Cisco Service Portal Installation Guide

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Cisco Service Portal Installation Guide

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CHAPTER 1

Platform Support Matrix

Table 1-1 Cisco Service Portal Platform Support Matrix

	Cisco Service Portal Release Version			
Browser	**9.3.1**	**9.3**	**9.1**	**2008.3**
Mozzila® Firefox® 3.6	My Services Portal Manager	My Services Portal Manager	My Services	My Services
Internet Explorer® (IE) 6			My Services Service Manager Service Designer	My Services
Internet Explorer (IE) 7	Yes	Yes	Yes	Yes
Internet Explorer (IE) 8	Yes	Yes	Yes	Yes
Safari® 4 on Mac OS® only			My Services	My Services
Web Server	**9.3.1**	**9.3**	**9.1**	**2008.3**
Apache™ 2.2	Yes	Yes	Yes	Yes
IBM® HTTP 6.1			Yes	Yes
IBM HTTP 7.0	Yes			
Microsoft® Internet Information Services (IIS) 6		Yes	Yes	Yes
Microsoft Internet Information Services (IIS) 7.5	Yes			
Application Server OS	**9.3.1**	**9.3**	**9.1**	**2008.3**
IBM AIX® 5.3 (32 & 64-bit)			Yes	Yes
IBM AIX 7.1 (64-bit)	Yes			
Microsoft Windows Server® 2003 SP2 (32-bit & 64-bit)		Yes	Yes	Yes
Microsoft Windows Server 2008 R2 (64-bit) with SP1	Yes			
Red Hat® Linux® ES/AS 4 (32-bit & 64-bit)		Yes	Yes	Yes
Red Hat Enterprise Linux 5.6 (32-bit & 64-bit)	Yes			

Table 1-1 Cisco Service Portal Platform Support Matrix

Sun™ Solaris™ 10 (64-bit)	Yes	Yes	Yes	Yes
Application Server	**9.3.1**	**9.3**	**9.1**	**2008.3**
Oracle® WebLogic® 10.3 (Sun JDK™ 6)	Update 23	Update 23	Update 16	Update 12
IBM WebSphere® 6.1.x (IBM Java 1.5)			SR9	SR8
IBM WebSphere 7.0.0.x (IBM Java 1.6)	SR9			
Jboss® 4.2.3 (Sun JDK 6)	Update 23	Update 23	Update 16	Update 12
Database	**9.3.1**	**9.3**	**9.1**	**2008.3**
Microsoft SQL Server® 2005		SP3	SP3	SP2
Microsoft SQL Server 2008 R2	Yes			
Oracle 10g		10.2.0.4	10.2.0.4	10.2.0.4
Oracle 11g	11.2.0.1			
LDAP	**9.3.1**	**9.3**	**9.1**	**2008.3**
IBM Tivoli® Directory Server 6.0	FP6		FP6	FP6
Microsoft Active Directory® 2003		Yes	Yes	Yes
Microsoft Active Directory 2008	Yes			
Sun Java™ System Directory Server 5.x	5.2 P6	5.2 P6	5.2 P6	5.2 P6
Virtualization				
Virtualization Policy	Cisco is dedicated to the running of its products on virtualized platforms subject to the notes below: • Support for virtualized environments is conditioned on support of the guest operating system on which the Cisco product is running. • Cisco may attempt to address issues discovered in virtualized environments by recreating them in non-virtual environments. Issues reported on VMware environments will be recreated on a VMware virtualized environment. • If a reported problem is likely caused by the virtualization layer, customers may be required to follow the guidance of the virtualization vendor's support which may include installing available patches or newer versions of the virtualization software. • Performance guidelines are based on dedicated, physical systems and should be adjusted accordingly for virtualized environments.			

CHAPTER 2

Installation and Configuration Guide

Overview

The Cisco Service Portal Installation and Configuration Guide is divided into the following sections:

- "Prerequisites and Installation Overview" section on page 2-2: A quick reference on software and hardware requirements.
- "Configuring Databases" section on page 2-9: Instructions for configuring your databases for use with Service Portal.
- "Pre-Installation Configuration for JBoss" section on page 2-13: Instructions for preparing your computer for installing Service Portal with JBoss Application Server.
- "Pre-Installation Configuration for WebLogic" section on page 2-15: Instructions for configuring WebLogic Application Server prior to installing Service Portal.
- "Pre-Installation Configuration for WebSphere" section on page 2-31: Instructions for configuring WebSphere Application Server prior to installing Service Portal.
- "Running the Service Portal Installer" section on page 2-48: Instructions to execute the Service Portal Setup program.
- "Post-Installation Configuration for JBoss" section on page 2-59: Instructions to perform post-installation tasks on the JBoss machine.
- "Post-Installation Configuration for WebLogic" section on page 2-61: Instructions to deploy the Service Portal EAR files on WebLogic Application Server.
- "Post-Installation Configuration for WebSphere" section on page 2-65: Instructions to deploy the Service Portal EAR files on WebSphere Application Server.

Related Documentation

For information about performing an upgrade installation, see Chapter 4, "Upgrade Guide".

For information about installing IBM Cognos software, see Chapter 3, "Advanced Reporting Guide".

For information about configuring Directory Integration and Service Link, including LDAP, see the *Cisco Service Portal Integration Guide*.

For information about customizing Service Portal stylesheets, see the *Cisco Service Portal Configuration Guide*.

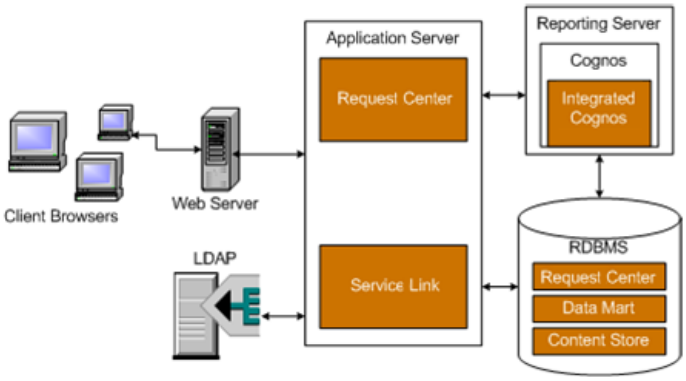
These guides are available on the http://www.cisco.com product download site.

Prerequisites and Installation Overview

Deployment Topology

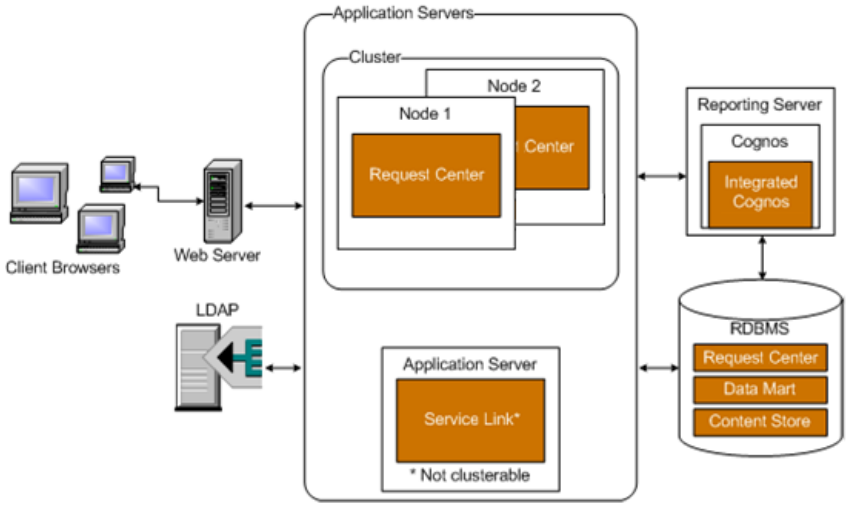
The following diagram depicts a typical deployment topology for Service Portal:

Figure 2-1 Typical Topology



For a WebLogic Cluster environment, or a WebSphere Cluster environment, the topology may include multiple application server machines. The following diagram shows an example of a Cluster with two nodes:

Figure 2-2 Clustered Topology



Subsequent sections in this chapter describe the software and hardware requirements for a typical deployment topology.

Software Requirements

The following table lists the supported third-party software for this release of Cisco Service Portal.

Table 2-1 Supported Software

Browser
Microsoft Internet Explorer 7 or 8
Mozzila Firefox 3.6.x (*supported for the My Services and Portal modules only)*
Browser Plugins
Adobe® Flash® Player is required to display the Service Link Home Page graph.
Web Server
Apache 2.2.x
IBM HTTP Server 7.0
Microsoft Internet Information Services (IIS) 7.5
Application Server + Java Development Kit
Oracle WebLogic 10.3 + Sun JDK 6 Update 23 (or higher Update)
IBM WebSphere 7.0.0.17 (or higher 7.0.0.x) + with IBM Java 1.6.0 SR9 (or higher SR)
JBoss 4.2.3 + with Sun JDK 6 Update 23 (or higher Update)
Application Server Operating System
Microsoft Windows Server 2008 R2 (64-bit) with SP1
Red Hat Enterprise Linux Server 5.6 (64-bit)
Sun Solaris 10
IBM AIX 7.1
Database
Microsoft SQL Server 2008 R2 (Express Edition of SQL Server is not recommended for production use)
Oracle 11g, version 11.2.0.1 (or higher 11.2.0.x) (Express Edition of Oracle Database is not recommended for production use)
LDAP
Microsoft Active Directory 2008
Sun Java System Directory Server 5.2 P6
IBM Tivoli Directory Server 7.0
IBM Cognos® (Note: IBM Cognos software is only supported on Microsoft Windows Server 2008 R2 (64-bit) operating system.)
IBM Cognos Business Intelligence Server, version 8.4.1
IBM Cognos Data Manager, version 8.4.1

Software Configuration Prerequisites

This section describes how to configure the software listed above for use with Service Portal.

Browser

The following settings must be configured on the web browser used to connect to the Service Portal application:

- Popup blocker is turned OFF.
- Cookies are enabled.
- For Internet Explorer, the Privacy Option must be set to Medium High or lower.
- To run an Asian language version of the system, you must install East Asian Language Support from the vendor of your web browser.
- Adobe Reader® is required on your web browser machine, in order to view and print reports.

Note The Mozzila Firefox browser is only supported for the **My Services** and **Portal Manager** modules of the Service Portal product. Thus, if you are an administrative user who needs to access other modules such as **Administration** or **Service Link**, you must use Internet Explorer (IE) 7 or 8. Furthermore, you will need IE 7 or 8 to complete your tasks during the installation verification process, described later in this guide.

Web Server

As a prerequisite, your web server must already be installed and running. Your web server does not have to be installed on the same machine as your application server, or on the machine where you plan to execute the Service Portal installer.

The web server must also have the plugin configuration necessary to communicate with your application server. For example, if you choose to use Apache Web Server with WebLogic Application Server for your deployment topology, then as a prerequisite, you need to manually configure the plugin for your Apache server to connect to your WebLogic server.The plugin between the web server and the application server will not be configured by the Service Portal installer.

Note There is one exception: If you choose to use the combination of **Microsoft Internet Information Services (IIS) Web Server and JBoss Application Server on a Windows operating system, where IIS web server is installed on the same machine** where you execute the Service Portal installer, then the Service Portal installer will automatically install and configure the plugin between IIS and JBoss for you if you answer “Yes” to the “Configure Web Server?” option during the execution of the installer.

If you choose to use Apache Web Server running on Solaris operating system, then your Apache installation must include all of the Apache Web Server’s optional modules.

Verify that your web server is running by opening a browser and connect to the URL **http://<*webserver_host*>:<*webserver_port*>**, where <*webserver_host*> is the hostname of your web server, and <*webserver_port*> is the port number used by your web server. Write down the values for <*webserver_host*> and <*webserver_port*>; you will need to provide these values during the installation.

Application Server

If you choose JBoss as your application server, you do not need to install JBoss Application Server as a prerequisite. The installer will automatically install the JBoss software on your machine. The "Pre-Installation Configuration for JBoss" section on page 2-13 contains instructions on how to prepare your machine for installing Service Portal with JBoss Application Server.

If you choose WebLogic as your application server, you need to install the Oracle WebLogic Application Server software as a prerequisite on your machine. This guide does not contain instructions for installing WebLogic software. However, you will need to follow the instructions in the "Pre-Installation Configuration for WebLogic" section on page 2-15 to prepare your WebLogic Server for use with Service Portal.

If you choose WebSphere as your application server, you need to install the IBM WebSphere Application Server software as a prerequisite on your machine. This guide does not contain instructions for installing WebSphere software. However, you will need to follow the instructions in the "Pre-Installation Configuration for WebSphere" section on page 2-31 to prepare your WebSphere Server for use with Service Portal.

Clustering Considerations

If you are going to deploy Cisco Service Portal in a clustered WebLogic or WebSphere environment, your WebLogic or WebSphere Application Servers must be set up in a clustered configuration before you install Cisco Service Portal. Additionally, if you want to provide full failover capability, then you must configure clusterable sessions on one or more of the clustered nodes. Please refer to your application server documentation for information on clustered configuration.

Note Clustered configuration is not supported for the JBoss Application Server.

Java Development Kit

Java Development Kit is a prerequisite software on your application server machine. As listed in Table 2-1, only specific versions (and vendors) of Java Development Kit are supported for each type of application server. More information about how to configure Java for your application server is described in the "Pre-Installation Configuration for JBoss" section on page 2-13, the "Pre-Installation Configuration for WebLogic" section on page 2-15, and the "Pre-Installation Configuration for WebSphere" section on page 2-31.

Database

If you choose SQL Server 2008 R2 as your RDBMS, then you need to install the Microsoft SQL Server 2008 R2 software as a prerequisite (see Table 2-1 for specific version). You do not need to install any SQL Server Client Connectivity software on your application server machine. The Cisco Service Portal installer will automatically install the JDBC driver needed for communicating with the database server.

If you choose Oracle 11g as your RDBMS, you need to install the Oracle 11g Database Server software as a prerequisite (see Table 2-1 for specific version). You do not need to install any Oracle Client Connectivity software on your application server machine. The Cisco Service Portal installer will automatically install the JDBC driver needed for communicating with the database server.

Your database must be configured to enable TCP/IP for client connectivity. The "Configuring Databases" section on page 2-9 contains instructions on how to create a database or schema for use with Service Portal.

LDAP

Cisco Service Portal can be integrated with your corporate LDAP server to access your company's employee directory. This integration feature is optional, so an LDAP server is not a prerequisite software for installing Service Portal.

If you plan to use the LDAP integration feature, refer to the *Cisco Service Portal Integration Guide*. Ensure that you use only one of the supported LDAP software listed in Table 2-1.

IBM Cognos

Service Portal is bundled with an OEM version of the IBM Cognos software, which is used for the (optional) Advanced Reporting module. To enable all Reporting and Advanced Reporting features in the Service Portal application, the Cognos software must be installed in your deployment topology. This software can be installed after the Service Portal software is installed. The instructions for installing and configuring Cognos software can be found in Chapter 3, "Advanced Reporting Guide."

Other Miscellaneous Settings

X-Window or Xvfb

For the UNIX or Linux operating system, you must have either X-Window Server or Xvfb (virtual framebuffer X server) installed AND running, in order for the KPI Charts, which are included in the Advanced Reporting module, to be displayed properly on the Service Portal UI. If you are not using the KPI Charts feature in Service Portal, then X-Window Server is not required.

Unzip Utility

You need to have an Unzip program (on Windows) or a tar command (on UNIX or Linux) available on your machine, in order to extract the Cisco Service Portal software installer package.

Network - TCP/IP

TCP/IP must be configured on all host computers.

SMTP

You need to set up an SMTP server for email notification, and a valid email address that the Service Portal system will use to send out system alerts to the system administrator. You will need to supply the SMTP address and a valid email address during the installation of the Service Portal software.

MSXML

MSXML 6.0 is a prerequisite for previewing services in Catalog Deployer.

Expat Library

Expat library is a pre-requisite for the Service Portal installer program. If you will execute the Service Portal installer on a Linux or UNIX machine, then verify that your Linux or UNIX machine already has the appropriate Expat library package:

- (*For Linux*) Expat version 1.95.x is required
- (*For AIX*) Expat version 2.0.x is required.

Execute the following command as "root" user to find out if the Expat library is installed on your machine:

```
rpm -qa | grep expat
```

Hardware Requirements

Sizing

We recommend a minimum of three computers for a typical (non-clustered) deployment topology:

- Web Server + Application Server together
- Database Server
- Reporting Server

Your exact hardware configuration depends on site-specific factors. Contact the Cisco Technical Assistance Center (TAC) if you need more sizing recommendations.

The variables that can affect your hardware configuration include the following:

- the number of people who will use the system
- the number and frequency of service requests that the installed product will handle
- the nature of the service requests (complexity, type, and so on)
- reporting frequency
- systems integration and system availability requirements

Minimum Hardware Requirements for Application Server Host

Your application server machine must meet the following minimum hardware requirements:

- Intel Core 2 Duo processor or equivalent
- 4 GB RAM
- 40 GB *free* hard disk space

Note If you have a clustered application server environment, the hardware requirements specified above are applicable for each node (that is, each machine) in your clustered environment.

Minimum Hardware Requirements for Web Server Host

If your web server resides on a different machine from your application server, then your web server machine must meet the following minimum hardware requirements:

- Intel Core 2 Duo processor or equivalent
- 2 GB RAM
- 2 GB *free* hard disk space

Minimum Hardware Requirements for Database Host

Your database server machine must meet the following minimum hardware requirements:

- Intel Core 2 Duo processor or equivalent
- 4 GB RAM
- 50 GB *free* hard disk space. (Disk space requirement is dependent on the *projected* size of your Service Portal databases over time, to account for the growth in user data, service definitional data, transactional data, and reporting data.)

Minimum Hardware Requirements for Reporting Server Host

Your Cognos machine must meet the following minimum hardware requirements:

- Intel Core 2 Duo processor or equivalent
- 2 GB RAM
- 40 GB *free* hard disk space

Note The IBM Cognos 8.4.1 software that is bundled with Service Portal can be installed only on a Microsoft Windows Server 2008 R2 (64-bit) operating system.

Overview of Installation Process

This section provides a road map of the installation process for Service Portal:

Step 1 Follow the instructions provided in this section to ensure that you have adequately addressed the minimum hardware and software requirements, and installed the prerequisite software.

Step 2 Create the RequestCenter and Datamart databases, as described in the "Configuring Databases" section on page 2-9. Complete the "Database Information Worksheet" at the end of the section. You will need this information during the execution of the Service Portal Setup program.

Step 3 Prepare the application server for use with Service Portal, by performing the tasks described in one of the following sections:

a. For JBoss, go to the "Pre-Installation Configuration for JBoss" section on page 2-13.

b. For WebLogic, go to the "Pre-Installation Configuration for WebLogic" section on page 2-15.

c. For WebSphere, go to the "Pre-Installation Configuration for WebSphere" section on page 2-31.

Complete the "Application Server Information Worksheet" at the end of the section. You will need this information during the execution of the Setup program.

Step 4 Execute the Setup program on the application server machine, as described in the "Running the Service Portal Installer" section on page 2-48. If you are performing an upgrade installation from a previous release, see Chapter 4, "Upgrade Guide" in conjunction with this section.

Step 5 Perform the post-installation tasks for your application server and verify your installation as described in one of the following sections:

a. For JBoss, go to the "Post-Installation Configuration for JBoss" section on page 2-59.

b. For WebLogic, go to the "Post-Installation Configuration for WebLogic" section on page 2-61.

c. For WebSphere, go to the "Post-Installation Configuration for WebSphere" section on page 2-65.

To fully enable the Reporting features, you also need to install the Cognos software, and configure the Cognos Server to integrate with Service Portal application. When you are ready to do this, follow the instructions in Chapter 3, "Advanced Reporting Guide".

Configuring Databases

The Cisco Service Portal product requires two databases—a RequestCenter database and a Datamart database. Both databases must be of the same type and version of RDBMS, although they may reside on two different database instances. For example, both databases must be on the same version of SQL Server 2008, or both databases must be on the same version of Oracle 11g. There cannot be a mixture of a SQL Server database and an Oracle database.

Note The IBM Cognos software requires its own database called ContentStore, which is not described in this chapter. The instructions for configuring the ContentStore database are included in Chapter 3, "Advanced Reporting Guide". The ContentStore database must also be of the same type and version of RDBMS as the RequestCenter and Datamart databases.

Configuring Oracle

If you choose to use Oracle for your databases, follow the instructions in this section to prepare the Oracle server and to create two Oracle users: one for the RequestCenter database schema, and one for the Datamart database schema.

catcio.sql Package

Step 1 Execute the following sql command as the Oracle "sys" user to find out if the catcio.sql package has been installed on the Oracle database:

select count(*) from all_tables where owner='SYS' and table_name like 'IND_ONLINE$';

Step 2 If the returned value is ZERO, then log in to Oracle database as "sys" user (connect as "sysdba"), and install the catcio.sql package. This needs to be done before you proceed with the Service Portal installation. The catcio.sql script is usually located in the $ORACLE_HOME/rdbms/admin directory.

Redo Logs

Allocate at least 250 MB for the Redo logs for Oracle.

Creating Tablespace and User for RequestCenter Database

Note If you cannot create the tablespaces and the database user accounts, contact your database administrator and provide the database requirements outlined in this document.

Step 1 Create a new tablespace named **REQUESTCENTER**, with initial size of 500 MB and AUTOEXTEND ON.

Step 2 Create a new temporary tablespace named **REQUESTCENTER_TEMP**, with initial size of 30 MB and AUTOEXTEND ON.

Step 3 Create a database user named **RCUser**, with default tablespace set to REQUESTCENTER and temporary tablespace set to REQUESTCENTER_TEMP. **RCUser** should be granted QUOTA UNLIMITED on the REQUESTCENTER tablespace.

Step 4 Grant the following permissions to **RCUser**:

```
CREATE SESSION
CREATE TABLE
CREATE PROCEDURE
CREATE SEQUENCE
CREATE TRIGGER
CREATE VIEW
CREATE MATERIALIZED VIEW
CREATE SYNONYM
ALTER SESSION
```

Creating Tablespace and User for Datamart Database

Step 1 Create a new tablespace named **DATAMART**, with initial size of 500 MB and AUTOEXTEND ON.

Step 2 Create a new temporary tablespace named **DATAMART_TEMP**, with initial size of 30 MB and AUTOEXTEND ON.

Step 3 Create a database user named **DMUser**, with default tablespace set to DATAMART and temporary tablespace set to DATAMART_TEMP. **DMUser** should be granted QUOTA UNLIMITED on the DATAMART tablespace.

Step 4 Grant the following permissions to **DMUser**:

```
CREATE SESSION
CREATE TABLE
CREATE PROCEDURE
CREATE SEQUENCE
CREATE TRIGGER
CREATE VIEW
CREATE MATERIALIZED VIEW
CREATE SYNONYM
ALTER SESSION
```

Configuring SQL Server

If you choose to use SQL Server for your databases, follow the instructions in this section to prepare the SQL Server, and to create two databases: RequestCenter and Datamart.

Default Instance

The SQL Server must be set up as a ***Default Instance***. *Named Instance* SQL Server is not supported.

Mixed-Mode Authentication

SQL Server must be configured to allow mixed-mode authentication. In addition, the "sa" account username and password will be required during the installation of Cisco Service Portal.

Creating RequestCenter Database and User

Step 1 Create a database named **RequestCenter** in the *Default Instance* of SQL Server, with initial size of 500 MB.

Step 2 Put the RequestCenter database in single-user mode, and execute the following command:

ALTER DATABASE RequestCenter SET READ_COMMITTED_SNAPSHOT ON.

Step 3 Put the RequestCenter database back in multi-user mode.

Step 4 Create a SQL Server Login named **RCUser**, with the Default Database property set to "RequestCenter".

Note RCUser must be a SQL Server login account that authenticates to the SQL Server using SQL Server authentication method, and not Windows authentication method.

Step 5 Assign this RCUser to be the **db_owner** of the "RequestCenter" database.

Creating Datamart Database and User

Step 1 Create a database named **Datamart** in the *Default Instance* of SQL Server, with initial size of 500 MB.

Step 2 Create a SQL Server Login named **DMUser**, with the Default Database property set to "Datamart".

Note DMUser must be a SQL Server login account that authenticates to the SQL Server using SQL Server authentication method, and not Windows authentication method.

Step 3 Assign this DMUser to be the **db_owner** of the "Datamart" database.

Database Information Worksheet

Complete the following "Database Information Worksheet" by entering your configuration values in the "**Value**" column. The information in this worksheet will be needed when you execute the Service Portal Setup program later.

Table 2-2 Database Information Worksheet

Database Configuration Needed by Service Portal Installer	Description	Value
Database Type	The type of RDBMS.	Oracle *or* SqlServer
Database Server	The Hostname or IP address of the Database Server for the RequestCenter database. For example, servername.domain.com.	
Database Port	The TCP/IP Port Number used by your Database Server.	1521 *or* 1433
Database User	The User ID that the Service Portal application uses to authenticate with the RequestCenter database at runtime.	RCUser
Database User Password	The password for the Database User.	
Oracle SID	**For Oracle only:** The SID of the Oracle server where the RequestCenter database resides.	
Database Name	**For SQL Server only:** The name of the RequestCenter database.	RequestCenter
SqlServer sa User	**For SQL Server only:** '**sa**' user is required during the installation of Service Portal, but will not be used at runtime.	sa
SqlServer sa Password	**For SQL Server only:** The password for the '**sa**' user.	
Datamart Database Server	The Hostname or IP address of the Database Server for the Datamart database. For example, servername.domain.com.	
Datamart Database Port	The TCP/IP Port Number used by your Database Server.	1521 *or* 1433
Datamart Database User	The User ID that Service Portal application uses to authenticate with the Datamart database at runtime.	DMUser
Datamart Database User Password	The password for the Datamart Database User.	
Datamart Oracle SID	**For Oracle only:** The SID of the Oracle server where the Datamart database resides.	
Datamart Database Name	**For SQL Server only:** The name of the Datamart database.	Datamart

Pre-Installation Configuration for JBoss

In this section, you will prepare the application server machine before executing the Setup program for Service Portal.

This release of Service Portal supports JBoss Application Server on the following operating systems, web servers, and Java Development Kit:

Table 2-3 Supported Operating System, Web Server, and Java

JBoss Application Server	Operating System	Web Server	Java
Version 4.2.3	Windows Server 2008 R2 (64-bit), with SP1	Microsoft Internet Information Services (IIS) 7.5	Sun JDK 6 Update 23 (or higher update)
Version 4.2.3	Red Hat Enterprise Linux Server 5.6	Apache 2.2.x	Sun JDK 6 Update 23 (or higher update)

You don't need to install the JBoss Application Server software in advance. If you select JBoss as the application server during the Service Portal installation, the Service Portal Setup program will automatically install the JBoss Application Server software on your machine.

Downloading Service Portal Software Image

In this section, you will download the electronic software distribution for Cisco Service Portal.

Step 1 Access the Cisco product download web site and authenticate with the user name and password provided to you.

Step 2 Search by product name, or navigate within the product selector to locate the portal solution you have purchased. (Navigation: **Products > Network Management and Automation > Data Center Management and Automation > Intelligent Automation> Cisco Cloud Portal,** or **Cisco Workplace Portal**).

Step 3 Select **Product Install** and click on the link for the appropriate operating system.

Step 4 You will be presented with a list of folders for the different releases available. Locate Release **9.3.1** and click on it.

Step 5 Download the file **RCInstall-win-*.zip** for the Windows operating system, or the file **RCInstall-unix-*.tar.gz** for the UNIX/Linux operating system.

Step 6 The installer program is common across all the products within the product family. If you have purchased Reporting and/or Demand Center in addition to Cloud or Workplace Portal, you do not need to download the installer again.

Step 7 Extract the software image to a directory on your application server machine. For example, extract the software to C:\CSP_Download (for Windows) or /opt/CSP_Download (for UNIX/Linux). For the rest of this document, this directory will be referred to as the ***<ServicePortal_Software_Dir>***.

Installing Sun JDK

In this section, you will download and install Sun JDK 6.

Step 1 Access the Oracle Sun JDK 6 download web site to download Sun JDK 6.

Step 2 Download the correct version of Sun JDK 6 for your OS platform. Refer to Table 2-5 for the supported Update version of JDK 6.

Step 3 Install Sun JDK 6 on the machine where you plan to execute the Setup program for Service Portal.

Note Note: If your machine already has an older version of the Sun JDK, uninstall it first, before installing the new Sun JDK 6.

Web Server

The Service Portal installer does not automatically configure the plugin for the Apache web server. You will need to manually configure your Apache web server to point to the JBoss server after you finish installing the Service Portal product.

The Service Portal installer does not automatically configure the plugin for the Microsoft Internet Information Services (IIS) web server if IIS is not residing on the same machine as the JBoss server. You will need to manually configure your IIS web server to point to the JBoss server after you finish installing the Service Portal product. However, if your IIS web server resides on the same machine where you execute the Service Portal installer program, then read the next section for more information.

Configuring IIS Automatically

As mentioned in the "Software Configuration Prerequisites" section on page 2-4, the Service Portal installer will automatically configure the plugin between the IIS web server and JBoss application server only if the following conditions are met:

- IIS is installed on the same Windows machine where you execute the Service Portal Setup program,
- You answer "Yes" to the "Configure Web Server?" option during the execution of the Service Portal Setup program.

If you would like the Service Portal installer to automatically configure the plugin for the IIS web server to point the JBoss application server on the *same* Windows machine, then as a prerequisite, you must have IIS already installed and running on your machine. Make sure that you also run the latest Microsoft Update to install all required critical updates for the Windows operating system. After installing the latest Microsoft Update, verify that your IIS server is still running correctly.

Port Settings

The following Port numbers are required for the JBoss servers, and thus must not be in use on your machine:

- For the “CiscoServicePortal Request Center” service: 4099, 8084, 4098, 4444, 4445, 8088, 8999, 8093.
- For the “CiscoServicePortal Service Link” service: 5099, 8085, 5098, 5554, 5555, 8089, 8998, 8063.

Application Server Information Worksheet

Complete the following “Application Server Information Worksheet” by entering your configuration values in the “**Value**” column. The information in this worksheet will be needed when you execute the Service Portal Setup program later.

Table 2-4 Application Server Information Worksheet for JBoss

App Server Configuration Needed by Service Portal Installer	Description	Value
Java Home Directory	The root directory of Java installation.	
Web Server Type	Your Web Server type.	
Web Server Hostname	The machine where your Web Server is running.	
Web Server Port	The port number used by your Web Server.	
Configure Web Server?	Do you want the installer to automatically configure the plugin between the IIS server and JBoss server on the same machine? *This is only applicable for IIS on Windows operating system.*	Yes or No
Install Services?	Do you want the installer to automatically register the “CiscoServicePortal Request Center” and “CiscoServicePortal Service Link” as Windows services? *This is only applicable for the Windows operating system.*	Yes or No
Service Link Base URL	The URL for the Application Server where the ISEE.war is deployed. Value = http://<Service Link JBoss Server>:<port>, where <port> equals 8089, which is the port number for the “Service Link JBoss Server”. For example, Value = http://servicelink.mydomain.com:8089.	

Pre-Installation Configuration for WebLogic

This section contains instructions for configuring the Oracle WebLogic Application Server, prior to installing Service Portal.

This release of Service Portal supports the WebLogic Application Server on the following operating systems and Java Development Kit:

Table 2-5 Supported Operating Systems and JAVA

Oracle WebLogic Application Server	Operating System	Java
Version 10.3	Windows Server 2008 R2 (64-bit), with SP1	Sun JDK 6 Update 23 (or higher Update)
Version 10.3	Red Hat Enterprise Linux Server 5.6	Sun JDK 6 Update 23 (or higher Update)
Version 10.3	Solaris 10	Sun JDK 6 Update 23 (or higher Update)

Note Oracle JRockit is NOT supported.

It is assumed that you have already installed WebLogic Application Server 10.3 software on one of the supported operating systems. You will follow instructions in this section to create and configure a new managed WebLogic Server, exclusively for the Cisco Service Portal application.

Installing Sun JDK

Although the WebLogic software installation is bundled with some version of JRockit or Sun Java, you will not use any bundled JRockit or Java. Instead, you need to download and install Sun JDK 6. Then, in the next section, you will configure your WebLogic Server to use this version of Sun JDK 6.

Step 1 Access the Oracle Sun JDK 6 download web site to download Sun JDK 6.

Step 2 Download the correct version of Sun JDK 6 for your OS platform. Refer to Table 2-5 for the supported Update version of JDK 6.

Step 3 Install Sun JDK 6 on the same machine where WebLogic software is installed.

Step 4 After Sun JDK 6 is installed, navigate to the <*WL_HOME*>\common\bin directory.

Step 5 Modify the following file:

(*For Windows*) Modify **commEnv.cmd** as follows:

a. set JAVA_HOME="<*the installation directory for Sun JDK 6*>"

b. set JAVA_VENDOR=Sun

(*For UNIX or Linux*) Modify **commEnv.sh** as follows:

a. JAVA_HOME="<*the installation directory for Sun JDK 6*>"

b. JAVA_VENDOR=Sun

Step 6 Restart all WebLogic servers, including the WebLogic Administration Server and Node Manager.

Note If you have a WebLogic Cluster environment, perform Steps 3–6 on every node in the Cluster.

Downloading Service Portal Software Image

In this section, you will download the electronic software distribution for Service Portal.

Step 1 Access the Cisco product download web site and authenticate with the user name and password provided to you.

Step 2 Search by product name, or navigate within the product selector to locate the portal solution you have purchased. (Navigation: **Products > Network Management and Automation > Data Center Management and Automation > Intelligent Automation**).

Step 3 Select **Product Install** and click on the link for the appropriate operating system.

Step 4 You will be presented with a list of folders for the different releases available. Locate Release **9.3.1** and click on it.

Step 5 Download the file **RCInstall-win-*.zip** for the Windows operating system, or the file **RCInstall-unix-*.tar.gz** for the UNIX/Linux operating system.

Step 6 The installer program is common across all the products within the portal product family. If you have purchased Reporting and/or Demand Center in addition to Cloud or Workplace Portal, you do not need to download the installer again.

Step 7 Extract the software image to a directory on your application server machine. If you have WebLogic Cluster environment, then extract the Cisco Service Portal software on the machine where the WebLogic Administration Server is running. For example, extract the software to C:\CSP_Download (for Windows) or /opt/CSP_Download (for UNIX/Linux). For the rest of this section, this directory will be referred to as the ***<ServicePortal_Software_Dir>***.

Installing Custom Java Libraries

In this section, you will copy several java library files from the <*ServicePortal_Software_Dir*> to the <*WL_HOME*> directory, and add these jar files to the class paths. Afterward, you need to restart the WebLogic servers in order to pick up the new java libraries.

Step 1 Under the "<*JAVA_HOME*>/jre/lib" directory on your WebLogic machine, create a sub-directory called **endorsed**.

Step 2 Copy the following jar files from the "<*ServicePortal_Software_Dir*>/Third/endorsed" directory to the "<*JAVA_HOME*>/jre/lib/endorsed" directory:

- serializer.jar
- xalan.jar
- xercesImpl.jar
- xml-apis.jar

Step 3 Under the <*WL_HOME*> directory, create a sub-directory called "cisco_lib".

Step 4 Copy the following jar files from the "<*ServicePortal_Software_Dir*>/Image/b8b/dist/common" directory to the "<*WL_HOME*>/cisco_lib" directory:

- newscale_drivers.jar
- geronimo-ccpp_1.0_spec-1.0-beta.jar

- pluto-container-api-2.0.2.jar
- pluto-container-driver-api-2.0.2.jar
- pluto-taglib-2.0.2.jar
- portlet-api_2.0_spec-1.0.jar

Step 5 Navigate to the "<*WL_HOME*>/common/bin" directory.

Step 6 Modify the following file:

(*For Windows*) Modify **commEnv.cmd** as follows:

a. Search for the line that contains the parameter "WEBLOGIC_CLASSPATH=".

b. Append the value '**;%WL_HOME%\cisco_lib\newscale_drivers.jar**' to the end of the of the line. Don't forget to include the semi-colon character. For example, after you append your value, the line may look like:

```
WEBLOGIC_CLASSPATH=%PATCH_CLASSPATH%;%JAVA_HOME%\lib\tools.jar;%WL_HOME%\server\lib\we
blogic_sp.jar;%WL_HOME%\server\lib\weblogic.jar;%FEATURES_DIR%\weblogic.server.modules
_10.3.0.0.jar;%WL_HOME%\server\lib\webservices.jar;%ANT_HOME%/lib/ant-all.jar;%ANT_CON
TRIB%/lib/ant-contrib.jar;%WL_HOME%\cisco_lib\newscale_drivers.jar
```

(*For UNIX or Linux*) Modify **commEnv.sh** as follows:

a. Search for the line that contains the parameter "WEBLOGIC_CLASSPATH=".

b. Append the value '**${CLASSPATHSEP}${WL_HOME}/cisco_lib/newscale_drivers.jar**'to the end of the of the line, but before the double-quote. For example, after you append your value, the line may look like:

```
WEBLOGIC_CLASSPATH="${PATCH_CLASSPATH}${CLASSPATHSEP}${JAVA_HOME}/lib/tools.jar${CLASS
PATHSEP}${WL_HOME}/server/lib/weblogic_sp.jar${CLASSPATHSEP}${WL_HOME}/server/lib/webl
ogic.jar${CLASSPATHSEP}${FEATURES_DIR}/weblogic.server.modules_10.3.0.0.jar${CLASSPATH
SEP}${WL_HOME}/server/lib/webservices.jar${CLASSPATHSEP}${ANT_HOME}/lib/ant-all.jar${C
LASSPATHSEP}${ANT_CONTRIB}/lib/ant-contrib.jar${CLASSPATHSEP}${WL_HOME}/cisco_lib/news
cale_drivers.jar"
```

Step 7 Restart the WebLogic Administration Server and WebLogic Node Manager. You must restart all WebLogic servers for them to pick up the custom Java libraries that you have installed.

Note If you have a WebLogic Cluster environment, perform Steps 1–7 on every node in the Cluster.

Creating a Managed WebLogic Server

In this section, you will create a new managed WebLogic Server, to be used exclusively for Service Portal.

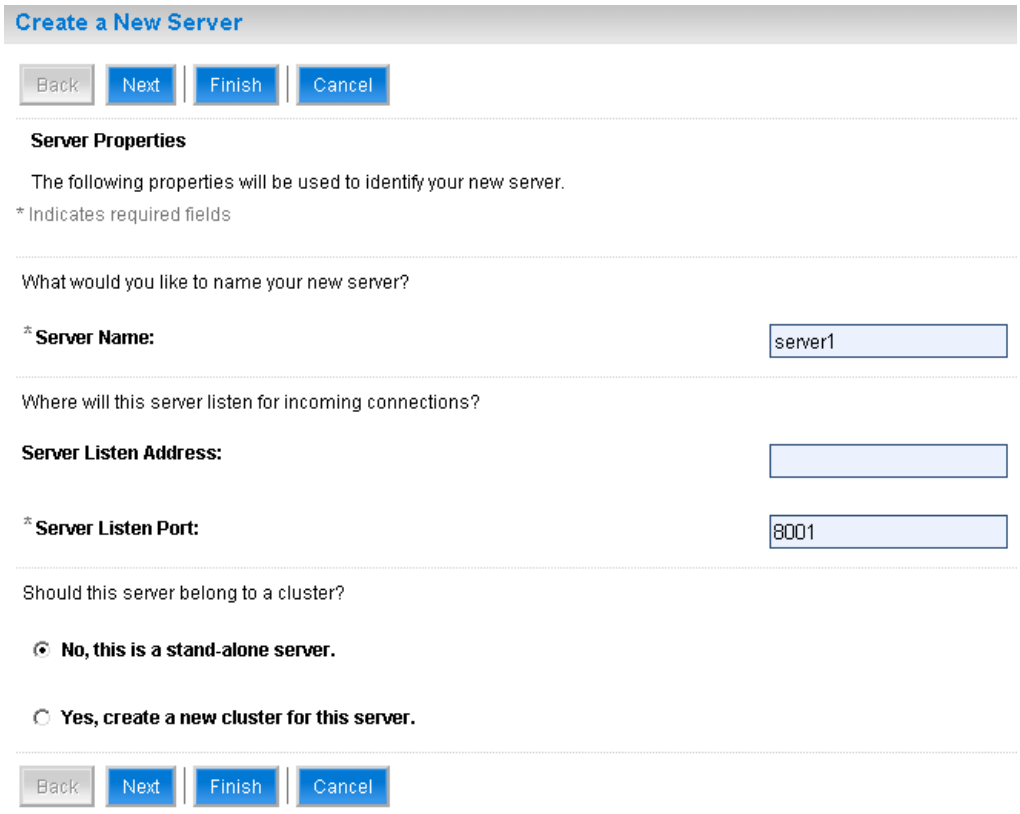
Step 1 Log on to the WebLogic Administration Console.

Step 2 If your WebLogic was installed in PRODUCTION mode, then click the **Lock & Edit** button so that you can proceed to make changes. Otherwise, you can skip this step.

Step 3 Expand **Environment**, and click on **Servers**.

Step 4 Click the **New** button. The Create a New Server page appears.

