers	5 GB recommended 2 GB minimum	This location is used by various web server vendors to expand the application. It should be considered when installing these products. Refer to the individual web server documentation to determine the location of the temporary files.
Installation Temporary Area	10 GB minimum	The application gets installed from this location. You need enough space to un-compress the files and install the application.
Oracle Data Area	10 GB minimum	This location is where the Oracle database data files are stored. The size of this space should be based on the requirements of the production environment. For an initial or demo database install 4 GB should be sufficient.

Support for Software Patches and Upgrades

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

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

environment itself. The exception to this is Hibernate software 4.1.0 which should not be upgraded.

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

Chapter 4

Planning the Installation

This chapter provides information for planning an Oracle Utilities Customer Care and Billing installation, including:

- Installation and Configuration Overview

- Before You Install

- Installation Checklist

- Installation Menu Functionality Overview

- Installation and Configuration Worksheets

Installation and Configuration Overview

The following diagram provides an overview of the steps that need to be taken to install and configure Oracle Utilities Customer Care and Billing:

Application Administration	UNIX/Windows Administration	DBA

Download Software

- Download Oracle Utilities Application Framework
- Download Oracle Utilities Customer Care and Billing
- Download Third-Party Products
- Download Prerequisities

- Download Operating System

- Download Database Management System software

Install Prerequisites

- Install Non-Web based Prerequisites
- Install Web Application Server Software

- Install Operating System
- Create Database and Product Users/Groups
- Configure Operating System

- Install Database Software

Install Product

- Create Web Container
- Configure User Profile
- Install Oracle Utilities Framework
- Install Oracle Utilities Customer Care and Billing
- Deploy Application in Web Application Server
- Post Deployment Tasks

- Set Autostart (optional)

- Run Database Installer for product
- Configure Networking (e.g. TNSNames)
- Generate Database Security Setup
- Update Database Statistics

Before You Install

Refer to My Oracle Support for up-to-date additional information about the Oracle Utilities Customer Care and Billing installation.

WebLogic Native Installation

With Oracle Utilities Application Framework 4.4.0.0.0, a WebLogic native installation is required. Refer to the *Oracle WebLogic 12.2.1.x Configuration Guide for Oracle Utilities Framework (Doc ID 2413918.1)* whitepaper on My Oracle Support.

Application Server Clustering

If you are considering application server clustering, refer to the *Oracle WebLogic 12.2.1.x Configuration Guide for Oracle Utilities Framework (Doc ID 2413918.1)* whitepaper on My Oracle Support for additional information.

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

Directory Names

Directory cannot contain whitespace characters.

Installation Checklist

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

1. Install the database as described in the *Oracle Utilities Customer Care and Billing Database Administrator's Guide.*

2. Create Group/User ID.

3. Install the prerequisite software.

   For complete details about installing and configuring the prerequisite third-party software for your specific platform, refer to Chapter 5**:** Installing Application Server Prerequisite Software.

   - Oracle client 12c
   - Java 8
   - Hibernate 4.1.0

4. Install optional software.

5. Install the Oracle WebLogic 12.2.1.3+ web server.

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

6. Verify that the software installed.

7. Set up environment variables.

8. Install Oracle Utilities Application Framework.

9. Install Oracle Utilities Application Framework prerequisite single fixes if there are any. Else, skip this step.

10. Install Oracle Utilities Customer Care and Billing.

11. Install Oracle Utilities Customer Care and Billing single fixes if there are any. Else, skip this step.

12. Deploy Oracle Utilities Customer Care and Billing application.

13. Complete the post-installation tasks.

14. Proceed with optional third-party product integration (such as web self service or reporting tools).

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 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. The menu includes the following:

- **Valid Values: [ALFANUM].** This indicates you will need to enter an alphanumeric value in the prompt.

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

Please also note the following:

- When all options are set, type <P> at the main menu prompt option. This will save the option values selected throughout the configuration.

- During this processing the global variables are validated and the configuration file <SPLEBASE>/etc/ENVIRON.INI is created or updated. This file contains all the variables inputted and calculated. These are needed by the next part of the installation process.

- To exit the configuration utility without saving any of the values entered, type <X> and press 'Enter'.

Installation Menu Functionality Details

The Environment Installation Utility requires that Oracle Client Home is set in the path for the user performing the installation.

Prior to running the installation utility you will need to review the supported platforms document to ensure you have all of the Third Party software installed.

In this menu if the variables are set prior to execution, that value will be defaulted by the installation utility when performing the installation.

When the installation has been completed successfully, the values will be written to an ENVIRON.INI file. When splenviron.sh / cmd is executed, it will read from the ENVIRON.INI file to set the environment variables. Refer to the *Oracle Utilities Application Framework Server Administration Guide* for details about configuring these values.

Install the Oracle Client software specified in the Operating Systems and Application Servers section in Supported Platforms and Hardware Requirements prior to running any of the installation utilities.

The following prompt appears 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

The Oracle Utilities Application Framework installation also uses industry standard cryptography to encrypt passwords that are prompted within the installation.

When these passwords are entered in the command line, the input values are not reflected on the screen when performing the installation.

Installation and Configuration Worksheets

During the installation and configuration of the application you will need to provide a variety of system values. These worksheets will assist you in providing that information. They should be completed before installing the application framework, as described in Chapter 6: Installing the Application Server Component of Oracle Utilities Application Framework.

> **Note:** Some web application server information will not be available until the software installation steps have been completed as described in Chapter 5: Installing Application Server Prerequisite Software.

Refer to the *Server Administration Guide* for additional details (default, valid values, usage, etc.), as applicable.

Menu Block 1: Environment ID, Roles, Third Party Software Configuration

The Environment ID, Roles, Third Party Software Configuration options include:

Menu Option	Name Used in Documentation	Customer Install Value
Environment ID	ENVIRONMENT_ID	
Server Roles	SERVER_ROLES	
Oracle Client Home Directory	ORACLE_CLIENT_HOME	
Web Java Home Directory	JAVA_HOME	
Hibernate JAR Directory	HIBERNATE_JAR_DIR	
**ONS JAR Directory	ONS_JAR_DIR	
Web Application Server Home Directory	WEB_SERVER_HOME	
***Additional JAR Directory	WLTHINT3CLIENT_JAR_DIR	

*   Denotes optional menu items that may be required for the product installation and variables.

**   In order to activate the RAC FCF, the application needs the external ons.jar file, from the ORACLE_HOME path:

```
$ORACLE_HOME/opmn/lib/ons.jar
```

During the installation the relevant option should be populated with the folder location of the ons.jar.

*** Refer to the Setting Up and Using the Additional JAR Directory section in Installing Application Server Prerequisite Software for more information.

Menu Block 2: Keystore Options

The keystore is a set of files used for encryption, decryption and hash generation. The files reside in the following location:

<SPLEBASE>/ks/.ouaf_keystore

<SPLEBASE>/ks/.ouaf_storepass

In order to run the application correctly, data encryption, decryption and hash generation of data in the database and on the application server must be performed using the same keystore; otherwise, the application will fail.

> **Note**: Review the section on configuring the OUAF Keystore in the *Security Guide* for information on setting up the keystore properly.

Keystore options include:

Menu Option	Name Used in Documentation	Customer Install Value
Import Keystore Directory	KS_IMPORT_KEYSTORE_FOLDER	
Store Type	KS_STORETYPE	
Alias	KS_ALIAS	
Alias Key Algorithm	KS_ALIAS_KEYALG	
Alias Key Size	KS_ALIAS_KEYSIZE	
HMAC Alias	KS_HMAC_ALIAS	
Padding	KS_PADDING	
Mode	KS_MODE	

Menu Block 50: Environment Installation Options

Environment installation options include:

Menu Option	Name Used in Documentation	Customer Install Value
Environment Mount Point	SPLDIR	
Log File Mount Point	SPLDIROUT	
Environment Name	SPLENVIRON	
Installation Application Viewer Module	WEB_ISAPPVIEWER	
Install Sample CM Source Code	CM_INSTALL_SAMPLE	

Menu Block 1: Environment Description

The environment description menu option includes:

Menu Option	Name Used in Documentation	Customer Install Value
Environment Description	DESC	

Menu Block 2: [WebLogic] Business Application Server Configuration

WebLogic Business Application Server configuration options include:

Menu Option	Name Used in Documentation	Customer Install Value
Business Server Host	BSN_WLHOST	
Business Server Application Name	BSN_APP	
MPL Admin Port number	MPLADMINPORT	
MPL Automatic Startup	MPLSTART	

Menu Block 3: [WebLogic] Web Application Server Configuration

WebLogic Web Application Server configuration options include:

Menu Option	Name Used in Documentation	Customer Install Value
Web Server Host	WEB_WLHOST	
Weblogic SSL Port Number	WEB_WLSSLPORT	
Weblogic Console Port Number	WLS_ADMIN_PORT	
Web Context Root	WEB_CONTEXT_ROOT	
WebLogic JNDI User ID	WEB_WLSYSUSER	
WebLogic JNDI Password	WEB_WLSYSPASS	
WebLogic Server Name	WEB_WLS_SVRNAME	
Web Server Application Name	WEB_APP	
Deploy Application Viewer Module	WEB_DEPLOY_APPVIEWER	
Enable The Unsecured Health Check Service	WEB_ENABLE_HEALTHCHECK	
MDB RunAs User ID	WEB_IWS_MDB_RUNAS_USER	
Super User Ids	WEB_IWS_SUPER_USERS	

Menu Block 4 - Database Configuration

The parameters below and in the worksheet are for the database configuration. Note that if changes are made to any of the database menu option items below, thus potentially connecting to a different schema, a warning will be displayed in the screen next to the actual option that has been changed.

