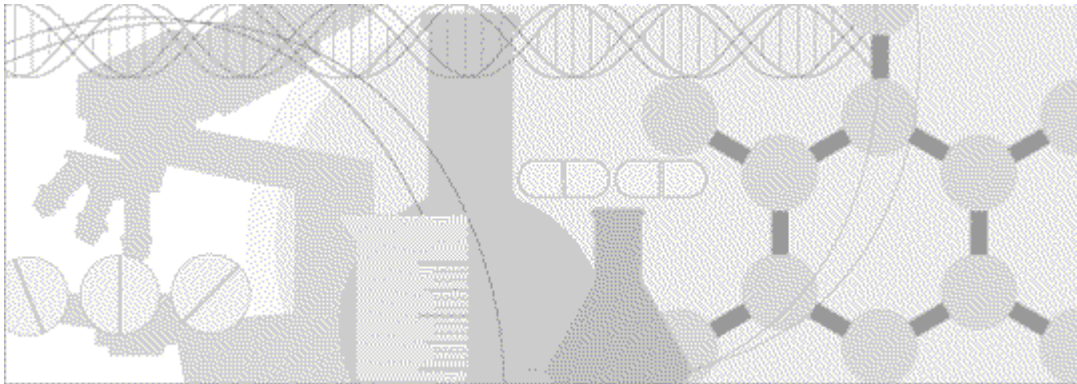


Installation Guide

Oracle[®] Health Sciences Central Designer
Release 2.0



ORACLE[®]

Part Number: E37914-02

Copyright © 2013, Oracle and/or its affiliates. All rights reserved.

The Programs (which include both the software and documentation) contain proprietary information; they are provided under a license agreement containing restrictions on use and disclosure and are also protected by copyright, patent, and other intellectual and industrial property laws. Reverse engineering, disassembly, or decompilation of the Programs, except to the extent required to obtain interoperability with other independently created software or as specified by law, is prohibited.

The information contained in this document is subject to change without notice. If you find any problems in the documentation, please report them to us in writing. This document is not warranted to be error-free. Except as may be expressly permitted in your license agreement for these Programs, no part of these Programs may be reproduced or transmitted in any form or by any means, electronic or mechanical, for any purpose.

If the Programs are delivered to the United States Government or anyone licensing or using the Programs on behalf of the United States Government, the following notice is applicable:

U.S. GOVERNMENT RIGHTS Programs, software, databases, and related documentation and technical data delivered to U.S. Government customers are "commercial computer software" or "commercial technical data" pursuant to the applicable Federal Acquisition Regulation and agency-specific supplemental regulations. As such, use, duplication, disclosure, modification, and adaptation of the Programs, including documentation and technical data, shall be subject to the licensing restrictions set forth in the applicable Oracle license agreement, and, to the extent applicable, the additional rights set forth in FAR 52.227-19, Commercial Computer Software -- Restricted Rights (June 1987). Oracle USA, Inc., 500 Oracle Parkway, Redwood City, CA 94065.

The Programs are not intended for use in any nuclear, aviation, mass transit, medical, or other inherently dangerous applications. It shall be the licensee's responsibility to take all appropriate fail-safe, backup, redundancy and other measures to ensure the safe use of such applications if the Programs are used for such purposes, and we disclaim liability for any damages caused by such use of the Programs.

The Programs may provide links to Web sites and access to content, products, and services from third parties. Oracle is not responsible for the availability of, or any content provided on, third-party Web sites. You bear all risks associated with the use of such content. If you choose to purchase any products or services from a third party, the relationship is directly between you and the third party. Oracle is not responsible for: (a) the quality of third-party products or services; or (b) fulfilling any of the terms of the agreement with the third party, including delivery of products or services and warranty obligations related to purchased products or services. Oracle is not responsible for any loss or damage of any sort that you may incur from dealing with any third party.

Oracle is a registered trademark of Oracle Corporation and/or its affiliates. Other names may be trademarks of their respective owners.

This documentation may include references to materials, offerings, or products that were previously offered by Phase Forward Inc. Certain materials, offerings, services, or products may no longer be offered or provided. Oracle and its affiliates cannot be held responsible for any such references should they appear in the text provided.

Contents

About this guide	v
Overview of this guide.....	vi
Audience	vi
Related information.....	vii
Documentation	vii
If you need assistance.....	ix
 Chapter 1 Architectural overview of the environment	 1
Introduction to the Central Designer software	2
Physical architecture	3
Deployment scenarios and requirements	4
Web farm capabilities.....	5
Illustration of a web farm configuration	6
Information that is stored in the database	7
About adding application servers	7
Managing web farm capabilities.....	7
 Chapter 2 Checklists for software installation	 9
Checklist—Planning the server installation	10
Checklist—Planning the client installations.....	12
 Chapter 3 Planning your installation	 13
Installing a certificate for signing web service authorizations.....	14
Determining the version of Microsoft .NET Framework.....	16
Viewing Internet Explorer proxy settings	17
Synchronizing clocks on server and client computers	18
Hardware networking switches	19
Configuring the application server for optimal performance	20
Use the /3GB startup switch feature for a 32-bit Microsoft Windows server.....	20
Configure the worker process recycling settings	20
Configure the worker process health settings	20
Increase the default Microsoft Distributed Transaction Coordinator timeout.....	21
Use the performance tuning capabilities that are available with the Oracle database software	21
 Chapter 4 Preparing the database server	 23
Prepare the database server.....	24
Install the Oracle database software on the database server	24
Create the database and tablespaces.....	25
Configuring the listener to accept connections for the new database	25
Configuring the Open Cursors setting for a database instance.....	26
Configuring the Cursor Sharing setting for a database instance	26
Required rights for database administrators	27
 Chapter 5 Installing and uninstalling the software	 31
Before you begin.....	32
Overview of installation and configuration.....	33
Overview of installing the application and database servers	33
Overview of uninstalling	33
Installing the Central Designer application server.....	34

Verifying the installation of the application server.....	40
Uninstalling the application server.....	40
Starting the Central Designer client application.....	41
Starting the Central Designer Administrator client application	42
Chapter 6 Upgrading the software to this release	43
About upgrading the application server.....	44
Checklist—Planning an upgrade.....	45
Running the DetectStudiesWithUnitsWithSpaces.sql file.....	47
Updating data mappings with PhysicalMappingType set to All	48
Upgrading user-defined functions.....	49
Upgrading custom reports definitions.....	51
Upgrading the application server.....	52
Upgrading the client applications.....	57
Chapter 7 Securing communication with Secure Socket Layers (SSL)	59
About communication security.....	60
About Secure Socket Layers (SSL)	61
Chapter 8 Getting started	63
Getting started.....	64
Logging on to the Central Designer Administrator application	64
Changing your password in the Central Designer Administrator application.....	64
Logging on to the Central Designer application.....	64
Changing your password in the Central Designer application	65
Logging off.....	65
Overview of configuring the Central Designer software	65
Chapter 9 Troubleshooting	67
Troubleshooting.....	68

About this guide

In this preface

Overview of this guide..... vi

Related information..... vii

If you need assistance..... ix

Overview of this guide

This guide provides a brief overview of the Central Designer software, a description of hardware and software requirements, and step-by-step instructions for installing, uninstalling, and upgrading the software.

Audience

This guide is for IT administrators and others who are responsible for installing, upgrading, and uninstalling the Central Designer software.

Related information

Documentation

All documentation is available from the Oracle Software Delivery Cloud (<https://edelivery.oracle.com>) and the Download Center (<https://extranet.phaseforward.com>).

All documents may not be updated for every Central Designer release. Therefore, the version numbers for the documents in a release may differ. For a complete list of the documents in this Central Designer release, their release version numbers, and part numbers, see the *Release Notes*.

Item	Description
<i>Release Notes</i>	The <i>Release Notes</i> document provides detailed information about the requirements, enhancements, and fixed issues in the current release.
<i>Known Issues</i>	<p>The <i>Known Issues</i> document provides detailed information about the known issues in this release, along with workarounds, if available.</p> <p>Note: The most current list of known issues is available on the Extranet. To sign in to the Extranet, go to https://extranet.phaseforward.com.</p>
<i>Installation Guide</i>	<p>The <i>Installation Guide</i> provides system requirements and instructions for installing and upgrading the Oracle® Health Sciences Central Designer software and the Oracle® Health Sciences Central Designer Administrator software.</p> <p>This document is also available from the Documentation CD.</p>
<i>Administrator Guide</i>	<p>The <i>Administrator Guide</i> describes how to use the Oracle® Health Sciences Central Designer Administrator software to set up users, permissions, system configuration parameters, and catalog defaults.</p> <p>This document is also available from the Oracle® Health Sciences Central Designer Administrator application user interface (HTML format) and the Documentation CD (PDF format).</p>
<i>User Guide</i>	<p>The <i>User Guide</i> introduces the study design environment in the Oracle® Health Sciences Central Designer application and describes how to work as a study design team in that environment, including how to:</p> <ul style="list-style-type: none"> • Work collaboratively. • Maximize study design efficiency by reusing study objects. • Manage collections of study objects. <p>This document is also available from the Oracle® Health Sciences Central Designer application user interface (HTML format) and the Documentation CD (PDF format).</p>
<i>InForm Design Guide</i>	<p>The <i>InForm Design Guide</i> describes how to design a study for deployment to the InForm application.</p> <p>This document is also available from the Oracle® Health Sciences Central Designer application user interface (HTML format) and the Documentation CD (PDF format).</p>

Item	Description
<i>Rules Reference Guide</i>	<p>The <i>Rules Reference Guide</i> is a reference to the tools that are available for creating rule expressions, including:</p> <ul style="list-style-type: none">• Study object properties.• Functions.• Constants.• Data mappings.• Methods, operators, and literals. <p>This document is also available from the Oracle® Health Sciences Central Designer application user interface (HTML format) and the Documentation CD (PDF format).</p>
<i>Secure Configuration Guide</i>	<p>The <i>Secure Configuration Guide</i> provides an overview of the security features provided with the Oracle® Health Sciences Central Designer application, including details about the general principles of application security, and how to install, configure, and use the Central Designer application securely.</p>

If you need assistance

Oracle customers have access to support through My Oracle Support. For information, visit <http://www.oracle.com/pls/topic/lookup?ctx=acc&id=info>, or if you are hearing impaired, visit <http://www.oracle.com/pls/topic/lookup?ctx=acc&id=trs>.