Figure 2-3 Create New Weblogic Server



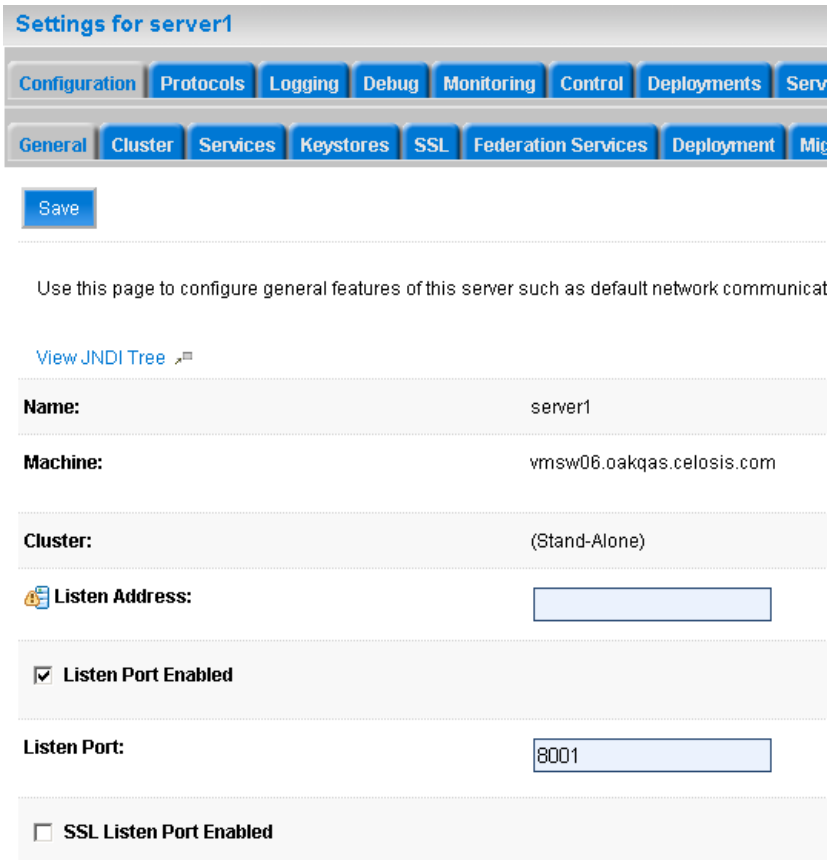
Step 5 Enter a Server Name (for example, "server1"). Enter a port number different from 7001 (for example, 8001), since port 7001 is most likely already used by the WebLogic Administration Server. Select the **No, this is a stand-alone server** option.

Step 6 Click **Finish**. Your newly created WebLogic Server will appear on the list.

Step 7 Click on that newly created Server "**server1**" to open its properties.

Step 8 Open the **Configuration > General** tab.

Figure 2-4 Configuration – General Settings



Step 9 In the Machine drop-down list, select the machine (or the cluster) where your WebLogic Server will run.

Step 10 Click **Save**.

Step 11 Open the **Configuration > Keystores** tab.

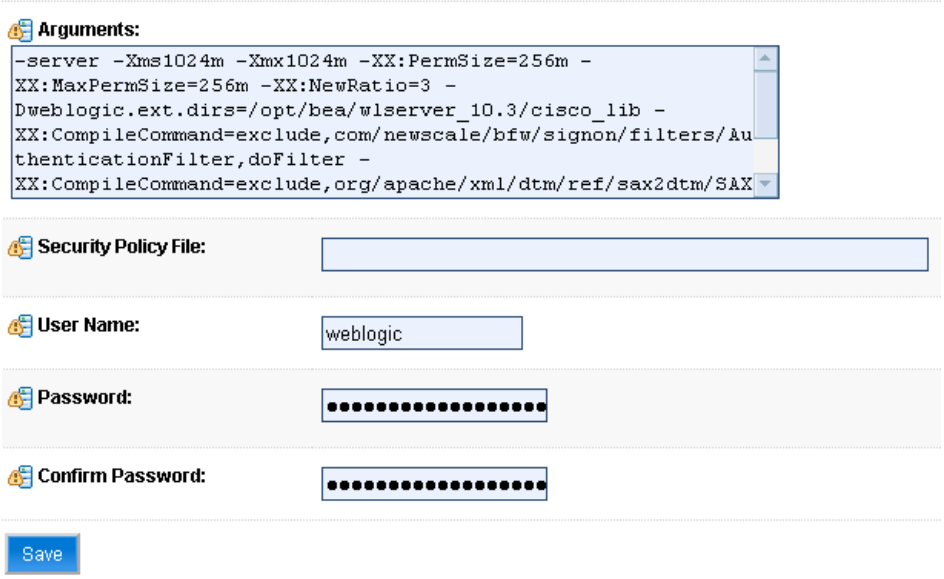
Step 12 In the Keystores drop-down list, select **Custom Identity and Java Standard Trust**.

Step 13 Click **Save**.

Setting the Arguments for Java Virtual Machine

Step 1 Open the **Configuration > Server Start** tab.

Figure 2-5 Server Start – Arguments



Step 2 Enter values for the following parameter:

- **Arguments** = -server -Xms1024m -Xmx1024m -XX:PermSize=256m

  -XX:MaxPermSize=256m

  -XX:NewRatio=3 -Dweblogic.ext.dirs=<*WL_HOME*>/cisco_lib

  -XX:CompileCommand=exclude,com/newscale/bfw/signon/filters/AuthenticationFilter,doFilter

  -XX:CompileCommand=exclude,org/apache/xml/dtm/ref/sax2dtm/SAX2DTM,startElement

  -XX:CompileCommand=exclude,org/exolab/castor/xml/Marshaller,marshal

  -XX:CompileCommand=exclude,org/apache/xpath/compiler/XPathParser,UnionExpr

  -XX:CompileCommand=exclude,org/apache/oro/text/regex/Perl5Compiler,__parseAtom

  (where <*WL_HOME*>/cisco_lib is the directory described in the "Installing Custom Java Libraries" section on page 2-17).

- **User Name** = weblogic
- **Password** = <*the password for "weblogic" username*>
- **Confirm Password** = <*re-enter the password for the "weblogic" username*>

Step 3 Click **Save**.

Step 4 If your WebLogic was installed in PRODUCTION mode, then click the **Activate Changes**. Otherwise, you can skip this step.

Step 5 Open the **Control** tab.

Figure 2-6 Start Weblogic Server

Step 6 Select the WebLogic Server named "**server1**", then click the **Start** button. Wait until you see State=RUNNING.

Your new WebLogic Server has now been configured to use Sun JDK 6 and the custom java libraries that you installed in this section.

Configurations for WebLogic Cluster

The Service Portal product is comprised of two enterprise applications named "RequestCenter" and "ServiceLink". However, the Service Portal installer does not automatically deploy the RequestCenter and ServiceLink applications on your WebLogic Server for you. The installer program will only generate one EAR file (named RequestCenter.ear) for the RequestCenter application, and one WAR file (named ISEE.war) for the ServiceLink application, which are customized for your WebLogic environment. After you execute the Service Portal installer, you will need to follow the instructions in a later section of this chapter to manually deploy RequestCenter.ear and ISEE.war on your WebLogic Server.

The RequestCenter.ear file and ISEE.war file can be deployed together in the same WebLogic Server even though they are two separate enterprise applications. However, if you are setting up a WebLogic Cluster environment with multiple nodes (where each node is a separate computer), then you need to perform the additional configurations as follows:

Step 1 Perform the tasks described in the "Installing Sun JDK" section on page 2-14 and "Installing Custom Java Libraries" section on page 2-17 on each node (that is, each computer) in the Cluster.

Step 2 Follow the instructions in the "Creating a Managed WebLogic Server" section on page 2-18 to create the WebLogic Server for each node and to set the JVM arguments for each server, before you add these servers to the Cluster.

Step 3 Each WebLogic Server in your Cluster must be configured to use the same port number. For example, your Cluster contains two nodes. If the WebLogic Server on Node 1 is running on port 8001, then the WebLogic Server on Node 2 must also be configured to run on port 8001.

Step 4 RequestCenter.ear file is deployed on the WebLogic Cluster. But, the ISEE.war file cannot be deployed in the same Cluster; it must be deployed on a stand-alone WebLogic Server that is not a member of any Cluster. Therefore, if you have a clustered WebLogic environment, then you must create an additional stand-alone WebLogic Server (that is, not a member of the Cluster), to be used for ISEE.war. For the rest of the document, this stand-alone WebLogic Server will be referred to as the "Service Link WebLogic Server". For this stand-alone "Service Link WebLogic Server", the JVM arguments can be set as follows:

```
Arguments = -server -Xms512m -Xmx512m -XX:PermSize=128m -XX:MaxPermSize=128m
-XX:NewRatio=3
```

Step 5 If the stand-alone "Service Link WebLogic Server" resides on another machine, then make sure that you also performed the tasks described in the "Installing Sun JDK" section on page 2-14 and "Installing Custom Java Libraries" section on page 2-17 on that WebLogic machine. The port number for the "Service Link WebLogic Server" does not have to match the port numbers of the WebLogic Servers in the Cluster.

Configuring JMS Server

In this section, you will configure a JMS Server and the JMS Queues that will be used by Service Portal.

Note If RequestCenter.ear and ISEE.war are deployed together on the same non-clustered WebLogic Server, then the JMS configurations described in this section are performed for that WebLogic Server. However, if you have a WebLogic Cluster environment, then the JMS configurations are performed for the "Service Link WebLogic Server".

Creating a Persistent Store

Step 1 On your computer, cd to <*WL_HOME*>.

Step 2 Create a sub-directory called **CiscoFileStore**.

Step 3 Log on to the WebLogic Administration Console.

Step 4 If your WebLogic was installed in PRODUCTION mode, then click the **Lock & Edit** button. Otherwise, you can skip this step.

Step 5 Expand Services, and click on **Persistent Stores**.

Step 6 Select **New > Create FileStore**. The Create a New File Store page appears.

Step 7 Enter **CiscoFileStore** in the Name field.

Step 8 In the Target drop-down list, select your WebLogic Server.

Step 9 In the Directory text box, enter the full path of the CiscoFileStore directory you created in Step 2 above (for example, /opt/bea/wlserver_10.3/CiscoFileStore).

Step 10 Click **OK**.

Creating a JMS Server

Step 1 On the WebLogic Administration Console, expand **Services > Messaging**, and click on **JMS Servers**.

Step 2 Click the **New** button. The Create a New JMS Server page appears.

Step 3 Enter **CiscoJMSServer** in the Name field.

Step 4 In the Persistent Store drop-down list, select the Persistent Store named **CiscoFileStore**.

Step 5 Click **Next**.

Step 6 In the Target drop-down list, select your WebLogic Server. (If you have a WebLogic Cluster environment, then select **Service Link WebLogic Server**.)

Step 7 Click **Finish**.

Creating a JMS Module

Step 1 On the WebLogic Administration Console, expand **Services > Messaging**, and click on **JMS Modules**.

Step 2 Click the **New** button. The Create JMS System Module page appears.

Step 3 Enter **CiscoJMSModule** in the Name field.

Step 4 Click **Next**.

Step 5 Select your WebLogic Server as the target. (If you have a WebLogic Cluster environment, then select the **Service Link WebLogic Server**.)

Step 6 Click **Next**.

Step 7 Click **Finish**.

Step 8 Click on the newly created JMS Module named C**iscoJMSModule** to open its properties.

Step 9 Open the **Subdeployments** tab.

Step 10 Click the **New** button.

Step 11 Enter **CiscoSubdeployment** in the Subdeployment Name field.

Step 12 Click **Next**.

Step 13 Select the JMS Server named **CiscoJMSServer**.

Step 14 Click **Finish**.

Creating Connection Factory

Step 1 On the WebLogic Administration Console, expand **Services > Messaging**, and click on **JMS Modules**.

Step 2 Click on the JMS Module named **CiscoJMSModule** to open its properties.

Step 3 Open the **Configuration** tab.

Step 4 Click the **New** button.

Step 5 Select the **Connection Factory** option.

Step 6 Click **Next**.

Step 7 Enter **NSConnectionFactory** in the Name field as well as the JNDI Name field.

Step 8 Click **Next**.

Step 9 Click the **Advanced Targeting** button.

Step 10 In the Subdeployments drop-down list, select **CiscoSubdeployment**. The screen is refreshed to show that the JMS Server named “CiscoJMSServer” is already selected.

Step 11 Click **Finish**.

Creating JMS Templates

Step 1 On the WebLogic Administration Console, expand **Services > Messaging**, and click on **JMS Modules**.

Step 2 Click on the JMS Module named **CiscoJMSModule** to open its properties.

Step 3 Open the **Configuration** tab.

Step 4 Click the **New** button.

Step 5 Select the **JMS Template** option.

Step 6 Click **Next**.

Step 7 Enter **ISEEInboundQueueTemplate** in the Name field.

Step 8 Click **OK**.

Step 9 Repeat Steps 4–8 four more times to create four more JMS Templates with the following names:

- ISEEOutboundQueueTemplate
- BEEERequisitionsQueueTemplate
- BEEEAuthorizationsQueueTemplate
- BEEEInboundQueueTemplate

Creating Queues

Step 1 On the WebLogic Administration Console, expand **Services > Messaging**, and click on **JMS Modules**.

Step 2 Click on the JMS Module named **CiscoJMSModule** to open its properties.

Step 3 Open the **Configuration** tab.

Step 4 Click the **New** button.

Step 5 Select the **Queue** option.

Step 6 Click **Next**.

Step 7 Enter **ISEEInboundQueue** in the Name field as well as in the JNDI Name field.

Step 8 In the Template drop-down list, select **ISEEInboundQueueTemplate** that you created.

Step 9 Click **Next**.

Step 10 In the Subdeployments drop-down list, select **CiscoSubdeployment**. The screen is refreshed to show that the JMS Server named "CiscoJMSServer" is already selected.

Step 11 Click **Finish**.

Step 12 Repeat Steps 4–11 four more times to create four more JMS Queues with the following names:

Name & JNDI Name	Template	Subdeployments
ISEEOutboundQueue	ISEEOutboundQueueTemplate	CiscoSubdeployment
BEEERequisitionsQueue	BEEERequisitionsQueueTemplate	CiscoSubdeployment
BEEEAuthorizationsQueue	BEEEAuthorizationsQueueTemplate	CiscoSubdeployment
BEEEInboundQueue	BEEEInboundQueueTemplate	CiscoSubdeployment

Step 13 If your WebLogic was installed in PRODUCTION mode, then click the **Activate Changes**. Otherwise, you can skip this step.

Configuring JDBC Data Sources

In this section, you will configure two JDBC Data Sources to point to the RequestCenter database and Datamart database that you created in the "Configuring Databases" section on page 2-9.

Use the worksheet that you filled out at the end of the "Configuring Databases" section on page 2-9 to retrieve the necessary database information.

Step 1 Log on to the WebLogic Administration Console.

Step 2 If your WebLogic was installed in PRODUCTION mode, then click the **Lock & Edit** button. Otherwise, you can skip this step.

Step 3 Expand **Services > JDBC**, and click on **Data Sources**.

Step 4 Click the **New** button.

Step 5 Enter **REQUESTCENTERDS** in the Name field.

Step 6 Enter **eis/REQUESTCENTERDS** in the JNDI Name field.

Step 7 In the Database Type drop-down list, select **Other**.

Step 8 Click **Next**.

Step 9 On the next page, just click **Next**.

Step 10 In the Database Name field, enter the name of the RequestCenter database you created in the "Configuring Databases" section on page 2-9.

Step 11 In the Host Name field, enter the database server name.

Step 12 In the Port field, enter the database port number.

Step 13 In the Database User Name field, enter the name of the db_owner (or schema user) of the RequestCenter database. (For example, enter **RCUser.**)

Step 14 Enter the password for the Database User Name in the Password and Confirm Password fields.

Step 15 Click **Next**.

Step 16 In the Driver Class Name field, enter the following value (one string):

com.newscale.jdbc.UnifiedDriver

Step 17 In the URL field, enter the following value (one string):

For SQL Server:

jdbc:newscale:sqlserver://<*db_server*>:<*db_port*>

(For example, jdbc:newscale:sqlserver://stan.celosis.com:1433)

For Oracle:

jdbc:newscale:oracle://<*db_server*>:<*db_port*>;SID=<*oracle_sid*>

(For example, jdbc:newscale:oracle://sam.celosis.com:1521;SID=rosewood)

Step 18 In the Database User Name field, enter the name of the db_owner (or schema user) of the RequestCenter database. (For example, enter **RCUser**.)

Step 19 Enter the password for the Database User Name in both Password and Confirm Password fields.

Step 20 In the Properties field, enter the following name-value pairs (one per line):

For SQL Server:

user=<*database_user_name*>

DatabaseName=<*database_name*>

selectMethod=direct

alwaysReportTriggerResults=true

insensitiveResultSetBufferSize=16384

useServerSideUpdatableCursors=false

maxPooledStatements=0

SendStringParametersAsUnicode=true

For Oracle:

user=<*database_user_name*>

SendStringParametersAsUnicode=true

Step 21 (Don't click the Test Configuration button.) Click **Next**.

Step 22 Select your WebLogic Server as the Target.

Note Note: If you have a WebLogic Cluster environment, then select both the Cluster name and the "**Service Link WebLogic Server**" as the Targets for this data source.

Step 23 Click **Finish**.

Step 24 The newly created data source named "REQUESTCENTERDS" should appear on the Summary of JDBC Data Sources page.Verify that the JNDI Name and Target information displayed for this data source is correct.

Step 25 Click on **REQUESTCENTERDS** to open its properties.

Step 26 Open the **Configuration > Connection Pool** tab.

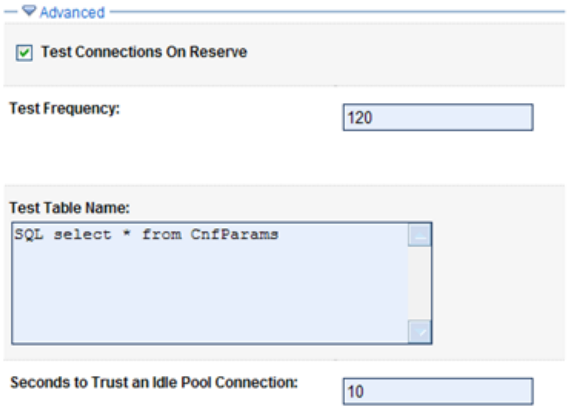
Step 27 Change the values for the following parameters on the screen:

- **Initial Capacity = 20**
- **Maximum Capacity = 80**

Step 28 Click **Save**.

Step 29 Still on the Connection Pool tab, expand **Advanced** at the bottom of the page.

Figure 2-7 Connection Pool – Advanced Settings



Step 30 Select the **Test Connections On Reserve** option.

Step 31 In the Test Table Name field, enter the following value (one string):

SQL select * from CnfParams

Step 32 Click the **Save** button.

Step 33 Create another Data Source for the Datamart database, by repeating Steps 4–32, but set the applicable values for the Datamart database instead of the RequestCenter database:

- **Name = DATAMARTDS**
- **JNDI Name = eis/DATAMARTDS**
- **Target** = <*If you have a clustered WebLogic environment, you only need to select the Cluster name as the Target for this data source. You don't need to include the "Service Link WebLogic Server" as a target.*>
- **Initial Capacity = 2**
- **Maximum Capacity = 20**
- **Test Table name = SQL select * from DM_DIRPERSON**

Step 34 If your WebLogic was installed in PRODUCTION mode, then click **Activate Changes**. Otherwise, you can skip this step.

Restarting WebLogic Server

You must restart your WebLogic Server in order for it to pick up the new JMS and Data Sources configurations.

Step 1 Restart your WebLogic Server.

Note If you have WebLogic Cluster environment, restart all the WebLogic servers in the Cluster as well as the "Service Link WebLogic Server."

Step 2 Once the WebLogic Server is started successfully, navigate to its **Configuration > General** tab.

Figure 2-8 JNDI Tree

Step 3 Click on the link called **View JNDI Tree** right above the Name field. The JNDI Viewer window appears.

Step 4 In the JNDI Tree Structure on the left hand side, look for the following entries:

eis> DATAMARTDS

eis> REQUESTCENTERDS

BEEEAuthorizationsQueue

BEEEInboundQueue

BEEERequisitionsQueue

ISEEInboundQueue

ISEEOutboundQueue

NSConnectionFactory

Step 5 If you have a clustered WebLogic environment, then the JNDI Tree for your WebLogic Cluster should contain only 2 of the entries:

eis> DATAMARTDS

eis> REQUESTCENTERDS

And the JNDI Tree for the “Service Link WebLogic Server” should contain the following entries:

eis> REQUESTCENTERDS

BEEEAuthorizationsQueue

BEEEInboundQueue

BEEERequisitionsQueue

ISEEInboundQueue

ISEEOutboundQueue

NSConnectionFactory

Application Server Information Worksheet

Complete the following "Application Server Information Worksheet" by entering your configuration values in the **Value** column. The information in this worksheet will be needed when you execute the Setup program later.

Table 2-6 Application Server information Worksheet for WebLogic

App Server Configuration Needed by Service Portal Installer	Description	Value
Java Home Directory	The root directory of Java installation.	
Cluster environment?	Is this a Clustered WebLogic environment with multiple nodes?	Y or N
Application Host	The name of the computer where the WebLogic Server is running.	
AppServer JNDI Port	The Listen Port of the WebLogic Server (for example, port 8001).	
JNDI Port for Service Link App Server	If you have a Cluster WL, then Service Link must be deployed on a separate WL server outside of the Cluster. Enter the port number for this separate WL server.	
Webserver type	The type of Web Server, such as Apache or IIS.	
Webserver Host	The name of the computer where the Web Server is running.	
Webserver Port	The port number used by the Web Server (for example, port 80).	
JMS Host	The name of the computer where the "Service Link WebLogic Server" is running. For a non-clustered environment, this value is the same as the Application Host.	
JMS Port	The Listen Port of the "Service Link WebLogic Server". For a non-clustered environment, this value is the same as the AppServer JNDI Port.	
JMS Queue User	The User Name that you use to log on to the WebLogic Administration Console.	weblogic
JMS Queue Password	The password for the JMS Queue User	
JMS Queue Connection Factory	The name of the Queue Connection Factory.	NSConnectionFactory
Authorizations Queue	The name of the Authorizations Queue.	BEEEAuthorizationsQueue
BE Inbound Queue	The name of the BE Inbound Queue.	BEEEInboundQueue
Requisitions Queue	The name of the Requisitions Queue.	BEEERequisitionsQueue
SL Outbound Queue	The name of the SLOutbound Queue.	ISEEOutboundQueue

Table 2-6 Application Server information Worksheet for WebLogic

SL Inbound Queue	The name of the SL Inbound Queue.	ISEEInboundQueue
Service Link Base URL	The URL for the Application Server where the ISEE.war is deployed. Value = http://<Service Link WebLogic Server>:<port>, where <port> is the Listen Port number for the "Service Link WebLogic Server". For example, Value = http://servicelink.mydomain.com:9001.	

Pre-Installation Configuration for WebSphere

This section contains the instructions for configuring the IBM WebSphere Application Server, prior to installing Cisco Service Portal.

This release of Cisco Service Portal supports WebSphere Application Server on the following operating systems and Java Development Kit.

Table 2-7 Supported Operating System and Java

IBM WebSphere Application Server	Operating System	Java
Version 7.0.0 FixPack 17 (or higher FixPack)	Windows Server 2008 R2 (64-bit) with SP1	IBM Java SDK 1.6.0 (SR9) (or higher SR)
Version 7.0.0 FixPack 17 (or higher FixPack)	IBM AIX 7.1	IBM Java SDK 1.6.0 (SR9) (or higher SR)
Version 7.0.0 FixPack 17 (or higher FixPack)	Red Hat Enterprise Linux Server 5.6	IBM Java SDK 1.6.0 (SR9) (or higher SR)

It is assumed that you have already installed WebSphere Application Server 7.0.0 software on one of the supported operating systems. You will follow instructions in this section to create and configure a WebSphere Server, exclusively for Cisco Service Portal application.

Downloading Service Portal Software Image

In this section, you will download the electronic software distribution for Cisco Service Portal.

Step 1 Access the Cisco product download web site and authenticate with the user name and password provided to you.

Step 2 Search by product name, or navigate within the product selector to locate the portal solution you have purchased. (Navigation: **Products > Network Management and Automation > Data Center Management and Automation > Intelligent Automation**).

Step 3 Select **Product Install** and click on the link for the appropriate operating system.

Step 4 You will be presented with a list of folders for the different releases available. Locate Release **9.3.1** and click on it.

Step 5 Download the file **RCInstall-win-*.zip** for the Windows operating system, or the file **RCInstall-unix-*.tar.gz** for the UNIX/Linux operating system.

Step 6 The installer program is common across all the products within the portal product family. If you have purchased Reporting and/or Demand Center in addition to Cloud or Workplace Portal, you do not need to download the installer again.

Step 7 Extract the software image to a directory on your application server machine. If you have Clustered WebSphere environment, then extract the Cisco Service Portal software on the machine where the WebSphere Deployment Manager server is running. For example, extract the software to C:\CSP_Download (for Windows) or /opt/CSP_Download (for UNIX/Linux). For the rest of this section, this directory will be referred to as the ***<ServicePortal_Software_Dir>***.

Installing Custom Java Library

In this section, you will copy several custom java library files from ***<ServicePortal_Software_Dir>*** to the ***<WAS_INSTALL_ROOT>*** directory, where <*ServicePortal_Software_Dir*> is where you extracted the electronic software distribution for Cisco Service Portal (for example, C:\CSP_Download or /opt/CSP_Download), and <*WAS_INSTALL_ROOT*> is the installation directory of your WebSphere Application Server (for example, C:\IBM\WebSphere\AppServer, or /opt/IBM/WebSphere/AppServer).

Step 1 Copy the following files from the "<*ServicePortal_Software_Dir*>/Image/b8b/ dist/common" directory to the "<*WAS_INSTALL_ROOT*>/lib/ext" directory:

- geronimo-ccpp_1.0_spec-1.0-beta.jar
- newscale_drivers.jar
- newscale_ws_jdbc_provider.jar
- pluto-container-api-2.0.2.jar
- pluto-container-driver-api-2.0.2.jar
- pluto-taglib-2.0.2.jar

Step 2 Copy the following files from the "<*ServicePortal_Software_Dir*>/Image/b8b/ dist/common" directory to the "<*WAS_INSTALL_ROOT*>/java/jre/lib/ext" directory:

- portlet-api_2.0_spec-1.0.jar
- wsdl4j-1.6.1.jar

Step 3 Restart the WebSphere Deployment Manager server and WebSphere Node Manager. You must restart all WebSphere servers for them to pick up the custom Java Library that you have installed.

Note If you have WebSphere Cluster environment, then you have to perform Steps 1–3 on every node in the Cluster, including the machine that hosts the WebSphere Deployment Manager server.

Creating a WebSphere Server

In this section, you will create a WebSphere Server, to be used exclusively for Cisco Service Portal.

Step 1 Log on to the WebSphere Administration Console.

Step 2 Expand **Servers > Server Types**, and click on **WebSphere application servers**.

Step 3 On the right panel, click the **New** button. The Create a new application server page appears.

Step 4 Select the node name from the drop-down list, enter a server name (for example, enter **server1**), then click **Next**.

Step 5 Select the "default" template, then click **Next**.

Step 6 Select the **Generate Unique Ports** option, then click **Next**.

Step 7 Click **Finish**.

Step 8 Click **Save** directly to the master configuration.

Setting the Arguments for Java Virtual Machine

Step 1 Click on the newly created WebSphere Server (that is, **server1**), and open the **Configuration** tab.

Step 2 Under the **Server Infrastructure** section on the right panel, expand **Java and Process Management**, and click on **Process Definition**.

Step 3 Under the Additional Properties section on the right panel, click on **Java Virtual Machine**.

Step 4 Modify only the following settings on the screen:

- **Initial heap size = 1024**
- **Maximum heap size = 1024**
- Deselect the "**Debug Mode**" option (if it's selected)
- **Generic JVM arguments = -Djava.net.preferIPv4Stack=true -Dclient.encoding.override=UTF-8**

Step 5 Click **OK**.

Step 6 Click **Save** directly to the master configuration.

Configuring the DISPLAY Property (for UNIX or Linux Only)

Perform the following steps to enable the display of KPI charts on the Service Portal UI. As stated in the prerequisites section, if your Application Server machine is running a UNIX or Linux operating system, you must have either X-Window Server or Xvfp (virtual framebuffer X server) installed and running on your machine, so that WebSphere can communicate with X-Windows Server or Xvfb to display the KPI charts.

To configure the DISPLAY property:

Step 1 Click on the newly created WebSphere Server (that is, **server1**), and open the **Configuration** tab.

Step 2 Under the Server Infrastructure section on the right panel, expand **Java and Process Management**, and click on **Process Definition**.

Step 3 Under the Additional Properties section on the right panel, click on **Environment Entries**.

Step 4 Click the **New** button.

Step 5 Enter the following values:

- **Name = DISPLAY**
- **Value = localhost:0.0**

Step 6 Click **OK**.

Step 7 Click **Save** directly to the master configuration.

Getting Port Numbers

Step 1 Click on the newly created WebSphere Server (that is, **server1**), and open the **Configuration** tab.

Step 2 Under the Communication section on the right panel, expand **Ports**. A table that shows the Port Name and Number appears.

Step 3 Write down the port number for the following Port Names. You will need this information when completing the worksheet at the end of this section.

- **BOOTSTRAP_ADDRESS** =?
- **WC_defaulthost** =?

If you need to modify these port numbers:

a. Click the **Details** button to the right of the Ports table.

b. Click the link for either **BOOTSTRAP_ADDRESS** or **WC_defaulthost** to open its General Properties page.

c. Modify the value in the **Port** field.

d. Click **OK**.

e. Click **Save** directly to the master configuration.

Configurations for WebSphere Cluster

The Service Portal product is comprised of two enterprise applications named “RequestCenter” and “ServiceLink.” However, the Service Portal installer does not automatically deploy the RequestCenter and ServiceLink applications on your WebSphere Server for you. The installer program will only generate one EAR file (named RequestCenter.ear) for the RequestCenter application, and one WAR file (named ISEE.war) for the ServiceLink application, which are customized for your WebSphere environment. After you execute the Service Portal installer, you will need to follow the instructions in a later section of this guide to manually deploy RequestCenter.ear and ISEE.war on your WebSphere Server.

The RequestCenter.ear file and ISEE.war file can be deployed together in the same WebSphere Server even though they are two separate enterprise applications. However, if you are setting up a WebSphere Cluster environment with multiple nodes (where each node is a separate computer), then you need to perform the additional configurations as follows:

Step 1 Perform the tasks described in the “Installing Custom Java Library” section on page 2-32 on each node (that is, each computer) in the Cluster.

Step 2 Follow the instructions in the "Creating a WebSphere Server" section on page 2-32 to create the WebSphere Server for each node and to set the JVM arguments for each server, before you add these servers to the Cluster.

Step 3 Each WebSphere Server in your Cluster must be configured to use the same **BOOTSTRAP_ADDRESS** port number, and **WC_defaulthost** port number. For example, your Cluster contains two nodes. If the WebSphere Server on Node 1 is using BOOTSTRAP_ADDRESS=2810 and WC_defaulthost=9080, then the WebSphere Server on Node 2 must also be configured to use BOOTSTRAP_ADDRESS=2810 and WC_defaulthost=9080. If necessary, follow the instructions in the "Getting Port Numbers" section on page 2-34 to set the BOOTSTRAP_ADDRESS and/or WC_defaulthost port numbers for all WebSphere Servers in the Cluster to be the same.

Step 4 RequestCenter.ear file is deployed on the WebSphere Cluster. But, the ISEE.war file cannot be deployed in the same Cluster; it must be deployed on a stand-alone WebSphere Server that is not a member of any Cluster. Therefore, if you have a clustered WebSphere environment, then you must create an additional stand-alone WebSphere Server (that is, not a member of the Cluster), to be used for ISEE.war. For the rest of the document, this stand-alone WebSphere Server will be referred to as the "Service Link WebSphere Server". For this stand-alone "Service Link WebSphere Server", the JVM arguments can be set as follows:

- **Initial heap size = 512**
- **Maximum heap size = 512**
- Deselect the "**Debug Mode**" option (if it's selected)
- **Generic JVM arguments = -Djava.net.preferIPv4Stack=true**

Step 5 If the stand-alone "Service Link WebSphere Server" resides on another machine, then make sure that you also install the custom Java library as described in the "Installing Custom Java Library" section on page 2-32 on that machine. The BOOTSTRAP_ADDRESS and WC_defaulthost port numbers for the "Service Link WebSphere Server" do not have to match the port numbers of the WebSphere Servers in the Cluster.

Configuring Virtual Host

Step 1 Log on to the WebSphere Administration Console.

Step 2 Expand **Environment**, and click on **Virtual hosts**.

Step 3 On the right panel, click the **New** button. The Virtual Hosts > New page appears.

Step 4 Enter **ns_host** in the Name field.

Step 5 Click **OK**.

Step 6 Click **Save** directly to the master configuration.

Step 7 Click on the newly created **ns_host** to open its properties page.

Step 8 Click the **Host Aliases** link under Additional Properties.

Step 9 Click the **New** button.

Step 10 Enter the following values on the screen:

- **Host Name = ***
- **Port** = <*Enter the port number for **WC_defaulthost** used by your WebSphere Server. For example, enter 9080.*>

Step 11 Click **OK**.

Step 12 Click the **New** button again to add another entry.

Step 13 Enter the following values on the screen:

- **Host Name = ***
- **Port** = *<Enter the port number used by your Web Server. For example, enter 80. A Web Server (such as IBM HTTP Server or IIS) should already be configured with the necessary Plugin for WebSphere.>*

Step 14 Click **OK**.

Step 15 Click **Save** directly to the master configuration.

Note If you have a WebSphere Cluster environment, the virtual host called "ns_host" that you created is used only for the WebSphere Cluster. You need to create another virtual host called "sl_host" that will be used for the stand-alone "Service Link WebSphere Server". Follow the same instructions as above to create a virtual host named **sl_host**, but for Step 10 (entering port number), enter the WC_defaulthost port number used by the "Service Link WebSphere Server".

Configuring JMS Server

In this section, you will configure a JMS Server and the JMS Queues that will be used by Service Portal.

Note If RequestCenter.ear and ISEE.war are deployed together on the same non-clustered WebSphere Server, then the JMS configurations described in this section are performed for that WebSphere Server. However, if you have a WebSphere Cluster environment, then the JMS configurations are performed for the "Service Link WebSphere Server".

Creating Bus

Step 1 Log on to the WebSphere Administration Console.

Step 2 Expand **Service integration**, and click **Buses**.

Step 3 On the right panel, click the **New** button. The "Create a new bus page" appears.

Step 4 Enter the following values, then click **Next**:

- **Name = nsbus**
- Deselect the **Bus security** option (if it's selected)

Step 5 Click **Finish**.

Step 6 Click **Save** directly to the master configuration.

Step 7 Click on the newly created **nsbus** to open its Configuration page.

Step 8 Under the Topology section, click the **Bus members** link.

Step 9 Click the **Add** button.

Step 10 Select the **Server** option, and in the drop-down list next to it, select the WebSphere Server where you plan to deploy ISEE.war. (For example, if you have a WebSphere Cluster environment, select the Service Link WebSphere Server in the drop-down list.)

Step 11 Click **Next**.

Step 12 Select the **File store** option, then click **Next**.

Step 13 On the "Configure file store" page, do not make any changes. Click **Next**.

Step 14 On the "Tune performance parameters" page, do not make any changes. Click **Next**.

Step 15 On the Summary page, click **Finish**.

Step 16 Click **Save** directly to the master configuration.

Step 17 Click on **nsbus** again to re-open its Configuration page.

Step 18 Under the Destination resources section, click the **Destinations** link.

Step 19 Click the **New** button.

Step 20 Select the **Queue** option, and click **Next**.

Step 21 Enter **ISEEInboundQueue** in the Identifier field, then click **Next**.

Step 22 On the next page, select the bus member that you created in the previous steps. Click **Next**.

Step 23 Click **Finish**.

Step 24 (Do not click **Save** yet.) Repeat Steps 19–23 four more times to create four more queues with the following names:

- ISEEOutboundQueue
- BEEERequisitionsQueue
- BEEEAuthorizationsQueue
- BEEEInboundQueue

Step 25 Click **Save** directly to the master configuration after you finish the 5th queue.

Creating Queue Connection Factory

Step 1 On the WebSphere Administration Console, expand **Resources** > **JMS**.

Step 2 Click **Queue connection factories**.

Step 3 From the Scope drop-down list, select your WebSphere Server. (For example, select the value "Node=<*node_name*>, Server=*server1*" for Scope.)

Note If you have a WebSphere Cluster environment, then select the Service Link WebSphere Server from the Scope drop-down list instead. The Queue Connection Factory you are about to create only needs to be visible to the WebSphere Server where the ISEE.war is deployed.

Step 4 Click the **New** button.

Step 5 Select the **Default messaging provider** option, then click **OK**. The New Queue Connection Factory page appears.

Step 6 Enter the following values on the screen:

- **Name = NSConnectionFactory**
- **JNDI Name = NSConnectionFactory**
- **Bus name = nsbus**

Step 7 Click **OK**.

Step 8 Click **Save** directly to the master configuration.

Creating Queues

Step 1 On the WebSphere Administration Console, expand **Resources** > **JMS**.

Step 2 Click **Queues**.

Step 3 From the Scope drop-down list, select your WebSphere Server. (For example, select the value "Node=<*node_name*>, Server=*server1*" for Scope.)

Note If you have a WebSphere Cluster environment, then select the Service Link WebSphere Server from the Scope drop-down list instead. The Queues you are about to create only need to be visible to the WebSphere Server where ISEE.war is deployed.

Step 4 Click the **New** button.

Step 5 Select the **Default messaging provider** option, then click **OK**. The New Queue page appears.

Step 6 Modify only the following settings on the screen:

- **Name = ISEEInboundQueue**
- **JNDI Name = ISEEInboundQueue**
- **Bus name = nsbus**
- **Queue name = ISEEInboundQueue**
- **Delivery mode = Persistent**

Step 7 Click **OK**.

Step 8 (Do not click **Save** yet.) Repeat Steps 4–7 four more times to create four more queues with the following names:

- ISEEOutboundQueue
- BEEERequisitionsQueue
- BEEEAuthorizationsQueue
- BEEEInboundQueue

Step 9 Click **Save** directly to the master configuration after you finish the 5th queue.

Configuring J2C Authentication Data

In the "Configuring Databases" section on page 2-9, you created two database users, one as the schema owner of the RequestCenter database (that is, RCUser), and the other one as the schema owner of the Datamart database (that is, DMUser). In this section, you will add these database users to the J2C Authentication Data.

Step 1 On the WebSphere Administration Console, expand **Security**, and click on **Global security**.

Step 2 Under the Authentication section on the right panel, expand **Java Authentication and Authorization Service**.

Step 3 Click **J2C authentication data**.

Step 4 Click the **New** button.

Step 5 Enter the following values on the screen (replace "RCUser" with the actual ID that you created as the schema owner for the RequestCenter database):

- **Alias = RCUser**
- **User ID = RCUser**
- **Password** = <*Enter the password for the database user RCUser.*>

Step 6 Click **OK**.

Step 7 Click the **New** button again to create another entry.

Step 8 Enter the following values on the screen (replace "DMUser" with the actual ID that you created as the schema owner for the Datamart database):

- **Alias = DMUser**
- **User ID = DMUser**
- **Password** = <*Enter the password for the database user DMUser.*>

Step 9 Click **OK**.

Step 10 Click **Save** directly to the master configuration.

Configuring JDBC Data Sources

In this section, you will configure two JDBC Data Sources—one for the RequestCenter database, and one for the Datamart database.

Use the worksheet that you filled out at the end of the "Configuring Databases" section on page 2-9 to retrieve the necessary database information.

Creating JDBC Provider

Step 1 On the WebSphere Administration Console, expand **Resources > JDBC**, and click on **JDBC Providers**.

Step 2 From the Scope drop-down list, select your WebSphere Server. (For example, select the value "Node=<*node_name*>, Server=*server1*" for Scope.)

Note If you have a WebSphere Cluster environment, then select the WebSphere Cluster name from the Scope drop-down list instead. The JDBC Provider you are about to create need to be visible to all WebSphere Servers that belong in the Cluster.

Step 3 Click the **New** button. The "Create new JDBC provider" page appears.

Step 4 Enter the following values on the screen:

- **Database Type = User-defined**
- **Implementation class name** = *<enter one of the following values:>*
  - (*For Oracle:*) **com.newscale.jdbcx.oracle.OracleDataSource**
  - (*For SQL Server:*) **com.newscale.jdbcx.sqlserver.SQLServerDataSource**
- **Name = Cisco JDBC Driver for *<database_type>***
- **Description = Cisco JDBC Driver for *<database_type>***

Step 5 Click **Next**. The "Enter database class path information" page appears.

Step 6 Replace the "**Class path**" with the following two lines:

${WAS_INSTALL_ROOT}/lib/ext/newscale_ws_jdbc_provider.jar

${WAS_INSTALL_ROOT}/lib/ext/newscale_drivers.jar

Step 7 Click **Next**. The Summary page appears.

Step 8 Review the information on the Summary page. If everything looks correct, then click **Finish**.

