

# **Oracle Utilities Customer Care and Billing**

Installation Guide

Release 2.3.1

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# Preface

This guide describes how to install Oracle Utilities Customer Care and Billing.

This preface contains these topics:

- **Audience**
- **Related Documents**
- **Updates to this Documentation**
- **Conventions**

## Audience

Oracle Utilities Customer Care and Billing Installation Guide is intended for system administrators installing Oracle Utilities Customer Care and Billing.

To use this document you should have:

- Experience installing and configuring application servers and other software
- Administrative privileges on the host where you are installing the software

## Related Documents

For more information, see these Oracle documents:

- *Oracle Utilities Customer Care and Billing Quick Install 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 Operations and Configuration Guide*
- *Oracle Utilities Customer Care and Billing Batch Operations and Configuration Guide*

## Updates to this Documentation

Refer to article 1191393.1 on My Oracle Support for up-to-date additional information.

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# Conventions

The following text conventions are used in this document:

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



# Chapter 1

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## Overview

This chapter provides an overview of the installation of Oracle Utilities Customer Care and Billing, including:

- **Installation Overview**

# 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. Review the different types of application installations as described in **Chapter 3: Installation Types**.
3. Understand the hardware requirements for installing the application and the supported platforms for the application and database servers as described in **Chapter 4: 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*.

4. Plan your installation as described in **Chapter 5: Planning the Installation**.
5. Install the database as described in **Chapter 6: Installing the Database**, and in the document *Oracle Utilities Customer Care and Billing Database Administrator's Guide*.
6. Install all required third-party software as described in **Chapter 7: Installing Application Server Prerequisite Software**. The required software is listed for each supported combination of operating system and application server.
7. Install the framework for the application as described in **Chapter 8: Installing the Application Server Component of Oracle Utilities Application Framework**.
8. Install Oracle Utilities Customer Care and Billing as described in **Chapter 9: Installing the Application Server Component of Oracle Utilities Customer Care and Billing**.
9. Follow the installation guidelines described in **Chapter 10: Additional Tasks**.

# Chapter 2

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## Application Architecture Overview

This section provides an overview of the application architecture. It includes the following section:

- **Application Architecture**

# Application Architecture

The Oracle Utilities Customer Care and Billing application is deployed on multiple tiers.

Please see *Oracle Utilities Customer Care and Billing Operations and Configuration Guide*, available on My Oracle Support, 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 or business application server. The business application component can be installed as part of the Web application server, or as a separate component. Except where explicitly noted, most of the Oracle Utilities Customer Care and Billing installation documentation assumes that the Web application and business application servers reside together.

## 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

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## Installation Types

This section provides an overview of the two types of application installation. It includes the following section:

- **Initial Installation Compared with Upgrade Installation**

## Initial Installation Compared with Upgrade Installation

Customers installing this version of Oracle Utilities Customer Care and Billing application may or may not have used previous versions of the application.

- If you have not installed and used previous versions of Oracle Utilities Customer Care and Billing, the installation process will create files as well as a database on your system. Depending on what data you choose to install in the database, the database install process is referred to as either initial install or demo install.
- If you have installed and used a previous version of Oracle Utilities Customer Care and Billing, the installation process will still create and / or overwrite files on your system. For the database however, the process will upgrade the existing database to the current version of Oracle Utilities Customer Care and Billing. This process is referred to as an upgrade install. Note that there are restrictions on which previous Oracle Utilities Customer Care and Billing versions can be upgraded to the current version.

### Database Installation: Initial Install Compared with Demo Install

Initial install and demo install both start with an empty database.

In the case of initial install, demo data is not populated into the database by the installation process. This installation type is typically used for production environments.

In contrast, the demo install process populates the database with demo data. This installation type is typically used for demo and testing environments.

# Chapter 4

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## Supported Platforms and Hardware Requirements

This section gives an overview of the tiers on which the product is implemented, and shows each of the operating system/server combinations that the product is certified for. It includes:

- **Software and Hardware Considerations**
- **Requirements by Tier**
- **Supported Platforms**
- **Support for Software Patches and Upgrades**

## 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 the 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, please see the document *Oracle Utilities Application Framework Architecture Guidelines*, 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 will support better performance of the client.

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

### Web Browser Requirements

The following Operating System / Web Browser software is supported:

- Windows XP SP3 or higher with Internet Explorer 6.0 SP3 or higher, or 7.0, or 8.0
- Windows 7 with Internet Explorer 8.0

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

Please consult the **Supported Platforms** on page 4-5 to determine which Web application servers can be used with the operating system that will be hosting this tier.

The recommendations that follow are based on a standard installation with both the application and business servers on the same machine and the system running with the default values. The minimum resource requirements exclude third-party software installation requirements. Refer to the third-party vendors for specific requirements. The following sizing excludes the Oracle database server installation.

### Memory Requirements

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

## Disk Space Requirements

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

Location	Size	Usage
\$SPLEBASE	5 GB minimum	This space is where the application and Framework get installed. Startup, shutdown and other online log files are stored here. The size and space that is used should be monitored because various debugging options can significantly affect the size of log files.
\$SPLAPP	2 GB	This space is used for storing batch log files and output from batch jobs. The size of this space should be influenced by which batches are run and how often, and the amount of debugging information that is collected.
Location of the application Web work files on the Web servers	1.5 GB minimum	This space is used by the various Web server vendors to expand the application. It should be considered when installing these products. Refer to the individual Web server documentation to determine the location of the temporary files.
Installation temporary area	4 GB	This space is the location from where the application gets installed. You need enough space to uncompress the files and install the application.
Oracle data area	4 GB minimum	This space 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.

## Tier 3, Database Server: Software and Hardware Requirements

See the section **Supported Platforms** on page 4-5 for supported database servers.

## Supported Platforms

The installation has been tested and certified to operate on many operating system, application server, and database server combinations. For the software requirements for each of these combinations, see **Chapter 7: Installing Application Server Prerequisite Software** for more information.

## Operating Systems and Application Servers

The following table details the operating system and application server combinations on which Oracle Utilities Customer Care and Billing V2.3.1 has been tested and certified.

Operating System	Chipset	Application Server		
		Oracle WebLogic 10 MP2	IBM WebSphere Application Server 6.1.0.27	Tomcat 6.0.13
AIX 5.3 (64-bit) TL11 AIX 6.1 (64-bit) TL4	Power 64-bit	64-bit version	64-bit version	N/A
HP-UX 11.31 (64-bit)	Itanium	64-bit version	N/A	N/A
Oracle Enterprise Linux 5.5 (64-bit) Red Hat Enterprise Linux 5.5 (64-bit)	x86_64	64-bit version	N/A	N/A
Solaris 10 (64-bit)	SPARC	64-bit version	N/A	N/A
Windows 2008 Server SP2 (64-bit) Windows 2008 Server R2 (64-bit)	x86_64	64-bit version	N/A	32-bit version Development only. <b>No production support.</b>

## Oracle Database Servers

Oracle Utilities Customer Care and Billing V2.3.1 is supported with Oracle Database Server 11.1.0.7 and 11.2.0.1 on all of the operating systems listed above.

The Oracle 11.2.0.1 client is required regardless of the version of the database server. Both Oracle 11g and 10g database servers require the use of an Oracle 11 client.

## Support for Software Patches and Upgrades

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

If it is necessary to apply an upgrade, please do that in a test environment prior to updating the Oracle Utilities Customer Care and Billing production environment.

The only exceptions from this rule are Hibernate and C3PO software. For these the exact versions mentioned in this guide must be installed. Please always check with Oracle Utilities Customer Care and Billing support prior to installing Hibernate and C3PO updates.

Always contact Oracle Utilities Customer Care and Billing support prior to applying vendor updates that do not guarantee backward compatibility.

# Chapter 5

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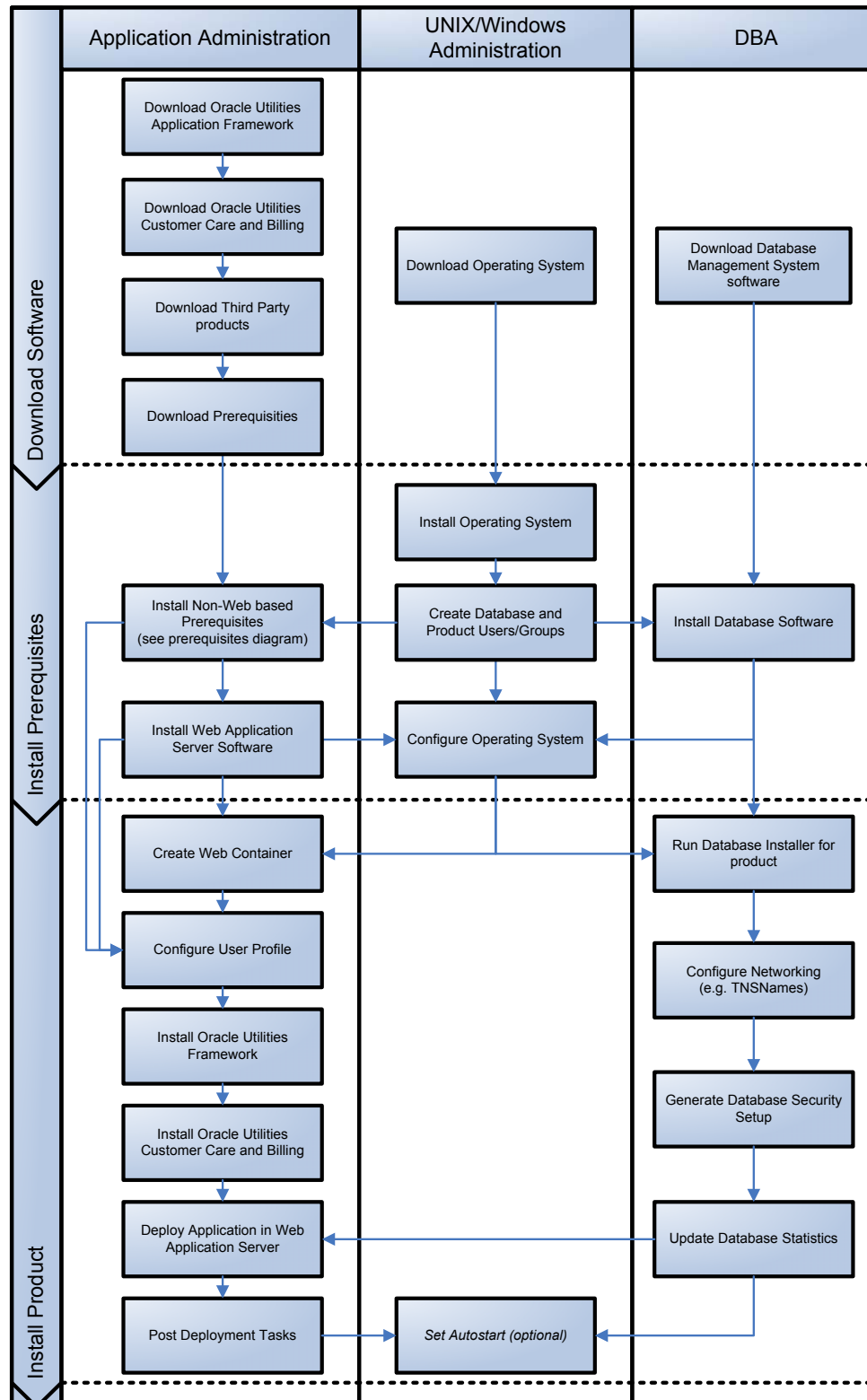
## Planning the Installation

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

- **Installation and Configuration Overview**
- **Before You Install**
- **Installation Checklist**
- **Prerequisite Third-Party Software 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:



# Before You Install

Before starting the installation, please review My Oracle Support patch number 10062509 for the latest fixes for installation and configuration issues.

## Installation Checklist

The following checklist will help guide you through installation process. The details for each step are presented in subsequent chapters.

1. Create Group/User ID.
2. Install prerequisite software (see **Prerequisite Third-Party Software Overview** on page 5-4 for more information).
  - Oracle client (for connecting to Oracle database)
  - IBM C/C++ Compiler (needed for compiling Perl installation on AIX platform and for recompiling COBOL modules)
  - Micro Focus Server 5.1
  - Micro Focus Server 5.1 patches
  - Perl
  - Java
  - JRockit (if using WebLogic on Linux as an application server)
  - Hibernate
  - C3P0
  - HP C/ANSI C Developers bundle (for using Configlab, compiling Perl and recompiling COBOL on HP platform)
3. Install Optional Software.