CHAPTER 1

Architectural overview of the environment

In this chapter

Introduction to the Central Designer software.....	2
Physical architecture	3
Deployment scenarios and requirements.....	4
Web farm capabilities	5

Introduction to the Central Designer software

The Central Designer software consists of:

- **Central Designer server application**—Communicates with the client applications through web services.
- **Central Designer client application**—Provides a collaborative environment for designing clinical studies and deploying them to the InForm application.
- **Central Designer Administrator client application**—Provides an environment for setting up administrative information, such as users, roles, and system configuration information.

Physical architecture

The physical configuration of the Central Designer software includes:

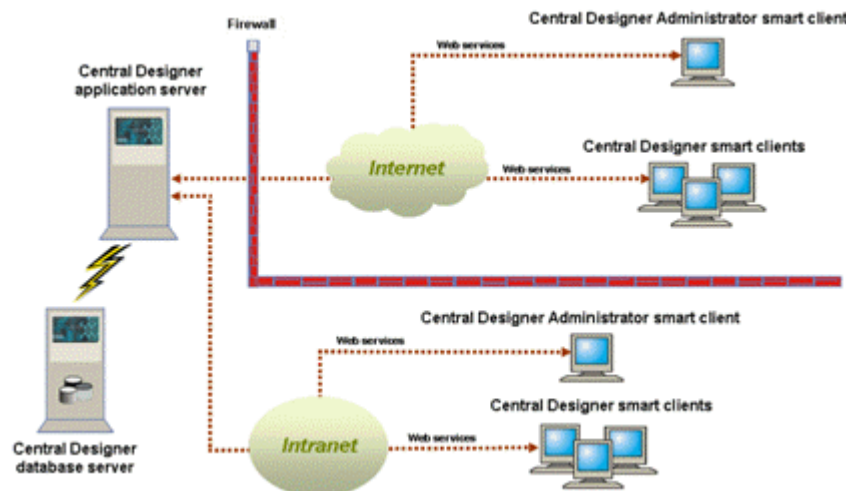
- A database server machine.
- One or more application server machines. For more information, see *Web farm capabilities* (on page 5).
- One or more client machines.

There are three configuration options for the Central Designer software.

Configuration	Description
Single-tier	The application server, database server, and client applications run on the same machine.
Two-tier	The application server and database server run on the same machine, and the client applications run on another machine.
Three-tier	The database server, application server, and client applications each run on a separate machine.

Notes:

- For optimum performance, Oracle recommends a three-tier configuration.
- If the application server and database server are on the same computer, you must install the Oracle Server software and Oracle Client software in the same home, or the Central Designer server installation will not work.



Deployment scenarios and requirements

For this release of the Central Designer application, on the computer on which the InForm software is running:

- If you are using an InForm version in the 4.6 or 5.0 release stream, install Oracle database version 10.2.0.4 or later.
- Install Microsoft .NET Framework 4.0.
- Install the InForm software before you install .NET Framework 4.0. You cannot install InForm software on a computer on which .NET Framework has already been installed.

If you created a deployment package and are upgrading to a new release:

- Changes that impact deployment to the InForm application are propagated only after you create a new deployment package and install it on the InForm server.
- If you have already installed the deployment package and the study is live, you also have to change the study version.

Note: Oracle strongly recommends that you install the Central Designer software on a different server computer than the server computer on which the InForm software runs.

Web farm capabilities

You can expand the performance capabilities of the Central Designer application server by adding multiple servers in a farm configuration. This configuration is called a web farm. A web farm setup distributes requests from the client applications among multiple application servers. A web farm is useful for the following reasons:

- A large number of requests that might impact performance can be spread out among multiple application servers, thus improving performance.
- Multiple application servers allow for redundancy and failover protection.

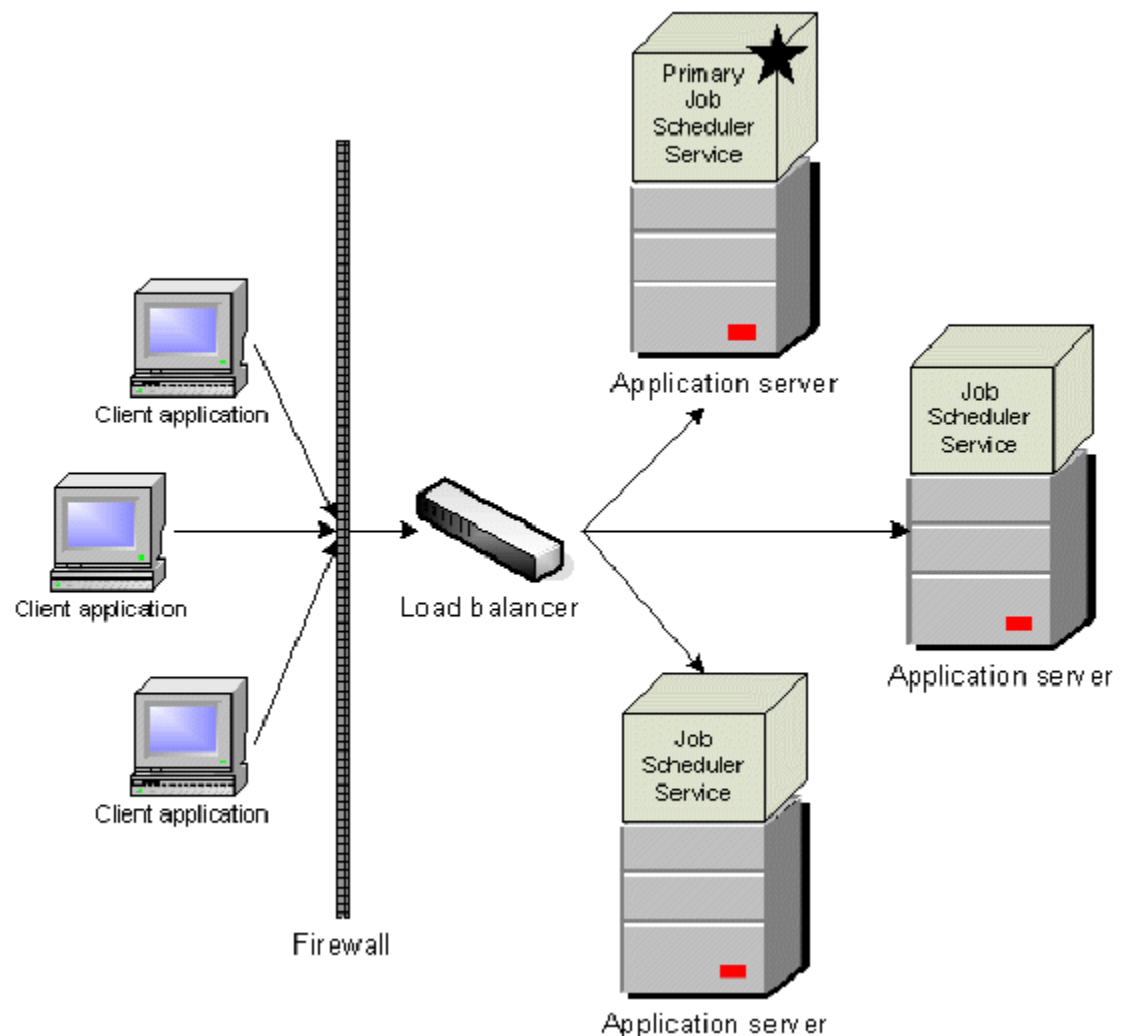
In a web farm configuration, all application servers can process any request. However, certain operations are run asynchronously using the Central Designer Job Scheduler. The Job Scheduler is installed on every application server, but only one Job Scheduler can process jobs, and only one service is enabled to process requests. The Job Scheduler service that processes all requests is called the primary Job Scheduler. You can change the primary Job Scheduler at any time. Oracle recommends setting the Job Scheduler on the most powerful machine in the web farm as the primary.

Note: You must use the same port number, which you specify during installation, for all application servers within a web farm. If one of the application servers uses a different port number, the Job Scheduler will not work if the machine is set to run the primary Job Scheduler. By default, the port number is 53000.

Illustration of a web farm configuration

The following tasks are performed in a web farm configuration:

- The client applications send requests through a firewall to a load balancer. The load balancer distributes requests among application servers.
- The job scheduler services on all of the application servers run; however, only the primary job scheduler processes requests. The other job scheduler services do not accept any requests. Examples of tasks that require the job scheduler service include importing and validation.
- All tasks that do not require the job scheduler service are distributed among the application servers.



Information that is stored in the database

Units information and report definitions are stored in the database and are used by all application servers in a web farm.

- You can export the units information to a file and then modify and import the file. You perform this task in the Central Designer Administrator application.
- If you have created custom reports, you must back up the Report configuration section of the DesignerWebServices.config file before upgrading and then import it into the database.

For more information about working with this information, see the *Administrator Guide*.

About adding application servers

You can add additional application servers to a web farm environment at any time, even if you did not configure your first application server to support a web farm.

When you install a second application server, the installation recognizes the existing application server installation. The Job Scheduler service on the existing application server is set as the primary by default, but you can set the Job Scheduler for the second (or higher) application server as the primary during the installation of its application server.

You install additional application servers the same way that you install the first application server. The installation process configures the application server computers as a web farm. For more information, see *Installing the Central Designer application server* (on page 34).

Managing web farm capabilities

After a web farm is installed, you can manage it using the Central Designer Administrator software. You perform the following tasks in the Central Designer Administrator software:

- Viewing the servers that are in the web farm.
- Determining and changing the primary job scheduler.
- Working with Event Log messages for the web farm, including:
 - Viewing the messages.
 - Changing the default limit for the number of entries in the log.
 - Deleting all entries in the log.
- Modifying the file for report definitions.
- Modifying units information.

For more information, see the *Administrator Guide*.

CHAPTER 2

Checklists for software installation

In this chapter

Checklist—Planning the server installation.....	10
Checklist—Planning the client installations	12

Checklist—Planning the server installation

Use the following checklist to help plan the Central Designer application server and database server installations.