Step 9 Click **Save** directly to the master configuration.

Note If you have a WebSphere Cluster environment, then the JDBC Provider that you just created will not be visible to the stand-alone "Service Link WebSphere Server", which does not belong to the Cluster. Therefore, you need to create the same JDBC Provider by repeating Steps 1–9, but this time, at Step 2, set the Scope to the **Service Link WebSphere Server**.

Creating REQUESTCENTERDS Data Source

Step 1 Click the newly created JDBC Provider to open its Configuration page.

Step 2 Under the Additional Properties section, click the **Data sources** link.

Step 3 Click the **New** button. The "Enter basic data source information" page appears.

Step 4 Enter the following values on the screen:

- **Data source name = REQUESTCENTERDS**
- **JNDI name = eis/REQUESTCENTERDS**

Step 5 Click **Next**.

Step 6 Enter the following value in the "Data store helper class name" field:

com.newscale.jdbc.websphere.NSDataStoreHelper

Step 7 Click **Next**.

Step 8 In the drop-down list for the "Component-managed authentication alias" field, select the "RCUser" alias that you created for J2C authentication data in the previous section (for example, select the value "<*host*>CellManager01/RCUser").

Step 9 Click **Next**.

Step 10 Review the information on the Summary page. If everything looks correct, then click **Finish**.

Step 11 Click **Save** directly to the master configuration.

Step 12 Click the newly created data source named **REQUESTCENTERDS** to open its General Properties page.

Step 13 Under Additional Properties section, click the **Connection pool properties** link.

Step 14 Enter the following values on the screen:

- **Maximum connections = 80**
- **Minimum connections = 20**

Step 15 Click **OK**.

Step 16 (Do not click **Save** yet.) Click the **Custom properties** link under the Additional Properties section. A page that shows about 50 properties is displayed. (The properties may span over several pages.)

Step 17 Click the **Select All icon** ( ,) in order to select all of the property entries on the current page. Then click the **Delete** button. Repeat this step until all property entries are deleted completely.

Step 18 Now, click the **New** button to add a new property entry.

Step 19 Enter the following on the screen (refer to the "Database Information Worksheet"):

- **Name = serverName**
- **Value = <*Database Server*>**
- **Type = java.lang.String**

Step 20 Click **OK**.

Step 21 Click the **New** button to add another entry.

Step 22 Enter the following on the screen (refer to the Database Information Worksheet):

- **Name = portNumber**
- **Value = <*Database Port*>**
- **Type = java.lang.String**

Step 23 Click **OK**.

Step 24 If your database is Oracle: Repeat Steps 21–23 to add the following entries (refer to the Database Information Worksheet):

Name	Value	Type
SID	<*ORACLE_SID*>	java.lang.String

After you are done, the list of Custom properties for your Oracle Data Source should look similar to the following screenshot:

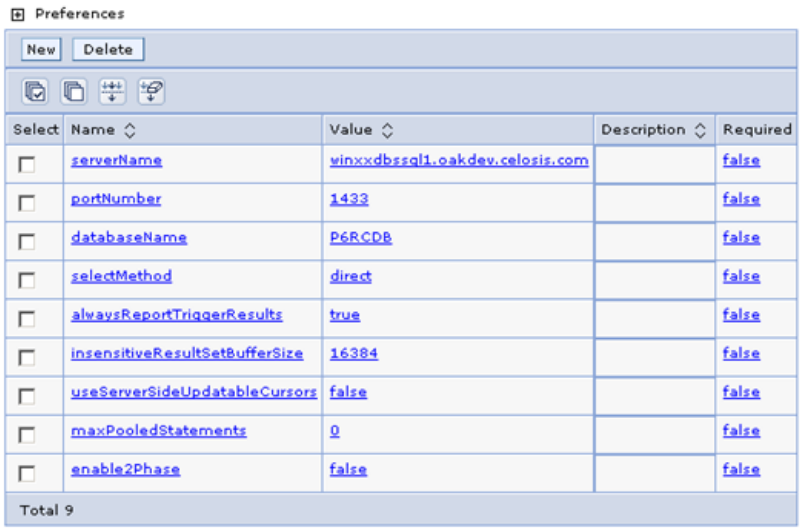
Figure 2-9 Oracle Data Source – Custom Properties

Step 25 If your database is SQL Server: Repeat Steps 21–23 to add the following entries (refer to the Database Information Worksheet):

Name	Value	Type
databaseName	*<The name of your RequestCenter database on SQL Server.>*	java.lang.String
selectMethod	direct	java.lang.String
alwaysReportTriggerResults	true	java.lang.String
insensitiveResultSetBufferSize	16384	java.lang.String
useServerSideUpdatableCursors	false	java.lang.String
maxPooledStatements	0	java.lang.String
Enable2Phase	false	java.lang.String

After you are done, the list of **Custom properties** for your SQL Server Data Source should look similar to the following screenshot:

Figure 2-10 SQL Server Data Source – Custom Properties



Step 26 Click **Save** directly to the master configuration.

Note If you have a WebSphere Cluster environment, then you should have created two JDBC Providers, one for Scope=<Cluster>, and another one for Scope=<Service Link WebSphere Server>. If you just completed the REQUESTCENTERDS data source for the JDBC Provider where Scope=<Cluster>, then you must repeat the same procedure to create the REQUESTCENTERDS data source for the JDBC Provider where Scope=<Service Link WebSphere Server>. This is because the Service Link application, that is running on the stand-alone <Service Link WebSphere Server>, also needs a JDBC connection to the RequestCenter database at runtime.

Step 27 To test your REQUESTCENTERDS data source:

a. Click the newly created data source named **REQUESTCENTERDS** to open its General Properties page.

b. Click the **Test Connection** button.

c. The following message should appear at the top of the page:

Figure 2-11 REQUESTCENTERDS Connection Successful Message

Creating DATAMARTDS Data Source

Step 1 Click the newly created JDBC Provider to open its Configuration page. You will create a second data source in the same JDBC Provider.

Note If you have a WebSphere Cluster environment, then select the JDBC Providers for Scope=<Cluster>. The data source that you are about to create for the Datamart database is only needed for the WebSphere Cluster. It is not needed for the <Service Link WebSphere Server>.

Step 2 Under the Additional Properties section, click the **Data sources** link.

Step 3 Click the **New** button. The "Enter basic data source information" page appears.

Step 4 Enter the following values on the screen:

- **Data source name = DATAMARTDS**
- **JNDI name = eis/DATAMARTDS**

Step 5 Click **Next**.

Step 6 Enter the following value in the "Data store helper class name" field:

com.newscale.jdbc.websphere.NSDataStoreHelper

Step 7 Click **Next**.

Step 8 In the drop-down list for the "Component-managed authentication alias" field, select the "DMUser" alias that you created for J2C authentication data in the previous section (for example, select the value "<*host*>CellManager01/DMUser").

Step 9 Click **Next**.

Step 10 Review the information on the Summary page. If everything looks correct, then click **Finish**.

Step 11 Click **Save** directly to the master configuration.

Step 12 Click the newly created data source named **DATAMARTDS** to open its General Properties page.

Step 13 Under the Additional Properties section, click the **Connection pool properties** link.

Step 14 Enter the following values on the screen:

- **Maximum connections = 20**
- **Minimum connections = 5**

Step 15 Click **OK**.

Step 16 (Do not click **Save** yet.) Click the **Custom properties** link under the Additional Properties section. A page that shows about 50 properties is displayed. (The properties may span over several pages.)

Step 17 Click the **Select All icon** ()in order to select all of the property entries on the current page. Then click the **Delete** button. Repeat this step until all property entries are deleted completely.

Step 18 Now, click the **New** button to add a new property entry.

Step 19 Enter the following on the screen (refer to the Database Information Worksheet):

- **Name = serverName**
- **Value = *<Database Server>***
- **Type = java.lang.String**

Step 20 Click **OK**.

Step 21 Click the **New** button to add another entry.

Step 22 Enter the following on the screen (refer to the Database Information Worksheet):

- **Name = portNumber**
- **Value = *<Database Port>***
- **Type = java.lang.String**

Step 23 Click **OK**.

Step 24 If your database is Oracle: Repeat Steps 21–23 to add the following entries (refer to the Database Information Worksheet).

Name	Value	Type
SID	*<ORACLE_SID>*	java.lang.String

After you are done, the list of Custom properties for your Oracle Data Source should look similar to the following screenshot:

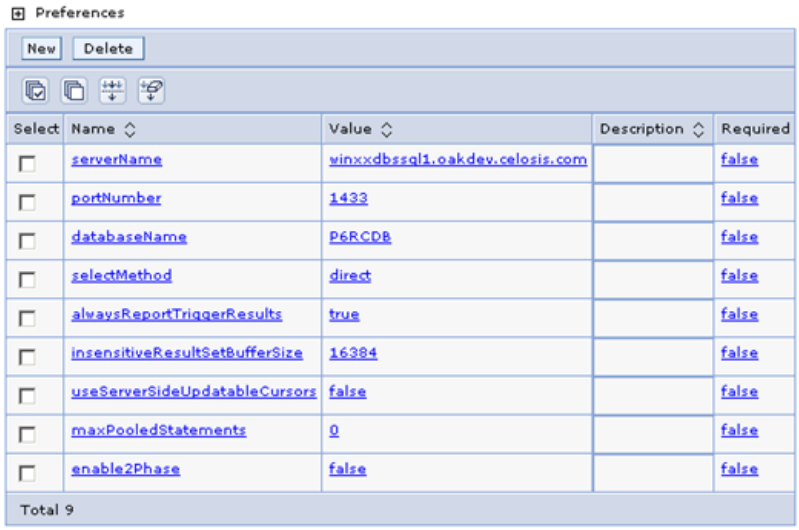
Figure 2-12 Oracle DATAMARTDS – Custom Properties

Step 25 If your database is SQL Server: Repeat Steps 21–23 to add the following entries (refer to the Database Information Worksheet):

Name	Value	Type
databaseName	*<The name of your Datamart database on SQL Server.>*	java.lang.String
selectMethod	direct	java.lang.String
alwaysReportTriggerResults	true	java.lang.String
insensitiveResultSetBufferSize	16384	java.lang.String
useServerSideUpdatableCursors	false	java.lang.String
maxPooledStatements	0	java.lang.String
Enable2Phase	false	java.lang.String

After you are done, the list of Custom properties for your SQL Server Data Source should look similar to the following screenshot:

Figure 2-13 SQL Server DATAMARTDS – Custom Properties



Step 26 Click **Save** directly to the master configuration.

Step 27 To test your DATAMARTDS data source:

a. Click the newly created data source named **DATAMARTDS** to open its General Properties page.

b. Click the **Test Connection** button.

c. A message that looks similar to the following should appear:

Figure 2-14 DATAMARTDS Connection Successful Message

Starting WebSphere Server

You need to restart the WebSphere Server, for it to pick up all of the configurations that you have done in the previous sections.

Note If you have a WebSphere Cluster environment, then you need to restart the Cluster as well as the "Service Link WebSphere Server."

After the WebSphere Server is restarted, verify that the Bus is running:

Step 1 Log on to the WebSphere Administration Console.

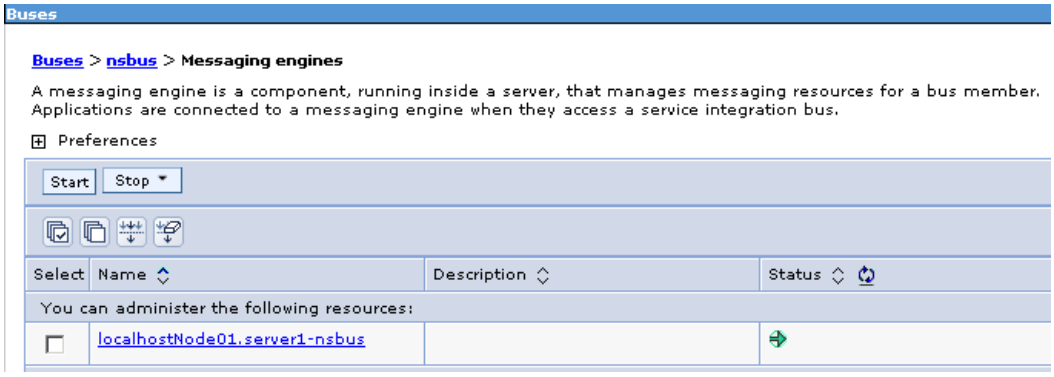
Step 2 Expand **Service integration**, and click on **Buses**.

Step 3 Click on **nsbus** to open its Configuration page.

Step 4 Under the Topology section, click the **Messaging engines** link.

Step 5 Verify that the messaging engine has the status of "Started" (that is, a green arrow as shown in the screenshot below).

Figure 2-15 Messaging Engine Status



Application Server Information Worksheet

Complete the following "Application Server Information Worksheet" by entering your configuration values in the **Value** column. The information in this worksheet will be needed when you execute the Service Portal Setup program later

Table 2-8 Application Server Information Worksheet for WebSphere

App Server Configuration Needed by Service Portal Installer	Description	Value
Java Home Directory	The root directory of Java installation. Set the value to "<WAS_ROOT>/java". For examples, on Windows, Value = C:\IBM\WebSphere\AppServer\java"; on UNIX, Value = "/opt/IBM/WebSphere/AppServer/java".	
Cluster environment?	Is this a Clustered WebSphere environment with multiple nodes?	Y or N
Application Host	The name of the computer where the WebSphere Server is running. If you have WebSphere Cluster environment, enter "localhost" in the Value column.	
AppServer JNDI Port	The **BOOTSTRAP_ ADDRESS** port number used by the WebSphere Server.	
AppServer HTTP Port	The **WC_defaulthost** port number used by the WebSphere Server.	
ServiceLink HTTP Port	If you have a Cluster WebSphere environment, then you must create a separate WebSphere server for the Service Link application. Enter the **WC_defaulthost** port number used by the Service Link WebSphere Server. For a non-clustered environment, this value is the same as "AppServer HTTP Port".	
WebSphere Root Directory	The **${WAS_INSTALL_ ROOT}** on the machine where you execute the Service Portal Setup program.	
Virtual Host Name(s)	For a non-clustered WebSphere Server, the value is "ns_host". For a WebSphere Cluster environment, you should have created two virtual hosts: "ns_host" for the Cluster, and "sl_host" for the Service Link WebSphere Server.	
Webserver type	The type of Web Server, such as IBM Http Server or IIS.	

Table 2-8 Application Server Information Worksheet for WebSphere

Webserver Host	The name of the computer where the Web Server is running.	
Webserver Port	The port number used by the Web Server (for example, port 80).	
JMS Queue Host	The name of the computer where the "Service Link WebSphere Server" is running. For a non-clustered environment, this value is the same as the Application Host.	
JMS Queue Port	The **BOOTSTRAP_ ADDRESS** port number of the "Service Link WebSphere Server". For a non-clustered environment, this value is the same as the AppServer JNDI Port.	
JMS Queue Connection Factory	The name of the Queue Connection Factory.	NSConnectionFactory
JMS Queue User	For WebSphere, this value can be set to "guest".	guest
JMS Queue Password	For WebSphere, this value can be set to "guest".	guest
Authorizations Queue	The name of the Authorizations Queue.	BEEEAuthorizationsQueue
Requisitions Queue	The name of the Requisitions Queue.	BEEERequisitionsQueue
BE Inbound Queue	The name of the Inbound Queue for Business Engine.	BEEEInboundQueue
Outbound Queue	The name of the Service Link Outbound Queue.	ISEEOutboundQueue
Inbound Queue	The name of the Service Link Inbound Queue.	ISEEInboundQueue
Service Link Base URL	The URL for the Application Server where the ISEE.war is deployed. Value = http://<Service Link WebSphere Server>:<port>, where <port> is the WC_Defaulthost port number for the "Service Link WebSphere Server". For example, Value = http://servicelink.mydomain.com:9080.	

Running the Service Portal Installer

This section provides instructions for executing the Service Portal installer program.

Before You Begin

Carefully review the "Prerequisites and Installation Overview" section on page 2-2 to ensure that you have adequately addressed the minimum hardware and software requirements for running the system.

Ensure that you have performed the database tasks described in the "Configuring Databases" section on page 2-9, and completed the Database Information Worksheet.

Ensure that you have performed the pre-installation tasks for your type of application server and completed the Application Server Information Worksheet.

How to Use the Installer

The Setup program is an interactive, command line utility. In this section, you will install Service Portal by running the Setup program from a command line window. A command line window can be one of the followings: a console, a Command Prompt window for Windows operating system, an SSH window for Linux operating system, or a Telnet window for UNIX operating system.

On most screens, you view a table of numbered options and configuration settings along with status information. Type the number that corresponds to the option or setting that you want to select or change, and then press the **Enter** key.

- If you type a number that corresponds to a "module" or a "component," you select or de-select it for installation.
- You can determine whether you are selecting or de-selecting the module or component by the value displayed in the **Install** column. *Yes* indicates that it will be installed if you proceed; *No* indicates that it will not be installed if you proceed. Each time you choose an option, its value in the Install column is changed.
- If you type a number that corresponds to an installation option, you receive a prompt to type a configuration setting.

Often you are prompted to confirm your selections or the default settings. When you receive a prompt:

- To accept: Press **C** to continue to the next step.
- To decline: Type **the number adjacent to the option whose value you wish to change**. You can then change the settings on the screen.
- To abort or exit the Setup program: Type **Control-C**.

The following figure displays a sample installation screen.

Figure 2-16 Sample Install Screen

```
+-------------------------------------------------------------------+---------+
|    Module                                                         | Install |
+-------------------------------------------------------------------+---------+
|1.  Request Center                                                 | Yes     |
|2.  Demand Center                                                  | Yes     |
|3.  Advanced Reporting                                             | Yes     |
|4.  Service Link                                                   | Yes     |
+-------------------------------------------------------------------+---------+
Enter the number of the Module you wish to change, or press 'C' to continue
Module:
```

To illustrate how you can change or accept the settings:

- Type a number between 1 and 4 at the Module: prompt. The value in the Install column for the module changes from *Yes* to *No*.
- You can select more than one option at a time by entering the numbers, separated by commas, and then pressing **Enter.**

- For example, typing **2,3,4** and then pressing **Enter** would change the Install values of the last three modules to *No*. This would mean that the "Demand Center", "Advanced Reporting" and "Service Link" modules will not be installed if you proceed.
- When you are done changing the Module Install values, type **C** to proceed.
- At any point you want to abort or exit the Setup program, type **Control-C**.

The installation options settings are case-sensitive, so ensure that you enter a value, such as a database name or a JMS queue name, with case sensitivity; otherwise, your installation may fail.

Executing Setup

Step 1 Login to the Application Server machine. If you are on Windows operating system, you need to have administrative rights to the machine.

During execution, the Setup program will temporarily extract some files in a *TEMP* directory on your machine. So, make sure that you have read/write permission to the *TEMP* directory, and that the *TEMP* directory has at least 500 MB of free space. The Setup program looks for the following system environment variables (in the specified order of preference) to determine the location of the *TEMP* directory: **TMPDIR**, **TMP** or **TEMP**. The Setup program will abort if a) none of the system environment variables mentioned above exists, b) the *TEMP* directory itself does not exist, or c) the *TEMP* directory is read-only.

Step 2 Extract the electronic software distribution file that you downloaded from the Cisco web site onto the ***<ServicePortal_Software_Dir>*** on your Application Server machine, if you have not already done so.

Step 3 From a command line window, open the <*ServicePortal_Software_Dir*>\Installer directory.

Step 4 Type the appropriate command from the following table, then press **Enter**.

Table 2-9 Running the Installer

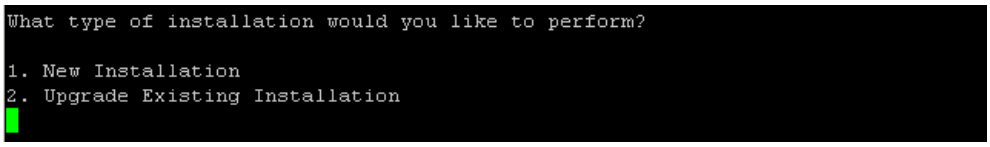
Operating System	Command
UNIX or Linux	./setup.sh
Windows	setup.bat

Step 5 First, you are prompted to enter the **Java Home directory**. Enter a directory path for Java on your application server machine, then press **Enter**. For example, enter "C:\jdk1.6.0_23" if that is the location of Sun JDK on your application server machine, or enter "C:\IBM\WebSphere\AppServer\java" if that the location of IBM Java on your WebSphere machine.

The Setup program ignores the JAVA_HOME environment variable if it is set on your machine. The Setup program will only use the Java that you specify here to execute its own Java processes. This Java Home value will also be used for the JBoss Application Server. For WebLogic or WebSphere, your application server should have already been configured to use a particular Java, prior to this section.

Step 6 Next, you are prompted to select the **type of installation**.

Figure 2-17 Select Installation Type Screen



- For a new installation, type **1** and press **Enter**.
- To upgrade an existing installation, you need to validate it first. You should switch to Chapter 4, "Upgrade Guide" and follow the instructions there. The Upgrade Guide contains instructions for validating and upgrading Service Portal to Release 9.3.1. For previous releases, you perform validation and repair from the separate Validate and Repair program, and only after the validation is successful would you be able to perform the upgrade.

Selecting **New Installation** causes the installer to overwrite any existing product database, thus erasing existing data. An **Upgrade** installation will modify the existing database but will not overwrite it.

Step 7 Next, you are prompted to enter the **destination directory**. Enter a directory name, such as "C:\CiscoServicePortal" or "/opt/ciscoserviceportal", then press **Enter**. Press **Y** to create the directory if prompted.

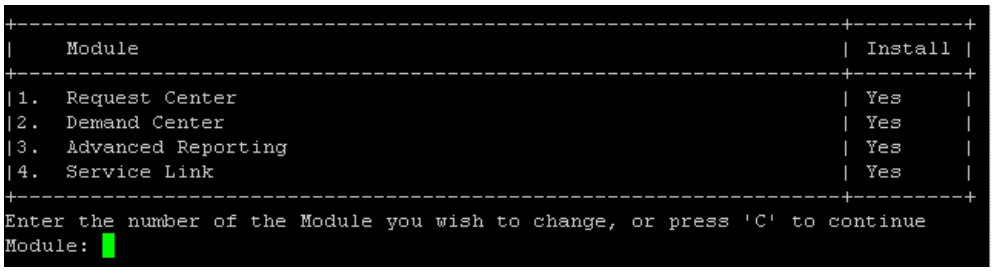
For WebLogic or WebSphere, do not enter the installation directory of your application server. It is recommended that the "destination directory" is created outside of your application server directory. In other words, do not create the destination directory under <*WL_HOME*> or <*WAS_ROOT*>.

Note **Important!** The path name for the "destination directory" must not contain any spaces.

Throughout this document, this destination directory will be referred to as ***<ServicePortal_Install_Dir>***. For JBoss, this directory is where the Setup program will install the entire JBoss Application Server, and automatically deploy the Service Portal application. For WebLogic or WebSphere, this directory is where the Setup program will create only the generated EAR and WAR files for the Service Portal application.

Step 8 Next, you are prompted to select which **Modules** to install.

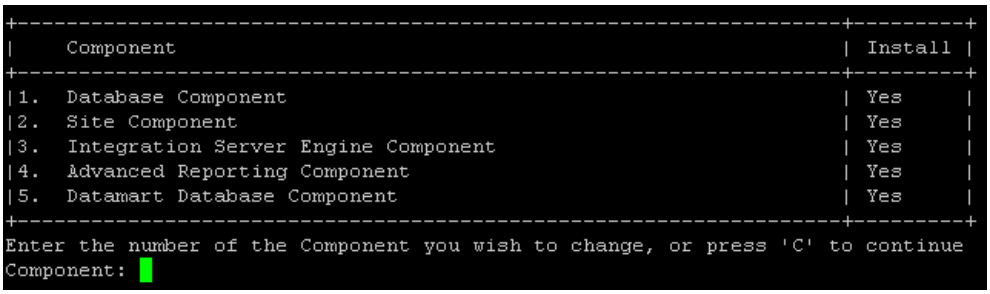
Figure 2-18 Select Modules Screen



Enter the Module Number to toggle between *Yes* and *No*. *Yes* means the Module will be installed. Module Number 1 (RequestCenter) must always be set to *Yes*. When you are ready to proceed, type **C** and press **Enter**.

Step 9 Next, you are prompted to select which **Components** to install. The list of Components displayed on this screen are based on the number of Modules selected on the last screen.

Figure 2-19 Sample Components Screen



Enter the Component Number to toggle between *Yes* and *No*. *Yes* means the Component will be installed. Typically, you want to select *Yes* for all Components displayed on this screen. (Selecting *No* for any Component is reserved only for advanced user who knows exactly what installation options he wants to perform.) When you are ready to proceed, type **C** and press **Enter**.

Step 10 Next, you are prompted to select the **type of Application Server**. Enter the number for your application server, then press **Enter**.

Figure 2-20 Application Server Screen

Step 11 Next, you are prompted to select a **Database Platform**. Enter a number for your Database, then press **Enter**.

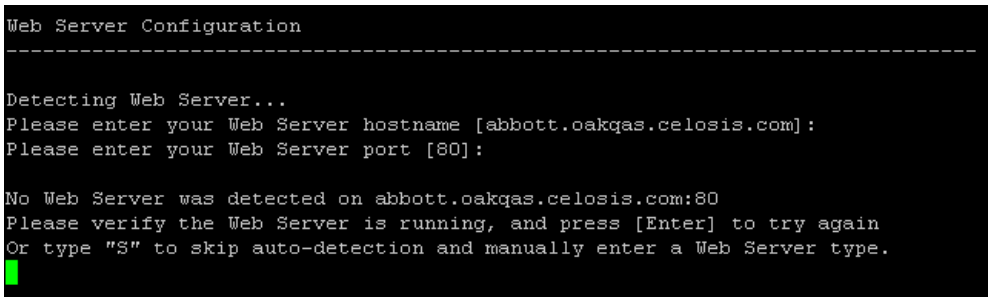
Figure 2-21 Database Platform Screen

Step 12 Next, you are prompted to enter the **Web Server hostname**. The default value displayed on the screen is the hostname of the machine you are currently on. Type the hostname of your Web Server, then press **Enter**. (If you don't use a Web Server for your installation, enter the hostname of your application server.)

Step 13 Next, you are prompted to enter the **Web Server port** number. The default value displayed on the screen is port 80. Type the port number used by your Web Server, then press **Enter**. (If you don't use a Web Server for your installation, enter the HTTP port number of your application server.)

Step 14 The Setup program will attempt to do a connection test with the Web Server. If the Setup program is unable to connect to your web server or if it is unable to determine what type of web server is used, it will display several messages on the screen that are similar to the following:

Figure 2-22 Detecting Web Server Screen



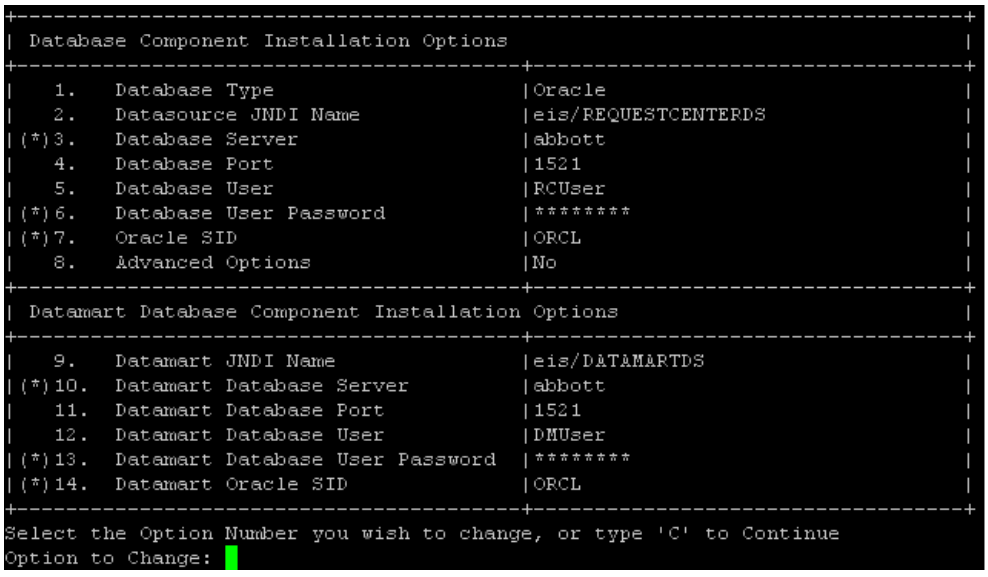
If you get these messages on the screen, type **S** (to skip) and press **Enter** to proceed.

Step 15 If you type S in the last screen, then on the next screen, you are prompted to select the **Web Server type**. Type the number for your Web Server type, then press **Enter**. Note that the list of Web Server types presented on the screen will depend on what type of Application Server you selected in a previous step.

Figure 2-23 Detecting Web Server Type Screen

Step 16 Next, the Database Component Options screen appears. Use the Database Information Worksheet and Application Server Information Worksheet that you filled out from previous sections to help you determine what configuration values to enter on this screen. You are prompted for both the RequestCenter database information and the Datamart database information.

Figure 2-24 Database Component Options Screen



The Setup program forces you to select the options with an asterisk (*) to enter a value, even if there is already a default value.

- For JBoss, the "Datasource JNDI Name" setting must have the prefix "**java:/**"; for example, "java:/REQUESTCENTERDS" and "java:/DATAMARTDS".
- For WebLogic or WebSphere, the "Datasource JNDI Name" setting must have the prefix "**eis/**"; for example, "eis/REQUESTCENTERDS" and "eis/DATAMARTDS".
- All option values (except for the *Yes*/*No* value) entered on this screen are case-sensitive.

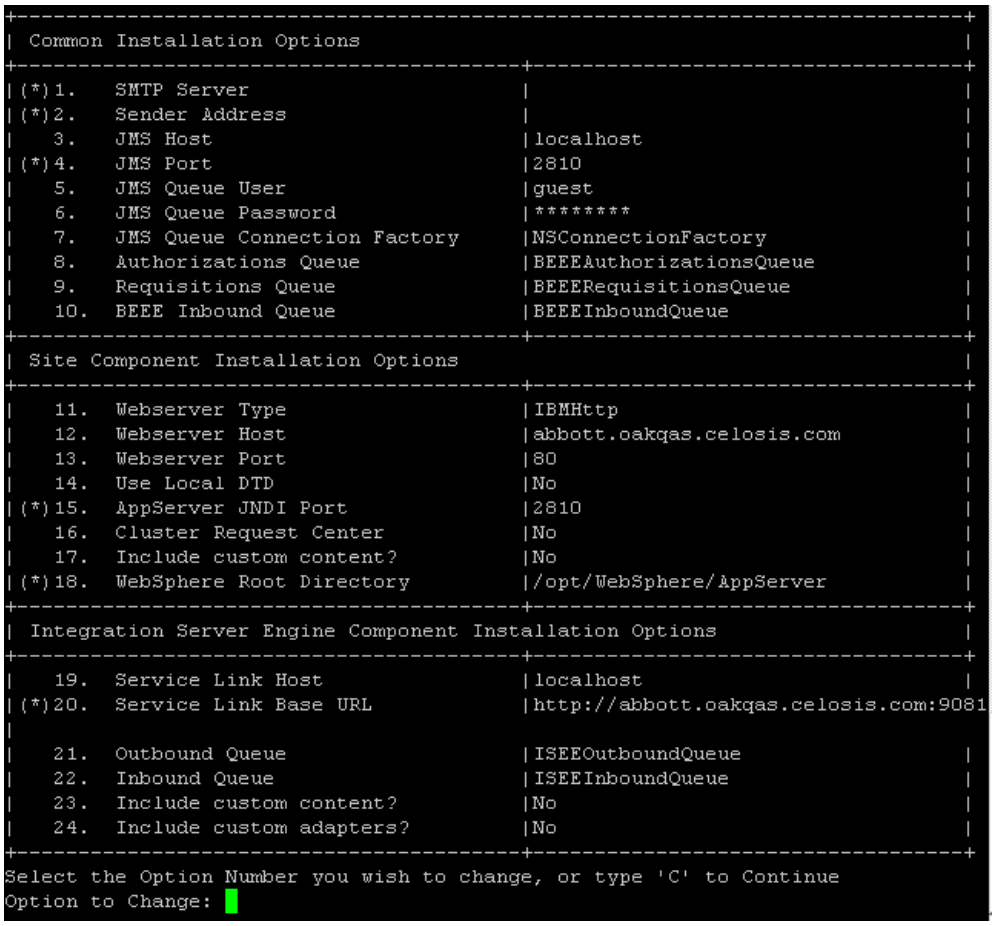
Once you finish entering all necessary values on the Database Component Installation Options screen, type **C** and press **Enter** to continue.

Step 17 The Setup program will perform a series of connection tests to your Service Portal database and Data Mart database, using the information that you just entered. If a connection test fails, the Setup program will display the message "**ERROR! Verification Failed for the Database User**" on the screen.

If you get this message, press **Enter** to return to the Database Component Installation Options screen so that you can make any necessary modifications to the database information. Or if you want to abort the Setup program at this point, enter **Q**. The information that you have entered up to this point is saved in the properties file in the "<*ServicePortal_Install_Dir*>\etc" directory. The next time you launch the Setup program and point to the same <*ServicePortal_Install_Dir*> as the destination directory, the same data that you previously entered will re-appear on each installation screen.

Step 18 If all database connection tests pass, the Application Component Options screen appears next. Use the Application Server Information Worksheet that you filled out from a previous section to help you determine what configuration values to enter on this screen.

Figure 2-25 Application Component Options Screen



The options presented on this screen will look slightly different based what type of application server you selected from a previous step. Most of the options are the same for all types of application server; but there will be one or two options that are specific to a certain type of application server.

If you selected JBoss as the application server and you are on a Windows operating system, there is an option called "**Install as Service?**" If you set it to *Yes*, the Setup program will automatically register two Windows NT services called "*CiscoServicePortal Request Center*" and "*CiscoServicePortal Service Link*" on your computer.

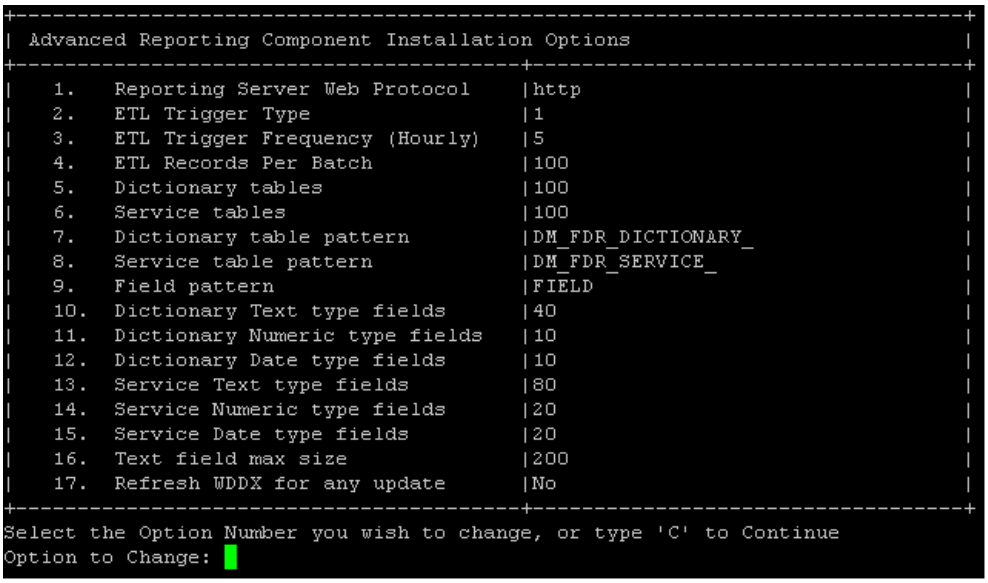
For WebSphere, you are required to enter a value for the **WebSphere Root Directory** option.

For WebLogic or WebSphere, if you plan to install Service Portal in a clustered environment, then you must select Yes for the **Cluster RequestCenter** option. The "Cluster RequestCenter" option will be expanded automatically to display several additional options that require inputs from you.

Once you finish entering all necessary values on the Application Component Options screen, type **C** and press **Enter** to continue.

Step 19 The Advanced Reporting Component Installation Options screen is displayed next. This screen appears only if you have selected *Yes* for the Advanced Reporting module on the Module screen.

Figure 2-26 Advanced Reporting Component Options Screen



The default settings presented on the screen are designed for a typical Reporting configuration of a new installation of Service Portal. If you are an expert user of the "Advanced Reporting" module, then refer to Table 2-10 below for the descriptions of the Advanced Reporting options, in order to help you determine how to adjust these values to fit your reporting needs. Otherwise, for a typical new installation, you can just leave everything unchanged on this screen, then type **C** and press **Enter** to continue.

Table 2-10 provides a brief description for each Reporting option. Should you decide that you need to modify some of the Reporting settings after the installation, there will be instructions and utilities for you to do so. See Chapter 3, "Advanced Reporting Guide" for more information.

Table 2-10 Reporting Options Settings

Option	Description
Reporting Server Web Protocol	The protocol that application server uses to communicate with Cognosserver. Do not make any changes. Default value is http.
ETL Trigger Type	Specify how the Form-Data Extraction process should be triggered: 1=hourly, 2=daily, 3=by minute Default value is 1.
ETL Trigger Frequency (Hourly)	Specify the frequency of execution. This value changes depending on the value for the "ETL Trigger Type" option. For example, if ETL Trigger=1, and ETL Trigger frequency=5, it means that the ETL process is executed every 5 hours. Default value is 5.
ETL Record Per Batch	How many records to process per batch. Default value is 100.

Table 2-10 Reporting Options Settings

Dictionary tables	Number of tables required in the Data Mart database to store the data for reportable dictionaries. One table is needed per reportable dictionary. Default value is 50.
Service tables	Number of tables required in the Data Mart database to store the data for reportable services. One table is needed per reportable service. Default value is 50.
Dictionary table pattern	The prefix for the names of the Dictionary Tables. Default value is "DM_FDR_DICTIONARY_." It is recommended to go with this prefix. If you must change the prefix, use only alphabetic characters and the underscore character. Do not use any numeric or special characters.
Service table pattern	The prefix for the names of the Service Tables. Default value is "DM_FDR_SERVICE_." It is recommended to go with this prefix. If you must change the prefix, use only alphabetic characters and the underscore character. Do not use any numeric or special characters.
Field pattern	The prefix for the field names in each table. Default value is "FIELD." It is recommended to use the default value unless there is absolute necessity to change it. This name is used create tables with field name like FIELD1, FIELD2, …,FIELDn.
Dictionary Text type fields	Number of Text type fields that are used in dictionaries based on the customer form reporting analysis. Default value is 40.
Dictionary Numeric type fields	Number of Numeric fields that are used in dictionaries based on the customer form reporting analysis. Default value is 10.
Dictionary Date type fields	Number of Date fields that are used in dictionaries based on the customer form reporting analysis. Default value is 10.
Service Text type fields	Number of Text type fields that are used in services based on the customer form reporting analysis. Default value is 80.
Service Numeric type fields	Number of Numeric fields that are used in services based on the customer form reporting analysis. Default value is 20.
Dictionary Date type fields	Number of Date fields that are used in services based on the customer form reporting analysis. Default value is 20.

Table 2-10 Reporting Options Settings

Text field max size	This parameter indicates the maximum size of dictionary and service table object varchar field size. Default value is 200.
Refresh WDDX for any update	If this option is set to Yes, the Form-Data Reporting ETL process picks up all requisition entries as and when task is updated. If this option is set to No, the Form-Data Reporting ETL process picks up only updated requisition entries when authorization tasks or delivery tasks gets completed. Default value is No.

Step 20 After the Advanced Reporting Component Installation Options screen, the Setup program has enough information to start the installation process. It will display on the screen a series of database scripts and installation tasks that are executed. This process may take up to 20 minutes to complete. Do not interrupt the Setup program during this process.

Step 21 If the Setup program completes successfully, it will display the message "**Installation has completed to** <*ServicePortal_Install_Dir*>". You can press **Enter** to exit the Setup program at this point.