Menu Option	Name Used in Documentation	Customer Install Value
Application Server Database User ID	DBUSER	
Application Server Database Password	DBPASS	
MPL Database User ID	MPL_DBUSER	
MPL Database Password	MPL_DBPASS	
XAI Database User ID	XAI_DBUSER	
XAI Database Password	XAI_DBPASS	
Batch Database User ID	BATCH_DBUSER	
Batch Database Password	BATCH_DBPASS	
Web JDBC DataSource Name	JDBC_NAME	
Database Name	DBNAME	
Database Server	DBSERVER	
Database Port	DBPORT	
ONS Server Configuration	ONSCONFIG	
Database Override Connection String	DB_OVERRIDE_ CONNECTION	
Character Based Database	CHAR_BASED_DB	
Oracle Client Character Set NLS_LANG	NLS_LANG	

Menu Block 5 - General Configuration Options

The general configuration options include:

Menu Option	Name Used in Documentation	Customer Install Value
Batch RMI Port	BATCH_RMI_PORT	
RMI Port number for JMX Business	BSN_JMX_RMI_PORT_ PERFORMANCE	
RMI Port number for JMX Web	WEB_JMX_RMI_PORT_PERFORMANCE	
JMX Enablement System User ID	BSN_JMX_SYSUSER	

Menu Option	Name Used in Documentation	Customer Install Value
JMX Enablement System Password	BSN_JMX_SYSPASS	
Coherence Cluster Name	COHERENCE_ CLUSTER_NAME	
Coherence Cluster Address	COHERENCE_ CLUSTER_ADDRESS	
Coherence Cluster Port	COHERENCE_ CLUSTER_PORT	
Coherence Cluster Mode	COHERENCE_ CLUSTER_MODE	

Menu Block 6 - OUAF TrustStore Options

The OUAF truststore configuration is required for IWS.

Menu Option	Name Used in Documentation	Customer Install Value
Import TrustStore Directory	TS_IMPORT_KEYSTORE_FOLDER	
Store Type	TS_STORETYPE	
Alias	TS_ALIAS	
Alias Key Algorithm	TS_ALIAS_KEYALG	
Alias Key Size	TS_ALIAS_KEYSIZE	
HMAC Alias	TS_HMAC_ALIAS	

Advanced Menu Options

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

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

Windows
```
%SPLEBASE%\bin\configureEnv.cmd -a
```

Menu Block 50 - WebLogic Advanced Environment Miscellaneous Configuration

WebLogic advanced environment miscellaneous configurations include:

Menu Option	Name Used in Documentation	Customer Value Install
OUAF DBMS Scheduler User	OUAF_DBMS_SCHEDULER_USER	
Enter the location of the Application Server Profile Home	WAS_PROFILE_NAME_HOME	
Online JVM Batch Server Enabled	BATCHENABLED	
Online JVM Batch Number of Threads	BATCHTHREADS	
Online JVM Batch Scheduler Daemon Enabled	BATCHDAEMON	
Enable Batch Edit Functionality	BATCHEDIT_ ENABLED	
Batch Online Log Directory	BATCH_ONLINE_LOG_DIR	
JDBC Read Timeout	JDBC_TIMEOUT	
Enable JMS Global Flush for Batch	ENABLE_JMS_GLOBAL_FLUSH	
Add UsernameToken.xml	ADD_USERNAMETOKEN_XML	
IWS deployment target	WLS_CLUSTER_NAME	
Web Admin Server Host	WEB_ADMIN_SERVER	
Split File Size in MB	TEMPSTORAGE_SPLITFILESIZE	
GIS Service Running on the same Web Server	GIS	
GIS Service URL	GIS_URL	
GIS WebLogic System User ID	GIS_WLSYSUSER	
GIS WebLogic System Password	GIS_WLSYSPASS	
Online Display Software Home	ONLINE_DISPLAY_HOME	
Max Queries To Hold In Cache Across All Threads	XQUERIES_TO_ CACHE	
Seconds Timeout Flush Cache Completely	XQUERY_CACHE_ FLUSH_TIMEOUT	

Menu Block 51 - WebLogic Advanced Environment Memory Configuration

WebLogic advanced environment memory configurations include:

Menu Option	Name Used in Documentation	Customer Install Value
Global JVM Arguments	GLOBAL_JVMARGS	
Ant Min Heap Size	ANT_OPT_MIN	
Ant Max Heap Size	ANT_OPT_MAX	
Ant Additional Options	ANT_ADDITIONAL_OPT	
Thread Pool Worker Java Min Heap Size	BATCH_MEMORY_OPT_MIN	
Thread Pool Worker Java Max Heap Size	BATCH_MEMORY_OPT_MAX	
Thread Pool Worker Additional Options	BATCH_MEMORY_ADDITIONAL_OPT	

Menu Block 52 - Advanced Web Application Configuration

Advanced web application configurations include:

Menu Option	Name Used in Documentation	Customer Install Value
Web Application Cache Settings	WEB_L2_CACHE_MODE	
Web Server Port Number	WEB_WLPORT	
CSRF Protection For REST Services	CSRF_PROTECTION	
OWSM Protection For REST Services	OWSM_PROTECTION_FOR_REST_SERVICES	
Domain Home Location	WLS_DOMAIN_HOME	
Batch Cluster URL	WEB_BATCH_CLUSTER_URL	
Strip HTML Comments	STRIP_HTML_COMMENTS	
Authentication Login Page Type	WEB_WLAUTHMETHOD	
Web Form Login Page	WEB_FORM_LOGIN_PAGE	
Web Form Login Error Page	WEB_FORM_LOGIN_ERROR_PAGE	
Application Viewer Form Login Page	WEB_APPVIEWER_FORM_LOGIN_PAGE	
Application Viewer Form Login Error Page	WEB_APPVIEWER_FORM_LOGIN_ERROR_PAGE	

Menu Option	Name Used in Documentation	Customer Install Value
Help Form Login Page	WEB_HELP_FORM_LOGIN_PAGE	
Help Form Login Error Page	WEB_HELP_FORM_LOGIN_ERROR_PAGE	
Web Security Role	WEB_SECURITY_NAME	
Web Principal Name	WEB_PRINCIPAL_NAME	
Application Viewer Security Role	WEB_APPVIEWER_ROLE_NAME	
Application Viewer Principal Name	WEB_APPVIEWER_PRINCIPAL_NAME	
This is a development environment	WEB_ISDEVELOPMENT	
Preload All Pages on Startup	WEB_PRELOADALL	
Maximum Age of a Cache Entry for Text	WEB_MAXAGE	
Maximum Age of a Cache Entry for Images	WEB_MAXAGEI	
JSP Recompile Interval (s)	WEB_wlpageCheckSeconds	

Menu Block 54 - WebLogic Diagnostics

WebLogic diagnostic options include:

Menu Option	Name Used in Documentation	Customer Install Value
Diagnostic Context Enabled	WLS_DIAGNOSTIC_CONTEXT_ENABLED	

Menu Block 55 - URI, File and URL Related Options

URI, File and URL Related Options include:

Menu Option	Name Used in Documentation	Customer Install Value
Restriction URLs Enable	CLOUD_RESTRICTION_URLS_ENABLE	
Custom SQL Security	CUSTOM_SQL_SECURITY	
White List Full Path	CLOUD_WHITE_LIST_PATH	

Menu Option	Name Used in Documentation	Customer Install Value
Custom White List Full Path	CLOUD_CUSTOM_WHITE_LIST _PATH	
Substitution Variable List File Location	CLOUD_SUBSTITUTION_VARIA BLE_LIST_FILE_LOCATION	
Directory For Variable F1_CMA_FILES	CLOUD_LOCATION_ F1_MIGR_ASSISTANT_FILES	
URI For Variable F1_OAUTH2_URI	CLOUD_LOCATION_F1_ OAUTH2_URI	
URI for Variable F1_BASE_REST_URL	CLOUD_LOCATION_F1_BASE_ REST_URL	
URI for Variable F1_OPEN_API_BASE_URL	CLOUD_LOCATION_F1_OPEN_ API_BASE_URL	
URI For Variable F1_BASE_WEB_URI	CLOUD_LOCATION_F1_BASE_ WEB_URI	
URI For Variable F1_BASE_IWS_URI	CLOUD_LOCATION_F1_BASE_I WS_URI	
Consolidated Logfile Full Path	CONSOLIDATED_LOG_FILE_P ATH	
Temporary File Location	TMP_FILE_LOCATION	

Menu Block 56 - Mobile Security Configuration

Mobile Security configurations include:

Menu Option	Name Used in Documentation	Customer Install Value
Enable Mobile Application	MOBILE_ENABLED	
Deploy Only Mobile Web Application	MOBILE_APP_ONLY	
Mobile Application Directory	MOBILE_APPDIR	
Allow Self Signed SSL Certificates	ALLOW_SELFSIGNED_SSL	
Force Http Connection	FORCE_HTTP	
Web Mobile Form Login Page	WEB_MOBILE_FORM_LOGIN_ PAGE	
Web Mobile Form Login Error Page	WEB_MOBILE_FORM_LOGIN_ ERROR_PAGE	

Chapter 5

Installing Application Server Prerequisite Software

This chapter describes the software to be installed for each of the supported operating system and application server combinations mentioned below:

- AIX Application Server
- Oracle Linux 7.x and Red Hat Linux 7.x Application Server
- Solaris 11 Application Server
- Windows 2012 Application Server
- HP-UX 11.31 Application Server
- Additional Prerequisite Software Information

AIX Application Server

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

Supported Application Servers

Operating System	Chipsets	Application Server
AIX 7.2 (64-bit) TL0	POWER 64-bit	WebLogic 12.2.1.3+ (64-bit)

Web/Application Server Tier

AIX 7.2 TL0 Operating System Running on Power5 and Power6 Architecture

UNIX Administrator Userid

The following user groups and accounts have to be created to install and administer the application:

Description	Default Value	Customer Defined Value
CCB Administrator UserID	cissys	
CCB User Group	cisusr	

> **Note:** It is recommended that you change the default values for security reasons.

Throughout this document the administrator user ID is often referred to as the "cissys" user ID. You should substitute that with the customer defined user ID when not using the default value. After the initial install, the software should always be managed using that user ID.

By default, "cissys" is the only user ID that can be used to access the installed files.

1. Create the "cisusr" user group.

2. Create the "cissys" user. The primary group is "cisusr".

3. Set the primary shell for **cissys** user to **Korn Shell**.

The shell scripts use ">" to overwrite shell functionality. By default, your operating system may be configured to not allow this functionality in the Users shell.

To avoid file access permission problems while 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:

User	Group	Description
cissys	cisusr	This user will be used to install the application and to apply patches. This user will own all the application files. The same care should be taken with this user ID as if it is 'root'. This user will be able to add, delete and modify and files within the application.
cisadm	cisusr	Administrative and Operation functions will be available to this user. This user will be able to stop and start the application and batch processes, but will not have access to modify any file other than generated log files

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

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 12.2.0.1+ Client - Runtime Option

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

For the cissys user ID, ensure that the environment variable ORACLE_CLIENT_HOME is set up, and that ORACLE_CLIENT_HOME/perl/bin is the first Perl listed in the cissys account's PATH variable.

IBM Java Software Development Kit version 8.0 (64-bit)

Installation of Java as a prerequisite is only needed if you are using Oracle WebLogic as a Web application server.

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

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

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

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

Hibernate 4.1.0

You must install Hibernate 4.1.0 before installing Oracle Utilities Customer Care and Billing. For instructions to install Hibernate 4.1.0, refer to the Installing Hibernate 4.1.0 section.

Oracle WebLogic Server 12.2.1.3+ (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 12.2.1.3+.

  Note: With Oracle Utilities Application Framework V4.4.0.0.0 a WebLogic native installation is required. Refer to the *Oracle WebLogic 12.2.1.x Configuration Guide for Oracle Utilities Application Framework (Doc ID 2413918.1)* on My Oracle Support.

Oracle Linux 7.x and Red Hat Linux 7.x Application Server

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

Supported Application Servers

Operating System	Chipsets	Application Server
Oracle Linux 7.x (64-bit) Red Hat Enterprise Linux 7.x (64-bit))	x86_64	Oracle WebLogic 12.2.1.3+ (64-bit)

Web/Application Server Tier

Oracle Enterprise Linux 7.x or Red Hat Enterprise Linux 7.x Operating System Running on x86_64 64-bit Architecture

UNIX Administrator UserID
The following user groups and accounts have to be created to install and administer the application:

Description	Default Value	Customer Defined Value
CCB Administrator UserID	cissys	

Description	Default Value	Customer Defined Value
CCB User Group	cisusr	

> **Note:** It is recommended that you change the default values for security reasons.

Throughout this document the administrator user ID is often referred to as the "cissys" user ID. You should substitute that with the customer defined user ID when not using the default value. After the initial install, the software should always be managed using that user ID.

By default, "cissys" is the only user ID that can be used to access the installed files.

1. Create the "cisusr" user group.

2. Create the "cissys" user. The primary group is "cisusr".

3. Set the primary shell for **cissys** user to **Korn Shell**.

The shell scripts use ">" to overwrite shell functionality. By default, your operating system may be configured to not allow this functionality in the Users shell.

To avoid file access permission problems while 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:

User	Group	Description
cissys	cisusr	This user will be used to install the application and to apply patches. This user will own all the application files. The same care should be taken with this user ID as if it is 'root'. This user will be able to add, delete and modify and files within the application.
cisadm	cisusr	Administrative and Operation functions will be available to this user. This user will be able to stop and start the application and batch processes, but will not have access to modify any file other than generated log files

> **Note:** The Oracle Client and WebLogic should be installed as the user who will stop and start the application. For example, if you plan to run

the application as the install user these components must belong to cissys.

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 12.2.0.1+ Client - Runtime Option

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

For the cissys user ID, ensure that the environment variable ORACLE_CLIENT_HOME is set up, and that ORACLE_CLIENT_HOME/perl/bin is the first Perl listed in the cissys account's PATH variable.

Oracle Java Development Kit Version 8.0 Update 131 or Later, 64-Bit

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

http://www.oracle.com/technetwork/java/javase/downloads/jdk8-downloads-2133151.html

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

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

Hibernate 4.1.0

You must install Hibernate 4.1.0 before installing Oracle Utilities Customer Care and Billing. For instructions to install Hibernate 4.1.0, refer to the Installing Hibernate 4.1.0 section.

Oracle WebLogic Server 12.2.1.3+ (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 12.2.1.3+.

    Note: With Oracle Utilities Application Framework V4.4.0.0.0 a WebLogic native installation is required. Refer to the *Oracle WebLogic 12.2.1.x Configuration Guide for Oracle Utilities Application Framework (Doc ID 2413918.1)* on My Oracle Support.

Solaris 11 Application Server

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

Supported Application Servers

Operating System	Chipsets	Application Server
Solaris 11 (64-bit)	SPARC	Oracle WebLogic 12.2.1.3+ (64-bit) version

Web/Application Server Tier

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

UNIX Administrator UserID
The following user groups and accounts have to be created to install and administer the application:

Description	Default Value	Customer Defined Value
CCB Administrator UserID	cissys	
CCB User Group	cisusr	

> **Note:** It is recommended that you change the default values for security reasons.

Throughout this document the administrator user ID is often referred to as the "cissys" user ID. You should substitute that with the customer defined user ID when not using the default value. After the initial install, the software should always be managed using that user ID.

By default, "cissys" is the only user ID that can be used to access the installed files.

1. Create the "cisusr" user group.

2. Create the "cissys" user. The primary group is "cisusr".

3. Set the primary shell for **cissys** user to **Korn Shell**.

The shell scripts use ">" to overwrite shell functionality. By default, your operating system may be configured to not allow this functionality in the Users shell.

To avoid file access permission problems while 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:

User	Group	Description
cissys	cisusr	This user will be used to install the application and to apply patches. This user will own all the application files. The same care should be taken with this user ID as if it is 'root'. This user will be able to add, delete and modify and files within the application.
cisadm	cisusr	Administrative and Operation functions will be available to this user. This user will be able to stop and start the application and batch processes, but will not have access to modify any file other than generated log files

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

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 12.2.0.1+ Client - Runtime Option

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

For the cissys user ID, ensure that the environment variable ORACLE_CLIENT_HOME is set up, and that ORACLE_CLIENT_HOME/perl/bin is the first Perl listed in the cissys account's PATH variable.

Oracle Java Development Kit Version 8.0 Update 131 or Later, 64-Bit

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

http://www.oracle.com/technetwork/java/javase/downloads/jdk8-downloads-2133151.html

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

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

Hibernate 4.1.0

You must install Hibernate 4.1.0 before installing Oracle Utilities Customer Care and Billing. For instructions to install Hibernate 4.1.0, refer to the Installing Hibernate 4.1.0 section.

Oracle WebLogic Server 12.2.1.3+ (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 12.2.1.3+.

    Note: With Oracle Utilities Application Framework V4.4.0.0.0 a WebLogic native installation is required. Refer to the *Oracle WebLogic 12.2.1.x Configuration Guide for Oracle Utilities Application Framework (Doc ID 2413918.1)* on My Oracle Support.

Windows 2012 Application Server

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

> **Note**: Windows Server is not supported for Production environments. Wherever Windows Server is referenced within this guide, it is supported for Test or Development environments only.

Supported Application Servers

Operating System	Chipsets	Application Server
Window Server 2012	x86_64	Oracle WebLogic 12.2.1.3+ (64-bit) version

Web/Application Server Tier

File and Directory Names Limitations

File and directory names cannot contain spaces. Due to the limitations in Windows, fully qualified filenames cannot exceed 2047 characters.

Oracle Client 12.2.0.1+ - Runtime Option

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

For the cissys user ID, ensure that the environment variable ORACLE_CLIENT_HOME is set up, and that ORACLE_CLIENT_HOME/perl/bin is the first Perl listed in the cissys account's PATH variable.

Oracle Java Development Kit Version 8.0 Update 131 or Later, 64-Bit

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

http://www.oracle.com/technetwork/java/javase/downloads/jdk8-downloads-2133151.html

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

For the cissys user ID, make sure 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 Utilities Customer Care and Billing. For installation instructions, refer to the Installing Hibernate 4.1.0 section.

Oracle WebLogic Server 12.2.1.3+ (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 12.2.1.3+.

  > **Note**: With Oracle Utilities Application Framework V4.4.0.0.0 a WebLogic native installation is required. Refer to the *Oracle WebLogic 12.2.1.x Configuration Guide for Oracle Utilities Application Framework (Doc ID 2413918.1)* on My Oracle Support.

HP-UX 11.31 Application Server

This section describes the software requirements for operating the application using the HP-UX application server.

Supported Application Servers

Operating System	Chipsets	Application Server
HP-UX ia (64-bit)	ia64	Oracle WebLogic 12.2.1.3+ (64-bit) version

Web/Application Server Tier

HP-UX Operating System Running on Itanium 64-bit Architecture

UNIX Administrator UserID

The following user groups and accounts have to be created to install and administer the application:

Description	Default Value	Customer Defined Value
CCB Administrator UserID	cissys	
CCB User Group	cisusr	

> **Note:** It is recommended that you change the default values for security reasons.

Throughout this document the administrator user ID is often referred to as the "cissys" user ID. You should substitute that with the customer defined user ID when not using the default value. After the initial install, the software should always be managed using that user ID.

By default, "cissys" is the only user ID that can be used to access the installed files.

1. Create the "cisusr" user group.

2. Create the "cissys" user. The primary group is "cisusr".

3. Set the primary shell for **cissys** user to **Korn Shell**.

The shell scripts use ">" to overwrite shell functionality. By default, your operating system may be configured to not allow this functionality in the Users shell.

To avoid file access permission problems while 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:

User	Group	Description
cissys	cisusr	This user will be used to install the application and to apply patches. This user will own all the application files. The same care should be taken with this user ID as if it is 'root'. This user will be able to add, delete and modify and files within the application.
cisadm	cisusr	Administrative and Operation functions will be available to this user. This user will be able to stop and start the application and batch processes, but will not have access to modify any file other than generated log files

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

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 12.2.0.1+ Client - Runtime Option

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

For the cissys user ID, ensure that the environment variable ORACLE_CLIENT_HOME is set up, and that ORACLE_CLIENT_HOME/perl/bin is the first Perl listed in the cissys account's PATH variable.

Oracle Java Development Kit Version 8.0 Update 131 or Later, 64-Bit

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

http://www.oracle.com/technetwork/java/javase/downloads/jdk8-downloads-2133151.html

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

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

Hibernate 4.1.0

You must install Hibernate 4.1.0 before installing Oracle Utilities Customer Care and Billing. For instructions to install Hibernate 4.1.0, refer to the Installing Hibernate 4.1.0 section.

Oracle WebLogic Server 12.2.1.3+ (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 12.2.1.3+.

  Note: With Oracle Utilities Application Framework V4.4.0.0.0 a WebLogic native installation is required. Refer to the *Oracle WebLogic 12.2.1.x Configuration Guide for Oracle Utilities Application Framework (Doc ID 2413918.1)* on My Oracle Support.

Additional Prerequisite Software Information

This section outlines additional information related to installing the prerequisite software, including:

- Setting Up and Using the Additional JAR Directory
- Special Note to Upgrade from a WebLogic 12.1.3.x Environment

Setting Up and Using the Additional JAR Directory

The additional JAR directory must be populated if the Web Application Server Home directory is not set.

For example: The environment is for batch only and the server has no WebLogic installed. In this scenario, the Additional JAR Directory must be created prior to the installation and the following list of WebLogic JARs should be copied to that directory (full path from the actual WebLogic location which must be installed in the web server).

```
<Web Application Server Home Directory>/server/lib/
wlthint3client.jar
<Web Application Server Home Directory>/../oracle_common/modules/
org.codehaus.woodstox.stax2-api.jar
<Web Application Server Home Directory>/../oracle_common/modules/
org.glassfish.jersey.core.jersey-client.jar
<Web Application Server Home Directory>/../oracle_common/modules/
org.glassfish.jersey.core.jersey-common.jar
<Web Application Server Home Directory>/../oracle_common/modules/
org.glassfish.jersey.bundles.repackaged.jersey-guava.jar
<Web Application Server Home Directory>/../oracle_common/modules/
org.glassfish.jersey.core.jersey-server.jar
<Web Application Server Home Directory>/../oracle_common/modules/
org.glassfish.jersey.media.jersey-media-jaxb.jar
<Web Application Server Home Directory>/../oracle_common/modules/
org.glassfish.jersey.media.jersey-media-multipart.jar
if WebLocic 12.2.1.[0-2].0:
<Web Application Server Home Directory>/../oracle_common/modules/
org.codehaus.woodstox.woodstox-core-asl.jar
if WebLocic is not 12.2.1.[0-2].0:
<Web Application Server Home Directory>/../oracle_common/modules/
com.fasterxml.woodstox.woodstox-core.jar
```

If the Additional JAR directory is configured, the initialSetup process will pull those JARs from that directory. If it is not configured, the initialSetup process will pull those JARs from the Web Application Server Home directory.

Special Note to Upgrade from a WebLogic 12.1.3.x Environment

If you are upgrading from an environment which is using WebLogic 12.1.3.x, make sure to follow the steps below prior to the installation:

1. Install Oracle WebLogic Server (Fusion Middleware Infrastructure) 12.2.1.x.

2. Install Oracle Java SE Development Kit 1.8.0_131+ (if not installed yet).

3. Shutdown the application server environment.

4. Take a full backup of the application:

   ```
   $SPLEBASE
   ```

5. Set the environment:

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

6. Reconfigure the environment to point to the new WebLogic and Java (if upgraded Java as well):

   ```
   Execute: configureEnv.sh -i
   Update: "Web Java Home Directory" and "Web Application Server Home
   Directory"
   Type <P> to process (no need to rerun initialSetup.sh).
   ```

7. Set the environment again.

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

8. Upgrade the Oracle Utilities Application Framework to V4.4.0.0.0.

   ```
   install.sh -u
   ```

Chapter 6

Installing the Application Server Component of Oracle Utilities Application Framework

Installing Oracle Utilities Application Framework ("the framework") is the prerequisite and foundation to install a framework-based application, such as Oracle Utilities Customer Care and Billing.

This chapter describes the process to install Oracle Utilities Application Framework, including:

- Installation Overview
- Pre-Installation Tasks
- Installing Oracle Utilities Application Framework
- Installing Hibernate 4.1.0

Installation Overview

Download the installation packages for your Oracle Utilities Application Framework-based application from Oracle Software Delivery Cloud.

Before you proceed with the installation process:

1. Complete the database installation/upgrade process.

   Refer to the *Oracle Utilities Customer Care and Billing Database Administrator's Guide*.

2. Make sure that you have installed all the required third-party software as described in Chapter 5**:** Installing Application Server Prerequisite Software.

After the Oracle Utilities Application Framework installation is successfully completed and the framework application environment is created, install Oracle Utilities Customer Care and Billing on top of the framework environment.

After installing a working Oracle Utilities Application Framework server, configure it 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. Refer to the Supported Platforms section in Chapter 3: Supported Platforms and Hardware Requirements for more details.

Pre-Installation Tasks

Hardware and Software Version Prerequisites

Refer to the Supported Platforms section in Chapter 3: Supported Platforms and Hardware Requirements for all available platforms that are required to install the product.

Database Installation

Verify that the database has been installed and is operational. Refer to *Oracle Utilities Customer Care and Billing Database Administrator's Guide* for more information.

Installation Prerequisites

Refer to Chapter 5**:** Installing Application Server Prerequisite Software for details about the preparations to be done on the server prior to installing the application server.

Please carefully read the server setup requirements and make sure that all prerequisite software is installed and that all required environment variables are set. Accurate server setup and proper environment variable settings are an essential prerequisite for successful environment installation.

Copying and Decompressing Install Media

The Oracle Utilities Application Framework V4.4.0.0.0 installation file is delivered in jar format for both UNIX and Windows platforms.

If you are planning to install multiple Oracle Utilities Application Framework V4.4.0.0.0 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, follow these steps:

1. Log in to the application server host with the Oracle Utilities Application Framework administrator user ID.

2. Download the Oracle Utilities Application Framework V4.4.0.0.0 Multiplatform from Oracle Software Delivery Cloud.

3. Create a temporary directory, such as c:\ouaf\temp or /ouaf/temp. (Referred to below as <TEMPDIR>.)

   Note: This directory must be located outside any current or other working Oracle Utilities application environment. All files that are placed in this directory as a part of the installation can be deleted after completing a successful installation.

4. Copy the file FW-V4.4.0.0.0-MultiPlatform.jar from the delivered package to the <TEMPDIR>. If you are using FTP to transfer this file, remember to use the BINARY option for the FTP transfer.

5. Decompress the file:

   ```
   cd <TEMPDIR>

   jar -xvf FW-V4.4.0.0.0-MultiPlatform.jar
   ```

   Note: In order to be able to execute the "jar" command you need to have the Java JDK installed.

A sub-directory named FW-V4.4.0.0.0 is created. It contains the installation software for the Oracle Utilities Framework Application server.

Setting Permissions for the cistab File in UNIX

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

The install utility checks permissions and if it identifies a lack of the necessary permissions, it generates a script in the <TEMPDIR>/FW-V4.4.0.0.0 directory named cistab_<SPLENVIRON>.sh. Run the generated script using the root account before continuing with the installation process. The script initializes the cistab file in /etc directory (if it is the first Oracle Utilities 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.

Installing Oracle Utilities Application Framework

This section outlines the steps for installing the Oracle Utilities Application Framework.

Installation Process (Brief Description)

1. Log on as the Oracle Utilities Application Framework administrator (the default is cissys on UNIX) or as a user with Administrator privileges (on Windows).

2. Configure your application server and any third-party software required for your platform, as outlined in Chapter 5: Installing Application Server Prerequisite Software.

3. Change directory to the *<TEMPDIR>*/FW-V4.4.0.0.0 directory.

4. Set the following path:

   ```
   export PATH=/<JAVA_HOME>/bin:/<JAVA_HOME>/lib:$PATH
   ```

   Note: The above command is only applicable on a Unix platform. <JAVA_HOME> is the location where the JDK has been installed.

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

   For initial install:

   Unix: `ksh ./install.sh`

   Windows: `install.cmd`

6. Follow the messages and instructions that are produced by the application installation utility. Use the completed worksheets in the Installation Menu Functionality Overview section in Chapter 4: Planning the Installation to assist you.

7. Installation of Oracle Utilities Framework Application Server is complete if no errors occurred during installation.

Installation Process (Detailed Description)

1. Log on to the host server as Oracle Utilities Application Framework administrator.

   Log on as cissys (on UNIX) or as a user with Administrator privileges (on Windows).

2. Configure application server and third-party software.

   Complete all steps outlined in the Installing Application Server Prerequisite Software in Chapter 5: Installing Application Server Prerequisite Software. You will need to obtain specific information for the install.

3. Change directory to the *<TEMPDIR>*/FW-V4.4.0.0.0 directory and start the application installation utility by executing the appropriate script:

   Unix: `ksh ./install.sh`

   Windows: `install.cmd`

4. On the Environment Installation Options menu, select item 1: Environment ID, Roles, Third Party Software Configuration.

   Use the completed Environment ID, Roles, Third Party Software Configuration worksheet in the Installation Menu Functionality Overview section in Chapter 6: Installing the Application Server Component of Oracle Utilities Application Framework to complete this step.

5. Select menu item 2: Keystore Options.

   Use the completed Keystore Options Worksheet to complete this step. See Installation Menu Functionality Overview section in Chapter 6: Installing the Application Server Component of Oracle Utilities Application Framework.

6. Select menu item 50: Environment Installation Options.

   Use the completed Environment Installation Options Worksheet to complete this step. See Installation Menu Functionality Overview section in Chapter 6: Installing the Application Server Component of Oracle Utilities Application Framework.

   > **Note:** You must create the directory for output (the Log Mount Point). The installation process fails if this directory does not exist.

   - Specify the environment mount point, log files mount point, name and the environment directory names for a new installation on a menu screen.
   - Specify the web application server type your environment will run with (the default will be WebLogic).
   - Specify if you want to install the application viewer module.
   - Specify if you want to install the demo certificate generation scripts.
   - Specify if you want to install sample custom code.
   - Enter P to accept the selected options.
   - During this step, the specification of a new environment is checked for validity against /etc/cistab and the permissions on mount points and directories.

7. Configure environment parameters.

   - During this step you will configure environment parameters such as web server hosts and ports, database name, and user ID.
   - The application installation utility shows default values for some configuration options.
   - Use the completed Environment Configuration Worksheet to assist you.

   > **Note**: Some options require a value for a successful install. It is important to provide these values as described in the previous sections.

   - When you are done with the parameters setup, proceed with the option P.
   - All of the options will be written in the following File: $ SPLEBASE/etc/ENVIRON.INI.
   - You will be warned if you did not edit a section. You may proceed if you want to keep the default settings.
   - The application installation utility copies the installation media to a new environment.

- The application installation utility generates environment configuration parameters.

  The application installation utility automatically executes the script initialSetup.sh (on UNIX) or initialSetup.cmd (on Windows), located in $SPLEBASE/bin (%SPLEBASE%\bin on Windows) directory. This script populates different application template configuration files with the new environment variables values and completes the rest of the installation steps.

8. Set up environment variables.

   Once the ENVIRON.INI file is created and contains the correct environment parameters, the application installation utility starts a sub shell to the current process by executing the splenviron.sh (on UNIX) or splenviron.cmd (on Windows) script, located in $SPLEBASE/bin (or *%SPLEBSE%\etc for Windows)* directory. This script sets up all the necessary environment variables and shell settings for the application server to function correctly.

   From this point, a number of environment variables have been set up. Some key ones are:

   - $PATH - an adjustment to $PATH is made so that all of the environment scripts and objects will be in the path.
   - $SPLEBASE (%SPLEBASE%) - stands for <SPLDIR>/ <SPLENVIRON> directory
   - $SPLOUTPUT (%SPLOUTPUT%) - stands for <SPLDIROUT>/ <SPLENVIRON> directory
   - $SPLENVIRON (%SPLENVIRON%) - environment name

   For future operations or any post installation steps, you need to first execute the following command to setup 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.

   Refer to Chapter 4: Planning the Installation for settings and configuration.

Configuring the OUAF Keystore

Refer to the *Security Guide* available in the documentation package for a detailed description of the keystore.

Installing Hibernate 4.1.0

You must install Hibernate before installing the product.

To install Hibernate external jar files to the Hibernate 3rd party jars depot:

1. Create a Hibernate jar external depot:

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

2. Download the hibernate-release-4.1.0.Final.zip file from http://sourceforge.net/projects/hibernate/files/hibernate4/.

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

4. Extract the contents of the archive file:

   ```
   unzip hibernate-release-4.1.0.Final.zip
   ```

   Note: You must have Java JDK installed on the machine to use the jar command. Make sure you install the JDK supported for your platform.

5. Copy the jar files to your Hibernate jar directory ($HIBERNATE_JAR_DIR) using the following commands:

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

6. Download the hibernate-release-5.2.3.Final.zip file from the following link to get the jboss-logging-3.3.0.Final.jar.
   https://sourceforge.net/projects/hibernate/files/hibernate-orm

7. Click the "5.2.3.Final" link to download the zip file.

8. Extract the contents of the archive file using the following command

   ```
   unzip hibernate-release-5.2.3.Final.zip
   ```

9. Copy the jboss-logging-3.3.0.Final.jar file to your Hibernate jar directory ($HIBERNATE_JAR_DIR) using the following command:

   ```
   cp hibernate-release-5.2.3.Final/lib/required/jboss-logging-
   3.3.0.Final.jar to $HIBERNATE_JAR_DIR
   ```

Chapter 7

Installing the Application Server Component of Oracle Utilities Customer Care and Billing

This chapter describes the procedure to install Oracle Utilities Customer Care and Billing on top of the previously created Oracle Utilities Application Framework environment. It focuses on the following:

- Introduction
- Pre-installation Tasks
- Installing the Application
- Integrating Customer Modifications into This Release
- Operating the Application
- Installing Service Packs and Patches

Introduction

You can download the installation package from the Oracle Software Delivery Cloud. If the Framework installation was processed on previously existing Oracle Utilities Customer Care and Billing environment, then customer modifications relevant for this version and compliant with the proper naming conventions (as described in the *Oracle Utilities Customer Care and Billing Database Administrator's Guide)* have been preserved in the new environment by the Framework installation process.

To proceed with the Oracle Utilities Customer Care and Billing installation you need to be connected to the target framework application environment. See the detailed installation instructions in the following sections.

You *must* initialize the Framework environment along with the required Patch Set prior to proceeding with Oracle Utilities Customer Care and Billing installation. For detailed instructions refer to the Preparing for the Installation section in this chapter.

Pre-installation Tasks

This section describes the steps that should be performed before installing Oracle Utilities Customer Care and Billing.

Installing Prerequisite Patches

Oracle Utilities Application Framework patches must be installed prior to installing Oracle Utilities Customer Care and Billing.

The patches are available as a convenience rollup in the CCB-V2.7.0.1.0-FWPREREQ-MultiPlatform.zip file, which is part of the downloaded media pack.

For a list of patches included in this rollup, refer to Appendix A: Application Framework Prerequisite Patches.

To install the application and database patches on top of Oracle Utilities Application Framework 4.4.0.0.0:

1. Copy the file CCB-V27010-FW-PREREQ-MultiPlatform.jar in the delivered package to a <TEMPDIR>. Unjar using the command below.

    ```
    jar -xvf CCB-V27010-FW-PREREQ-MultiPlatform.jar
    ```

2. Initialize the Oracle Utilities Application Framework environment to install the Framework patch rollup into.

    UNIX

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

    Windows

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

3. Install application patches.

    a. Navigate to the <temp location>/FW-V4.4.0.0.0-Rollup/Application folder.

    b. Execute the group installation script.

Unix /Linux

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

Windows

```
installSFgroup.cmd
```

Copying and Decompressing Install Media

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

Oracle Utilities Customer Care and Billing is delivered in a separate installation package for each supported Operating System. Refer to the Supported Platforms section in Chapter 3: Supported Platforms and Hardware Requirements for version and installation details regarding the database and operating system versions. Also refer to Chapter 5: Installing Application Server Prerequisite Software for the prerequisite third-party software installation instructions.

Download the installation package for your operating system and proceed with the following instructions.

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

2. Create a <TEMPDIR> directory on the host server, which is independent of any current or other working Oracle Utilities Customer Care and Billing application environment. This can be the same <TEMPDIR> used during the installation of the Oracle Utilities Application Framework.

3. Copy the file CCB-V2.7.0.1.0-MultiPlatform.jar in the delivered package to a <TEMPDIR>. If you are using FTP to transfer this file, remember to use the BINARY option for the FTP transfer.

4. Decompress the file:

   ```
   cd <TEMPDIR>
   ```

   ```
   jar -xvf CCB-V2.7.0.1.0-MultiPlatform.jar
   ```

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

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

For both Unix and Windows platforms, a sub-directory named CCB.V2.7.0.1.0 is created. The contents of the installation directory are identical for both platforms. The directory contains the install software for the application product.

Preparing for the Installation

1. Log on as an Oracle Utilities Customer Care and Billing Administrator (default is "cissys").

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

    UNIX:

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

    Windows:

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

3. Stop the environment if running.

Installing the Application

To install the Oracle Utilities Customer Care and Billing application:

1. Change to the <TEMPDIR>/CCB.V2.7.0.1.0 directory.

2. Set the following path:

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

    > **Note:** The above command is only applicable on a Linux platform.
    > <JAVA_HOME> is the location where the JDK has been installed.

3. Execute the script:

    UNIX

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

    Windows

    ```
    install.cmd
    ```

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

4. Follow the messages and instructions that are produced by the install utility. Please note that some of the steps may take some time to complete.

5. If the install utility execution was not stopped due to errors and you did not interrupt the execution, you have finished the installation of the Oracle Utilities Customer Care and Billing Application product.

6. Execute the following commands:

    UNIX
    ```
    splenviron.sh -e <ENV_NAME>
    configureEnv.sh
    ```

    Type **P** and <ENTER> (you don't need to change anything)

    ```
    splenviron.sh -e <ENV_NAME>
    initialSetup.sh
    ```

    Windows
    ```
    splenviron.cmd -e <ENV_NAME>
    configureEnv.cmd -e <ENV_NAME>
    ```

Type **P** and <ENTER> (you don't need to change anything)

```
splenviron.cmd -e <ENV_NAME>
initialSetup.cmd
```

7. Start up the environment.

The final step of the installation process is the environment startup. The install utility executes the command spl.sh start (for UNIX) or spl.cmd start (for Windows) to start up the environment. You may start the environment by this command any time. Follow the messages on the screen and check the logs in $SPLSYSTEMLOGS (%SPLSYSTEMLOGS% on Windows) directory to ensure that the environment was started successfully. If the startup failed, identify the problem by reviewing the logs, and start up the environment manually while you are connected to the new environment in your online session.

Installing Post-release Patches

Oracle Utilities Customer Care and Billing patches must be installed after installing Oracle Utilities Customer Care and Billing

The patches are available as a convenience rollup inside the CCB-V2.7.0.1.0-Rollup-MultiPlatform.zip file, which is part of the downloaded media pack.

For a list of the patches included in this rollup, refer to Appendix C: Oracle Utilities Customer Care and Billing Post-release Patches.

To install the application and database patches on top of Oracle Utilities Customer Care and Billing 2.7.0.1.0:

1. Copy the CCB-V27010-Rollup-MultiPlatform.jar in the delivered package to a <TEMPDIR>. Unjar using below command.

    ```
    jar -xvf CCB-V27010-Rollup-MultiPlatform.jar
    ```

2. Initialize the Oracle Utilities Customer Care and Billing environment to install the Oracle Utilities Customer Care and Billing patch rollup into.

    UNIX

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

    Windows

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

3. Install application patches.

    a. Navigate to the <temp location>/CCB-V2.7.0.1.0-Rollup/Application folder.

    b. Execute the group installation script.

        Unix /Linux

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

        Windows

        ```
        installSFgroup.cmd
        ```

4. Start up the environment.

Integrating Customer Modifications into This Release

In order to integrate customer modifications from previous releases into this version of the Oracle Utilities Customer Care and Billing, the customer modifications have to be re-applied to a new environment using the source code and database utilities provided with the software development kit. Please refer to the Oracle Utilities Customer Care and Billing Software Development Kit product documentation for instructions on this process.

Operating the Application

At this point your installation and custom integration process is complete.

Be sure to read the *Oracle Utilities Customer Care and Billing Server Administration Guide* for more information on further configuring and operating the Oracle Utilities Customer Care and Billing system.

Installing Service Packs and Patches

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

Between services packs, Oracle Utilities releases 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 (https://support.oracle.com/).

Chapter 8

Additional Tasks

This chapter describes the tasks that should be completed after installing Oracle Utilities Customer Care and Billing, including:

- Importing Self-Signed Certificates
- Customizing Configuration Files
- Integrating Existing Customer Modifications
- Generating the Application Viewer
- Building Javadocs Indexes
- Configuring the Environment for Batch Processing
- Customizing the Logo
- Deploying Inbound WebServices (IWS)
- Domain Templates

Importing Self-Signed Certificates

If you are using self-signed certificates and the Inbound Web Services (IWS) feature, it is required that these certificates are imported into the OUAF truststore file.

To import the self-signed certificates:

1. Start WebLogic.

2. Initialize a command shell and setup the environment:

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

   For example:
   ```
   /ouaf/TEST_ENVIRON1/bin/splenviron.sh -e TEST_ENVIRON1
   ```

   Windows
   ```
   %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 the information. If the [<server>:<port>] are not specified, they will be retrieved from ENVIRON.INI.

   UNIX
   ```
   $SPLEBASE/bin/initialSetup.sh -i [<server>:<port>]
   ```

   Windows
   ```
   %SPLEBASE%\bin\ initialSetup.cmd -i [<server>:<port>]
   ```

   Note: Execute these commands before deploying the IWS application.

Customizing Configuration Files

To make customer modifications to various configuration files, create a 'CM copy' of the template file or user exit instead. This preserves the changes whenever initialSetup is executed; else, the changes to the delivered template files will be lost if it is patched in the future.

Below is a sample procedure to customize Hibernate properties of the SPLWeb web application:

1. Locate the hibernate.properties.template in the $SPLEBASE/templates directory.

2. Copy the file to cm.hibernate.properties.template.

3. Apply the changes to cm.hibernate.properties.template.

4. Update the application war file with the latest changes:

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

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

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

Centralized Properties Customization

This feature gives the ability to add, modify, and remove properties in one file. The properties are propagated to the specified property files. The template process, which is part of the initialSetup step, will look at the files etc/cm_properties.ini (this can be created as a Customer Customization), if the file exists the content will be processed for the relevant properties.

> **Note**: Product teams might use this file format: etc/<PROD>_properties.ini (where <PROD> could be one of the list of installed products included in etc/PRODUCT.txt). If it exits it will be processed as well.

cm_properties.ini examples
Type of entries that could be included into cm_properties.ini and relevant type of action:

<PROPERTIES_FILE>:<PROPERTY_NAME>=<VALUE>

- Override <PROPERTY_NAME> in <PROPERTIES_FILE> with <VALUE> if exists.

- Insert <PROPERTY_NAME> in <PROPERTIES_FILE> with <VALUE> it doesn't exists.

<PROPERTY_NAME>=<VALUE>

- Override <PROPERTY_NAME> in all property files with <VALUE>, if <PROPERTY_NAME> exists.

<PROPERTIES_FILE>:<PROPERTY_NAME>=[DELETE]

- Remove <PROPERTY_NAME> from <PROPERTIES_FILE> if exists.

<PROPERTY_NAME>=[DELETE]

- Remove <PROPERTY_NAME> from all property files, if <PROPERTY_NAME> exists.

Template example -> hibernate.service.properties.template:

```
hibernate.user = @DBUSER@
hibernate.pass = @DBPASS@
hibernate.ucp.validate_connection = true
```

ENVIRON.INI example:

```
DBUSER=cisadm
```

cm_properties.ini example:

```
hibernate.service.properties.template:hibernate.user=clouduser
hibernate.password=cloudpwd
hibernate.iws.properties.template:hibernate.user=clouduser
```

```
hibernate.service.properties.template:hibernate.ucp.validate_conne
ction=[DELETE]
hibernate.service.properties.template:new.property=test
```

hibernate.service.properties generated properties file result:

```
### The following line was overridden because <PROD>_properties.ini
file setting:
hibernate.user=clouduser
### The following line was overridden because <PROD>_properties.ini
file setting:
hibernate.password=cloudpwd
### The following line was deleted because <PROD>_properties.ini
file setting:
# hibernate.ucp.validate_connection = true
### The following line was appended because <PROD>_properties.ini
file setting:
new.property = test
```

hibernate.iws.properties generated properties file result:

```
### The following line was overridden because <PROD>_properties.ini
file setting:
hibernate.user=clouduser
### The following line was overridden because <PROD>_properties.ini
file setting:
hibernate.password=cloudpwd
```

Integrating Existing Customer Modifications

Existing Customer Modifications (CM) applied to an application server on an earlier release cannot be applied directly to a later version. CM code needs to be applied from an SDK version compatible with this release.

Refer to the Oracle Utilities Application Framework SDK documentation for more information about migrating CM code.

Generating the Application Viewer

You may extend the application viewer capabilities within an environment by generating additional items. These include information about algorithm types, algorithms, maintenance objects and data dictionary. 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 and setup the environment:

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

   Example:

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

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

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

3. Execute the following script to generate all information.

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

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

4. Restart your application.

Building Javadocs 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 the customer modifications (CM) have been applied to an environment when it includes Java code.

To rebuild the Javadoc indexes, run the command below:

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

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

Configuring the Environment for Batch Processing

Refer to the *Server Administration Guide* for information on configuring the environment for batch processing.

Customizing the Logo

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

UNIX:

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

The root directory may be deployed in war file format for runtime environment (SPLApp.war). Use provided utilities to incorporate your cm directory into SPLApp.war file.

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 inbound web services 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 inbound web services to take full advantage of the new, more efficient Web service technology.

For more information on migrating from XAI to IWS, 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 detailed instructions to deploy inbound web services, refer to *Oracle WebLogic 12.2.1.x Configuration Guide for Oracle Utilities Framework (Doc ID 2413918.1)* on My Oracle Support.

To deploy inbound web services:

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 options as below:

    - "IWS Deployment Target" is recommended to be set to the server to which the web service EAR will be deployed.

    - "Web Admin Server Host" is recommended to be set to the WebLogic admin server host.

    Select option 52 and set the option as below:

    - "This is a development environment" is recommended to set to true to allow web service deployment from the browser user interface.

    Enter "P" to process.

2. Execute initialSetup.sh.

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

3. Create an Oracle WebLogic user configuration file (as <SPLEBASE>/etc/.wlsuserconfig) and an associated key file (as <SPLEBASE>/etc/.wlsuserkey).

    Refer to the Oracle WebLogic product documentation on the storeUserConfig WLST command for additional details.

Make sure the admin server and web service target managed server(s) are running.

4. Run `initialSetup[.sh|.cmd] -i` to import the WebLogic server certificate into the Oracle Utilities Application Framework trust key store.

```
initialSetup.sh -i
```

5. Execute the step below in $SPLEBASE/bin to deploy the web service EAR file. Please note that the application server should be up before running the below command.

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

Windows

1. Enable the Web Services functionality as shown below:

   a. cd $SPLEBASE/bin

   b. Execute configureEnv.cmd –a

   Select option 50 and set the options as below:

   - "IWS Deployment Target" is recommended to be set to the server to which the web service EAR will be deployed.

   - "Web Admin Server Host" is recommended to be set to the WebLogic admin server host.

   Select option 52 and set the option as below:

   - "This is a development environment" is recommended to set to true to allow web service deployment from the browser user interface.

   Enter "P" to process.

2. Execute initialSetup.sh.

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

3. Create an Oracle WebLogic user configuration file (as <SPLEBASE>/etc/.wlsuserconfig) and an associated key file (as <SPLEBASE>/etc/.wlsuserkey).

   Refer to the Oracle WebLogic product documentation on the storeUserConfig WLST command for additional details.

   Make sure the admin server and web service target managed server(s) are running.

4. Run `initialSetup[.sh|.cmd] -i` to import the WebLogic server certificate into the Oracle Utilities Application Framework trust key store.

```
initialSetup.cmd -i
```

5. Execute the step below in $SPLEBASE/bin to deploy the web service EAR file. Please note that the application server should be up before running the below command.

```
ksh ./iwsdeploy.cmd
```

Domain Templates

Configure the WebLogic application server to deploy it. Refer to the *Oracle WebLogic 12.2.1.x Configuration Guide for Oracle Utilities Framework (Doc ID 2413918.1)* on My Oracle Support for more details.

Chapter 9

Upgrading Oracle Utilities Customer Care and Billing

This chapter provides the instructions to upgrade Oracle Utilities Customer Care and Billing, including:

- Upgrade Paths
- Before You Upgrade
- Upgrade Procedure
- Post-Upgrade Verifications
- Installing Service Packs and Patches

Upgrade Paths

The following upgrade paths are applicable to this release:

- From v2.7.0.0.0 to v2.7.0.1.0

  Note: Before you can upgrade you must have a prior version installed. If not, follow the procedures described in Chapter 6: Installing the Application Server Component of Oracle Utilities Application Framework and Chapter 7: Installing the Application Server Component of Oracle Utilities Customer Care and Billing in this guide.

Before You Upgrade

Review the list of operating system, application server, and database server combinations supported for this version of Oracle Utilities Customer Care and Billing in the Supported Platforms section in Chapter 3: Supported Platforms and Hardware Requirements.

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

> **Note:** While upgrading a previously installed application server, it is recommended to take a backup before starting the upgrade procedure. The upgrade installation removes the existing environment including the configurations.

Upgrade Procedure

The upgrade installation procedure consists of:

- Upgrading the Database Component
- Upgrading the Application Component

Upgrading the Database Component

Upgrading the Oracle Utilities Customer Care and Billing database component must be complete before you can upgrade the application component.

Refer to the **Upgrade Install** section in the *Oracle Utilities Customer Care and Billing Database Administrator's Guide* for instructions to upgrade the database component.

Upgrading the Application Component

A successful upgrade consists of the following steps:

- Upgrading the Oracle Utilities Application Framework Application Component
- Upgrading the Oracle Utilities Customer Care and Billing Application Component

Upgrading the Oracle Utilities Application Framework Application Component

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

- Copying and Decompressing Install Media for the Oracle Utilities Application Framework Application Component
- Setting Permissions for the cistab file in UNIX for the Oracle Utilities Application Framework Application Component
- Upgrading the Oracle Utilities Customer Care and Billing Application Component

Copying and Decompressing Install Media for the Oracle Utilities Application Framework Application Component

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

Refer to the Copying and Decompressing Install Media section in Chapter 6: Installing the Application Server Component of Oracle Utilities Application Framework for instructions on copying and decompressing install media.

Setting Permissions for the cistab file in UNIX for the Oracle Utilities Application Framework Application Component

Refer to the Set Permissions for the cistab File in UNIX section in Chapter 6: Installing the Application Server Component of Oracle Utilities Application Framework for instructions.

Upgrading the Oracle Utilities Application Framework Application Component

To upgrade the Oracle Utilities Application Framework application component:

1. Login to the application server host as administrator (the default is cissys on **UNIX**) or as a user with administrator privileges (on Windows).

2. Change directory to the bin folder.

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

   where <install_dir> is the location where the Oracle Utilities Application Framework V4.4.0.0.0 base application component is installed.

3. Initialize the environment by running the appropriate command:

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

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

4. Change directory to the <TEMP_DIR>/FWV4.4.0.0.0 directory.

   NOTE: While installing Application Framework V4.4.0.0.0 from the previous environment to Oracle Utilities Customer Care and Billing V2.7.0.1 the install utility removes the existing environment and re-creates the environment. Take a backup before you proceed with installing Application Framework V4.4.0.0.0 to retain any configurations for future reference.

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

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

   Windows Server
   ```
   installSP.cmd
   ```

6. Once the install or upgrade has finished, the installation log location is displayed on the screen. If the log does not list any error messages, the installation of the application component of Oracle Utilities Application Framework is complete.

Upgrading the Oracle Utilities Customer Care and Billing Application Component

This section describes how to install the application component of Oracle Utilities Customer Care and Billing, including:

- Copying and Decompressing Oracle Utilities Customer Care and Billing Install Media
- Upgrading the Oracle Utilities Customer Care and Billing Application Component
- Creating WebLogic Domain

Copying and Decompressing Oracle Utilities Customer Care and Billing Install Media

The Oracle Utilities Customer Care and Billing installation file is delivered in jar format for both UNIX and Windows platforms.

Refer to the Copying and Decompressing Install Media section in Chapter 6: Installing the Application Server Component of Oracle Utilities Application Framework for instructions on copying and decompressing install media.

Upgrading the Oracle Utilities Customer Care and Billing Application Component

Refer to the Installing the Application section in Chapter 7: Installing the Application Server Component of Oracle Utilities Customer Care and Billing for steps to upgrade the Oracle Utilities Customer Care and Billing application component.

Creating WebLogic Domain

With Oracle Utilities Application Framework V4.4.0.0.0 a WebLogic native installation is required. Refer to *Oracle WebLogic 12.2.1.x Configuration Guide for Oracle Utilities Application Framework (Doc ID 2413918.1)* on My Oracle Support for more information.

Post-Upgrade Verifications

After you complete the upgrade, verify the following:

1. Verify installation logs created under decompressed installer location for any errors.

2. Confirm that the installation logs do not contain any errors.

3. Confirm that all the configurations are correct.

   Refer to the Installation and Configuration Worksheets section in Chapter 4: Planning the Installation for details.

4. Confirm that the database is ready.

5. Generate the Application Viewer.

6. Start the application server.

At this point, the installation is complete.

Refer to the *Oracle Utilities Customer Care and Billing Server Administration Guide* for more information on further configuring and operating the system.

Installing Service Packs and Patches

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

Between services packs, Oracle Utilities releases patches to fix individual bugs. For information about installing patches, refer to **Document ID 974985.1** on My Oracle Support.

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

Appendix A

Application Framework Prerequisite Patches

Oracle Utilities Application Framework patches must be installed prior to installing Oracle Utilities Customer Care and Billing. The patches listed below are available as a convenience rollup, CCB-V2.7.0.1.0-FW-PREREQ-MultiPlatform.zip included in the downloaded media pack.

Refer to the instructions included in the rollup directory for steps to install the patches.

Bug Number	Description
28922633	PLACEHOLDER FOR TO DO MANAGEMENT PORTAL FIXES
28942032	INTEGRATE NEW UI CHANGES [UPDATE 1116, 1121, 1129]
28943536	UNNECESSARY SCROLLBAR IN IFRAMES (PKAREAPKPANEL)
28943625	GAP BETWEEN LABEL & FIELD IN OLD AND NEW STYLE PAGES
28943654	MISSING NEW CLOCK ICON
28943705	SEARCH ICONS ARE NOT ALIGNED ON OLD STYLE SEARCH PAGES
28943711	END OF ZONE LINE OVERLAPPING WITH TABLE IN CLOSING ZONE (DASHBOARD)
28975950	ADA : KEYBOARD FOCUS ISSUE IN DATA EXPLORER POP UP'S
28983549	COMMENT / LOG ICONS ON CURRENT TO DO ZONE ARE STRETCHED TO THE WIDTH OF THE ZONE
28987400	RADIO BUTTON SIZES ARE TOO BIG ON CHROME AND IE
28987420	HISTORY MENU LIST IS SHOWN INCONSISTENTLY, WHEN HISTORY VIEWED
29003938	RATE CHECK PAGE IS UNRESPONSIVE
29008460	INVALID VALUES IN DROPDOWNS ON DATAEXPLORER WHEN NAVIGATING BACK/FORWARD TO A PAGE
29015274	SEARCH MENU INPUT HAS A BORDER
29016780	PROCESS CONTROLLER ISSUES POST UI RESKIN

Bug Number	Description
29020764	COPY OF 28884365 - COPY OF 28660926 - UNABLE TO ADD CHARACTERISTICS WHEN CREATING TO DO ENTRY AT IE11.0.9600
29021511	COMPLETION BANNER IN PROCESS CONTROLLER
29023096	INTEGRATE NEW UI CHANGES [UPDATE 1205]
29024305	COPY 28400576 - MDM WEBLOGIC SERVERS GOING INTO CRITICAL STATE AND THEN GOING INTO FAILED STATE
29024808	GROOVY JAVADOCS ARE NOT GENERATED IN 23000 ENVS (MAIN AND II)
29025833	LOGGING CHANGES TO SUPPORT CLOUD INSTALLATIONS
29028127	INTEGRATE NEW UI CHANGES [UPDATE 1206]
29029569	COPY 28584400 - MDM: UPDATE REPLACE ACTION TO NOT CALL UPDATE - REDUCE GC
29030254	PROCESS FLOW DELETE CONFIRMATION HAS CONFUSING TEXT
29041677	MENUS ARE NOT WORKING IN RTL ALIGNMENT
29047911	INTEGRATE NEW UI CHANGES [UPDATE 1211]
29053862	PROCESS CONTROLLER: IMAGE FIELDS ARE ACCESSIBLE VIA KEYBOARD IN READONLY PANELS
29058794	UI RESKIN - NEW LOGIN SCREEN
29138184	MISSING GRIDLINES FOR F1-CHARADDDELETEBUTTON
29139592	UPGRADE SWAGGER UI TO 3.18.1
29139618	NEW APPLICATION LOGO FOR FRAMEWORK
29148046	EXTRA VERTICAL SPACING ON OLD STYLE SEARCH PAGES
29161746	TO DO MANAGEMENT PORTAL - MULTIPLE CHAR FILTERS ISSUE
29163044	IMPROVE ERROR HANDLING FOR JUST-IN-TIME PROVISIONING ON IDCS SERVLET FILTERS
29167072	OUAF-6687: CNE BATCH DRAIN OUT
29168331	UI FIXES: REM GRID LINES FOR GRIDS IN DASHBOARD ZONES AND POS OF WORKLIST ICONS
29172836	UI RESKIN PACKAGE IMAGE, STYLESHEET UPDATES AND PROCESS CONTROLLER FIXES

Appendix B

Oracle Utilities Customer Care and Billing Fixes

The following table lists the Oracle Utilities Customer Care and Billing fixes included in this release:

Bug Number	Description
19262743	JOINING TO FT ON SIBLING_ID
28512619	COPY OF 28473189 - ALGORITHM TYPE(CSEN-CC) IS TRYING TO CREATE WRONG CC CHAR
28519635	COPY OF 28058916 - BATCH TD-PYUPL, BASE CODE CIPQPYUB TO DO ISSUE
28528747	COPY OF 27912665 - CIPWEBPX ERROR WHEN RUNNING WFET BATCH
28535683	COPY OF 27507288 - VAT/CCL - DE-MINIMIS CALCULATION ISSUE
28558827	COPY OF 28491781 - DESCRIPTION COLUMN ON BILL SEGMENT CALC LINE SCREEN IS DISPLA
28558833	COPY OF 28411296 - BILLING BATCH GENERATES A WORK IN PROGRESS TODO'S WITH A DATE
28566430	COPY OF 25896444 - PERSON ADDRESS VALIDATION
28566514	COPY OF 26978686 - XML WIDTH SHOULD BE INCREASED TO SHOW TEXT IN A SINGLE LINE
28575151	UNABLE TO CREATE NON-CIS PAYMENT WITH CREDIT CARD AUTHORIZATION
28579101	COPY OF 27977926 - SEARCHING VIA GEOGRAPHIC TYPE IN CONTROL CENTRAL CAUSES CCB T
28612517	COPY OF 27340473 - FA IS NOT BROADCASTED ON PREMISE->PREMISE PORTAL->SOM INFORMA
28618873	COPY OF 28086522 - CONTINUOUS ISSUE WITH BUG 27959364
28644530	COPY OF 28589857 - PREV QUANTITY SQ IS NOT FETCHED IN BSEG FOR BILLABLE CHARGE

Bug Number	Description
28695061	COPY OF 28565461 - PREMISE TREE DISPLAYS DUPLICATE ACCOUNT NODES
28695116	COPY OF 28222791 - PUPL'S PROCESSED RECORDS COUNTER INCREMENTED FOR STAGINGS AND
28697462	COPY OF 27525486 - UNABLE TO DELETE ITEM OF TRACK LOCATION TYPE
28714970	COPY OF 28209381 - FA SYNC REQUEST ERRORS OUT FOR VALID DUPLICATE SA/SPS SCENARI
28749356	COPY OF 28730546 - RATE CHECK, RESULTS TAB, MAIN ZONE, CALCULATED AMOUNT DISPLAY
28770653	COPY OF 28718882 - CUP-409 - INCORRECT CURRENCY SIGN IS DISPLAYED UNDER ACCOUNT
28778155	COPY OF 28755132 - BILL ID FOREIGN KEY REFERENCE VALIDATION NOT WORKING
28789141	COPY OF 28148792 - UPGRADE 2.6 - ERROR LOADING C1FACOMPLETIONWITHSTEPS WSDL
28803424	COPY OF 28795940 - BILL SEGMENT ERROR WHEN METERED SQ IS NEGATIVE
28803430	COPY OF 28513100 - NO APPOINTMENT RETURNED FROM CC&B WITH DEFAULT ABG
28829001	COPY OF 27857094 - ALLOWING TO DEL THE TODO ROLE, WHICH IS IN USE ON RESPECTIVE
28867780	COPY OF 28530582 - WO EVT LTR ALGORITHM WILL NOT CREATE CUSTOMER CONTACT WITH PREDEFINED VALUE
28888701	APPOINTMENT VALIDATION MESSAGE ISSUE
28899929	COPY OF 28710677 - CUSTOMER CONTACT TYPE PHYSICAL BO MISSING CUSTOMARCHIVEELIGIBILITYCRITERIA
28971536	COPY OF 28298457 - SAACT CREATES ADDITIONAL CANCELED AND PENDING FAS FOR SAME DA
28980380	COPY OF 27956650 - CSS ENROLL ACCOUNT WITH INVALID ACCOUNT ID
29008045	COPY OF 28839697 - COMPLETED ORDER WIPES OUT PER_DATA_AREA WHEN ONE OF THE PENDI

Appendix C

Oracle Utilities Customer Care and Billing Post-release Patches

The following table lists the Oracle Utilities Customer Care and Billing post-release patches included in this release:

Bug Number	Description
27580126	FIX DESCRIPTION OF IWS - FORMS MANAGEMENT INBOUND XAI SERVICE
29038996	FIELDS ARE NOT DISPLAYED CORRECTLY ON MAINTENANCE UI MAP
29057125	UI RESKIN: VERIFY C1/IMAGES ARE UPDATED
29061172	PAPF - ALIGNMENT ISSUE ON PAYMENT ARRANGEMENT TYPE DOWNPAYMENT
29115131	PAPF - DUPLICATE PROCESS FLOWS CREATED WHEN AUTO-SAVE IS 'YES'
29115536	PAPF - SYSTEM DATA FIXES: WORK_FLD_SW, HELP AND DESCRIPTION FIXES
29115800	UI-RESKIN ISSUE: MISSING GRID LINES ON THE INLINE GRID
29118930	UI RESKIN - OLD STYLE SEARCH - ICON LOCATION
29125358	CHARACTERISTIC VALUE NOT GETTING DISPLAYED FOR CALCULATION RULE
29129934	PAPF - DAYS UNTIL NEXT BILL ALERT WHEN CIS DIVISION IS BLANK IN BILL CYCLE
29130027	APPLY DUP PERSON VALIDATION ONLY WHEN RECORD IS CHANGED
29140869	PAPF - PANEL LAYOUT CHANGES
29140983	UI RESKIN: NEW APPLICATION LOGO
29146615	UI RESKIN - OLD CAROUSEL CONTROL
29157896	UI RESKIN: VARIOUS ALIGNMENT ISSUES
29173408	CUSTOMER CONTACT DASHBOARD ZONE - NEW XSL

Bug Number	Description
29187385	UI RESKIN ISSUE: PA RQUEST DOWN PAYMENT AMOUNT AND DUE DATE DISPLAY
29190860	PAPF - SA GRID MISSING LEFT BORDER WHEN MANUAL SELECTION IS NOT ALLOWED
29194821	COPY OF PAPF - PA REQUEST DETAILS ZONE (USABILITY): PROVIDE DIRECT NAV TO PA REQUEST AND PA SA
29201739	ISSUES FOUND ON THE RATE SCHEDULE DISPLAY
29205293	PAPF - PA REQUEST ELIGIBILITY CRITERIA ADDTIONAL SCENARIO FOR PASS