If you are upgrading, see *Upgrading the software to this release* (on page 43).

<input checked="" type="checkbox"/> Task	Information
<input type="checkbox"/> 1 Determine if the setup is single-tier or multi-tier.	<i>Physical architecture</i> (on page 3).
<input type="checkbox"/> 2 Make sure all system requirements, including .NET Framework requirements, have been met for the application server.	<ul style="list-style-type: none"> • <i>System requirements: Application servers</i> in the <i>Release Notes</i>. • <i>Determining the version of .NET Framework on your computer</i> (on page 16).
<input type="checkbox"/> 3 Make sure all system requirements, including required Oracle database parameters, have been met for the database server.	<ul style="list-style-type: none"> • <i>System requirements: Database server</i> in the <i>Release Notes</i>. • <i>Install the Oracle database software on the database server</i> (on page 24).
<input type="checkbox"/> 4 On the database server, create the database and tablespaces.	<p>The database and tablespaces must be created prior to installing the Central Designer software.</p> <p>For more information, see <i>Create the database and tablespaces</i> (on page 25).</p>
<input type="checkbox"/> 5 On the database server, configure the Open Cursors setting.	For more information, see <i>Configuring the Open Cursors setting for a database instance</i> (on page 25).
<input type="checkbox"/> 6 On the database server, configure the Cursor Sharing setting.	For more information, see <i>Configuring the Cursor Sharing setting for a database instance</i> (on page 26).
<input type="checkbox"/> 7 On the database server, grant the appropriate rights to database administrators.	For more information, see <i>Required rights for database administrators</i> (on page 27).
<input type="checkbox"/> 8 Configure the application server for optimal performance.	For Oracle recommendations, see <i>Configuring the application server for optimal performance</i> (on page 20).
<input type="checkbox"/> 9 On the database server, configure the listener to accept connections for the new database.	<i>Configuring the listener to accept connections for the new database</i> (on page 25).
<input type="checkbox"/> 10 Determine the security level to be used for communication between the client applications and the application server.	<i>Securing communication with Secure Socket Layers (SSL)</i> (on page 59).

<input checked="" type="checkbox"/> Task	Information
<input type="checkbox"/> 11 Determine if you will implement a web farm.	<i>Web farm capabilities</i> (on page 5).
<input type="checkbox"/> 12 Increase the default value of the MS DTC timeout on the application server.	<i>Increasing the Microsoft Distributed Transaction Coordinator timeout</i> (on page 21).
<input type="checkbox"/> 13 Monitor the tablespace in the database.	If the tablespace becomes full, expand the tablespace by adding another data file.
<input type="checkbox"/> 14 Make sure that the following services are running: <ul style="list-style-type: none"> • IIS Admin Service • World Wide Web Publishing Service 	<p>If the services are not running, the installation fails.</p> <p>The IIS Admin Service does not have to run for the duration of the installation. However, you must start it before you click the Next button on the Copying Files screen.</p> <p>Note: Do not use the iisreset command from the MMC or a command prompt after the installation or upgrade completes, or the IIS settings that were set by the installer are lost. Instead, use the net start command to start the services.</p>
<input type="checkbox"/> 15 Install a certificate for signing web service authorizations.	<i>Installing a certificate for signing web service authorizations</i> (on page 14).
<input type="checkbox"/> 16 Install the application server.	<i>Installing the Central Designer application server</i> (on page 34).
<input type="checkbox"/> 17 Verify the installation of the application server.	<i>Verifying the installation of the application server</i> (on page 40).

Checklist—Planning the client installations

Use the following checklist to help plan the installations of the client applications.

The Central Designer and Central Designer Administrator applications are ClickOnce applications. You start a ClickOnce application by clicking a link from an internet browser window.

When you click a link for either application, the Central Designer server checks whether the release that is installed on the server matches the files that are cached on your computer:

- If the server has been newly installed or has been upgraded after your last logon, the files that are necessary to run the application are cached on your computer, and then are used to open the application.
- If the server has not been updated since your last logon, the cached files on your computer are used to open the application.

<input checked="" type="checkbox"/> Task	Information
<input type="checkbox"/> 1 Make sure all system requirements, including .NET Framework requirements, have been met for the client computers.	<ul style="list-style-type: none"> • <i>System requirements: Client computers</i> in the <i>Release Notes</i>. • <i>Determining the version of .NET on your computer</i> (on page 16).
<input type="checkbox"/> 2 (Optional; this step is informational only.) Check whether the Microsoft Internet Explorer browser uses a proxy server to connect to the Internet. The Central Designer software uses the same proxy server.	<i>Viewing Internet Explorer proxy settings</i> (on page 17).
<input type="checkbox"/> 3 Make sure the clocks on the application server computer and client computers are synchronized.	<i>Synchronizing clocks on server and client computers</i> (on page 18).
<input type="checkbox"/> 4 Start the client applications.	<ul style="list-style-type: none"> • <i>Starting the Central Designer client</i> (on page 41). • <i>Starting the Central Designer Administrator client</i> (on page 42).

CHAPTER 3

Planning your installation

In this chapter

Installing a certificate for signing web service authorizations	14
Determining the version of Microsoft .NET Framework	16
Viewing Internet Explorer proxy settings.....	17
Synchronizing clocks on server and client computers	18
Hardware networking switches.....	19
Configuring the application server for optimal performance.....	20

Installing a certificate for signing web service authorizations

On each Central Designer application server, an administrator must install the certificate that is used for signing web service authorizations to the **LOCAL_MACHINE\MY** store directory and make it usable by the user who runs the ASP.NET worker process (by default, the **NETWORK_SERVICE** user).

You must also grant this user Full Control rights to the private key for the certificate.

The certificate and each certificate in the certification path must be 1024 bytes. For information about converting an existing certificate, see the Microsoft support web site.

To install the certificate:

- 1 Open the Microsoft Management console:
 - a Open a Command Prompt window.
 - b Type **mmc**.

- 2 Select **File > Add/Remove Snap-in**.

The Add or Remove Snap-ins dialog box appears.

- 3 In the list of available snap-ins, select **Certificates**.

- 4 Click **Add**.

The Add dialog box appears.

- 5 Click **Computer account**.

- 6 Click **Next**.

- 7 Click **Local Computer**.

- 8 Click **Finish**.

- 9 Click **OK**.

- 10 In the Microsoft Management console, in the Console Root tree, select **Certificates (Local Computer)**.

- 11 In the Logical Store Name field, right-click the **Personal** folder.

- 12 Select **All Tasks > Import**.

The Certificate Import Wizard appears.

- 13 Click **Next**.

- 14 Click **Browse**, and select the PFX file provided by the certificate vendor.

- 15 You are prompted for a password. Type the password for the PFX file.

- 16 Click **Next** to accept the default options for the remaining dialog boxes.

- 17 Click **Finish**.

The new certificate appears in the displayed list.

- 18 Right-click the certificate, and select **All Tasks > Manage Private Keys**.

- 19 Add the ASP.NET worker process to the list and give the user full control.
 - By default, for Windows 2003, the user is NETWORK_SERVICE.
 - By default, for Windows 2008 and Windows 7, the user is IIS AppPool\DefaultAppPool.
- 20 Click **OK**.

Determining the version of Microsoft .NET Framework

For information about the supported releases of Microsoft .NET Framework, see *Hardware and software requirements* in the *Release Notes*.

Note: If you have a version of .NET Framework prior to the required version for this release, you do not need to uninstall it.

- 1 Paste the following text into the Windows Explorer window:

`%systemroot%\Microsoft.NET\Framework`

The folder might contain some or all of the following folders:

- **v1.0.3705**—.NET Framework 1.0 is installed.
- **v1.1.4322**—.NET Framework 1.1 is installed.
- **v2.0.50727**—.NET Framework 2.0 is installed.
- **v2.0.50727.1433**—.NET Framework 2.0 SP1 is installed.
- **v3.5**—.NET Framework 3.5 SP1 is installed.
- **v4.0**—.NET Framework 4.0 is installed.

- 2 If .NET Framework 4.0 is not installed, install it.

Note: If you are using a Windows 2003 operating system, you must install .NET Framework 3.5 SP1 and 4.0.

Viewing Internet Explorer proxy settings

- 1 Open Internet Explorer, and select **Tools > Internet Options**.
- 2 Select the **Connections** tab, and click one of the following:
 - **If you are connecting via a local area network**—Click the **LAN Settings** button.
 - **If you are connecting via a network connection**—Click the **Settings** button.

The proxy settings appear in the dialog box.

Synchronizing clocks on server and client computers

The clocks on the client computers and server computers are not required to be in the same time zone, but they must be no more than 24 hours apart relative to the Coordinated Universal Time (UTC). Oracle recommends that the clocks be no more than 10 minutes apart.

Hardware networking switches

Some hardware networking switches change the incoming URL before passing the request to the Central Designer server. For example, if the address typed during a client installation is **https://abc.com**, a switch might change the URL in the following ways:

- A switch that performs hardware SSL processing might change the URL to **http://abc.com**.
- A switch that performs load balancing might change the URL to **http://PhysicalServer1**.

When the application server is installed in an environment that includes a hardware networking switch, the URL that you type for the **Web server URL root** field must match the URL that the networking switch uses to address the application server. From the previous examples, the required URLs must be:

- In the first example, **http://abc.com**.
- In the second example, **http://PhysicalServer1**.

Note: The application server must be able to use the address that you type for the Web server URL root field to address itself.

Configuring the application server for optimal performance

Oracle recommends performing the following modifications on the Central Designer application server to optimize performance.

Use the /3GB startup switch feature for a 32-bit Microsoft Windows server

This startup switch allows you to tune the allocation of the use of memory and memory address space. Additionally, the switch allows the server to access 3 GB of address space instead of 2 GB, which is the default maximum for a 32-bit operating system.

Do not set the startup switch for a 64-bit Microsoft Windows server.

For more information, see the Microsoft documentation.

Configure the worker process recycling settings

- 1 On the application server computer, select **Start > Control Panel > Administrative Tools > Internet Information Services (IIS) Manager**.
- 2 On the left side, expand the tree for the local computer, and expand **Application Pools**.
- 3 Right-click **DefaultAppPool**, and select **Properties**.
- 4 Select the **Recycling** tab.
- 5 Configure the following settings:

- Deselect **Recycle worker processes (in minutes)** (selected by default).
- **Recycle worker processes at the following times**—Do not specify times.
- **Maximum virtual memory (in megabytes)**

For a 64-bit operating system, the maximum recommended value is 1500.