Figure 2-27 Installation Has Completed Message

```
    Executing com.newscale.dbinstaller.plugins.DeleteUnselectedModules...done.
    Executing ModifySeedData-SQL.sql...done.
    Executing InsertConfInfo-SQL.sql...done.
Installing the Core Server...
Installing the JBoss Application Server...Done
Creating the RequestCenter Server...Done
Creating the ServiceLink Server...Done
wrapper  | CiscoServicePortal Request Center service installed.
wrapper  | CiscoServicePortal Service Link service installed.
Generating the Enterprise Archive (EAR) file...
Configuring ColdFusion...Done
Installing the IntegrationServer Enterprise Edition...Done
Installing the Advanced Reporting Installation files...Done

Starting Development Upgrade
    Executing DM-DropAllConstraints-SQL.sql...done.
    Executing DM-DropAllConstraintsFDRDict-SQL.sql...done.
    Executing DM-DropAllConstraintsFDRSvc-SQL.sql...done.
    Executing DM-DropAllFunctionsPost-SQL.sql...done.
    Executing Upgrade-11.2.1-DM-TruncateTables-FIRST-SQL.sql...done.
    Executing DM-CreateAllTables-SQL.sql...done.
    Executing DM-CreateAllTablesFDRDict-SQL.sql...done.
    Executing DM-CreateAllTablesFDRSvc-SQL.sql...done.
    Executing DM-CreateAllTableColumns-SQL.sql...done.
    Executing Upgrade-11.2.1-DM-ModifyColumnSize-MODCOLS-SQL.sql...done.
    Executing DM-CreateDefaultConstraints-SQL.sql...done.
    Executing DM-CreateCheckConstraints-SQL.sql...done.
    Executing DM-CreatePKeyConstraints-SQL.sql...done.
    Executing DM-CreatePKeyConstraintsFDRSvc-SQL.sql...done.
    Executing DM-CreatePKeyConstraintsFDRDict-SQL.sql...done.
    Executing DM-CreateIndexes-SQL.sql...done.
    Executing DM-DropCreateViews-SQL.sql...done.
    Executing DM-CreateFunctionsPost-SQL.sql...done.
    Executing DM-DropCreateSPsPost-SQL.sql...done.
    Executing DM-DropCreateSPsGenPost-SQL.sql...done.
    Executing DM-RestartSequences-SQL.sql...done.
    Executing Upgrade-11.2.1-DM-SeedDataUpdate-LAST-SQL.sql...done.
Please wait while Post-Install steps are completed...
Starting Service: CiscoServicePortal Request Center
Starting Service: CiscoServicePortal Service Link
Starting Service: World Wide Web Publishing Service


Installation has completed to C:\CiscoServicePortal

Press [Enter] to continue.
```

Step 22 Make a backup of the following directories:

- ***<ServicePortal_Software_Dir>*** – This is the location where you extracted the electronic distribution of the Service Portal software.
- ***<ServicePortal_Install_Dir>*** – This is the destination directory for your Service Portal software. It contains the generated EAR and WAR files for the application, as well as the properties files that contain the installation options that you have chosen during the installation. For JBoss, this directory is also where the JBoss application server is residing.

Post-Installation Configuration for JBoss

The Service Portal installer has already installed and configured the JBoss Application Server and deployed the applications automatically. It also configured the IIS web server automatically if the IIS web server resides on the same Windows machine as the JBoss server.

Starting JBoss Servers on Windows

If you installed Service Portal on Windows operating system, then the JBoss Application Server is installed in the "<*ServicePortal_Install_Dir*>\jboss-4.2.3.GA" directory.

If you selected Yes for the "Install as Service?" option during the installation of Service Portal, then to start the applications:

Step 1 Select **Start > All Programs > Administrative Tools > Services** to open the Services window on your machine.

Step 2 Select the service named **CiscoServicePortal Request Center**, and click the **Start** button (if it's not already started).

Step 3 Select the service named **CiscoServicePortal Service Link**, and click the **Start** button (if it's not already started).

Step 4 Also start the IIS Web Server if it's not running.

If you selected No for the "Install as Service?" option during the installation of Service Portal, then to start the applications:

Step 1 Open a Command Prompt window, and navigate to the "<*ServicePortal_Install_Dir*>\bin" folder.

Step 2 Execute **startRequestCenter.cmd** to launch the Request Center application in a Command Prompt window.

Step 3 Monitor the log files "jboss_out.log" and "jboss_err.log" under the "<*ServicePortal_Install_Dir*>\logs" directory to verify that the Request Center application is started without any exceptions. More log files for Request Center can be found under the "<*ServicePortal_Install_Dir*>\jboss-4.2.3.GA\server\RequestCenter\log" directory.

Step 4 Execute **startServiceLink.cmd** to launch the Service Link application in a Command Prompt window.

Step 5 Monitor the log files "servicelink_out.log" and "servicelink_err.log" under the "<*ServicePortal_Install_Dir*>\logs" directory to verify that the Service Link application is started without any exceptions. More log files for Service Link can be found under the "<*ServicePortal_Install_Dir*>\jboss-4.2.3.GA\server\ServiceLink\log" directory.

Installing Windows Services

If you selected No for the "Install as Service?" option during the installation of Service Portal, and you want to manually register the two services now, then perform the following tasks:

Step 1 Open a Command Prompt window, and navigate to the "<*ServicePortal_Install_Dir*>\bin" folder.

Step 2 Execute **installRequestCenterService.cmd**.

Step 3 Execute **installServiceLinkService.cmd**.

Starting JBoss Servers on Linux

If you installed Service Portal on Linux operating system, then the JBoss Application Server is installed in the "<*ServicePortal_Install_Dir*>/jboss-4.2.3.GA" directory. To start the JBoss servers:

Step 1 Log in to the Linux machine as "root" user.

Step 2 Cd to the "<*ServicePortal_Install_Dir*>/bin" directory.

Step 3 Execute "./**startRequestCenter.sh &**" to launch the Request Center application as a background process.

Step 4 Monitor the log files "jboss_out.log" and "jboss_err.log" under the "<*ServicePortal_Install_Dir*>/logs" directory to verify that the Request Center application is started without any exceptions. More log files for Request Center can be found under the "<*ServicePortal_Install_Dir*>/jboss-4.2.3.GA/server/RequestCenter/log" directory.

Step 5 Execute "./**startServiceLink.sh &**" to launch the Service Link application as a background process.

Step 6 Monitor the log files "servicelink_out.log" and "servicelink_err.log" under the "<*ServicePortal_Install_Dir*>/logs" directory to verify that the Service Link application is started without any exceptions. More log files for Service Link can be found under the "<*ServicePortal_Install_Dir*>/jboss-4.2.3.GA/server/ServiceLink/log" directory.

Verifying Your Installation

Perform the following tasks to verify that Service Portal is running:

Step 1 Open a browser window, and connect to the URL

http://<hostname>:8088/RequestCenter

where <*hostname*> is the machine name of your JBoss server.

If you had elected to let the Service Portal installer configure the plugin for your IIS automatically during the installation, then first verify that your IIS web server is running, and connect to the following URL to test your installation:

http://<hostname>:<webserver_port>/RequestCenter

where <*webserver_port*> is the port number used by IIS. You can omit <*webserver_port*> if the port number is 80.

Step 2 Log in as the administrator user. (For a new installation of Service Portal, the default username for the administrator user is "admin" and the default password is "admin".) The My Services home page should appear.

Step 3 Select the **Service Link** menu in the Module drop-down list now. The Service Link home page should appear.

Step 4 On the left hand side of the page, under Service Link Status, verify that the connection has a green status.

You have completed the installation for Cisco Service Portal on JBoss.

Post-Installation Configuration for WebLogic

When the Setup program is completed, it creates the following EAR and WAR files underneath the "<*ServicePortal_Install_Dir*>\dist" directory:

- RequestCenter.ear
- ISEE.war

The Setup program did not automatically deploy these EAR and WAR files on your WebLogic Server. You need to follow the instructions in this section to manually deploy these EAR and WAR files. Refer to the Application Server Information Worksheet that you completed earlier to get the parameter values needed during the deployment.

Extracting EAR and WAR Files

Step 1 Create a sub-directory called **applications** underneath the "<*BEA_HOME*>\user_projects\domain\<*your_domain*>" directory, if it does not already exist. Note that you perform this task on the computer where the WebLogic Administration Server is running.

Step 2 Create two sub-directories underneath "applications" as follows:

- RequestCenter
- ServiceLink

Step 3 Extract the EAR and WAR files (generated by the Setup program) into the new directories that you just created:

a. Unzip file "<*ServicePortal_Install_Dir*>\dist\RequestCenter.ear" into the "<*BEA_HOME*>\user_projects\domain\<*your_domain*>\applications\RequestCenter" directory.

b. Unzip file "<*ServicePortal_Install_Dir*>\dist\ISEE.war" into the "<*BEA_HOME*>\user_projects\domain\<*your_domain*>\applications\ServiceLink" directory.

Note If the RequestCenter or ServiceLink sub-directory under the "<BEA_HOME>\user_projects\domain\<*your_domain*>\applications" directory is not empty, you must first empty the entire directory before extracting the contents of the new RequestCenter.ear or ISEE.war file into it. This is because the unzip utility may only overwrite files with the same names. There may be some "remnants" of old files in your destination directory that may be inadvertently deployed.

Deploying RequestCenter.ear

Step 1 Log on to the WebLogic Administration Console.

Step 2 Start your WebLogic Server (or WebLogic Cluster) if it's not already running.

Step 3 If WebLogic was installed in PRODUCTION mode, then click the **Lock & Edit** button so that you can proceed to make changes. Otherwise, you can skip this step.

Step 4 On the left panel, click on **Deployments**.

Step 5 Click the **Install** button.

Step 6 Browse to (or enter the full pathname of) the directory "<*BEA_HOME*>\user_projects\domain\<*your_domain*>\applications."You should see the 2 sub-directories called "RequestCenter" and "ServiceLink".

Step 7 Select the radio button for **RequestCenter** and click **Next**.

Step 8 Select the **Install this deployment as an application** option, then click **Next**.

Step 9 Select your WebLogic Server (or WebLogic Cluster) as the Target, then click **Next**.

Step 10 Enter "RequestCenter" in the Name field, then click **Next**.

Step 11 Select the **No, I will review the configuration later** option, then click **Finish**. The progress indicator will begin. This may take several minutes to complete.

Step 12 Wait until the screen is refreshed to show that the "RequestCenter" application has State=Active and Health=OK. If your WebLogic Application Server was installed in PRODUCTION mode, then the State may be set to "Prepared" until you click the **Active Changes** button.

Deploying ISEE.war

Additional Configurations for Service Link in a WebLogic Cluster Environment

If you don't have a WebLogic Cluster environment, skip this section and proceed to the "Deploy Service Link Application" section on page 2-63.

If you have a WebLogic Cluster environment, then you need to modify some properties files in the extracted folder before you deploy the Service Link application on the stand-alone "Service Link WebLogic Server".

Step 1 Navigate to the "<*BEA_HOME*>\user_projects\domain\<*your_domain*>\applications\ServiceLink\WEB-INF\classes" directory.

Step 2 Modify file **RequestCenter.prop** as follows:

a. Look for the parameter "**Context.Provider.Url1=**".

b. Change the value for this parameter to include a list of the addresses for all nodes in the Cluster, separated by commas. The following example shows the setting for a cluster with two nodes:

Context.Provider.Url1=t3://m1.mydomain.com:8001,m2.mydomain.com:8001

where m1.mydomain.com:8001 and m2.mydomain.com:8001 are the WebLogic Servers that belong in a WebLogic Cluster, and this Cluster is where you have already deployed RequestCenter.ear in the last section.

Step 3 Make the same modification in file **RmiConfig.prop**:

a. Look for the parameter "**Context.Provider.Url1=**".

b. Change the value for this parameter to include a list of the addresses for all nodes in the cluster, separated by commas. The following example shows the setting for a cluster with two nodes:

Context.Provider.Url1=t3://m1.mydomain.com:8001,m2.mydomain.com:8001

where m1.mydomain.com:8001 and m2.mydomain.com:8001 are the WebLogic Servers that belong in a WebLogic Cluster, and this cluster is where you have already deployed RequestCenter.ear in the last section.

Deploy Service Link Application

Step 1 Log on to the WebLogic Administration Console.

Step 2 Start your WebLogic Server if it's not already running. (f you have a WebLogic Cluster environment, then start the "Service Link WebLogic Server". The Service Link application cannot be deployed on a Cluster.)

Step 3 If your WebLogic was installed in PRODUCTION mode, then click the **Lock & Edit** button so that you can proceed to make changes. Otherwise, you can skip this step.

Step 4 On the left panel, click on **Deployments**.

Step 5 Click the **Install** button.

Step 6 Browse to (or enter the full pathname of) the directory "<*BEA_HOME*>\user_projects\domain\<*your_domain*>\applications." You should see the 2 sub-directories called "RequestCenter" and "ServiceLink".

Step 7 Select the radio button for **ServiceLink** and click **Next**.

Step 8 Select the **Install this deployment as an application** option, then click **Next**.

Step 9 Select your WebLogic Server as the Target. (If you have a WebLogic Cluster, select the stand-alone "Service Link WebLogic Server" as the Target.) Then click **Next**.

Step 10 Enter **ServiceLink** in the Name field, then click **Next**.

Step 11 Select the **No, I will review the configuration later** option, then click **Finish**. The progress indicator will begin. This may take several minutes to complete.

Step 12 Wait until the screen is refreshed to show that the "ServiceLink" application has State=Active and Health=OK. If your WebLogic Application Server was installed in PRODUCTION mode, then the State may be set to "Prepared" until you click the **Active Changes** button.

Verifying Your Installation

Step 1 Test your installation by opening a new browser and connect to the following URL:

http://<*AppServer_Host*>:<*Port*>/RequestCenter

where <*AppServer_Host*> = the host name of your WebLogic Server, and <*Port*> = the port number used by your WebLogic Server.

For example,

http://m1.cisco.com:8001/RequestCenter

Step 2 Log in as the administrator user. (For a new installation of Service Portal, the default username for the administrator user is "admin" and the default password is "admin".) The My Services home page should appear.

Step 3 Select the **Service Link** menu in the Module drop-down list. The Service Link home page should appear.

Step 4 On the left hand side of the page, under Service Link Status, verify that the connection has a green status.

You have completed the installation for Cisco Service Portal on WebLogic.

Configuring Web Server

At this time, you should configure the plugin for your Web Server to point to your WebLogic Server (or your WebLogic Cluster). The following Web Server are supported with WebLogic Server:

- Apache 2.2
- IIS 7.5

This document does not contain instructions on how to configure your Web Server Plugin. Any plugin configurations between your Web Server and WebLogic are not handled by the Service Portal installer program. There is no Cisco library or binary that needs to be installed or configured on your Web Server installation. You should follow instructions provided by either Oracle (for WebLogic Plugin) or by the vendor of your web server.

This section contains only examples of the settings that you may want to add to your web server configuration file.

The following are examples for the settings for **Apache 2.2 Web Server**. Add the following entries to the end of file **httpd.conf**:

```
LoadModuleweblogic_module modules/mod_wl_22.so

<IfModulemod_weblogic.c>
WebLogicHostm1.mydomain.com
WebLogicPort 8001
</IfModule>

<Location /RequestCenter>
```

```
SetHandlerweblogic-handler
PathTrim /
</Location>
```

The following are examples for the settings for **IIS 7.5 Web Server**. Add the following entries to file **iisproxy.ini**:

```
WebLogicHost=m1.mydomain.com
WebLogicPort=8001
ConnectTimeoutSecs=20
ConnectRetrySecs=5
KeepAliveEnabled=true
KeepAliveSecs=20
WlForwardPath=/RequestCenter
```

After you complete the Plugin configuration, you need to restart both the Web Server and the WebLogic Application Server.

Repeat the steps described in the "Verifying Your Installation" section on page 2-64 to verify that your Web Server plugin is configured correctly to point to your WebLogic Server. However, this time connect to the following URL =

http://<*WebServer_Host*>:<*WebServer_Port*>/RequestCenter

where<*WebServer_Host*> = the host name of your Web Server, and <*WebServer_Port*> = the port number used by your Web Server (omit the port number if it's set to 80).

For example,

http://webserver.cisco.com/RequestCenter

Post-Installation Configuration for WebSphere

When the Service Portal installer program is completed, it creates one EAR file and one WAR file underneath the <*ServicePortal_Install_Dir*>/dist directory:

- RequestCenter.ear
- ISEE.war

The installer program did not automatically deploy the EAR and WAR files on your WebSphere Server. You will need to follow the instructions in this section to manually deploy the EAR and WAR files. Refer to the Application Server Information Worksheet that you completed earlier to get the parameter values needed during the deployment.

Deploying RequestCenter.ear

Step 1 Log on to the WebSphere Administration Console.

Step 2 Start your WebSphere Server (or WebSphere Cluster) if it's not already running.

Step 3 Expand **Applications > Application Types**, and click **WebSphere enterprise applications**.

Step 4 On the right panel, click the **Install** button. The "Path to the new application" page appears.

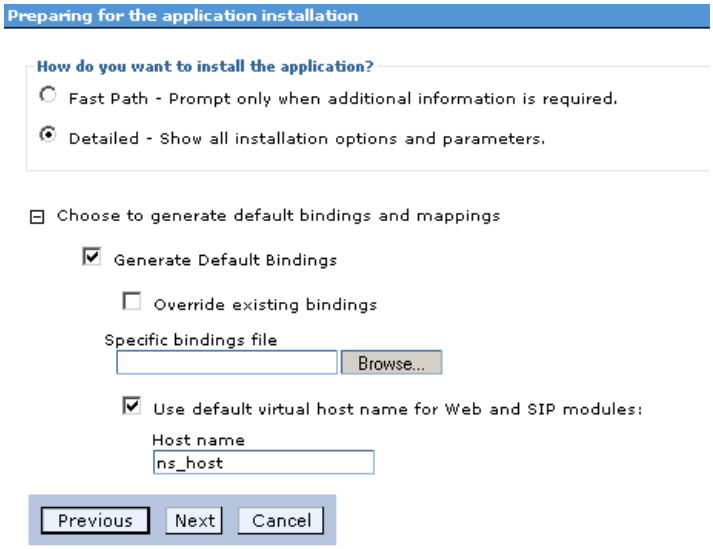
Step 5 If your browser is running on the same machine where <*ServicePortal_Install_Dir*> resides, then select the **Local file system** option. Otherwise, select the **Remote file system** option.

Step 6 Click the **Browse** button, and navigate to the "<*ServicePortal_Install_Dir*>/dist" directory.

Step 7 Select **RequestCenter.ear** and click **OK**.

Step 8 Click **Next**. The "How do you want to install the application?" page appears.

Figure 2-28 Generate Default Bindings



Step 9 Perform the following tasks on this page:

a. Select the **Detailed** option.

b. Expand **Choose to generate default bindings and mappings**.

c. Select the **Generate Default Bindings** option.

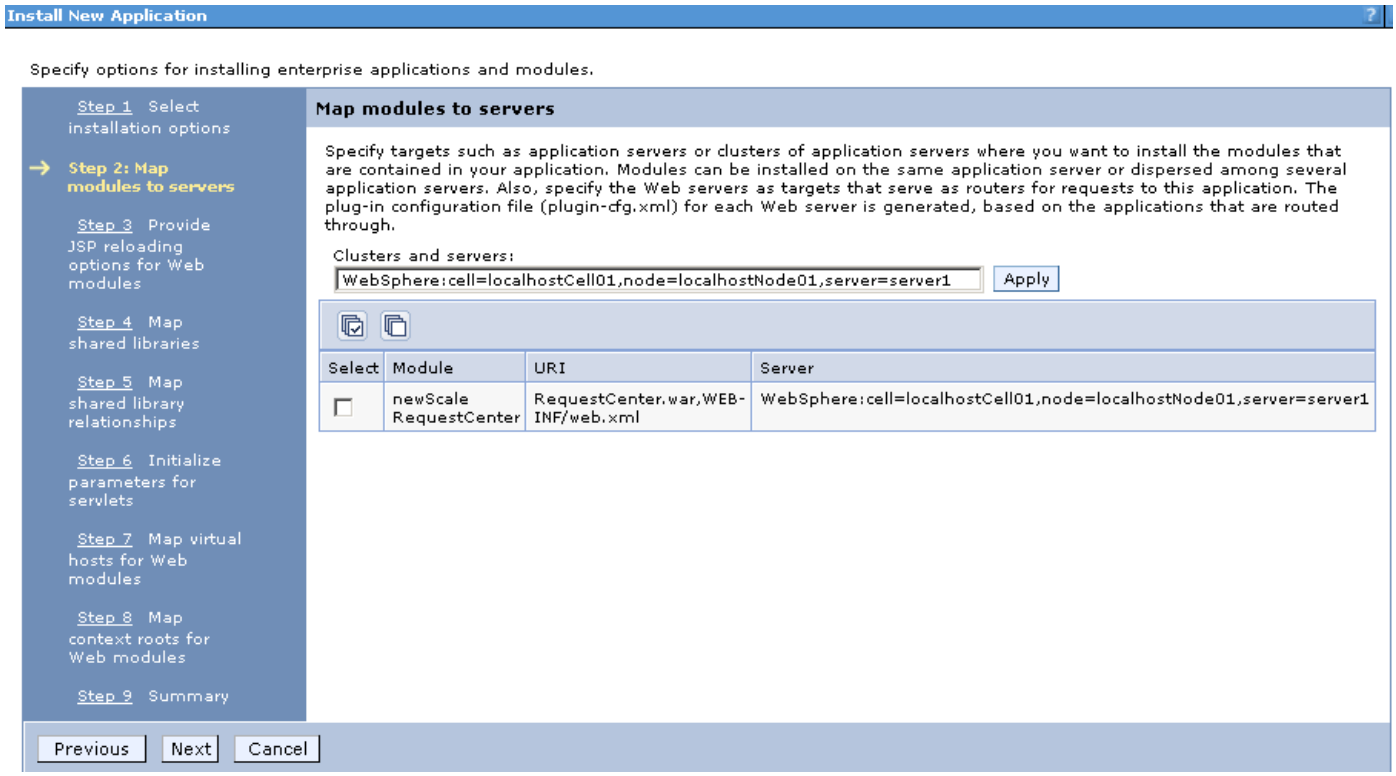
d. Select the **Use default virtual host name for Web and SIP modules** option.

e. Enter **ns_host** in the Host Name field.

Step 10 Click **Next**. The "Step 1: Select installation options" page appears.

Step 11 Do not make any changes. Click **Next**. The "Step 2: Map modules to servers" page appears.

Figure 2-29 Map Modules to Servers



Step 12 Perform the following tasks on this page:

a. First, select your WebSphere Server name (or WebSphere Cluster name) in the "Clusters and servers" drop-down list.

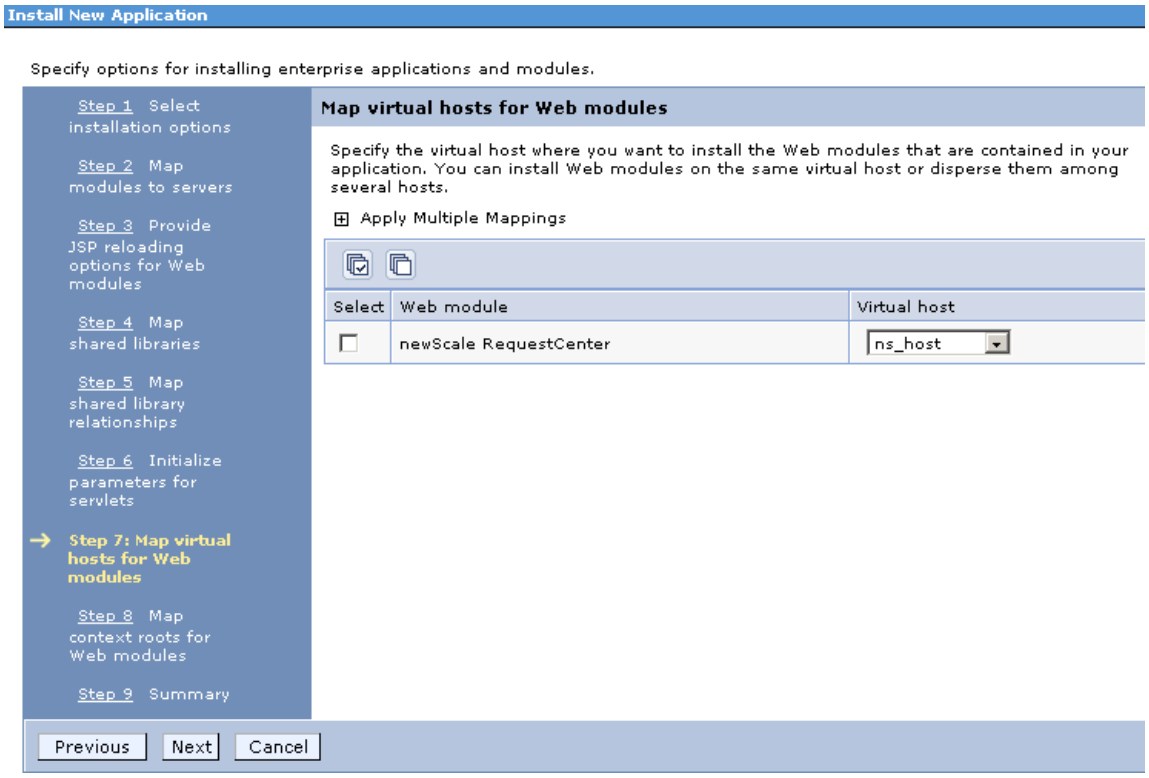
b. Next, click the **Select All** icon in the table header. This will automatically select all of the rows in the table.

c. Next, click the **Apply** button next to the "Clusters and servers" drop-down list. This will automatically set the value in the Server column in the table to the selected WebSphere Server name (or WebSphere Cluster name).

Step 13 Click **Next**.

Step 14 Skip Steps 3–6, and go directly to Step 7 by clicking the **Step 7: Map virtual hosts for Web modules** link on the left panel.

Figure 2-30 Map Virtual Hosts for Web Modules



Step 15 Select **ns_host** in the "Virtual host" drop-down list.

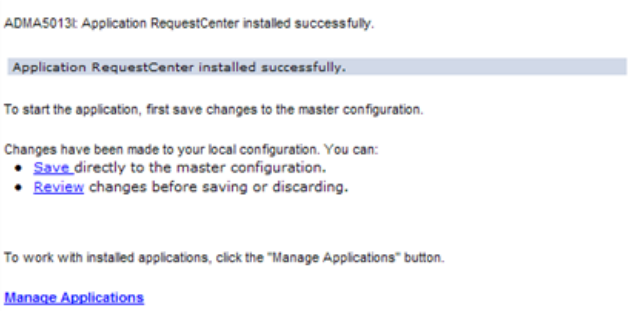
Step 16 Click **Next**.

Step 17 On the "Step 8: Map context roots for Web modules" page, verify that the value for **Context Root** is set to **/RequestCenter**. Do not make any changes on this page. Click **Next**.

Step 18 On the "Step 9: Summary" page, click **Finish**.

Step 19 The installation process for "RequestCenter.ear" begins. This process may take a few minutes to complete. Once you see the message "**Application RequestCenter installed successfully**" displayed on the screen, click **Save** directly to the master configuration.

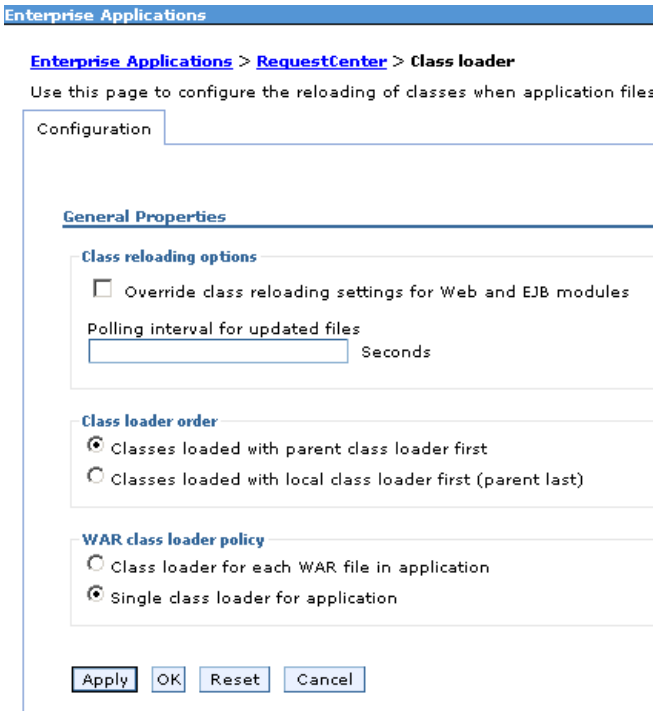
Figure 2-31 Application Installed Successfully



Step 20 On the Enterprise Applications page, click the newly created **RequestCenter** link to open its Configuration page.

Step 21 Under the Detail Properties section, click the **Class loading and update detection** link. The "RequestCenter > Class loader" page appears.

Figure 2-32 Class Loader



Step 22 Select the **Single class loader for application** option.

Step 23 Click **OK**.

Step 24 Click **Save** directly to the master configuration.

Deploying ISEE.war

Step 1 Log on to the WebSphere Administration Console.

Step 2 Expand **Applications > Application Types**, and click **WebSphere enterprise applications**.

Step 3 On the right panel, click the **Install** button. The "Path to the new application" page appears.

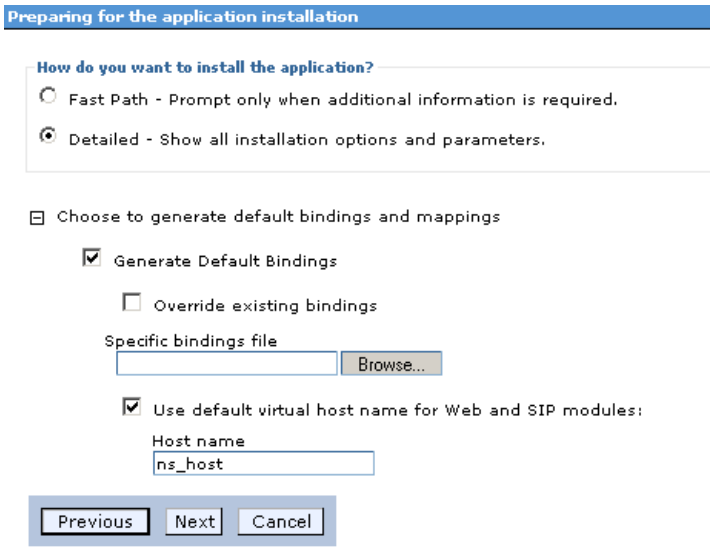
Step 4 If your browser is running on the same machine where <*ServicePortal_Install_Dir*> resides, then select the **Local file system** option. Otherwise, select the **Remote file system** option.

Step 5 Click the **Browse** button, and navigate to the <*ServicePortal_Install_Dir*>/dist directory.

Step 6 Select **ISEE.war**, and click **OK**.

Step 7 Click **Next**. The "How do you want to install the application?" page appears.

Figure 2-33 Generate Default Bindings



Step 8 Perform the following tasks on this page:

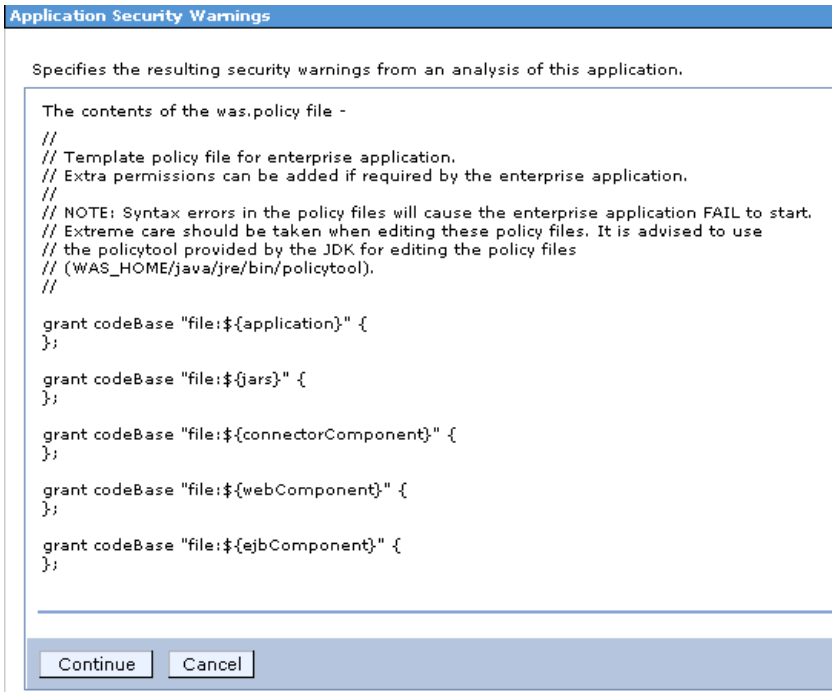
- Select the **Detailed** option.
- Expand **Choose to generate default bindings and mappings**.
- Select the **Generate Default Bindings** option.
- Select the **Use default virtual host name for Web and SIP modules**option.
- Enter **ns_host** in the Host Name field.

Note If you have a WebSphere Cluster environment, then select **sl_host** instead of "ns_host" for Host Name, because "ns_host" is mapped to the WebSphere Cluster, and "sl_host" is mapped to the "Service Link WebSphere Server".

Step 9 Click **Next**.

Step 10 If the following Application Security Warnings page appears, you can safely ignore it and click **Continue**.

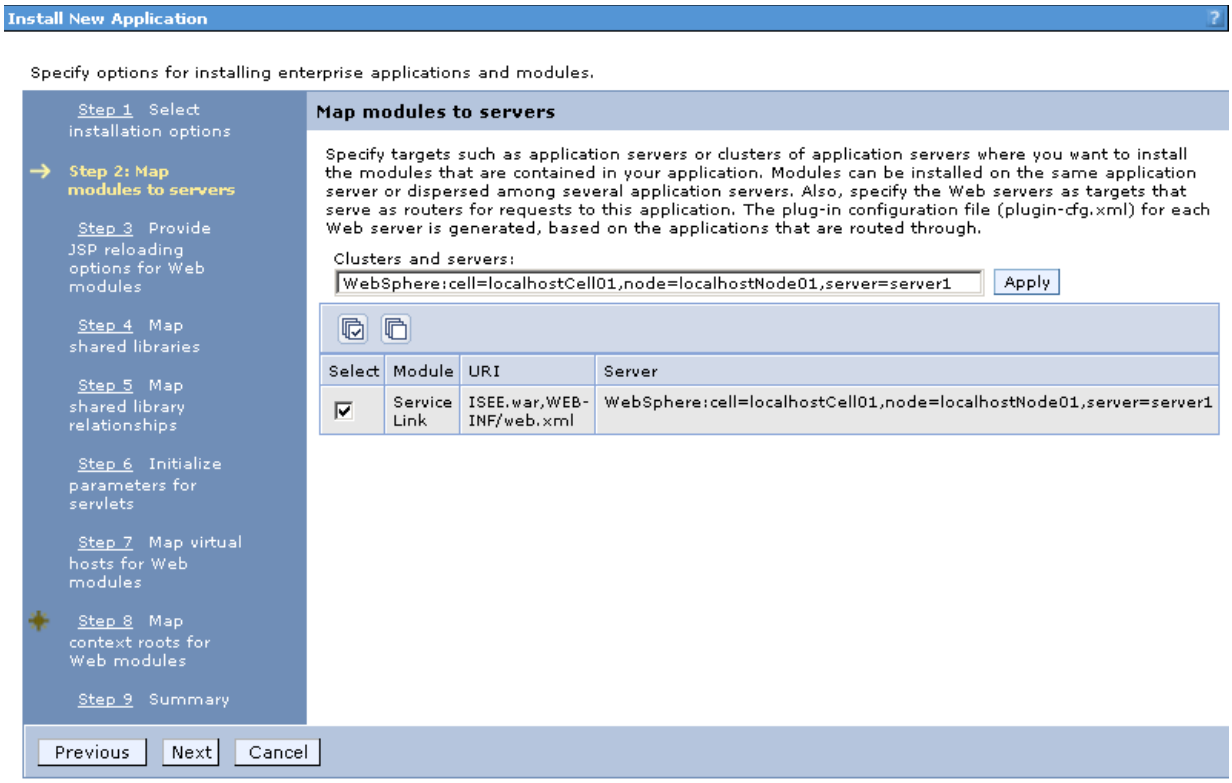
Figure 2-34 Application Security Warnings



Step 11 On the "Step 1: Select installation options" page, enter **ServiceLink** in the "Application name" field, overwriting the existing value.

Step 12 Click **Next**. The "Step 2: Map modules to servers" page appears.

Figure 2-35 Map Modules to Servers



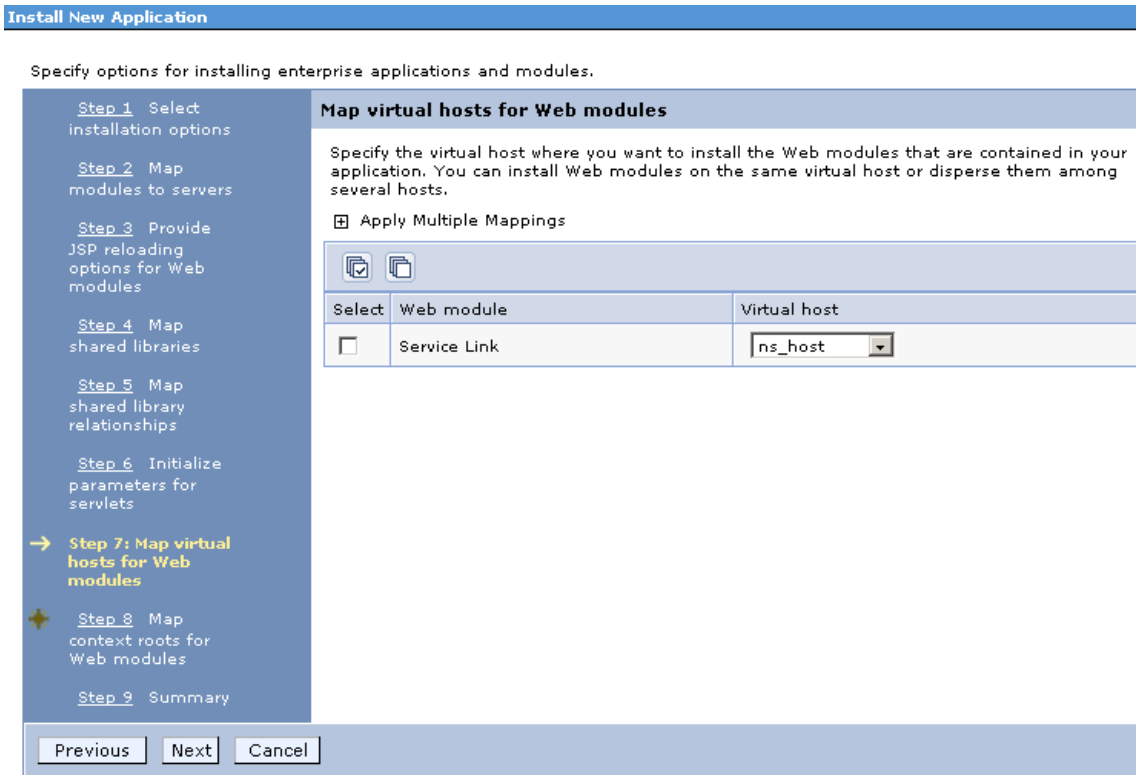
Step 13 Perform the following tasks on this page:

- First, select your WebSphere Server name in the “Clusters and servers” drop-down list. If you have a WebSphere Cluster environment, then make sure you select the “Service Link WebSphere Server”.
- Next, click the **Select All** icon in the table header. This will automatically select all of the rows in the table.
- Next, click the **Apply** button next to the “Clusters and servers” drop-down list. This will automatically set the value in the Server column in the table to the selected WebSphere Server name.

Step 14 Click **Next**.

Step 15 Skip Steps 3–6, and go directly to Step 7 by clicking the **Step 7: Map virtual hosts for Web modules** link on the left panel.

Figure 2-36 Map Virtual Hosts for Web Modules



Step 16 Select **ns_host** in the "Virtual host" drop-down list. If you have a WebSphere Cluster environment, select **sl_host** instead of "ns_host".

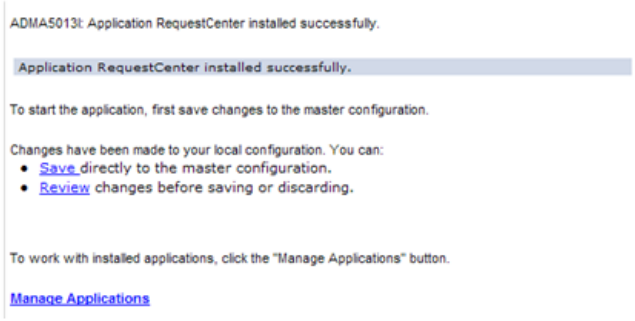
Step 17 Click **Next**.

Step 18 On the "Step 8: Map context roots for Web modules" page, enter the value **/IntegrationServer** in the Context Root field. Then, click **Next**.

Step 19 On the "Step 9: Summary" page, click **Finish**.

Step 20 The installation process for "ISEE.war" begins. This process may take a few minutes to complete. Once you see the message "**Application ServiceLink installed successfully**" displayed on the screen, then click **Save** directly to the master configuration.

Figure 2-37 Application Installed Successfully



Configuring Service Link in Clustered Environment

If you have a WebSphere Cluster environment, then you need to perform the tasks described in this section to manually modify the properties for Service Link so that it can properly communicate with the multiple WebSphere Servers in the Cluster.

Step 1 Make sure the "ServiceLink" enterprise application is stopped.

Step 2 On the machine where the "Service Link WebSphere Server" resides, navigate to the following directory: <*WAS_INSTALL_ROOT*>/profiles/AppSrv01/installedApps/<*Cell_Name*>/ServiceLink.ear/ISEE.war/WEB-INF/classes.

Step 3 Modify file **RequestCenter.prop** as follows:

Change the line

Context.Provider.Url1=iiop://localhost:<*port*>

to

Context.Provider.Url1=corbaloc::<*hostname1*>:<*port*>,:<*hostname2*>:<*port*>

where <*hostname1*> is the fully qualified domain host name of the first node in your Cluster followed by its BOOTSTRAP_ADDRESS port number, <*hostname2*> is the fully qualified domain host name of the second node in your Cluster followed by its BOOTSTRAP_ADDRESS port number, etc...