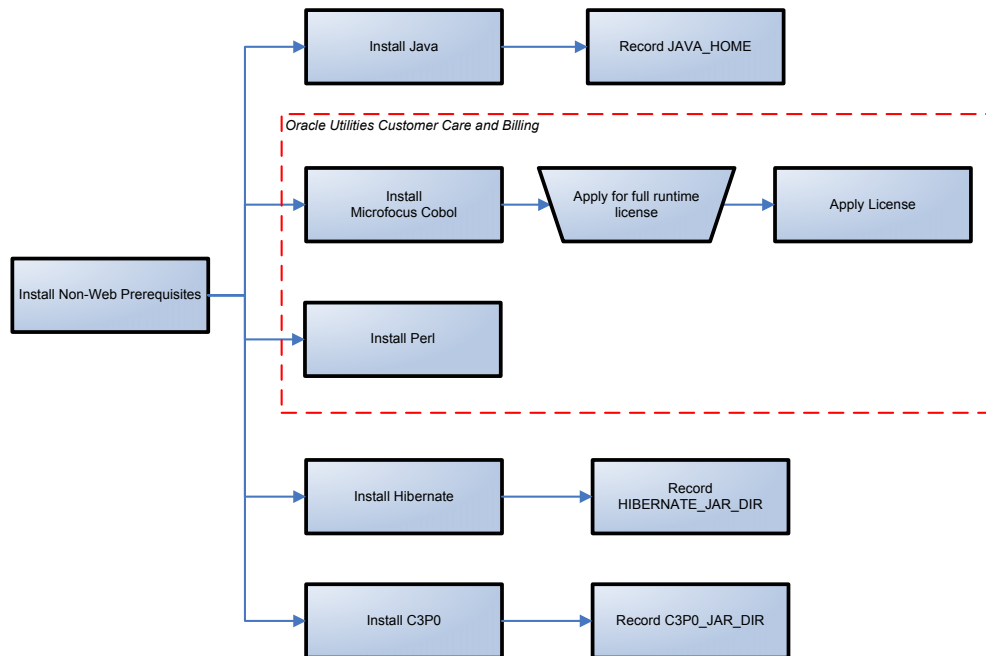
The following software is not required for Oracle Utilities Customer Care and Billing to operate:

  - Micro Focus Server Express, with patches (required for recompiling COBOL)
4. Install Web Server.
  - Oracle WebLogic
  - WebSphere
  - Tomcat (for development only)

Note: If you are upgrading and you are currently running Oracle Application Server please contact your Global Support Representative.
5. Verify that the software installed and set up environment variables.
6. Install Oracle Utilities Application Framework (“the framework”).
7. Install Oracle Utilities Customer Care and Billing.
8. Deploy Oracle Utilities Customer Care and Billing application.
9. Optional third-party product integration (such as Web Self Service or reporting tools).

## Prerequisite Third-Party Software Overview

For complete details about installing and configuring the prerequisite third-party software for your specific platform, see **Chapter 7: Installing Application Server Prerequisite Software**. The following diagram represents an overview of the prerequisite software 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 8: Installing the Application Server Component of Oracle Utilities Application Framework**. No Customer Install Value fields should be left blank.

The first time you enter the customer values the passwords will be visible. But the installation process will then mask the passwords in the configuration files.

Note: Some web application server information will not be available until the software installation steps have been completed as described in **Chapter 7: Installing Application Server Prerequisite Software**.

## Environment Installation Options Worksheet

This worksheet will assist you in completing the main installation options menu as shown below.

```
*****
Environment Installation options:
*****
1. Application Mount point.          | /spl
2. Log Mount Point.                 | /spl/sploutput
3. Environment name.                 | DEV01
4. Database type.                   | oracle
5. Web Application Server.           | WLS
6. Will CCB or TAX product be
   installed on this environment [Y/N]? | Y

P. Process the installation.
X. Exit.
```

Menu Option	Name used in this Documentation	Usage	Customer Install Value
Application Mount point	< SPLDIR >	<p>A mount point (typically /spl for UNIX or c:\spl for Windows) into which the application is installed.</p> <p>This mount point MUST exist and the Oracle Utilities Framework administrator userid MUST be able to write to this directory. (this is the userid that is created specifically to administer the Oracle Utilities Framework environments: the default is cissys). The installation sets permissions on all subdirectories installed under this directory.</p> <p>See &lt;SPLENVIRON&gt; below for more information on how this mount point is used.</p>	

Menu Option	Name used in this Documentation	Usage	Customer Install Value
Log Mount Point	< SPLDIROUT>	<p>A mount point that will contain any application output or application logs that (default /spl/sploutput for UNIX installations or c:\spl\sploutput for Windows).</p> <p>Before you start the install, ensure that this mount point exists and that the Oracle Utilities Framework administrator userid (cissys) can write to this directory. For each environment initialized, the application logs will be written to the directory &lt;SPLDIROUT&gt;/&lt;SPLENVIRON&gt;</p> <p>Note: Later in the installation, the splenvron.sh (splenvron.cmd) script will set the \$SPLOUTPUT (%SPLOUTPUT%) environment variable to point to: &lt;SPLDIROUT&gt;/&lt;SPLENVIRON&gt;</p>	
Environment name	<SPLENVIRON>	<p>A descriptive name (to be used as both a directory name under the mount point &lt;SPLDIR&gt; and an environment descriptor) that typically identifies the purpose of the environment (e.g. DEV01 or QA03)</p> <p>On installation a directory &lt;SPLDIR&gt;/&lt;SPLENVIRON&gt; is created under which all of the Framework and Application software resides. When multiple environments are set up on the machine you will typically have directories like:</p> <p>/spl/QA01/..... /spl/DEV01/.....</p> <p>Each of which contains a complete version of the Oracle Utilities Framework and Oracle Utilities Application code.</p> <p>Note: Later in the installation, the splenvron.sh (splenvron.cmd) script will set the \$SPLEBASE (%SPLEBASE%) environment variable to point to &lt;SPLDIR&gt;/&lt;SPLENVIRON&gt;</p>	
Database type	<CMPDB>	<p>Type of a database to connect an environment to. The following value must be selected:</p> <p>oracle: Oracle</p> <p>For complete details regarding which databases are supported, please refer to Supported Platforms section.</p>	

Menu Option	Name used in this Documentation	Usage	Customer Install Value
Web Application Server	<SPLWAS>	<p>A Web Application Server for environment to setup with. One of the following values corresponding to third-party product options must be selected:</p> <p>WLS: WebLogic  WAS: WebSphere  TCAT: Apache Tomcat</p> <p>Not all Web Application servers are supported on all platforms; refer to Supported Platforms section for details.</p>	
Will CCB or TAX product be installed on this environment [Y/N]?	<IFCCB>	<p>Will a Cobol enabled application (such as Customer Care and Billing or Enterprise Taxation Management) be installed on top of the Framework?</p> <p>If you are installing Oracle Utilities Business Intelligence you should enter "N".</p>	

## Environment Description Worksheet

### 1. Environment Description

**Environment Description:**

**QA environment**

Menu Option	Name used in this Documentation	Usage	Customer Install Value
Environment Description	DESC	Environment Description	

## General Business App Server Configuration Worksheet

### 2. Business App Server Configuration

**Business Server Host:**

**sf-win**

**JVM Child process starting Port Number:**

**6503**

**Number of JVM Child processes:**

**2**

Weblogic System Userid:

system

Weblogic System Password:

spladmin

Note: The WebLogic parameters above are for a WebLogic installation. The parameters for your installation will include your type of application server.

Menu Option	Name used in this Documentation	Usage	Customer Install Value
Business Server Host	BSN_WLHOST	Defaults to the name of the machine that the installation program is running on. The host name on which Business Application Server resides.	
JVM Child process starting Port Number	BSN_RMIPORT	Default: 6503 <i>Required only for ETM and CC&amp;B</i>	
Number of JVM Child processes	BSN_JVMCOUNT	Default: 2 <i>Required only for ETM and CC&amp;B</i>	

## General Web Server Configuration Worksheet

### 3. Web Server Configuration

```

Web Server Host: sf-win
Web Server Port Number: 6500
Weblogic SSL Port Number: 6501
Weblogic System Userid: system
Weblogic System Password: spladmin
Will this environment be used for development: false
Deploy appViewer module to the Web Server: true
Exploded directory (true) or archive format (false): false
Preload All Pages on startup: false
Maximum age of a cache entry for text (s): 28800
Maximum age of a cache entry for images (s): 28800
Interval (s) to check recompiling of JSPs: 43200
To switch to basic Login Page enter: BASIC: FORM
Application Admin Userid : SYSUSER
Application Admin Userid Password: sysuser00
  
```

Note: The WebLogic parameters above are for a WebLogic installation. The parameters for your installation will include your type of application server.

Menu Option	Name used in this Documentation	Usage	Customer Install Value
Web Server Host	WEB_WLHOST	Defaults to the name of the machine that the installation program is running on. The host name on which Web Application Server resides.	
Web Server Port Number	WEB_WLPORT	Default: 6500 A unique port number within the system that is assigned to the HTTP port. This is the port number that is used as a part of the client URL request to connect to the host.	
Is this environment will be used for development	WEB_isDevelopment	Default: false If the value is "true", the web application may be used for application development, which will trigger certain generation processes. If the value is "false" (the default) the environment will be used as a runtime environment.	
Deploy appViewer module to the Web Server	WEB_isAppViewer	Default: true NOTE: If you set it to false, the module won't be deployed to the Web Server. However, the module will still exist and be managed by upgrade processes.	

Menu Option	Name used in this Documentation	Usage	Customer Install Value
Exploded directory or archive format	WEB_isExpanded	Default: false. Only change to true if installing on Tomcat. If the value is "true", the web application will be deployed in exploded directory format, If the value is "false" (the default), the web application will be deployed in ear file format. Note: WebLogic and WebSphere require deployment in ear file format only.	
Preload All Pages on startup	WEB_preloadall	Default: false	
Maximum age of a cache entry for text (s)	WEB_maxAge	Default: 28800	
Maximum age of a cache entry for images (s)	WEB_maxAgeI	IDefault: 28800	
Interval (s) to check recompiling of JSPs	WEB_wlpageCheckSeconds	Default: 43200	
To switch to basic Login Page enter: BASIC	WEB_WLAUTHMETHOD	Default: FORM Specifies which authentication mode should be used. To switch off Oracle Utilities Login Page enter: BASIC	
Application Admin Userid	WEB_SPLUSER	Default: SYSUSER This is the default userid to login to the application through the browser.	
Application Admin Userid Password	WEB_SPLPASS	Default: sysuser00	

## WebLogic Specific Parameters Worksheet

### Business App Server Configuration

#### 2. Business App Server Configuration

Business Server Host: sf-win  
 JVM Child process starting Port Number: 6503  
 Number of JVM Child processes: 2  
**Weblogic System Userid:** **system**  
**Weblogic System Password:** **spladmin**

Menu Option	Name used in this Documentation	Usage	Customer Install Value
Weblogic System Userid	BSN_WLSYSUSER	Default: system Userid to login to WebLogic console and to administer WebLogic. The WebLogic startup script uses this userid.	
Weblogic System Password	BSN_WLSYSPASS	Default: spladmin The system is installed with the default password for the "system" userid as "spladmin". On the configuration step of install process you can change this password to a different value. This should only be done if you have changed the password on an existing system following the Oracle WebLogic instructions. NOTE: For a new install keep the password spladmin.	