For a 32-bit operating system:

- If you are using the /3GB switch, the maximum recommended value is 1500.
- If you are not using the /3GB switch, the maximum recommended value is 900.

Configure the worker process health settings

- 1 On the application server computer, select **Start > Control Panel > Administrative Tools > Internet Information Services (IIS) Manager**.
- 2 On the left side of the page, expand the tree for the local computer, and expand **Application Pools**.
- 3 Right-click **DefaultAppPool**, and select **Properties**.
- 4 Select the **Health** tab.
- 5 Under **Shutdown time limit**, set **Worker process must shutdown within (time in seconds)** to match the timeout for the client application, which by default is 1200 seconds (20 minutes).

Increase the default Microsoft Distributed Transaction Coordinator timeout

Oracle recommends that you increase the Microsoft Distributed Transaction Coordinator (MS DTC) timeout because the default Windows timeout setting of 60 seconds might be insufficient for some Central Designer processes.

- 1 Select **Start > Control Panel > Administrative Tools > Component Services**.
- 2 Open **Component Services > Computers**.
- 3 Right-click **My Computer**, and select **Properties**.
- 4 Select the **Options** tab.
- 5 Change the value of the **Transaction timeout (seconds)** field to **3600**. (The default is 60.)
- 6 Click **OK**.
- 7 Open **Control Panel > Services**.
- 8 Stop and restart all IIS services.

Use the performance tuning capabilities that are available with the Oracle database software

Open the Automatic Database Diagnostic Monitor (ADDM) from the Database Control home page or from Advisor Central.

This tool helps you diagnose problems, identify their causes, and make recommendations.

About acting on ADDM recommendations:

- Make configuration changes to the database or operating system as necessary.
- The SQL Tuning Advisor might recommend rewriting some SQL statements. However, the SQL statements cannot be rewritten.
- Add database indexes as needed.

Caution: Take note of all new indexes. Before upgrading, you must drop them to ensure that they do not cause conflicts with new indexes that have been added to the product. After the upgrade is finished, you can add the indexes back.

Note: Contact Oracle Global Support to forward SQL statement recommendations or request index changes in the product.

The most common configuration recommendations from ADDM are:

- SGA_TARGET
- PGA_AGGREGATE_TARGET
- DB_FILE_MULTIBLOCK_READ_COUNT
 - Reset to zero instead of using an explicit value.
 - Oracle automatically manages this parameter value if it is set to zero.

For more information, see the Oracle database software documentation.

CHAPTER 4

Preparing the database server

In this chapter

Prepare the database server	24
-----------------------------------	----

Prepare the database server

Before installing the Central Designer software, you must:

- Install and configure the Oracle database software on the database server.
- Create the necessary database instance and tablespaces.

Install the Oracle database software on the database server

After the database server requirements are met, you can install the Oracle database software. Use the Oracle database software installation documentation as needed. For more information about required Oracle database software versions, in the *Release Notes*, see:

- System requirements: Application servers.
- System requirements: Database server.
- System requirements: Client computers.

Note: If the application server and database server are on the same computer, you must install the Oracle Server software and Oracle Client software in the same home, or the Central Designer server installation will not work.

Mandatory configuration

Most of the default Oracle settings can be used for the Central Designer database. However, the following Oracle configuration must be used.

Page	Option	Value
Database Components	Oracle Text, a standard database component.	Selected. Note: The Oracle database software installation requires that you install Oracle Data Mining if you install Oracle Text. If you do not want to install Oracle Data Mining, you can install Oracle Text manually after completing the Oracle database installation. For more information, see the following My Oracle Support note: Note: 280713.1 Manual installation, deinstallation of Oracle Text 10gR1 and 10gR2.
	Oracle Java Virtual Machine (JVM)	Selected.
Character Sets	Database Character Set	AL32UTF8 - Unicode 4.0 UTF universal character set, UTF-8 compliant.
	National Character Set	AL16UTF16 - Unicode UTF-16 universal character set.

Page	Option	Value
Parameters	CURSOR_SHARING parameter	<ul style="list-style-type: none"> For Oracle 10g—SIMILAR For Oracle 11g—FORCE
	OPEN_CURSORS parameter	<ul style="list-style-type: none"> For Oracle 10g—300 For Oracle 11g—500

Additional configuration information

In production databases at Oracle, the DB_BLOCK_SIZE Oracle parameter is set to 16k (16384 bytes).

Create the database and tablespaces

After you install the Oracle database software, create the database instance and tablespaces. Make sure the Oracle server has sufficient space to accommodate the new tablespaces. The Central Designer software uses the following tablespaces by default.

Tablespace	Description	Minimum size
DESIGNER	Main data tablespace	100 MB
DESIGNER_BIGINDEX	Index tablespace	10 MB with 16k (16384 bytes) block size.
TEMP	Temporary tablespace	Always present in the Oracle database.

Note: The tablespace names provided are the default names. Any names can be used for the tablespaces.

If you use non-default names, you must specify them during the installation of the application server (by clicking Advanced on the Database Parameters page), so be sure you take note of them.

Configuring the listener to accept connections for the new database

After installing the Oracle database software, you must configure the listener to accept connections for the new database. For more information, see the Oracle database software documentation.

Configuring the Open Cursors setting for a database instance

When you create a database instance, you must set the Open Cursors setting correctly for your database version.

- For the Oracle database versions 10.2.0.4 and 10.2.0.5, set Open Cursors to **300**. This is the default setting for the Oracle 10g database versions.

Note: Oracle database version 10.2.0.4 no longer receives patch support.

- For the Oracle database version 11.2.0.2 and 11.2.0.3, set Open Cursors to **500**.

The following SQL command changes the Open Cursors setting:

```
ALTER SYSTEM SET open_cursors=<Setting> SCOPE=BOTH;
```

where:

- **Setting**—300 or 500, based on the version of the Oracle database software in your environment.

Before you upgrade, ensure that the Open Cursors parameter is correctly set.

Configuring the Cursor Sharing setting for a database instance

When you create a database instance, you must set the Cursor Sharing setting properly for your database version.

- For the Oracle database versions 10.2.0.3, 10.2.0.4, and 10.2.0.5, set Cursor Sharing to **SIMILAR**.

Note: Oracle database version 10.2.0.4 no longer receives patch support.

- For the Oracle database version 11.2.0.2, set Cursor Sharing to **FORCE**.

The following SQL command changes the Cursor Sharing setting:

```
ALTER SYSTEM SET cursor_sharing=<Setting> SCOPE=BOTH;
```

where:

- **Setting**—SIMILAR or FORCE, based on the version of the Oracle database software in your environment.

Before you upgrade, ensure that the Cursor Sharing parameter is correctly set.

Required rights for database administrators

During the installation of the Central Designer application server, you are prompted to specify user names and passwords for:

- Database Administrator
- Database User

The installation uses the Database Administrator user name and password to create the Database User and grant that user rights to perform tasks for the Central Designer application. The default name for the Database Administrator is system, but it can be any user that you assign the rights to perform the following tasks.

Task	SQL	Automatically executed for
Create the Database User.	CREATE USER &1 IDENTIFIED BY &2 DEFAULT TABLESPACE &3; GRANT CONNECT TO &1; GRANT RESOURCE TO &1; GRANT CREATE VIEW TO &1;	All supported Oracle database software versions.
Allow the Database User to create function indexes.	GRANT QUERY REWRITE TO &1; GRANT CREATE SYNONYM TO &1; EXIT;	All supported Oracle database software versions.
Allow the Database User to execute jobs.	GRANT EXECUTE on SYS.DBMS_JOB to &1; COMMIT; EXIT;	<ul style="list-style-type: none"> • Oracle 10.2.0.3 • Oracle 10.2.0.4

Note: In the Oracle database software versions 10.2.0.5 and 11.2.0.2 or later, the Database Administrator user does not have the right to allow the Database User to execute jobs. For more information on how to assign the Database Administrator the proper rights, see *For Oracle 11.2.0.2 and earlier—Granting the EXECUTE on SYS_DBMS_JOB right to the database administrator* (on page 28) or *For Oracle 11.2.0.3—Granting the EXECUTE on SYS_DBMS_JOB right to the database administrator* (on page 29).

For Oracle 11.2.0.2 and earlier—Granting the EXECUTE on SYS_DBMS_JOB right to the database administrator

The Database Administrator user in the Oracle 11g database software does not have the right to allow the Database User to execute jobs. To grant the appropriate right to the Database Administrator, do the following:

Run the following SQL commands as a Database Super User.

```
GRANT EXECUTE on SYS.DBMS_JOB to <Database Administrator user name> WITH  
GRANT OPTION;  
  
COMMIT;  
  
EXIT;
```

where:

- **Database Administrator user name**—System, or the user name you assigned to the Database Administrator user.

You can then run the following SQL commands as the Database Administrator user you referenced in the previous step to assign a user the right to execute jobs:

```
GRANT EXECUTE on SYS.DBMS_JOB to &1;  
  
COMMIT;  
  
EXIT;
```

Note: The Oracle 10g database software automatically runs these SQL commands during installation.

For Oracle 11.2.0.3—Granting the EXECUTE on SYS_DBMS_JOB right to the database administrator

The Database Administrator user in the Oracle 11g database software does not have the right to allow the Database User to execute jobs.

Due to a known issue in the 11.2.0.3 database software version, to grant the appropriate right to the Database Administrator, you must grant the right to execute jobs, revoke the right, and grant the right again.

To grant the Database User the right to execute jobs, run the following SQL commands as a Database Super User:

- 1 **GRANT EXECUTE on SYS.DBMS_JOB to <Database Administrator user name> WITH**
GRANT OPTION;

COMMIT;

EXIT;

where:

- **Database Administrator user name**—System, or the user name you assigned to the Database Administrator user.

- 2 **REVOKE EXECUTE on SYS.DBMS_JOB from <Database Administrator user name>**

COMMIT;

EXIT;

where:

- **Database Administrator user name**—System, or the user name you assigned to the Database Administrator user.