The following is an example for a Cluster that has two nodes:

Context.Provider.Url1=corbaloc::sam1.cisco.com:2810,:sam2.cisco.com:2810

Step 4 Make the same modification for file **RmiConfig.prop** as follows:

Change the line

Context.Provider.Url1=iiop://localhost:<*port*>

to

Context.Provider.Url1=corbaloc::<*hostname1*>:<*port*>,:<*hostname2*>:<*port*>

where <*hostname1*> is the fully qualified domain host name of the first node in your Cluster followed by its BOOTSTRAP_ADDRESS port number, <*hostname2*> is the fully qualified domain host name of the second node in your Cluster followed by its BOOTSTRAP_ADDRESS port number, etc...

The following is an example for a Cluster that has two nodes:

Context.Provider.Url1=corbaloc::sam1.cisco.com:2810,:sam2.cisco.com:2810

Since the ServiceLink enterprise application is deployed in the "Service Link WebSphere Server" which does not belong in the WebSphere Cluster, the modifications for the **Context.Provider.Url1** property as described above allows the ServiceLink server to communicate with all of the RequestCenter servers in the Cluster, in a round-robin manner.

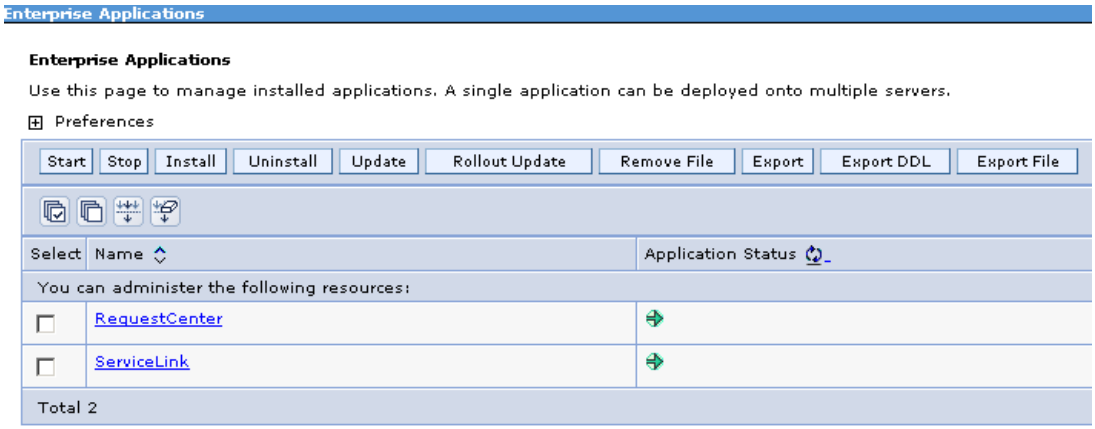
Starting Service Portal Applications

Step 1 Log on to the WebSphere Administration Console.

Step 2 Expand **Applications > Application Types**, and click **WebSphere enterprise applications**. On the right panel, you should see two newly created applications named "**RequestCenter**" and "**ServiceLink**".

Step 3 Select both applications and click the **Start** button.

Figure 2-38 Start Enterprise Applications



Step 4 Verify that the **Application Status** for all both applications is green.

Verifying Your Installation

Step 1 Test your installation by opening a new browser and connect to the following URL:

http://<*AppServer_Host*>:<*Port*>/RequestCenter

where <*AppServer_Host*> is the host name of the WebSphere Server machine, and

<*Port*> is the *WC_defaulthost* port number for the WebSphere Server where RequestCenter.ear was deployed.

Step 2 Log in as the Service Portal administrator user. (For a brand new installation of Service Portal, the default username for the administrator user is “admin”, and the default password is “admin”.) The My Services home page should appear.

Step 3 Select **Service Link** in the Module drop-down list at the upper right hand corner of the screen, next to the Logout button. The Service Link home page should be displayed.

Step 4 On the left hand side of the page, under Service Link Status, verify that the connection has a green status.

You have completed the installation for Cisco Service Portal on WebSphere.

Configuring Web Server

At this time, you should configure the plugin for your Web Server to point to your WebSphere Server (or your WebSphere Cluster). The following Web Server are supported with WebSphere Application Server:

- IBM HTTP Server 7.0
- Apache 2.2

- IIS 7.5

This document does not contain instructions on how to configure your Web Server Plugin. Any plugin configurations between your Web Server and WebSphere are not handled by the Service Portal installer program. There is no Cisco library or binary that needs to be installed or configured on your Web Server installation. You should follow instructions provided by either IBM (for WebSphere Plugin) or by the vendor of your Web Server to configure the plugin.

This section describes only examples of the settings that you may want to add to your Web Server configuration file. The following is an example for the settings for **IBM HTTP Server v7.0**: (Note that all directory names shown below are only examples.)

Add the following entries to the end of file **httpd.conf**:

```
LoadModule was_ap22_module
/opt/IBM/HTTPServer/Plugins/bin/32bits/mod_was_ap22_http.so
WebSpherePluginConfig
/opt/IBM/WebSphere/AppServer/profiles/Dmgr01/config/cells/plugin-cfg.xml
```

Re-generating Plugin Config File

After you deployed RequestCenter.ear and ISEE.war, you need to re-generate the WebSphere Plugin Configuration file so that it will pick up all of the new application names, port numbers and virtual host names that you have configured for Service Portal.

Step 1 On the machine where your WebSphere Deployment Manager server is running, navigate to the directory "<*WAS_INSTALL_ROOT*>/profiles/Dmgr01/bin."

Step 2 Execute the following script:

- (*For Windows*) **GenPluginCfg.bat**
- (*For UNIX or Linux*) **./GenPluginCfg.sh**

This will modify file **plugin-cfg.xml**, which is usually located in the "<*WAS_INSTALL_ROOT*>/profiles/Dmgr01/config/cells" directory. In the example above for IBM HTTP Server v7.0, the parameter **WebSpherePluginConfig** that you added to the end of the **httpd.conf** file references this plugin-cfg.xml file. If your IBM HTTP Server is running on a different machine than your WebSphere Deployment Manager, then copy this plugin-cfg.xml file to your IBM HTTP Server machine, and set the WebSpherePluginConfig parameter to point to the plugin-cfg.xml file on your IBM HTTP Server machine.

You must also restart your IBM HTTP Server in order for it to pick up the changes.

Repeat the Steps described in the "Verifying Your Installation" section on page 2-75 to verify that your Web Server plugin is configured correctly to point to your WebSphere Application Server. However, this time connect to the following URL =

http://<*WebServer_Host*>:<Webserver_*Port*>/RequestCenter

where <*WebServer_Host*> is the host name of the web server machine, and <*WebServer_Port*> is the port number used by the web server.

CHAPTER 3

Advanced Reporting Guide

Overview

This chapter describes how to use the various installer utilities developed by Cisco to install the Cognos software components and integrate them with the Cisco Service Portal application.

Cognos environment is comprised of an application server and a database server.

- An application server is the computer where you install the IBM Cognos software, and execute the configuration scripts to integrate Cognos with the Cisco Service Portal application.
- A database server is the computer where the ContentStore database resides.

The following sections describe the prerequisites for the Cognos application server and database server.

Intended Audience

This chapter is intended for system administrators and systems integrators responsible for installing and configuring Service Portal products. This chapter assumes familiarity with the installation and configuration of Cognos and related components.

Cognos Application Server Requirements

Operating Systems

- IBM Cognos version 8.4.1 software must be installed on a computer that is running Windows Server 2008 R2 (64-bit) operating system.

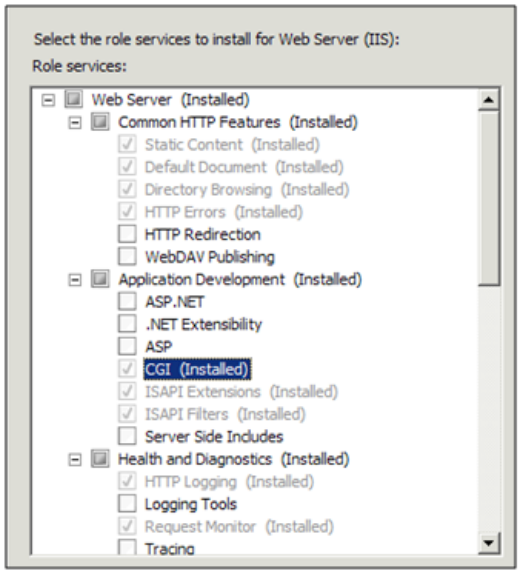
- It is recommended but not required that the Cognos application server is a separate computer from the Cisco Service Portal application. However, if the Cisco Service Portal application is running on a UNIX or Linux computer, then the Cognos application server must be a separate machine with Windows operating system.

Memory and Disk Space

- The application server must have at least 2 GB RAM and 2.5 GB of free disk space.
- There must be at least 1 GB of free disk space on the drive that contains the %TEMP% directory, if this is different from the drive when you plan to install the Cognos software.

Internet Information Services (IIS)

- The “Web Server (IIS)” role must be installed on the Cognos application server.
- The “World Wide Web Publishing Service” is configured to startup automatically.
- IIS must have a site named “Default Web Site”.
- The following role services must be enabled for IIS:
  - CGI
  - ISAPI Extensions
  - ISAPI Filters



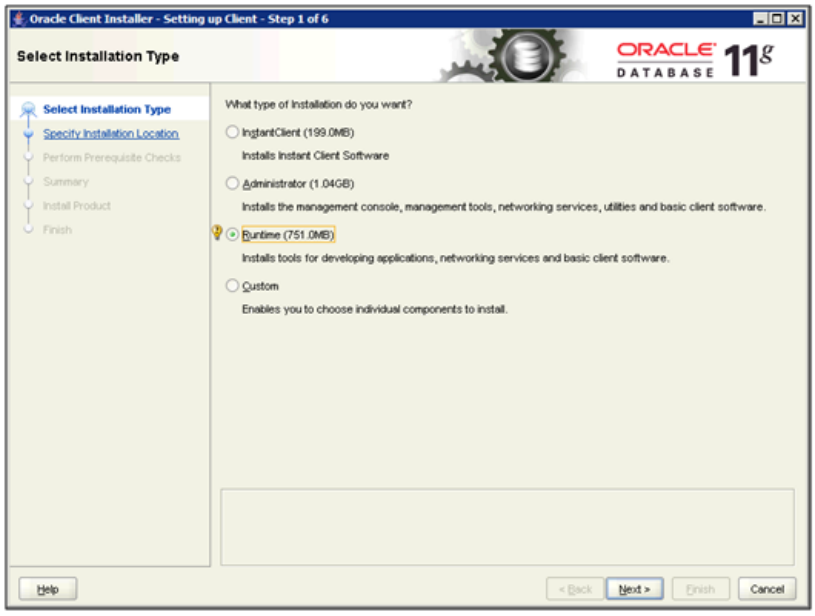
Internet Explorer

- Only Microsoft Internet Explorer version 7 (IE7) or version 8 (IE8) is supported. Use an IE7 or IE8 browser when accessing the Cognos UI or the “Advanced Reporting” module inside of Cisco Service Portal application.

- The following browser settings must be enabled:
  - Accept third-party cookies
  - JavaScript
  - Run ActiveX controls and plug-ins
  - Script ActiveX controls marked safe for scripting
  - Active scripting
  - Allow META REFRESH

Database Client Connectivity

- The appropriate Database Client Connectivity software must be installed on the Cognos application server, and pre-configured to connect to all 3 databases: RequestCenter database, Datamart database and ContentStore database.
- **For Oracle 11g**: The Oracle Client 11.2.0.1 (32-bit) software is required. The Cognos software installation is not bundled with the necessary JDBC driver to connect to an Oracle database. Thus, if the ContentStore database is on Oracle, you must install the Oracle Client software on the Cognos application server. When installing Oracle Client 11.2.0.1, select the "Runtime" option:



After installing Oracle Client software, you must launch the Net Configuration Assistant program, and configure the "Local Net Service Name" for the Oracle server where the ContentStore database resides. Furthermore, conduct a test using SQL*Plus to verify that you are able to connect to all 3 databases: RequestCenter, Datamart and ContentStore.

- **For Microsoft SQL Server 2008 R2**: The SQL Server 2008 R2 Client Connectivity software is not required. The Cognos installation is already bundled with the necessary JDBC driver to connect to the SQL Server database server.

Other Requirements

- You must log in as a user with administrative privileges on the application server to install the Cognos software. This user must also have read and write permission to the %TEMP% directory.
- The following machines must all be set to the same timezone:
  - The Cisco Service Portal application server
  - The Cognos application server
  - The database server where the following databases reside: RequestCenter, Datamart and ContentStore
- If Symantec Antivirus is installed on the application server, it must be at version 10.0.2.2000 or later.
- A domain name system (DNS) should have been configured for the computer. The Primary DNS suffix of the hostname must be assigned to an appropriate value (for example, *mydomain.com*) and the hostname should resolve to the fully qualified domain name (for example, "ping *myserver*" should resolve to *myserver.mydomain.com*).
- The Service Portal application server and the Cognos application server must belong in the same domain. For example, if the Service Portal application server was installed on a computer in the domain called *mydomain.com*, then the Cognos application server must also belong in the same domain *mydomain.com*.
- Throughout this installation process, whenever you have to enter a host name or a server name, you must enter it as a fully qualified domain name. For example, do not enter "*localhost*," or *"cognosserver"*; instead, enter *"cognosserver.mydomain.com"*. When you connect to Service Portal, you must also enter the fully qualified domain name in the URL, for example, *http://ciscoserviceportal.mydomain.com/RequestCenter.*
- Throughout this installation process, whenever you open a Command Prompt window to execute any script, make sure you increase the Command History Buffer Size (to something like 999) so that you can view the entire output on the Command Prompt window. Not all output is captured in the installation log file.

Cognos Database Server Requirements

The Advanced Reporting module requires access to three databases:

- The RequestCenter database
- The Datamart database
- The ContentStore database

The first two databases have already been created prior to running the Setup program for the Service Portal application. The third database, ContentStore, is required exclusively for the Cognos software. The next section describes how to create the ContentStore database on either Oracle 11g or SQL Server 2008 R2.

The ContentStore database must be on the same type and version of RDBMS as the RequestCenter database. For example, if the RequestCenter database is on Oracle 11g, then the ContentStore database must also be created on Oracle 11g. If the RequestCenter database is on SQL Server 2008 R2, then the ContentStore database must also be created on SQL Server 2008 R2.

The database server must be configured to support TCP/IP protocol for client connectivity, and must be accessible from the Cognos application server.

The database administrator must back up the ContentStore database regularly because it contains all of the Cognos data, including custom reports and views as well as saved reports. To ensure the security and integrity of the ContentStore database, it is also important to protect the database from unauthorized or inappropriate access.

Creating ContentStore Database for Oracle 11g

1. Ensure that the Oracle SID value does not contain the underscore character. Also ensure that the Oracle Service Name and Oracle SID have the same value.
2. The Oracle database must be configured to use a Unicode character set (i.e. either UTF-8 or UTF-16). To determine if the database's character set is Unicode, execute the following sql command:

   ```
   SELECT VALUE FROM NLS_DATABASE_PARAMETERS WHERE PARAMETER='NLS_CHARACTERSET';
   ```

   If the returned value for the NLS_CHARACTERSET parameter is either AL32UTF8 or AL16UTF16, then your Oracle database supports Unicode. Otherwise, you need to create a new Oracle database, and specify the character set to be either AL32UTF8 or AL16UTF16 at creation time.
3. The ORACLE parameter CURSOR_SHARING must be set to EXACT. Execute the following command to find out what value the parameter CURSOR_SHARING is set to:

   ```
   SHOW PARAMETER CURSOR_SHARING;
   ```

   If CURSOR_SHARING is not set to EXACT, you can use the following command to change it:

   ```
   ALTER SYSTEM SET CURSOR_SHARING=EXACT SCOPE=BOTH SID='*';
   ```
4. The schema for ContentStore must be separate from the schema for the RequestCenter database or the Datamart database. However, it is OK for the ContentStore schema to reside on the same Oracle instance as the RequestCenter schema.
5. Create a database user account called “CSUser”, which will be used by the Cognos application server to access the ContentStore database at runtime.
6. Grant the following permissions to the database user account “CSUser”:
   - CONNECT to the database
   - CREATE/ALTER/DROP tables, triggers, views, procedures, and sequences
   - INSERT/UPDATE/DELETE data in the ContentStore tables

Creating ContentStore Database for Microsoft SQL Server 2008 R2

1. SQL Server must be installed as “Default Instance”. It cannot be a “Named Instance”.
2. SQL Server must be configured with mixed-mode authentication (that is, allows both SQL Server authentication and Windows authentication).
3. Create a database named ContentStore. (Database name must not contain space.) ContentStore must be a separate database from the RequestCenter database or the Datamart database. However it is OK for the ContentStore database to reside on the same SQL Server instance as the RequestCenter database.
4. Ensure that the database collating sequence is case-insensitive.

5. Create a database user account called “CSUser”, which will be used by the Cognos application server to access the ContentStore database at runtime.

Note CSUser must be a SQL Server login account that authenticates to the SQL Server using SQL Server authentication method, and not Windows authentication method.

6. Assign the database user account “CSUser” as the db_owner of the “ContentStore” database.

Sizing the ContentStore Database

The size of the ContentStore database depends on a number of factors:

- Number of concurrent users
- Number of saved reports (plus number of pages/rows/images per report)
- Number of saved report views (plus number of pages/rows per report)
- Format of the reports (PDF, HTML, and so on)

The following guidelines, adapted from an article published in the Cognos Knowledge Base, may help you estimate database sizing requirement, based on usage estimates from the above parameters.

ContentStore sizing is a function of:

- System space: transaction logs; Cognos estimates 3,000,000 KB for a database with 250 active users.
- Temporary space: required to generate reports; estimate 100,000 KB per concurrent user.
- Data space: required to hold reports and views saved by users; user folders; and the Framework Manager models on which the reports are based.
- The total number of saved reports and views is a major factor in terms of ContentStore sizing, and the most difficult to predict. This can be partially controlled by Cognos Administrators limiting the number of versions of a report that can be saved by each user.
- The size of each saved report is based on the number of report pages. Factors that may influence the average size of a report include number of pages; formatting and text selection; and the inclusion of images. Cognos estimates that following requirements for saved objects which users may create.
- Cognos also estimates the number of each of these saved objects that a “typical” user is likely to maintain. Multiplying these numbers by the storage requirements for each object yields an estimate for volume- (user-)dependent storage requirements for data space within the ContentStore.

Object	Storage Requirements (Estimate)	# Per User
Saved Report, PDF format, 1-10 pages	340 KB	2
Saved Report, PDF format, 10-100 pages	440 KB	9
Saved View, 1-100 rows	250 KB	3
Saved View, 100-1000 rows	350 KB	8
Schedule (daily or weekly)	30 KB	2

- You need only multiply these requirements by the number of Cognos users to estimate this most volatile aspect of disk usage.

Installing Cognos Software

This section describes how to install the Cognos 8.4.1 Software.

Note You must log in as a user with administrative privileges to perform the installation tasks described in this section.

Downloading Cognos Software

Step 1 Access the Cisco product download web site and authenticate with the user name and password provided to you.

Step 2 Search for the product name "Cisco Request Center Reporting", or navigate within the product selector to locate the Cognos Business Intelligence installer and fixed packs. (Navigation: **Products > Network Management and Automation > Data Center Management and Automation > Intelligent Automation > Cisco Request Center Reporting**).

Step 3 Select **Business Intelligence Install** and download the following files under version 8.4.1 to your Cognos application server machine:

File to download	Description
CZA87ML.tar.gz	Cognos 8.4.1 Business Intelligence Server (64-bit)
CZAH6EN.tar.gz	Cognos 8.4.1 Data Manager (64-bit)

Step 4 Extract all 4 zip files in a temporary directory, such as C:\CognosSoftware, on the Cognos application server.

Step 5 Delete the JAVA_HOME environment variable, if it exists on the Cognos machine. This is because Cognos installation program will use its embedded Java, which may conflict with the version of Java defined for JAVA_HOME environment variable.

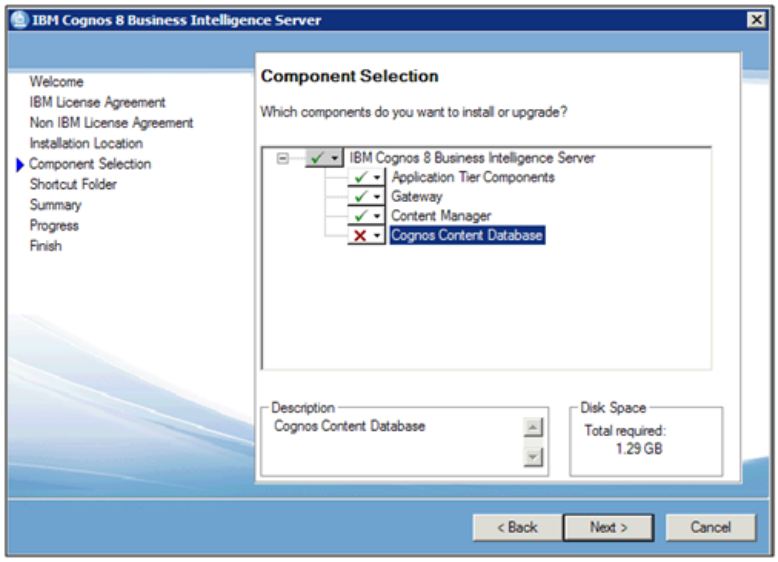
Installing Cognos Business Intelligence Server

Step 1 (Assuming that you extracted the Cognos software under the C:\CognosSoftware directory) Open the folder C:\CognosSoftware\CZA87ML\winx64.

Step 2 Double-click **issetup.exe** to launch the Cognos Setup program.

Step 3 Walk through the installation wizard by selecting all default values presented on the screen, until you get to the Component Selection screen.

Step 4 Select only the components as shown below with the green check marks:



Step 5 Click **Next** to proceed with the rest of the installation wizard, until you get to the Finish screen.

Step 6 Uncheck the "Start IBM Cognos Configuration" option, and then click **Finish**.

Installing Cognos Data Manager

Step 1 (Assuming that you extracted the Cognos software under the C:\CognosSoftware directory) Open the folder C:\CognosSoftware\CZAH6EN\winx64.

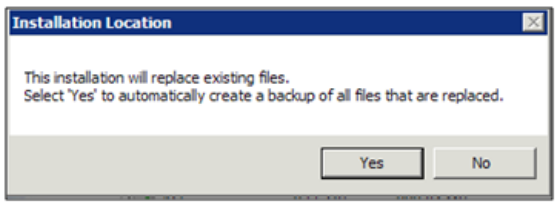
Step 2 Double-click **issetup.exe** to launch the Cognos Setup program.

Step 3 Walk through the installation wizard by selecting all default values presented on the screen, until you get to the Installation Location screen.

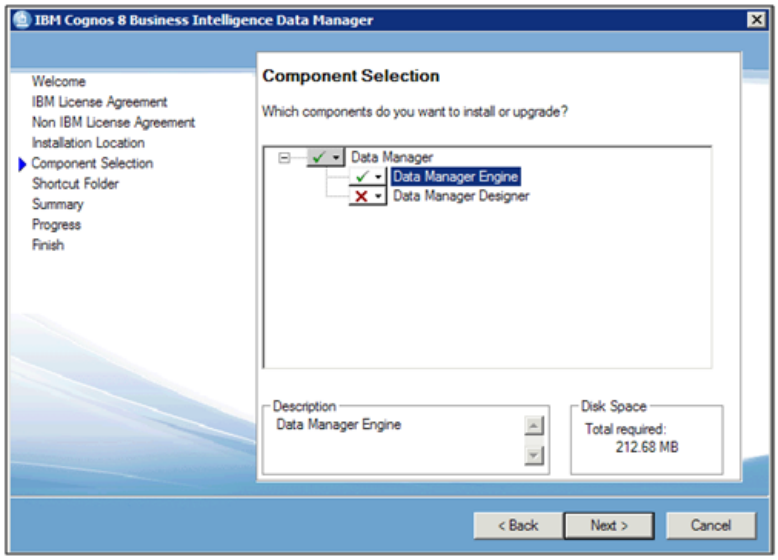
Step 4 Enter the same folder name where you have installed the Cognos Business Intelligence Server (for example, C:\Program Files (x86)\cognos\c8_64). Then click **Next**.

Step 5 If you see the message "*Warning: You are installing to the same location as a previous installation. Do you want to continue?"*, click **Yes** to proceed.

Step 6 If the following message appears, click **No** to proceed:



Step 7 When the Component Selection screen appears, select only the component as shown below with the green check mark:



Step 8 Click **Next** to proceed with the rest of the installation wizard, until you get to the Finish screen.

Step 9 Uncheck the "Start IBM Cognos Configuration" option, and then click **Finish**.

Copying Oracle JDBC Driver

Perform the following step only for Oracle database:

Step 1 Copy file **ojdbc5.jar** from the <ORACLE_HOME>\JDBC\lib directory to the <COGNOS_HOME>\webapps\p2pd\WEB-INF\lib directory on the Cognos application server.

<ORACLE_HOME> is where you installed the Oracle Client 11.2.0.1 (32-bit) software.

<COGNOS_HOME> is where you installed the Cognos Business Intelligence Server (for example, C:\Program Files (x86)\cognos\c8_64).

Configuring Reporting and Advanced Reporting Components

This section describes how to configure the Reporting and Advanced Reporting components to work with Cognos application server.

Note You must log in as a user with administrative privileges to execute the scripts described in this section.

Extracting Cognosinstaller.zip

Step 1 If Cognos software is installed on a different machine than Service Portal, locate file **cognosinstaller.zip** under the <*ServicePortal_Install_Dir*>\cognos directory on the Service Portal machine, and copy this file to the Cognos machine.

Step 2 Extract cognosinstaller.zip to C:\cognosinstaller directory. If the C:\cognosinstaller directory already exists on your machine, do not overwrite it. Just rename the existing directory as C:\cognosinstaller.OLD, then extract cognosinstaller.zip to C:\cognosinstaller.

Modifying setup.properties

Step 1 Open the C:\cognosinstaller folder, and make a backup of file **setup.properties**.

Step 2 Use a text editor to modify **setup.properties**. Modify only the parameters identified in the table below. In most cases, the default value can be used. If you choose to specify a different value, read the description carefully for any necessary syntax or format to use when entering the value. Please do not modify parameters that are NOT listed in this table.

Parameter	Value
cognos.root	Enter the root folder where the Cognos 8.4.1 software was installed. Use double-slash (\\) as the directory separator. For example, enter "C:\\Program Files (x86)\\cognos\\c8_64". The default value is C:\\Program Files\\Cognos.
gateway.server.name	Enter the fully qualified domain name of the Cognos machine (for example, cognos.mydomain.com).
application.server.name	Enter the fully qualified domain name of the Cognos machine (for example, cognos.mydomain.com). For this release, both gateway.server.name and application.server.name parameters must have the exact same value.
cognos.server.timezone	Enter a valid time zone name. See the "Configuring the Time Zone" section on page 3-21 for a list of valid time zone names corresponding to your computer. The default value is "America/Tijuana".
requestcenter.admin.user	Enter the login ID for the Service Portal administrative user. The default value is "admin".
requestcenter.admin.pwd	Enter the password for the Service Portal administrative user. The default value is "admin". **Note** This value can be encrypted using the encrypt.cmd utility, described in the next section.

requestcenter.destination	Enter the folder where the Advanced Reporting software components will be installed. Do not enter the same value as cognos.root. You want to keep the Service Portal software installation folder separate from the Cognos software installation folder. Use double-slash (\\) as the directory separator. The default value is C:\\CiscoServicePortal.
requestcenter.db.type	Enter one of the following values: • sqlserver (for SQL Server 2008 R2) • oracle (for Oracle 11g) **Note** This value was preset by the Service Portal Setup program.
requestcenter.db.server	Enter the server name or IP address of the RequestCenter database. For example, dbserver.mydomain.com. **Note** This value was preset by the Service Portal Setup program.
requestcenter.db.port	Enter the port number for the Service Portal database server. Typical values are: • 1433 (for SQL Server) • 1521 (for Oracle) **Note** This value was preset by the Service Portal Setup program.
requestcenter.db.name	For SQL Server, enter the name of the RequestCenter database. For Oracle, enter **RequestCenter**. **Note** This value was preset by the Service Portal Setup program.
requestcenter.db.user	Enter the user name for the RequestCenter database. **Note** This value was preset by the Service Portal Setup program.
requestcenter.db.pwd	Enter the password for the RequestCenter database user above. **Note** This value was already preset and encrypted for you by the Service Portal Setup program.
requestcenter.db.oracle.sid	For Oracle, enter the Oracle SID for the RequestCenter database. **Note** For SQL Server, this parameter is ignored. This value was preset by the Service Portal Setup program.

datamart.db.server	Enter the server name or IP address of the Datamart database. For example, dbserver.mydomain.com. **Note** This value was preset by the Service Portal Setup program.
datamart.db.port	Enter the port number for the Datamart database server. Typical values are: • 1433 (for SQL Server) • 1521 (for Oracle) **Note** This value was preset by the Service Portal Setup program.
datamart.db.name	For SQL Server, enter the name of the Datamart database. For Oracle, enter **Datamart**. **Note** This value was preset by the Service Portal Setup program.
datamart.db.user	Enter the user name for the Datamart database. **Note** This value was preset by the Service Portal Setup program.
datamart.db.pwd	Enter the password for the Datamart database user above. **Note** This value was preset and encrypted by the Service Portal Setup program.
datamart.db.sa.pwd	For SQL Server, enter the password for the sa user of the SQL Server instance where the Datamart database resides. For Oracle, this parameter is ignored. **Note** This value was preset and encrypted by the Service Portal Setup program.
datamart.db.oracle.sid	For Oracle, enter the Oracle SID for the Datamart database. For SQL Server, this parameter is ignored. **Note** This value was preset by the Service Portal Setup program.
datamart.db.schema	For SQL Server, enter the value "**dbo**". For Oracle, enter the same value as datamart.db.user, except enter this value in all upper-cases. For example, enter the value "RCUSER".
contentstore.db.server	Enter the server name or IP address of the ContentStore database. For example, dbserver.mydomain.com.

contentstore.db.port	Enter the port number for the ContentStore database server. Typical values are: • 1433 (for SQL Server) • 1521 (for Oracle)
contentstore.db.name	For SQL Server, enter the name of the ContentStore database. For Oracle, enter **ContentStore**.
contentstore.db.user	Enter the user name for the ContentStore database. (For example, enter "CSUser".)
contentstore.db.pwd	Enter the password for the ContentStore database user above. **Note** This value can be encrypted using the encrypt.cmd utility, described in the next section.
contentstore.db.oracle.sid	For Oracle, enter the Oracle SID for the ContentStore database. For SQL Server, this parameter is ignored.
smtp.server	Enter the server name or IP address of the SMTP server. For example, smtp.mydomain.com. Cognos application can email reports to users only if the SMTP server is configured correctly.
smtp.port	Enter the port number used by the SMTP server. The default value is 25.
smtp.user	Enter the user name who has a valid email account in the SMTP server.
smtp.pwd	Enter the password of the smtp user name above.
smtp.sender	Enter a valid email address. This email address is used by Cognos as the "Sender" for outgoing emails.

Step 3 For security purpose, you can *optionally* use the **encrypt.cmd utility** to encrypt the following password parameters in the **setup.properties** file:

- requestcenter.admin.pwd
- requestcenter.db.pwd
- datamart.db.pwd
- datamart.db.sa.pwd
- contentstore.db.pwd

Note The values for requestcenter.db.pwd, datamart.db.pwd and datamart.db.sa.pwd are already encrypted by the Service Portal Setup program. The password string may look something similar to NBvjXV8ttr184ZGNYVuMlw==. You don't need to encrypt these passwords again. However, if you want to encrypt the other clear-text passwords in the setup.properties file, then follow the instructions below to encrypt those values.

To use the encrypt.cmd utility:

1. Open a Command Prompt window, and navigate to the C:\cognosinstaller directory.
2. Execute "encrypt.cmd-s <*string*>" where <*string*> is the clear-text password to be encrypted.
3. The result displayed on the screen will look like:

   ```
   hJo9O5ZVvXoi57D6mNOEFw==
   ```

4. Copy the encrypted string on the screen (for example, copy the string **hJo9O5ZVvXoi57D6mNOEFw==**), and paste onto the appropriate parameter in the setup.properties file. You are basically overwriting the clear-text value with the encrypted value.

Step 4 Save file **setup.properties**.

Executing configure.cmd

Step 1 On the Cognos machine, open a Command Prompt window, and navigate to the "C:\cognosinstaller" directory.

Step 2 Execute **configure.cmd**.

Note This script will take several minutes to complete. It configures the Cognos properties files, creates the data mart catalog, and loads the schema for the ContentStore database. This script does not perform any data extraction from the RequestCenter database. Do not proceed to the next Step until configure.cmd completes successfully.

Step 3 After configure.cmd completes successfully, open the Services window by selecting **Start > All Programs > Administrative Tools > Services**. Start the **IBM Cognos 8** service if it is not already running:

Step 4 Open a browser on the Cognos machine, and connect to the URL **http://localhost/cognos8**.

Step 5 Enter the User ID and Password of the Service Portal administrative user, then click **OK** to log in. (For a new installation of Service Portal, the default value for the administrative User ID is "admin", and the default value for the password is "admin".)

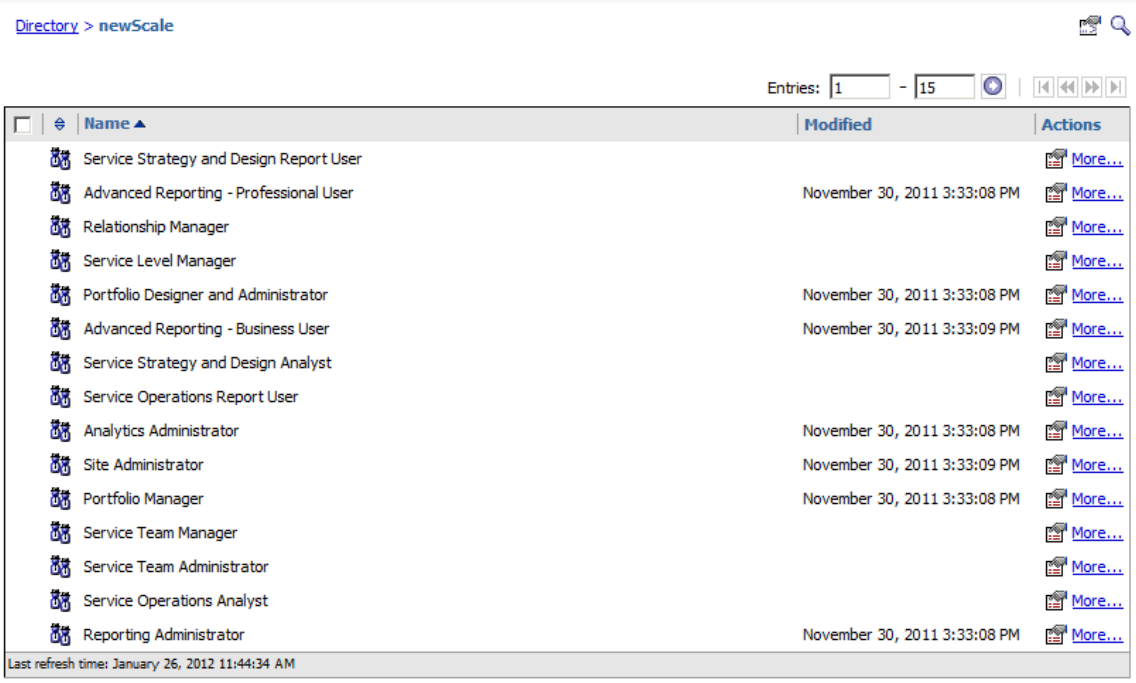
Step 6 Click the **My home** link on the UI.

Step 7 Click the **Launch** link on the top right corner of the UI, and select the **IBM Cognos Administration** drop-down menu.

Step 8 Select the **Security** tab.

Step 9 Click the **newScale** link in the list of Directory Names.

Step 10 You should see list of Service Portal roles which have capabilities that allow them to access the Reporting and Advanced Reporting modules, followed by a list of users who have been granted one or more of those roles. (The list may span several pages.) If the list looks similar to the screenshot below, then it's a good indication that your Cognos configuration was successful up to this point. You can now proceed to the next section.



Executing create_datasource.cmd

Step 1 Open a Command Prompt window, and navigate to the <requestcenter.destination>\ cognos\bin directory. For example, if you set requestcenter.destination=C:\CiscoServicePortal in the setup.properties file earlier, then open the C:\CiscoServicePortal\cognos\bin directory now.

Step 2 Execute **create_datasource.cmd**.

Step 3 After create_datasource.cmd completes successfully, open a browser on the Cognos machine, and connect to the URL **http://localhost/cognos8**.

Step 4 Enter the User ID and Password of the Service Portal administrative user, then click **OK** to log in.

Step 5 Click the **My home** link on the UI.

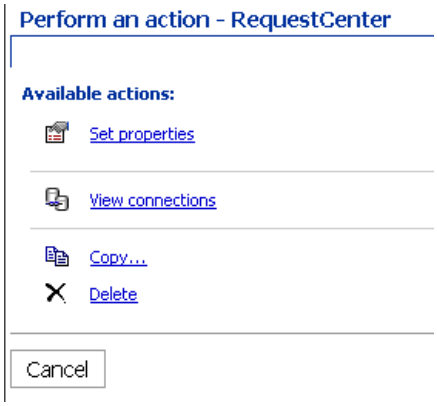
Step 6 Click the **Launch** link on the top right corner of the UI, and select the **IBM Cognos Administration** drop-down menu.

Step 7 Select the **Configuration** tab.

Step 8 Click the **Data Source Connections** link on the left panel.

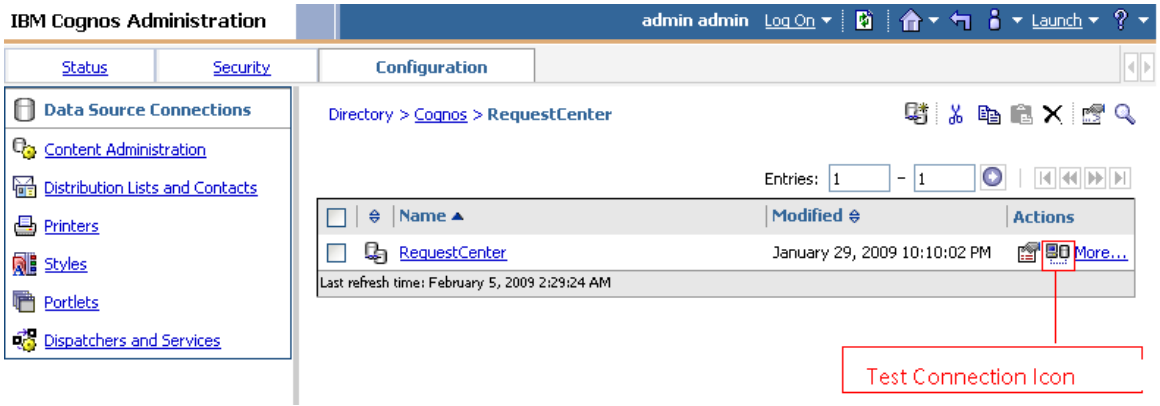
Step 9 You should see a data source entry called **RequestCenter** on the right panel.

Step 10 Under the Actions column, click the **More…** link. The Perform an Action – RequestCenter page is displayed.



Step 11 Click **View connections**.

Step 12 The Configuration tab re-appears, and a new (*Test the connection*) icon shows up next to the **More…** link.



Step 13 Click this (*Test the connection*) icon.

Step 14 Click the **Test** button.

Step 15 Verify that the connection test shows the Status of “Succeeded”. You can now proceed to the next section.

Importing Service Portal Reports

Perform the following tasks to configure and import the Service Portal Standard Reports Archive to the Cognos environment.

Step 1 Open a Command Prompt window and navigate to the <*requestcenter.destination*>\ cognos\bin directory.

Step 2 Execute **import_reports.cmd.**

Step 3 Execute **update_datamart_std.cmd**.

Note This script may take several minutes to complete.

Restart the Service Portal Application

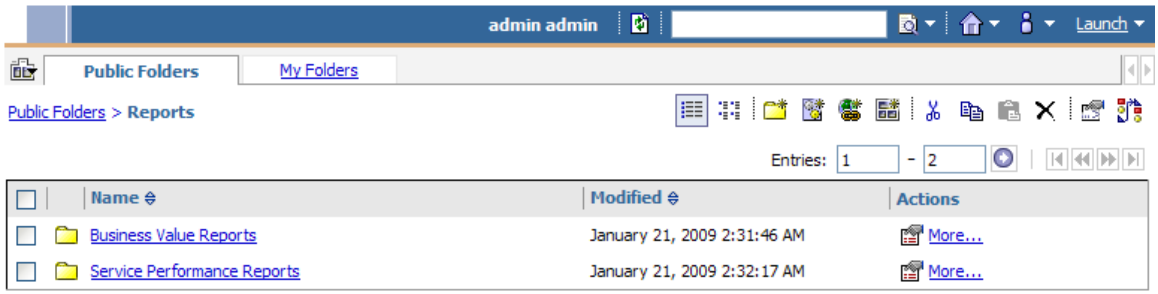
Step 1 **Restart the Service Portal application**. This will allow the Service Portal application server to pick up the new configuration which enables it to integrate with the Cognos application server. For JBoss, restart the "CiscoServicePortal Request Center" service. For WebLogic or WebSphere, restart the entire WebLogic server or WebSphere server, where RequestCenter.ear was deployed.