## Web App Server Configuration

```

3. Web Server Configuration
Web Server Host: sf-win
Web Server Port Number: 6500
Weblogic SSL Port Number: 6501
Weblogic System Userid: system
Weblogic System Password: spladmin
Is this environment will be used for development: false
Deploy appViewer module to the Web Server: true
Exploded directory (true) or archive format (false): false
Preload All Pages on startup: false
Maximum age of a cache entry for text (s): 28800
Maximum age of a cache entry for images (s): 28800
Interval (s) to check recompiling of JSPs: 43200
To switch to basic Login Page enter: BASIC: FORM
Application Admin Userid : SYSUSER
Application Admin Userid Password: sysuser00

```

Menu Option	Name used in this Documentation	Usage	Customer Install Value
Weblogic SSL Port Number	WEB_WLSSLPORT	Default: 6501 The port number assigned to WebLogic Secure Sockets connection. This is the port number that is used for Secure Sockets connecting to the WebLogic server. The Secure Sockets implementation is disabled in the default configuration.	
Weblogic System Userid	WEB_WLSYSUSER	Default: system Userid to login to WebLogic console and to administer WebLogic. The WebLogic startup script uses this userid.	
Weblogic System Password	WEB_WLSYSPASS	Default: spladmin The system is installed with the default password for the "system" userid as "spladmin". On the configuration step of install process you can change this password to a different value. This should only be done if you have changed the password on an existing system following the Oracle WebLogic instructions. NOTE: For a new install keep the password spladmin.	



## WebSphere Specific Parameters Worksheet

### Business App Server Configuration

#### 2. Business App Server Configuration

Business Server Host:	sf-aix-02
JVM Child process starting Port Number:	8303
Number of JVM Child processes:	2
<b>Bootstrap port:</b>	<b>2810</b>
<b>WebSphere Server Name:</b>	<b>server1</b>
<b>WebSphere Application Name:</b>	<b>SPLService</b>
<b>WebSphere Deployment userid:</b>	<b>wasadmin</b>
<b>WebSphere Deployment password:</b>	<b>admin</b>

Menu Option	Name used in this Documentation	Usage	Customer Install Value
Bootstrap port	BSN_WASBOOTSTRAPPORT	Default: 2810 BOOTSTRAP_ADDRESS. This port number allows the Web module (SPLWeb.ear file) to communicate with the EJB module (SPLService.ear).	
WebSphere Server Name	BSN_SVRNAME	Default: server1 Each Oracle Utilities Framework Application must be installed in a unique WebSphere server. Each WebSphere server has a default HTTP port which value will be stored in the variable WLPORT	
WebSphere Application Name	BSN_WASAPP	Default: SPLService WebSphere Application Name. It is used within the scripts that start, stop and deploy the environment to Websphere.	
WebSphere Deployment userid	BSN_WASUSER	Default: wasadmin WebSphere admin console userid. It is used within the scripts that start, stop and deploy the environment to Websphere.	
WebSphere Deployment password	BSN_WASPASS	WebSphere admin console password.	

## Web App Server Configuration

```

3. Web Server Configuration
Web Server Host: sf-aix-02
Web Server Port Number: 9081
WebSphere Server Name: server1
WebSphere Application Name: SPLWeb
WebSphere Deployment userid: wasadmin
WebSphere Deployment password: admin
Is this environment will be used for development: false
Deploy appViewer module to the Web Server: false
Exploded directory (true) or archive format (false): false
Preload All Pages on startup: false
Maximum age of a cache entry for text (s): 28800
Maximum age of a cache entry for images (s): 28800
To switch to basic Login Page enter: BASIC: FORM
Application Admin Userid : SYSUSER
Application Admin Userid Password: sysuser00

```

Menu Option	Name used in this Documentation	Usage	Customer Install Value
WebSphere Server Name	WEB_SVRNAME	Default: server1 A unique server name within WebSphere installation where Oracle Utilities application will be installed. Each WebSphere server has a default HTTP port which value will be stored in the variable WLPORT.	
WebSphere Application Name	WEB_WASAPP	Default: SPLWeb WebSphere Application Name. It is used within the scripts that start, stop and deploy the environment to WebSphere.	
WebSphere Deployment userid	WEB_WASUSER	Default: wasadmin WebSphere admin console userid. It is used within the scripts that start, stop and deploy the environment to WebSphere.	
WebSphere Deployment password	WEB_WASPASS	WebSphere admin console password.	

Note: The Web Server Port Number is the WC\_defaulthost port defined in your WebSphere installation.

## Apache Tomcat Specific Parameters Worksheet

### Web App Server Configuration

#### 3. Web Server Configuration

Web Server Host:	SF-WIN-01
Web Server Port Number:	6500
<b>Tomcat shutdown port</b>	<b>6501</b>
Is this environment will be used for development:	false
Deploy appViewer module to the Web Server:	false
Exploded directory (true) or archive format (false):	true
Preload All Pages on startup:	false
Maximum age of a cache entry for text (s):	28800
Maximum age of a cache entry for images (s):	28800
To switch to basic Login Page enter: BASIC:	FORM
Application Admin Userid :	SYSUSER
Application Admin Userid Password:	sysuser00

Menu Option	Name used in this Documentation	Usage	Customer Install Value
Tomcat shutdown port	WEB_TCATSHUTPO RT	Tomcat shutdown port.	

## Oracle Database Parameters Worksheet

### 4. Database Configuration

<b>USERID of the User of the Database:</b>	<b>CISUSER</b>
<b>Password of the User of the Database:</b>	<b>CISUSER</b>
<b>Oracle Database Name:</b>	<b>QA220QA7</b>
<b>Oracle Client Character Set NLS_LANG:</b>	<b>AMERICAN_AMERICA.UTF8</b>
<b>Host name of database server:</b>	<b>sf-lin</b>
<b>Port name for database connection:</b>	<b>1521</b>

Menu Option	Name used in this Documentation	Usage	Customer Install Value
USERID of the User of the Database	DBUSER		
Password of the User of the Database	DBPASS		
Oracle Database Name	ORACLE_SID	ORACLE DATABASE NAME (ORACLE_SID)	
Oracle Client Character Set NLS_LANG	NLS_LANG	The Oracle Database Character Set Select the Language and Territory that are in use in your country. UTF8 is a default character set ("Language_Territory.UTF8").	
Host Name of database server	DBSERVER	Host name of the server where database resides.	
Port name for database connection	DBPORT	Port name on the database server used for connection to the database	

## MPL & Batch Environment Configuration Options Worksheet

### 5. Environment Configuration

```

MPL Admin Port:                6502
MPL Automatic startup:         N
XAI Startup "wait" time seconds: 90
JVM Child Memory Allocation:   512
Batch Server Enabled:          false
Batch Threads Number:          5
Batch Scheduler Daemon:        false
Release Cobol Thread Memory:   false
Batch RMI Port:                10780
Batch Mode:                    CLUSTERED
Coherence Cluster Name:        CCBDEMO.CISADM
Coherence Cluster Address:      230.40.11.124
Coherence Cluster Port:        10781

```

Menu Option	Name used in this Documentation	Usage	Customer Install Value
MPL listener Port	MPLADMINPORT	Default: 6502	
MPL Automatic startup	MPLSTART	Default: N Automatically start the MPL Listener whenever environment starts.	
XAI Startup "wait" time seconds	XAISTARTWAITTIME	Default: 90 The number of seconds to wait before the XAI server is started.	
JVM Child Memory Allocation	JVMMEMORYARG	Default: 512 The initial and maximum memory heap size allocated to each of the batch java processes.	
Batch Server Enabled	BATCHENABLED	Default: false When starting a web application server JVM, this property can be set to TRUE to allow the on-line application server to also act as a batch worker in the grid.	
Batch Threads Number	BATCHTHREADS	Default: 5 The maximum number of batch processing threads to be executed within a worker JVM when no explicit Distributed Thread Pool is specified. The "DEFAULT" distributed thread pool is used by the batch-scheduling daemon when it initiates processing on batch jobs (typically added via the online system) where no thread pool is specified.	

Menu Option	Name used in this Documentation	Usage	Customer Install Value
Batch Scheduler Daemon	BATCHDAEMON	Default: false In a distributed batch environment, this property can be set to TRUE to allow a worker JVM to host the batch scheduling daemon. The daemon accepts online batch submission requests and automatically submits the work for them.	
Release Cobol Thread Memory	REL_CBL_THREAD_MEM	Default: false Allow for child JVMs to be optionally configured to release thread-bound memory when each thread is returned to its thread pool. This will increase the number of memory allocations and memory free calls performed by the Microfocus runtime but will also lower the amount of C-heap memory consumed by child JVMs.	
Batch RMI Port	BATCHRMIPORT	Default: <blank>	
Batch Mode	BATCHMODE	Default: DISTRIBUTED Other possible values: CLUSTERED	
Coherence Cluster Name	CLUSTNAME	Default: <blank>	
Coherence Cluster Address	CLUSTADDRESS	Default: <blank>	
Coherence Cluster Port	CLUSTPORT	Default: <blank>	

# Chapter 6

---

## Installing the Database

Please review Chapter 1 of this guide and then follow the steps for installing the database as described in the *Oracle Utilities Customer Care and Billing Database Administrator's Guide*.





# Chapter 7

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## Installing Application Server Prerequisite Software

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

- **AIX 5.3 and AIX 6.1 Application Server**
- **HP-UX 11.31 Itanium Application Server**
- **Oracle Enterprise Linux 5.5 or Red Hat Linux 5.5 Application Server**
- **Solaris 10 Application Server**
- **Windows 2008 Application Server**

## AIX 5.3 and AIX 6.1 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		
		Oracle WebLogic 10 MP2	IBM WebSphere Application Server 6.1.0.27	Tomcat 6.0.13
AIX 5.3 (64-bit) TL11 AIX 6.1 (64-bit) TL4	Power 64-bit	64-bit version	64-bit version	N/A

### Web/Application Server Tier

#### AIX 5.3 TL11 and AIX 6.1 TL4 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, the cissys userid is the only one given access to the installed files.

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

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

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

```
set +o noclobber
```

##### IBM XL C/C++ Compiler 10.1

Micro Focus COBOL requires that this be installed as a prerequisite to compiling any COBOL code.

If you are going to compile your own COBOL objects then this C compiler should be installed. This C compiler is required for COBOL Compiles only. It needs to be installed on those machines that have both Micro Focus Server Express and will have the COBOL compiles performed on them.

This product is available from IBM.

### **Oracle 11.2.0.1 Client**

The Java JDBC drivers must be installed as part of the client install.

The Oracle Client is only required if you are using Oracle as the database server.

Use the following command to ensure that the cissys userid is able to communicate with the Oracle database:

```
tnsping $ORACLE_SID
```

The Oracle 11.2.0.1 client is required regardless of the version of the database server.

### **Micro Focus Server Express 5.1 WrapPack 3**

Server Express is only required for environment where COBOL code will be compiled.

See the "Micro Focus" section in the Quick Install Guide for more information on the installation and licensing of this product.

After installing Server Express, make sure that cissys userid shell has the COBDIR and CUSTCOBDIR environment variables set to point to the base location where Server Express has been installed.

### **Micro Focus Server 5.1 WrapPack 3**

Micro Focus Server is required on the tier that will be hosting the application server where Oracle Utilities Customer Care and Billing application code will be deployed.

Micro Focus Server must be installed in the following directory:

```
/opt/SPLcobAS51
```

See the "Micro Focus" section in the Quick Install Guide for more information on the installation and licensing of this product.

### **Perl 5.10**

Perl 5.10.0 is included in the Oracle 11.2.0.1 client in \$ORACLE\_HOME/perl/bin.

Execute the following command to ensure that the correct version of Perl is in the cissys user profile PATH:

```
perl -V
```

If Perl is installed and in the path the above command should return Perl diagnostic and version information.

### **IBM Java Software Development Kit version 5.0 Service Release SR10 64-bit**

Installation of Java as a prerequisite is only needed if you are using Oracle WebLogic as a Web application server. If you use WebSphere, the Java runtime engine from the Web application server is used.

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

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

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

For the Administrator userid (cissys), ensure that the environment variable JAVA\_HOME is set up, and that "java" can be found in cissys' PATH variable.

### **Hibernate 3.2.7**

Hibernate must be installed prior to the installation of Oracle Utilities Customer Care and Billing.

Please download the file hibernate-3.2.7.ga.zip from the following link:

<http://prdownloads.sourceforge.net/hibernate/>

or from the following link:

[http://sourceforge.net/project/showfiles.php?group\\_id=40712&package\\_id=127784](http://sourceforge.net/project/showfiles.php?group_id=40712&package_id=127784)

It is very important that you download the exact version, as the product has only been certified with this exact release.

You will need to create a permanent directory to place one of the files from hibernate-3.2.7.ga.zip. (e.g. /opt/hibernate3.2.7).

For the Administrator userid (cissys), ensure that the environment variable HIBERNATE\_JAR\_DIR is setup and points to the above directory.

Extract the file hibernate3.jar from hibernate-3.2.7.ga.zip to the location pointed to by \$HIBERNATE\_JAR\_DIR.

Ensure that the file \$HIBERNATE\_JAR\_DIR/hibernate3.jar exists.

### **C3PO 0.9.1.2**

C3PO is an easy-to-use library for augmenting traditional JDBC drivers with JNDI-bindable DataSources, including DataSources that implement Connection and Statement Pooling, as described by the jdbc3 specification and jdbc2 std extension. C3PO must be installed before installing Oracle Utilities Customer Care and Billing.

Please download c3p0-0.9.1.2.bin.zip from the following link:

[http://sourceforge.net/project/showfiles.php?group\\_id=25357&package\\_id=88527](http://sourceforge.net/project/showfiles.php?group_id=25357&package_id=88527)

It is very important that you download the exact version, as the product has only been certified with this exact release.

You will need to create a permanent directory to place one of the files from c3p0-0.9.1.2.bin.zip. (for example, /opt/c3p0-0.9.1.2).

For the Administrator userid (cissys), ensure that the environment variable C3P0\_JAR\_DIR is setup and points to the above directory.

Extract the file c3p0-0.9.1.2.jar from c3p0-0.9.1.2.bin.zip to the location pointed to by \$C3P0\_JAR\_DIR.

Ensure that the file \$C3P0\_JAR\_DIR/c3p0-0.9.1.2.jar exists.

### **IBM WebSphere Application Server 6.1.0.27 64-bit**

This software must be purchased from IBM. It must be installed and configured prior to the Oracle Utilities Customer Care and Billing installation.

A single WebSphere server represents a single Oracle Utilities Customer Care and Billing Environment. You can install multiple environments on a single WebSphere Installation by creating additional WebSphere servers. (Please see sample WebSphere server creation script below).

Install the 6.1.0.27 patch with its accompanying Java Runtime update. This patch fixes problems with class loading.

Satisfy the following requirements on WebSphere installation prior to deploying Oracle Utilities Customer Care and Billing:

- Ensure that the cissys userid (\$\$SPLUSER) or WebSphere deployment userid (\$WASUSER) have write permissions to log files under the \$WAS\_HOME/profiles/<yourprofile>/logs and \$WAS\_HOME/profiles/<yourprofile>/logs/<yourserver> directory.
- WAS\_HOME environment variable should be set pointing to the WebSphere installation directory.

For example, if you installed WebSphere into /opt/webSphere then put something similar to the following into your login script:

```
WAS_HOME=/opt/webSphere; export WAS_HOME
```

- Due to the size of the Oracle Utilities Customer Care and Billing web application, and to ensure a successful deployment, increase the following WebSphere defaults.

Modify the following file:

```
$WAS_HOME/profiles/<yourprofile>/<appServer1/properties/soap.client.props
```

Change the following Timeout parameter to an unlimited value:

```
com.ibm.SOAP.requestTimeout=0
```

- Increase java heap size for wsadmin tool, by modifying the following part of the line in \$WAS\_HOME/bin/wsadmin.sh script:

From

```
PERF_JVM_OPTIONS="-Xms256m -Xmx256m"
```

To

```
PERF_JVM_OPTIONS="-Xms380m -Xmx380m"
```

- Increase max data size in your shell before starting WebSphere:

```
export IBM_JVM_LDR_CNTRL_NEW_VALUE=MAXDATA=0XB0000000@DSA
export LDR_CNTRL=MAXDATA=0XB0000000@DSA
```

### Creation of Additional servers in WebSphere - sample script

Below are sample scripts that demonstrate a way of creating additional servers using the wsadmin.sh tool. There are several other ways to accomplish this task.

- Initialize a wsadmin.sh session:

```
<$WAS_HOME>/bin/wsadmin.sh -host localhost -port <SoapConnectorPort> -conntype SOAP -username <webSphereUserName> -password <webSphereUserPassword>
```

Note: Substitute \$WAS\_HOME, webSphereUserName, SoapConnectorPort, webSphereUserPassword, with values that are appropriate for your installation.eg. /spl/IBM/WebSphere61/AppServer/bin/wsadmin.sh -host localhost -port 8889 -conntype SOAP -username websphere -password webSphere123

- Create the server instance:

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

Note: Substitute nodeName and serverName with appropriate values.eg.  
wsadmin> \$AdminTask createApplicationServer sf-aix1Node02 { -name server3 }

- Save your changes with the wsadmin tool.

```
wsadmin> $AdminConfig save
```

- Exit the wsadmin tool.

```
wsadmin> exit
```

### Configuration in the WebSphere console

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

**General Security Configuration:** Please use the WebSphere Console to set security. Select **Security, Secure administration, applications, infrastructure**.

- Under the section **Application security**:
  - Select **Enable application security**.
- Under the section **User Account repository**:
  - Select **Local operating system** from the list.
  - Click **Set as current**.
- Click **Configure**:
  - On the **Configuration Page**, select **Secure administration, applications, and infrastructure, Local operating system**
  - Under the section **General Properties**:
    - Enter the Primary administrative user name.
  - Under the section **Server user identity**
    - Select *Automatically generated server identity*

### Server Port Configuration:

- Obtain server Ports information for the Oracle Framework Installation.
  - Select **Servers, Application servers, < server\_Name >, Ports**.
  - Once you have navigated to this page, make a note of the BOOTSTRAP\_ADDRESS and the WC\_defaulthost Port numbers.

Note: Replace server\_Name with the server name you have created in the previous section.

- Set up a new virtual host for your server:
  - Select **Environment, Virtual Hosts, default\_host, Host Aliases, New**.
  - Under the section **General Properties**:

Host Name: \*

Port: WC\_defaulthost Port Number

### Server Configuration:

- Update the Parallel start option and Run development mode options.
  - Select **Server, Application servers, < server\_Name >**
  - Under the section **General Properties**:
    - Select **Run in development mode**.
    - Deselect **Parallel start**
- Configure the Java Virtual Machine Options.

- Select **Servers, Application servers, < server\_Name >, Java and Process Management, Process Definition, Java Virtual Machine**
- Under the section: **General Properties, Initial Heap Size and Maximum Heap Size**, Enter the following:  
     Initial Heap Size: 1024  
     Maximum Heap Size: 1024
- Configure the Java Virtual Machine Custom Properties.
  - Select **Application servers, < server\_Name >, Java and Process Management, Process Definition, Java Virtual Machine, Custom Properties**  
 Add the following entries:  
**Name:** com.ibm.websphere.security.util.CredentialCacheEnabled  
**Value:** false  
  
**Name:** com.ibm.websphere.security.util.authCacheEnabled  
**Value:** BasicAuthDisabled  
  
**Name:** javax.xml.transform.TransformerFactory  
**Value:** org.apache.xalan.processor.TransformerFactoryImpl
- You should increase the following timeout parameters for a successful deployment. These settings will vary from site to site, so you will need to make the adjustments according to your environment. The following section outlines where some of those time out settings can be found.  
     Note: The default values for the timeout settings described below were utilized successfully during the QA Cycle.
- Timeout setting for the Web Container.  
     Select **Servers, Application servers, < server\_Name >, Container Settings, Session management**  
     Under the section **Session timeout**
- Transaction lifetime timeout and client inactivity timeout.  
     Select **Servers, Application servers, <server\_Name>, Container Service, Transaction Service**  
     Under the section **Total transaction lifetime timeout**  
     Under the section **Client inactivity timeout**
- ActivitySession Service timeout setting.  
     Select **Servers, Application servers, < server\_Name >, Business Process Services, ActivitySession service**  
     Under the section **Default timeout**
- Set Maximum send and Receive size in Work area server.  
     Select **Servers, Application servers, < server\_Name >, Business Process Services, Work area service**  
     Under the section **Maximum send size and Maximum receive size**

Enter the following: 0 (no limit)

Note: Once the above steps have been completed and the other third-party software has been installed and configured, you are now able to install the Oracle Utilities Framework. Before deploying the application, follow the instructions in the section **Additional Tasks Required for WebSphere** on page 9-8.

### **Oracle WebLogic Server 10.0 MP2 - 64-bit**

The following products are supported: Oracle WebLogic Server Standard Edition and Oracle WebLogic Server Enterprise Edition. 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 10.0 MP2.
- After installing WebLogic, ensure that the BEADIR environment variable is set to point to the WebLogic installation directory for the cissys userid

For example, if you installed WebLogic into /opt/bea you would need to put something similar to the following into cissys login script:

```
BEADIR=/opt/bea; export BEADIR
```



# HP-UX 11.31 Itanium Application Server

This section describes the software requirements for operating the application using the HP-UX 11.31 Itanium application server.

## Supported Application Servers

Operating System	Chipsets	Application Server		
		Oracle WebLogic 10 MP2	IBM WebSphere Application Server 6.1.0.27	Tomcat 6.0.13
HP-UX 11.31 (64-bit)	Itanium	64-bit version	N/A	N/A

## Web/Application Server Tier

### HP-UX 11.31 Itanium Operating System Running on Itanium2 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, the cissys userid is the only one given access to the files installed.

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

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

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

```
set +o noclobber
```

### HP C/ANSI C Developer's Bundle

Micro Focus COBOL requires that this be installed as a prerequisite to compiling any COBOL code.

If you are going to compile your own COBOL objects then this C compiler should be installed. This C compiler is required for COBOL Compiles only. It needs to be installed on those machines

that have both Micro Focus Server Express and will have the COBOL compiles performed on them.

To order this package from HP use product number B3901BA.

### **Oracle 11.2.0.1 Client**

The Java JDBC drivers must be installed as part of the client install.

The Oracle Client is only required if you are using Oracle as the database server.

Ensure that the Administrators userid (cissys) has been setup to be able to communicate with the Oracle database. Use the command

```
tnsping $ORACLE_SID
```

The Oracle 11.2.0.1 client is required regardless of the version of the database server.

### **Micro Focus Server Express 5.1 WrapPack 3**

Server Express is only required for environments where COBOL code will be compiled.

See the "Micro Focus" section in the Quick Install Guide for more information on the installation and licensing of this product.

After installing Server Express, make sure that cissys user shell has the COBDIR and CUSTCOBDIR environment variables set to point to the base location where Server Express has been installed.

### **Micro Focus Server 5.1 WrapPack 3**

Micro Focus Server is required on the tier that will be hosting the application server where Oracle Utilities Customer Care and Billing application code will be deployed.

Micro Focus Server MUST be installed in the following directory: /opt/SPLcobAS51

See the "Micro Focus" section in the Quick Install Guide for more information on the installation and licensing of this product.

### **Perl 5.10**

Perl 5.10.0 is included in the Oracle 11.2.0.1 client in \$ORACLE\_HOME/perl/bin.

Execute the following command to ensure that the correct version of Perl is in the cissys user profile PATH:

```
perl -V
```

If Perl is installed and in the path the above command should return Perl diagnostic and version information.

### **HP Java Development Kit version 1.5.0.17**

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 userid cissys, ensure that the environment variable JAVA\_HOME is setup, and that "java" can be found in cissys' PATH variable.

### **Hibernate 3.2.7**

Hibernate must be installed prior to the installation of Oracle Utilities Customer Care and Billing.

Please download the file hibernate-3.2.7.ga.zip from the following link:

<http://prdownloads.sourceforge.net/hibernate/>

or from the following link:

[http://sourceforge.net/project/showfiles.php?group\\_id=40712&package\\_id=127784](http://sourceforge.net/project/showfiles.php?group_id=40712&package_id=127784)

It is very important that you download the exact version, as the product has only been certified with this exact release.

You will need to create a permanent directory to place one of the files from hibernate-3.2.7.ga.zip. (for example, /opt/hibernate3.2.7).

For the Administrator userid (cissys), ensure that the environment variable HIBERNATE\_JAR\_DIR is setup and points to the above directory.

Extract the file hibernate3.jar from hibernate-3.2.7.ga.zip to the location pointed to by \$HIBERNATE\_JAR\_DIR.

Ensure that the file \$HIBERNATE\_JAR\_DIR/hibernate3.jar exists.

### **C3PO 0.9.1.2**

C3PO is an easy-to-use library for augmenting traditional JDBC drivers with JNDI-bindable DataSources, including DataSources that implement Connection and Statement Pooling, as described by the jdbc3 spec and jdbc2 std extension. C3PO must be installed before installing Oracle Utilities Customer Care and Billing.

Please download c3p0-0.9.1.2.bin.zip from the following link:

[http://sourceforge.net/project/showfiles.php?group\\_id=25357&package\\_id=88527](http://sourceforge.net/project/showfiles.php?group_id=25357&package_id=88527)

It is very important that you download the exact version, as the product has only been certified with this exact release.

You will need to create a permanent directory to place one of the files from c3p0-0.9.1.2.bin.zip. (e.g. /opt/c3p0-0.9.1.2).

For the Administrator userid (cissys), ensure that the environment variable C3P0\_JAR\_DIR is setup and points to the above directory.

Extract the file c3p0-0.9.1.2.jar from c3p0-0.9.1.2.bin.zip to the location pointed to by \$C3P0\_JAR\_DIR.

Ensure that the file \$C3P0\_JAR\_DIR/c3p0-0.9.1.2.jar exists

### **Oracle WebLogic Server 10.0 MP2 - 64-bit**

The following products are supported: Oracle WebLogic Server Standard Edition and Oracle WebLogic Server Enterprise Edition. 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 10.0 MP2.
- After installing WebLogic, ensure that the BEADIR environment variable is set to point to the WebLogic installation directory for the cissys userid

For example, if you installed WebLogic into /opt/bea you would need to put something similar to the following into cissys login script:

```
BEADIR=/opt/bea; export BEADIR
```

# Oracle Enterprise Linux 5.5 or Red Hat Linux 5.5 Application Server

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

## Supported Application Servers

Operating System	Chipsets	Application Server		
		Oracle WebLogic 10 MP2	IBM WebSphere Application Server 6.1.0.27	Tomcat 6.0.13
Oracle Enterprise Linux 5.5 (64-bit) Red Hat Enterprise Linux 5.5 (64-bit)	x86_64	64-bit version	N/A	N/A

## Web/Application Server Tier

### Oracle Enterprise Linux 5.5 or Red Hat Enterprise Linux 5.5 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	
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, the cissys userid is the only one given access to the files installed.

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

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

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

```
set +o noclobber
```

### Oracle 11.2.0.1 Client

The Java JDBC drivers must be installed as part of the client install.

The Oracle Client is only required if you are using Oracle as the database server.

Use the following command to ensure that the cissys userid is able to communicate with the Oracle database:

```
tnsping $ORACLE_SID
```

The Oracle 11.2.0.1 client is required regardless of the version of the database server.

### Micro Focus Server Express 5.1 WrapPack 3

Server Express is only required for environments where COBOL code will be compiled.

See the "Micro Focus" section in the Quick Install Guide for more information on the installation and licensing of this product.

After installing Server Express, make sure that cissys user shell has the COBDIR and CUSTCOBDIR environment variables set to point to the base location where Server Express has been installed.

### Micro Focus Server 5.1 WrapPack 3

Micro Focus Server is required on the tier that will be hosting the application server where Oracle Utilities Customer Care and Billing application code will be deployed

Micro Focus Server MUST be installed in the following directory /opt/SPLcobAS51

See the "Micro Focus" section in the Quick Install Guide for more information on the installation and licensing of this product.

### Perl 5.10

Perl 5.10.0 is included in the Oracle 11.2.0.1 client in \$ORACLE\_HOME/perl/bin.

Execute the following command to ensure that the correct version of Perl is in the cissys user profile PATH:

```
perl -v
```

If Perl is installed and in the path the above command should return Perl diagnostic and version information.

### Sun Java Development Kit Version 5.0 Update 21

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

<http://java.sun.com/products/archive/index.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 userid cissys, ensure that the environment variable JAVA\_HOME is setup, and that java\_home/bin and java\_home/lib can be found in cissys' PATH variable.

### Oracle JRockit 5.0 R27.6.5 Java Development Kit

This is only required if you are using Oracle WebLogic as an application server. This version of Java can be acquired by downloading the product "Oracle JRockit Real Time 3.1.2" from [oracle.com](http://oracle.com).

For the userid cissys, ensure that the environment variable JAVA\_HOME is set up, and that "java" can be found in cissys' PATH variable.

Ensure that the JROCKIT\_HOME environment variable exists and points to your JRockit installation. For example:

JROCKIT\_HOME=/spl/java/jrt-3.1.2-1.5.0

### **Hibernate 3.2.7**

Hibernate must be installed prior to the installation of Oracle Utilities Customer Care and Billing.

Please download the file hibernate-3.2.7.ga.zip from the following link:

<http://prdownloads.sourceforge.net/hibernate/>

or from the following link:

[http://sourceforge.net/project/showfiles.php?group\\_id=40712&package\\_id=127784](http://sourceforge.net/project/showfiles.php?group_id=40712&package_id=127784)

It is very important that you download the exact version, as the product has only been certified with this exact release.

You will need to create a permanent directory to place one of the files from hibernate-3.2.7.ga.zip. (e.g. /opt/hibernate3.2.7).

For the Administrator userid (cissys), ensure that the environment variable HIBERNATE\_JAR\_DIR is setup and points to the above directory.

Extract the file hibernate3.jar from hibernate-3.2.7.ga.zip to the location pointed to by \$HIBERNATE\_JAR\_DIR.

Ensure that the file \$HIBERNATE\_JAR\_DIR/hibernate3.jar exists.

### **C3PO 0.9.1.2**

C3PO is an easy-to-use library for augmenting traditional JDBC drivers with JNDI-bindable DataSources, including DataSources that implement Connection and Statement Pooling, as described by the jdbc3 spec and jdbc2 std extension. C3PO must be installed before installing Oracle Utilities Customer Care and Billing.

Please download c3p0-0.9.1.2.bin.zip from the following link:

[http://sourceforge.net/project/showfiles.php?group\\_id=25357&package\\_id=88527](http://sourceforge.net/project/showfiles.php?group_id=25357&package_id=88527)

It is very important that you download the exact version, as the product has only been certified with this exact release.

You will need to create a permanent directory to place one of the files from c3p0-0.9.1.2.bin.zip. (e.g. /opt/c3p0-0.9.1.2).

For the Administrator userid (cissys), ensure that the environment variable C3P0\_JAR\_DIR is setup and points to the above directory.

Extract the file c3p0-0.9.1.2.jar from c3p0-0.9.1.2.bin.zip to the location pointed to by \$C3P0\_JAR\_DIR.

Ensure that the file \$C3P0\_JAR\_DIR/c3p0-0.9.1.2.jar exists

### **Oracle WebLogic Server 10.0 MP2 - 64-bit**

The following products are supported: Oracle WebLogic Server Standard Edition and Oracle WebLogic Server Enterprise Edition. 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 10.0 MP2.
- After installing WebLogic, ensure that the BEADIR environment variable is set to point to the WebLogic installation directory for the cissys userid

For example, if you installed WebLogic into /opt/bea you would need to put something similar to the following into cissys login script:

```
BEADIR=/opt/bea; export BEADIR
```

# Solaris 10 Application Server

This section describes the software requirements for operating the application using the Sun Solaris 10 application server.

## Supported Application Servers

Operating System	Chipsets	Application Server		
		Oracle WebLogic 10 MP2	IBM WebSphere Application Server 6.1.0.27	Tomcat 6.0.13
Solaris 10 (64-bit)	SPARC	64-bit version	N/A	N/A

## Web/Application Server Tier

### Solaris 10 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, the cissys userid is the only one given access to the files installed.

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

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

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

```
set +o noclobber
```

#### Perl 5.10

Perl 5.10.0 is included in the Oracle 11.2.0.1 client in \$ORACLE\_HOME/perl/bin.

Execute the following command to ensure that the correct version of Perl is in the cissys user profile PATH:



```
perl -V
```

If Perl is installed and in the path the above command should return Perl diagnostic and version information.

### **Oracle 11.2.0.1 Client**

The Java JDBC drivers must be installed as part of the client install.

The Oracle Client is only required if you are using Oracle as the database server.

Use the following command to ensure that the cissys userid is able to communicate with the Oracle database:

```
tnsping $ORACLE_SID
```

The Oracle 11.2.0.1 client is required regardless of the version of the database server.

### **Micro Focus Server Express 5.1 WrapPack 3**

Server Express is only required for environment where COBOL code will be compiled.

See the "Micro Focus" section in the Quick Install Guide for more information on the installation and licensing of this product.

After installing Server Express, make sure that cissys userid shell has the COBDIR and CUSTCOBDIR environment variables set to point to the base location where Server Express has been installed.

### **Micro Focus Server 5.1 WrapPack 3**

Micro Focus Server is required on the tier that will be hosting the application server where Oracle Utilities Customer Care and Billing application code will be deployed.

Micro Focus Server must be installed in the following directory:

```
/opt/SPLcobAS51
```

See the "Micro Focus" section in the Quick Install Guide for more information on the installation and licensing of this product.

### **Sun Java Development Kit version 5.0 Update 21**

This software is only required for WebLogic installations.

Solaris Java packages used in the test cycle were downloaded from:

```
http://java.sun.com/products/archive/index.html
```

The Web server requires the 64-bit Java platform in order to function. Ensure that you install the 64-bit JDK. For Sun this involves installing the 32-bit java and then installing the 64-bit java patch.

Ensure that the environment variable JAVA\_HOME is set, and that "java" can be found in cissys user PATH variable.

### **Hibernate 3.2.7**

Hibernate must be installed prior to the installation of Oracle Utilities Customer Care and Billing.

Please download the file hibernate-3.2.7.ga.zip from the following link:

```
http://prdownloads.sourceforge.net/hibernate/
```

or from the following link:

```
http://sourceforge.net/project/showfiles.php?group\_id=40712&package\_id=127784
```

It is very important that you download the exact version, as the product has only been certified with this exact release.

You will need to create a permanent directory to place one of the files from hibernate-3.2.7.ga.zip. (e.g. /opt/hibernate3.2.7).

For the Administrator userid (cissys), ensure that the environment variable HIBERNATE\_JAR\_DIR is setup and points to the above directory.

Extract the file hibernate3.jar from hibernate-3.2.7.ga.zip to the location pointed to by \$HIBERNATE\_JAR\_DIR.

Ensure that the file \$HIBERNATE\_JAR\_DIR/hibernate3.jar exists.

### **C3PO 0.9.1.2**

C3PO is an easy-to-use library for augmenting traditional JDBC drivers with JNDI-bindable DataSources, including DataSources that implement Connection and Statement Pooling, as described by the jdbc3 spec and jdbc2 std extension. C3PO must be installed before installing Oracle Utilities Customer Care and Billing.

Please download c3p0-0.9.1.2.bin.zip from the following link:

[http://sourceforge.net/project/showfiles.php?group\\_id=25357&package\\_id=88527](http://sourceforge.net/project/showfiles.php?group_id=25357&package_id=88527)

It is very important that you download the exact version, as the product has only been certified with this exact release.

You will need to create a permanent directory to place one of the files from c3p0-0.9.1.2.bin.zip. (e.g. /opt/c3p0-0.9.1.2).

For the Administrator userid (cissys), ensure that the environment variable C3P0\_JAR\_DIR is set up and points to the above directory.

Extract the file c3p0-0.9.1.2.jar from c3p0-0.9.1.2.bin.zip to the location pointed to by \$C3P0\_JAR\_DIR.

Ensure that the file \$C3P0\_JAR\_DIR/c3p0-0.9.1.2.jar exists

### **Oracle WebLogic Server 10.0 MP2 64-bit**

The following products are supported: Oracle WebLogic Server Standard Edition and Oracle WebLogic Server Enterprise Edition. 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 10.0 MP2.
- After installing WebLogic, ensure that the BEADIR environment variable is set to point to the WebLogic installation directory for the cissys userid

For example, if you installed WebLogic into /opt/bea you would need to put something similar to the following into cissys login script:

```
BEADIR=/opt/bea; export BEADIR
```

# Windows 2008 Application Server

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

## Supported Application Servers

Operating System	Chipsets	Application Server		
		Oracle WebLogic 10 MP2	IBM WebSphere Application Server 6.1.0.27	Tomcat 6.0.13
Windows 2008 Server SP2 (64-bit) Windows 2008 Server R2 (64-bit)	x86_64	64-bit version	N/A	32-bit version development only. <b>No production support.</b>

## Web/Application Server Tier

### Oracle 11.2.0.1 Client

The Java JDBC drivers must be installed as part of the client install.

The Oracle Client is only required if you are using Oracle as the database server.

Ensure that the userid cissys has been setup to be able to communicate with the Oracle database. Use the command

```
tnsping $ORACLE_SID
```

The Oracle 11.2.0.1 client is required regardless of the version of the database server.

### Micro Focus Net Express 5.1 with WrapPack 3

This is required only for environments where COBOL code will be compiled.

See the "Micro Focus" section in the Quick Install Guide for more information on the installation and licensing of this product. Also note that WrapPack 3 is installed after the base Micro Focus Net Express is installed.

After installing Net Express, ensure that the COBDIR and CUSTCOBDIR environment variables are set to point to the directory where Net Express is installed.

### Micro Focus Server 5.1 with WrapPack 3

Required for Oracle Utilities Customer Care and Billing runtime environments.

See the "Micro Focus" section in the Quick Install Guide for more information on the installation and licensing of this product. Also note that WrapPack 3 is installed after the base Micro Focus Server is installed.

After installing Micro Focus Server, ensure that the COBDIR and CUSTCOBDIR environment variables are set to point to the directory where the software is installed.

### Perl 5.10

Perl 5.10.0 is included in the Oracle 11.2.0.1 client.

Execute the following command to ensure that the correct version of Perl is in the cissys user profile PATH.

```
perl -V
```

If Perl is installed and in the path the above command should return Perl diagnostic and version information.

ActiveState's perl distribution, ActivePerl, can also be used.

## **Sun Java Development Kit version 5.0 Update 21**

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

<http://java.sun.com/products/archive/index.html>

The Web server requires the 64-bit Java platform. The main prerequisite for the Web server is the version of java mentioned above.

For the userid cissys, ensure that the environment variable JAVA\_HOME is setup, and that "java" can be found in cissys' PATH variable.

## **Hibernate 3.2.7**

Hibernate must be installed prior to the installation of Oracle Utilities Customer Care and Billing.

Please download the file hibernate-3.2.7.ga.zip from the following link:

<http://prdownloads.sourceforge.net/hibernate/>

or from the following link:

[http://sourceforge.net/project/showfiles.php?group\\_id=40712&package\\_id=127784](http://sourceforge.net/project/showfiles.php?group_id=40712&package_id=127784)

It is very important that you download the exact version, as the product has only been certified with this exact release.

You will need to create a permanent directory to place one of the files from hibernate-3.2.7.ga.zip. (e.g. \opt\hibernate3.2.7).

For the Administrator userid (cissys), ensure that the environment variable HIBERNATE\_JAR\_DIR is setup and points to the above directory.

Extract the file hibernate3.jar from hibernate-3.2.7.ga.zip to the location pointed to by \$HIBERNATE\_JAR\_DIR.

Ensure that the file \$HIBERNATE\_JAR\_DIR\hibernate3.jar exists.

## **C3PO 0.9.1.2**

C3PO is an easy-to-use library for augmenting traditional JDBC drivers with JNDI-bindable DataSources, including DataSources that implement Connection and Statement Pooling, as described by the jdbc3 spec and jdbc2 std extension. C3PO must be installed before installing Oracle Utilities Customer Care and Billing.

Please download c3p0-0.9.1.2.bin.zip from the following link:

[http://sourceforge.net/project/showfiles.php?group\\_id=25357&package\\_id=88527](http://sourceforge.net/project/showfiles.php?group_id=25357&package_id=88527)

It is very important that you download the exact version, as the product has only been certified with this exact release.

You will need to create a permanent directory to place one of the files from c3p0-0.9.1.2.bin.zip. (for example, \opt\c3p0-0.9.1.2).

For the Administrator userid (cissys), ensure that the environment variable C3P0\_JAR\_DIR is setup and points to the above directory.

Extract the file c3p0-0.9.1.2.jar from c3p0-0.9.1.2.bin.zip to the location pointed to by \$C3P0\_JAR\_DIR.

Ensure that the file \$C3P0\_JAR\_DIR\c3p0-0.9.1.2.jar exists

## Tomcat 6.0.13

Tomcat is supplied as part of the Apache Jakarta Project.

Download and unzip tomcat 6.0.13 from the Jakarta Tomcat Web site to x:\installdir. A directory named apache-tomcat-6.0.13 will be created.

Download v1.0.1 jta from <http://java.sun.com/products/jta/> and follow these steps:

1. Click link Class Files 1.0.1a.
2. Extract jta.jar from jta-1\_0\_1a.zip.
3. Copy jta.jar to apache-tomcat-6.0.13\lib.

Modify the following file:

...\apache-tomcat-6.0.13\bin\setclasspath.bat

Change the following line in the file:

FROM:

```
set CLASSPATH=%JAVA_HOME%\lib\tools.jar
```

TO:

```
set CLASSPATH=%JAVA_HOME%\lib\tools.jar;%CLASSPATH%
```

Ensure that the shell has the CATALINA\_HOME environment variable set to point to the base location of where you installed tomcat.

## Oracle WebLogic Server 10.0 MP2 - 64-bit

The following products are supported: Oracle WebLogic Server Standard Edition and Oracle WebLogic Server Enterprise Edition.

WebLogic is not integrated into the installation media. WebLogic must be installed before installing Oracle Utilities Customer Care and Billing.

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 10.0 MP2'.

After installing WebLogic, ensure that the BEADIR environment variable is set to point to the WebLogic installation directory.

For example, if you installed the software into C:\bea\wls10, put something similar to the following into cissys user profile logon script:

```
SET WL_HOME=C:\bea\wls10
```



# Chapter 8

---

## Installing the Application Server Component of Oracle Utilities Application Framework

Installing the Oracle Utilities Application Framework (“the framework”) is the prerequisite and foundation for installing a framework-based application such as Oracle Utilities Customer Care and Billing. This section describes the process for installing the Oracle Utilities Application Framework, including:

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

# Installation Overview

The application server component of any Oracle Utilities Application Framework-based application consists of the following architecture:

1. Oracle Utilities Application Framework
2. Framework-based application (such as Oracle Utilities Customer Care and Billing (CC&B), Oracle Utilities Business Intelligence (OUBI), and Oracle Enterprise Taxation Management (ETM))

The installation packages for your Oracle Utilities Application Framework-based application must be downloaded from the Oracle E-Delivery site. A new installation or an upgrade to an existing Oracle Utilities Application Framework-based application environment can be performed for this version.

If you plan to upgrade a previously installed application server, note that the installation process replaces the previously installed version of the Oracle Utilities Application Framework Server. Before you proceed with the upgrade of an existing installation, make a backup of the application environment's folders and files

Before you proceed with the installation process:

1. Make sure that you have installed all the required third-party software as described in **Chapter 7: Installing Application Server Prerequisite Software**.
2. Complete the database installation/upgrade process. Refer to the Oracle Utilities Customer Care and Billing Database Administrator's Guide.

The framework application server installation package associated with the framework-based application you are installing must be downloaded from E-Delivery and installed. The base application server environment is created and configured during this part of the installation process.

Once the Oracle Utilities Application Framework installation is successfully completed and the framework application environment is created, the framework-based application (such as CC&B, OUBI, and ETM) can be installed on top of the framework environment.

Currently, only one framework-based application can be installed on any one particular framework environment. To proceed with the installation, connect to the newly created framework environment and execute the framework-based application's install process.

Oracle Utilities Framework Application Server may run under one of the following Web Application servers: Oracle WebLogic, IBM WebSphere, or Apache Tomcat (for development only). Please refer to **Supported Platforms** on page 4-5 for details regarding certified platforms for each Web server.

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

Application server installation packages delivered for this version are multi-platform and are ready to install on any supported platform (as described in the section **Supported Platforms** on page 4-5). We recommend that you complete the database installation before installing the application server.



# Preinstallation Tasks

## Hardware and Software Version Prerequisites

The section **Supported Platforms** on page 4-5 contains all of the available platforms that are required with this release of the product.

## Database Installation

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

## Installation Prerequisites

**Chapter 7: Installing Application Server Prerequisite Software** describes all preparations that need to be done on the server prior to installing the application server. Please read carefully the server setup requirements and make sure that all prerequisite software is installed and that all required environment variables are set. Correct server setup and proper environment variable settings are an essential prerequisite for successful environment installation.

## System Architecture Overview

Oracle Utilities Application Framework V2.2.0 is a decoupled system architecture involving a Business Service Application tier and a Web Application tier. Typically both will run on the same server, but the design does allow each tier to be installed on separate servers.

The design implements a stateless session bean (EJB technology, under Java EE 5), to provide remote access to service invocations. The root Web app and XAI Web apps can be configured to access service processing locally (as in previous versions), or to make a remote EJB call to perform the service request. In the latter case, the served containers, effectively, run as very thin servlet wrappers around the remote call.

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

## Copying and Decompressing Install Media

The Oracle Utilities Framework media delivered with Oracle Utilities Customer Care and Billing V2.3.1 is already upgraded to Service Pack 8 and includes additional recent bug fixes.

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

If you are planning to install multiple Oracle Utilities Framework environments operated by different Oracle Utilities Administrator user ids, you must complete each of the following installation steps for each Administrator userid.

1. Log in as the Oracle Utilities Framework administrator userid (default cissys).
2. Create a temporary directory such as c:\spl\temp or /spl/temp. (Referred to below as <TEMPDIR>.)

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.

3. Copy the file FW-V2208-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.

4. Decompress the file:

```
cd <TEMPDIR>

jar -xvf FW-V2208-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>

A sub-directory named "FW.V2.2.0" is created. It contains the installation software for the Oracle Utilities framework application server. This Oracle Utilities Framework package includes all the Framework bug fixes needed as a prerequisite for installing Oracle Utilities Customer Care and Billing.

## Set Permissions for the cistab File in UNIX

Every Oracle Utilities Application Framework environment installed on a server must be registered in the /etc/cistab file located on that server. On UNIX servers, generally only the root userid has write permissions to the /etc directory. Since the installation process is run by the Oracle administrator userid (cissys), this userid 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.V2.2.0 directory named cistab\_<SPLENVIRON>.sh. Run the generated script using the root account before continuing with the installation process. The script initializes the cistab file in /etc directory (if it is the first Oracle Utilities Framework application environment on the server) and registers a new environment.

The generated script also changes the owner of /etc/cistab file to the Oracle Utilities Framework administrator userid, so that the next time a new environment is created by the same Oracle Utilities Framework administrator userid, you do not need to run the generated script with the root userid. Instead the install utility itself proceeds with the registration.

If you are reinstalling an existing environment, only the validation of /etc/cistab entry is done by the install utility, no new registration occurs. The install utility interactively instructs you about every step that needs to occur in each specific case.

If you are planning to upgrade an existing environment it is your responsibility to take a backup prior to the installation process. The installation utility does create a backup of existing environment.

# Installing Oracle Utilities Application Framework

This section outlines the steps for installing the Application Framework.

## Brief Description of the Installation Process

1. Log on as the Oracle Utilities Framework administrator (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 7: Installing Application Server Prerequisite Software**.  
  
For example, create all environment variables such as HIBERNATE\_JAR\_DIR, C3P0\_JAR\_DIR, JAVA\_HOME, and create a server if using WebSphere.
3. Change directory to the <TEMPDIR>/FW.V2.2.0 directory.
4. Start the application installation utility by executing the appropriate script:  
  
**UNIX:** ksh ./install.sh  
  
**Windows:** install.cmd
5. Follow the messages and instructions that are produced by the application installation utility. Use the completed worksheets in the section **Installation and Configuration Worksheets** on page 5-5 to assist you.
6. Installation of Oracle Utilities Framework Application Server is complete if no errors occurred during installation.

## Detailed Description of the Installation Process

1. Logon as Oracle Utilities administrator.  
  
Logon 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 **Chapter 7: Installing Application Server Prerequisite Software** such as setting the required environment variables (such as HIBERNATE\_JAR, C3P0\_JAR\_DIR, and JAVA\_HOME) and, depending on your application server, creating a WebSphere server instance. You will need to obtain specific information for the install.
3. Start application installation utility by executing the appropriate script:  
  
**UNIX:** ksh ./install.sh  
  
**Windows:** install.cmd
4. Complete the Environment Installation Options.
  - Use the completed Environment Installation Options Worksheet to assist you to complete this step. See **Installation and Configuration Worksheets** on page 5-5.  
  
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 name and the environment directory names for a new installation on a menu screen.
  - Specify the type of the database your environment will be connected to (the default will be Oracle).
  - Specify the Web Application Server your environment will run with (the default will be WebLogic).

- Specify if this environment will be used for the Oracle Utilities Customer Care and Billing or Oracle Enterprise Taxation Management product. Enter **N** if this environment will be used for Oracle Utilities Business Intelligence.
  - 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.
5. The application installation utility copies the installation media to a new environment.
- The installation utility copies the new version software from the temporary installation media directory to the new environment.
  - If any manual or electronic interruption occurs during this step, you can rerun the install utility from the beginning and follow the interactive instructions. The application installation utility is able to recover from such a failure.
6. Configure environment parameters.
- During this step you will configure environment parameters such as Web server hosts and ports, database name, and userid.
  - The application installation utility shows default values for some configuration options.
  - Use the completed Environment Configuration Worksheet to assist you.
- Note: Every option requires a value for a successful install. It is important to provide all values.
- When you are done with the parameters setup, proceed with the option **P. Write Configuration File**
  - You will be warned if you did not edit a section. You may proceed if you want to keep the default settings.
  - On completion of this step, \$SPLEBASE/etc/ENVIRON.INI file is created. This file contains the specific environment profile parameters and their values. You should not directly edit this file.
7. Set up environment variables.

Once \$SPLEBASE/etc/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 splenvirion.sh (on UNIX) or splenvirion.cmd (on Windows) script, located in \$SPLEBASE/bin 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 <SPLEDIR>/<SPLENVIRON> directory
- \$SPLOUTPUT (%SPLOUTPUT%) - stands for <SPLEDIROUT>/<SPLENVIRON> directory

Note: Make sure that this directory exists. Otherwise the installation script will fail.

- \$SPLENVIRON (%SPLENVIRON%) - environment name

For future operations or any post installation steps, you need to first execute the following command to connect your session to the new environment:

**UNIX:** \$SPLEBASE/bin/splenvirion.sh -e \$SPLENVIRON

**Windows:** %SPLEBASE%\bin\splenvirion.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.

8. Generate environment configuration parameters:

The application installation utility 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 configuration files with the new environment variables values and completes the rest of the installation steps.

Note: The `initialSetup` script encrypts the user ID and password values in the configuration files that it creates.

There will be two ear files created for WebSphere and WLS. See the section **Chapter 7: Installing Application Server Prerequisite Software** for settings and configuration.

9. Deployment for WebSphere:

The installation utility will prompt you to deploy the ear files for WebSphere, if you will be installing ETM, CC&B or BI enter **N** and proceed to the next step.

Note: Prior to deployment of the ear files you should check **Chapter 7: Installing Application Server Prerequisite Software** of this document, for the configuration settings.

10. Start up the environment

The final step of the installation process will ask if you would like to start the environment, you should select **N** if you are planning on installing ETM, CC&B or BI on top of the Oracle Utilities Framework.

When you select **Y**:

The install utility executes the command:

**UNIX:** `spl.sh start`

**Windows:** `spl.cmd start`

Follow the messages on the screen along with the logs in `$SPLSYSTEMLOGS` directory to ensure that the environment was started successfully.

If the startup failed, identify the problem by reviewing the logs. Resolve any issues before attempting to restart the environment.

You should postpone the startup process until you are done with post installation steps.

Use the following utility to stop the environment:

**UNIX:** `spl.sh stop`

**Windows:** `spl.cmd stop`



# Chapter 9

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

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

- **Preinstallation Tasks**
- **Installing the Application**
- **Installing User Documentation**
- **Integrating Customer Modifications into the Upgraded Environment**
- **Additional Tasks Required for WebSphere**
- **Configuring the System for Connection with Web Self Service Application**
- **Operating the Application**

You can download the installation package from Oracle E-Delivery. 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 section.

You *must* initialize the Framework environment along with the required Patch Set prior to proceeding with Oracle Utilities Customer Care and Billing Application product installation. For detailed instructions see **Preparing for the Installation** on page 9-2.

## Preinstallation Tasks

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

### 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. Please refer to the **Supported Platforms** on page 4-5 for version and installation details regarding the database and operating system versions. Also see **Chapter 7: Installing Application Server Prerequisite Software** for 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 Customer Care and Billing administrator userid (default cissys).
2. Create a <TEMPDIR> directory on the server, which is independent of any current or other working Oracle Utilities Customer Care and Billing application environment.
3. Copy the file CCB-V231-<Platform>.jar in the delivered package to a <TEMPDIR> on your UNIX box. 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-V231-<Platform>.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.V2.3.1 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 Oracle Utilities Customer Care and Billing Administrator (default cissys).
2. Initialize the Framework environment that you want to install the product into.

#### UNIX:

```
$SPLBASE/bin/splenvron.sh -e $SPLENVIRON
```

#### Windows:

```
$SPLBASE\bin\splenvron.cmd -e %SPLENVIRON%
```

3. Stop the environment if running.

#### UNIX:

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



**Windows:**

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

## Installing the Application

1. Change to the <TEMPDIR>/CCBV.2.3.1 Directory.
2. Execute the script:

**UNIX:**

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

**Windows:**

```
install.cmd
```

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

3. Follow the messages and instructions that are produced by the install utility. Please note that some of the steps (such as Generate Application Viewer Items) will take some time to complete.
4. 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.
5. (Optional) Decide if you want to have the new UI style for the application. The new UI style conforms to the Oracle Fusion Applications style sheets for fonts and colors. To disable this UI style, modify the ccb.properties.include file in the “etc” directory and change the spl.runtime.fusionlook property to false:

```
spl.runtime.fusionlook=false
```

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
```

**Notes.**

- **For WebSphere environment installations:** at the end of the installation process you will be prompted whether to deploy the application into WebSphere server. If you reply **Y** the installation script will deploy the application into WebSphere using wsadmin tool. If you reply **N** you may deploy the application into WebSphere manually using WebSphere admin console, or by executing the genwasdeploy utility.

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.

**Note:**

- **For WebSphere environment installations:** since the WebSphere server usually runs under root userid, it needs to be restarted with the new environment variable settings after Oracle Utilities Customer Care and Billing environment installation and deployment into WebSphere. To do this switch to root userid, setup \$WAS\_HOME environment variable (and the rest of environment variables as described in **Chapter 7: Installing Application Server Prerequisite Software**), initialize the newly installed environment by executing the command: \$SPLBASE/bin/splenviron.sh -e \$SPLENVIRON and after that shutdown and startup WebSphere server using WebSphere commands, e.g. \$WAS\_HOME/bin/startServer.sh server1. After the initial server restart you may start the application by the environment startup/shutdown commands or through WebSphere Admin console.

## Installing User Documentation

This section provides instructions for installing the Oracle Utilities Customer Care and Billing user documentation that is supplied with the system. Oracle Utilities Customer Care and Billing user documentation in printable format is provided as Word documents. CCB V2.3.1 User Documentation is available as a separate download within the Oracle Utilities Customer Care and Billing V2.3.1 Media Pack on E-Delivery.

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

- C1: Oracle Utilities Customer Care and Billing Administration and Business Process Guides
- F1: Oracle Utilities Application Framework Administration and Business Process Guides

## Installing Stand-Alone Online Help

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

To install the Oracle Utilities Customer Care and Billing help for stand-alone operation, copy the help.war from the Oracle Utilities Customer Care and Billing server (environment) or from the Oracle Utilities Customer Care and Billing installation package to the server or machine on which you want to access the help. If you want to copy the file from any installed Oracle Utilities Customer Care and Billing environment, you can locate the file in the \$SPLBASE/splapp/applications directory on the server.

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

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

## Customizing Help for Stand-Alone Operation

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

## Installing Stand-Alone Help Under Web Server

You can also install Oracle Utilities Customer Care and Billing online help as a stand-alone web application. Use any Web Application server like WebLogic, Tomcat or WebSphere. Configure the configuration file for your web application server to use web application help.

For example,

- For WebLogic, configure config.xml file for deployed application Name="help" with URI="help.war" and set WebServer DefaultWebApp="help"
- For WebSphere, configure application.xml with module id="WebModule\_help" and <web-uri>help.war</web-uri>
- For Tomcat, configure server.xml with Context path="/help" and docBase= full path of help.war file

Access the documentation from the browser by the following URL :

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

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

## Integrating Customer Modifications into the Upgraded Environment

If you are upgrading or installing into an existing environment that had customer modifications, the install utility will have backed up all your customer modifications in a temporary installation area and copied them back into the environment at the end of the upgrade process. The *Oracle Utilities Customer Care and Billing Database Administrator's Guide* describes the rules supported by the installation utility to preserve customer modifications. It also discusses the naming conventions for implementing custom modules.

The configuration files of the existing environment are backed up in the directory \$SPLEBASE/etc on UNIX and %SPLEBASE%\etc on Windows during installation by the install scripts to preserve any customer changes. Since technologically the framework of this version differs significantly from all previous versions, all configuration files are regenerated from the new templates by the installation process and any previous customer modifications to these configuration files will need to be reapplied manually where applicable, using the backed up files as a reference.

The upgraded version of Oracle Utilities Customer Care and Billing base product may require significant changes to integrate into the new version. Please refer to the Oracle Utilities Customer Care and Billing Software Development Kit product documentation for instructions how to do that.

In case no code changes are required to be applied to the upgraded environment, it is necessary to rebuild the CM Java sources. In order to run this build, follow these steps:

1. Execute applyCM from corresponding Oracle Utilities Customer Care and Billing Software Development Kit version on the upgraded environment with option "-b" (full build) option. For more details, see the document 02Cookbook.doc within Oracle Utilities Customer Care and Billing Software Development Kit documentation:

### UNIX:

```
cd $SPLEBASE
<SDK bin folder>/applyCM.sh -b
```

### Windows:

```
cd %SPLEBASE%  
<SDK bin folder>\applyCM.cmd -b
```

The script initialCMSetup utility is provided for your convenience to help complete the reintegration of your custom modifications into the new environment. The script compiles all custom implementation COBOL modules (prefixed with CMP or CML).

To execute initialCMSetup utility:

1. Login to the host server with Oracle Utilities Customer Care and Billing administrator userid.
2. Connect your session to the target environment with the following command:

**UNIX:**

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

**Windows:**

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

3. Execute the following command:

**UNIX:**

```
initialCMSetup.sh
```

**Windows:**

```
initialCMSetup.cmd
```

## Additional Tasks Required for WebSphere

### Configure the Environment Entry

Under **Application servers**, **< server\_Name >**, **Java and Process Management**, **Process Definition, Environment Entries**, Add the entry:

**Name:** LIBPATH

**Value:** <\$SPLEBASE>/runtime

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

### Application Deployment

You will need to deploy the application after running the application installation utility.

You can use either the supplied scripts or manually deploy the ear files, which the application installation utility has created.

If you use the supplied script you will still need to configure application security through the console. See **Configure Application Security** on page 9-9 section.

### Deployment using supplied script

The application deployment script is genwasdeploy.sh.

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

### Deployment via the Admin Console

Follow these steps to deploy the application using the Admin Console:

#### Deployment Order

The application needs to be deployed in the following order:

1. SPLService.ear
2. SPLWeb.ear

The SPLService.ear must be successfully deployed before deploying SPLWeb.ear

#### Deploying SPLService.ear

1. Select the ear file to deploy.

Select **Applications, Install New Application**.

Select **Remote file system**.

Browse to the SPLService.ear or enter the full path to the file. The ear files can be found under \$SPLEBASE/splapp/applications.

2. Assign the module to the Websphere server instance.

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

3. Specify the JNDI name.

The JNDI name is spl-<server name>/servicebean

For example, spl-server6/servicebean

The JNDI name can be found in the spl.properties in SPLApp/web-inf/classes/spl.properties.

4. Review the summary page.

Review the installation options

Click **Finish** - the application will then deploy. The deployment process takes about 5 minutes.

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

### Deploying SPLWeb.ear

1. Select the ear file to deploy.

Select **Applications, Install New Application**.

Select **Remote file system**.

Browse to the SPLWeb.ear or enter the full path.

2. Assign the module to the Websphere server instance.

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

3. Review the summary page.

Click **Finish** - the application will then deploy. The deployment process above can take 5 minutes or more

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

### Configure the applications

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

1. Set the startup order of the applications (this applies only to SPLWeb):

Select the SPLWeb application from **Applications, Enterprise Applications**.

Select **Startup behavior**.

Change the startup order to 2.

Click **OK**.

Click **OK** and **Save directly to master configuration**.

2. Set the class loading order (only for SPLWeb.ear):

Select **Class loading and update detection**.

Set Polling interval to 0.

Under **Class loader order** select **Classes loaded with application class loader first**.

Click **OK** and **Save to master configuration**.

3. Set the module starting weight:

SPLService only - set the Starting weight to 1.

SPLWeb only - for each module (.war) set the Starting weight to 10000 and change the Class loader order to **Classes loaded with application class loader first**

### Configure Application Security

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

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

For role cisusers:

- Check **All Authenticated**.
- Check **Select** and click **Look up users**:
  - Search for SYSUSER and add to the **Selected users** list.
  - Click **OK**

Note: Be sure to configure security for both SPLService and the SPLWeb applications.

## Restart the WebSphere Server

It is recommended to stop and then restart the WebSphere server.

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

Note: WebSphere admin console runs under server1.

## Application URL

The Web link to the WebSphere application will be:

http://<hostname>:<WebSphere Port No>/spl-<server name>/cis.jsp

For example, http://sf-aixapp-02:9085/spl-server6/cis.jsp

# Configuring the System for Connection with Web Self Service Application

Web Self Service application (WSS) is supplied as a separate package and can be installed outside of Oracle Utilities Customer Care and Billing environment. Refer to the document *Oracle Utilities Customer Care and Billing Optional Third-Party Products Installation Guide* for more details.

## 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 Operations and Configuration Guide* for more information on further configuring and operating the Oracle Utilities Customer Care and Billing system.



# Chapter 10

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## Additional Tasks

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

- **Customizing Configuration Files**
- **Integrating Existing Customer Modifications**
- **Generating the Application Viewer**
- **Building Javadocs Indexes**
- **Configuring the Environment for Batch Processing**
- **Customizing the Logo**

## Customizing Configuration Files

You may wish to make customer modifications to various configuration files. To do so, you should locate the configuration file you want to customize and edit it manually.

Configuration files are generated from delivered templates in the Oracle Utilities installation and are populated by values entered by the installation utility during the configuration process. In future upgrades of Oracle Utilities application software versions, some templates may be changed to reflect new software version requirements. In this case, the upgrade process will back up your customized configuration file and will regenerate a configuration file based on a new template. You will need to review the new configuration file and apply your customized changes back if still applicable for the new version.

For configuration files that are located in a Web application (for example, web.xml, hibernate.properties), of the Web application during installation process, you will not be able to edit the configuration files directly.

You will need to follow the procedure:

- Locate the configuration file you want to customize in the directory \$SPLEBASE/etc/conf.
- Apply your changes.
- Update application war file with the latest changes by executing the command:

**UNIX:** \$SPLEBASE/bin/genupdatewar.sh

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

## Integrating Existing Customer Modifications

If the installation utility was executed on a previously existing environment, it will preserve customer modifications according to the rules described in the *Oracle Utilities Customer Care and Billing Database Administrator's Guide*. In most cases, additional development or configuration actions need to be taken to adjust and integrate upgraded customer modifications to the new version.

Refer to the *Oracle Utilities Customer Care and Billing* installation section of this document and to the SDK documentation for more information.

## Generating the Application Viewer

The Application Viewer that is delivered with the system includes COBOL source code and XML services. You may extend Application Viewer capabilities within an environment by generating additional items. The additional items that can be generated include algorithm type and related algorithm information, maintenance object information and data dictionary information.

This section details the steps necessary to generate the additional items.

1. Initialize a command shell:

Follow the steps in the sections **Initializing a Windows command shell** on page 10-4 or **Initializing a UNIX Shell** on page 10-4.

2. Execute the script to generate all information

Execute the following command for your operating system

**UNIX:**

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

**Windows:**

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

3. Redeploy your application

After you have performed the above steps you will need to redeploy the application into the web application server.

You may use the supplied scripts genwasdeploy.sh for WebSphere or use a rapid deployment method supplied with your particular web application server.

No additional deployment steps are required for WebLogic. The updated appViewer.war will be deployed during application startup.

## Building Javadocs Indexes

The following script allows rebuilding the Javadocs indexes in the appViewer java module. This is necessary after Customer Modifications have been applied to an environment. (This needs to be run only if the Customer Modification includes Java Code.)

**Windows:**

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

**UNIX:**

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

## Configuring the Environment for Batch Processing

Batch processes can be run in two ways: interactively from the command line, or by using a batch daemon to monitor batch submissions.

### Executing Batch Programs Interactively

This section describes how to set up your environment to run batch processes from the command line for both Windows and UNIX.

#### Executing Batch Programs Interactively on Windows

Executing a batch process interactively is a two step process.

##### Initializing a Windows command shell

Most command files and scripts that are provided with the system need to be run from a Windows command prompt.

Before such scripts can be run, a Windows command window must be opened and that command window must be 'initialized' by running the splenviron.cmd script provided with the system.

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

In the below example you should replace the variables:

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

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

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

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

For example:

```
D:\spl\TEST_ENVIRON1\bin\splenviron.cmd -e TEST_ENVIRON1
```

##### Executing a batch program

After initializing the shell, enter:

```
%SPLEBASE%\bin\SPLBATCH.cmd
```

You will see a number of output lines before you are prompted for the Batch Code as well as other parameters that are relevant to that batch code.

#### Executing Batch Programs Interactively on UNIX

Executing a batch process interactively is a two step process.

##### Initializing a UNIX Shell

The scripts that are provided with the system need to be run from a UNIX shell prompt on the machine that you installed the application on.

Before such scripts can be run the UNIX shell must be 'initialized' by running the splenviron.sh script provided with the system.

You will need to logon to your UNIX box as the Oracle Utilities Administrator (default cissys) and open a shell prompt.

In the below example you should replace the variables

\$SPLEBASE with the full directory name that you installed the application into

and

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

To initialize the environment type:

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

For example:

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

### Executing a batch program

After initializing the shell, enter:

```
$SPLEBASE/bin/SPLBATCH.sh
```

You will see a number of output lines before you are prompted for the Batch Code as well as other parameters that are relevant to that batch code.

## Batch Daemon Submission Options

The section describes your options for batch submission processes using a batch daemon.

### Batch Submission Using the Online JVM

Note: The functionality provided in previous releases with the scripts `submitbatch.plx` and `cdxcronbatch.sh` is no longer supported. These scripts have been deprecated in favor of the multithreaded java batch daemon described in this below.

This step is necessary only if your organization uses either Oracle Utilities Customer Care and Billing's batch scheduler or if you wish to submit ad-hoc batch jobs from the online application. This option is a good choice for low-volume, low activity environments.

Before jobs can be submitted from the on-line Batch Job Submission page, two batch components need to be started: a batch "worker" and the batch-scheduling daemon. A worker node is responsible for running the batch jobs that are requested by the daemon.

The following describes how to start a worker and the daemon to allow for job submissions from the on-line system.

### Starting the batch worker

A batch worker node can be started as part of the application server, or as a standalone process.

When using the Online JVM option you should have the following settings when you run `configureEnv.sh / cmd:`

Batch Server Enabled:	true
Batch Threads Number:	5
Batch Scheduler Daemon:	true

### Batch Worker as Part of the Application Server

This is a good choice for low-volume, low-activity environments such as development or testing because of the smaller resource requirements. To start a batch worker this way, specify the following application server properties:

```
com.splwg.grid.online.enabled=true  
com.splwg.grid.distThreadPool.threads.DEFAULT=5
```

The first property allows the application server JVM to run batch jobs. See **Thread Pool** below for a description of the second property.

### Standalone Batch Worker

To start a worker node as a standalone process, a JVM is started with the following properties:

```
com.splwg.batch.submitter=false
```

```
com.splwg.grid.distThreadPool.threads DEFAULT=5
```

The first property specifies that the JVM being started is a "worker" JVM (i.e. it is not a "submitter" JVM). See **Thread Pool** below for a description of the second property.

### Thread Pool

The distributed thread pool property in the examples above assign the worker to thread pool "DEFAULT" and permits it to run 5 threads concurrently. Unless explicitly overridden at time of submission, the "DEFAULT" thread pool is where the online submissions automatically get directed to, so this should in most cases not be changed; if it is set to anything else, the online submissions may not be picked up. The number of threads, specified as "5" above, can be adjusted.

### Starting the Batch-Scheduling Daemon

The batch-scheduling daemon can be started as part of the application server, or in a standalone batch worker node. In either case, add the following property to enable the JVM to also be a scheduler:

```
com.splwg.batch.scheduler.daemon=true
```

### Batch Submission using Thread Pool Worker

This step is necessary if your organization uses the application's batch scheduler or if you wish to submit ad-hoc batch jobs from the online application.

When using the Thread Pool Worker option you should have the following settings when you run `configureEnv.sh / cmd`:

Batch Server Enabled:	false
Batch Threads Number:	5
Batch Scheduler Daemon:	false

### Starting the Thread Pool Worker on Unix

Once you have initialized an environment shell with `splenvron.sh`, the application `threadpoolworker.sh` should be executed as a background task.

```
nohup threadpoolworker.sh -p DEFAULT=5 -d Y &
```

This will start a standalone thread pool worker process that offers 5 threads in thread pool DEFAULT ("-p DEFAULT=5") and hosts a scheduler daemon for online job submissions ("-d Y"). Thread pool DEFAULT is the default thread pool name that is used for jobs submitted from the online; if set to anything else, online submissions may not be picked up. The number of threads, specified as "5" here, can be adjusted.

The batch scheduler should be running as a background daemon under UNIX. To verify that it is running you can use a command similar to `"ps -ef | grep threadpool"`.

### Starting the Thread Pool Worker on Windows

```
threadpoolworker.cmd -p DEFAULT=5 -d Y
```

Note: If the `JAVA_HOME` environment variable is set, the script can be launched from Windows Explorer.

This will start a standalone thread pool worker process that offers 5 threads in thread pool DEFAULT ("-p DEFAULT=5") and hosts a scheduler daemon for online job submissions ("-d Y"). Thread pool DEFAULT is the default thread pool name that is used for jobs submitted from

the online; if set to anything else, online submissions may not be picked up. The number of threads, specified as "5" here, can be adjusted.

Refer to **Chapter 8: Installing the Application Server Component of Oracle Utilities Application Framework** and to the user documentation section Running Batch Processes for more information.

## Customizing the Logo

The customer may want to replace the Oracle Utilities logo image on the Main menu with another logo image. To do this, put the logo <customer\_logo\_file>.gif file into the directory \$SPLEBASE/etc/conf/root/cm and create a new "External" Navigation Key called CM\_logoImage. To do that, run the Oracle Utilities application from the browser with the parameters: `http://<hostname>:<port>/spl/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:

**For Windows:** `http://<host name>:<port>/spl/cm/<customer_logo_file>.gif`

**For UNIX:** `http://<host name>:<port>/spl/cm/<customer_logo_file>.gif`.

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





# Appendix A

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## System Program Upgrade Guide

This section highlights changes to base modules that may impact custom implementations. If you have customized modules, please read through this information to determine if there is any impact to your customizations.

### Files Deprecated in V2.3.1

No COBOL programs or copybooks have been deprecated between V2.2.0 and V2.3.1. Refer to the Customer Care and Billing V2.3.1 Release Notes for details of planned future deprecation of some COBOL programs.



# Appendix B

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