3 **GRANT EXECUTE on SYS.DBMS_JOB to <Database Administrator user name> WITH GRANT OPTION;**

COMMIT;

EXIT;

where:

- **Database Administrator user name**—System, or the user name you assigned to the Database Administrator user.

You can then run the following SQL commands as the Database Administrator user you referenced in the previous step to assign a user the right to execute jobs:

GRANT EXECUTE on SYS.DBMS_JOB to &1;

COMMIT;

EXIT;

Note: The Oracle 10g database software automatically runs these SQL commands during installation.

Sample SQL

The following SQL commands are not run by the installation but show an example of what a database administrator needs to do to create the tablespaces. Database administrators must set up the tablespaces before installing the Central Designer software. Administrators should note the setting of the cache size before creating the _BIGINDEX tablespace.

CREATE TABLESPACE designer

LOGGING

DATAFILE 'D:\Oracle\oradata\dev1\DESIGNER.ora' SIZE 400M

AUTOEXTEND ON NEXT 1M;

ALTER SYSTEM SET db_16k_cache_size = 80M;

CREATE TABLESPACE "designer_bigindex"

LOGGING

DATAFILE 'D:\Oracle\oradata\dev1\DESIGNER_BIGINDEX.ora' SIZE 10M

REUSE

BLOCKSIZE 16384

EXTENT MANAGEMENT LOCAL SEGMENT SPACE MANAGEMENT AUTO;

CHAPTER 5

Installing and uninstalling the software

In this chapter

Before you begin.....	32
Overview of installation and configuration	33
Installing the Central Designer application server.....	34
Starting the Central Designer client application.....	41
Starting the Central Designer Administrator client application	42

Before you begin

Before beginning the installation, check the Oracle Software Delivery Cloud (<https://edelivery.oracle.com>) or the Download Center (<https://extranet.phaseforward.com>) for the latest patchsets and patches, as well as the accompanying *Release Notes* and *Known Issues* documents, and the latest versions of the documentation.

Overview of installation and configuration

Before you start your installation, plan your work:

- *Checklist—Planning the server installation* (on page 10).
- *Checklist—Planning the client installations* (on page 12).

Overview of installing the application and database servers

Step	For more information, see
1 Install the Central Designer application server.	<ul style="list-style-type: none"> • <i>Preparing the database server</i> (on page 23). • <i>Installing the Central Designer application server</i> (on page 34).
2 Verify the installations.	<ul style="list-style-type: none"> • <i>Verifying the installation of the application server</i> (on page 40).

Overview of uninstalling

Step	For more information, see
1 Uninstall the application server.	<ul style="list-style-type: none"> • <i>Uninstalling the application server</i> (on page 40).

Note: The client applications are ClickOnce applications and are therefore not installed on users' computers. Therefore, you cannot uninstall the client applications.

Installing the Central Designer application server

- 1 Locate the **setup.exe** program.

The setup.exe program is available on the Download Center or the Oracle Software Delivery Cloud.

- 2 Double-click **setup.exe**.

The InstallShield Wizard prepares to install the application server.

A welcome page appears.

- 3 Click **Next**.

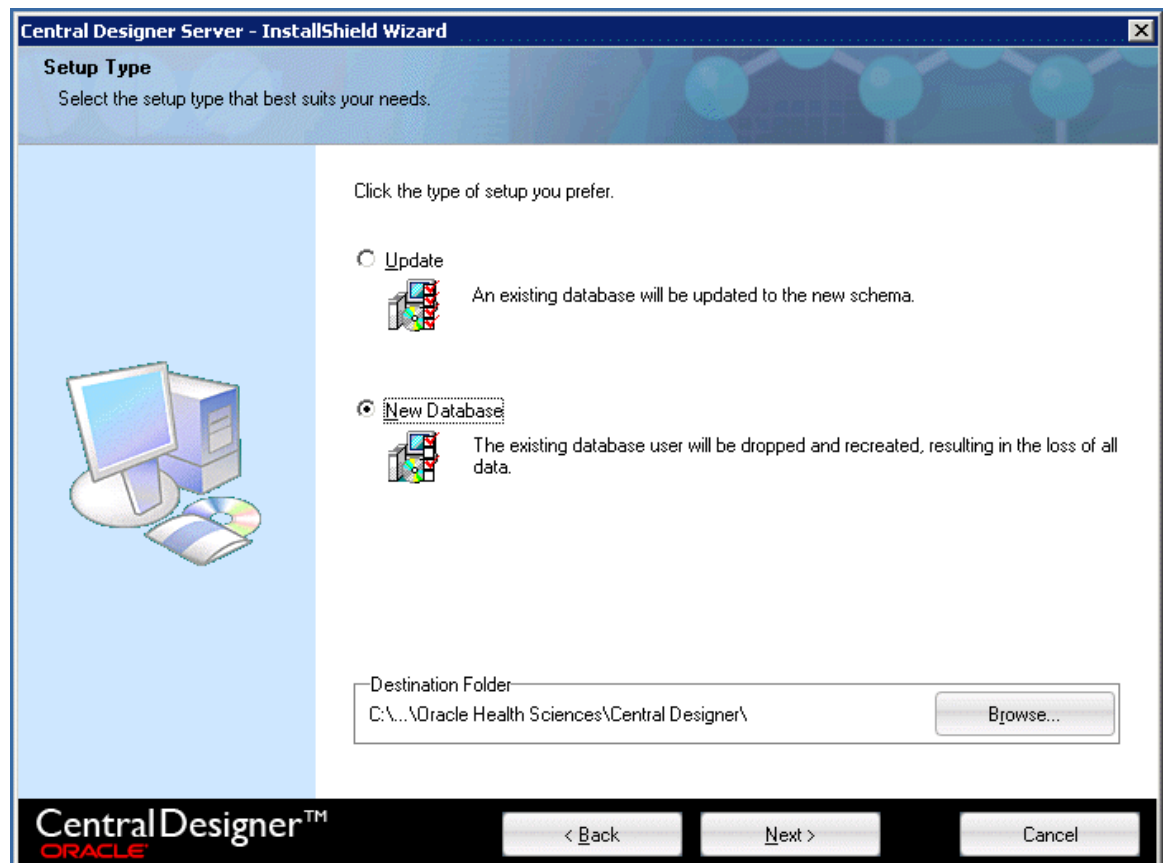
The Customer Information page appears.

- 4 Fill in the fields in the page with the following information:

- **User Name**—Your name.
- **Company Name**—The name of your company.
- **Company URL**—A unique identifier for your company data, typically your company URL (for example, <http://www.mycompany.com>).

- 5 Click **Next**.

The following page appears.



- 6 Select **New Database**.

Note: If you are installing the second or higher server in a web farm, do not select New Database. You must select Update.

- 7 In the **Destination Folder** area, specify the destination location for the installation. By default, the installation wizard installs the software in the <PROGRAMFILES_DIR>\Oracle Health Sciences\Central Designer\ folder, where <PROGRAMFILES_DIR> is a system setting that is usually C:/Program Files. If you want to install to another location, click **Browse**, and select the location.

Note: The instructions, paths, and Start Menu navigation in this guide assume you are installing to the default location. Oracle strongly recommends that you install the software to the default location.

- 8 Click **Next**.

The following page appears.

- 9 Fill in the fields in the page as follows.

Field	Description
Database User Name	The Oracle user name for the database user.
Database Password	The password for the database user.
Oracle TNS Name	Alias from TNSnames.ora file. This TNS name is used to connect to the database instance.

Field	Description
Database Administrator User Name	<p>The Oracle user account for the database administrator.</p> <p>This account is used to create the database user.</p> <p>Note: The user name cannot be a SYSDBA user account.</p>
Database Administrator Password	The password for the database administrator.
Create New Database	<p>Indicate whether to create a new database schema during the installation.</p> <p>Caution: If you have an existing database schema and you select Create New Database, all existing information in your current database schema will be deleted.</p>
Note: Do not use Oracle reserved words for user names or passwords.	

- 10 If a new database was created and tablespaces were created with non-default names, you must specify the names of the tablespaces.
 - a Click **Advanced**.
The Advanced Database Settings page appears.
 - b Fill in the fields with the correct information, according to the following table.
 - c Click **OK** to return to the **Database Parameters** page.

Field	Description
Default Tablespace for new user	The first tablespace for the tables of the schema owner.
Large (16K) Tablespace for new user	A second tablespace with a block size of at least 16K.
Temp Tablespace for new user	The temporary tablespace for the tables of the schema owner.
Note: The tablespaces that you specify must already exist. The installation does not create tablespaces.	

- 11 Click **Next**.

The following page appears.

- 12 Type the TCP/IP port number that the job service will use. The port must be unused. In most cases, you can use the default value.

Note: If you are installing the server as part of a web farm, all of the servers can use the same port number, as long as the port is unused.

- 13 Optionally, to configure the Central Designer software to support a web farm, select **Make this server part of a web farm**. A web farm setup allows you to install the Central Designer server software on multiple application server computers. The installation is the same for all of the servers, and you must select this option for all servers in the web farm. For more information, see *Web farm capabilities* (on page 5).

After you select the checkbox, the installation checks the database to see if a primary Job Scheduler has been specified. Additional options appear, depending on whether you are installing the first or a second or higher server.

- If this installation is the first server in the web farm, the primary Job Scheduler has not been set yet. The installation automatically sets the Job Scheduler service on the server computer as the primary Job Scheduler. If you install additional application servers, you can change the primary Job Scheduler during the installations.
- If this installation is the second or higher server in the web farm, the primary Job Scheduler service has already been set, and the name of the computer that runs the primary Job Scheduler appears. To change the primary Job Scheduler, select **Make this server's Job Scheduler the primary**.

- 14 Specify a password for the Job Service user.

The Job Service user password must contain at least eight characters. In addition, the password must satisfy at least two of the following requirements:

- Contains at least one letter and one number.
- Contains at least one non-alphanumeric character.
- Contains at least one upper-case and one lower-case letter.

15 Click **Next**.

The following page appears.

16 Specify a password for the system user. The Central Designer application installs the system user by default. You can configure the lockout time for the system user separately from all other users. By default, this user is assigned the superuser and DesignerAdministrator roles.

The system user password must contain at least eight characters. In addition, the password must satisfy at least two of the following requirements:

- Contains at least one letter and one number.
- Contains at least one non-alphanumeric character.
- Contains at least one upper-case and one lower-case letter.

Note: The password that you specify for the system user is also used for the **archiveimporter** user. For more information about this user, see the *Administrator Guide*.

17 Click **Next**.

18 The Network Parameters page appears.

- 19 In the **Web server URL root** field, type the server address to which requests will come (for example, *http://ABCServer* or *https://ABCServer*). If you enabled the Secure Socket Layer (SSL), use *https*.

Note: When the application server is installed in an environment that includes a hardware networking switch, the URL that you type for the Web server URL root field must match the URL that the networking switch uses to address the application server. For more information, see *Hardware networking switches* (on page 19).

As you type in the **Web server URL root** field, the **Public server URL root** field is automatically updated with the same value. If you edit the value in the **Public server URL root** field, the field is no longer updated automatically when the **Web server URL root** field is updated.

- 20 Optionally, you can secure (encrypt and prevent tampering of) communications by using a Secure Socket Layer (SSL). For more information, see *Securing communication with Secure Socket Layers (SSL)* (on page 59).
- 21 Optionally, if the application server computer is behind a proxy that rewrites the request URLs, in the **Public server URL root** field, type the address that the client computer uses to access the application server (the public address of the server computer as seen by the client computer). This address will be typed as the address of the server computer during the installation of the client applications.

If the value for the **Public server URL root** field does not need to be different from the **Web server URL root** field, make sure that the values in both fields match.

- 22 Click **Next**.

The Configure the ClickOnce client page appears.

- 23 In the Environment Name field, type the name for your Central Designer instance.

The environment name appears on the web page that you navigate to to start the Central Designer application.

- 24 Specify the certificate to use to sign web service authorizations:

- a Click **Choose Certificate**.

The Choose Certificate dialog box appears.

- b Select a certificate.

- c Click **OK**.

The **Issued to**, **Issuer**, **Expiration**, and **Friendly name** fields are populated.

Note: On each Central Designer application server, an administrator must install the certificate that is used for signing web service authentications to the **LOCAL_MACHINE\MY** store directory and make it usable by the user who runs the ASP.NET worker process (by default, the **NETWORK_SERVICE** user). For more information, see *Installing a certificate for signing web service authorizations* (on page 14).

- 25 Click **Next**.

The Start Copying Files page appears.

- 26 Review the installation settings. To change any settings, click **Back**. If you are satisfied with the settings, click **Next**.

The installation begins. The Setup Status page appears, showing the status of the installation.

When the installation is complete, the InstallShield Wizard Complete page appears.

27 Click **Finish**.

Verifying the installation of the application server

- 1 Verify that the job service is installed and running:
 - a Open the **Control Panel**.
 - b Open **Administrative Tools > Services**.
 - c Verify that the **Oracle Central Designer Job Scheduler** service exists and is running.
- 2 Verify that the Web site has been added to the Internet Information Services (IIS) Manager directory:
 - a Open the **Control Panel**.
 - b Open **Administrative Tools > Computer Management**.
 - c Open **Services and Applications > Internet Information Services (IIS) Manager > Web Sites > Default Web Site**. Verify that **CentralDesigner** is listed in the virtual directories.
- 3 Review the **installer.log** file. This log contains messages that were generated during installation. It is available in the following location:
\Program Files\Oracle Health Sciences\Central Designer

Uninstalling the application server

Note: For Central Designer environments that run on the Windows 7 or Windows 2008 operating system, stop the job scheduler and IIS services before you perform this procedure.

- 1 Open **Control Panel > Add or Remove Programs**.
- 2 Select **Central Designer Server**, and click **Change/Remove**.
A confirmation dialog box appears.
- 3 Click **Yes**.
The Setup Status page appears, informing you of the status of the uninstall.
The Uninstall Complete page appears.
- 4 Click **Finish**.
- 5 Delete the Central Designer directory.

Starting the Central Designer client application

The client applications are ClickOnce applications and therefore do not need to be installed for you to start them.

- 1 Navigate to the following address:

`http://<server name>/CentralDesignerInstall`

where *<server name>* is the name of the application server computer.

- 2 Click the **Start Central Designer Client** link.

The installation begins. The installation might take some time.

After the installation is complete, the application opens, and you can log on.

Starting the Central Designer Administrator client application

The client applications are ClickOnce applications and therefore do not need to be installed for you to start them.

- 1 Navigate to the following address:

`http://<server name>/CentralDesignerInstall`

where `<server name>` is the name of the application server computer.

- 2 Click the **Start Central Designer Administrator** link.

The installation begins. The installation might take some time.

After the installation is complete, the application opens, and you can log on.

CHAPTER 6

Upgrading the software to this release

In this chapter

About upgrading the application server	44
Checklist—Planning an upgrade	45
Upgrading the application server.....	52
Upgrading the client applications	57

About upgrading the application server

Use these instructions to upgrade to this release from any previous release.

When you upgrade, you must:

- Choose whether to update the existing database or create a new database.

Caution: If you do not choose the update option, your existing database will be deleted.

- Provide the database and user parameters that you entered when you created the new database and database user.
- Uninstall the previous version of the Central Designer software and delete the Central Designer directory.

Time considerations

Because the upgrade updates every study in the database, upgrading from an earlier release could take some time, so plan your upgrade carefully. For example, Oracle expects that upgrading a database with 150 studies could take 10 -15 hours or longer.

Checklist—Planning an upgrade

☑ Task	Information
<p>☐ 1 Export the Central Designer database user.</p> <p>Note: To export a user with the following information:</p> <ul style="list-style-type: none"> • User name—designer • Database—db1_dev1 <p>Use the following command:</p> <pre>exp designer@db1_dev1 file=file_to_export.dmp buffer=99999</pre> <p>Note: You are prompted for the user password when you execute this command.</p>	<p>Caution: You must perform this step. If the upgrade is not successful, you might need to restore the database in order to attempt to install again.</p> <p>Depending on the size of the database, this process could take several hours.</p>
<p>☐ 2 Make sure that the Cursor Sharing setting for the database instance is set properly.</p>	<p><i>Configuring the Cursor Sharing setting for a database instance</i> (on page 26).</p>
<p>☐ 3 Make sure that the following services are running:</p> <ul style="list-style-type: none"> • IIS Admin Service • World Wide Web Publishing Service 	<p>If the services are not running, the installation fails.</p> <p>The IIS Admin Service does not have to run for the duration of the installation. However, you must start it before you click the Next button on the Copying Files screen.</p> <p>Note: Do not use the iisreset command from the MMC or a command prompt after the installation or upgrade completes, or the IIS settings that were set by the installer are lost. Instead, use the net start command to start the services.</p>
<p>☐ 4 Configure the application server for optimal performance.</p>	<p>For Oracle recommendations, see <i>Configuring the application server for optimal performance</i> (on page 20).</p>

☑	Task	Information
☐ 5	Unlock statistics for specific tables.	<p>Unlock statistics for the following tables:</p> <p>IC_OBJECT IC_OBJECT_REVISIONS IC_OBJECT_BACK_REFERENCES IC_OBJECT_FORWARD_REFERENCES IC_BLUEPRINT_OBJECT_MAP</p> <p>The upgrade process drops non-primary key indexes on the tables affected by the upgrade and recreates the indexes at the end of the process. If the index was originally defined with the COMPUTE STATISTICS clause, the recreation also attempts to COMPUTE STATISTICS. If statistics are locked, this process fails.</p>
☐ 6	<p>Make sure that:</p> <ul style="list-style-type: none"> • The database UNDO_MANAGEMENT initialization parameter is set to AUTO. • The UNDO and TEMP tablespaces are set to autoextend. 	These settings are necessary for a successful upgrade.
☐ 7	If you added any new indexes to the database, you must drop them before upgrading to ensure that they do not cause conflicts with new indexes that have been added to the product.	After the upgrade is finished, you can add the indexes back.
☐ 8	Install a certificate for signing web service authentications.	<i>Installing a certificate for signing web service authorizations</i> (on page 14).
☐ 9	Export custom reports definitions from the Central Designer Administrator application.	<i>Upgrading custom reports definitions</i> (on page 51).
☐ 10	Update data mappings with the PhysicalMappingType property set to All.	<i>Updating data mappings with PhysicalMappingType set to All</i> (on page 47).
☐ 11	Uninstall the previous version of the Central Designer software, and delete the Central Designer directory.	<i>Uninstalling the application server</i> (on page 40).
☐ 12	Run the application server installation to upgrade the application server.	<i>Upgrading the application server</i> (on page 52).

<input checked="" type="checkbox"/> Task	Information
<input type="checkbox"/> 13 (Recommended) Run the DetectStudiesWithUnitsWithSpaces.sql file to determine if any studies contain unit names with spaces.	A validation check produces an error if a unit name contains a space. <i>Running the DetectStudiesWithUnitsWithSpaces.sql file</i> (on page 47).
<input type="checkbox"/> 14 If you dropped indexes from your database before upgrading, add them back in after you finish upgrading.	No additional information.
<input type="checkbox"/> 15 After you upgrade the Central Designer application server, recompile user-defined functions and sign and secure user-defined function assemblies as needed.	<i>Upgrading user-defined functions</i> (on page 48).
<input type="checkbox"/> 16 Re-import custom reports definitions.	<i>Upgrading custom reports definitions</i> (on page 51).
<input type="checkbox"/> 17 Inform users that they can resume using the client applications.	<i>Starting the Central Designer client application</i> (on page 41). <i>Starting the Central Designer Administrator client application</i> (on page 42).

Running the DetectStudiesWithUnitsWithSpaces.sql file

A SQL script called **DetectStudiesWithUnitsWithSpaces.sql** generates a report that identifies the unit names with spaces and the study projects that contain unit names with spaces. Oracle recommends that you run this file because a validation check produces an error if a unit name contains a space.

Run the file after upgrading the application server. If the file finds units with spaces and study projects that use the units, perform the following steps:

- 1 In any affected study, run validation to determine the items that refer to the units with spaces in their names.
- 2 Modify the units file to remove the spaces from the unit names that appear in the output file.
- 3 Using **Control Panel > Administrative Tools > Services**, restart the Job Scheduler service (Oracle Central Designer Job Scheduler).
- 4 Restart the client applications.
- 5 In any affected study, modify the items to use the unit names that do not contain spaces.

The file and a readme file (DetectStudiesWithUnitsWithSpaces.Readme) are available on the product ISO in the **InstallSupport** directory.

Updating data mappings with PhysicalMappingType set to All

If a study contains a data mapping for which PhysicalMappingType is set to All and you use the data mapping for both CDD and CIS, you must use the existing data mapping for one purpose only and create a new data mapping for the other purpose.

Because creating a new database for CDD is simpler, Oracle recommends using the existing data mapping for CIS and creating a new CDD data mapping and, if necessary, a new CDD database.

To modify the existing data mapping and create a new data mapping:

- 1 To determine whether your database contains any data mappings for which PhysicalMappingType is set to All, before you upgrade, run the DetectStudiesWithPhysicalMappingAll.sql script, which is available in the InstallSupport directory on the product ISO.
- 2 For each data mapping for which PhysicalMappingType is set to All, change the PhysicalMappingType property of the data mapping from All to CIS.

The CIS data mapping continues to work as expected, and you are able to perform resynchs with the CIS database.
- 3 Create a new CDD data mapping.
- 4 Copy the data sets in the CIS data mapping and paste them into the CDD data mapping.

The RefNames of the data sets and their data series are appended with _1.
- 5 If you deployed the study to the InForm application in an earlier release:
 - Remove the _1 appended text from the aliases of the data sets and data series in the CDD data mapping.

Caution: Do not update the RefNames, or you will not be able to perform a CIS resynch after you deploy again to the InForm application.
- 6 Deploy the study to the InForm application.
- 7 Set up the new CDD database.

Note: After you create a new data mapping for either CDD or CIS, you cannot perform a resynch with either the CDD or CIS database. You must create a new database for the new data mapping type.

Upgrading user-defined functions

If a study contains a user-defined function that performs a task such as reading from or writing to a file, accessing the database or the registry, making web service calls, running an external application, sending an email, or using the event log directly, if the assembly for the user-defined function is not signed with a strong named signature that is valid and trusted, the function does not work in the InForm application.

To ensure that the user-defined functions and assemblies in your study projects and library projects are secure, Oracle recommends that you sign user-defined function assemblies using a strong named, valid and trusted signature.

In addition, user-defined functions that use the Log4Net application must use the Central Designer Log4Net wrapper or must be recompiled to use Log4Net version 1.2.10.0. For more information about the Log4Net wrapper, see the *Rules Reference Guide*.

Identifying user-defined functions and assemblies to update

To identify study and library projects that contain user-defined functions that need to be recompiled or assemblies that need to be secured and signed, run the ValidateCustomFunctionAssemblies.exe file after you upgrade the application server.

Note: User-defined functions that refer to an unsupported Log4Net version must be recompiled or reconfigured to use the Central Designer Log4Net wrapper. For more information about the Log4Net wrapper, see the *Rules Reference Guide*.

- 1 Locate the ValidateCustomFunctionAssemblies.exe file on the product ISO in the Unsupported tools directory.
- 2 Copy the file and paste it to the bin folder in the directory in which you installed the Central Designer application.
- 3 In a command prompt window, type one of the following:
 - To view both Log4Net errors and errors related to signatures, type **ValidateCustomFunctionAssemblies**.
 - To view only Log4Net errors, type **ValidateCustomFunctionAssemblies L**.
 - To view only errors related to signatures, type **ValidateCustomFunctionAssemblies S**.
- 4 When prompted, specify the following:
 - **System username**—system
 - **System password**—Password that you specified on the Database System User Password page during the Central Designer application installation.
 - **Path for the output file, including file name**—Location in which to save the output file that lists the study and library projects with user-defined functions that must be updated. For example, **C:\Output\ValidateAssemblies.txt**.

A list of user-defined functions is generated.

Securing and signing user-defined function assemblies

To secure and sign assemblies for user-defined functions, create a key pair, extract the public key, and place the key file on both the Central Designer and InForm application servers.

For specific instructions and information about creating and signing an assembly with a strong named signature, see the *Rules Reference Guide* and the documentation for the tool that you use to create the strong name.

Recompiling user-defined function assemblies

The names of assemblies for user-defined functions have been changed as follows.

Pre-release 2.0 name	Name in release 2.0
PhaseForward.Designer.ExternalFunctions.dll	Oracle.Designer.ExternalFunctions.dll
PhaseForward.Designer.PrebuiltFunctions.dll	Oracle.Designer.PrebuiltFunctions.dll

The name change requires that you recompile all user-defined function assemblies after upgrading to release 2.0 of the Central Designer software.

- 1 When recompiling, replace references to PhaseForward.Designer.ExternalFunctions.dll with Oracle.Designer.ExternalFunctions.dll.
- 2 Additionally, recompile assemblies that reference PhaseForward.Designer.PrebuiltFunctions.dll, replacing the reference with Oracle.Designer.PrebuiltFunctions.dll.
- 3 Import each recompiled function assembly into any study or library that contains function objects that reference the assembly.

After you import, any other studies or libraries use the new versions of the assemblies when validating and creating deployment packages.

Upgrading custom reports definitions

If you have defined custom reports, you must export the XML report definition file before performing an upgrade. After the upgrade, you must re-import the report definitions.

- 1 In the Central Designer Administrator application, export the XML report definition file. For more information, see the *Administrator Guide*.
- 2 Upgrade the Central Designer software.
- 3 Re-import the report definitions on each Central Designer application server:
 - a Copy the updated custom reports definition file to the following location, overwriting the existing file:

```
<designer_root>\
DBSchema\_Last\Datainstaller\DesignerReportsDefinitions.xml
```

where *<designer_root>* is the root directory of the Central Designer installation.

- b From the *<designer_root>\bin* directory, run the UpdateReports.bat file.

The UpdateReports.bat file updates the definitions of the custom reports in the database.

Upgrading the application server

- 1 Export the Central Designer database user.

Caution: You must perform this step. If the upgrade is not successful, you might need to restore the database in order to attempt to install again.

To export a user with the following information:

- **User name**—designer
- **Database**—db1_dev1

Use the following command:

```
exp designer@db1_dev1 file=file_to_export.dmp buffer=99999
```

Note: You are prompted for the user password when you execute this command.

- 2 Locate the **setup.exe** program.

The setup.exe program is available on the Download Center or the Oracle Software Delivery Cloud.

- 3 Double-click **setup.exe**.

The InstallShield Wizard prepares to install the application server.

You are prompted to delete the previous installation of the application server.

- 4 Click **Yes**.

A welcome page appears.

- 5 Click **Next**.

A message about the upgrade appears.

- 6 Review the message, and click **Continue**.

The Customer Information page appears.

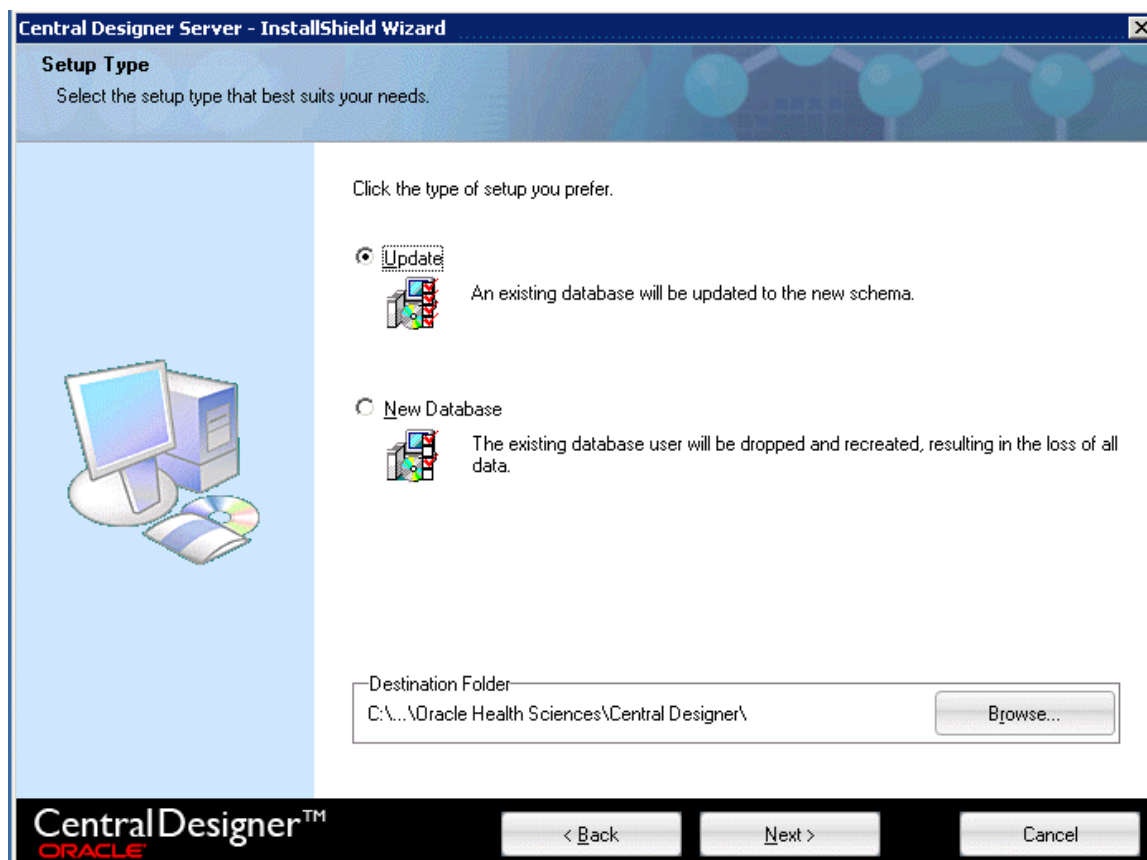
- 7 Fill in the fields. You should provide the same values that were entered during the initial installation of the application server.

- **User Name**—Your name.
- **Company Name**—The name of your company.
- **Company URL**—A unique identifier for your company data, typically your company URL (for example, <http://www.mycompany.com>).

Note: You must enter the company URL that you specified during the original Central Designer installation.

- 8 Click **Next**.

The following page appears.



- 9 Select **Update**.
- 10 In the **Destination Folder** area, specify the destination location for the installation. By default, the installation wizard installs the software in the <PROGRAMFILES_DIR>\Oracle\Central Designer\ folder, where <PROGRAMFILES_DIR> is a system setting that is usually C:/Program Files. If you want to install to another location, click **Browse**, and select the location. You **must** choose the location to which the application server was initially installed.

Note: The instructions, paths, and Start Menu navigation in this guide assume you are installing to the default location. Oracle strongly recommends that you install the software to the default location.

- 11 Click **Next**.

The following page appears.

Because you are upgrading, the Create New Database checkbox is grayed out.

- 12 Fill in the following fields. You **must** provide the values that you created when you set the Oracle TNS name (typically done when you create the database) and the database user name and password (done when you created the Central Designer user in the new database).

Field	Database
Database User Name	The Oracle user name for the Central Designer database user.
Database Password	The password for the Central Designer database user.

Field	Database
Oracle TNS Name	Alias from TNSnames.ora file. This TNS name is used to connect to the Central Designer database instance.
Database Administrator User Name	<p>The Oracle user account for the database administrator.</p> <p>This account is used to create the database user.</p> <p>If you provide a different database administrator user name than in your original database, you must type the new user name.</p> <p>Note: The user name cannot be a SYSDBA user account.</p>
Database Administrator Password	<p>The password for the database administrator.</p> <p>If you provide a different database administrator password than in your original database, you must type the new password.</p>
Note: Do not use Oracle reserved words for user names or passwords.	

- 13 Click **Next**.

The following page appears.

- 14 Type the TCP/IP port number that the job service will use. The port must be unused. In most cases, you can use the default value.

Note: If you are installing the server as part of a web farm, all of the servers can use the same port number, as long as the port is unused.

- 15 Optionally, to configure the Central Designer software to support a web farm, select **Make this server part of a web farm**. A web farm setup allows you to install the Central Designer server software on multiple application server computers. The installation is the same for all of the servers, and you must select this option for all servers in the web farm. For more information, see *Web farm capabilities* (on page 5).

After you select the checkbox, the installation checks the database to see if a primary Job Scheduler has been specified. Additional options appear, depending on whether you are installing the first or a second or higher server.

- If this installation is the first server in the web farm, the primary Job Scheduler has not been set yet. The installation automatically sets the Job Scheduler service on the server computer as the primary Job Scheduler. If you install additional application servers, you can change the primary Job Scheduler during the installations.
- If this installation is the second or higher server in the web farm, the primary Job Scheduler service has already been set, and the name of the computer that runs the primary Job Scheduler appears. To change the primary Job Scheduler, select **Make this server's Job Scheduler the primary**.

- 16 Specify a password for the Job Service user.

The Job Service user password must contain at least eight characters. In addition, the password must satisfy at least two of the following requirements:

- Contains at least one letter and one number.
- Contains at least one non-alphanumeric character.
- Contains at least one upper-case and one lower-case letter.

- 17 Click **Next**.

The Network Parameters page appears.

- 18 In the **Web server URL root** field, type the address of the server on its local network (the server address to which requests will come, for example, *http://ABC.Server* or *https://ABC.Server*). If you enabled the Secure Socket Layer (SSL), use *https*. Unless you have made changes that would cause the server address to have changed, use the address that you typed for the last installation.

Note: When the application server is installed in an environment that includes a hardware networking switch, the URL that you type for the Web server URL root field must match the URL that the networking switch uses to address the application server.

As you type in the **Web server URL root** field, the **Public server URL root** field is automatically updated with the same value. If you edit the value in the **Public server URL root** field, the field is no longer updated automatically when the **Web server URL root** field is updated.

- 19 Optionally, you can secure (encrypt and prevent tampering of) communications by using a Secure Socket Layer (SSL). For more information, see *Securing communication with Secure Socket Layers (SSL)* (on page 59).
- 20 Optionally, if the application server computer is behind a proxy that rewrites the request URLs, in the **Public server URL root** field, type the address that the client computer uses to access the application server (the public address of the server computer as seen by the client computer).

This address will be typed as the address of the server computer during the installation of the client applications.

If the value for the **Public server URL root** field does not need to be different from the **Web server URL root** field, make sure that the values in both fields match.

- 21 Click **Next**.

The Configure the ClickOnce client page appears.

- 22 In the Environment Name field, type the name for your Central Designer instance.

The environment name appears on the web page that you navigate to to start the Central Designer application.

- 23 Specify the certificate to use to sign web service authorizations:

- a Click **Choose Certificate**.

The Choose Certificate dialog box appears.

- b Select a certificate.

- c Click **OK**.

The **Issued to**, **Issuer**, **Expiration**, and **Friendly name** fields are populated.

Note: On each Central Designer application server, an administrator must install the certificate that is used for signing web service authentications to the **LOCAL_MACHINE\MY** store directory and make it usable by the user who runs the ASP.NET worker process (by default, the NETWORK_SERVICE user). For more information, see *Installing a certificate for signing web service authorizations* (on page 14).

- 24 Click **Next**.

The Start Copying Files page appears.

- 25 Review the installation settings. To change any settings, click **Back**. If you are satisfied with the settings, click **Next**.

The installation begins. The Setup Status page appears, showing the status of the installation.

When the installation is complete, the InstallShield Wizard Complete page appears.

- 26 Click **Finish**.

Upgrading the client applications

Because the client applications are ClickOnce applications, you do not need to upgrade them. Simply start the applications as you always do. For more information, see:

- *Starting the Central Designer client application* (on page 41).
- *Starting the Central Designer Administrator client application* (on page 42).

CHAPTER 7

Securing communication with Secure Socket Layers (SSL)

In this chapter

About communication security.....	60
About Secure Socket Layers (SSL).....	61

About communication security

You can secure (encrypt and prevent tampering of) communications by using a Secure Socket Layer (SSL) and, optionally, by signing authorization information issued by the application server. You have the following options for securing communication between the application server computer and the client computers.

- **SSL**—With Secure Socket Layers, all web traffic between the client applications and the web server is encrypted and tamper resistant. If you enable SSL, the address of the application server begins with HTTPS instead of HTTP. You configure SSL through IIS using an X.509 certificate.

About Secure Socket Layers (SSL)

To encrypt the transmission of data between the application server and the client computers, you must enable a Secure Socket Layer (SSL) and obtain an X.509 certificate using your company certificate store or a third party application. Oracle recommends that you enable SSL. You configure SSL using IIS.

For more information about enabling SSL, refer to the Microsoft documentation about configuring SSL for your version of IIS.

Note: When you install the client applications, type the address of the application server, including the correct protocol (either HTTP or HTTPS). If you enable SSL, the address of the application server must begin with HTTPS.

CHAPTER 8

Getting started

In this chapter

Getting started.....	64
----------------------	----

Getting started

Logging on to the Central Designer Administrator application

An administrator must log on to the Central Designer Administrator application and create user accounts before other users can log on and use the Central Designer application.

- 1 Navigate to the following address:

`http://<server name>/CentralDesignerInstall`

where `<server name>` is the name of the application server computer.

- 2 Click the **Start Central Designer Administrator** link.

A dialog box appears, indicating that the application is starting.

- 3 The logon window appears.

- 4 Type the following information:

- **User name**—system.
- **Password**—Password you set during the server installation.

The application opens.

Oracle recommends:

- Changing the password of the system account after you log on to the Central Designer Administrator application.

For more information, see *Changing your password in the Central Designer Administrator application* (on page 64).

- Deactivating or terminating the system user after you create and activate users.

For more information, see the *Administrator Guide*.

Changing your password in the Central Designer Administrator application

- 1 In the Users view, right-click a user name, and

- Select **Change Password**.

or

Press **Ctrl+P**.

A dialog box appears.

- 2 Type the new password twice for confirmation, and click **OK**.

Logging on to the Central Designer application

You can log on after an administrator creates a user account for you.

- 1 Navigate to the following address:

`http://<server name>/CentralDesignerInstall`

where *<server name>* is the name of the application server computer.

- 2 Click the **Start Central Designer Client** link.

A dialog box appears, indicating that the application is starting.

The logon window appears.

- 3 Type your **User name** and **Password**, and click **Log On**.

Note: When a user account is created in the Central Designer Administrator application, the administrator can require the user to change the password after logging on the first time. You might be prompted to change your password.

Changing your password in the Central Designer application

If the administrator who created your user account requires that you change your password, you are prompted when you start the application to change your password.

To change your password because it is required:

- 1 Log on to the Central Designer application.
The Change Password dialog box appears.
- 2 Type your old and new passwords. You must type your new password twice.
- 3 Click **OK**.

To change your password at any time after logging on:

- 1 Select **File > Change Password**.
The Change Password dialog box appears.
- 2 Type your old and new passwords. You must type your new password twice for confirmation.
- 3 Click **OK**.

Logging off

- Select **File > Exit**.

If you have unsaved changes, you are prompted to save them.

You are logged off, and the application closes.

Overview of configuring the Central Designer software

In the Central Designer Administrator application, you create and manage administrative components such as users, roles, locales, and security settings.

Some tasks in the Central Designer application cannot be performed until the administration information is set up correctly in the Central Designer Administrator application.

Other types of administration, including administering studies and libraries, are performed in the Central Designer application.

CHAPTER 9

Troubleshooting

In this chapter

Troubleshooting.....	68
----------------------	----

Troubleshooting

What should I do if an error occurs during the server installation?

Errors during server installation can be caused by several issues, including issues with the database user name and with the installation of the Oracle database software.

To troubleshoot:

- Read the installer.log file.

The installer.log file contains information about the installation, including any errors that occurred. The default location of the file on the application server computer is C:\Program Files\Oracle Health Sciences\Central Designer.

- If the application server and database server are on the same computer, you must install the Oracle Server software and Oracle Client software in the same home, or the Central Designer server installation will not work.

What should I do if I cannot log on?

You might encounter issues when logging on if the URL that the client applications use does not match one of the URLs listed in the configuration files for Microsoft Web Services Enhancements (WSE). You can configure the URL or URLs in the Certificate Configuration tool, and the URLs in the configuration files are updated automatically.