Step 2 Once the Service Portal application is started, log in to as the Service Portal administrative user.

Step 3 Select the **Reporting** module.

Step 4 Click the **Reports** tab.

Step 5 Verify that the Public Folders tab appears with two folders named “Business Value Reports” and “Service Performance Reports”. This is a good indication that the Reporting module of Service Portal is integrated successfully with the Cognos application server.



Step 6 Proceed to the next section “Configuring Advanced Reporting”.

Configuring Advanced Reporting

Execute the following scripts to set up the Advanced Reporting components. If you do not want Advanced Reporting, skip to "Post-Installation Tasks" section on page 3-19.

Step 1 Log in to the Service Portal application as the administrative user.

Step 2 If the URL for your Service Portal is http://<*ServerName*>:<*Port*>/RequestCenter, then on the same browser window where you just logged in as the administrative user, type **http://<ServerName>:<Port>/RequestCenter/fdr/runETL.jsp** in the address, and press **Enter**.

Step 3 This will launch the "runETL.jsp" script. Wait until you get the following message on the screen:

Processing Form Data Extraction... Form Data Extraction Completed.

Step 4 On the Cognos machine, open a Command Prompt window, and navigate to the <requestcenter.destination>\cognos\bin directory.

Step 5 Execute **update_datamart.cmd**.

Note This script may take several minutes to complete.

Step 6 Execute **create_model.cmd**.

Step 7 Execute **publish_fdr_pkg.cmd**.

Note This script may take several minutes to complete.

Step 8 Execute **publish_serviceportfolioreporting_pkg.cmd**.

Note This script may take several minutes to complete.

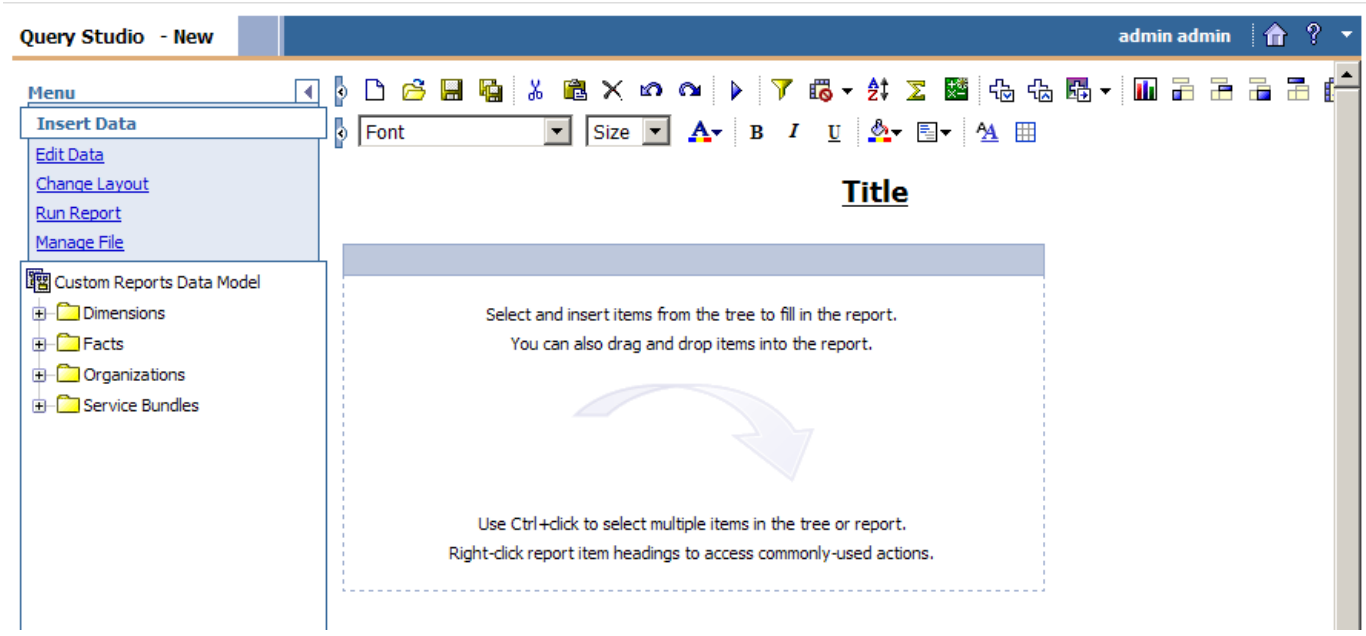
Step 9 Log out then log back in to Service Portal as the administrative user.

Step 10 Select the **Advanced Reporting** module.

Step 11 Click the **Ad-Hoc Reports** tab.

Step 12 Click the **Custom Report Data Models** link.

Step 13 If you see the Query Studio window (similar to the screenshot below), then it is a good indication that the Advanced Reporting module of Service Portal is integrated successfully with the Cognos application server.



Post-Installation Tasks

The post-installation tasks consist of scheduling the ETL processes to be run. The amount of time each process takes to complete is proportional to the amount of data in the RequestCenter database which must be extracted and transmitted to the Datamart database.

Post-Installation Tasks for Reporting

Set up the following script as scheduled tasks on the Cognos machine. All scripts reside in the <*requestcenter.destination*>\cognos\bin directory.

Script	Description
update_datamart_std.cmd	This script extracts the data from the RequestCenter database and transmits to the Datamart database. These data are used to refresh the Service Portal Standard Reports. This script can be scheduled to run however often you want Standard Reports to be refreshed. Normally, this script can be scheduled to run once a day, at off-peak hours.

Post-Installation Tasks for Advanced Reporting

If you have Advanced Reporting, then you must also perform the tasks described in this section.

Step 1 On the Cognos machine, set up the following scripts as scheduled tasks. All scripts reside in the <*requestcenter.destination*>\cognos\bin directory.

Script	Description
update_datamart.cmd	This script updates fact tables and dimensions in the Datamart database.
create_model.cmd	This script creates the framework model used by the Cognos reporting tools (Query Studio and Report Studio).
publish_fdr_pkg.cmd	This script publishes the Cognos framework for the Request Center module of Service Portal.
publish_serviceportfolioreporting_pkg.cmd	This script publishes the Cognos framework for the Demand Center module of Service Portal.

Step 2 On the application server machine, open the **newscale.properties** file (located under the RequestCenter.ear/config directory) and modify the following parameters, in order to enable and schedule the ETL (Extract-Transform-Load) process in the application server:

- **ENABLE_FDR_ETL_PROCESS=1** – to enable the ETL process.
- **FDR_ETL_TRIGGER=1** (1 for hourly, 2 for daily, 3 for minutes) – to change the frequency of the ETL process.
- **FDR_ETL_TRIGGER_FREQUENCY_HOURLY=<number>** – where the value <number> indicates that the ETL process is to start every <number> hours. This parameter is used only when FDR_ETL_TRIGGER is set to 1 (hourly).
- **FDR_ETL_TRIGGER_FREQUENCY_DAILY=<hh:mm>** – where <hh:mm> (for example. 22:30) indicates the exact time of the day to run the ETL process. This parameter is used only when FDR_ETL_TRIGGER is set to 2 (daily).
- **FDR_ETL_TRIGGER_FREQUENCY_MINUTES=<number>** – where the value <number> indicates that the ETL process is to start every <number> minutes. This parameter is used only when FDR_ETL_TRIGGER is set to 3.

Step 3 If your Service Portal application is running in a clustered environment, you must modify the **newscale.properties** file on ONLY one of the nodes in the cluster, so that the ETL process is to be run from only one server in the cluster. For all of the other nodes, the value for the ENABLE_FDR_ETL_PROCESS parameter in newscale.properties should be left at 0 (that is, disabled).

This ETL process pushes service form reporting data from the RequestCenter database to the Datamart database, on an incremental basis.

You should not enable the service form data ETL process until you have reviewed your service design and reporting requirements and designated the desired dictionaries and/or services as reportable.

Step 4 **Restart the Service Portal application server**. The Service Portal application must be restarted in order to pick up the modification you made in the **newscale.properties** file.

Note By default the Service Form Data ETL process is disabled in the newscale.properties file.

We recommend scheduling the Advanced Reporting ETL process to run once daily during off-peak hours. The data in the Datamart database is available during this time, however performance may be adversely affected.

Configure the schedule for all scripts to match the schedule for FDR_ETL_TRIGGER_FREQUENCY in newscale.properties to ensure that the data are in sync.

Allow 40 minutes per 10,000 new or changed requisitions between update_datamart.cmd and create_model.cmd. Allow 30 minutes per 10,000 new or changed requisitions between create_model.cmd and publish_fdr_pkg.cmd. The script publish_serviceportfolioreporting_pkg can be scehduled to run at the same time or a few minutes after the script publish_fdr_pkg.cmd.

Except for publish_serviceportfolioreporting_pkg, the other scripts must be run without overlapping. If the scripts overlap, you may encounter data inconsistency.

Configuring the Time Zone

When configuring the **setup.properties** file as described in the "Modifying setup.properties" section on page 3-10, you need to provide a value for the **cognos.server.timezone** parameter.

Refer to the table below for the correct value to specify in the setup.properties file. Select the value in the **Time Zone Name** column that corresponds to your computer time zone.

Time Zone Name	Computer Time Zone Description (GMT)
Etc/GMT+12	(GMT-12:00) International Date Line West
Pacific/Apia	(GMT-11:00) Samoa
US/Hawaii	(GMT-10:00) Hawaii
US/Aleutian	(GMT-10:00) Hawaii Aleutian Daylight Time
US/Alaska	(GMT-09:00) Alaska
America/Tijuana	(GMT-08:00) Pacific Time (US and Canada); Tijuana
America/Chihuahua	(GMT-07:00) Chihuahua, La Paz, Mazatlan
US/Arizona	(GMT-07:00) Arizona
Canada/Mountain	(GMT-07:00) Mountain Time (US and Canada)
Canada/Saskatchewan	(GMT-06:00) Saskatchewan
US/Central	(GMT-06:00) Central America
Canada/Central	(GMT-06:00) Central Time (US and Canada)
America/Mexico_City	(GMT-06:00) Guadalajara, Mexico City, Monterrey
America/Bogota	(GMT-05:00) Bogota, Lima, Quito
Canada/Eastern	(GMT-05:00) Eastern Daylight Time (US and Canada)
America/Jamaica	(GMT-05:00) Eastern Time (US and Canada)
US/East-Indiana	(GMT-05:00) Indiana (East)
America/Antigua	(GMT-04:00) Atlantic Time (Canada)
Canada/Atlantic	(GMT-04:00) Atlantic Daylight Time (Canada)
America/Manaus	(GMT-04:00) Manaus
America/Santiago	(GMT-04:00) Santiago
America/Caracas	(GMT-04:30) Caracas
America/La_Paz	(GMT-04:00) La Paz (Bolivia)
America/Sao_Paulo	(GMT-03:00) Brasilia
America/Godthab	(GMT-03:00) Greenland

America/Argentina/Buenos_Aires	(GMT-03:00) Buenos Aires
America/Guyana	(GMT-04:00) Georgetown
America/St_Johns	(GMT-03:30) Newfoundland and Labrador
Atlantic/South_Georgia	(GMT-02:00) Mid-Atlantic
Atlantic/Azores	(GMT-01:00) Azores
Atlantic/Cape_Verde	(GMT-01:00) Cape Verde Islands
Etc/Greenwich	(GMT) Greenwich Mean Time: Dublin, Edinburgh,
Africa/Casablanca	(GMT) Casablanca, Monrovia
Europe/Sarajevo	(GMT+01:00) Sarajevo, Skopje, Warsaw, Zagreb
Europe/Brussels	(GMT+01:00) Brussels, Copenhagen, Madrid, Paris
Africa/Brazzaville	(GMT+01:00) West Central Africa
Europe/Amsterdam	(GMT+01:00) Amsterdam, Berlin, Bern, Rome,
Europe/Belgrade	(GMT+01:00) Belgrade, Bratislava, Budapest,
Africa/Cairo	(GMT+02:00) Cairo
Europe/Helsinki	(GMT+02:00) Helsinki, Kiev, Riga, Sofia, Tallinn,
Europe/Minsk	(GMT+02:00) Minsk
Europe/Athens	(GMT+02:00) Athens, Bucharest, Istanbul
Asia/Jerusalem	(GMT+02:00) Jerusalem
Africa/Windhoek	(GMT+02:00) Windhoek
Africa/Harare	(GMT+02:00) Harare, Pretoria
Asia/Baghdad	(GMT+03:00) Baghdad
Africa/Nairob	(GMT+03:00) Nairobi
Europe/Moscow	(GMT+03:00) Moscow, St. Petersburg, Volgograd
Asia/Kuwait	(GMT+03:00) Kuwait, Riyadh
Asia/Tehran	(GMT+03:30) Tehran
Asia/Baku	(GMT+04:00) Baku
Asia/Muscat	(GMT+04:00) Abu Dhabi, Muscat
Asia/Yerevan	(GMT+04:00) Yerevan
Asia/Tbilisi	(GMT+04:00) Tbilisi
Asia/Kabul	(GMT+04:30) Kabul
Asia/Karachi	(GMT+05:00) Islamabad, Karachi, Tashkent
Asia/Yekaterinburg	(GMT+05:00) Ekaterinburg
Asia/Kolkata	(GMT+05:30) Chennai, Kolkata, Mumbai, New Delhi
Asia/Kathmandu	(GMT+05:45) Kathmandu
Asia/Dhaka	(GMT+06:00) Astana, Dhaka
Asia/Novosibirsk	(GMT+07:00) Novosibirsk
Asia/Colombo	(GMT+05:30) Sri Jayawardenepura
Asia/Rangoon	(GMT+06:30) Yangon (Rangoon)
Asia/Bangkok	(GMT+07:00) Bangkok, Hanoi, Jakarta
Asia/Krasnoyarsk	(GMT+08:00) Krasnoyarsk
Asia/Irkutsk	(GMT+09:00) Irkutsk
Asia/Kuala_Lumpur	(GMT+08:00) Kuala Lumpur, Singapore

Asia/Taipei	(GMT+08:00) Taipei
Australia/Perth	(GMT+08:00) Perth
Asia/Chongqing	(GMT+08:00) Beijing, Chongqing, Hong Kong SAR,
Asia/Seoul	(GMT+09:00) Seoul
Asia/Tokyo	(GMT+09:00) Osaka, Sapporo, Tokyo
Asia/Yakutsk	(GMT+09:00) Yakutsk
Australia/Darwin	(GMT+09:30) Darwin
Australia/Adelaide	(GMT+09:30) Adelaide
Australia/Hobart	(GMT+10:00) Hobart
Australia/Canberra	(GMT+10:00) Canberra, Melbourne, Sydney
Australia/Brisbane	(GMT+10:00) Brisbane
Asia/Vladivostok	(GMT+10:00) Vladivostok
Pacific/Guam	(GMT+10:00) Guam, Port Moresby
Pacific/Guadalcanal	(GMT+11:00) Solomon Islands, New Caledonia
Pacific/Auckland	(GMT+12:00) Auckland, Wellington
Pacific/Fiji	(GMT+12:00) Fiji Islands
Pacific/Tongatapu	(GMT+13:00) Nuku alofa

Note The following Time Zone Names currently do not support Daylight Saving Time. Thus, if you have to use one of these Time Zone Names, then either use one of the other Time Zone Names that has the same GMT offset, or consult with the Cisco Technical Assistance Center (TAC).

Europe/Moscow
Pacific/Fizi
Pacific/Apia
Asia/Yakutsk
Asia/Vladivostok

CHAPTER 4

Upgrade Guide

Overview

This chapter describes how to perform an application upgrade from Cisco Service Portal Release **2008.3 or above** to Release **9.3.1**.

Audience

This chapter is for technical administrators possessing the following skills:

- Advanced RDBMS knowledge and expertise
- Familiarity with the customized areas of your environment

Upgrading Service Portal

Overview

Release Upgrade Path

This upgrade process supports direct database component upgrade from Service Portal Release **2008.3 SP9 or above** to Release **9.3.1**. The database installer program for the most recently available service pack, as listed in Table 4-1 below, has to be executed against the database to bring the database schema to the supported upgrade level.

Table 4-1 Direct Upgrade Paths

From Release Version	To Release Version
2008.3 SP9	9.3.1
9.1 SP3	9.3.1
9.2 (limited release)	9.3.1
9.3 GA	9.3.1
9.3 R2	9.3.1

If your existing installation is prior to 2008.3 SP9, you must first upgrade it to a supported version. In some cases, you may need to perform multiple back-to-back database component upgrades.

Table 4-2 Multi-Step Upgrade Paths

From Release Version	Step 1 - Upgrade to Release Version	Step 2 - Upgrade to Release Version	Step 3 - Upgrade to Release Version
2006.0.7, 2006.0.8, 2006.0.9	2008.3	2008.3 SP9	9.3.1
2007.1 with any SP	2008.3	2008.3 SP9	9.3.1
2008.1 with any SP	2008.3	2008.3 SP9	9.3.1
2008.3 with any SP prior to SP9	2008.3 SP9	9.3.1	N/A
9.1 with any SP prior to SP3	9.1 SP3	9.3.1	N/A

Limitations and Notes

The following section includes product limitation notifications or important notes that should be considered when upgrading to this version.

New Platform Support

New platforms are supported for this release. Review Table 4-3 to find out if you need to install new versions of third-party software.

Table 4-3 New Platform Support

Platform	Newly supported for this release	De-supported for this release
IBM WebSphere Application Server	IBM WebSphere 7.0	IBM WebSphere 6.1
IBM Http Server	IBM Http Server 7.0	IBM Http Server 6.1
Microsoft IIS	IIS 7.5	IIS 6
Microsoft Windows operating system	Windows Server 2008 R2	Windows Server 2003
Linux operating system	Red Hat Enterprise Linux 5.6	Red Hat Linux AS/ES 4
AIX operating system	IBM AIX 7.1	IBM AIX 5.3
Microsoft IIS	IIS 7.5	IIS 6
Microsoft Internet Explorer	IE 8	IE 6

Table 4-3 New Platform Support

Microsoft SQL Server	SQL Server 2008 R2	SQL Server 2005
Oracle RDBMS	Oracle 11g	Oracle 10g
Microsoft Active Directory Server	Active Directory Server 2008	Active Directory Server 2003

Refer to Chapter 1, "Platform Support Matrix" for more information.

Default Stylesheet Changes

In this release, the default style of the Service Portal has been changed to use a different set of theme colors and fonts. Implementation of these changes is optional. If you prefer to stay with the styles used currently in your application, you can override the changes by re-applying the existing custom.css and common.css after upgrading to this release. The common.css file is located in the RequestCenter.war\refactor\common\css folder.

Removal of BusinessEngine.ear

With a change in the application architecture in this release, the Business Engine is no longer a separate application from Request Center. The BusinessEngine.jar, be.properties and bejms.properties files are now located within the RequestCenter.ear. During the installation and upgrade process, only RequestCenter.ear and ISEE.war are generated by the installer program. Refer to Chapter 2, "Installation and Configuration Guide" for more information.

Removal of Enterprise JavaBeans (EJB)

As part of the application architecture improvement in this release, the EJB layer that was on top of Request Center and Business Engine has been removed. The change should have no impact on the application installation and configuration procedure.

New JMS Queue for Business Engine Inbound Messages from Service Link

To improve scalability of Service Link, all Business Engine API calls invoked by inbound Service Link messages are now routed to a JMS queue instead of going directly to the Business Engine. Refer to Chapter 2, "Installation and Configuration Guide" for more information.

Service Import/Export Not Backwards Compatible

Service Import/Export is not backwards compatible to previous releases. Services exported in prior releases cannot be imported to this release. Please be sure to export any services you maintain in a code repository after the upgrade is complete.

What is Upgraded

The upgrade process outlined in this manual upgrades Service Portal software as well as the online transactional processing (OLTP) database to support new capabilities provided in Service Portal. These capabilities include more stringent control over data and referential integrity, ensuring enhanced data quality of the Service Portal database. The upgrade process also describes how to upgrade the Advanced Reporting module.

What is Not Upgraded

The upgrade process identifies all objects in the existing database that are not recognized as part of the application schema.

- Unrecognized objects will be automatically removed from the database, if they interact with any Service Portal tables. For examples, the following objects (if they exist) will be dropped:
  - An unrecognized index on a Service Portal table.
  - An unrecognized trigger on a Service Portal table.
  - An unrecognized constraint on a Service Portal table.
  - An unrecognized foreign key constraint that points to a Service Portal table.
- All other types of unrecognized objects that do not interact with Service Portal tables will only be reported and not dropped. For examples, the following objects (if they exist) will be left alone: tables, columns, sequences, stored procedures, functions, indexes that do not reference Service Portal tables, constraints that do not affect Service Portal tables.

Assumptions and Best Practices

- You must create and validate database backups and file system backups before upgrading. This is critical because you can rollback an upgrade only by restoring your databases and file system manually; no rollback function is built into the upgrade program.
- The production site will be down during the upgrade process, so you should schedule the upgrade for maintenance periods.
- You are upgrading from 2008.3 SP9 or later. See the "Release Upgrade Path" section on page 4-1.

Prerequisites

- A sandbox environment for upgrade.
- Database backups and a well-rehearsed restore process.
- A complete list of all customizations (custom style sheets, JavaScript libraries, LDAP java mapping code, and so on.)
- For SQL Server installations, prior to upgrade, drop any custom full-text catalog from the database.
- Oracle **catcio.sql** package.

  Execute the following sql command as the Oracle "sys" user to find out if the catcio.sql package has been installed on the Oracle database:

  SELECT COUNT(*) FROM ALL_TABLES WHERE OWNER='SYS' AND TABLE_NAME LIKE 'IND_ONLINE$';

  If the returned value is zero (0), then the Oracle "sys" user needs to log in to Oracle as sysdba, and install the "catcio.sql" package on the Oracle database. This needs to be done before you proceed with Service Portal installation, because, for Oracle database, the installation and upgrade scripts will create table indexes with the ONLINE parameter. The Catcio.sql package is usually located in the $ORACLE_HOME/rdbms/admin directory.

High-Level Upgrade Methodology

Your organization most likely has already developed an upgrade methodology for Service Portal solutions or has best practices for other enterprise software upgrades. The methodology described in this guide is useful to either follow as an alternate or to augment your established practices for specific new upgrade requirements.

We recommend that you create a sandbox environment where you rehearse a dry run of the upgrade procedures for your existing Service Portal system. Take notes of any technical issues and resolutions that may arise along the way. This will help prepare you for the actual upgrade of your production system. This dry run exercise will also provide you with an overall timeline of the upgrade process from beginning to end, which can help you plan the appropriate system downtime needed to complete the upgrade of your production system.

Once you can successfully upgrade the system in your sandbox environment and feel comfortable with the process, you can schedule the upgrade of your production system, and repeat the same process by following the instructions in this guide, in conjunction with the technical notes that you prepared during the dry run exercise.

At a high level, the upgrade procedures are as follows:

Step 1 Back up the current production databases and restore them onto another set of databases.

Note Since SQL Server 2005 database and Oracle 10g database are no longer supported in this release, you must restore your database backups onto a brand new SQL Server 2008 R2 database or an Oracle 11g database.

Step 2 Create a sandbox environment that has all the pre-requisites for Release **9.3.1**. This is the environment where you will be executing the upgrade program from the Release **9.3.1** package and needs to be configured to connect to the copy of production databases.

Step 3 Execute the Validation and Repair program against the copy of production database, and select the first option, **Perform Schema Validation**. This program is separate from the Service Portal Setup program that you use to upgrade the installation after having validated and repaired your existing database.

Step 4 If the Validation and Repair program reports any schema errors in your database, work with your database administrator and application programmer to fix the schema errors. Some schema errors may come with a *suggested* SQL command to fix the error, which you can discuss with your DBA and application programmer to see if it's applicable for your error condition. Others may require that you consult with the Cisco Technical Assistance Center (TAC) to come up with an appropriate fix. Document all of the validation errors and resolutions you encounter.

Step 5 Re-run the Validation and Repair program and execute the **Perform Schema Validation** option iteratively after each time you fix the validation errors, until the Validation and Repair program reports that there are no more **schema errors**.

Step 6 Re-run the Validation and Repair program, and select the second option, **Perform Data Validation**.

Step 7 The Perform Data Validation option creates a report that show two types of errors: a) Validation Errors, b) Auto-Repairable Errors. If the number "Validation Errors" is greater than 0, work with your database administrator and application programmer to fix the errors in the data. Some validation errors may come with a *suggested* SQL command to fix the error, which you can discuss with your DBA and application programmer to see if it's applicable for your error condition. Others may require that you consult with the Cisco Technical Assistance Center (TAC) to come up with an appropriate fix. Document all of the validation errors and resolutions you encounter.

Step 8 Re-run the Validation and Repair program and execute the **Perform Data Validation** option iteratively after each time you fix the validation errors, until the Validation and Repair program reports zero number of "Validation Errors". It is OK to have some Auto-Repairable Errors. They will be programmatically fixed in the next step.

Step 9 Re-run the Validation and Repair program and execute the third option, **Repair Database**, This option will programmatically fix all "Auto-Repairable Errors" reported in the last step. Once completed, the program should report that the number of "Total Errors" is now zero.

Step 10 Run the Service Portal Setup program and select the **Upgrade existing installation** option.

Step 11 After the Setup program completes the upgrade, re-apply any necessary customizations on your sandbox environment.

Step 12 Perform user acceptance testing for the upgraded system in the sandbox environment.

Step 13 Gather all of the technical notes that you have created along the way.

Step 14 At this point, if you feel that you are still not comfortable with the upgrade process, you may want to clean up your sandbox environment, and repeat all steps one more time in the sandbox environment. This time, follow the instructions in this guide, in conjunction with the technical notes that you have documented so far.

Step 15 When you are ready, repeat the entire upgrade process on your production environment.

Upgrading to Service Portal 9.3.1

I. Overview

Several platforms are de-supported in this release of Service Portal. Therefore, review Table 4-3 on page 4-2 to find out whether you need to upgrade the versions of the application server, web server, or operating system, prior to upgrading Cisco Service Portal.

If the platform that your existing Service Portal is running on is no longer supported, you need to prepare a new environment for one of the newly supported platforms, as described in Chapter 2, "Installation and Configuration Guide".

For example, your Service Portal system is running on WebLogic 10.3 on Windows Server 2003 operating system. WebLogic 10.3 is still supported for Release 9.3.1 of Service Portal. However, because Windows Server 2003 is no longer supported, you will need to install WebLogic 10.3 on a brand new computer that has Windows Server 2008 R2 operating system.

For another example, your Service Portal is running on WebSphere 6.1 on AIX 5.3 operating system. Since both WebSphere 6.1 and AIX 5.3 are not supported in this Release 9.3.1 of Service Portal, you may have to prepare another computer that has WebSphere 7.0 on AIX 7.1 operating system.

Upgrading Service Portal involves:

- Performing pre-upgrade tasks while the current version of the application is up and running
- Preparing a sandbox environment that meets the newly supported platforms and pre-requisites for Service Portal Release **9.3.1** installation
- Validating the integrity of pre-upgrade database, and repairing any schema or data issues found
- Running the Service Portal Setup program in upgrade mode
- Performing post-upgrade tasks

II. Performing Pre-Upgrade Tasks

Perform the following mandatory pre-upgrade tasks on your production environment.

Step 1 If you do not have the **Advanced Reporting** module, proceed to Step 2. Otherwise, you need to perform several pre-upgrade tasks for the Advanced Reporting module, as described in the "Performing Pre-Upgrade Tasks for Advanced Reporting" section on page 4-18. Perform only the pre-upgrade steps for the Advanced Reporting module, then return to this section, and complete the rest of the procedures outlined here.

Step 2 Due to the application server version changes, messages in the JMS queues for Service Link and JMS adapters will not be migrated automatically to the new application servers. Prior to upgrade, you should check that there is no un-processed messages in the queues and resolve any that may be present. Once the queues are clear, stop all Service Link agents, so that you have a chance to verify Service Link communication before any agent is re-started after upgrade.

Step 3 Catalog Deployer does not support deploying packages between different release levels of Service Portal. Therefore, prior to upgrade, ensure you have deployed all assembled packages that are ready for deployment. Otherwise, you will not be able to deploy them after your database is upgraded to Release 9.3.1. Furthermore, as you approach the time for the upgrade, for any new package that you assemble in your current system, you might want to include the release version of Service Portal in the description. This will make it easier for you to identify different release versions of packages.

Step 4 An optional activity that may be included in the pre-upgrade checklist is to review the list of deployed packages. You may want to export and delete the packages that no longer need to be maintained online. Since these packages can no longer be deployed (once the upgrade has taken place), keeping them online is useful only for querying deployment history. By deleting these packages, you recover space in the database. Such clean-up activities can be conducted in all systems (development, test/QA, and production).

Step 5 Stop all Service Portal services on the application server.

Step 6 Back up Service Portal databases. Make sure that you back up all Service Portal-related databases if you have more than one. For example, in addition to the RequestCenter database, you may have a separate Datamart database and/or ContentStore database (which is used by Cognos). If so, you need to back up all databases.

Step 7 Back up all customization scripts or files. The Upgrade program will not preserve any customizations on your existing installation. Therefore, after the upgrade, you may need to re-apply some or all of these customizations on your system if they are still applicable.

Step 8 Back up the installation directory. For JBoss, this is the entire <*ServicePortal_Install_Dir*> directory (for example, C:\CiscoServicePortal or C:\newScale). For WebSphere or WebLogic, back up the directory where you originally installed the Service Portal software, not the WebSphere or WebLogic deployment directory.

III. Preparing the Upgrade Environment

Skip this section if you are ready to perform the upgrade on your production environment.

In this section, you will be creating a sandbox environment which you will use to perform the dry run exercise for the upgrade process. Once you are comfortable with the upgrade process and are armed with the technical notes that you have collected during the dry run exercise, you can begin the upgrade procedures on the actual production system.

To prepare a sandbox environment:

Step 1 Restore the production database backups onto another set of databases.

Note Since SQL Server 2005 database and Oracle 10g database are no longer supported in this release, you must restore your database backups onto a brand new SQL Server 2008 R2 database or an Oracle 11g database.

Step 2 If you are using Oracle DBMS, it is recommended that you execute recompile the statistics for each database after it is restored. This step is essential for enhancing the performance of upgrade processes on large databases.

Step 3 If your database is SQL Server, you must activate the READ_COMMITTED_SNAPSHOT by performing the following:

a. Connect to your SQL Server as the "sa" user, and set the SQL Server in single-user mode.

b. Execute the following commands. Replace <database_name> with the name of your RequestCenter database.

ALTER DATABASE <*database_name*> SET READ_COMMITTED_SNAPSHOT ON

GO

ALTER DATABASE <*database_name*> SET COMPATIBILITY_LEVEL=100

GO

c. Put the SQL Server back in multi-user mode.

Step 4 Review the list of supported platforms and the prerequisite information for Release **9.3.1** as described in Chapter 1, "Platform Support Matrix" and Chapter 2, "Installation and Configuration Guide". If your platform is no longer supported, then make sure that for the sandbox environment, install the correct versions of application server, web server and JDK on a supported operating system.

Step 5 Follow all the steps in Chapter 2, "Installation and Configuration Guide" before you get to the point of running the Setup program. Prior to running the Setup program, you need to first validate and repair the databases for any possible schema or data related issues.

IV. Executing the Validate and Repair program

This is a required step in the upgrade process. You must execute the **Validate and Repair** program to prepare your database for the upgrade to Release 9.3.1. The installer will not allow you to upgrade an existing database until it has been successfully validated and repaired.

To run the Validate and Repair program:

Step 1 Download the Service Portal software from the Cisco web site.

Step 2 On a command prompt, cd to the <*ServicePortal_Software_Dir*>/Installer directory.

Step 3 Type the appropriate command from the following table, then press **Enter**.

Table 4-4 Running the Validate and Repair Program

Operating System	Command
UNIX/ Linux	./validate.sh
Windows	validate.bat

Step 4 When prompted, enter the location of the Java home directory. For example, enter "C:\JDK1.6.0_23".

Step 5 Next, enter the location of installation directory where you intend to install the Service Portal. For example, enter "C:\CiscoServicePortal" (for Windows) or "/opt/CiscoServicePortal" (for UNIX/Linux).

Step 6 Follow the prompt to select the application server and enter the database information to connect to the databases being used for the upgrade.

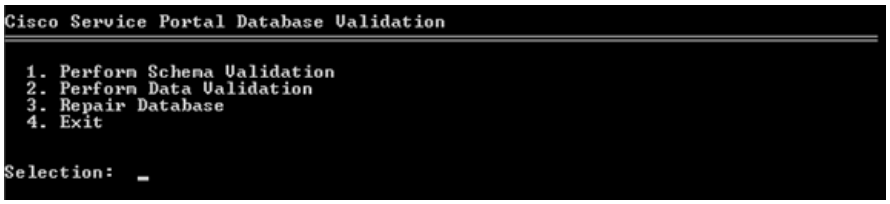
Step 7 The Service Portal Database Validation screen appears (Figure 4-1). This program is designed so that the options are executed in sequential order:

1. Perform Schema Validation
2. Perform Data Validation
3. Repair Database

You cannot execute Option 2 without having executed Option 1 at least once. You cannot execute Option 3 without having executed Option 2 at least once.

You can execute each option multiple times. However, each time that you execute Option 1 (**Perform Schema Validation**), the program re-initializes as if you start the validation process from the beginning. For example, let's say you have just completed Option 2. You can proceed with Option 3. But, instead you choose to execute Option 1 again. Because you execute Option 1, the system is re-initialized, and thus after you complete Option 1, you cannot jump to Option 3. You must execute Option 2 next.

Figure 4-1 Validate and Repair Screen



V. Validating Schema

Step 1 Select Option 1, **Perform Schema Validation**.

This option verifies the integrity of your existing schema. It reports any schema objects that are missing or have been modified. It also reports any objects that are not recognized as part of the application schema.

- Missing or modified objects are flagged with a status of "**inform: pending repair**" in the Validation Log Table. These objects will be repaired programmatically by the upgrade program.

- Unrecognized objects that touch any Service Portal tables are flagged with a status of "**inform: pending removal**". For examples, the following objects (if they exist) are flagged for removal: a) An unrecognized index on a Service Portal table, b) An unrecognized trigger on a Service Portal table, c) An unrecognized constraint on a Service Portal table, d) An unrecognized foreign key constraint that points to a Service Portal table. These objects will be automatically deleted by the upgrade program.
- All other types of unrecognized objects that do not interact with Service Portal tables are flagged with a status of "**inform**". For examples, the following objects (if they exist) are reported only: tables, columns, sequences, stored procedures, functions, indexes and constraints that do not interact with Service Portal tables. These objects are reported only, and will be left alone by the upgrade program.

Step 2 When the schema validation test completes successfully, the program displays a message, "Validation completed successfully with no errors" as shown below (Figure 4-2).

Figure 4-2 Schema Validation Complete

At this point, you can either:

a. Select Option 2, **Perform Data Validation**, to launch the second validation test. Skip to the "VII. Validating Data" section on page 4-14 in this document.

or

b. Select Option 4, **Exit**, to exit the Validate and Repair program now, and review the Validation Log Table. Proceed to the next section.

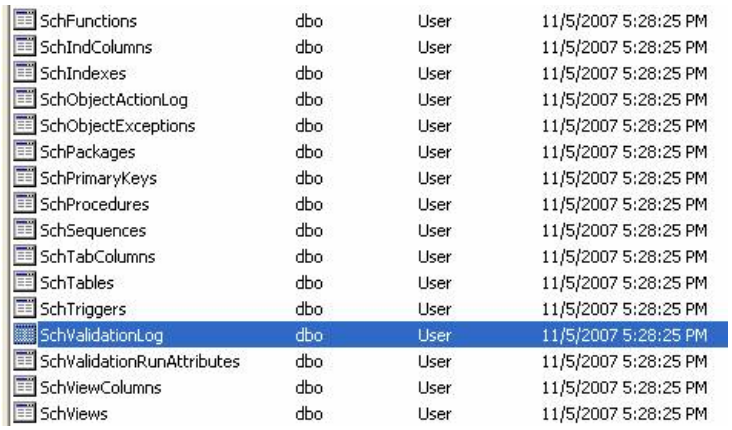
VI. Reviewing Validation Log Table

We strongly recommend that you review and address validation errors by doing so iteratively first for all schema validation errors, and then for all data validation errors. This methodology reduces the chance of regression errors you may encounter by mixing schema validation error fixes with data validation error fixes.

The results for all validation scripts, regardless of whether validation errors were found or not, are stored in a table called **SchValidationLog** in the database.

Step 1 Connect to your database as the schema owner (that is, RCUser), and browse the table **SchValidationLog** to view the validation results. You can use a utility like SQL Analyzer (Figure 4-3) or SQL*Plus to connect to your database.

Figure 4-3 Browse schValidationLog Table



SchFunctions	dbo	User	11/5/2007 5:28:25 PM
SchIndColumns	dbo	User	11/5/2007 5:28:25 PM
SchIndexes	dbo	User	11/5/2007 5:28:25 PM
SchObjectActionLog	dbo	User	11/5/2007 5:28:25 PM
SchObjectExceptions	dbo	User	11/5/2007 5:28:25 PM
SchPackages	dbo	User	11/5/2007 5:28:25 PM
SchPrimaryKeys	dbo	User	11/5/2007 5:28:25 PM
SchProcedures	dbo	User	11/5/2007 5:28:25 PM
SchSequences	dbo	User	11/5/2007 5:28:25 PM
SchTabColumns	dbo	User	11/5/2007 5:28:25 PM
SchTables	dbo	User	11/5/2007 5:28:25 PM
SchTriggers	dbo	User	11/5/2007 5:28:25 PM
SchValidationLog	dbo	User	11/5/2007 5:28:25 PM
SchValidationRunAttributes	dbo	User	11/5/2007 5:28:25 PM
SchViewColumns	dbo	User	11/5/2007 5:28:25 PM
SchViews	dbo	User	11/5/2007 5:28:25 PM

Step 2 Open the **SchValidationLog** table to view its contents (Figure 4-4).

Figure 4-4 SchValidationLog Contents

RunType	TestType	ObjectType	ObjectName	ObjectShortName	ErrorLevel	TestDetail
Check Schema	Table column ty...	Column	DirProject.Perce...	DirProject.Perce...	inform	Expected type: ...
Check Schema	Table column siz...	Column	DirPerson.SSN	DirPerson.SSN	inform	Expected type: ...
Check Schema	Unexpected tabl...	Table	CUSTOMER_TAB...	CUSTOMER_TAB...	inform	NULL
Check Schema	Unexpected tabl...	Table	CUSTOMER_TAB...	CUSTOMER_TAB...	inform	NULL
Check Schema	Unexpected tabl...	Table Column	DirPermission.C...	DirPermission.C...	inform	NULL
Check Schema	Unexpected tabl...	Table Column	DirPerson.CUST...	DirPerson.CUST...	inform	NULL
Check Schema	Unexpected FK ...	FK	FK_CUSTOMER_...	Table name: CU...	pending removal	NULL
Check Schema	Expected index ...	Index	TxInvocationAtt...	TxInvocationAtt...	inform:pending-r...	NULL
Check Schema	Expected index ...	Index	TxObjectRelatio...	TxObjectRelation3	inform:pending-r...	NULL
Check Schema	Expected index ...	Index	TxSatisfaction.T...	TxSatisfaction1	inform:pending-r...	NULL
Check Schema	Expected index ...	Index	XtrAgent.XtrAge...	XtrAgent3	inform:pending-r...	NULL

Step 3 Check the **ErrorLevel** column in the **SchValidationLog** table for the following values and take the recommended actions.

Table 4-5 Validation ErrorLevels

ErrorLevel	Description
inform	The validation test has resulted in an anomaly that is deemed harmless for the Upgrade program, as well as for the application. For example, the validation program detects a table that does not belong to the database schema. The existence of this table will not cause the Upgrade program to fail later, nor will it have any ill effect on the application. All validation entries with ErrorLevel=”inform” will be ignored by the Upgrade program. No action is required on your part to address these entries.

Table 4-5 Validation ErrorLevels

inform: auto-repairable	The data validation test has resulted in data error that is deemed to be harmful to the Upgrade program. However, this type of error can be safely and programmatically fixed by the **Repair Database** option of the Validate and Repair program. Most errors of this type are the result of internal inconsistencies, possibly introduced by previous upgrades or import utilities, and the repair typically consists of restoring referential and/or data integrity. The RepairScript column in the SchValidationLog table show the SQL statement that will be used to repair the error. No action is required on your part.
inform: auto-repaired	The Repair Database option of the Validation and Repair Program has executed the sql statement documented in the **RepairScript** column to fix the error, that was reported as **inform: auto-repairable** above. No action is required on your part.
inform: pending-repair	The validation test has resulted in an anomaly that is deemed to be harmful to the application, but one that will be programmatically repaired by the Upgrade program later. An example of this type of anomaly is a missing index or a missing primary key constraint. When the Upgrade program is run at a later time, the missing index or primary key constraint will be created correctly, if it does not exist. No action is required on your part.

Table 4-5 Validation ErrorLevels

inform: pending removal	The validation test detected an unrecognized database object that touches a Service Portal table. The existence of this object may prevent the Upgrade program from completing successfully. Therefore, when the Upgrade program is run, it will first attempt to delete all objects that were flagged as "pending removal" by the Validate and Repair program. No action is required on your part.
error	A validation test has resulted in a hard "error" that cannot be fixed programmatically by the upgrade program. Usually, this type of error is related to a bad data relationship, such as missing row, or duplicate entries. The **TestType** column indicates the type of error, and the **TestDetail** column contains the SQL statement that was used for the validation test. This SQL statement should provide you with some hints regarding the error. This error would cause the Upgrade program to fail later; thus, when such an error is detected by the Validate and Repair program, the Setup will prevent the user from proceeding with the Upgrade program. **The application administrator or database administrator must manually fix all errors of this type, and then run Validate and Repair program again until it reports no more errors.** Contact the Cisco Technical Assistance Center (TAC) if you need assistance on how to fix the validation errors. In some cases, the **RepairScript** column may contain a *suggested* SQL statement that can be used to fix the error. Consult with your application administrator or DBA to ensure that such a repair script is applicable for your specific situation. Document clearly how each validation error is fixed. You will need your notes when you have to repeat the upgrade procedures on another environment.

Step 4 Your **SchValidationLog** table may contain a lot of entries. Thus, you may want to use the following SQL command to filter the contents:

SELECT * FROM SchValidationLog WHERE ErrorLevel='error'

AND RunType='Check Data';

Include the WHERE clause **ErrorLevel='error'** if you just want to see the validation errors that you must fix manually before you can proceed with the upgrade process. Exclude that WHERE clause, or change the value 'error' to another value (such as "inform: auto-repairable" – refer to Table 4-5 for more information) if you want to view other entries in the SchValidationLog table.

Notes about the **RunType** column in the SchValidationLog table:

- Option 1 (**Perform Schema Validation**) inserts entries with RunType="Check Schema".
- Option 2 (**Perform Data Validation**) inserts entries with RunType="Check Data".
- Option 3 (**Repair Databas**e) updates all entries with ErrorLevel="inform: auto-repairable" to ErrorLevel="inform: auto-repaired" and at the same type, change the RunType to "Fix Data".

Step 5 After you manually fix all of the validation entries with ErrorLevel="error", re-run the Validate and Repair program, and select the same option again, to verify whether the program reports any more errors. It is possible that as a result of your manual fixes, new validation errors may appear. If this happens, you have to repeat the same process of running the Validate and Repair program, and fixing the validation errors, iteratively.

VII. Validating Data

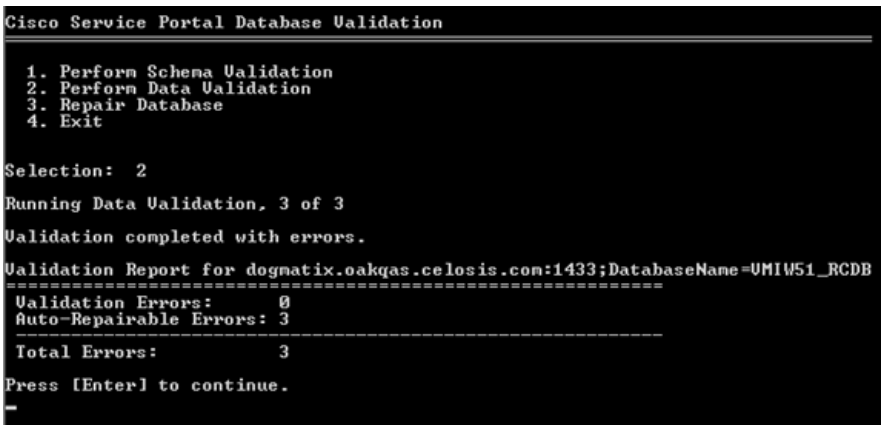
Step 1 If the Validate and Repair program is not already running, start it.

Step 2 When the Service Portal Database Validation screen appears (Figure 4-1), select Option 2, **Perform Data Validation**.

If the data validation test completes without validation errors, the system displays a message, "Total Errors: 0" as shown below (Figure 4-5). Note that Validation Errors are the type that you need to fix manually, whereas Auto-Repairable Errors are the type that will be fixed programmatically by the **Repair Database** option of the Validate and Repair program.

If the data validation encounters validation errors, then, at the completion of the data validation process, the Validation and Repair program reports the number of errors it encountered.

Figure 4-5 Data Validation Complete



Step 3 If you received a message that validation errors were encountered, then you need to manually fix those errors before continuing the upgrade process. Jump back to the "VI. Reviewing Validation Log Table" section on page 4-10. If you received the message that the validation completed successfully with no errors, then proceed to the "VIII. Repairing Database" section on page 4-14.

VIII. Repairing Database

You must run Option 3, **Repair Database**, even if Options 1 and 2, report no errors. Otherwise, the installation program prevents you from proceeding with the upgrade because Option 3 was not run.

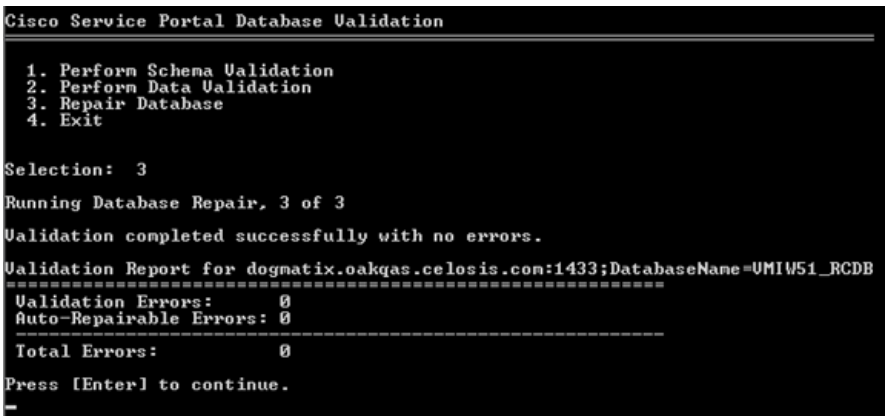
To repair the database:

Step 1 If the Validate and Repair program is not already running, start it.

Step 2 When the Service Portal Database Validation screen appears (Figure 4-1), select Option 3, **Repair Database**.

The Validation and Repair program repairs the database and displays the Database Repaired screen (Figure 4-6).

Figure 4-6 Database Repair Complete



Step 3 Now that you have validated and repaired the existing database, proceed to the "IX. Upgrading Existing Installation" section that will direct you to start the installer to complete the upgrade process.

IX. Upgrading Existing Installation

You have validated and repaired your database, and are now ready to proceed with the upgrade program.

Step 1 Start the Setup program by entering the command appropriate for your operating system:

Table 4-6 Running the Upgrade Program

Operating System	Command
UNIX/ Linux	./setup.sh
Windows	Setup.bat

Step 2 Enter the location of the Java home directory. For example, enter "C:\JDK1.6.0_23".

Step 3 When the Installation Type screen appears, select Option 2, **Upgrade Existing Installation**.

Step 4 The Setup program displays a message to ask you to confirm that you have already executed the Validate and Repair program. If your database has already been validated successfully, type **Yes** and press **Enter** to continue.

Step 5 Respond to the successive Installer screens as described in detail in Chapter 2, "Installation and Configuration Guide".

Step 6 After you enter the database information on the Database Component Installation Options screen and the Datamart Database Component Installation Options screen (as described in Chapter 2, "Installation and Configuration Guide"), the Setup program will connect to your database and check if it has been successfully validated. If the Setup program detects that your database has not been validated successfully (for example, either the Validation and Repair program has never been executed, or there are still outstanding validation errors in the SchValidationLog table with errorLevel= "errors"), it will inform you that your database has not been successfully validated, and abort the execution.

Step 7 If the Setup program verifies that your database has been validated successfully, it displays the next Installation Options screen. Complete the values for the options on this screen (as described in Chapter 2, "Installation and Configuration Guide"), then type **C** and press **Enter** to continue.

Step 8 If you have the Advanced Reporting module, you must select **Yes** for the **Advanced Reporting** module on the Module selection screen, and **Yes** for the **Data Mart Database Component** on the Component selection screen. Failing to do so may cause data inconsistency between the RequestCenter database and Datamart database.

Note Catalog Installer module is now replaced with new features in the Catalog Deployer module. Catalog Installer no longer shows up on the installer 'Module' menu for selection. Catalog Deployer is always installed as part of Request Center.

Note Advanced Reporting module is now part of the installation for Reporting solution. If the system did not previously have Advanced Reporting installed, the Form Data Reporting parameters will be set to the system default values which can be overwritten. Refer to the "Upgrading Advanced Reporting" section on page 4-18 for more information.

Step 9 The Setup program proceeds to execute the upgrade scripts to modify your database schema and contents. The upgrade scripts may take a long time to run, depending on the size of your database. After the upgrade scripts modify the database schema and contents, the Setup program proceeds to create the EAR and WAR files. (If you have the **Advanced Reporting** module, then the Setup program will also execute the scripts to upgrade the schema and contents for the *Datamart* database.)

- If you have a JBoss application server, the Setup program automatically deploys the new EAR and WAR files into the <*ServicePortal_Install_Dir*>\jboss-4.2.3\server \RequestCenter and ServiceLink folders.
- If you have a **WebSphere** or **WebLogic** application server, the Setup program will only create the new RequestCenter.ear and ISEE.war files in the <*ServicePortal_Install_Dir*>\dist folder. You must then follow the same procedures described in Chapter 2, "Installation and Configuration Guide" to deploy the EAR and WAR files for the Service Portal product.

Step 10 Once you finish the deployment of the EAR and WAR files, and are able to start up the application servers, you have essentially completed the upgrade process. Your Service Portal application is now at Release 9.3.1. At this time, if you wish, you can make a backup of the databases and the installation directory. If you are using Oracle DBMS, it is recommended that you again execute recompile statistics for the upgraded databases in order to improve the system's runtime performance.

X. Performing Post-Upgrade Tasks

Step 1 Where necessary, re-create custom database objects that were deleted from the database by the Setup program.

Step 2 Any custom code must be compatible with the new version of the JDK:

- Service Link custom adapters must be replaced with Release 9.3.1 versions.
- Custom adapters and any custom Java code developed at the customer site must be rebuilt using the new JDK.
- Any enterprise portal into which Request Center Portlets are deployed must be at JDK version 1.6.

Step 3 If your database is Oracle, perform the following step after you install a Custom Adapter:

a. Connect to your RequestCenter database, and execute the following sql command: UPDATE XtrProperty SET DefaultValue = ‘ ’ WHERE DefaultValue IS NULL;

Step 4 Requisition API (RAPI) has been deprecated and replaced with Requisition web services. If you have any existing RAPI integration, it needs to be evaluated for re-implementation using the new web services.

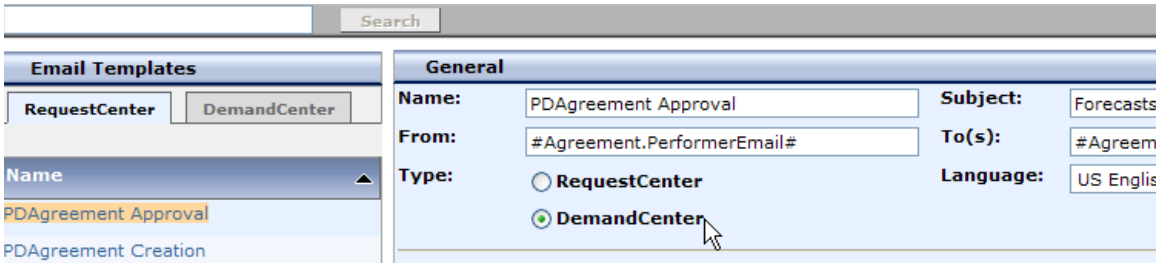
Step 5 Service Import/Export and Service Offering Import/Export are not backward compatible with previous releases. Services or Service Offerings exported in prior releases cannot be imported to Release 9.3.1. If you have maintained any Services or Service Offerings export files in a code repository prior to upgrade, then you may want to export them again, and mark them for Release 9.3.1.

Step 6 Follow procedures your organization has used in the past to re-implement all customizations for the application.

Step 7 Review RBAC roles for users who used to have access to Catalog Installer, and grant them access to Catalog Deployer if necessary.

Step 8 If you use custom email templates for the Demand Center Agreement Notifications feature that was made available since Release 2008.1, you need to identify the corresponding email templates and set the template type to “DemandCenter” in the Administration module.

Figure 4-7 Configuring Email Templates



Step 9 Connect to the Service Portal application as an administrative user. Navigate to the “Administration” module, and click the **Settings** tab. Under Customizations Settings, look for “Browser Cache” (as shown in Figure 4-8).

Figure 4-8 Enable Browser Cache Setting

Select the **Enabled** radio button for the "Browser Cache" setting. Click the **+** button located to the right of the Version text box. This will increment the Version number by one. Then click the **Update** button. This setting will notify the users to clear their browser's cache when they connect to the Service Portal URL for the first time after the Service Portal system is upgraded.

The next section describes the procedures for upgrading the **Cognos** component of the **Advanced Reporting** module. If your pre-upgrade Service Portal system included the Advanced Reporting module, then you must continue with the next section to complete the upgrade process for the Cognos component so that the Advanced Reporting module will work for Release 9.3.1.

Upgrading Advanced Reporting

Overview

Advanced Reporting have been greatly enhanced in this release, with the use of IBM Cognos 8.4.1 Business Intelligence (BI) components.

Note Cognos PowerPlay Cubes (available in earlier releases via the Analytics module) are no longer supported in Release 9.3.1. The Analytics module is not available in this release.

At a high-level, the steps involved in Upgrading Advanced Reporting are as follow:

- Performing the pre-upgrade tasks for Advanced Reporting while the current version of Service Portal system is up and running.
- Running the Advanced Reporting configuration scripts after successful completion of the Service Portal upgrade described in the "Upgrading Service Portal" section on page 4-1.
- Performing post-upgrade tasks for Advanced Reporting.

Performing Pre-Upgrade Tasks for Advanced Reporting

Perform the tasks listed below while the pre-upgraded system is up and running. You should also perform the pre-upgrade tasks described in the "I. Overview" section on page 4-6. This is important because running the Setup program will upgrade both the both the RequestCenter database and the Datamart database.

Backing Up Data Mart and Content Store Artifacts

To back up the Data Mart and Content Store artifacts:

Step 1 Back up the Datamart database (If there are any custom Datamart tables, they can be referred from this backup) and the ContentStore database.

Step 2 Back up all custom-defined views that are used by Advanced Reporting from the RequestCenter database.

Step 3 Back up the catalog file 'RequestCenter_windows.ctg' located in C:\\CiscoServicePortal\cognos\config\Datamart\RequestCenter_windows.ctg.

Step 4 Back up the standard reporting package folder located in C:\\CiscoServicePortal\cognos\Reports\Report Data Model.

Note The database backups are for safety purposes and the RequestCenter_windows.ctg and Report Data Model folder backups are for reference when you are reapplying any customizations you created in earlier releases.

Uninstalling Cognos 8.4. Components

Follow the steps below to uninstall all Cognos 8.4 components:

Step 1 From your operating system's Start button, select **Programs > IBM Cognos8 > Uninstall IBM Cognos8 > Uninstall IBM Cognos8**.

Step 2 Select the display language and click **Next**.

Step 3 Select all the components from the package list, and proceed with the rest of the installation wizard until you get to the Finish screen.

Step 4 Reboot the system once all the components have been uninstalled successfully.

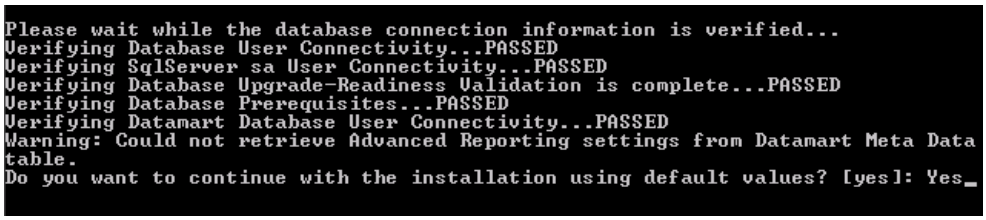
Running Validation and Upgrade Processes

Now that you have completed the pre-upgrade tasks for Advanced Reporting, you can proceed with other pre-upgrade tasks, validation and repair, and upgrade processes for Service Portal as outlined in the "Upgrading Service Portal" section on page 4-1.

Here are two things to note during the upgrade process that are specific to Advanced Reporting:

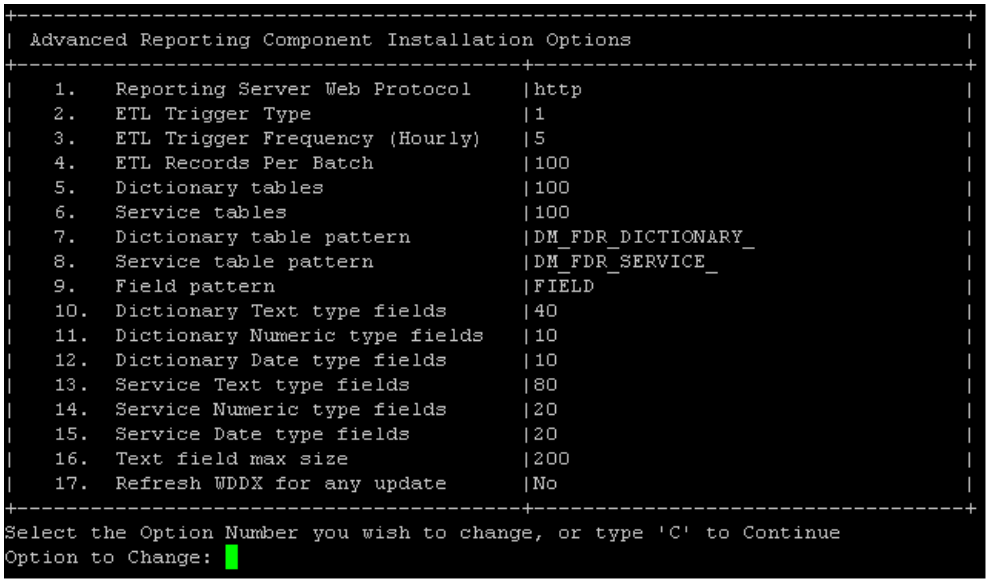
Step 1 When executing the Setup Program, if you have not previously installed Advanced Reporting, or if the Data Mart Meta Data table is missing from the Datamart database, you will get a prompt that asks you to confirm if the default values should be used for the Meta Data table:

Figure 4-9 Confirming Default Value for Meta Data Table



If you suspect a database issue because the meta data should have been present, answer **No** to exit the Validation Program and check the Data Mart database. Otherwise, answer **Yes** and the default Advanced Reporting installation options will be shown:

Figure 4-10 Advanced Reporting Installation Options



The objects created here are used for the "Form Data Reporting" feature in the Advanced Reporting module. Please refer to Chapter 3, "Advanced Reporting Guide" for more details regarding this feature. You can enter new values to override the defaults if necessary. Enter **C** to accept the values and continue.

Step 2 While using the Setup program to upgrade your existing installation, you must select **Yes** for the "Advanced Reporting" module after you select the **Upgrade Existing Installation** option so that all Advanced Reporting related objects and Data Mart schema are upgraded to Release 9.3.1. The Setup program generates a new "cognosinstaller.zip" file that you will use in the next step.

Now return to the "III. Preparing the Upgrade Environment" section on page 4-7 to execute the Service Portal upgrade.

Cognos Installation

Continue with this section only if you have completed the Service Portal upgrade described in the "Upgrading Service Portal" section on page 4-1. Following the steps in the rest of this chapter, you will complete the installation and configuration of Cognos, and perform the post-upgrade tasks that are applicable to the upgrade path taken.

Installing Cognos 8.4.1

See the "Installing Cognos Software" section on page 3-7 for more details on how to install Cognos 8.4.1.

Configuring Advanced Reporting Components

Whether you are installing Cognos for the first time or upgrading from a release which has a version of Cognos, you will need to execute all the steps for configuring Advanced Reporting as you would do for a new installation.

See the "Configuring Reporting and Advanced Reporting Components" section on page 3-9, and follow all the steps described there.

Performing Post-Upgrade Tasks for Advanced Reporting

Setting Reporting Preferences

The default display for the Reports folders for Cognos 8.4.1 is the List format, with items arranged three across the page. This is different than the default display for ReportNet, which was the Details format. If users previously set their individual preferences in the earlier versions of Service Portal, these preferences are not preserved. Report users should set and save their preferences when they first use the Reports module.

Re-configuring Analytics User Roles

Due to the removal of the Analytics module, users with only the "Service Operations Analyst" or "Service Strategy and Design Analyst" roles will not have access to the Advanced Reporting module. Their RBAC roles need to be evaluated for possible addition of new roles.

Setting up Scheduled Jobs

With the features introduced in the new release, it is recommended that you review the scheduled jobs set up previously, modify the batch scripts and their frequency of execution where necessary. Any customized ETL configurations for Form Data Reporting, which are located in the newscale.properties file in the Service Portal installed directory, also need to be reinstated as they are not preserved in the upgrade process.

CHAPTER 5

Advanced Configuration and Troubleshooting Tips for Cognos

Overview

This chapter contains troubleshooting tips and optional configuration instructions for Cognos.

Miscellaneous Configuration

Configuring Client Browsers to View a Report as Excel

Some users may report an issue with attempting to view a report in Excel format. The Excel screen pops up briefly and then disappears. To address this issue, add the Cognos Server URL to the Local Intranet zone of the client browser:

Step 1 Open the client browser window.

Step 2 Select **Tools > Internet Options**.

Step 3 Click **Security**.

Step 4 Select the **Local Intranet** zone.

Step 5 Click **Sites**.

Step 6 Click **Advanced**.

Step 7 Enter the Cognos Server URL.

Note To determine the Cognos server URL, try one of the View as Excel features in the Reporting module and look for the URL that appears in the title bar of the window that appears briefly before closing itself. This is the URL you need to enter. You may want to load a screen capture application and snap the screen if it disappears too quickly to read in real time.

Step 8 Click **Add**.

Configuring Cognos Memory Usage

You configure Cognos memory usage by modifying the heap size for Cognos. To modify the heap size for the Cognos server:

Step 1 Stop the IBM Cognos 8 service.

Step 2 Open the **startup.bat** located under the C:\Program Files (x86)\cognos\c8_64\bin64 directory.

Step 3 In the startup.bat file, you can see different heap size settings recommended by Cognos, based on the RAM size of your Cognos machine:

rem "for machines with 1GB RAM**"**

set CATALINA_OPTS=-Xmx768m -XX:MaxNewSize=384m -XX:NewSize=192m -XX:MaxPermSize=128m %DEBUG_OPTS%

rem "for machines with 2GB RAM**"**

rem set CATALINA_OPTS=-Xmx1152m -XX:MaxNewSize=576m -XX:NewSize=288m -XX:MaxPermSize=128m %DEBUG_OPTS%

rem "for machines with 3GB RAM**"**

rem set CATALINA_OPTS=-Xmx1536m -XX:MaxNewSize=768m -XX:NewSize=384m -XX:MaxPermSize=128m %DEBUG_OPTS%

Based on your system RAM size, you can use any one the above heap size settings or modify the heap size settings, and comment the rest of the heap size settings by prefixing the line with **rem**.

Step 4 Restart the IBM Cognos 8 service.

Setting the Timeout Interval on IBM Cognos 8 Server

The IBM Cognos 8 session timeout setting should match that of Service Portal to allow Single Sign-On to work seamlessly.

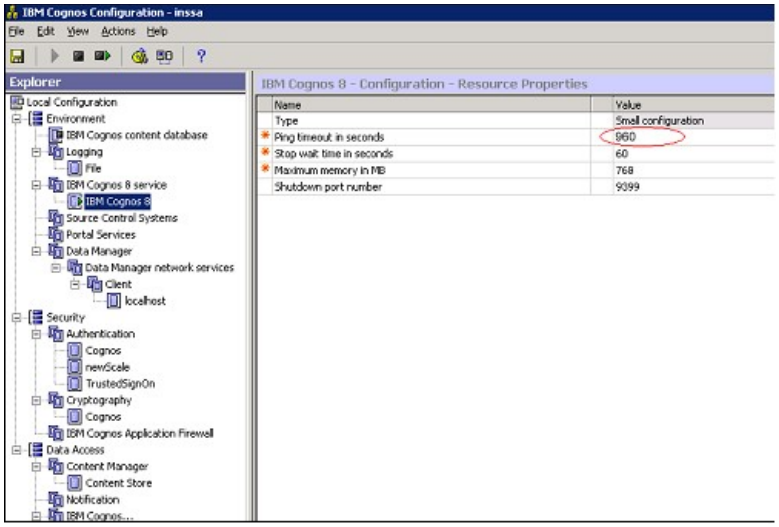
To set the timeout interval:

Step 1 Select **Start > All Programs > IBM Cognos 8 - 64 > IBM Cognos Configuration**.

Step 2 Expand **Environment > IBM Cognos 8 service**.

Step 3 Select **IBM Cognos 8**.

Step 4 Under Resource Properties, select **Ping timeout in seconds**. Enter **960** as the timeout interval in seconds. 960 is the maximum possible value.



Step 5 Save the configuration (by clicking the **Save** icon).

Step 6 Restart the IBM Cognos 8 service.

Understanding Roles

Roles for Accessing Reporting Features

The roles listed in the table below are defined in the Organization Designer module, and should be assigned to users who need to access the Reporting and Advanced Reporting modules.

If you assign a user to the pre-defined role "**Service Operations Report User**" the user should be able to run the pre-built Request Center reports.

Table Legend
DC = Demand Center
RC = Request Center

Role	Capabilities	Description
Service Operations Report User	• View RC Reports	Module(s): Reporting • Ability to view the KPI dashboard and run RC (Service Performance) reports

Service Strategy and Design Report user	• View DC Reports	Module(s): Reporting • Ability to view the KPI dashboard and run DC (Business Value) reports
Advanced Reporting – BusinessAuthor	• View RC Reports • View DC Reports • Ad-Hoc Reports	Module(s): Reporting and Advanced Reporting • Access to the Ad-Hoc Reports tab in the Advanced Reporting module
Advanced Reporting – ProfessionalAuthor	• View RC Reports • View DC Reports • Ad-Hoc Reports • Report Designer	Module(s): Reporting and Advanced Reporting • Ability to view the KPI dashboard (DC /RC) • Access to the Ad-Hoc Reports tab in the Advanced Reporting module • Access to Report Designer
Reporting Administrator	• View RC Reports • View DC Reports	Module(s): Reporting and Advanced Reporting • Access to Reports in the Advanced Reporting module
Relationship Manager	• View RC Reports • View DC Reports	Module(s): Reporting • Access to all reports (DC /RC)
Service Level Manager	• View RC Reports • View DC Reports	Module(s): Reporting • Access to all reports (DC /RC)
Service Team Manager	• View RC Reports	Module(s): Reporting • Ability to view the KPI dashboard and run RC (Service Performance) reports
Service Team Administrator	• View RC Reports	Module(s): Reporting • Ability to view the KPI dashboard and run RC (Service Performance) reports
Portfolio Designer and Administrator	• View DC Reports	Module(s): Reporting • Ability to view the KPI dashboard and run DC (Business Value) reports
Portfolio Manager	• View DC Reports	Module(s): Reporting • Ability to view the KPI dashboard and run DC (Business Value) reports
Analytics Administrator	• View RC Reports • View DC Reports • Ad-hoc Reports • Report Designer • KPI Administrator • Report Administrator	Module(s): Reporting and Advanced Reporting • Access to the reports (DC /RC) • Ability to view the KPI dashboard (DC /RC) • Access to Ad-hoc Reports tab in the Advanced Reporting module • Access to Report Designer • Access to manage Reporting folders, dashboard, administration of Cognos, schedule reports, save reports and permissions administration, create reports • Access to the KPI Administration function
Site Administrator	All	Module(s): Reporting and Advanced Reporting • All Service Portal and Cognos capabilities

Moving Reports from Development to Production Environments

This section describes how to move Report Designer reports and Ad-Hoc queries that you create in a development environment to a production environment.

Prerequisites

You must be a user with the ability to administer the Reporting module to move reports using the Deployment option discussed below. The pre-defined roles Site Administrator include this capability.

You must have access to the file system of the Cognos servers for both the source and target environments.

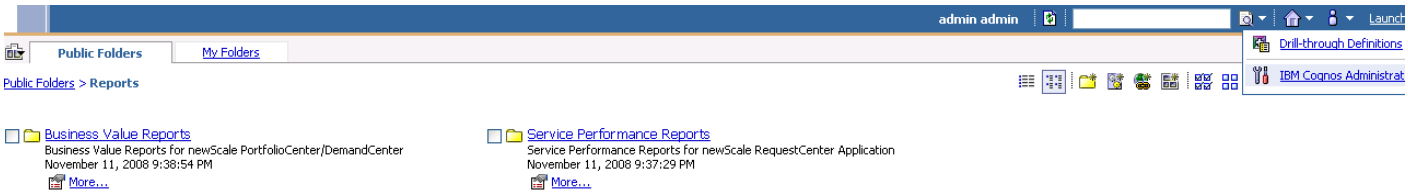
Creating an Export File

Step 1 On the development machine, create a folder named **CustomReports** in the **Public Folders** directory of Cognos. The name of the folder may vary, but it must be a public folder.

Step 2 Copy the new report to the **CustomReports** folder created above.

Step 3 Log into Service Portal as a user with the Report Administrator capability.

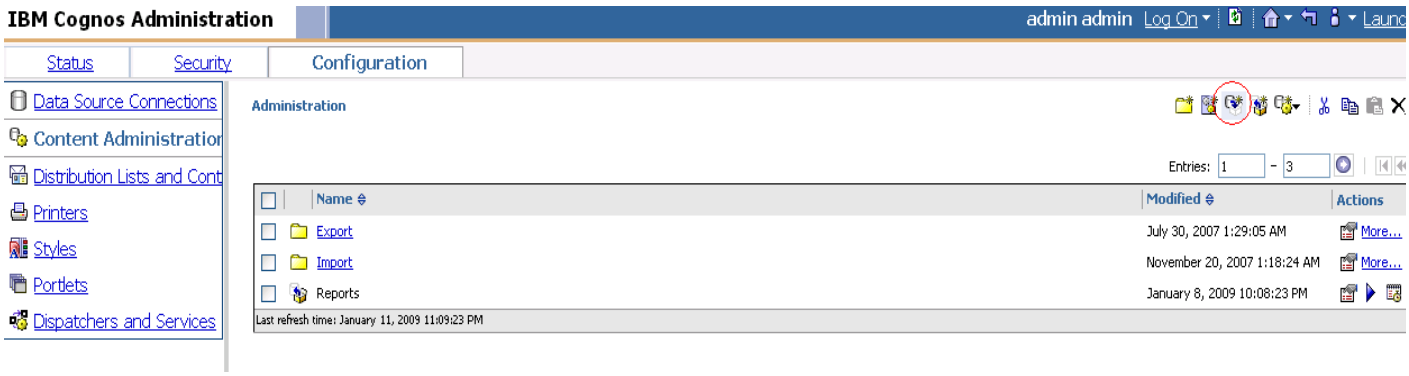
Step 4 Select the Reporting module's **Deployment** option as shown below.



Step 5 Go to Launch on the right hand side top corner and click **IBM Cognos Administration**.

Step 6 Click the **Configuration** tab.

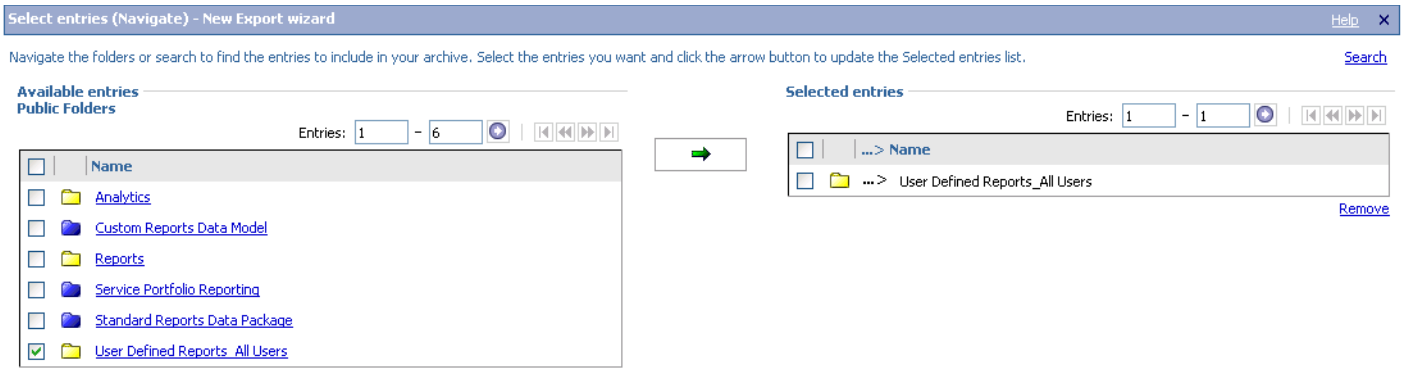
Step 7 Go to Content Administration and then select the **New Export** icon in the top-right corner of the screen.



Step 8 Provide a name (for example, CustomReports) and other details for the export, and then click **Next**.

Step 9 On the Deployment Method page, select **Select public folders and directory content** and then click **Next**.

Step 10 Click **Add** and select the **CustomReports** folder created in Step 1. Select the Custom reports folders, click the **Add** button and then click **OK** at the bottom.



Step 11 Deselect **Disable after import** and then click **Next**.

Step 12 Click **Next**.

Step 13 In the "Select the directory content" section, select **Include Cognos groups and roles** and select **Replace existing entries** and click **Next**.

Step 14 In the "Specify the general options" section, select **Include access permissions** and select **Apply to new and existing entries**.

Step 15 Select **Include references to external namespaces** under External namespaces.

Step 16 In the "Entry ownership" section, select **The user performing the import** and click **Next** in the "Specify the general options" section.

Step 17 Click **Next** in the "Specify a deployment archive" section.

Step 18 Click **Next** in the "Review the summary" section.

Step 19 Click **Finish** in the "Select an action" section.

Step 20 Select **Now** and click **Run** in "Run with options" section.

This process creates **CustomReports.zip** in the <CognosHome>\c8\deployment folder of Cognos SOURCE machine.

Import the Exported File

Step 1 Copy the exported file **CustomReports.zip** to the <CognosHome>\c8\deployment folder on the production machine.

Step 2 Go to Launch on the right hand side top corner and click **IBM Cognos Administration**.

Step 3 Click the **Configuration** tab.

Step 4 Go to Content Administration and then select the **New Import** icon in the top-right corner of the screen.

Step 5 Select **CustomReports** and click **Next**.

Step 6 Select **CustomReports** and click **Next** in the "Select the public folders content" section.

Step 7 Click **Next** in the "Select the directory content" section.

Step 8 Click **Next** in the "Specify the general options" section.

Step 9 Click **Next** in the "Review the summary" section.

Step 10 Click the **Finish** button in "Select an action" section.

Step 11 The new report folder **CustomReports** appears in the in public folders area of the production machine.

Increasing the Number of Reportable Dictionaries and Services

As your environment grows, you may need to increase the number of form data reporting (ad-hoc reporting) dictionary and service tables, for example, if you bring additional services online or decide that you need to report on the contents of additional dictionaries.

Increasing the Number of Dictionary or Service Tables

To increase the number of the FDR dictionary/service tables:

Step 1 Use a text editor to open the file **cognos.properties** in the <*requestcenter.destination*>/cognos/config directory.

Step 2 Edit the values for following parameters in the cognos.properties file:

DM.IncrementOfDictionaryTables=n

DM.IncrementOfServiceTables=n

where *n* = the number of tables you would like to add to the data mart.

For example, if you start with 50 dictionary and service tables, and then enter 20 for *n* for each parameter, then you are configuring the setting to add twenty more tables for a total of 70 dictionary tables and 70 service tables. In other words, DM_FDR_DICTIONARY_50 changes to DM_FDR_DICTIONARY_70 and DM_FDR_SERVICE_50 changes to DM_FDR_SERVICE_70.

Step 3 Open a Command Prompt window, and execute the script **create_fdr_tables.cmd** in the <*requestcenter.destination*>/cognos/bin directory.

This script increases the number of tables according to the values you entered in the **cognos.properties** file.

Note The number of columns (numeric, character (text) and date types) will be the same for the newly created tables as was configured during the installation of the Ad-Hoc Reporting module.

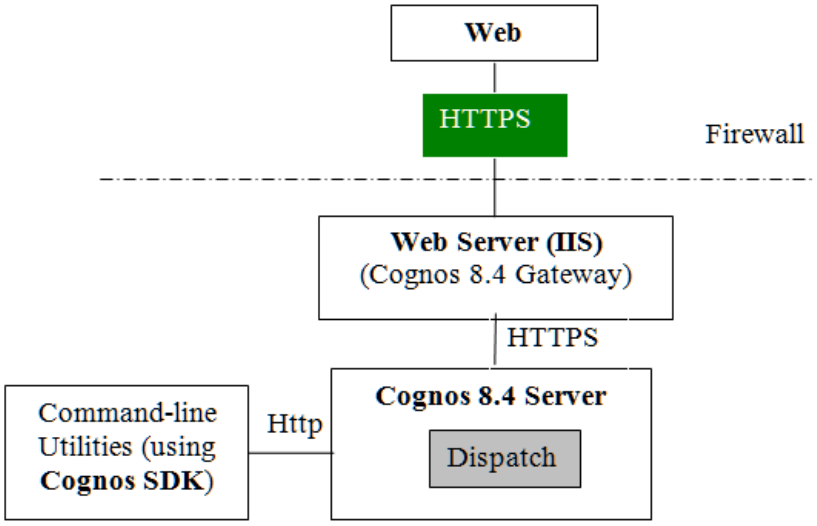
Verification Procedure

To verify the addition of the new tables, log on to the Datamart database and check the number of dictionary/service (DM_FDR_DICTIONARY_N/DM_FDR_SERVICE_N) tables.

Configuring HTTPS for Cognos

Overview of SSL support in Cognos Server

To enable SSL support on the Cognos Server one has to change the protocol of the Cognos Gateway to HTTPS (assuming that the Web Server like IIS is also setup for HTTPS).



Prerequisites and Assumptions

1. Https should be enabled on IIS Server where Cognos Server is installed using this instruction: http://inservice/QA/kb/?View=entry&EntryID=4.
2. In addition to the above instruction, one needs to remove the TCP port (80) on IIS.

Note In Windows Server 2008 R2 we can't remove TCP port (80) and hence Firewall should be used to disable the TCP port (80)).

3. For additional security one can use a Firewall to block all the non-SSL ports on the system where Cognos+IIS is installed (for example, port 80 and 9300).
4. All Command-line utilities used for SA/Reporting will still Http protocol as those commands are run on the same system where Cognos Server is installed.
5. It's also an over-head and performance concern to enable Https/SSL for the command-line utilities and hence it remains non-SSL.
6. 'CognosServername' in the CnfParams table should be manually changed to set the SSL port that is configured on IIS.

Importing IIS Server Certificate to the Cognos Server

Step 1 The Server Certificate used for IIS should be copied to a secure location on the Cognos 8.4 BI server.

Note Ensure that the Server certificate is in Base-64 encoded X.509 format.

Step 2 Open command prompt and go to the folder "C:\Program Files (x86)\cognos\c8_64\bin".

Step 3 Set JAVA_HOME=C:\Program Files (x86)\cognos\c8_64\bin\jre\1.5.0.

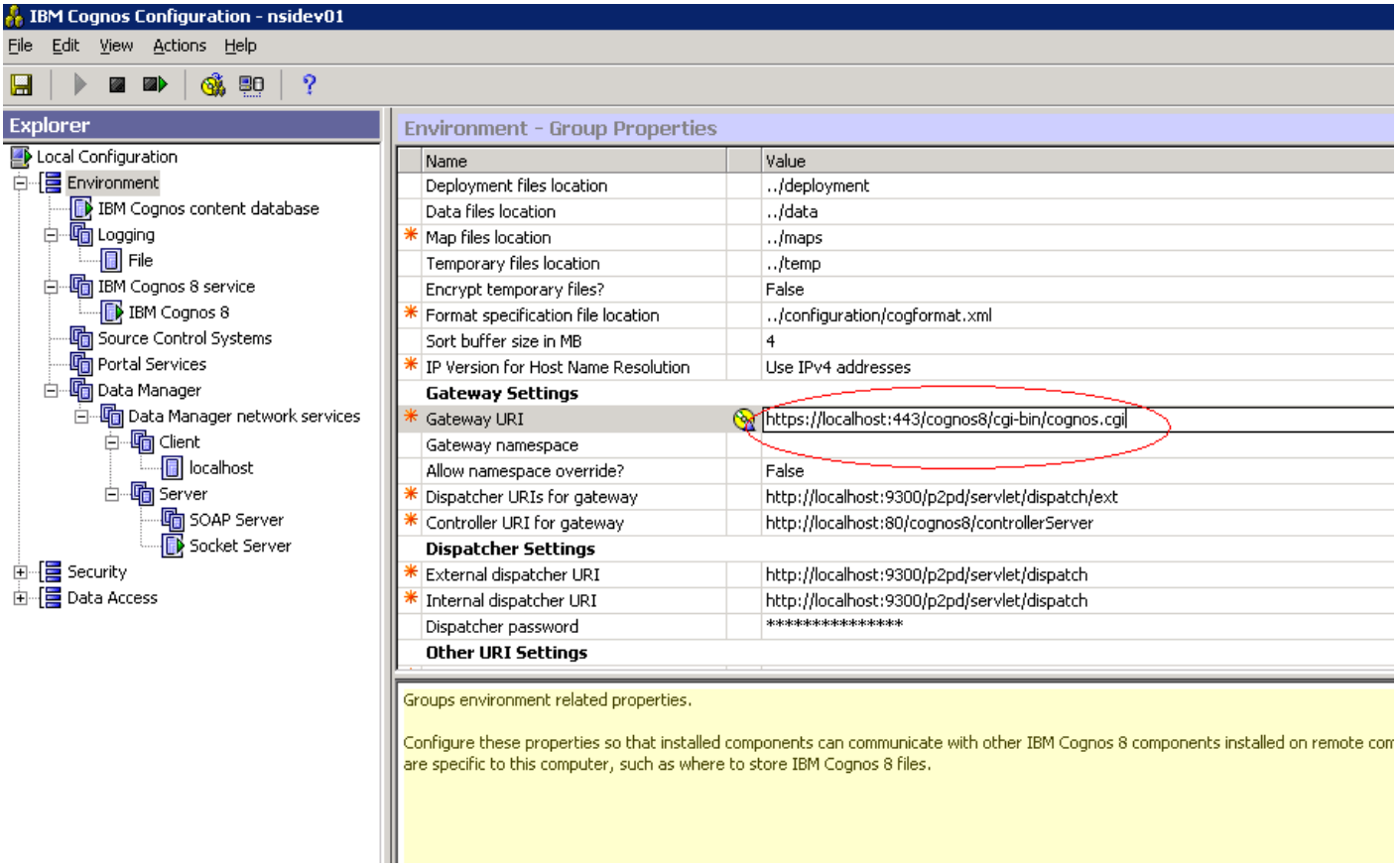
Step 4 Import the IIS Server certificate into Cognos 8.4's JCA Keystore by typing the following command:

```
ThirdPartyCertificateTool.bat -T -i -r CA_certificate_file -k
crn_location/configuration/signkeypair/jCAKeystore -p password
(e.g. ThirdPartyCertificateTool.bat -T -i -r "c:\certnew.cer" -k "C:\Program
Files\Cognos\c8\configuration\signkeypair\jCAKeystore" -p NoPassWordSet)
```

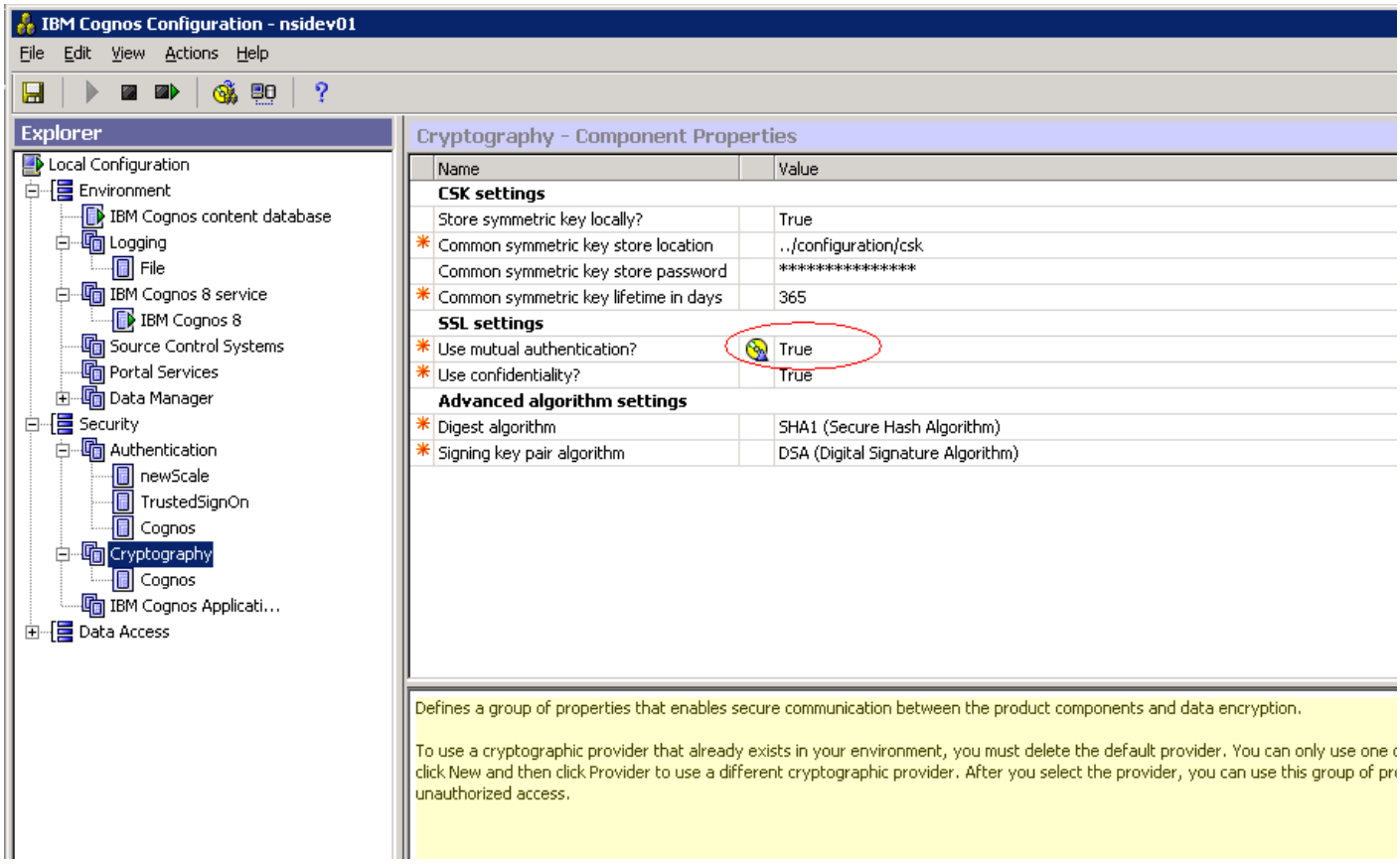
Configuring Cognos 8.4 for SSL

Step 1 Go to **Program Files > IBM Cognos 8 > IBM Cognos Configuration**.

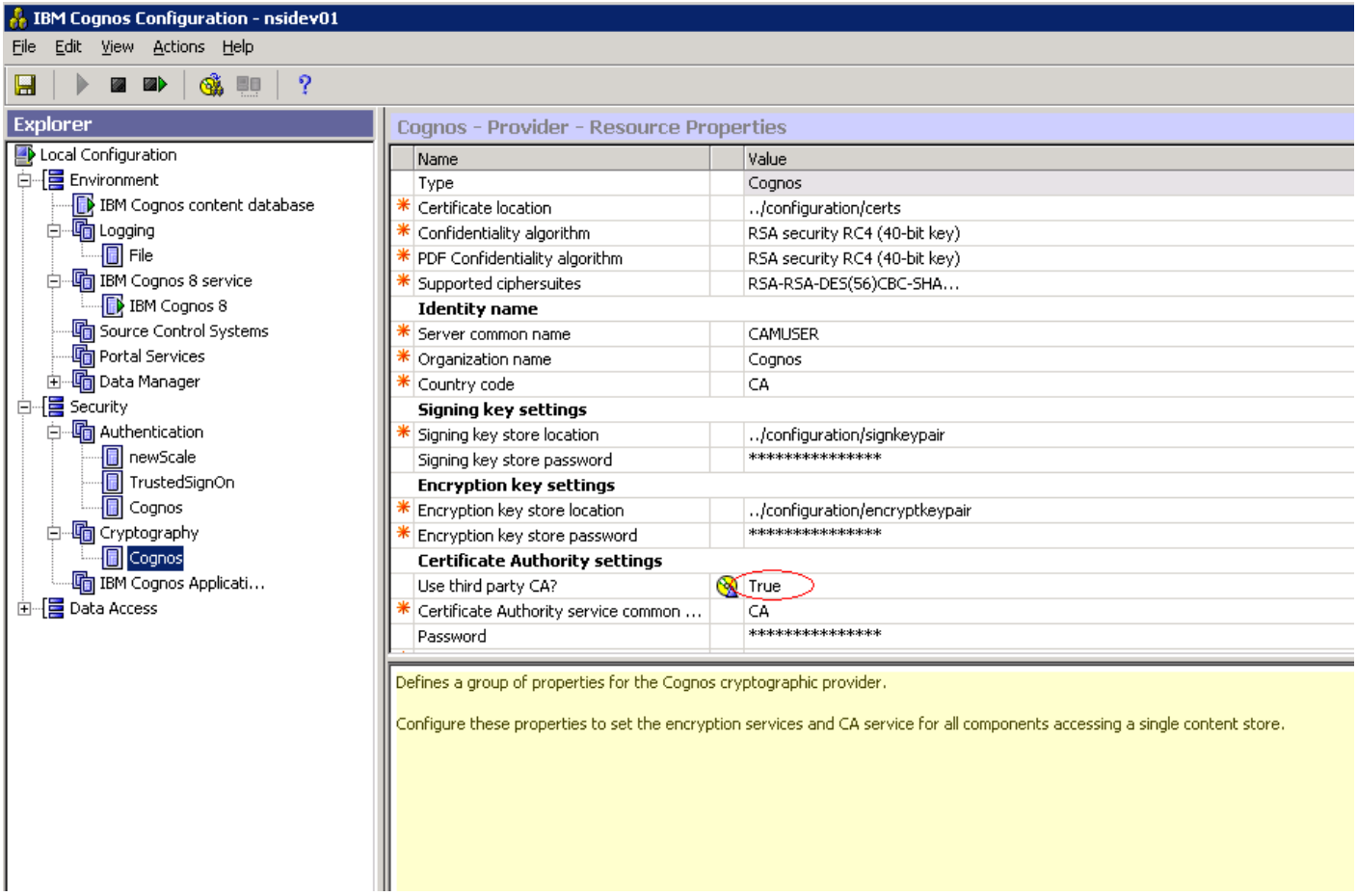
Step 2 Go to **Environment > Gateway URI** and change http to **https**, and port default 80 to **443**.



Step 3 Go to **Cryptography > Use mutual authentication?** and change to **True**.



Step 4 Go to **Cryptography > Cognos > Use third party CA?** and change to **True**.



Step 5 Save the configuration.

Step 6 Stop the IBM Cognos 8.4 Service.

Step 7 Re-start.

Changes to newscale.properties for SSL

Step 1 In the newscale.properties file find the cognoswebprotocol parameter and change http to **https**.

Step 2 Restart the Request Center application server.

Verification

Step 1 Log on https://CognosServername.domain.com/cognos8 and check whether you can logon to Cognos Connection.

Step 2 Log on https://RequestCenterServername.domain.com/RequestCenter and check whether you can navigate to Reporting or Advanced Reporting modules.

Troubleshooting

If you receive any of the errors described in this chapter, please try the recommended solution.

create_model.cmd failed (for Oracle DB)

Error

The root cause for this issue would be:

- Unspecified datamart schema user name for the parameter datamart.db.schema in the setup.properties during configuration.

```
2008-10-07 18:23:52,742 INFO  Executing ScriptPlayer...
2008-10-07 18:23:52,914 INFO  An existing project is being opened.
2008-10-07 18:23:57,414 INFO  Transaction count: 13
2008-10-07 18:23:57,414 INFO
2008-10-07 18:23:57,414 INFO
2008-10-07 18:23:57,414 INFO  Transaction: 1
2008-10-07 18:23:57,430 INFO  Action: SetDefaultLocale successful, continuing...
2008-10-07 18:23:57,430 INFO
2008-10-07 18:23:57,430 INFO  Transaction: 2
2008-10-07 18:23:57,430 INFO  Action: SetActiveLocale successful, continuing...
2008-10-07 18:23:57,430 INFO
2008-10-07 18:23:57,430 INFO  Transaction: 3
2008-10-07 18:23:57,805 INFO  Action: Modify successful, continuing...
2008-10-07 18:23:57,805 INFO
2008-10-07 18:23:57,805 INFO  Transaction: 4

2008-10-07 18:23:57,805 INFO  Action: Modify successful, continuing...
2008-10-07 18:23:57,805 INFO
2008-10-07 18:23:57,805 INFO  Transaction: 5
2008-10-07 18:23:58,305 INFO  Action: DBImport failed, skipping...
2008-10-07 18:23:58,305 INFO  Reason: BMT-MD-5002 The ImportSpec object 'DBO' of type
'schema' does not exist in the database.
2008-10-07 18:23:58,305 INFO
2008-10-07 18:23:58,305 INFO  Transaction: 5 failed, skipping...
```

Solution

- Open the cognos.properties file located under (<requestcenter.destination>/Cognos/Config).
- Edit the value for the datamart.db.schema as below:
  - datamart.db.schema=dbo (SQL Server database)
  - datamart.db.schema=<dm user name> (Oracle database)

Note Ensure you make the same change in the setup. properties before running the configure.cmd in case of upgrades (<Cognos_temp_installer>/cognosinstaller).

- Save the cognos.properties file after editing the datamart.db.schema parameter.

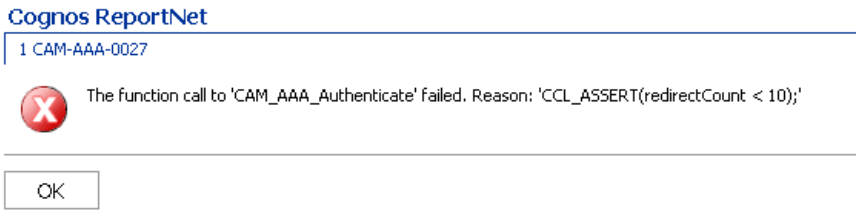
- Open a Command Prompt window, go to <requestcenter.destination>\Cognos\bin directory, and execute create_model.cmd and publish_fdr_pkg.cmd script.

CAM_AAA_Authenticate Failed

Error

The root causes for this issue would be

- Application has not been logged on with fully qualified domain name.
- Cognos server name does not contain valid domain name.



Solution 1

Log on to the Request Center application with a fully qualified domain name. You need to give the fully qualified name for the host name (<host Name>+<domain name(s)>.

For example:

- inssa.oqkqas.celosis.com
- inssa.celosis.com
- inssa.celosis.net

Solution 2

- Open the setup.properties file located under (<*cognos_temp_Installer*> /cognosinstaller).
- Edit the gateway and application server as below if the server name does not have fully qualified domain name.

  For example:

  - gateway.server.name=inssa.qakqas.celosis.com.
  - application.server.name= inssa.qakqas.celosis.com.
  - Open a Command Prompt window, go to <*cognos_temp_Installer*> /cognosinstaller) directory, and execute configure.cmd script.

Logon failed (401 Unauthorized) while execution of batch scripts under (<requestcenter.destination>/Cognos/bin)

Error

- The root cause for this would be customer's policy does not allow enabling the Anonymous access option in IIS

```
C:\cisco\cognos\bin>create_datasource.cmd
2008-07-11 03:32:33,271 INFO  Creating the DataSource...
2008-07-11 03:32:33,567 INFO  Database connection String: ^User
ID:^?Password:;LOCAL;OL;DBInfo_Type=MS;Provider=SQLOLEDB;User ID=%s;Password=%s;Data
Source=vmhost13;Provider_String=Initial Catalog=Datamart;@COLSEQ=
2008-07-11 03:32:34,895 ERROR Login failed...
2008-07-11 03:32:34,895 ERROR (401)Unauthorized
```

Solution

Step 1 Open Internet Services Manager.

Step 2 In the left pane of Internet Information Services, expand the server name.

Step 3 Expand Default Web Site.

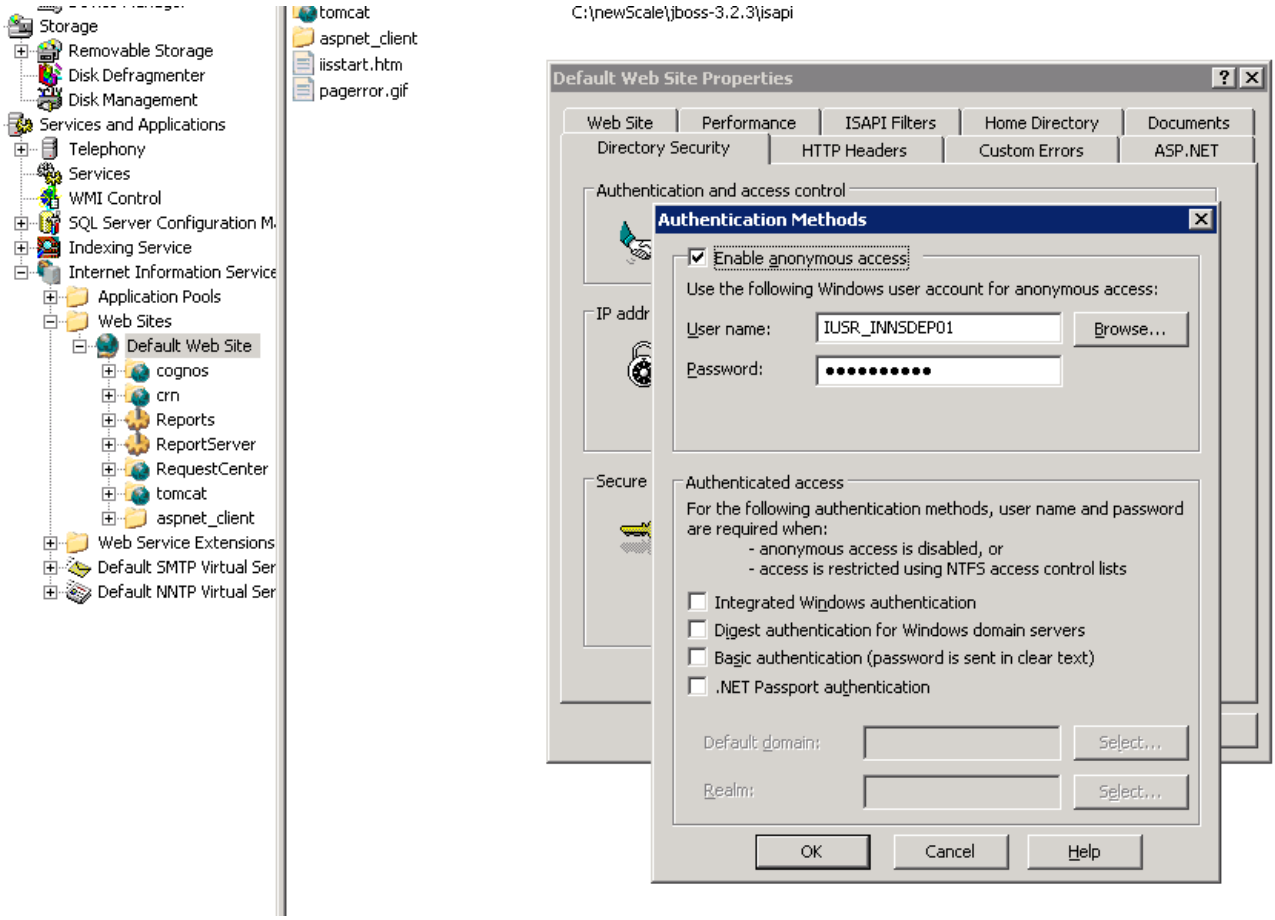
Step 4 Expand the c8 virtual directory.

Step 5 Click the **cgi-bin virtual** directory.

Step 6 In the right pane of Internet Information Services, right-click the **cognos.cgi** file and click **Properties**. If the communication to Cognos is done through a gateway other than CGI, check the properties of the associated file.

Step 7 Click **Edit** on the File Security tab.

Step 8 Select the **Enable Anonymous access** checkbox.



Step 9 Restart IIS.

Step 10 Open a Command Prompt window, go to <requestcenter.destination>\Cognos\bin directory, and execute failed batch scripts.

Unable to log onto Service reporting modules

Error

The root causes for this issue would be

- JAVA_HOME has been set the in the system variable.
- EncryptionMethod parameter value was missing in the CnfParams table on the Request Center database.

  The Log on page appears, even after supplying the correct user ID and password:

Solution 1

Step 1 Delete the JAVA_HOME variable from the System variables.

Step 2 Reboot the system.

Step 3 Log on to the application.

Solution 2

Step 1 Go to the Request Center database and open the SQLServer Management Studio or Oracle SQL*Plus.

Step 2 Run the query: SELECT * FROM CnfParams WHERE Name='EncryptionMethod'.

Step 3 If no record is found from the above query, run the statement: INSERT INTO CnfParams (Name, Value) values ('EncryptionMethod', 'MD5').

Step 4 Commit the inserted row.

Step 5 Go to Services and restart the IBM Cognos 8 service.

Custom Reports Data Model does not exists error when clicking on the Ad-Hoc Reporting link in Request Center

Error

The root cause for this issue is:

- The Custom Reports Data Model package is not published to the Cognos Server.

Solution

Open a Command Prompt window, go to the <*requestcenter.destination*>\Cognos\bin directory, and execute the create_model.cmd and publish_fdr_pkg.cmd scripts.

Unable to run publish_fdr_pkg.cmd successfully… (SQL Server DB)

Error

The root cause for this issue is:

- The Data Mart database name (**datamart.db.name**) specified in the setup. properties file during the configuration is not case sensitive.

```
RequestCenter] ConfUtil: ClassLoadersun.misc.Launcher$AppClassLoader@e80a59
[RequestCenter] ConfUtil: (via classloader) ConfigFile:null
Configuration not yet initialized
[RequestCenter] ConfUtil:(set explictly) ConfigFile:config/cognos.properties
[RequestCenter] ConfUtil:(set explictly) LogConfigFile:config/log4j.xml
[RequestCenter] ConfUtil: ClassLoadersun.misc.Launcher$AppClassLoader@e80a59
[RequestCenter] ConfUtil.init loaded properties from: config/cognos.properties
[RequestCenter] ConfUtil:(via classloader) LogConfigFile:config/log4j.xml
LogUtilFactory - using Impl: com.newscale.bfw.logging.LogUtilCommonsImpl
2007-10-15 10:58:33,744 INFO  Executing ScriptPlayer...
2007-10-15 10:58:33,853 INFO  A new project is being created.
2007-10-15 10:58:48,137 INFO  Transaction count: 834
2007-10-15 10:58:48,137 INFO
2007-10-15 10:58:48,137 INFO
2007-10-15 10:58:48,137 INFO  Transaction: 1
2007-10-15 10:58:48,137 INFO  Action: SetDefaultLocale successful, continuing...
2007-10-15 10:58:48,137 INFO
2007-10-15 10:58:48,137 INFO  Transaction: 2
2007-10-15 10:58:48,152 INFO  Action: SetActiveLocale successful, continuing...
2007-10-15 10:58:48,152 INFO
2007-10-15 10:58:48,152 INFO  Transaction: 3
2007-10-15 10:58:48,152 INFO  Action: Modify successful, continuing...
2007-10-15 10:58:48,152 INFO
2007-10-15 10:58:48,152 INFO  Transaction: 4
2007-10-15 10:58:48,152 INFO  Action: Modify successful, continuing...
2007-10-15 10:58:51,106 INFO  Action: DBImport failed, skipping...
2007-10-15 10:58:51,106 INFO  Reason: BMT-MD-5002 The ImportSpec object 'DatamartD' of
type 'catalog' does not exist in the database.
2007-10-15 10:58:51,106 INFO
2007-10-15 10:58:51,106 INFO  Transaction: 4 failed, skipping...
```

Note The ETL script **publish_fdr_pkg.cmd** produced the DBImport error "**ImportSpec object 'DatamartD**' of type 'catalog' does not exist in database."

Solution

Step 1 Open the cognos.properties file located under (<requestcenter.destination>/cognos/config).

Step 2 Find the parameter **datamart.db.name**. Specify the name of the Data Mart database as it was given in the database; the name is case sensitive.

Note Ensure you make the same change in the setup.properties file before running configure.cmd in case of upgrades (<Cognos_temp_installer>/cognosinstaller).

EXAMPLE: If the Data Mart database was specified as DataMart.

Incorrect : **datamart.db.name**=DataMart

Correct : **datamart.db.name**=Datamart

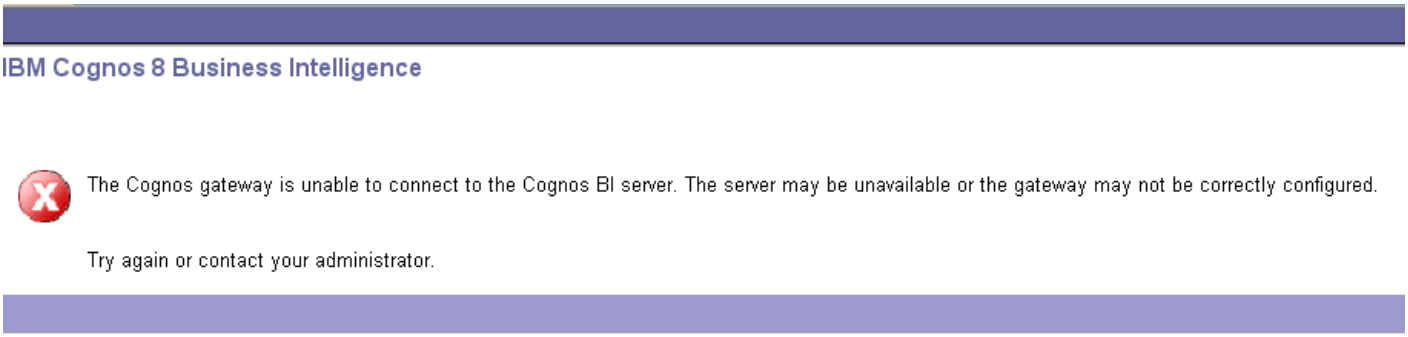
Step 3 Open the command prompt window, go to <requestcenter.destination>\Cognos\bin directory, and execute **create_model.cmd** and **publish_fdr_pkg.cmd** scripts.

Unable to Start Cognos 8 Service and Dispatcher Errors

Error

The root causes for this issue would be various reasons.

- Check the log files (cogserver.log and cogconfig_response.csv) located at </cognos_installed_location/c8/logs> and capture the error codes and refer to the solutions below associated with each error code.



Error Code(s)

CFG-ERR-0103 Unable to start Cognos 8 service. Execution of the external process returns an error code value of '-1'.

The root causes for this issue would be:

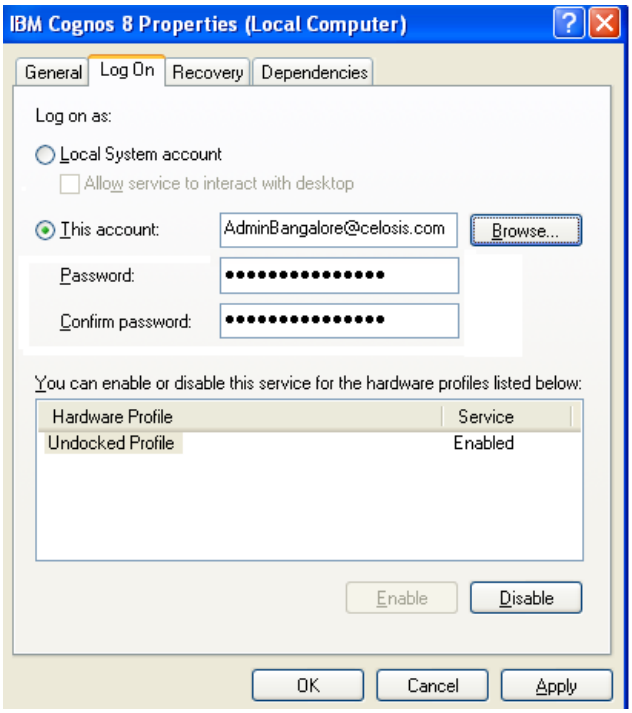
- The named account used to start the Cognos 8 service had an expired password or does not have admin privileges.
- The shutdown port number has a conflict.

Solution 1

Step 1 Go to the services.

Step 2 Go to **IBM Cognos8 Service**. Right click and select **properties**.

Step 3 Click on the **Logon** tab as show below:



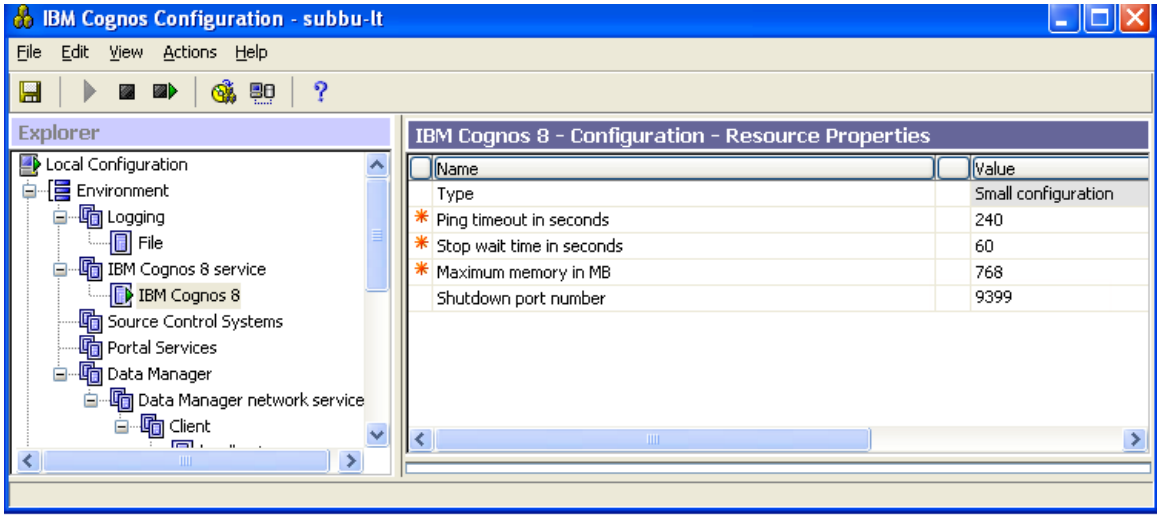
Step 4 Ensure that user account provided has admin privileges and the given password has not expired.

Step 5 Go to the Services and restart the IBM Cognos8 Service.

Solution 2

Step 1 Go to **Start > Programs > IBM Cognos 8 > IBM Cognos8 Configuration**.

Step 2 Change the shut down port number from 9399 to **9410**.



Step 3 Save changes and restart the IBM Cognos 8 Service.

Error Code(s)

CAM-CRP-1114 Unable to find the Certificate Authority self-signed certificate with alias ‘ca’ in the keystore ‘C:/Program Files/cognos/c8/configuration/signkeypair\jCAKeystore’.

CAM-CRP-1085 an error occurred while verifying that the security provider classes were loaded. Reason: java.lang.ClassNotFoundException: org.bouncycastle134.jce.provider.

The root cause for this issue is:

- JAVA_HOME has been set in the system variable and pointing to the wrong JRE/JDK.

Solution

Step 1 Delete **JAVA_HOME** from the system variables.

Step 2 Reboot the system.

Step 3 Open the command prompt, go to (<Cognos_temp_installer>/cognosinstaller) and execute **configure.cmd**.

Error Code(s)

CM-CFG-5063 a Content Manager Configuration error was detected while connecting to the ContentStore.

The root cause for this is:

- The SID for the ContentStore database does not have a valid name or TNS is not registered with the SID name.

Solution

Step 1 Ensure sure both the SID and Service have the same name for the ContentStore database and the SID has no underscore in it

Step 2 Register the TNS using the SID and not the SERVICE NAME.

Step 3 Make sure that you can connect to the Oracle instance through “tnsping <SID>”.

Step 4 Open the command prompt window, go to (<cognos_temp_intaller>/cognos installer) and execute **configure.cmd**.

ErrorCode(s)

[ERROR] Content Manager failed to start because it could not load driver “oracle.jdbc.OracleDriver”.

- The root cause for this issue would be ojdbc14.jar was missing in the cognos lib directory.

Solution

Step 1 Copy the **ojdbc14.jar** from //oracle/JDBC/lib to <cognos_install_dir> //cognos/c8/webapps/p2pd/WEB-INF/lib.

Step 2 Open the command prompt window, go to (<cognos_temp_intaller>/cognos installer) and execute **configure.cmd**.

Configuration of Cognos8 Service hangs and does not start up

Error

The root causes for this issue would be:

- DEP(Data Execution Prevention) settings (window2003 and window XP) which might be blocking the cognos executables.
- JAVA_HOME has been set in the system variables and pointing to the wrong JRE/JDK.

Solution

Step 1 Delete **JAVA_HOME**, if it exists in the System variables.

Step 2 Right click on My Computer, choose **Properties**.

Step 3 Click the **Advanced** tab, and click the first **Settings** button under Performance.

Step 4 Click the **Data Execution Prevention** tab.

Step 5 Choose the first option: **Turn on DEP for essential Windows program and services only**.

If you choose the second option (Turn On DEP for all program and services except those I select)??

Step 6 Add the following executables files from the respective locations.

java.exe	path -<Cognos_Install_Dir>\c8\bin\JRE\1.5.0\bin
cogconfigw.exe	path-<Cognos_Install_Dir>\c8\bin
cogbootstrapservice.exe	path - <Cognos_Install_Dir>\c8\bin
BIBusTKServerMain.exe	path - <Cognos_Install_Dir>\c8\bin

Step 7 Reboot the system.

Import_reports.cmd fails while upgrading

Error

ERROR CM-REQ-4204 The replace operation failed because the class (exportDeployment) of the existing object, '/adminFolder/exportDeployment[@name='Reports']'.

The root cause for this issue is:

- Report archive file (Report. zip) got corrupted in the cognos server.

Solution

Step 1 Log on as administrator to Request Center

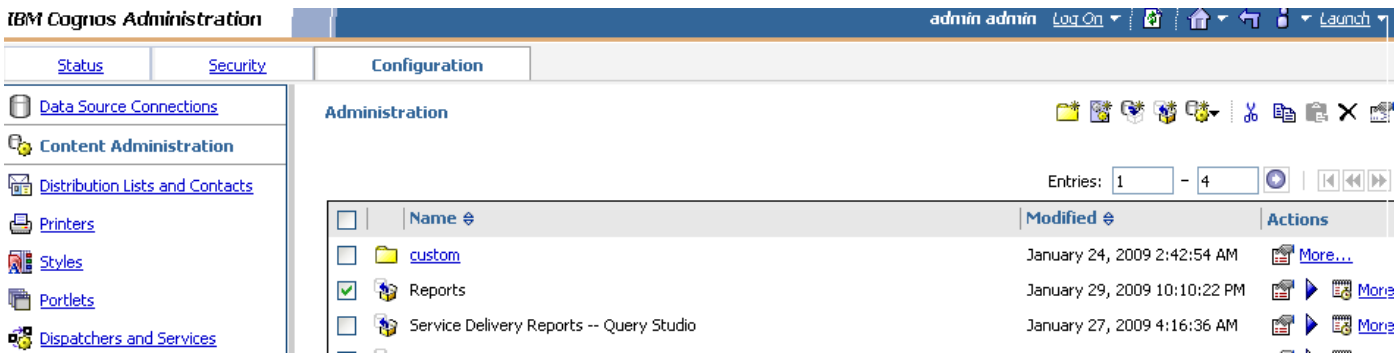
Step 2 Go to the **Reporting** module.

Step 3 Select the **Reports** tab.

Step 4 On the right hand side, select **Launch > IBM Cognos Administration**.

Step 5 Go to the **Configuration** tab and select **Content Administration**, then select **Reports**.

Step 6 Delete **Reports**. (See below.)



Step 7 Open command prompt and go to <requestcenter.destination>\Cognos\bin directory, and execute the **create_reports.cmd** script.

Update_datamart.cmd fails (For SQL Server Database)

Error

INFO UDA-SQL-0115 Inappropriate SQL request.

INFO UDA-SQL-0564 [Microsoft OLE DB Provider for SQL Server]Could not find stored procedure 'sp_DropDMIndxs'. (SQLSTATE=42000, SQLERRORCODE=2812).

The root cause for this issue is:

- Default schema owner for the Data Mart database objects (table/views/stored procedure) was not dbo.

Solution

Step 1 Ensure the default schema owner for the Data Mart database is **dbo**.

Step 2 Open a command prompt and go to <requestcenter.destination>\Cognos\bin directory, and execute the **update_datamart.cmd** script.

publish_fdr_pkg.cmd fails even After create_model.cmd runs Successfully

Error

The root cause for this error would be either the Reportable Dictionary or Service has the same name as a query subject (dimension/fact table name).

```
2008-10-14 22:19:13,155 INFO  Action: Modify successful, continuing...
2008-10-14 22:19:13,202 INFO  Action: Modify successful, continuing...
2008-10-14 22:19:13,233 INFO  Action: Modify successful, continuing...
2008-10-14 22:19:13,233 INFO  Action: Modify failed, skipping...
2008-10-14 22:19:13,249 INFO  Reason: BMT-MD-0006 Another object of type 'Query Subject'
already exists with the name 'Person' in Namespace 'FormETL'. Please choose a unique name.
2008-10-14 22:19:13,249 INFO
2008-10-14 22:19:13,249 INFO  Transaction: 10 failed, skipping...
2008-10-14 22:19:13,249 INFO
2008-10-14 22:19:13,249 INFO  Transaction: 11
2008-10-14 22:19:13,264 INFO  Action: Modify failed, skipping...
2008-10-14 22:19:13,264 INFO  Reason: BME-SP-0023 Invalid property handle ID:
/O/name[0]/O/[FormETL].[RC_SERVICELOCATION].[FIELD1]
2008-10-14 22:19:13,264 INFO  Transaction: 11 failed, skipping...
2008-10-14 22:19:13,280 INFO
2008-10-14 22:19:13,280 INFO  Transaction: 12
2008-10-14 22:19:13,327 INFO  Action: SetSecurityViewDefinition failed, skipping...
2008-10-14 22:19:13,327 INFO  Reason: BME-SP-0023 Invalid property handle ID:
[FormETL].[Person].[REQUISITIONID]
2008-10-14 22:19:13,327 INFO  Transaction: 12 failed, skipping...
```

Note For more log information, go to c:\<APP_HOME>\logs\cognos_metamodel_update.log.

Solution

Open the particular dictionary or service shown in the log file, rename the dictionary or service to a unique name(s), and run **fdr/runETL.jsp**, then **create_model.cmd**, and then **publish_fdr_pkg.cmd**.

Note Do not name a dictionary or service which is reportable with the following names:

- Calendar Scheduled Date
- CalendarStartedDate
- CalendarDueDate
- CalendarClosedDate
- Customer
- Dictionary
- Keyword
- Performer
- Queue
- Requestor
- Service
- TaskType
- All Tasks
- Authorization Tasks
- Service Delivery Tasks
- RequisitionTaskFact
- ServiceRequestFact
- ServiceTaskFact
- TaskEffortEntryFact
- Group
- Organizational Unit
- Person

In order for the ETL scripts to run correctly, it is important that you set the system clock of the Service Portal Application Server machine correctly, and the system clock of the Service Portal database machine correctly. Furthermore, the database clock for the RDBMS instance where the Service Portal database resides needs to match the system clock of the operating system where the database is installed. All date/time values are stored in the Service Portal database and in the Data Mart database in GMT. Therefore, if you have a distributed environment where the Application Server machine is different from the database machine, it is OK for these two machines to be in different time zones. Just make sure that the system clock is set correctly for whatever time zone each machine happens to be in.

If you are using Symantec Antivirus, you must be running version 10.0.2.2000 or later.

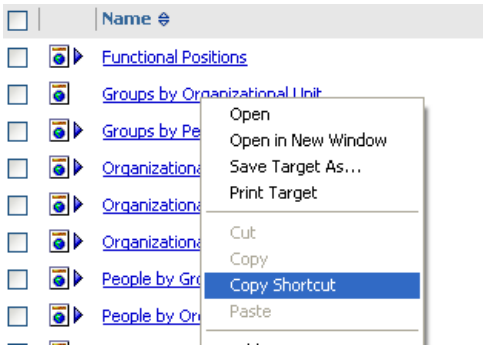
How to find the Report URL

Solution

Step 1 Log on to Request Center.

Step 2 Go to the **Reporting** module.

Step 3 Right click on the Report and select **Copy Shortcut** as shown below:



Step 4 If you paste the shortcut in same browser window as Request Center instance was opened, it will take you to the respective report.

Step 5 If you open a new browser window and paste the short cut, it will prompt for the namespace drop down list. Select **newScale** namespace and enter the logon credential—it will take you to the respective report.

How to change the reports home page from default List View to Details View

Solution

Step 1 Log on to the Request Center application.

Step 2 Go to the **Reporting** module.

Step 3 Click on the **Reports** tab.

Step 4 Click on the **Details View** button which appears on the right hand side as shown below: