IBM Cognos Business Intelligence Version 10.2.0

# Installation and Configuration Guide



Note

Before using this information and the product it supports, read the information in "Notices" on page 493.

#### **Product Information**

This document applies to IBM Cognos Business Intelligence Version 10.2.0 and may also apply to subsequent releases. To check for newer versions of this document, visit the IBM Cognos Information Centers (http://publib.boulder.ibm.com/infocenter/cogic/v1r0m0/index.jsp).

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# **Chapter 1. Introduction**

This document is intended for use with IBM<sup>®</sup> Cognos<sup>®</sup> Business Intelligence. IBM Cognos BI is a Web product with integrated reporting, analysis, scorecarding, and event management features.

This guide contains instructions for installing, upgrading, configuring, and testing IBM Cognos BI, changing application servers, and setting up samples.

#### Audience

To use this guide, you should be familiar with

- reporting concepts
- scorecarding concepts
- · database and data warehouse concepts
- security issues
- basic Windows or UNIX administration skills
- · the existing server environment and security infrastructure in your organization

#### **Finding information**

To find IBM Cognos product documentation on the web, including all translated documentation, access one of the IBM Cognos Information Centers (http://publib.boulder.ibm.com/infocenter/cogic/v1r0m0/index.jsp). Release Notes are published directly to Information Centers, and include links to the latest technotes and APARs.

You can also read PDF versions of the product release notes and installation guides directly from IBM Cognos product disks.

#### IBM Cognos Software Development Kit Product Documentation

After you install the IBM Cognos Software Development Kit, developer documentation is available from within the product.

You can access the documentation by the following methods:

- On Framework Manager computers, from the **Start** menu, click the IBM Cognos documentation shortcut folder.
- In IBM Cognos Administration, click Help > More Documentation, and under IBM Cognos Documentation you can open Software Development Kit documents in PDF or HTML format.
- In the *c10\_location*\webcontent\documentation\en folder, you can open the documents in PDF or HTML format.

#### Accessibility Features

Accessibility features help users who have a physical disability, such as restricted mobility or limited vision, to use information technology products. This product has accessibility features. For information on these features, see "Keyboard Shortcuts for the Installation Wizard" on page 399. IBM Cognos HTML documentation has accessibility features. PDF documents are supplemental and, as

such, include no added accessibility features.

#### Forward-looking statements

This documentation describes the current functionality of the product. References to items that are not currently available may be included. No implication of any future availability should be inferred. Any such references are not a commitment, promise, or legal obligation to deliver any material, code, or functionality. The development, release, and timing of features or functionality remain at the sole discretion of IBM.

#### Samples disclaimer

The Great Outdoors Company, GO Sales, any variation of the Great Outdoors name, and Planning Sample depict fictitious business operations with sample data used to develop sample applications for IBM and IBM customers. These fictitious records include sample data for sales transactions, product distribution, finance, and human resources. Any resemblance to actual names, addresses, contact numbers, or transaction values is coincidental. Other sample files may contain fictional data manually or machine generated, factual data compiled from academic or public sources, or data used with permission of the copyright holder, for use as sample data to develop sample applications. Product names referenced may be the trademarks of their respective owners. Unauthorized duplication is prohibited.

# Chapter 2. What's new?

This section contains a list of new, changed, deprecated, and removed features that affect installation and configuration for this release. It will help you plan your upgrade and application deployment strategies and the training requirements for your users.

For information about other new features for this release, see the *New Features Guide*.

To review an up-to-date list of environments supported by IBM Cognos products, such as operating systems, patches, browsers, Web servers, directory servers, database servers, and application servers, visit the Cognos Customer Center (http://www.ibm.com/software/data/cognos/customercenter/).

# New features in version 10.2.0

The following topics describe the new features for 10.2.0.

# 64-bit IBM Cognos gateway

In earlier versions, if you installed 64-bit versions of IBM Cognos Business Intelligence, only 32-bit versions of the gateway component were available. In this version, 64-bit versions of the gateway are also available. You can take advantage of the 64-bit hardware and the new 64-bit libraries.

When you configure the web server to view static IBM Cognos content, additional configuration is required to use the 64-bit libraries.

#### Related tasks:

"Enable the 64-bit web gateway" on page 95

If you want to use the 64-bit version of the IBM Cognos BI gateway, you must manually move the 64-bit gateway files in your installation directory.

# Configuration of multi-tenant applications in IBM Cognos Configuration

You can use new properties in IBM Cognos Configuration to configure Business Intelligence environments supporting multi-tenant applications.

Depending on your environment, you can apply the **multitenancy.TenantPattern** or **multitenancy.ITenantProvider** advanced properties to individual namespaces or to all namespaces in your environment.

#### Related concepts:

"Configuring multitenancy settings" on page 237 IBM Cognos Business Intelligence (BI) provides capabilities that make it easier to administer and secure multi-tenant applications.

# Predefined LDAP configurations

In IBM Cognos Configuration, you can configure your environment by selecting from a number of predefined LDAP authentication namespace configurations.

The following is a list of predefined LDAP configurations:

- LDAP Active Directory
- LDAP IBM Tivoli®
- LDAP OracleSunOne

## Option to view the status of silent installations on the screen

You can use the -displayLog option to view the status of the silent installation on the screen.

For example, the following command runs the installation program in silent mode. The installation program uses the test.ats as the response file and displays the status of the installation on the screen.

./issetup -s test.ats -displayLog

#### Related tasks:

"Modifying a response file" on page 393

Generate and modify a response file to specify and record your installation preferences. You can also modify the response file template that is provided.

# Option to initialize Cognos Configuration from a different file

You can use the -startupfile path/filename.xml option to specify a startup file other than the cogstartup.xml file when starting the IBM Cognos configuration tool.

The cogstartup.xml file must still exist in the Configuration directory.

For example, the following command runs the installation program in silent mode using the test.xml file located in the Configuration directory to set the configuration parameters.

cogconfig.sh -s -startupfile <c10\_location>/configuration/test.xml

#### Related tasks:

"Modifying a response file" on page 393 Generate and modify a response file to specify and record your installation preferences. You can also modify the response file template that is provided.

# New features in version 10.1.1

The following are the new features since the last release.

#### 64-bit Report Server

In the 64-bit installations, the report server component, included with the Application Tier Components, is provided in both 32- and 64-bit versions. The 64-bit version of report server is intended for use with packages created for dynamic query mode.

#### Related concepts:

"Installing 64-bit versions of IBM Cognos BI products" on page 23 Some IBM Cognos BI components are available for 64-bit systems. When installing on a 64-bit system, the components must be installed in the appropriate directories.

# **IBM Cognos Content Archival**

IBM Cognos Content Archival allows you to store report output versions and their source report specifications to an external content archival repository. The software supports an IBM FileNet<sup>®</sup> Content Manager with IBM FileNet<sup>®</sup> CMIS external repository.

IBM Cognos Content Archival is bundled with the Business Intelligence software and is used with a file system repository for test and development purposes only.

#### **Related concepts:**

Chapter 13, "IBM Cognos Content Archival," on page 301

Storing archived content in your external repository provides you with the ability to adhere to regulatory compliance requirements, and can enhance the scalability and performance of IBM Cognos products by reducing the size of content in the content store.

# Script to generate an IBM DB2 content store database

You can create an SQL Data Definition Language (DDL) file from within IBM Cognos Configuration. Run the script in IBM DB2<sup>®</sup> to create a database that you can use for the IBM Cognos content store.

#### **Related tasks:**

"Generating a script file that will create a database for a DB2 content store" on page 80

You can generate a script file to automatically create the content store in IBM DB2 on all platforms. The script file is called a DDL file.

# Install IBM Cognos to IBM WebSphere from the Build Application Wizard

You can use the Build Application Wizard in IBM Cognos Configuration to install and configure IBM Cognos BI. Additional options have been added to the wizard to allow you to install and configure the product directly from IBM Cognos Configuration.

#### Related tasks:

"Use the Build Application Wizard to build and install IBM Cognos on IBM WebSphere Application Server" on page 361

Use the Build Application Wizard to build, install, and configure your IBM Cognos application on IBM WebSphere<sup>®</sup> Application Server.

# New features in version 10.1.0

New features in version 10.1.0 include the following.

# **Dynamic Query Mode**

IBM Cognos Business Intelligence Server offers improved query functionality and performance with a dynamic query mode that you can use with supported data sources.

Some configuration is required before you can use dynamic query mode.

## More Information about Dynamic Query Mode

For more information about dynamic query mode, see the documents listed in the following table.

What are you looking for?	Where to find the information
An overview of the dynamic query mode, its benefits, and considerations when using it.	IBM Cognos Business Intelligence Dynamic Query Guide
Detailed information about techniques and product behaviors of the dynamic query mode.	IBM Cognos 10 <i>Dynamic Query Cookbook</i> in the Proven Practices section of the IBM Cognos Customer Center (http://www.ibm.com/software/data/ cognos/customercenter/).
Information about enabling connectivity for data sources supported by the dynamic query mode.	IBM Cognos Business Intelligence Installation and Configuration Guide
Information about query service administration, including caching and query service properties.	IBM Cognos Business Intelligence Administration and Security Guide
Information about publishing packages for the dynamic query mode.	IBM Cognos Framework Manager User Guide
Information about testing reports in the dynamic query mode prior to upgrade.	IBM Cognos Lifecycle Manager User Guide
Information about using the IBM Cognos Software Development Kit to administer query service properties and develop client applications to use dynamic query mode.	IBM Cognos Software Development Kit Developer Guide

Table 1. Where to find information about dynamic query mode

#### **Related concepts:**

"Set up database connectivity for reporting databases" on page 84 To support communication between IBM Cognos Business Intelligence and the data sources, you must install additional software for your data sources on the same computer that hosts the report server. Depending on the data source and query mode, the required software might include database clients, or Java Database Connectivity (JDBC) driver files, or both.

# Collaboration Using IBM Cognos Workspace

Collaboration capabilities in IBM Cognos Workspace provide a bridge between using IBM Cognos Business Intelligence to discover a business problem and using social software to track and resolve the problem. In Version 10.1.0, IBM Connections and all software components required to use it with Cognos BI are bundled with the IBM Cognos BI server products.

IBM Cognos Workspace users can create activities in IBM Connections and share them with other users who collaborate in decision-making and problem-solving processes. To take advantage of this capability, you must install and configure IBM Connections and the software that it requires, including IBM WebSphere Application Server and its updates.

#### Related concepts:

Chapter 14, "Using Collaboration with IBM Cognos Workspace," on page 309 Collaboration capabilities in IBM Cognos Workspace provide a bridge between using IBM Cognos Business Intelligence to discover a business problem and acting to resolve it.

# Access to Software Development Kit Installation and Configuration Guide

In previous releases, the documentation for IBM Cognos Software Development Kit was not available online.

The *IBM Cognos Software Development Kit Installation and Configuration Guide* in version 10.1.0 is available from the IBM Cognos Information Center, at http://publib.boulder.ibm.com/infocenter/cbi/v10r1m0/.

# Changed Features in Version 10.1.0

Links to directly-related topics are included for changed features since the last release

# **Default Installation Location and Web Alias**

The path for the default installation directory is changed in IBM Cognos Business Intelligence, Version 10.1.0.

The default location, represented by *c10\_location* in this guide, is as follows:

- Microsoft Windows operating system
   C:\Program Files\IBM\cognos\c10
- UNIX and Linux operating systems /usr/IBM/cognos/c10

The default Web alias in IBM Cognos Configuration is changed from **cognos8** to **ibmcognos**.

# Upgrade Manager is Renamed as Lifecycle Manager

Lifecycle Manager is a Microsoft Windows operating system-based application for auditing upgrades from ReportNet<sup>®</sup> 1.1 MR3 or MR4 and earlier versions of IBM Cognos BI to newer versions of IBM Cognos Business Intelligence. In earlier releases, it was named Upgrade Manager.

# Index Search Capabilities are Native to IBM Cognos BI Server

In earlier releases, index search capabilities were available by installing IBM Cognos Go! Search with your IBM Cognos BI server product.

The index search capability is now the default search mode in the IBM Cognos BI server product. You do not need to install a separate package, but some configuration is required to enable index services and configure scalability, and you must create the index before using the index search capability.

For information about creating the index and about configuring user permissions for index search, see the *IBM Cognos Business Intelligence Administration and Security Guide*.

# IBM Cognos Go! Dashboard is Merged with Features from IBM Cognos Viewer into One User Interface

In earlier releases, an interactive dashboard application was available by installing IBM Cognos Go! Dashboard with your IBM Cognos BI server product. In addition, IBM Cognos Viewer provided the basic report consumption experience.

IBM Cognos Go! Dashboard and features from IBM Cognos Viewer are now merged into one user interface. This brings the information consumption, rather than viewing and opening folders, to the forefront of the experience. However, IBM Cognos Viewer is still available and maintained in this release. You do not need to install a separate dashboard package, but some tasks are required to upgrade from IBM Cognos Go! Dashboard.

# IBM Cognos Special Edition is Integrated with the IBM Cognos BI Server Products

In earlier releases, IBM Cognos Special Edition provided you with all of the IBM products to create an enterprise reporting solution. The products included IBM WebSphere Application Server, IBM DB2 Universal Database<sup>™</sup>, and IBM HTTP Server. In Version 10.1.0, these products are bundled with the IBM Cognos BI server products.

# Enhanced Support for Authentication Using a RACF Provider

In earlier releases, if you wanted to use a Resource Access Control Facility (RACF<sup>®</sup>) provider for authentication with IBM Cognos Business Intelligence server, you created a custom Java provider and then configured a Custom Java Provider namespace in IBM Cognos Configuration to use it. In IBM Cognos Business Intelligence server, Version 10.1.0, you can configure a RACF namespace directly in IBM Cognos Configuration on AIX<sup>®</sup> or on Linux for System z<sup>®</sup> operating systems.

#### Related tasks:

"Configuring IBM Cognos to Use a RACF Provider for Authentication" on page 350

If you use a Resource Access Control Facility (RACF) provider for authentication in your enterprise environment, you can also use it for authentication in IBM Cognos products.

# Support for Informix Dynamic Server Database

IBM Cognos Business Intelligence server supports the use of Informix<sup>®</sup> Dynamic Server as a database for the content store, notification database, and log database.

Scripts are also provided for cleaning up the tables and indexes in an Informix Dynamic Server database.

#### Related concepts:

"Guidelines for creating the content store" on page 44

The content store is a database that Content Manager uses to store global configuration data, global settings (such as the language and currency formats shown in the user interface), connections to data sources, and product-specific content. You must use one of the supported enterprise-level databases as the content store in a production environment.

"Configuring a Repository for Log Messages" on page 252 The BI Bus protocol includes log message processing, an important diagnostic tool for investigating the behavior of IBM Cognos BIs.

#### Related tasks:

"Running Database and Index Cleanup Scripts" on page 474 In some troubleshooting situations, you may be advised to start with new configuration data.

## IBM Cognos Portal Services

BEA AquaLogic User Interaction (ALUI) Portal is replaced by Oracle WebCenter Interaction Portal.

#### **Related concepts:**

Chapter 12, "Configuring Portal Services," on page 289 Portal Services provides a set of IBM Cognos portlets that you can use in IBM Cognos Connection and in other portals. You can use the portlets to navigate, search, and view IBM Cognos reports in your working environment. Other users can view IBM Cognos information without needing to know how to use IBM Cognos products.

# Secure Access When Monitoring System Metrics Externally

In earlier releases, you could monitor system metrics externally to IBM Cognos Administration by using Java Management Extensions (JMX), a technology that supplies tools to manage and monitor applications and service-oriented networks. In IBM Cognos Business Intelligence Server, Version 10.1.0, IBM Cognos Configuration provides two new properties that you can use to enable secure access to the metrics in the Java environment.

#### Related tasks:

"Monitoring System Metrics Externally" on page 373

You can monitor system metrics outside of IBM Cognos Administration by using industry standard Java Management Extensions (JMX). First, you configure two JMX properties in IBM Cognos Configuration to enable secure access to the metrics in the Java environment. Then you use a secure user ID and password to connect to the metrics through a JMX connection tool.

# Chapter 3. Components used by IBM Cognos Business Intelligence

IBM Cognos Business Intelligence is a Web-based business intelligence solution with integrated reporting, analysis, scorecarding, and event management features. IBM Cognos Business Intelligence includes IBM Cognos Business Intelligence Server and IBM Cognos Business Intelligence Modeling.

IBM Cognos BI integrates easily into your existing infrastructure by using resources that are in your environment. Some of these existing resources are required, such as using a database for the content store. Other resources are optional, such as using a security provider for authentication, or using an application server.

By default, IBM Cognos BI uses Apache Tomcat as an application server. You can configure IBM Cognos BI products to run on supported application servers that you currently use in your environment.

#### Server components

Server components provide the user interfaces for reporting, analysis, scorecarding, and event management, as well as the server functionality for routing and processing user requests.

In the installation program, you can select to install the following server components:

- gateway
- Application Tier Components
- Content Manager

# Web communication - gateway

Web communication in IBM Cognos Business Intelligence is typically through gateways, which reside on one or more Web servers. A gateway is an extension of a Web server program that transfers information from the Web server to another server.

Gateways are often CGI programs, but may follow other standards, such as Internet Server Application Program Interface (ISAPI), Apache Modules (apache\_mod), or as a servlet implementation.

# **Application Tier Components**

The IBM Cognos Business Intelligence applications tier contains one or more IBM Cognos BI servers. An IBM Cognos BI server runs requests, such as reports, analyses, and queries, that are forwarded by a gateway. An IBM Cognos BI server also renders the IBM Cognos Connection and studio interfaces.

# Configuring and managing the product - IBM Cognos Configuration

IBM Cognos Configuration is a tool that you use to configure IBM Cognos BI, and to start and stop its services.

# Publishing, managing, and viewing content - IBM Cognos Connection

IBM Cognos Connection is a Web portal provided with IBM Cognos Business Intelligence, providing a single access point to the corporate data available for its products. It provides a single point of entry for querying, analyzing, and organizing data, and for creating reports, scorecards, and events. Users can run all their Web-based IBM Cognos BI applications through IBM Cognos Connection. Other business intelligence applications, and web addresses to other applications, can be integrated with IBM Cognos Connection.

### **Central administration - IBM Cognos Administration**

IBM Cognos Administration is a central management interface that contains the administrative tasks for IBM Cognos BI. It provides easy access to the overall management of the IBM Cognos environment and is accessible through IBM Cognos Connection.

## Viewing and interacting with published content - Cognos Viewer

Cognos Viewer is a portlet in which you can view and interact with any type of published IBM Cognos content. It is accessible through IBM Cognos Connection and any existing enterprise portal.

## **Professional reporting - Report Studio**

Using Report Studio, report authors create, edit, and distribute a wide range of professional reports. They can also define corporate-standard report templates for use in Query Studio, and edit and modify reports created in Query Studio or Analysis Studio.

# Ad hoc querying and self-service reporting - Query Studio

Using Query Studio, users with little or no training can quickly design, create and save reports to meet reporting needs not covered by the standard, professional reports created in Report Studio.

# Monitoring data for exceptional conditions - Event Studio

In Event Studio, you set up agents to monitor your data and perform tasks when business events or exceptional conditions occur in your data that must be dealt with. When an event occurs, people are alerted to take action. Agents can publish details to the portal, deliver alerts by email, run and distribute reports based on events, and monitor the status of events. For example, a support call from a key customer or the cancellation of a large order may trigger an event, sending an e-mail to the appropriate people.

# **Analyzing metrics - Metric Studio**

In Metric Studio, you can create and deliver a customized scorecarding environment for monitoring and analyzing metrics throughout your organization. Users can monitor, analyze, and report on time-critical information by using scorecards based on cross-functional metrics.

## Facilitating decision-making - IBM Cognos Workspace

You can create sophisticated interactive workspaces using IBM Cognos content, as well as external data sources such as TM1<sup>®</sup> Websheets and CubeViews, according to your specific information needs. You can view and open favorite workspaces and reports, manipulate the content, and e-mail your findings. You can also use comments and activities for collaborative decision making.

You can also use social software such as IBM Connections for collaborative decision making.

#### Microsoft Office compatibility - IBM Cognos for Microsoft Office

Using IBM Cognos for Microsoft Office, Microsoft Office users can access data from IBM Cognos reporting products within Microsoft Office applications.

IBM Cognos for Microsoft Office components are included with IBM Cognos BI and must be installed separately.

IBM Cognos for Microsoft Office is not included with IBM Cognos Metrics Manager.

# Managing Application Data - Content Manager

Content Manager is the IBM Cognos Business Intelligence service that manages the storage of customer application data, including security, configuration data, models, metrics, report specifications, and report output. Content Manager is needed to publish packages, retrieve or store report specifications, manage scheduling information, and manage the Cognos namespace.

Content Manager stores information in a content store database.

### **Optional server components**

The following optional components are available to install on the server to extend the functionality of IBM Cognos Business Intelligence.

#### Preconfigured application database - Cognos Content Database

Cognos Content Database is an instance of an Apache Derby database. It is a selectable installation component, and is not installed by default. If you install Cognos Content Database, it is preconfigured as the default content store for IBM Cognos Business Intelligence.

Do not use Cognos Content Database for the content store in a production environment. Cognos Content Database is provided to help you quickly set up a test or proof-of-concept system.

Apache Derby is open source software whose license terms can be found on the Apache Derby web site. Modifying the Apache Derby database or using it with other products is not supported. Any modifications that you make to the Apache Derby database are at your own risk.

You can use Cognos Content Database as a content store or notification database, but not as a query database.

# Learning and troubleshooting using sample data - IBM Cognos BI Samples

The IBM Cognos BI samples illustrate product features and technical and business best practices using data from a fictitious company, The Sample Outdoors Company. You can also use them for experimenting with and sharing report design techniques, and for troubleshooting.

### **Online introductory training - IBM Cognos BI Quick Tours**

Quick tours are short online tutorials that illustrate key features in IBM Cognos product components. To view a quick tour, an administrator must download it from the IBM Cognos Customer Center Web site and then install it.

# Accessing multiple data sources - IBM Cognos BI Virtual View Manager

IBM Cognos BI Virtual View Manager provides access to additional data sources such as LDAP, Java Database Connectivity (JDBC), Open XML and WSDL, and improves performance when querying data from different data sources.

### Modeling components

Modeling components model data within data sources to structure and present data in a way that is meaningful to users. Modeling components include the following tools:

#### Creating a business view of your data - Framework Manager

IBM Cognos Framework Manager is the modeling tool for creating and managing business-related metadata for use in IBM Cognos BI analysis and reporting. Metadata is published for use by reporting tools as a package, providing a single, integrated business view of any number of heterogeneous data sources.

### Extracting data for scorecarding - Metric Designer

Metric Designer is the modeling tool used to create extracts for use in IBM Cognos BI scorecarding applications. Extracts are used to map and transfer information from existing metadata sources such as IBM Cognos Framework Manager and Impromptu<sup>®</sup> Query Definition (.iqd) files.

#### Multidimensional modeling - IBM Cognos Transformer

IBM Cognos Transformer is the IBM Cognos BI modeling tool used to create PowerCubes for use in IBM Cognos BI. Secured IBM Cognos BI PowerCubes are not compatible with IBM Cognos Series 7.

For information about installing and configuring versions of Transformer that are earlier than 8.4, see the documentation provided with your edition of Transformer.

### Series 7 IQD Bridge

The Series 7 IQD Bridge contains the connection information that IBM Cognos BI requires to use IBM Cognos Series 7 Impromptu IQD data sources and IBM Cognos BI Framework Manager externalized queries in IBM Cognos Transformer.

It also supports the multi-processing setting in Series 7 models that are imported into IBM Cognos Transformer.

#### Import and manage maps - Map Manager

IBM Cognos Map Manager is a Window-based utility that administrators and modelers use to import maps and update labels for maps in Report Studio. For map features such as country or region and city names, administrators and modelers can define alternative names to provide multilingual versions of text that appears on the map.

For more information, see the IBM Cognos Map Manager Installation and User Guide.

#### **IBM Cognos Insight**

In IBM Cognos Insight, you can analyze data, explore scenarios, and influence decisions by creating personal or managed workspaces. Use these interactive workspaces to communicate results to managers. Because Cognos Insight supports write-back, you can also use these workspaces to gather and consolidate management targets, commitments, and forecasts.

Cognos Insight is provided with IBM Cognos BI. Use the IBM Cognos Connection Installer for Cognos Insight to install provisioning software on Cognos BI servers. This software allows multiple users to download and install IBM Cognos Insight on their computers from the IBM Cognos Connection interface.

For more information, see the *IBM Cognos Insight Installation and Configuration Guide*.

#### Other components

In addition to the tools that are provided, IBM Cognos Business Intelligence requires the following components that are created using other resources.

#### Content store

The content store is a relational database that contains data that your IBM Cognos BI product needs to operate, such as report specifications, published models, and the packages that contain them; connection information for data sources; information about the external namespace, and the Cognos namespace itself; and information about scheduling and bursting reports.

Your IBM Cognos BI product includes an embedded database, Cognos Content Database, that you can use to get your product running quickly in a test or proof-of-concept system. When you are ready to set up a production environment with your IBM Cognos BI product, set up the content store to use a supported database that can be secured and tuned for performance and stability. The administration portal provides features that you can use to back up and archive the data from Cognos Content Database before moving to the new content store database in your production environment. For more information, see the topic about deploying the entire content store in the *IBM Cognos Business Intelligence Administration and Security Guide*.

Design models and log files are not stored in the content store.

The IBM Cognos service that uses the content store is named Content Manager.

#### **Metric store**

A metric store is a relational database that contains content for metric packages. A metric store also contains Metric Studio settings, such as user preferences.

More than one metric store may be created. For example, one metric store may contain content for a sales application and another metric store may contain content for a finance application.

#### **Data sources**

Data sources, also known as query databases, are relational databases, dimensional or OLAP cubes, files, or other physical data stores that can be accessed through IBM Cognos BI. Application Tier Components use data source connections to access data sources.

## Infrastructure components

In addition to the business intelligence software, some offerings of IBM Cognos Business Intelligence include the following products.

#### IBM WebSphere Application Server

IBM WebSphere Application Server can be used for the IBM Cognos BI report server components (Application Tier Components) and Content Manager. IBM WebSphere Application Server provides a secure and scalable application infrastructure for the IBM Cognos service-oriented architecture (SOA).

Scripts are provided to automate the process of creating distinct ports for multiple applications.

#### **IBM Connections**

IBM Connections is social networking software designed for the workplace. IBM Connections allows you to create and manage activities from IBM Cognos Workspace.

#### **IBM HTTP Server**

IBM HTTP Server is a Web server based on a partnership between IBM and the Apache Web server.

#### IBM DB2 Universal Database

IBM DB2 Universal Database provides the content store for your IBM Cognos BI data. DB2 provides industry leading performance, scalability, and reliability.

Scripts are provided to automate the process of creating and configuring a new content store.

# **Chapter 4. Distribution options for IBM Cognos BI**

Before implementing IBM Cognos Business Intelligence, decide how you will install it in your environment. You can install all IBM Cognos BI components on one computer, or distribute them across a network. The best distribution option depends on your reporting or scorecarding requirements, resources, and preferences. Configuration requirements differ depending on whether you install all components on one computer or more than one computer.

IBM Cognos BI is compatible with other IBM Cognos products. If your environment includes other IBM Cognos products, you must consider how IBM Cognos BI will fit into that environment.

# **Distributing IBM Cognos BI Server components**

When you install IBM Cognos BI server components, you specify where to place the gateways, Application Tier Components, and Content Manager. You can install these components using any of these options:

• Install all components on one computer.

This option is typically used for a demonstration or in a proof of concept environment.

• Install the gateway on a separate computer.

In this option, the gateway and Web server are on one computer, and the remaining IBM Cognos components are on other computers. You may choose this option if you have existing Web servers available to handle IBM Cognos component requests.

• Install Application Tier Components and Content Manager on separate computers.

Choose this option to maximize performance, availability, capacity, or security based on the processing characteristics of your organization.

If you plan to install Cognos Content Database, install it on the same computer as Content Manager. Cognos Content Database is automatically configured for use as your content store.

• Install IBM Cognos BI server components in the same location as other IBM Cognos BI products.

Different IBM Cognos BI products share components, such as the Content Manager. If you plan to install the IBM Cognos BI reporting and scorecarding components on the same computer, for example, install them in the same installation location. This conserves resources such as disk space and memory consumption by services.

• Consolidate multiple servers by installing on System z

IBM Cognos BI is supported for Linux on System z operating system. This type of installation is suitable when you are setting up or customizing an installation in your environment to suit IT and infrastructure requirements.

• Install components on 64-bit systems

Some IBM Cognos BI components are available for 64-bit systems. Whether you are installing all server components together on a single server or on multiple servers, 32-bit and 64-bit components must be in separate directories.

After installing IBM Cognos BI server components, you must configure them so they can communicate with each other.

In addition to installing the Content Manager, Application Tier Components, and gateway components, you must install Framework Manager, the metadata modeling application for business intelligence. You can also choose to install Transformer, the modeling and building tool for creating PowerCubes for use with IBM Cognos BI. No matter which IBM Cognos installation scenario you follow, you can install all modeling components in separate locations.

### All components on one computer

You can install all the IBM Cognos BI reporting components on one computer. Choose this scenario for proof of concept or demonstration environments where the user load is small.

Because the gateway must be located with the Web server, the single computer must also be running a Web server.

A single-computer installation is not possible on UNIX or Linux operating systems, because you must install the Microsoft Windows operating system-based Framework Manager on a separate computer that runs on Windows.

In the following diagram, all server components for IBM Cognos BI reporting, except Framework Manager, are installed on one computer. The content store, query databases, and Framework Manager are located on separate computers.



Figure 1. Single computer installation of all three server components

#### Configuration requirements

If you install all server components for IBM Cognos BI reporting on the same computer, you must then

- configure your Web server to host IBM Cognos Web content
- specify connection information to the content store
- set up an email account for notifications (if you intend to email reports)

# Gateways on separate computers

The gateway passes queries from the Web server and clients to the dispatcher. It can reside on one or more Web servers.

You can install the gateway and a Web server on one computer, and install the remaining IBM Cognos BI reporting components on other computers. If you have a Web farm, you may want to install a gateway on each Web server. Using multiple Web servers to manage incoming requests provides a better level of service.

If you install only the gateway component on the same computer as the Web server, your Web server manages the core Web services and does not process user requests. This separation of processing may be required if you have a firewall between the Web server and your Application Tier Components computers.

In the following diagram, two Web servers each have a gateway installed. Incoming requests are passed to either gateway and forwarded to the Application Tier Components computer.



Figure 2. Installation with two gateways

#### **Configuration requirements**

If you install one or more gateways on separate computers, you must ensure that you can view IBM Cognos content and that the gateways can communicate with other IBM Cognos components. On each computer where the gateway is installed you must

- · configure your Web server to host IBM Cognos Web content
- configure the Dispatcher URIs

# Application Tier Components and Content Managers on separate computers

Application Tier Components use the IBM Cognos Connection interface to balance loads, access data, perform queries, schedule jobs, and render reports. Content Manager stores all report specifications, results, packages, folders, and jobs in the content store.

You can install the Application Tier Components and Content Manager on the same computer, or on different computers. Installing on different computers can improve performance, availability, and capacity.

#### More than one Content Manager

You can install any number of installations of Content Manager, although only one is active at any time. The other installations each act as a standby Content Manager. One becomes active only if a failure occurs that affects the active Content Manager computer. For failover support, it is advisable to install Content Manager on two or more computers.

#### Install multiple Content Managers

Content Manager stores data that IBM Cognos BI needs to operate, such as report specifications, published models, and the packages that use them; connection information for data sources; information about the external namespace and the Cognos namespace itself; and information about scheduling and bursting reports. The content store is a relational database management system (RDBMS). There is only one content store for each IBM Cognos installation.

You may choose to install Content Manager separately from the Application Tier Components. For example, you may want Content Manager in your data tier instead of in the applications tier.

When an active Content Manager fails, unsaved session data is lost. When the new active Content Manager takes over, users may be prompted to logon.

In the following diagram, the gateway passes the request to the dispatcher (not shown), which passes it to the default active Content Manager computer. Because the computer has failed, the request is redirected to the standby Content Manager computer, which became active when the default active Content Manager computer failed.



Figure 3. Installation with an active and a standby Content Manager

#### **Configuration requirements**

On each computer where you install Content Manager, you must

- · specify connection information to the content store
- specify the Dispatcher URIs
- specify all Content Manager URIs
- specify the Dispatcher URI for external applications
- set up a connection to an email account for notifications (if you want to email reports)

### More than one Application Tier Components computer

To improve scalability in an environment in which there is typically a large volume of report requests to process, you can install the Application Tier Components on multiple computers dedicated to processing incoming requests. By installing the Application Tier Components on multiple computers, you distribute and balance loads among the computers. You also have better accessibility and throughput than on a single computer, as well as failover support.

### **Example - Distributing index services**

To distribute the index services for index search, install one instance of Application Tier Components in the applications tier, with the index search service and index update service enabled. Install addition Application Tier Components in the application tier as needed, with the index search service enabled. Also, install an instance of Application Tier Components in the data tier, with the index data service enabled. The following diagram shows the index search service and index update service in the applications tier, and the index data services in the data tier.



Figure 4. Distributed index services

#### **Configuration requirements**

If you install one or more Application Tier Components on a separate computer, to ensure that they can communicate with other IBM Cognos BI reporting components, do the following:

- specify all Content Manager URIs
- specify the Dispatcher URIs
- specify the Dispatcher URI for external applications

### IBM Cognos BI products on the same computer

IBM Cognos BI products are designed to share components, including the gateway, Content Manager, content store, IBM Cognos Connection, and IBM Cognos Configuration. If you install more than one IBM Cognos BI product on the same computer, install them in the same installation location. The installation program checks to determine whether other IBM Cognos BI components exist in the installation location. If a component exists and can be shared, it is not reinstalled.

#### Accessing product documentation in an integrated environment

The documentation for IBM Cognos BI components is installed with the gateway component. If you integrate different IBM Cognos BI products, you can either use the same gateway or use separate gateways.

If you want to use the same gateway, all gateway components must be of the same product version, and you should install the IBM Cognos BI gateway component for each product into the same location on the same computer. This ensures that all the product documentation is available to all users. If you want to use separate gateways for each product, you can install the IBM Cognos BI gateway component for each product on separate computers, but the product documentation on each gateway will be specific for the IBM Cognos BI product you installed.

If you want users to access each IBM Cognos BI product through separate gateways, yet still be able to access documentation for all components, you can install each product's gateway component into the same location as your other IBM Cognos BI gateway components.

# Consolidate servers for Linux on System z

Linux on System z operating system is a native implementation of the Linux operating system. Hosting options include running Linux in one or more logical partitions (LPAR).

# Integrated facility for Linux (IFL)

IFLs are System z processors dedicated to running Linux operating system workloads either natively, or under virtualization software, depending on your needs. IFLs enable you to consolidate and centrally manage Linux resources on System z.

# Logical partition (LPAR) mode

Linux operating system can run in LPARs and communicate with other Linux partitions using TCP/IP connections.

The horizontal scalability in a large Linux environment is limited by the number of LPARs that can be created. Running Linux in LPARs may be best if you are running a small number of Linux images, and those images will each be using a large amount of processing power, or will require a very large amount of dedicated memory. This ensures that the images will not have underutilized resources allocated to them.

# Installing 64-bit versions of IBM Cognos BI products

Some IBM Cognos BI components are available for 64-bit systems. When installing on a 64-bit system, the components must be installed in the appropriate directories.

The default installation directory that is used by the IBM Cognos BI components depends on the version that you install.

For a 32-bit Installation on	Default path								
Microsoft Windows operating systems	C:\Program Files\IBM\Cognos\c10								
64-bit Microsoft Windows operating systems	C:\Program Files (x86)\IBM\Cognos\c10								
UNIX operating systems	/usr/IBM/cognos/c10								
Linux operating systems	/opt/IBM/cognos/c10								

Table 2. Default paths for 32-bit installations

Table 3. Default paths for 64-bit installations

For a 64-bit Installation on	Default path
Microsoft Windows operating systems	C:\Program Files\IBM\Cognos\c10_64
UNIX operating systems	/usr/IBM/cognos/c10_64
Linux operating systems	/opt/IBM/cognos/c10_64

Whether you are installing all server components together on a single server or on multiple servers, the 32-bit and 64-bit components must be in separate directories.

# Server components that can be installed together in the c10\_64 directory

The following components can be installed together on one 64-bit server or installed separately on multiple 64-bit servers. When installing the components, ensure that you start from the appropriate download directory or disk:

• IBM Cognos BI Server (Content Manager, Application Tier Components, Gateway)

- IBM Cognos BI Supplementary Language Documentation (32-bit and 64-bit versions available on one disk)
- IBM Cognos BI Samples (32-bit and 64-bit versions available on one disk)

# Components that must be installed to a separate directory than the 64-bit components

The following components can be installed together on the 64-bit server, but they must be installed to a separate directory from the 64-bit components. For example, the default installation location for these components is the Program Files (x86) directory on a 64-bit Windows computer, while the 64-bit server components are installed to the Program Files directory. They can also be installed on a separate 32-bit system:

- IBM Cognos Transformer (UNIX and Linux utility for building PowerCubes)
- IBM Virtual View Manager
- Framework Manager (Windows only)
- IBM Cognos BI for Microsoft Office (Windows only)
- IBM Cognos Transformer (Windows modeling tool)

#### Using the 64-bit version of Report Server

In the 64-bit installations, the report server component, included with the Application Tier Components, is provided in both 32- and 64-bit versions. In 32-bit installations, only the 32-bit version of the report server component is provided.

Selecting which version you use is done using IBM Cognos Configuration after installation. By default, the report server component is set to use the 32-bit mode, even on a 64-bit computer. The 32-bit mode allows you to run reports from all packages, whereas the 64-bit mode allows you to run only reports created from packages using dynamic query mode.

For packages that are not using dynamic query mode, you must have a 32-bit report server running in your environment. Reports from packages that do not use dynamic query mode will not run using the 64-bit report server.

For example, you can install two Application Tier Components in your environment, and have one using the 32-bit version of report server and the other using the 64-bit version, as shown in the following diagram.


Figure 5. Distribution option for using the 64-bit version of Report Server

You can control which servers your reports are run on using routing rules for the packages. For more information about setting routing rules, see the *Administration and Security Guide*.

# Installation options for Windows modeling components

You install the modeling tools, such as Framework Manager, Metric Designer, and Transformer on Microsoft Windows operating system computers.

To publish packages so that they are available to users, you must configure the modeling tools to use a dispatcher, either directly or through a gateway. If IBM Cognos Connection is secured, you must have privileges to create data sources and publish packages in IBM Cognos Connection.

# **Firewall considerations**

When the modeling tool is outside a network firewall that protects the Application Tier Components, communication issues with the dispatcher can occur. For security reasons, the default IBM Cognos BI configuration prevents the dispatcher from accepting requests from the modeling tool when it is outside the network firewall.

A modeling tool that is outside a network firewall, for example Framework Manager, cannot send requests across a network firewall to the dispatcher on the IBM Cognos BI application server. To avoid communication issues when communicating across a network firewall, install the modeling tool in the same architectural tier as the Application Tier Components. The following diagram shows the Framework Manager computer inside the network firewall, successfully communicating with the dispatcher on the IBM Cognos BI application server.



Figure 6. Client computer outside of firewall

Alternatively, you can install an additional gateway that is dedicated to communication with the modeling tool as shown in the following diagram. You then configure the modeling tool and its gateway such that the dispatcher accepts requests from the modeling tool.



Figure 7. Client computer outside of firewall

# **Distributing Framework Manager components**

Framework Manager communicates with the Application Tier Components, which can be installed on one or more application servers. To publish packages, you must configure Framework Manager to communicate with the dispatcher, either directly or through a dedicated gateway.

## **Configuration requirements**

On the computer where Framework Manager is installed, configure the following environment properties:

- Gateway URI
- Dispatcher URI for external applications

If the modeling tool is using a dedicated gateway instead of communicating directly with the dispatcher, you must also configure the **Dispatcher URIs for gateway** property on the dedicated gateway computer.

# **Distributing Transformer components**

Transformer can be installed on a computer that contains other IBM Cognos BI components or on a computer that is separate from other IBM Cognos BI

components. When installed separately, Transformer can be used as a standalone product or it can be configured to communicate with other IBM Cognos BI components.

Transformer consists of the following components. You may have one or both, depending on your environment.

• Transformer on Windows

This is the modeling tool for Microsoft Windows operating system for designing PowerCubes that are used in IBM Cognos BI. It can also be used to build and publish PowerCubes.

Transformer on UNIX or Linux

This is a command line utility for building PowerCubes on UNIX and Linux operating systems. You first design the models using Transformer Windows or MDL scripting, and then use the models to build the PowerCubes.

You install Transformer PowerCube building components for Linux on System z.

## Supported features

When you use Transformer as a standalone product, you can use data sources that are external to IBM Cognos BI and you cannot create secured views with dimensional filtering. When you use Transformer with other IBM Cognos BI components, you can use the following features provided by IBM Cognos BI:

- · IBM Cognos BI authentication providers
- IBM Cognos BI data sources, such as published packages, Query Studio reports, and Report Studio reports

You cannot use flat files as data sources.

- · IBM Cognos Connection for publishing the PowerCube data source and package
- building PowerCubes

#### **Role-based server considerations**

You may want to set up dedicated Transformer servers for optimal cube build performance and accessibility to the IBM Cognos BI users. In this scenario, consider the following requirements:

- Database client software is installed on any computer where Transformer will be used to build PowerCubes or test data sources.
- For data source connectivity, set appropriate environment variables for UNIX and Linux servers.
- IBM Cognos BI servers have access to the location where PowerCubes are stored so that the report server can access the PowerCubes.

Building and updating production PowerCubes can be scripted and run remotely when sufficient access and user privileges are set up. For more information about building and updating production PowerCubes, see the Transformer *User Guide*.

## Business analysts or specialists

You may have specialized business or power users who want to build PowerCubes that are modeled on a combination of corporate and personal data sources. These users may want to do their own analysis of the data for their line of business or a small group of users. You can enable such users to be self-sufficient within the IT and security infrastructure of the organization by meeting the following requirements:

- Database client software is installed, or available for modelers to install, on the Transformer computers that are used to access IBM Cognos BI data sources or IBM Cognos Series 7 IQD data sources.
- Modelers must have privileges to create a data source in IBM Cognos Administration.

Modelers do not need direct access to IBM Cognos Administration. They can create and update data sources by using Transformer or command line tools. You can provide modelers with a secured folder in IBM Cognos Connection in which to publish PowerCube packages.

• Modelers must have access to a location in which to store the PowerCube after building it.

This location must also be accessible to the IBM Cognos service and can be a secured share on a LAN.

• To build PowerCubes on a specific Transformer server, modelers should have FTP privileges to transfer models and execute privileges to build cubes on that server.

Modelers can transfer models and execute cube builds using scripts. Modelers can also use automated methods to build PowerCubes. For more information, see the *Administration and Security Guide*.

# **Configuration requirements**

To publish PowerCube packages, you must configure Transformer to communicate with the dispatcher, either directly or through a dedicated gateway. If IBM Cognos Connection is secured, you must have privileges to create data sources and publish packages in IBM Cognos Connection.

On the computer where Transformer is installed, configure the following environment properties:

- Gateway URI
- Dispatcher URI for external applications

If the modeling tool is using a dedicated gateway instead of communicating directly with the dispatcher, you must also configure the **Dispatcher URIs for gateway** property on the dedicated gateway computer.

#### **Related concepts:**

"Install IBM Cognos Transformer" on page 194 You install Transformer if you plan to create PowerCubes for use with IBM Cognos BI.

"Data Sources and Transformer" on page 199

The IBM Cognos BI modeling tools create and manage metadata. IBM Cognos Transformer creates and manages metadata for PowerCubes. Because metadata is derived from data sources in multi-platform or multilingual environments, there are several things you must think about or do when you set up the data source environment for IBM Cognos Transformer. Commonly, these things depend on the other technology you use for your data or import source.

# **Distributing Metric Designer components**

For Metric Studio, if you want to define and load metrics from relational and dimensional data sources, including cubes, Framework Manager packages, or Impromptu Query Definitions (.iqd files), install Metric Designer to extract the data.

Install Metric Designer after installing and configuring other IBM Cognos BI components. You must install the Microsoft Windows operating system-based Metric Designer on a Windows computer.

#### **Configuration requirements**

Metric Designer communicates with the Application Tier Components, which can be installed on one or more application servers. To publish extracts, you must configure Metric Designer to communicate with the dispatcher, either directly or through a dedicated gateway.

You must ensure that Metric Designer can communicate with other IBM Cognos BI scorecarding components. On the computer where Metric Designer is installed, configure the following environment properties:

- Gateway URI
- Dispatcher URI for external applications

Additional configuration is required after you install Metric Designer so that it can access some types of data sources.

If the modeling tool is using a dedicated gateway instead of communicating directly with the dispatcher, you must also configure the **Dispatcher URIs for gateway** property on the dedicated gateway computer.

#### **Related concepts:**

"Installing and Configuring Metric Designer" on page 184 You can install Metric Designer, the metadata modeling tool for IBM Cognos Metrics Manager, on the same computer as IBM Cognos BI components, or on a different computer. All required files are copied to one computer. Default settings are used for the configuration. However, you may want to change these default settings if existing conditions make the default choices inappropriate, or if you installed IBM Cognos BI on a different computer.

# Distributing IBM Cognos BI scorecarding components

When you install IBM Cognos BI Metrics Manager, you specify where to place the gateways, Application Tier Components, and Content Manager.

The scorecarding components can be distributed in much the same way as the reporting components.

If you are installing Metrics Manager with your BI reporting components, you can use a dedicated server for your Metrics Manager Application Tier Components. For more information, see "Configure a Metrics Manager only Application Tier Components instance" on page 148.

You can install these components using any of these options:

• Install all components on one computer.

This option is typically used for a demonstration or in a proof of concept environment.

• Install the gateway on a separate computer.

In this option, the gateway and Web server are on one computer, and the remaining IBM Cognos components are on other computers. You may choose this option if you have existing Web servers available to handle IBM Cognos component requests.

• Install Application Tier Components and Content Manager on separate computers.

Choose this option to maximize performance, availability, capacity, or security based on the processing characteristics of your organization.

If you plan to install Cognos Content Database, install it on the same computer as Content Manager. Cognos Content Database is automatically configured for use as your content store.

• Install IBM Cognos BI scorecarding components on the same computer as other IBM Cognos BI products.

IBM Cognos BI products share components, such as Content Manager. If you plan to install IBM Cognos BI scorecarding components on the same computer as other IBM Cognos BI products, install them in the same installation location.

After installing IBM Cognos BI scorecarding components, you must configure them so they can communicate with each other.

In addition to installing the Content Manager, Application Tier Components, and gateway components, you may choose to install Metric Designer, the metadata modeling application for scorecarding. No matter which IBM Cognos installation scenario you follow, you can install Metric Designer and the content store on a computer separate from the Application Tier Components.

# IBM Cognos BI with other IBM Cognos products

You can install IBM Cognos BI in an environment that includes other IBM Cognos products.

The installation wizard for IBM Cognos BI can recognize compatible directories and shows a warning when conflicts occur. After IBM Cognos BI is installed, you can access objects that are created in another IBM Cognos product in IBM Cognos BI. The requirements for access depend on how you choose to run the two products.

## **Duplicated Services if Using Multiple Products**

Many IBM Cognos products use similar services, such as the report service and the presentation service. If you are using multiple products, such as IBM Cognos Business Intelligence with IBM Cognos Metrics Manager or IBM Cognos PowerPlay<sup>®</sup>, you must ensure that you disable some of the duplicated services to ensure your products work properly.

For example, you have IBM Cognos Business Intelligence and IBM Cognos PowerPlay installed. Both products have a reports service and a presentation service. If both products are accessed through the same gateway, reports that must be run on the IBM Cognos BI services could be routed to the IBM Cognos PowerPlay services. The result may be that your reports will display an error.

The following list shows an example of distributing components using three servers, where each server hosts one product. The fourth server hosts the common gateway.

- Server A IBM Cognos Business Intelligence
- Server B IBM Cognos Metrics Manager
- Server C IBM Cognos PowerPlay
- Server D the Web server used for all products

- 1. On Server A, you must have the report service and the presentation service enabled.
- 2. On Server B and Server C, you must disable the report service and the presentation service.
- 3. On Server D, these services are not present.

# IBM Cognos products that can be upgraded to IBM Cognos BI

The following IBM Cognos products are earlier versions of components that are now within IBM Cognos BI ReportNet, IBM Cognos Metrics Manager, IBM Cognos DecisionStream, and IBM Cognos PowerPlay Web. When you upgrade these products to IBM Cognos BI, you can continue to run the earlier versions concurrently on the same computer until you are satisfied with the transition to IBM Cognos BI.

# **Cognos ReportNet**

For ReportNet and IBM Cognos BI to run concurrently, each version must have unique ports, content stores, Web aliases, and cookie settings. If you use the default settings, configuration is required only to select new ports and a new content store for IBM Cognos BI.

You cannot use content from ReportNet directly in IBM Cognos BI until you upgrade ReportNet. When you upgrade to IBM Cognos BI, the content store is upgraded to use the IBM Cognos BI schema and cannot be used by previous versions. Therefore, you need to maintain both the old and new content stores to run both product versions. You can maintain both content stores using one of the following approaches:

- create a copy of the ReportNet content store database using database export utilities and use the copy with IBM Cognos BI
- use the embedded export feature in IBM Cognos Connection to export the ReportNet content store database and import the exported deployment into IBM Cognos BI

You can upgrade reports at the same time or upgrade them later if compatibility is required with some existing Software Development Kit applications.

# **Cognos Metrics Manager**

To use data store content from IBM Cognos Metrics Manager in IBM Cognos BI, you upgrade by exporting the content from the data store to flat files, installing IBM Cognos BI, and then importing the flat files into the IBM Cognos BI metric store. Note that the cube picker feature (the ability to map specific metrics to cube intersections) in IBM Cognos Metrics Manager is not available in other IBM Cognos BI studios.

# **Cognos DecisionStream**

You can continue to run IBM Cognos DecisionStream Series 7 concurrently with IBM Cognos BI products. Catalogs that are created using DecisionStream Series 7 must be upgraded before you can use them with Data Manager.

For instructions about running concurrently and upgrading DecisionStream catalogs to the IBM Cognos BI Data Manager environment, see the chapter about upgrading a catalog in the *IBM Cognos Data Manager User Guide*.

# **Cognos PowerPlay Web**

You can continue to use PowerPlay Web reports within the PowerPlay 7 user interfaces in the IBM Cognos BI portal. You can also drill through between PowerPlay Web and IBM Cognos BI. You can publish from PowerPlay Enterprise Server to IBM Cognos BI, provided that you use the same host name or IP address to identify the Series 7 namespace in IBM Cognos Series 7 and in IBM Cognos BI.

You can also upgrade the following reports to IBM Cognos BI reports by using IBM Cognos Migration Assistant:

- · PowerPlay Windows reports
- PowerPlay Web Explorer reports
- PowerPlay for Excel reports
- · PowerPlay for Windows reports published to PowerPlay Web

The tools are available at the IBM Cognos Customer Center (http://www.ibm.com/software/data/support/cognos\_crc.html).

The last release of the migration tools was version 10.1.1. You can use these tools to migrate to IBM Cognos Business Intelligence version 10.1.1 (Report Studio or Analysis Studio), and then upgrade the migrated content to IBM Cognos BI version 10.2.0. You can also use the migration tools to migrate Series 7 PowerPlay content to IBM Cognos BI PowerPlayversion 10.2.0.

# IBM Cognos Series 7 products that can be migrated to IBM Cognos BI

You can migrate metadata and applications from IBM Cognos Series 7 to IBM Cognos BI. Content that can be migrated includes Architect models from Windows, Impromptu client reports and catalogs from Windows, Upfront content, and Web-based content from Windows and UNIX.

For a list of supported IBM Cognos Series 7 versions and to download IBM Cognos Migration Assistant tools and documentation, see the IBM Cognos Customer Center (http://www.ibm.com/software/data/cognos/customercenter)/.

#### Architect

You can migrate Architect models for use as a metadata source for Framework Manager.

#### Impromptu

You can migrate Impromptu catalogs and reports to IBM Cognos BI. You use migrated catalogs as a metadata source for Framework Manager. After completing the catalog migration process, you can migrate and deploy Impromptu reports.

## Upfront

You can migrate Upfront content to IBM Cognos BI. The migration process maps the Upfront content structure to an IBM Cognos Connection folder structure. By preserving the existing Upfront organization, it is easier to complete administrative tasks, such as applying security to the migrated content.

## Impromptu Web Reports

You can migrate Impromptu Web Reports content, such as schedules and events, to IBM Cognos BI. You migrate Impromptu Web Reports content using an IBM Cognos Series 7 Deployment Manager package as the migration source. Before you migrate Impromptu Web Reports you must migrate the Impromptu catalog metadata used by the reports.

You cannot migrate Impromptu query definition files (.iqd), but you can continue to use existing .iqd files to build cubes in IBM Cognos BI Transformer 8.4. To do so, you must install the optional component, Series 7 IQD Bridge, which is available to install with IBM Cognos BI on IBM Cognos Series 7 supported platforms.

PowerPrompts are not migrated, but you can implement similar functionality using either the built-in administrator functionality or the IBM Cognos Software Development Kit.

# IBM Cognos products that interoperate with IBM Cognos BI

Some IBM Cognos products provide functionality that is not available in IBM Cognos BI. You can use these products in the same environment as IBM Cognos BI. With some products, you can access the different types of cubes or reports in the IBM Cognos BI portal. With other products, you can access unique features in the IBM Cognos BI portal.

# **Cognos Planning - Analyst**

You can access published plan data in IBM Cognos BI by using the Generate Framework Manager Model wizard, which requires IBM Cognos Planning - Analyst 7.3 MR1 or later.

If you want to use this product with the IBM Cognos BI server, you must ensure that both products are the same version.

For more information, see the IBM Cognos Analyst User Guide.

# **Cognos Planning - Contributor**

You can access unpublished (real-time) Contributor cubes in IBM Cognos BI by custom installing the IBM Cognos BI - Contributor Data Server component that is included with IBM Cognos Planning - Contributor 7.3 MR1 release or later. You can access published plan data in IBM Cognos BI by using the Generate Framework Manager Model administration extension in Contributor, which requires IBM Cognos Planning - Contributor 7.3 MR1 or later.

If you want to use this product with the IBM Cognos BI server, you must ensure that both products are the same version. You cannot install IBM Cognos Planning in the same path as 64-bit IBM Cognos BI.

For more information, see the IBM Cognos Contributor Administration Guide.

## **Cognos Finance**

You can access IBM Cognos Finance cubes that are secured against a Series 7 namespace by using the IBM Cognos Finance Network API Service. You can also

export data and metadata from IBM Cognos Finance for use in Framework Manager.

## **Cognos Controller**

You can access IBM Cognos BI to create IBM Cognos Controller Standard Reports by using a predefined Framework Manager model that is created when IBM Cognos Controller is installed. You can also access published Controller data and structures in Framework Manager for custom reporting and analysis.

If you want to use this product with the IBM Cognos BI server, you must ensure that both products are the same version.

#### **Cognos Transformer**

You can use IBM Cognos PowerCubes and Transformer models that were generated by Transformer 7.3 or later directly in IBM Cognos BI. The cubes and models are upwards compatible and require no migration or upgrade tools. You can run reports and analyses in IBM Cognos BI against the IBM Cognos PowerCubes.

If you want to use the new integration features of Transformer with IBM Cognos BI, you can upgrade IBM Cognos Series 7.x Transformer models to IBM Cognos BI Transformer 8.4 or later. This allows you to use IBM Cognos BI data sources (such as published packages), list reports authored in Query Studio or Report Studio, authenticate using IBM Cognos BI security, and publish directly to IBM Cognos Connection.

Before you load the model, the IBM Cognos Series 7 namespace must be configured in IBM Cognos BI and the name ID that is used to configure it in IBM Cognos BI must match the name used in IBM Cognos Series 7.

For more information about upgrading IBM Cognos Series 7 secured PowerCubes, see the *IBM Cognos BI Transformer User Guide*.

For IBM Cognos Series 7 PowerCubes to be used in IBM Cognos BI, optimize the cubes for use in IBM Cognos BI by using the pcoptimizer utility, which is supplied with IBM Cognos BI. Otherwise, PowerCubes that were created with previous versions of Transformer may take too long to open in the IBM Cognos BI Web studios. This optimization utility is suitable for older PowerCubes created before Transformer 8.4 and does not require access to the model or data source. It is not necessary to run this command line utility for cubes created in Transformer 8.4 or later. For more information about optimizing PowerCubes, see the Transformer *User Guide*.

You can publish PowerCubes using Transformer 8.4, Framework Manager, or directly in the IBM Cognos BI portal. You can publish single PowerCube data sources and packages to IBM Cognos Connection interactively in Transformer or in the command line. You can also publish silently using batch scripts after building a PowerCube. A user who has privileges to create data sources and packages in IBM Cognos Connection can publish PowerCubes in IBM Cognos Connection as well. The MDC file must be in a secured location that the IBM Cognos BI dispatcher and the report server process can access. Packages that use multiple PowerCubes from different PowerCube definitions or PowerCubes mixed with other data sources must be published using Framework Manager. If you use an IBM Cognos Series 7 PowerCube as a data source, IBM Cognos BI converts the cube data from the encoding that was used on the system where the PowerCube was created. For a successful conversion, IBM Cognos Series 7 PowerCubes must be created with a system locale set to match the data in the PowerCube.

## **Cognos Data Manager**

Data Manager is used to create data warehouses and data repositories for reporting, analysis, and performance management. When Data Manager is installed in your IBM Cognos BI environment, you can use the Data Movement Service to run builds and JobStreams in IBM Cognos Connection. You must install the Data Manager engine in the same location as your IBM Cognos BI Application Tier Components. Both Data Manager and IBM Cognos BI must be the same version.

# **Cognos Analytic Applications**

IBM Cognos Analytic Applications is a performance management solution that includes a populated data warehouse, packages that describe the data available in the data warehouse, and a set of predefined reports.

IBM Cognos Analytic Applications Workbench is a performance management solution that includes sample business intelligence data with which you can build applications and documentation source files which you can modify to produce your own customized documentation for the product.

Some IBM Cognos Analytic Application components are available for installation on 64-bit systems. The default installation directories for 64-bit installations are different from the default installation directories for 32-bit installations. Whether you are installing all server components together on a single server or on multiple servers, 32-bit and 64-bit components must be in separate directories.

# **Cognos Mobile**

With IBM Cognos Mobile, you can access reports authored with Analysis Studio, Report Studio, Query Studio, and workspaces created in IBM Cognos Workspace on a mobile device (such as a Blackberry) or a tablet computer.

To download, view, and interact with reports, IBM Cognos Mobile devices are either web-based, require the download of a native client or require the installation of a rich client, in addition to the installation of IBM Cognos BI components on the server. Both IBM Cognos Mobile and IBM Cognos BI server must be at the same version.

For more information, see the *IBM Cognos Mobile Installation and Administration Guide*.

## Cognos Lifecycle Manager

Lifecycle Manager is a Windows-based application for auditing upgrades from ReportNet 1.1 MR3 or MR4 and earlier versions of IBM Cognos BI to newer versions of IBM Cognos BI. It provides a verification feature that validates, executes, and compares report results from two different IBM Cognos BI releases. This helps to identify upgrade and compatibility issues between releases. User interface design and status reporting functionality provide both a proven practice process and support for upgrade project planning and status reporting. Lifecycle Manager also automates much of the process of bundling the required files, such as reports and models, for the test case.

For more information, see the IBM Cognos Lifecycle Manager User Guide.

# **Cognos BI Business Viewpoint Studio**

IBM Cognos BI Business Viewpoint Studio helps to provide you with one version of the truth for dimensions used in an enterprise's performance management processes. With Business Viewpoint Studio, you have a controlled, collaborative, workflow-oriented business process to manage both manual and automated changes to all data related to how enterprises analyze and manage their business. Both IBM Cognos BI Business Viewpoint Studio and IBM Cognos BI must be at the same version.

# **Cognos Content Archival**

With IBM Cognos Content Archival, you can store report output versions and their source report specifications to an external content archival repository. This enhances system performance and extends IBM Cognos product scalability by reducing the size of the Content Store, while helping to adhere to strict regulatory requirements. IBM Cognos Content Archival supports an IBM FileNet<sup>®</sup> Content Manager with IBM FileNet CMIS external repository.

For more information, see the *IBM Cognos Business Intelligence Installation and Configuration Guide*.

# Cognos TM1

IBM Cognos TM1 integrates business planning, performance measurement and operational data to enable companies to optimize business effectiveness and customer interaction regardless of geography or structure. Cognos TM1 provides immediate visibility into data, accountability within a collaborative process, and a consistent view of information, allowing managers to quickly stabilize operational fluctuations and take advantage of new opportunities.

For more information, see the IBM Cognos TM1 User Guide.

# IBM Cognos Series 7 content that can be recreated in IBM Cognos BI

Some IBM Cognos products cannot be programmatically migrated with the migration tools for IBM Cognos BI. IBM Cognos BI offers two options for duplicating content or functionality for the products described: use the Upfront portal within the IBM Cognos BI portal or use IBM Cognos BI studios to duplicate queries, visualizations, or objects.

The last release of the migration tools was version 10.1.1. You can use these tools to migrate to IBM Cognos Business Intelligence version 10.1.1 (Report Studio or Analysis Studio), and then upgrade the migrated content to IBM Cognos BI version 10.2.0.

# **Cognos Query**

You can use IBM Cognos Migration Assistant to identify IBM Cognos Query objects in the IBM Cognos Series 7 migration source. You can then duplicate most IBM Cognos Query functionality in IBM Cognos BI. Foundation queries are available in IBM Cognos BI when you migrate an Architect model to Framework Manager. You can also manually replicate saved queries using SQL components in Report Studio.

## **Cognos Visualizer**

You can duplicate some functionality by using the charting, layout, and formatting options in Report Studio and Analysis Studio.

## **Cognos NoticeCast**

You can duplicate alert and notification functionality by using Event Studio and other IBM Cognos BI components.

## **Cognos Web Services**

You can duplicate most IBM Cognos Web Services functionality using the IBM Cognos Software Development Kit.

## CognosScript

You can duplicate automation functionality using the IBM Cognos Software Development Kit.

# **Cognos Portal Services**

You can duplicate most IBM Cognos Portal Services functionality using IBM Cognos Connection.

# Chapter 5. Preparing to install

Before you install IBM Cognos Business Intelligence, you must set up resources in your environment so that the components can operate. For example, you must create a database for the content store, configure Web browsers, and create a user account for IBM Cognos BI.

If you want to use Cognos Content Database as your content store, you do not have to create a database or set up a database client. A database is created during the installation and IBM Cognos BI is configured to use it.

Use the following checklist to guide you through the setup process:

- Review the Release Notes.
- Review supported environments.
- Verify system requirements.
- Review the default port settings.
- Create the database for the content store.
- Configure a user or network server account for IBM Cognos BI.
- Set up environment variables on UNIX operating system for the metric store, if using IBM Cognos BI Metrics Manager.
- Configure Web browsers.

After you complete these tasks, continue with Installing IBM Cognos BI Components on One Computer or Installing IBM Cognos BI Server Components on Different Computers.

# **Review the Release Notes Before You Install**

Before you install your IBM Cognos product, it is important to be aware of all issues that may affect your installation strategy.

There may be late-breaking issues that were not known when this installation guide was created.

Review the Release Notes before you install your product. The Release Notes contains late-breaking information about known issues, and documentation updates and deprecation notices. The Release Notes are available from the first page of the installation wizard or from the product disc. Release Notes updates are also available on the IBM Cognos Customer Center (http://www.ibm.com/software/data/cognos/customercenter/).

# Supported environments

To ensure that your product works properly, apply all minimum required operating system patches, and use only the supported versions of third-party software.

To review an up-to-date list of supported environments for IBM Cognos products, visit IBM Cognos Customer Center (http://www.ibm.com/software/data/cognos/customercenter/). The website provides information about requirements related to the following parts of your environment.

- Operating systems
- · Patches or service packs or equivalent
- Web browsers
- Web servers
- · Directory servers
- Database servers
- Application servers

Unless otherwise indicated, IBM Cognos products are compatible with later versions of patches/service packs from the versions stated.

It is important to note that the Linux operating system is available in a number of distributions and supports a number of hardware platforms. Ensure that the combination of the operating system and hardware that you are using is supported.

# Cognos products and virtualization environments

The IBM virtualization policy (http://www.ibm.com/software/support/ virtualization\_policy.html) describes IBM support for virtualization environments.

For more information, search supported server virtualization environments by product (http://publib.boulder.ibm.com/infocenter/prodguid/v1r0/clarity/ vesForProduct.html).

# Verify system requirements

Use the following tables to check the minimum hardware and software requirements to install and run IBM Cognos Business Intelligence components on one computer. Additional resources may be required for distributed or production environments.

The following table lists the hardware requirements and specifications for a single computer installation.

## Hardware requirements

Table 4. Hardware requirements for a single computer installation

Requirement	Specification	
Operating system	Microsoft Windows	
	UNIX	
	Linux	
	Some IBM Cognos BI components are not supported on Linux.	
RAM	For more information, see "Memory settings" on page 42.	
Operating system specifications	File descriptor limit set to 2048 on UNIX and Linux	

Requirement	Specification
Disk space	A minimum of 3.5 GB of free space is required to install the software and 4 GB of free space on the drive that contains the temporary directory used by IBM Cognos components.
	For all databases, the size will increase over time. Ensure that you have sufficient disk space for future requirements.
Printer	To ensure that reports print properly on Windows, Adobe Reader requires that you configure at least one printer on the computer where you install the Application Tier Components. All reports, regardless of the print format that you choose, are sent as temporary PDF files to Adobe Reader for printing.
Other	To email reports, the system requires the ability to use and access a mail server.

Table 4. Hardware requirements for a single computer installation (continued)

# Software requirements

The following table lists the software *requirements* and specifications for a single computer installation.

Requirement	Specification	
Web server	A Web server must be installed and started.	
Java Runtime Environment (JRE)	An IBM JRE is installed automatically with IBM Cognos BI on Windows.	
	If you are using an application server, use the JRE that is installed with it, if it is supported in IBM Cognos BI.	
Database	Cognos Content Database can be installed and configured as the default content store database in a test or proof-of-concept system.	
	You must have one of the following databases available to store IBM Cognos data in a production environment:	
	• Oracle	
	• DB2	
	Microsoft SQL Server	
	• Sybase	
	• Informix	
	For IBM Cognos BI Metrics Manager, the following databases are supported for the metric store:	
	• Oracle	
	• DB2	
	Microsoft SQL Server	
	TCP/IP connectivity is required for all database types.	

Table 5. Software requirements for a single computer installation

Requirement	Specification	
Web browser	For all Web browsers, the following must be enabled:	
	• cookies	
	• JavaScript	
	For Microsoft Internet Explorer only, the following must be enabled:	
	<ul> <li>Run ActiveX controls and plug-ins</li> </ul>	
	Script ActiveX controls marked safe for scripting	
	Active scripting	
	Allow META REFRESH	
SAP BW	The following SAP Front-End components installed on each IBM Cognos BI server computer:	
	• SAP GUI	
	• BW Add-ons	

Table 5. Software requirements for a single computer installation (continued)

# Memory settings

Memory settings depend on many factors, such as the level of activity expected on the server, the complexity of the IBM Cognos applications, the number of users and requests, and acceptable response times.

If your environment supports more than 100 named users, is complex, experiences high peak usage periods, or includes any combination of these factors, consider completing a capacity plan. For more information, see IBM Software Services for Cognos (http://www.ibm.com/software/analytics/cognos/services/).

To determine the settings that are best suited for your environment, performance testing is advised.

Use the following memory settings as a starting point and adjust them based on the memory usage of your system.

- 2 GB for the base operating system and accompanying software, such as antivirus, back up, and enterprise management software
- 4 GB for a 64-bit Content Manager JVM
- 4 GB for a 64-bit Application Tier JVM
- 2 GB for the graphics JVM (IBM Cognos Workspace)
- 2-4 GB for the query service (dynamic query mode) JVM
- 1 GB per core for the report services processes (dynamic query mode) (JVM)
- 2 GB per core for the report services processes (compatible query mode) (BIBuS)

The following table shows the suggested memory settings by architectural tier for a 64-bit operating system.

Table 6. Suggested memory settings by architectural tier

Architectural Tier	Memory settings
IBM Cognos Gateway Tier	2 GB
IBM Cognos Application Tier (compatible query mode)	2 GB per core
IBM Cognos Application Tier (dynamic query mode	4 GB + 1 GB per core

#### Table 6. Suggested memory settings by architectural tier (continued)

Architectural Tier	Memory settings
IBM Cognos Content Manager Tier	4 GB

More resources might be required when installing additional software.

# **Review the Default Port Settings for IBM Cognos Business Intelligence**

After installation, you can use the configuration tool to change the settings. You can also change them by editing the cogstartup.xml file.

# **Default Port Settings for IBM Cognos BI Components**

The following table lists the default ports and URI settings for IBM Cognos Business Intelligence.

Setting	Default Value	Description
Content Manager URI	http://localhost:9300/ p2pd/servlet	The URI to Content Manager
Gateway URI	http://localhost:80/ ibmcognos/cgi-bin/ cognos.cgi	The URI to the gateway
Dispatcher URI (Internal, External)	http://localhost:9300/ p2pd/servlet/dispatch	The URI to the dispatcher
Dispatcher URI for external applications	http://localhost:9300/ p2pd/servlet/dispatch	The URI to the dispatcher
Dispatcher URIs for Gateway	http://localhost:9300/ p2pd/servlet/dispatch/ext	The URI to the primary dispatcher used by the gateway
Log server port	9362	The port used by the local log server
Listening port number	1527	The port used by Cognos Content Database.

Table 7. Default Port Settings for IBM Cognos BI Components

# **Default Port Settings for Tomcat**

The following table lists the default settings used by IBM Cognos BI for Tomcat. The non-SSL and SSL connectors are automatically updated in the server.xml file when you use IBM Cognos Configuration to change the dispatcher port or to enable the SSL protocol. You can directly update the shutdown port using IBM Cognos Configuration.

Table 8. Default Port Settings for Tomcat

Setting	Port	Description
Non-SSL Coyote HTTP/ 1.1 Connector	9300	The port Tomcat uses to pass requests from the Web server to IBM Cognos BI
SSL Coyote HTTP/1.1 connector	9334	The port Tomcat uses to listen for secure connections

Table 8. Default Port Settings for Tomcat (continued)

Setting	Port	Description
Shutdown port	9399	The port Tomcat uses to listen for a shutdown command

# Guidelines for creating the content store

The content store is a database that Content Manager uses to store global configuration data, global settings (such as the language and currency formats shown in the user interface), connections to data sources, and product-specific content. You must use one of the supported enterprise-level databases as the content store in a production environment.

Do not use Cognos Content Database for the content store in a production environment. Cognos Content Database is provided to help you quickly set up a test or proof-of-concept system.

Design models and log files are not stored in the content store.

You must create the content store before you can use your IBM Cognos Business Intelligence product.

If you are using IBM DB2 for your content store, you can generate a DDL to allow your database administrator to create a DB2 database suitable for the content store. For more information, see "Generating a script file that will create a database for a DB2 content store" on page 80.

## **Database properties**

You must create the content store database using one of the databases listed in the following table.

The following table shows the character encoding and protocol that is used by the different types of databases.

Database	Character encoding	Protocol
DB2	UTF-8	TCP/IP
Oracle	AL32UTF8 or AL32UTF16	TCP/IP
Microsoft SQL Server	UTF-8 or UTF-16	TCP/IP
Informix	UTF-8	TCP/IP
Sybase	UTF-8	TCP/IP
Cognos Content Database	preconfigured	preconfigured

Table 9. Character encoding and protocols for the content store database

If you plan to use the Cognos Content Database as your content store, a database is created and preconfigured when the installation is complete.

# **Collation sequence**

Cognos BI uses a single sort order that specifies the rules used by the database to interpret, collect, compare, and present character data. For example, a sort order defines whether the letter A is less than, equal to, or greater than the letter B;

whether the collation is case sensitive; and whether the collation is accent sensitive. For more information about collation and collation sequences, see the database documentation.

# Suggested settings for creating the content store in DB2 on Linux, Windows, and UNIX operating systems

The database you create on the Microsoft Windows, Linux, or UNIX operating system for the content store must contain the specified configuration settings.

To ensure a successful installation, use the following guidelines when creating the content store. Use the same guidelines to create a database for log messages.

# Library files for DB2

Ensure that you use the appropriate library files for the version of the IBM Cognos Business Intelligence server that you install. IBM Cognos BI requires 32-bit library files when running in a 32-bit application server and it requires 64-bit library files when running in a 64-bit application server. Depending on the version of DB2 that installed, you may have to change the library files or change the order in which the library files are listed so that IBM Cognos BI server can find the correct files. Whichever version of library files is needed must be listed first.

# Guidelines for creating the content store

Use the following checklist to help you set up the content store on DB2.

• Set the appropriate environment variables for DB2, which are as shown in the following table.

Environment variable	Description
DB2PATH	The top-level directory that contains the database client software or the entire database installation.

Table 10. Environment variables for DB2

Environment variable	Description
LD_LIBRARY_PATH	The load library path. You must add the driver location and indicate the 32-bit or 64-bit library files as appropriate for your application server.
	For example (replace the double hash symbol with the library file value, either 32-bit or 64-bit), LD_LIBRARY_PATH= \$DB2_location/sqllib/lib##: \$LD_LIBRARY_PATH
	Examples (replace ## with 32 or 64 as appropriate):
	For Solaris and Linux:
	LD_LIBRARY_PATH= \$DB2DIR/lib##: \$LD_LIBRARY_PATH
	For AIX:
	LIBPATH=\$DB2DIR/lib##:\$LIBPATH
	For HP-UX:
	SHLIB_PATH=\$DB2DIR/ lib##:\$SHLIB_PATH
DB2INSTANCE	The default database server connection.
DB2CODEPAGE	Setting this optional environment variable to a value of 1208 provides support for multilingual databases.
	For information about whether to use this environment variable, see the DB2 documentation.

Table 10. Environment variables for DB2 (continued)

• Use **UTF-8** as the code set value when you create the database.

To check that your database has the correct code set, using the command-line interface, and type the following at the command prompt:

db2 get database configuration for database\_name

The code set value is UTF-8 and the code page value is 1208.

• Ensure that you set the configuration parameters as shown in the following table.

Table 11.	Configuration	parameters	for	DB2
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Property	Setting
Application heap size	AUTOMATIC or at least 1024 KB
(applheapsz)	If the application heap size value is too small, out of memory errors may occur when there are many users.
Lock timeout (locktimeout)	240 seconds
	Do not set this to an infinite timeout value.

Table 11. Configuration parameters for DB2 (continued)

Property	Setting
DB2 registry variable	YES
	Setting this variable to YES improves

- Create a buffer pool with a page size of 32 KB, and a second one with a page size of 4 KB.
- Create a system temporary tablespace using the 32 KB buffer pool you created in the previous step.
- Create a user temporary tablespace using the 4 KB buffer pool you created. Global temporary tables will be created in the user temporary tablespace.
- Create a regular user tablespace using the 4 KB buffer pool you created. If you are also creating a logging database, create an additional regular user tablespace with a page size of 8 KB.
- Grant the following database privileges for the user account IBM Cognos BI will use to access the database:
  - Connect to database
  - Create tables
  - Create schemas implicitly

**Tip:** If you want to host more than one content store on your DB2 instance and you use both at the same time, use a different user account for each content store to ensure that each IBM Cognos BI instance is fully isolated from the other.

- Ensure that the user account has use privileges for the user temporary tablespace and other appropriate tablespaces associated with the database.
- Create a schema for the user account IBM Cognos BI that you will use to access the database, and ensure the user has create, drop, and alter permissions for the schema.
- Create a profile that sources the sqllib/db2profile from the DB2 user's home directory. For example, the content of your profile will be similar to the following:

```
if
[ -f /home/db2user/sqllib/db2profile ]; then
./home/db2user/sqllib/db2profile
fi
```

• Your database administrator must back up IBM Cognos BI databases regularly because they contain the IBM Cognos data. To ensure the security and integrity of databases, protect them from unauthorized or inappropriate access.

# Suggested settings for creating the content store in DB2 on z/OS

The database you create for the content store must contain the specified configuration settings.

To ensure a successful installation, use the following guidelines when creating the content store.

Use the following checklist to help you set up the content store in DB2 on  $z/OS^{\text{®}}$ .

- Log on to the z/OS system as a user with System Administrator (SYSADM) or System Control (SYSCTRL) privileges in DB2 to create the database.
- Create a database instance, storage group, and a user account for the content store.

IBM Cognos Business Intelligence uses the credentials of the user account to communicate with the database server.

- Ensure that you reserve a buffer pool with a page size of 32 KB, and a second one with a page size of 4 KB for the database instance.
- Administrators must run a script to create table spaces to hold Large Objects and other data for the content store and grant user rights to the table spaces. For information about running the script, see "Create tablespaces for a content store on DB2 on z/OS" on page 81.
- Your database administrator must back up the content store regularly because it contains the IBM Cognos data application and security information. To ensure the security and integrity of the content store database, protect it from unauthorized or inappropriate access.

# Suggested settings for creating the content store in Oracle

The database you create for the content store must contain the specified configuration settings.

To ensure a successful installation, use the following guidelines when creating the content store. Use the same guidelines to create a database for log messages.

Use the following list to help you set up the content store on Oracle.

• Ensure that the parameter for the database instance compatibility level of the content store database is set to 9.0.1 or higher.

For example, you can check the COMPATIBLE initialization parameter setting by issuing the following SQL statement:

SELECT name, value, description FROM v\$parameter WHERE name='compatible'; For information about changing an instance configuration parameter, see the Oracle documentation.

• Determine if the database is Unicode.

Tip: One method is to type the following select statement:

select \* from NLS\_DATABASE\_PARAMETERS

If the result set returns an NLS\_CHARACTERSET that is not Unicode, create a new database and specify AL32UTF8 for the database character set parameters.

Determine which user account is to access the database.

**Tip:** If you want to host more than one content store on your Oracle instance and you will use both at the same time, use a different user account for each content store to ensure that each IBM Cognos Business Intelligence instance is fully isolated from the others.

- Ensure that the user account that accesses the database has permission to do the following:
  - Connect to the database
  - Create, alter, and drop triggers, views, procedures, and sequences
  - Create and alter tables
  - Insert, update, and delete data in the database tables

• Your database administrator must back up IBM Cognos BI databases regularly because they contain the Cognos data. To ensure the security and integrity of databases, protect them from unauthorized or inappropriate access.

# Suggested settings for creating the content store in Microsoft SQL Server

The database you create for the content store must contain the specified configuration settings.

To ensure a successful installation, use the following guidelines when creating the content store. Use the same guidelines to create a database for log messages.

Use the following checklist to help you set up the content store on Microsoft SQL Server.

• Ensure that the collation sequence is case-insensitive.

In a Custom installation, you choose a collation, which includes character sets and sort order, during the Microsoft SQL Server setup. In a Typical installation, the installation uses the locale identified by the installation program for the collation. This setting cannot be changed later.

• When connecting to Microsoft SQL Server Management Studio to create the database, use Microsoft SQL Server authentication.

If you connect using Microsoft Windows operating system authentication, the database that you create will also use Windows authentication. In this situation, you must configure the database connection using a database type of **SQL Server database (Windows Authentication)** in IBM Cognos Configuration.

- For the user account that will be used to access the database, create a new login under **Security** and use the following settings:
  - Select **SQL Server authentication**.
  - Clear the Enforce password policy check box.

**Tip:** If you want to host more than one content store on your Microsoft SQL Server instance and you will use both at the same time, use a different user account for each content store to ensure that each IBM Cognos Business Intelligence instance is fully isolated from the others.

- For Microsoft SQL Server 2008, grant EXECUTE permission to the user account that accesses the database.
- For the content store database, create a new database under Databases.
- Under **Security** for the new database, create a new schema and assign a name to it.
- Under **Security** for the new database, create a new user with the following settings:
  - For Login name, specify the new login that you created for the user account.
  - For **Default schema**, specify the new schema.
  - For **Owned Schemas**, select the new schema.
  - For Role Members, select db\_datareader, db\_datawriter, and db\_ddladmin.

# Suggested settings for creating the content store in IBM Informix Dynamic Server

The database that you create for the content store must contain specific configuration settings.

Use the following guidelines when creating the content store. Use the same guidelines to create a database for log messages.

Use the following checklist to help you set up the content store on the IBM Informix Dynamic Server database.

- Set the following environment variables:
  - GL\_USEGLU To enable International Components for Unicode (ICU) functionality in Informix Dynamic Server, set the value to **1**.
  - DB\_LOCALE To set the database locale to Unicode, specify en\_us.utf8.
- In the file ONCONFIG.*instance\_name*, set the property SHMBASE to 0x14000000L.
- Create a database in mode ANSI and with logging turned on.
- For the user account that you use to access the database, grant the DBA database privilege.

**Important:** If you host more than one database on your Informix instance and use them at the same time, use a different user account for each database. You must also define the user account in each instance of the IBM Cognos Configuration application by creating an advanced property parameter and specifying the user account as the value. For multiple content store databases, name the property CMSCRIPT\_CS\_ID. For multiple logging databases, name the property IPFSCRIPTIDX.

## Suggested settings for creating the content store in Sybase

The database you create for the content store must contain the specified configuration settings.

To ensure a successful installation, use the following guidelines when creating the content store. Use the same guidelines to create a database for log messages.

Use the following checklist to help you set up the content store on Sybase.

- On the Sybase server, create a server instance with an 8 KB server page size. For instructions, see the Sybase documentation.
- If required, install jConnect 6.

This tool sets up the communication between the JDBC driver and the Sybase Adaptive Server instance.

For instructions, see the Sybase documentation.

If your version of Sybase does not include JConnect 6, you must download the installer from Sybase's Web site.

- Add the UTF-8 character set to the server instance.
- If required, make UTF-8 the default character set on the server.
- Create a database device.

Tip: Set log\_segment to a minimum of 10 MB.

• Set the new database device as the default.

Information about the new database will be stored in the new database device. Keep a backup of the database device for recovery purposes.

- Create the database.
- Determine which user account will be used to access the database.

**Tip:** If you want to host more than one content store on your Sybase instance and you will use them at the same time, use a different user account for each content store to ensure that each IBM Cognos Business Intelligence instance is fully isolated from the others.

- Ensure that the user account has the following privileges for the database: create default, create procedure, create rule, create table, and create view.
- Ensure that the database has the following settings and is restarted:
  - create and drop table privileges for the user account
  - Select into property is set to True

# Configure a User Account or Network Service Account for IBM Cognos Business Intelligence

You can configure either a user account or a network service account for IBM Cognos Business Intelligence.

The user or network service account under which IBM Cognos BI runs must:

- have access to all required resources, such as printers
- have the rights to log on as a service and act as part of the operating system

In addition, the user account must be a member of the local administrator group.

For example, to print reports using a network printer, the account must have access to the network printer, or you must assign a logon account to the IBM Cognos service.

## **Configure a User Account**

For Microsoft Windows operating system, assign a logon account to the IBM Cognos service. You can configure the IBM Cognos service to use a special user account by selecting the IBM Cognos service from the list of services shown in the Services window in Windows. You can then define the user account properties.

For UNIX or Linux operating system, create a new UNIX or Linux group named cognos, for example. This group must contain the user that owns the IBM Cognos files. Change the group ownership of the IBM Cognos files to the cognos group and change the file permissions for all IBM Cognos files to GROUP READABLE/WRITABLE/EXECUTABLE.

You must configure the Web Server to use aliases. For more information, see the topic about configuring the Web server.

#### **Configure a Network Service Account**

The network service account is the built in account NT AUTHORITY\ NetworkService in the operating system. Administrators do not need to manage a password or maintain the account.

Use an account with administrator privileges if you are installing on Windows Server 2008.

You must configure the Web server to use the application pool. For more information, see the topic about configuring the Web server. You also need the appropriate write permissions to install to the directory.

# Setting up environment variables on UNIX for the metric store

For IBM Cognos Business Intelligence, you must specify environment variables on a UNIX operating system before you can use a DB2 or Oracle database as the metric store.

The proper syntax for creating environment variables is shell dependent.

## IBM DB2

For IBM DB2 databases, you must set the database variables by running the environment setup scripts included with the IBM DB2 installation. For Bourne or Korn shells, run the following command or add it to the .profile script:

DB2\_installation\_path/db2profile

On AIX, ensure that the **LIBPATH** variable includes only the 32-bit libraries. The default db2profile configures **LIBPATH** to reference the 64-bit libraries.

Contact your database or network administrator for the correct values for your system.

## Oracle

For Oracle databases, you must set and export the database environment variables for the user of the metric store before you start the IBM Cognos processes. IBM Cognos BI uses these database variables to connect to your database. One way to set these environment variables is to include these commands in the .profile or .login script of the user who starts the IBM Cognos services.

When you set the load library paths, ensure that the 32-bit Oracle libraries are in the library search path, which is usually the *ORACLE\_HOME*/lib directory. If you installed the 64-bit Oracle 10g client, the 32-bit libraries are in the *ORACLE\_HOME*/lib32 directory.

The following table describes environment variables for Oracle databases. The descriptions assume an Oracle 11g client is installed.

Environment variable	Description
ORACLE_HOME	The top level directory that contains the database client software or the entire database installation.
	Example: /usr/oracle
	You might be able to use an Oracle script to create the environment variables. For more information, see the Oracle documentation.
	Example. /usi/local/blii/cordeliv
TNS_ADMIN	The directory that contains the tnsnames.ora file, which allows calls to the Oracle database to determine the required server connections.
	<pre>Example: \$ORACLE_HOME/network/admin</pre>

Table 12. Environment variables to use an Oracle 11g metric store

Environment variable	Description
РАТН	The variable to locate executable files.
	Example: \$PATH:\$ORACLE_HOME/bin
libraryPATH	The load library path.
	Examples:
	For Solaris or Linux operating system:
	LD_LIBRARY_PATH=\$ORACLE_HOME/ lib:\$LD_LIBRARY_PATH
	For AIX:
	LIBPATH=\$ORACLE_HOME/ lib:\$LIBPATH
	For HP-UX:
	SHLIB_PATH=\$ORACLE_HOME/ lib:\$SHLIB_PATH
NLS_LANG	The value of the variable determines the locale-dependent behavior of IBM Cognos BI. Error messages, sort order, date, time, monetary, numeric, and calendar conventions automatically adapt to the native language and locale.

Table 12. Environment variables to use an Oracle 11g metric store (continued)

Contact your database or network administrator for the correct values for your system.

# **Configure Web Browsers**

IBM Cognos Business Intelligence products use default browser configurations. Additional required settings are specific to the browser.

# Browser Settings Required for IBM Cognos BI Portal

The following table shows the settings that must be enabled.

Browser	Setting	IBM Cognos component
Internet Explorer	Allow Cookies	IBM Cognos Connection
portals)	Active Scripting	IBM Cognos Administration
	Allow META REFRESH	Cognos Viewer
		Report Studio
		Query Studio
		Analysis Studio
		Event Studio
		Metric Studio
		IBM Cognos Workspace
		IBM Cognos Workspace Advanced
Internet Explorer	Run ActiveX controls and	Report Studio
studios)	Carriet Active V controls marked	Query Studio
	safe for scripting	Analysis Studio
Internet Explorer	Binary and script behaviors	Report Studio
studio)	Allow programmatic clipboard access	
Firefox	Allow Cookies	IBM Cognos Connection
	Enable Java	IBM Cognos Administration
	Enable JavaScript	Cognos Viewer
	Load Images	Report Studio
		Query Studio
		Analysis Studio
		IBM Cognos Workspace
		IBM Cognos Workspace Advanced
Safari 5	Enable Java	IBM Cognos Connection
	Enable JavaScript	Cognos Viewer
	Do not Block Popup Windows	IBM Cognos Workspace
	Block Cookies: Never	

Table 13. Enabled Browser Settings for IBM Cognos BI Portal

Browser	Setting	IBM Cognos component
Google Chrome	Cookies: Allow local data to be set Images: Show all images JavaScript: Allow all sites to run JavaScript Pop-ups: Allow all sites to show pop-ups	IBM Cognos Connection Cognos Viewer IBM Cognos Workspace

Table 13. Enabled Browser Settings for IBM Cognos BI Portal (continued)

Report Studio and Query Studio use the native Microsoft Internet Explorer XML support, which is a component of the browser. ActiveX support must be enabled because Microsoft applications implement XML using ActiveX. IBM Cognos BI does not provide or download ActiveX controls. Only the ActiveX controls that are installed as part of Internet Explorer are enabled through this configuration.

If Adblock Plus is installed with Firefox, disable it using the per-page option. Adblock Plus prevents some IBM Cognos Connection resources from working properly.

If you use Microsoft Internet Explorer Version 8, you may receive Adobe link errors when you open PDF documents in the IBM Cognos portal. To prevent these errors, in Internet Explorer, from the **Tools** menu, select **Manage Add-ons**, and disable **Adobe PDF Reader Link Helper**.

If you use a Microsoft Internet Explorer Web browser, then you can add the URL for your gateway(s) to the list of Trusted sites. For example, http:// <server\_name>:<port\_number>/ibmcognos. This enables automatic prompting for file downloads.

For more information, see "IBM Cognos Application Firewall" on page 227.

# Cookies Used by IBM Cognos BI Components

IBM Cognos BI uses the following cookies to store user information.

Table 14. Cookies used by IBM Cognos BI components

Cookie	Туре	Purpose
AS_TICKET	Session temporary	Created if IBM Cognos BI is configured to use an IBM Cognos Series 7 namespace
caf	Session temporary	Contains security state information

Cookie	Туре	Purpose
Cam_passport	Session temporary	Stores a reference to a user session stored on the Content Manager server.
		Administrators can set the HTTPOnly attribute to block scripts from reading or manipulating the CAM passport cookie during a user's session with their web browser.
		For more information, see the IBM Cognos Business Intelligence Administration and Security Guide.
cc_session	Session temporary	Holds session information that is specific to IBM Cognos Connection
cc_state	Session temporary	Holds information during edit operations, such as cut, copy, and paste
CRN	Session temporary	Contains the content and product locale information, and is set for all IBM Cognos users
CRN_RS	Persistent	Stores the choice that the user makes for the view members folder in Report Studio
PAT_CURRENT_ FOLDER	Persistent	Stores the current folder path if local file access is used, and is updated after the Open or Save dialog box is used
qs	Persistent	Stores the settings that the user makes for user interface elements such as menus and toolbars
userCapabilities	Session temporary	Contains all capabilities and the signature for the current user
usersessionid	Session temporary	Contains a unique user session identifier, valid for the duration of the browser session.

Table 14. Cookies used by IBM Cognos BI components (continued)

After upgrading or installing new software, restart the Web browser and advise users to clear their browser cache.

# Chapter 6. Upgrade IBM Cognos Business Intelligence

The enhancements in new versions of IBM Cognos Business Intelligence (BI) can affect many parts of your business intelligence environment. Therefore it is best to perform the upgrade in stages. To ensure success, treat upgrading as an IT project that requires careful planning, adequate time, and adequate resources.

# Upgrade to Cognos 10 website

The Upgrade to Cognos 10 website (http://www.ibm.com/software/data/cognos/ customercenter/upgrade.html) provides additional information to help you upgrade. For example, frequently asked questions, demonstration videos, and links to additional resources are available on the website.

# Upgrade process

Every upgrade requires a plan, and each plan follows the same basic upgrade process.

You must plan your upgrade so that you know what to expect at each stage of the process. In the planning stage, you can review the upgrade documentation for information about expected behavior, new features, deprecated features, compatibility between versions, and requirements for preparing your production environment. When you finish the review, you can then conduct a site survey to identify the BI infrastructure, applications, reports, and custom configuration settings. Finally, you can test the upgrade on a subset of your data so that you can fine-tune your reports and data before committing to the full upgrade.

When planning your upgrade, ensure that you perform the following tasks:

- Gather the necessary information, such as the required inputs and expected outputs for each phase.
- Assess the applications in your reporting environment and group similar reports together.
- Install the new software in a test environment and deploy the content to the test environment.
- Test the upgraded applications to ensure that your reports run as expected. You can use Lifecycle Manager to compare reports from a different version of IBM Cognos BI. For more information, see the Lifecycle Manager documentation.

Deployment and testing is usually an iterative process. Assess any differences between the source and target environments. Move to your production environment when you are satisfied that the deployed applications meet your business requirements.

The following diagram shows a general upgrade workflow and the stages in the upgrade process. The process includes the following stages:

- Creating an upgrade plan, which includes the following activities:
  - Reviewing resources, such as documentation and the Upgrade to Cognos 10 website (http://www.ibm.com/software/data/cognos/customercenter/upgrade.html), and verifying the supported environments to ensure

compatibility with your other software at the IBM Cognos Customer Center (http://www.ibm.com/software/data/cognos/customercenter/).

- Evaluating your existing system to determine what you want to move to your new version of the product.
- Creating a detailed plan to implement your upgrade strategy.
- Creating a development or test system with the new version of the product.
- Using the information learned from the development or test system and applying it as you create your QA or production systems.



Figure 8. Upgrade process

# Reviewing the documentation

Documentation is provided from various sources to help you achieve a successful upgrade.

All the documentation is available online at the IBM Cognos Information Center (http://publib.boulder.ibm.com/infocenter/cbi/v10r2m0/index.jsp).

#### Procedure

1. Read the What's New section in this guide.

It contains a list of new, changed, deprecated, and removed features for this release.

- 2. Read the rest of the Upgrade information in this document.
- **3.** From the IBM Cognos Information Center (http://publib.boulder.ibm.com/ infocenter/cbi/v10r2m0/index.jsp), review the latest versions of the documentation listed in the following table.

Document	Information to search for
IBM Cognos Business Intelligence Release Notes	Recent issues that can affect an upgrade
IBM Cognos Business Intelligence New Features	New features that can affect the behavior of existing content
IBM Cognos Framework Manager User Guide	Upgrading models
IBM Cognos Report Studio User Guide	Upgrading reports
IBM Cognos Transformer User Guide	Upgrading user views and upgrading IBM Cognos Series 7 models
IBM Cognos Migration Assistant User Guide	Moving content from IBM Cognos Series 7 to IBM Cognos BI.
	The last release of the migration tools was version 10.1.1. You can use these tools to migrate to IBM Cognos Business Intelligence version 10.1.1 (Report Studio or Analysis Studio), and then upgrade the migrated content to IBM Cognos BI version 10.2.0. You can also use the migration tools to migrate Series 7 PowerPlay content to IBM Cognos BI PowerPlay version 10.2.0.
IBM Cognos Lifecycle Manager User Guide	Using Lifecycle Manager to audit trial upgrades.

Table 15. List of upgrade documentation

# Assess applications in your environment before you upgrade

Preparing to upgrade provides an opportunity to review your existing applications and clean up your source environment.

For example, you might have many applications in your environment. However, it is not uncommon to find that a number of applications are not used or no longer meet your requirements.

Assessing your applications is a useful exercise because it can reduce the number of applications to consider during an upgrade.

An audit of your existing applications can include the following tasks:

- Do a site survey to assess the current production environment and identify areas that require attention during the upgrade. The site survey includes information about the infrastructure, applications, users, and configuration settings.
- Assess the software that you use in your environment and create a list of the software, such as operating systems, web servers, security providers, and databases. You can compare the list to the supported versions for the new version of the software, available from the software environments links at the

IBM Cognos Customer Service Center (http://www.ibm.com/software/data/ support/cognos\_crc.html), to determine whether additional software requires upgrading.

- Complete a detailed assessment of your applications. The usage, age, size, and complexity of your applications are important factors to consider when planning the upgrade. The total size of the applications can have an impact on the time required to complete the upgrade.
- List the following information about your configuration:
  - Configuration settings that you enabled in IBM Cognos Configuration Installing the new version of the product in a different location than the existing version lets you compare the settings between the two version. To run the two versions you must ensure that you use unique port numbers, web server aliases, and your content store database.
  - Changes to other configuration files

You must manually change other configuration files during the upgrade. If you changed other configuration files, you must assess the changes that you want to preserve in the upgraded environment. This might include .xml, .txt, and .css files in the configuration, templates, webapps, and webcontent directories.

**Note:** If you have modified .ini files, please contact Customer Support to determine whether the changes are supported in the new version of the software.

• Back up your content store database.

After your audit is complete, you can create an upgrade plan.

## Access content from a previous version in the portal

You can view content from a previous version of IBM Cognos BI in the new version by enabling multi-version coexistence.

Enabling multi-version coexistence can help provide a more seamless experience through the upgrade process by staging the upgrade. You can provide IT with the ability to address business demands for features in the new version. And, at the same time, provide the flexibility to plan an application upgrade to the capacity of your IT department.

For more information, see How to access content from previous IBM Cognos release from within the IBM Cognos 10 portal on the IBM website (https://www.ibm.com/support/docview.wss?uid=swg21459041).

## Upgrade tasks

When you upgrade, you perform the following tasks:

- 1. Install and configure the new version of the product.
- 2. Move your content to the new version of the product.
- 3. Upgrade your report specifications.
- 4. Compare your upgraded content to your existing content to ensure consistency.

# Install and configure a new version of the product

Install the new version of the product to a new location. The location can be on the same computer as your existing version of the product or on another computer.
Installing to a new location allows you to maintain your existing version of the product and run it in addition to the new version of the product. This can help you test your new version without affecting your existing version. You can compare the configuration settings between version and compare the appearance and functionality of the reports in both environments to ensure equivalency.

## Considerations for running multiple versions or instances of IBM Cognos BI on the same computer

To have multiple versions or instances of IBM Cognos Business Intelligence on the same computer you must change the configuration to ensure that the versions do not share port numbers or other resources.

## Required configuration changes for running multiple versions on the same computer

To run multiple versions of IBM Cognos Business Intelligence on the same computer, ensure that each installation is distinct. The versions or instances must be installed in different directories. The configuration settings for each version must use different settings for the following configuration properties.

#### Ports and URI settings

If you are using Tomcat, you must use different port numbers to avoid port conflicts. Because IBM Cognos BI reserves a port range, ensure that you use an offset of 100 for the ports. Change the following ports.

- Dispatcher URIs for gateway
- External dispatcher URI
- Internal dispatcher URI
- Dispatcher URI for external applications
- Content Manager URIs
- Local log server port number
- Shutdown port number

The default port numbers for Tomcat start at 9300. If you are installing another version of the product, ensure that you do not use the same values for your second version.

If you are installing the product on an application server other than Tomcat, ensure that you install the new version to a new profile or a separate instance than your existing version.

#### **Content store**

Use a different content store or schema for each installation. When the content store is upgraded you cannot revert the content. You can use a restored copy of your existing content store as the content store for the newer version of IBM Cognos Business Intelligence. The newer version of the product upgrades the content store when you start the services.

#### Web server virtual directories

To view static content for IBM Cognos Business Intelligence, the virtual directories for the web server must be different for each version. Ensure that you update the Gateway URI in Cognos Configuration to reflect the names of the virtual directories.

For example, the default virtual directory is http://servername/ibmcognos. If you have two gateways installed on the same computer, you must change the ibmcognos virtual directory for one of the gateways.

#### Application pools (Microsoft IIS web server)

If you use cognosisap.dll, each gateway must use a separate application pool.

#### User account that starts the service (optional)

Changing the user account might be helpful when you are troubleshooting. For example, you can troubleshoot Java processes by owner.

## Configuration settings that are the same for multiple versions on the same server

Multiple instances or versions of IBM Cognos Business Intelligence running on the same computer use the same resources, such as memory, network, and disk space.

Multiple versions of IBM Cognos can use the same authentication source for both versions. You can configure identical properties for the namespace.

#### **Customized configuration files**

If you manually edited any configuration files, you must reapply the changes. Keep a record of any customizations to ensure that they can be reapplied after upgrading. Also, back up these files so that the original version can be restored if necessary.

The IBM Cognos BI presentation service supports automatic upgrade of some system.xml files. If you made many customization changes to system.xml files, you can use this automatic upgrade feature instead of reapplying the changes manually after upgrading. By replacing the system.xml files with those from your earlier version of the product, the files can be upgraded by the new version of the product. The automatic upgrade is applied when you start the IBM Cognos service.

The system.xml files for which automatic upgrade is supported are in the following directories:

- c10\_location/templates/ps
- c10\_location/templates/ps/portal
- c10\_location/templates/ps/qs

## Configuring a second instance of IBM Cognos BI on one computer

To have more than one instance of IBM Cognos Business Intelligence on one computer, you must configure each instance with unique values for ports, the web server virtual directory, and content store database.

#### Before you begin

For the new version of the product, you require a new content store. If you are upgrading your entire content store, create a content store from a backup of your existing content store. If you are moving your content with deployment archives you can create a blank content store database.

Ensure that you have your new content store database in place before you configure the new version of the product.

**Important:** If you are connecting to a backup of your content store, the first time you start your IBM Cognos services, you are prompted to upgrade your reports.

Upgrading your reports can take a long time, and it is better to upgrade them after you have the new version running. You can upgrade your reports afterwards using IBM Cognos Administration.

#### Procedure

- 1. For the new instance of IBM Cognos BI, start IBM Cognos Configuration.
- 2. In the Explorer window, click Environment.
- **3**. Ensure that the port numbers for the following settings do not conflict with your other instance or version of IBM Cognos BI:
  - Dispatcher URIs for gateway
  - External dispatcher URI
  - Internal dispatcher URI
  - Dispatcher URI for external applications
  - Content Manager URIs
- 4. Ensure that the **Gateway URI** uses a different virtual directory or alias than your other instance or version of IBM Cognos BI.
- 5. Click Logging, and ensure that the Local log server port number is unique.
- 6. If you are using Tomcat as the application server, click **IBM Cognos**, and ensure that the **Shutdown port number** is unique.

If you are using another application server, such as WebSphere, this value is not used.

- 7. If you are using Portal Services, update the applications.xml file location:
  - In the **Explorer** window, click **Environment** > **Portal Services**.
  - In the **Properties** window, ensure that the port number for the **Location of applications.xml** property matches the port number for the other URI properties.
- 8. In the **Explorer** window, under **Data** Access > Content Manager, ensure that you do not use the same content store that is used for your other instance or version of IBM Cognos BI.
- 9. Save the configuration, and start IBM Cognos BI.

## Move your content to the new version of the product

There are two methods for moving your content:

• You can move your entire content store.

This method requires you to make a backup of your existing content store, and then restore the backup to a new content store. You then connect your new version of the product to the restored content store, and the product upgrades the content store to the new version.

This method maintains all of your security and user preferences, but it does require a new content store database.

**Important:** When you use this method, the first time you start your IBM Cognos services, you are prompted to upgrade your reports. Upgrading your reports can take a long time, and it is better to upgrade them after you have the new version running. Additionally, if you have Software Development Kit applications that create, modify, or save report specifications, do not select the option to upgrade your report specifications. You can upgrade your reports afterwards using IBM Cognos Administration.

Also, you must ensure you unregister any dispatchers from your previous version of the product. You can do so using IBM Cognos Administration after you have started the services.

• You can move content by creating deployment archives.

This method lets you move specific content, but it can be time consuming for a large content store.

If you are changing content store database vendors, you must create deployments to move your content. For example, if you are changing your contents store from Microsoft SQL Server to IBM DB2, you must do so with deployment archives.

As part of the upgrade process, ensure that your applications work as expected in the new version. Sometimes, changes can introduce unexpected results. It is important to test your applications with the new version of the product before you move them to your production environment.

## Upgrade your content store

IBM Cognos BI upgrades the content store database to the new version of the product when you start the services for the first time.

The process for upgrading your content store to the new version of the product includes the following steps:

- 1. Make a backup of your existing content store database.
- 2. Create a database from the backup.

If your content store is on DB2 on z/OS, you must run a script to upgrade the content store before you start the services in IBM Cognos Configuration.

- **3**. Connect the new version of the product to the content store that you created from the backup in IBM Cognos Configuration.
- 4. Start your services.

The content store is upgraded during the startup process.

**Important:** When you use this method, the first time you start your IBM Cognos services, you are prompted to upgrade your reports. Upgrading your reports can take a long time, and it is better to upgrade them after you have the new version running. You can upgrade your reports afterwards using IBM Cognos Administration. Additionally, if you have Software Development Kit applications that create, modify, or save report specifications, do not select the option to upgrade your report specifications.

This process lets you use the old and new versions of the product at the same time, where each version has its own content store.

**Important:** When you connect the new version of the product to the content store you created from the backup, the content store database is upgraded, and can no longer be used with your older version of the product.

#### Upgrading a content store on IBM DB2 on z/OS:

To upgrade the content store on DB2 on z/OS, run a script that creates new tablespaces and grants Content Manager the rights to use the tablespaces.

## Before you begin

To run the script, you must have permission to create tablespaces. Run the script before you save the configuration for the new version.

#### Procedure

- 1. Go to the *c10\_location*\configuration\schemas\content\db2zOS directory and open tablespaceUpgrade\_db2zOS.sql in a text editor.
- 2. Follow the instructions in the script file to replace the placeholder values in the file with the values for your database.
- 3. Save and run the file.

#### Unregister previous version dispatchers from your content store:

If you use a backup of your existing content store with a new version of the product, you must unregister the dispatchers from your previous version.

#### Procedure

- 1. Open IBM Cognos Connection in your web browser.
- 2. In the upper-right corner, click Launch, IBM Cognos Administration.
- 3. Click **Configuration**, and then click **Dispatchers and Services**.
- 4. Click More for the dispatchers belonging to your previous version.
- 5. Click Unregister, and then click OK.

The dispatcher information is removed from the content store.

#### Moving your content with a deployment archive

To move specific content from your content store you can use deployment archives. Deployment archives are compressed files that you can then import into your new version of the product.

**Important:** If you have moved your content by restoring your existing content store, you do not need to move your content using deployment archives.

Moving your content with deployment archives involves the following steps:

- 1. Creating the archive.
- 2. Copying the archive to the new version of the product.
- **3**. Importing the content.

#### Creating a deployment archive:

Use the following task to create a deployment archive.

#### Procedure

- 1. In **IBM Cognos Administration**, on the **Configuration** tab, click **Content Administration**.
- 2. On the toolbar, click the new export icon
- 3. Enter Name for the archive.
- 4. Select the content you want to include in the archive:
  - To export specific folders and directory content, click **Select public folders** and **directory content**.

- To export the entire content store, click **Select the entire content store**. If you select the entire content store, you can also select **Include user account information**.
- 5. Click Next.
- 6. If you clicked **Select the entire content store**, enter a password to be used when you import the content, and then click **OK**.
- 7. If you clicked Select public folders and directory content:
  - a. On the Select the Public folders content panel, click Add.
  - b. On the **Select entries** panel, in the **Available Entries** box, select the packages or folders that you want to export.

You can browse the Public Folders hierarchy and choose the packages and

folders that you want. Click the right arrow icon **to** move the selected items to the **Selected entries** box, and click **OK**.

- **c.** For each package and folder that you export, do the following, and then click **Next**:
  - If you want to make any changes to the package or folder in the target

environment, click the edit icon , make your changes, and click **OK**.

- To restrict access to the package or folder and its entries, select the check box in the **Disable after import** column. This is useful when you want to test the reports before you make them available in the target environment.
- Under **Options**, select whether you want to include the report output versions, run history, and schedules and what to do with entries when there is a conflict.
- d. On the **Select the directory content** panel, select the options that you want, and click **Next**.
- e. On the **Specify the general options** panel, select the options that you want, and click **Next**.
- f. On the **Specify a deployment archive** panel, select an existing deployment archive from the list, or create one.

If you are typing a new name for the deployment archive, do not use spaces in the name. If the name of the new deployment specification matches the name of an existing deployment archive, the existing deployment archive is overwritten.

- 8. Review the summary information and click Next.
- 9. Under Actions, select Save and run once.
- 10. On the Run with options panel, select Now and click Run.

#### Results

A deployment archive is created in the deployment directory where you installed IBM Cognos BI.

#### Copying the deployment archive to your new version:

You must manually copy the deployment archives from the instance where they were created to your new instance.

#### Procedure

Copy the deployment archives you created from the *old\_version\_install\_location*/deployment directory to the *new\_version\_install\_location*/deployment directory.

**Note:** The deployment directory is configurable in IBM Cognos Configuration. By default, the location is *install\_location*/deployment. If you are using a different location, ensure that you copy the deployment archives to the appropriate directory.

## Including configuration objects when you import a deployment archive of the entire content store:

You can include configuration objects when importing an entire content store. For example, you might want to import the configuration because you have a series of advanced settings for your services that you want from the source environment.

By default, configuration objects are excluded when you import an entire content store, even though they are included in the export. Configuration objects include dispatchers and configuration folders used to group dispatchers.

#### Procedure

- 1. In **IBM Cognos Administration**, on the **Configuration** tab, click **Dispatchers and Services**.
- 2. Click the dispatcher you want.
- 3. Next to **ContentManagerService**, click the set properties icon.
- 4. Click the **Settings** tab.
- 5. In the Value column, click Edit.
- 6. Select the Override the settings acquired from the parent entry check box.
- In the Parameter column, type the following uppercase text: CM.DEPLOYMENTINCLUDECONFIGURATION
- 8. In the Value column, type true.
- 9. Click OK to finish.

#### Importing a deployment archive:

To import the entries, you create an import deployment specification.

When you import, you select from entries that were exported. You can either accept the default options set during the export, or change them. You can select options that were included in the deployment archive during the export.

If you do a partial deployment of specific public folders and directory content, the import wizard shows whether packages and folders exist in the target environment and the date and time that they were last modified. You can use this information to help you decide how to resolve conflicts. When you redeploy, the wizard also shows whether the packages and folders were in the original deployment.

#### Before you begin

Ensure that you have copied the deployment archive to the *c10\_location/* deployment directory for your new version of the product.

#### Procedure

- 1. For your new version of the product, in **IBM Cognos Administration**, on the **Configuration** tab, click **Content Administration**.
- 2. On the toolbar, click the new import icon.
- **3**. In the **Deployment archive** box, select the deployment archive that you want to import, and click **Next**.
- 4. If your deployment archive is of your entire content store, type the password entered during the export, and click **OK**.
- 5. Type a name for the import and select the folder where you want to save it, and then click **Next**.
- 6. Select the content that you want to include in the import, select the options, and click **Next**.



- 7. On the **Specify the general options** panel, select the options that you want, and click **Next**.
- 8. Review the summary information, and click Next.
- 9. Under Actions, select Save and run once, and click Finish.
- 10. On the **Run with options** panel, do the following:
  - a. Select **Upgrade all report specifications to the latest version** if you want to upgrade the report specifications during the import. You can also perform this task after you import the content.
  - b. Click Run.

## Upgrade your report specifications

Report specifications will have changed from one version of IBM Cognos BI to another. You must upgrade any report specifications created in previous versions of the product.

If you are upgrading from a backup of your existing content store, you should upgrade the report specifications after you have started the services.

If you are moving content to a new version using deployment archives, you can choose to upgrade the import specifications during the import.

If you moved your content using deployment archive you may have selected the option to upgrade your report specifications. If you upgraded the report specifications during the import, you do not have to do it again.

#### Before you begin

**Important:** Do not upgrade your report specifications if you have Software Development Kit applications that create, modify, or save report specifications. You must first update your Software Development Kit applications to comply with the IBM Cognos report specifications schema. Otherwise, your Software Development Kit applications may not be able to access the upgraded report specifications. For information about upgrading report specifications, see the IBM Cognos Software Development Kit *Developer Guide*.

## Procedure

- 1. Open IBM Cognos Connection in your web browser.
- 2. In the upper-right corner, click Launch, IBM Cognos Administration.
- 3. On the **Configuration** tab, click **Content Administration**.
- 4. Click the arrow on the new content maintenance button on the toolbar, and then click **New Report Upgrade**
- 5. Type a name for the upgrade task and, if you want, a description and screen tip. Click **Next**.
- 6. Select the packages and locations for the report specification you want to upgrade. Click **Next**.

If you upgrade report specifications by package, all reports in the content store that are based on the model in the package will be upgraded. If you upgrade report specifications by folder, all reports in the folder will be upgraded.

- 7. Choose one of the following:
  - Save and run once opens the run with options page.
  - Save and schedule opens the scheduling tool.
  - **Save only** allows you to save the upgrade so that you can run it at a later time.

# Use Lifecycle Manager to compare reports between your versions of the product

Lifecycle Manager lets you verify your upgraded content by comparing reports in your old environment with the reports in your new version of the product.

For more information, see the IBM Cognos Lifecycle Manager documentation.

## Chapter 7. Installing and Configuring IBM Cognos BI Components on One Computer

You can install all IBM Cognos Business Intelligence components on one computer. This is useful when you are setting up a test or evaluation environment, or for small production environments. To use IBM Cognos BI, you must install all components that are selected by default in the installation wizard.

You can also distribute the installation of IBM Cognos BI on different computers. For more information, see Chapter 8, "Installing IBM Cognos BI server components on different computers," on page 113.

For uninstallation instructions, see Chapter 20, "Uninstalling IBM Cognos BI," on page 397.

## Install Server Components in Interactive Mode

For a complete installation, you must install components on your server and then configure them to work in your environment.

Typically, you run the IBM Cognos installation and configuration programs in interactive mode. This means that in a graphical user interface (GUI) the installer prompts you to provide information, and the configuration tool enables you to change default settings.

You can choose to install server components in silent mode.

## Silent Mode

You can automate the installation of components using response files and running the installation program in silent mode.

You can automate the configuration of components by exporting the configuration settings from one computer to another as long as the installed components are the same. Run IBM Cognos Configuration in interactive mode the first time.

The other option is to edit the cogstartup.xml file, using settings that apply to your environment, and then running the configuration tool in silent mode.

### Interactive Mode

Unless you intend to complete a silent-mode installation, install the software from an X Window System workstation, an X terminal, or a PC or other system with X server software installed.

To run an interactive-mode installation, the console attached to your computer must support a Java-based graphical user interface.

## Install IBM Cognos BI Server Components

Use the installation wizard to select the server components that you want to install and the location on your computer where you want to install them. Only the components that you choose to install are copied from the disk to your computer.

Application samples for your IBM Cognos BI product are on a separate disk. If you want to use the samples, you must install them from the IBM Cognos Business Intelligence Samples disk.

## Stopping the service

If you need to stop the IBM Cognos service, it is important to also stop the following:

- applications that are related to the IBM Cognos service, such as Framework Manager, IBM Cognos Transformer, IBM Cognos Connection, IBM Cognos Administration, and Metric Designer
- · any Software Development Kit applications that are running

## Upgrading your installation

If you are upgrading from a previous release of IBM Cognos products, see Chapter 6, "Upgrade IBM Cognos Business Intelligence," on page 57.

If you are upgrading from an earlier version of IBM Cognos BI, all the distributed components must be the same version of IBM Cognos BI. If you install IBM Cognos BI on additional or alternate hosts, you must update location-specific properties in IBM Cognos Configuration.

## 64-bit installations

The IBM Cognos BI gateway provides 32-bit libraries, whether you install on a 64-bit server or a 32-bit server. Some Web servers, such as Apache Web Server, cannot load a 32-bit compiled library in a 64-bit compiled server. In that situation, install the 32-bit version of the IBM Cognos gateway on a 32-bit Web server.

The report server component, included with the Application Tier Components, is provided in both 32- and 64-bit versions. Selecting which version you use is done using IBM Cognos Configuration after installation. By default, the report server component is set to use the 32-bit mode, even on a 64-bit computer. The 32-bit mode allows you to run all reports, whereas the 64-bit mode allows you to run only reports created for dynamic query mode.

If you are upgrading IBM Cognos BI in an environment that includes earlier versions of other IBM Cognos BI products, such as IBM Cognos BI Controller Version 8.x, IBM Cognos BI Planning Version 8.x, or IBM Cognos BI Analysis *for Microsoft Excel* Version 8.x, install the new version of IBM Cognos BI in a separate location from the other IBM Cognos BI product and configure the new version of IBM Cognos BI to operate independently of that product. After you upgrade the other product to a compatible version with IBM Cognos BI, you can then configure the two products to operate together.

## Windows installations

For Microsoft Windows operating system installations, ensure that you have administrator privileges for the Windows computer you are installing on. Also ensure that your computer has a TEMP system variable that points to the directory where you want to store temporary files. During installation, files from the disk are temporarily copied to this directory.

## **UNIX** installations

For UNIX operating system installations, you can install server components using a graphical user interface or by running a silent installation. To run graphical-mode installation, the console attached to your UNIX computer must support a Java-based graphical user interface.

Also, IBM Cognos BI respects the file mode creation mask (umask) of the account running the installation program. This affects only the installation directories. It does not affect the file permissions within the directories. However, run-time generated files, such as logs, respect the mask. Use umask 022 on the installation directory.

## Cognos Content Database as content store

If you want to use Cognos Content Database as your content store, you must select it in the installation wizard. If you are installing components on several computers, you need to only install Cognos Content Database once.

## **Printer requirements**

To ensure that reports print properly on Windows, Adobe Reader requires that you configure at least one printer on the operating system where Application Tier Components are installed. All reports, regardless of the print format that you choose, are sent as temporary PDF files to Adobe Reader for printing.

# Installing server components on UNIX or Linux operating systems

Use the installation wizard to select the server components that you want to install and the location on your computer where you want to install them. Only the components that you choose to install are copied from the disk to your computer.

## Procedure

- 1. If you are installing to a directory with other IBM Cognos BI components, stop the IBM Cognos service.
- 2. Set the JAVA\_HOME environment variable to point to the installation location of your Java Runtime Environment (JRE).

An example of the installation location of a Java Runtime Environment is /*directory*/java/*java\_version*/jre.

IBM Cognos BI requires a JVM, such as the one that is provided by IBM, to run on Linux operating system.

If you are installing in a location with other IBM Cognos BI components, use the existing JAVA\_HOME environment variable.

3. On HP-UX, set the \_M\_ARENA\_OPTS environment variable as follows: M ARENA OPTS 1:4 This increases the memory allocation for HP-UX to more closely match that of other UNIX platforms.

4. On AIX, if you are using a servlet gateway, set the AIXTHREAD\_SCOPE environment variable as follows:

AIXTHREAD\_SCOPE=S

This sets the contention scope for user threads to system-wide, which supports more efficient scheduling of user threads.

- 5. If installing from a download, go to the location where the installation files were downloaded and extracted.
- 6. If installing from a disk, mount the disk using Rock Ridge file extensions. To mount the disk on HP-UX, do the following:
  - Add the pfs\_mount directory in your path.

```
For example,
PATH=/usr/sbin/:$PATH
export PATH
```

- To start the required NFS daemons and run the daemons in the background, type bg pfs\_mountd and then type bg pfsd
- To mount the drive, type

```
pfs_mount -t rrip <device><mount_dir> -o xlat=unix
```

For example,

pfs\_mount /dev/dsk/c0t2d0 /cdrom -o xlat=unix

You can now install or copy files as a non-root user using an IBM Cognos disk from this drive.

- When the installation is complete, type pfs\_umount /cdrom and kill the pfsd and pfs\_mountd daemons to unmount the disk.
- 7. To start the installation wizard, go to the operating system directory and then type

./issetup

**Note:** When you use the issetup command with XWindows, Japanese characters in messages and log files may be corrupted. When installing in Japanese on UNIX or Linux, first set environment variables LANG=C and LC\_ALL=C (where C is the language code, for example ja\_JP.PCK on Solaris), and then start the installation wizard.

If you do not use XWindows, run an unattended installation (see Chapter 19, "Using an unattended installation and configuration," on page 391).

**8**. Follow the directions in the installation wizard and copy the required files to your computer.

Install IBM Cognos BI components in a directory that contains only ASCII characters in the path name. Some UNIX and Linux Web servers do not support non-ASCII characters in directory names.

- 9. When you are prompted about installing non-English product documentation, click **OK** to continue.
- 10. In the **Finish** page of the installation wizard, do the following:
  - If you want to see the log files, click View for the appropriate log file.
  - If you want to see late-breaking information about the product, select the check box for IBM Cognos Release Notes.

• Do not configure IBM Cognos BI immediately because you must do other tasks first to ensure that your environment is properly set up. Ensure that the IBM Cognos Configuration check box is clear.

You can later configure IBM Cognos BI using IBM Cognos Configuration by typing cogconfig.sh in the *c10\_location*/bin64 directory.

- Click Finish.
- 11. Append the *c10\_location*/bin64 directory to the appropriate library path environment variable.
  - For Solaris and Linux, LD\_LIBRARY\_PATH
  - For AIX, LIBPATH
  - For HP-UX, SHLIB\_PATH
- 12. On Linux, set the PRINTER environment variable to the name of your printer.

### Results

If you want users to see product documentation in a language other than English, you must install the Supplementary Language Documentation component in the location where you installed the Gateway components. For more information, see "Installing translated product documentation" on page 206.

You must also update your Java security framework (see "Java settings" on page 78) before you can configure IBM Cognos BI. Otherwise, you may receive the following error:

```
[Cryptography]
1. [ ERROR ] java.lang.NoClassDefFoundError:
javax/net/ServerSocketFactory:
```

## Installing server components on Windows operating systems

Use the installation wizard to select the server components that you want to install and the location on your computer where you want to install them. Only the components that you choose to install are copied from the disk to your computer.

For Windows Vista, Windows 7, or Windows 2008 computers, the default installation location uses the Program Files (x86) directory. If you install to this location, ensure that you run IBM Cognos Configuration as an Administrator. Alternatively, you can install the product outside of the Program Files (x86) directory. For example, you can change the installation directory to something like C:\IBM\cognos\c10.

#### Procedure

- 1. If you are installing in a directory with other IBM Cognos BI components, stop the IBM Cognos service.
- 2. Do one of the following:
  - Insert the IBM Cognos product disk.

If the installation wizard does not open automatically, go to the operating system directory, and double-click issetup.exe.

- Go to the location where the installation files were downloaded and extracted and then double-click issetup.exe.
- 3. Select the language to use for the installation.

The language that you select determines the language of the user interface. All supported languages are installed. You can change the user interface to any of the installed languages after installation.

4. Follow the directions in the installation wizard to copy the required files to your computer.

Install IBM Cognos BI components in a directory that contains only ASCII characters in the path name. Some Windows Web servers do not support non-ASCII characters in directory names.

- 5. When you are prompted about installing non-English product documentation, click **OK** to continue.
- 6. In the Finish page of the installation wizard, do the following:
  - If you want to see the log files, click View for the appropriate log file.
  - If you want to see late-breaking information about the product, select the check box for IBM Cognos Release Notes.
  - Do not configure IBM Cognos BI immediately because you must do other tasks first to ensure that your environment is properly set up. Ensure that the IBM Cognos Configuration check box is clear.

You can later configure IBM Cognos BI using the Windows **Start** menu to start **IBM Cognos Configuration** from the shortcut folder.

• Click **Finish**.

### Results

To ensure the security and integrity of IBM Cognos BI, it is important to protect the installation directory from unauthorized or inappropriate access.

If you want users to see product documentation in a language other than English, you must install the Supplementary Language Documentation component in the location where you installed the Gateway components. For more information, see "Installing translated product documentation" on page 206.

If you want to use the samples that are available for IBM Cognos BI, install the IBM Cognos BI samples.

## Install IBM Cognos Metrics Manager

If you are installing IBM Cognos Metrics Manager with IBM Cognos Business Intelligence and you want to share resources, you must install each IBM Cognos Metrics Manager component in the same location as each IBM Cognos Business Intelligence component.

You may also want to install Metric Designer (see "Installing and Configuring Metric Designer" on page 184).

## Installing fix packs

IBM provides interim maintenance packages that contain updates to one or more components in your IBM Cognos product. If a fix pack is available when you are installing or upgrading your product, you must install it after you install the IBM Cognos components.

If a fix pack becomes available after your IBM Cognos product has been deployed, you must stop the service, install the fix pack in the same location as the IBM Cognos components, and then start the service.

Fix packs are cumulative. When you install the latest fix pack, it includes updates from all the previous fix packs. Fix packs are available for download from IBM Support at http://www.ibm.com/support/us/en/.

**Note:** Fix packs are not standalone installations. You must install them on computers that have IBM Cognos components installed. Install the fix packs that are appropriate for your product version. To check your version, open the component list file at *c10\_location*\cmplst.txt and check the line that starts with C8BISRVR\_version=.

# Installing IBM Cognos fix packs on UNIX or Linux operating systems

Fix packs are product updates that contain cumulative code fixes that were made since the last release of the product. IBM Cognos fix packs are installed in the same location as the existing product.

## Before you begin

Ensure that you do the following tasks before installing a Fix Pack.

- If the IBM Cognos service is running, stop it.
- Back up the directory structure.
- Back up the content store database
- Back up any files that you manually edited.

## Procedure

- 1. Go to the location where the installation files are downloaded, or insert the disc if you have one.
- To start the installation wizard, type the following command ./issetup

allow the directions in the insta

- **3**. Follow the directions in the installation wizard to install the fix pack files to the same location as the existing IBM Cognos components.
- 4. If required, update the new installation files with any changes from the backup copies of your customized files.

To prevent errors, before copying the customized files, compare both versions of the files. This validation determines whether you can replace the file.

- 5. Return the deployed IBM Cognos product to service.
  - If you are using Tomcat, open IBM Cognos Configuration, save the configuration, and then start the IBM Cognos service.
  - If you are running the IBM Cognos product on an application server other than Tomcat, redeploy the IBM Cognos product to the application server.
- 6. If you have a distributed environment, repeat these steps for all remaining IBM Cognos servers.

## Installing Fix Packs on Windows operating systems

Fix packs are product updates that contain cumulative code fixes that were made since the last release of the product. IBMCognos fix packs are installed in the same location as the existing product.

## Before you begin

Ensure that you do the following tasks before installing a Fix Pack.

- If the IBM Cognos service is running, stop it.
- Back up the directory structure.
- Back up the content store database
- Back up any files that you manually edited.

#### Procedure

- Insert the fix pack disk for the Windows operating system or go to the location where you downloaded and extracted the files, and double-click the issetup.exe file.
- **2**. Follow the directions in the installation wizard to install the fix pack files to the same location as the existing IBM Cognos components.
- **3**. If required, update the new installation files with any changes from the backup copies of your customized files.

To prevent errors, before copying the customized files, compare both versions of the files. This validation determines whether you can replace the file.

- 4. Return the deployed IBM Cognos product to service.
  - If you are using Tomcat, open IBM Cognos Configuration, save the configuration, and then start the IBM Cognos service.
  - If you are running the IBM Cognos product on an application server other than Tomcat, redeploy the IBM Cognos product to the application server.
- 5. If you have a distributed environment, repeat these steps for all remaining IBM Cognos servers.

## Java settings

To support the cryptographic services in IBM Cognos Business Intelligence, you may be required to update or set a JAVA\_HOME environment variable. Depending on your security policy, you may also have to install the unrestricted Java Cryptography Extension (JCE) policy file.

You can use an existing Java Runtime Environment (JRE) or the JRE that is provided with Cognos BI.

## JAVA\_HOME

If you want to use your own JRE and have JAVA\_HOME set to that location on Microsoft Windows operating system or if you are installing on a UNIX or Linux operating system, you must update JAVA\_HOME for the cryptographic services.

On Windows, you can set JAVA\_HOME as a system variable or a user variable. If you set it as a system variable, it may be necessary to restart your computer for it to take effect. If you set it as a user variable, set it so that the environment in which Tomcat (or other application server) is running can access it.

If you do not have a JAVA\_HOME variable already set on Windows, the JRE files provided with the installation will be used, and you do not have to update any files in your environment. If JAVA\_HOME points to a Java version that is not valid for Cognos BI, you must update JAVA\_HOME with the path to a valid Java version.

You must ensure that the Java Runtime Environment version is appropriate for IBM Cognos Configuration. For example, for a Microsoft Windows operating system, use either a 32-bit or 64-bit version of JRE, depending on the IBM Cognos BI component installed. For UNIX and Linux operating systems, you must use a 64 bit version of JRE.

## **Unrestricted JCE Policy File**

Whether you use the default Windows JRE or download a JRE for UNIX or Linux, the JRE includes a restricted policy file that limits you to certain cryptographic algorithms and cipher suites. If your security policy requires a wider range of cryptographic algorithms and cipher suites than are shown in IBM Cognos Configuration, you can download and install the unrestricted JCE policy file.

## Update your Java environment

If you do not have a JAVA\_HOME variable already set on a Microsoft Windows operating system, the JRE files provided with your product will be used to generate the cryptographic keys needed to communicate with the IBM Cognos servers.

If you want to use another JRE and have JAVA\_HOME set to that location, the JRE files from that location will be used.

The JRE that is provided with your product includes a restricted policy file that limits you to certain cryptographic algorithms and cipher suites. If your security policy requires a wider range of cryptographic algorithms and cipher suites than are shown in IBM Cognos Configuration, you can download and install the unrestricted JCE policy file.

## Procedure

- 1. Ensure that the JAVA\_HOME environment variable is set to the JRE location. For example, to set JAVA\_HOME to a JRE that you are already using, the path is *Java\_location*/bin/jre/*version*.
- **2.** If your security policy requires it, download and install the unrestricted JCE policy file.

For Java that is provided by IBM, the unrestricted JCE policy file is available on the IBM website (https://www14.software.ibm.com/webapp/iwm/web/preLogin.do?source=jcesdk).

For information about configuring the crytopgraphic provider to support your security policy, see "Configuring Cryptographic Settings" on page 223

## Set up database connectivity for the content store database

If you are using a database other than Cognos Content Database or Microsoft SQL Server as the content store, you may have to install database client software, or Java Database Connectivity (JDBC) drivers, or both, on each computer where you install Content Manager. Doing this allows Content Manager to access the content store database.

## Set up database connectivity for an IBM DB2 content store

This procedure describes how to set up database connectivity for a DB2 content store. You must perform this procedure on each computer where you install Content Manager. You must use a type 4 Java Database Connectivity (JDBC) driver to connect to your content store if you are using IBM DB2.

The type 4 driver is considered an independent product. It does not require the DB2 client to be installed.

#### Procedure

Copy the following files from *DB2\_installation*\sqllib\java directory to the *c10\_location*\webapps\p2pd\WEB-INF\lib directory:

- The universal driver file, db2jcc.jar
- The license file:

For DB2 on Linux, UNIX, or Windows operating systems, use db2jcc\_license\_cu.jar.

For DB2 on z/OS, use db2jcc\_license\_cisuz.jar.

If you are connecting to DB2 on z/OS, use the driver version from Linux, UNIX, or Windows version 9.1 fix pack 5 or version 9.5 fix pack 2.

**Tip:** To check the driver version, run the following command:

java -cp path\db2jcc.jar com.ibm.db2.jcc.DB2Jcc -version

## Generating a script file that will create a database for a DB2 content store

You can generate a script file to automatically create the content store in IBM DB2 on all platforms. The script file is called a DDL file.

#### Procedure

- 1. From the Start menu, click Programs > IBM Cognos 10 > IBM Cognos Configuration.
- 2. In the Explorer window, under Data Access, Content Manager, click Content Store.

The default configuration is for an IBM DB2 database. Ensure that the **Type** is **DB2 database**.

- **3.** In the **Properties** window, for the **Database name** property, type the name of the database or the database alias.
- 4. Change the logon credentials to specify a valid user ID and password:
  - Click the Value box next to the User ID and password property and then click the edit icon when it appears.
  - Type the appropriate values and click **OK**.
- 5. In the Database server and port number field, enter the name of your computer and port number on which DB2 is running. For example, localhost:50000. 50000 is the default port number used by DB2. If you are using a different port number, ensure you use that value.
- 6. Right-click Content Store, and click Generate DDL.
- 7. Click Details to record the location of the generated DDL file. The DDL file named createDB.sql is created. The script is created in the c10\_location\configuration\schemas\content\db2 directory.

Use this script to create a database in IBM DB2. For more information about using a DDL file, see your IBM DB2 documentation.

## Create tablespaces for a content store on DB2 on z/OS

A database administrator must run a script to create a set of tablespaces required for the content store database. The script must be modified to replace the placeholder parameters with ones that are appropriate for your environment.

If you are using the same DB2 on z/OS database for both the content store and notification databases, run the scripts to create the notification database tablespaces at the same time that you create the content store database tablespaces.

Ensure that you use the naming conventions for DB2 on z/OS. For example, all names of parameters must start with a letter and the length must not exceed eight characters. There are two exceptions to the character length limit:

- CMSCRIPT\_CS\_ID is no more than 2 characters.
- CMSCRIPT\_TABLESPACE is no more than 6 characters.

The reason for the exception is that when the two parameters are concatenated the character length can be no more than 8.

For more information, see the IBM DB2 Information Center.

#### Procedure

- 1. Create a database.
- 2. Ensure that the database administrator grants CONNECT and CREATE TABLE rights to the user of the new content store database, or grant DBADM to the user for the content store database.

For example, to grant DBADM to a user CGCUSER

GRANT DBADM ON DATABASE CMDB841 TO CGCUSER

a. Ensure that the user has privileges to create an index on buffer pools. For example,

GRANT USE OF BUFFERPOOL BP2 TO CGCUSER

b. Ensure that the user has privileges to create an index on a storage group For example,

GRANT USE OF STOGROUP SGDBT1DT TO CGCUSER

- **3**. Connect to the database as a user that has privileges to create and drop tablespaces and to allow execution of SQL statements.
- 4. Go to the directory that contains the scripts: .

c8 location/configuration/schemas/content/db2zOS

- 5. Make a backup copy of the tablespace\_db2z0S.sql script file and save the file to another location,
- 6. Open the original tablespace\_db2z0S.sql script file.
  - a. Add a connection statement to the beginning of the script. For example,

connect to databasename user username using password;

b. Use the following table to help you to replace the generic parameters with ones appropriate for your environment.

Not all of the parameters listed are in the script, but some might be added in the future.

Parameter name	Description
CMSCRIPT_CREATE_IN	Specifies the base tables location
	For example, databaseName.baseTablespaceName
CMSCRIPT_STOGROUP	Specifies the name of the storage group.
CMSCRIPT_DATABASE	Specifies the name of the content store database.
CMSCRIPT_CS_ID	Specifies the instance identification for the content store database.
	The ID must not be longer than two characters.
CMSCRIPT_TABLESPACE	Specifies the name of the tablespace that will contain all of the base tables in the content store.
	Auxiliary tables are not included.
	The name cannot be longer than six characters.
CMSCRIPT_LARGE_BP	Specifies the name of the large buffer pool allocated for especially large objects.
CMSCRIPT_REGULAR_BP	Specifies the name of the regular size buffer pool allocated for regular and large objects.
CMSCRIPT_USERNAME	Specifies the user account that accesses the content store database.

Table 16. Parameter names and description for the tablespace script

- 7. Save and run the script.
- 8. Grant the IBM Cognos user rights to the tablespaces that were created when you ran the tablespace\_db2z0S.sql file script:
  - a. Make a copy of the rightsGrant\_db2z0S.sql script file and store it in another location.
  - b. In the remote access tool, open the original rightsGrant\_db2z0S.sql script file and replace the placeholder parameters with values that are appropriate for your environment.

Ensure that you use the same values that you used when you allocated resources to the buffer pools and user account.

**c**. Add a connection statement to the beginning of the script. For example,

connect to databasename user username using password;

- d. Save and then run the script.
- **9**. If you are using the same database for notification that you use for the content store (the default setup),
  - a. Go to the *c8\_location*/configuration/schemas/delivery/zosdb2 directory.
  - b. Open the NC\_TABLESPACES.sql script file and use the following table to help you to replace the placeholder parameters with ones that are appropriate for your environment.

For parameters that are not in the script, add them.

Table 17. Parameter names and descriptions

Parameter name	Description
NCCOG	Specifies the name of the content store database.
DSN8G810	Specifies the name of the storage group used for the content store database.
ВР32К	Specifies the name of the buffer pool used for the tablespaces.

- c. Save and run the script.
- d. Open the NC\_CREATE\_DB2.sql script file and replace the NCCOG placeholder parameter with the name of the content store database.

The job and scheduling monitor services will automatically run the script. However, you might choose to run it yourself.

#### Results

The content store database is created. You can now configure a database connection.

## Set up database connectivity for an Oracle content store

This procedure describes how to set up database connectivity for an Oracle content store. You must perform this procedure on each computer where you install Content Manager.

#### Procedure

- 1. On the computer where the Oracle client is installed, go to the *ORACLE\_HOME*/jdbc/lib directory.
- Copy the correct library file for your version of the Oracle client to the c10\_location\webapps\p2pd\WEB-INF\lib directory on the computer where Content Manager is installed and where notification is sent to an Oracle database.

If you are using Oracle 10g, you must have ojdbc14.jar.

If you are using Oracle 11g, you must have ojdbc5.jar.

The files are available from an Oracle client or server install, and can also be downloaded from the Oracle technology Web site.

## Set up database connectivity for an Informix content store

This procedure describes how to set up database connectivity for an Informix content store. You must perform this procedure on each computer where you install Content Manager.

#### Procedure

- 1. On the computer where Informix is installed, go to the *Informix\_location*/ sqllib/java directory.
- 2. Copy the following files to the *c10\_location*/webapps/p2pd/WEB-INF/lib directory on every computer where Content Manager is installed.
  - the universal driver file, db2jcc.jar
  - the license file, db2jcc\_license\_cisuz.jar

## Set up database connectivity for a Sybase content store

This procedure describes how to set up database connectivity for a Sybase content store. You must perform this procedure on each computer where you install Content Manager.

#### Procedure

- 1. On the computer where Sybase is installed, go to the Sybase\_location/ jConnect-6/classes directory.
- 2. Copy the jconn3.jar file to the *c10\_location*/webapps/p2pd/WEB-INF/lib directory on every computer where Content Manager is installed and where notification is sent to a Sybase database.

## Set up database connectivity for reporting databases

To support communication between IBM Cognos Business Intelligence and the data sources, you must install additional software for your data sources on the same computer that hosts the report server. Depending on the data source and query mode, the required software might include database clients, or Java Database Connectivity (JDBC) driver files, or both.

For IBM Cognos Business Intelligence, the query database (also known as the reporting database) is only accessed by the reporting engine that runs reports. The reporting engine is installed with Application Tier Components and is also used by Framework Manager, Metric Designer, and IBM Cognos Transformer.

## Compatible query mode

To run reports that use the compatible query mode, you must use 32-bit data source client libraries and configure the report server to be 32-bit. The compatible query mode uses native client and ODBC connections to communicate with data sources.

If the data source is 64-bit, ensure that you use the 32-bit client libraries to connect to the data source to use the compatibility query mode.

## Dynamic query mode

Dynamic query mode provides communication to data sources using Java/XMLA connections.

For supported relational databases, a type 4 JDBC connection is required. A type 4 JDBC driver converts JDBC calls directly into the vendor-specific database protocol. It is written in pure Java and is platform-independent.

For supported OLAP data sources, Java/XMLA connectivity optimizes access by providing customized and enhanced MDX for the specific source and version of your OLAP technology and it harnesses the smarts of the OLAP data source.

You can use the dynamic query mode with the following OLAP data sources:

- IBM Cognos TM1
- SAP Business Information Warehouse (SAP BW)
- Oracle Essbase
- Microsoft Analysis Services

You can use the dynamic query mode for OLAP over relational (dimensionally-modeled relational) models with the following relational data sources:

- IBM DB2
- IBM DB2 for z/OS
- Oracle
- Microsoft SQL Server
- Teradata
- Netezza<sup>®</sup>

For more information about the dynamic query mode, including installing the drivers, see the *IBM Cognos Business Intelligence Dynamic Query Guide*.

To review a list of environments supported by the IBM Cognos Business Intelligence, including the data source versions supported by the dynamic query mode, see http://www.ibm.com/support/docview.wss?uid=swg27019126.

## Access OLAP data sources on Windows operating systems

To access the relational databases and OLAP data sources for reporting, you must install the client API software that is provided by your data source vendor. The software must be installed on the same computer where the Application Tier Components are installed.

## Procedure

1. Install the database API software for your relational databases and OLAP data sources on the computer that hosts the report server (where Application Tier Components are installed).

On MicrosoftWindows operating systems, the reporting engine supports either native database connectivity or ODBC.

2. If Framework Manager is installed in a separate location from the Application Tier Components, you must also install the client API software on the computer where Framework Manager is installed. For more information, see "Set variables for data source connections for Framework Manager" on page 180.

# Access ODBC data sources on UNIX or Linux operating systems

To use an ODBC data source on UNIX or Linux to connect to a supported data source, you must configure the environment to locate the .odbc.ini file which contains the references to data source, the connectivity libraries, and their accompanying Driver Manager libraries.

To review supported ODBC data sources, see the Supported Environments link at the IBM Cognos Resource Center (http://www.ibm.com/software/data/support/cognos\_crc.html).

After configuring for the ODBC connections, you must create connections to the data sources in IBM Cognos Administration. For information, see the *IBM Cognos Administration and Security Guide*.

If your database vendor does not supply a driver manager, you can use unixODBC or iODBC, depending on your operating system.

On Linux operating systems, the unixODBC package provided with the operating system provides the ODBC Driver Manager. You must install unixODBC version 2.2.11 or later before you can set up data source connections. To verify the version you have installed, use the following command: odbcinst --version. Check which version of unixODBC is required for the database you are using, and ensure you use that version.

On UNIX operating systems, the open source iODBC driver manager is provided as part of the IBM Cognos installation.

### Procedure

 Create an environment variable to specify the location of the .odbc.ini file. For example,

export ODBCINI=/usr/local/etc/.odbc.ini

2. Set the appropriate library path environment variable to specify the location of the connectivity libraries and Driver Manager for your database.

The following table lists the environment variables for each operating system that must specify the location of the driver manager libraries.

Table 18. Environment variables for your operating system

Operating system	Environment variable
AIX	LIBPATH
Solaris and Linux	LD_LIBRARY_PATH
HP-UX	SHLIB_PATH

- **3**. If your database vendor does not provide a driver manager, set the library path to include the path the local driver manager.
  - On UNIX, iODBC is provided as part of the IBM Cognos installation. The library files are located in the *c10\_location*/bin directory. Your library path should already contain the *c10\_location*/bin directory.

For example,

LIBPATH=/usr/IBM/cognos/bin:\$LIBPATH

• On Linux, the unixODBC package provides the required driver manager libraries.

For example,

LD\_LIBRARY\_PATH=/usr/lib:\$LD\_LIBRARY\_PATH

## What to do next

If you are using multiple ODBC sources on UNIX or Linux operating systems, you may encounter dependencies of library files with common names but different implementations for both the connectivity and the driver manager. In a scenario where one ODBC source validates while another fails based on a dependency, please contact Customer Support. Using a common .odbc.ini may result in having incompatible entries for different driver managers. To resolve the problem, review the structure requirements between the driver managers you are using and try to use syntax that is common between the conflicting driver managers.

# Configure IBM Cognos Business Intelligence to use Oracle Essbase

If you use IBM Cognos Business Intelligence with an Oracle Essbase data source version 11.1.1, you must edit a configuration file to inform the IBM Cognos BI server of your version.

By default, IBM Cognos BI is configured to use Oracle Essbase version 11.1.2. Therefore, no configuration is required if you use this version. If you use another supported version of Oracle Essbase, you must edit the qfs.config.xml file for your version.

In addition, if you use Oracle Essbase version 11.1.2, you must install Oracle Foundation Services as well as the Oracle Essbase client.

## Procedure

- 1. Go to the *c10\_location*/configuration directory.
- 2. Open the qfs\_config.xml file in an xml or text editor.
- 3. Locate the following lines:
   <!--provider name="DB20lap0DP" libraryName="essodp111" connectionCode="D0"-->
   cprovider name="DB20lap0DP" libraryName="essodp1112" connectionCode="D0">
- 4. For Oracle Essbase 11.1.1, change them as follows:

<provider name="DB20lap0DP" libraryName="essodp111" connectionCode="D0"> <!--provider name="DB20lap0DP" libraryName="essodp1112" connectionCode="D0"-->

5. For Oracle Essbase 11.1.2, ensure that the lines appear as follows:

<!--provider name="DB20lap0DP" libraryName="essodp111" connectionCode="D0"--> <provider name="DB20lap0DP" libraryName="essodp1112" connectionCode="D0">

6. Save the file and restart the IBM Cognos service

# Using Oracle Essbase on a UNIX or 64-bit Microsoft Windows operating systems

If you use an Oracle Essbase version 11.1.2 data source with IBM Cognos Business Intelligence on a UNIX or 64-bit Microsoft Windows operating system, you must manually configure the ARBORPATH and ESSBASEPATH environment variables.

During the Oracle Essbase client installation, the two environment variables ARBORPATH and ESSBASEPATH are created. IBM Cognos BI uses these variables to find the Oracle Essbase client location.

If you use Oracle Essbase version 11.1.2 with IBM Cognos BI on a UNIX or 64-bit Microsoft Windows operating system, you must install the 64-bit Essbase client provided by Oracle. This 64-bit client includes a 32-bit client that IBM Cognos BI uses. To point to this 32-bit client, you must manually change the ARBORPATH and ESSBASEPATH environment variables to replace EssbaseClient with EssbaseClient-32, as follows:

ARBORPATH=C:\Hyperion\EPMSystem11R1\products\Essbase\EssbaseClient-32 ESSBASEPATH=C:\Hyperion\EPMSystem11R1\products\Essbase\EssbaseClient-32

If you use a 32-bit Microsoft Windows operating system with a 32-bit Oracle Essbase client, no configuration is required for these environment variables.

## Start IBM Cognos Configuration

Use IBM Cognos Configuration to configure IBM Cognos Business Intelligence components and to start and stop IBM Cognos services if you are using the default Tomcat servlet container.

## Before you begin

Before starting IBM Cognos Configuration, ensure that the operating environment is properly set up. For example, ensure that all environment variables have been set.

On a Microsoft Windows operating system, you can start IBM Cognos Configuration in the last page of the installation wizard only if additional setup is not required. For example, if you use a database server other than Microsoft SQL or Cognos Content Database for the content store, copy the Java Database Connectivity (JDBC) drivers to the appropriate location before you start the configuration tool.

On UNIX or Linux operating systems, do not start IBM Cognos Configuration in the last page of the installation wizard. Additional setup is required before you can configure IBM Cognos BI. For example, you must update your Java environment.

Ensure that user or service account used to run IBM Cognos has been set up.

## Procedure

 On Microsoft Windows, from the Start menu, click Programs > IBM Cognos 10 > IBM Cognos Configuration

If you are using a Windows Vista, Windows 7, or Windows 2008 computer, and have installed the product to the Program Files (x86) directory, start IBM Cognos Configuration as an Administrator.

2. On UNIX or Linux operating systems, go to the *c10\_location*/bin64 directory and then type the following command:

./cogconfig.sh

If IBM Cognos Configuration does not open, ensure that you set the DISPLAY environment variable.

If you see a JAVA.Lang.unsatisfied link message, verify that you are using a supported version of Java.

If you see a Java.lang.unsupportedClassVersionError message, ensure that you are using a 64-bit version of Java.

## **Configure Environment Properties in IBM Cognos Configuration**

Specify the server name or an IP address in the URI properties that are used by IBM Cognos Business Intelligence. This will ensure that users in different locations can connect to reports and workspaces that are sent by e-mail. By default, the URI properties specify the localhost.

#### Procedure

- 1. Start IBM Cognos Configuration.
- 2. In the Explorer window, click Environment.
- **3**. In the **Properties** window, change the **localhost** portion of all URI properties to the name or IP address of your IBM Cognos BI server by doing the following:

- For **Content Manager URIs**, click the value and then click the edit icon. Change the value and then click **OK**.
- For all other URI properties, click the value to change it.
- 4. In the **Explorer** window, under **Security** > **Cryptography**, click **Cognos**, the default cryptographic provider.
- 5. Under the **Certificate Authority settings** property group, set the **Password** property.

Record the password in a secure location.

6. From the File menu, click Save.

## Enable the 64-bit version of report server

In a 64-bit installation, the report server component is provided in both 32-bit and 64-bit versions. The default option is 32-bit. If you want to use the 64-bit version you must enable it using IBM Cognos Configuration.

The 64-bit version of report server is intended for use with packaged with dynamic query mode enabled. For packages that do not use dynamic query mode, you must also have a server installed with the report server running in 32-bit mode.

To enable the 64-bit version, you must have installed the 64-bit version of the Application Tier Components on a 64-bit computer. If you have installed the 32-bit version of the Application Tier Components or are using a 32-bit computer, do not change the report server mode to 64-bit.

#### Procedure

- 1. In the IBM Cognos Configuration Explorer window, click Environment.
- 2. Click the Value box for Report server execution mode, and select 64-bit.
- 3. From the File menu, click Save.

## **Enable Security**

By default, IBM Cognos Business Intelligence allows anonymous access. If you want to use security in your IBM Cognos BI environment, you must disable anonymous access and configure IBM Cognos BI to use an authentication provider.

#### Procedure

- In the IBM Cognos Configuration Explorer window, click Security >Authentication > Cognos.
- 2. Click the Value box for Allow Anonymous Access, and select False.
- 3. Right-click Authentication, and click New Resource > Namespace.
- 4. In the **Name** box, type a name for your authentication namespace.
- 5. In the **Type** list, click the appropriate namespace type and then click **OK**. The new authentication provider resource appears in the **Explorer** window,
- under the Authentication component.6. In the Properties window, for the Namespace ID property, specify a unique
- identifier for the namespace.
- 7. From the **File** menu, click **Save**.

## Set Database Connection Properties for the Content Store

You must specify the database server information to ensure that Content Manager can connect to the database you use for the content store. Content Manager uses the database logon to access the content store. After you set the database connection properties, you can test the connection between Content Manager and the content store.

In a production environment, you must use an enterprise-level database for your content store. If you have been using Cognos Content Database in a test or proof-of-concept system, you can use the features in the administration portal to back up and archive the data before moving to an enterprise-level database in your production environment. For more information, see the topic about deploying the entire content store in the *Administration and Security Guide*.

If you are upgrading from an earlier version of IBM Cognos BI, configure IBM Cognos BI to point to a copy of the existing content store database. After you save the configuration and start the IBM Cognos service, the data in the content store is automatically upgraded and cannot be used by the earlier version. By using a copy of the original database with the new version, you can keep the earlier version running with the original data.

## Setting database connection properties for a DB2 content store

You must specify the database server information to ensure that Content Manager can connect to the database you use for the content store.

## Procedure

- 1. In the location where you installed Content Manager, start IBM Cognos Configuration.
- 2. In the Explorer window, under Data Access, Content Manager, click Content Store.
- **3.** In the **Properties** window, for the **Database name** property, type the name of the database or the database alias.
- 4. Change the logon credentials to specify a valid user ID and password:
  - Click the **Value** box next to the **User ID and password** property and then click the edit button when it appears.

If you are connecting to a database on DB2 on z/OS, ensure that you specify the same user ID as the value you specified for CMSCRIPT\_USERNAME when you created the tablespaces.

- Type the appropriate values and click **OK**.
- 5. In the **Database server and port number** field, enter the name of your computer and port number on which DB2 is running. For example, localhost:50000. 50000 is the default port number used by DB2. If you are using a different port number, ensure you use that value.
- 6. If you are connecting to a database on DB2 on z/OS:
  - a. In the **Explorer** window, click **Local Configuration**.
  - b. In the **Properties** window, next to **Advanced properties**, click inside the **Value** box, and then click the edit icon.
  - **c**. Click **Add** to add the parameters that you used to create the tablespaces. Add all of the parameters except CMSCRIPT\_USERNAME.
- 7. From the **File** menu, click **Save**.

8. To test the connection between Content Manager and the content store database, from the **Actions** menu, click **Test**.

Content Manager connects to the database, checks the database permissions, and creates and populates a table. The table is not deleted and is used each time that the test is repeated.

## Setting database connection properties for a Microsoft SQL Server, Oracle, Informix, or Sybase content store

You must specify the database server information to ensure that Content Manager can connect to the database you use for the content store.

### Procedure

- 1. On the computer where you installed Content Manager, start IBM Cognos Configuration.
- 2. In the Explorer window, under Data Access, Content Manager, right-click Content Store and click Delete.

This step deletes the connection to the default resource. Content Manager can access only one content store.

- 3. Right-click Content Manager, and then click New resource, Database.
- 4. In the **Name** box, type a name for the resource.
- 5. In the **Type** box, select the type of database and click **OK**.

If you installed more than one version of IBM Cognos BI, you must use a different content store for each version. When a content store is used by a new version of IBM Cognos BI, it cannot be used by an older version.

**Tip:** If you want to use an Oracle Net8 keyword-value pair to manage the database connection, select **Oracle database (Advanced)**.

- 6. In the **Properties** window, provide the values for your database type:
  - If you use a Microsoft SQL Server database, type the appropriate values for the **Database server with port number or instance name** and **Database name** properties.

For a Microsoft SQL Server database, you can choose to use a port number, such as 1433, or a named instance as the value for the **Database server with port number or instance name** property.

For the **Database server with port number or instance name** property, include the instance name if there are multiple instances of Microsoft SQL Server.

To connect to a named instance, you must specify the instance name as a Java Database Connectivity (JDBC) URL property or a data source property. For example, you can type localhost\instance1. If no instance name property is specified, a connection to the default instance is created.

The properties specified for the named instance, along with the user ID and password, and database name, are used to create a JDBC URL. Here is an example:

jdbc:JSQLConnect://localhost\\instance1/user=sa/
more properties as required

To connect to a named instance, you must specify the instance name. For example, you can type localhost\instance1. If an instance name is not specified, a connection to the default instance is created.

• If you use an Oracle database, type the appropriate values for the **Database server and port number** and **SID** properties.

• If you use an advanced Oracle database, for the **Database specifier** property, type the Oracle Net8 keyword-value pair for the connection. Here is an example:

```
(description=(address=(host=myhost)(protocol=tcp)(port=1521)
(connect_data=(sid=(orcl)))))
```

When you select the advanced Oracle database, IBM Cognos BI uses enterprise-oriented Oracle features to select a listener, switch to another listener if the first listener fails, automatically reconnect to the database if the connection fails, balance connection requests among listeners, and balance connection requests among dispatchers.

- If you use an Informix database, type the appropriate values for the **Database server and port number** and **Database name** properties.
- If you use a Sybase database, type the appropriate values for the **Database** server and port number and **Database** name properties.
- 7. To configure logon credentials, specify a user ID and password:
  - Click the Value box next to the User ID and password property and then click the edit icon when it appears.
  - Type the appropriate values and click **OK**.
- 8. If you host more than one content store database on an Informix instance, create the advanced property CMSCRIPT\_CS\_ID and specify the account under which the instance runs:
  - In the Explorer window, click Local Configuration.
  - In the **Properties** window, click the **Value** column for **Advanced properties** and then click the edit icon.
  - In the Value Advanced properties dialog box, click Add.
  - In the Name column, type CMSCRIPT\_CS\_ID
  - In the **Value** column, type the user ID of the account under which the instance of the content store runs.

Use a different user account for each instance of Informix content store database.

9. From the File menu, click Save.

The logon credentials are immediately encrypted.

10. To test the connection between Content Manager and the content store database, from the **Actions** menu, click **Test**.

Content Manager connects to the database, checks the database permissions, and creates and populates a table. The table is not deleted and is used each time that the test is repeated.

## Results

Content Manager can now create the required tables in the content store when you start the IBM Cognos service for the first time. If the connection properties are not specified correctly, you cannot start the IBM Cognos services.

## Specify a Connection to a Mail Server Account

If you want to send reports by email, you must configure a connection to a mail server account.

You must also change the host name portion of the Gateway URI from localhost to either the IP address of the computer or the computer name. Otherwise the URL in the email will contain localhost and remote users will not be able to open the report.

#### Procedure

- 1. In the Explorer window, under Data Access, click Notification.
- 2. In the **Properties** window, for the **SMTP mail server** property, type the host name and port of your SMTP (outgoing) mail server.

**Tip:** To be able to open reports that are sent by email, you must change the host name portion of the Gateway URI from localhost to either the IP address of the computer or the computer name. Otherwise the URL in the email will contain localhost and remote users will not be able to open the report.

**Tip:** To be able to open reports that are sent as links, ensure that the Gateway URI on report servers and notification servers specifies an accessible Web server hosting IBM Cognos content. If you have mobile users accessing links remotely, consider using an external URI.

- **3**. Click the **Value** box next to the **Account and password** property and then click the edit button when it appears.
- 4. Type the appropriate values in the Value Account and password dialog box and then click OK.

**Tip:** If logon credentials are not required for the SMTP server, remove the default information for the **Account and password** property. When you are prompted for confirmation to leave this property blank, click . Ensure that the default user name has been removed. Otherwise, the default account is used and notifications will not work properly.

- 5. In the **Properties** window, type the appropriate value for the default sender account.
- 6. Test the mail server connections. In the **Explorer** window right-click **Notification** and click **Test**.

IBM Cognos Business Intelligence tests the mail server connection.

#### Results

If you do not plan to send reports by email, or do not want to set up a mail server account immediately, you are not required. However, when you save the configuration and then you start the services in IBM Cognos Configuration, you will see a warning message when the mail server connection is tested. You can safely ignore the warning.

## Verifying supported product versions in IBM Cognos Configuration

Use IBM Cognos Configuration to verify that IBM Cognos components are configured to use supported software, such as databases and authentication providers. IBM Cognos Configuration compares the configured version of the software against the supported versions of the software at the time of the release.

### Before you begin

To verify the software support, you must configure a connection to the software in IBM Cognos Configuration. For example, you must add the content store database

connection before the version can be verified.

## Procedure

- 1. Start IBM Cognos Configuration.
- 2. Click Actions and then Check For Supported Software.
- 3. In the Select Items column, select the resource that you want to verify.
- 4. Click Next.

Software that is not supported is shown in the results.

If support for the software version could not be determined, go to the IBM Cognos Customer Center website (http://www.ibm.com/software/data/ cognos/customercenter/) to review the up-to-date list of environments supported by IBM Cognos products. An exact match not being found does not indicate that the software cannot be used with the version you have installed.

## Start the IBM Cognos services

To register the IBM Cognos Business Intelligence service so that users can access it through IBM Cognos Connection, you must start the services. Before you start the services, test the configuration by using the test feature in IBM Cognos Configuration.

## Before you begin

On a Microsoft Windows operating system, the IBM Cognos service is configured to start automatically by default. On UNIX and Linux operating systems, to start the IBM Cognos BI process automatically, you must configure the process as a daemon. For more information, see your operating system documentation.

To use IBM Cognos BI for reporting, you must install and configure the server components, start the IBM Cognos service, and have a package that references an available data source. Note that if you are upgrading, you can continue to use the same data sources.

Before you begin, ensure that a user or service account is set up. For information, see "Configure a User Account or Network Service Account for IBM Cognos Business Intelligence" on page 51.

#### Procedure

1. Start IBM Cognos Configuration.

If you are upgrading, a message appears indicating that configuration files were detected and upgraded to the new version.

- 2. Ensure that you save your configuration, otherwise you cannot start the IBM Cognos service.
- 3. From the Actions menu, click Test.

IBM Cognos Configuration checks the common symmetric keys (CSK) availability, tests the namespace configuration, and tests the connections to the content store and logging database.

If you are using the notification database and the mail server, they are tested as well.

**Tip:** If **Test** is not available for selection, in the **Explorer** window, click **Local Configuration**.

4. If the test fails, reconfigure the affected properties and then test again.

You can test some components individually by right-clicking the component in the **Explorer** panel and selecting **Test**.

Do not start the service until all tests pass.

5. From the **Actions** menu, click **Start**.

It may take a few minutes for the IBM Cognos service to start.

This action starts all installed services that are not running and registers the IBM Cognos service on Windows.

## Configuring the web server

You must configure your Web server before users can connect to the IBM Cognos BI portal.

For IBM Cognos BI for reporting, you must also set the content expiry for the images directory in your Web server so that the Web browser does not check image status after the first access.

On UNIX and Linux operating systems, the account under which the Web server runs must have read access to the cogstartup.xml file in the *c10\_location/* configuration directory. By default the cogstartup.xml file has read permission for others. If you run your Web server under a specific group, you can change the cogstartup.xml file permissions to ensure that it belongs to the same group as the Web server. You can then remove the read permission for others.

## Enable the 64-bit web gateway

If you want to use the 64-bit version of the IBM Cognos BI gateway, you must manually move the 64-bit gateway files in your installation directory.

If you are using a 32-bit web server, you can use the default gateways. The default gateways are 32-bit.

#### Procedure

- 1. Go to the *c10\_location*/cgi-bin.
- 2. Type the following command:
  - On UNIX or Linux operating systems, type ./copyGateMod.sh 64bit
  - On Windows operating systems, type copyGateMod.bat 64bit

#### Results

The 64-bit gateway files are copied from the cgi-bin/lib64 directory to the cgi-bin directory.

**Note:** If you need to replace the default 32-bit gateway files, follow the procedure using ./copyGateMod.sh 32bit or copyGateMod.bat 32bit. The 32-bit gateway files will be copied from the cgi-bin/lib directory to the cgi-bin directory.

## Use compiled gateways for production systems

For production systems, you can improve performance by changing the gateway from the default CGI gateway.

The compiled gateways include:

• Microsoft Internet Server Application Programming Interface (ISAPI) for Microsoft Internet Information Services (IIS)

- Apache module for Apache Web Server or IBM HTTP Server
- Servlet Gateway Java application if you use an application server other than the default Apache Tomcat

#### Use Apache modules on Apache Server or IBM HTTP Server

You can use Apache modules for Apache Server 2.2.x or Apache Server 2.0.x or for IBM HTTP Server 8, 7, or 6.1.

**Important:** You cannot use the Apache modules with the version of Apache Server 2.2 that is supplied with Red Hat Enterprise Linux version 5.3 and later.

#### Procedure

- 1. Append the *c10\_location*/cgi-bin directory to the appropriate environment variable:
  - On Solaris or Linux, LD\_LIBRARY\_PATH
  - On HP-UX, SHLIB\_PATH and LD\_LIBRARY\_PATH
  - On AIX, LIBPATH
- 2. Go to the Webserver\_installation/conf directory.
- 3. Open the httpd.conf file in an editor.
- 4. Ensure that both the server name and web server port number values are specified for the ServerName property.
- Add the following to the end of the load module list: LoadModule cognos\_module "c10\_location/cgi-bin/mod2\_2\_cognos.suffix" Where suffix is as listed in the following table.

Table 19. Module suffix for your operating system

Operating system	Suffix
Windows	dll
Solaris, AIX, HP-UX IA <sup>®</sup> , Linux	so

Apache modules are provided for different versions of Apache Server or IBM HTTP Server:

- Use the mod2\_2\_cognos module for Apache Server 2.2.x or IBM HTTP Server 8 and 7.
- Use the mod2\_cognos module for Apache Server 2.0.x and IBM HTTP Server 6.1.
- 6. Add the following:

```
ScriptAlias /ibmcognos/cgi-bin "c10_location/cgi-bin"
```

```
<Directory "c10_location/cgi-bin">
   AllowOverride None
   Options None
   Order allow,deny
   Allow from all
</Directory>
Alias /ibmcognos "c10_location/webcontent"
<Directory "c10_location/webcontent">
   Options Indexes MultiViews
   AllowOverride None
   Order allow,deny
   Allow from all
</Directory>
```
The <Directory> directive is optional.

**Tip:** Ensure that you define the /ibmcognos/cgi-bin alias before the /ibmcognos alias.

7. Add the following to the server status reports section:

```
<Location /ibmcognos/cgi-bin/module_alias>
SetHandler cognos-handler
Order allow,deny
Allow from all
</Location>
```

Where *module\_alias* is a name that you can choose.

**8**. To enable the gateway diagnostic page, add the following to the server status reports section:

```
<Location /ibmcognos/cgi-bin/diag_module_alias>
SetHandler cognos-handler
Order allow,deny
Allow from all
</Location>
```

Where *diag\_module\_alias* is a name that you can choose.

9. Add the following to the user directory section:

```
<IfModule mod2_2_cognos.c>
CGIBinDir "c10_location/cgi-bin"
</IfModule>
```

Apache module files are provided for different versions of Apache Server or IBM HTTP Server:

- Use mod2\_2\_cognos.c for Apache Server 2.2.x or IBM HTTP Server 8 and 7.
- Use mod2\_cognos.c for Apache Server 2.0.x and IBM HTTP Server 6.1.
- 10. Save and close the file.
- 11. On HP-UX, enable searching for SHLIB\_PATH by running the following command in the *Apache\_installation*/bin directory:

chatr +s enable +b enable httpd

- 12. Restart the web server.
- 13. Start IBM Cognos Configuration.
- 14. In the **Explorer** panel, click **Local Configuration** > **Environment**.
- 15. In the **Gateway URI** box, change the cognos.cgi part of the URI to *module\_alias*.

For example, http://host\_name:port/ibmcognos/cgi-bin/module\_alias.

16. Save your changes.

#### Results

Users can access the server by entering the Apache module URI in their browser. For example,

http://servername:port/ibmcognos/cgi-bin/module\_alias.

## Use the ISAPI gateway on Microsoft Internet Information Services (IIS) version 7

If you are using a Microsoft Internet Information Services (IIS) web server, configure IBM Cognos to use the ISAPI gateway rather that the default CGI gateway.

#### About this task

If you are using Microsoft IIS as your web server and you plan to run more than one IBM Cognos BI product, or several instances of the same product, on one computer, you must create a separate application pool for each product or instance and then associate the aliases for that product or instance to the application pool.

For more information about creating an application pool, see your Web server documentation.

**Important:** If you are using the 32-bit version of the ISAPI gateway, you must enable 32-bit application for the application pool used for the IBM Cognos gateway. In the Internet Information Services (IIS) Manager, select the application pool used for IBM Cognos, and click **Advanced Settings**. Change the value for **Enable 32-Bit Applications** to **True**.

**Note:** If you are changing from the 32-bit ISAPI gateway to the 64-bit ISAPI gateway, you must redo some of the steps to configure your web server. For more information about changing from the 32-bit ISAPI gateway to the 64-bit ISAPI gateway. For more information, see "Changing from the 32-bit ISAPI gateway to the 64-bit ISAPI gateway" on page 479.

#### Procedure

- 1. Click Start > Control Panel > Programs and Features.
- 2. Click Turn Windows features on or off.
- 3. If you are using Microsoft Windows 2008 Server, use the following steps:
  - a. Click Server Manager > Roles > Web Server (IIS).
  - b. If **ISAPI extensions** is set to **Not installed**, select **ISAPI extensions** and click **Add Role Service**.
- 4. If you are using Microsoft Windows 7, use the following steps:
  - a. Expand Internet Information Services > World Wide Web Services > Application Development Features.
  - b. If ISAPI extensions is not selected, select ISAPI extensions.
  - c. Click OK.
- 5. In the **Internet Information Services (IIS) Manager** console, under **Connections**, select your server name.

If you are using Microsoft Windows 7, click **Start** > **Control Panel** > **System and Security** > **Administrative Tools** to access the **Internet Information Services (IIS) Manager** console.

6. Expand **Sites**, and under your website, add the virtual directories as shown in the table:

Table 20. Required virtual directories

Alias	Location
ibmcognos	c10_location/webcontent
ibmcognos/cgi-bin	<i>c10_location/</i> cgi-bin

- 7. Select the cgi-bin virtual directory you created.
- 8. In the IIS group, double-click Handler Mappings.
- 9. Under Actions, click Add Module Mapping.
  - a. In **Request Path**, type cognosisapi.dll.

- b. In Module, select IsapiModule.
- c. In Executable, enter the path to the cognosisapi.dll file. For example, enter:

C:\Program Files\ibm\cognos\c10\cgi-bin\cognosisapi.dll

- d. In Name, enter a name for the entry, such as CognosISAPI.
- e. Click OK.
- f. Click Yes in the dialog box to allow the ISAPI extension.
- 10. Start IBM Cognos Configuration.
- 11. In the **Explorer** panel, click **Local Configuration** > **Environment**.
- 12. In the Gateway URI box, change the cognos.cgi part of the URI to cognosisapi.dll.

#### Results

Users can access the ISAPI gateway by entering http://servername/ibmcognos/ isapi in their Web browsers.

#### Configure the servlet gateway for an application server

If you deploy IBM Cognos to an application server other than Tomcat, you can use the servlet gateway to serve the portal pages rather than using a web server.

#### Before you begin

Ensure the following tasks are complete:

- The application server is installed and running on each computer where the servlet gateway is to be installed.
- IBM Cognos BI gateway components are installed on the same system as the application server.
- The IBM Cognos BI Application Tier Components and Content Manager are installed and running in the environment.
- The application server user account has full access permission for the IBM Cognos installation.

#### About this task

Instead of routing requests directly to the dispatcher, you deploy the servlet gateway to a different JVM instance than the JVM instances that run the IBM Cognos BI Application Tier Components and Content Manager servlets. Doing this type of deployment separates the load for serving static content from the main applications.

#### Procedure

1. Create a separate JVM instance, if necessary.

If you plan to run IBM Cognos BI and the IBM Cognos Servlet Gateway on the same application server, the servlet gateway must be deployed to a separate JVM instance.

- 2. Check that IBM Cognos components are properly set up.
- 3. Set environment variables.
- 4. Configure IBM Cognos Servlet Gateway to run on the application server.
- 5. Change the application server startup script, if necessary.

- 6. Configure application server properties and deploy IBM Cognos Servlet Gateway.
- 7. Enable SSL, if required.

#### Results

You can now access IBM Cognos components using the servlet gateway by entering the gateway URI. For example,http[s]:host\_name:port/ServletGateway.

The IBM Cognos Servlet Gateway URI is case-sensitive.

## Use CGI gateways

You can use the CGI gateway on IBM HTTP Server, Apache Web Server, or Microsoft Internet Information Services (IIS) Server.

#### Use the CGI gateway on Apache Server or IBM HTTP Server

The default gateway configured in IBM Cognos Configuration is the CGI gateway. To use the CGI gateway, you must configure aliases for Apache Server or IBM HTTP Server.

#### Procedure

- 1. Go to the *Webserver\_installation*/conf directory.
- 2. Open the httpd.conf file in an editor.
- **3.** Ensure that both the server name and web server port number values are specified for the ServerName property.
- 4. Add the following:

ScriptAlias /ibmcognos/cgi-bin "c10 location/cgi-bin"

```
<Directory "c10_location/cgi-bin">
AllowOverride None
Options None
Order allow,deny
Allow from all
</Directory>
Alias /ibmcognos "c10_location/webcontent"
```

```
<Directory "c10_location/webcontent">
    Options Indexes MultiViews
    AllowOverride None
    Order allow,deny
    Allow from all
</Directory>
```

The <Directory> directive is optional.

**Tip:** Ensure that you define the /ibmcognos/cgi-bin alias before the /ibmcognos alias.

- 5. Save and close the file.
- 6. Restart the web server.

#### Results

Users can access the portal at http://servername:port/ibmcognos.

## Use the CGI gateway on Microsoft Internet Information Services (IIS) version 7

If you are using Microsoft Internet Information Services (IIS) version 7 or later, use the following task to configure the CGI gateway.

The CGI gateway is provided for both 32-bit and 64-bit web servers.

#### About this task

If you are using Microsoft IIS as your web server and you plan to run more than one IBM Cognos BI product, or several instances of the same product, on one computer, you must create a separate application pool for each product or instance and then associate the aliases for that product or instance to the application pool.

For more information about creating an application pool, see your Web server documentation.

#### Procedure

- 1. Click Start > Control Panel > Programs and Features.
- 2. Click Turn Windows features on or off.
- 3. If you are using Microsoft Windows 2008 Server, do the following:
  - a. Click Server Manager > Roles > Web Server (IIS).
  - b. If CGI is set to Not installed, select CGI and click Add Role Service.
- 4. If you are using Microsoft Windows 7, do the following:
  - a. Expand Internet Information Services > World Wide Web Services > Application Development Features.
  - b. If CGI is not selected, select CGI.
  - c. Click OK.
- 5. In the **Internet Information Services (IIS) Manager** console, under **Connections**, select your server name.

If you are using Microsoft Windows 7, click **Start** > **Control Panel** > **System** and **Security** > **Administrative Tools** to access the **Internet Information Services (IIS) Manager** console.

- 6. In the IIS group, double-click ISAPI and CGI Restrictions.
- 7. Under Actions, click Add.
- 8. Enter the path to the cognos.cgi file. The file is located in the *c10\_location*\cgi-bin directory.

You must enter the full path including the filename. If the path includes spaces, ensure you use quotation marks around the path. For example, enter: "C:\Program Files\ibm\cognos\c10\cgi-bin\cognos.cgi"

- 9. Enter a **Description**, such as Cognos CGI.
- 10. Select Allow extension path to execute, and click OK.
- 11. Under Actions, click Edit Feature Settings, select Allow unspecified CGI modules, and click OK.
- 12. Under **Connections**, expand **Sites**, and under your web site, add the virtual directories as shown in the table:

Table 21. Required virtual directories

Alias	Location
ibmcognos	c10_location/webcontent

Table 21. Required virtual directories (continued)

Alias	Location
ibmcognos/cgi-bin	<i>c10_location</i> /cgi-bin

- 13. Select the cgi-bin virtual directory you created.
- 14. In the IIS group, double-click Handler Mappings.
- 15. Under Actions, click Add Module Mapping.
  - a. In Request Path, type cognos.cgi.
  - b. In Module, select CgiModule.
  - c. Leave Executable (optional) blank.
  - d. In Name, enter a name for the entry, such as CognosCGI.
  - e. Click OK.

#### Results

Users can access the CGI gateway by entering http://servername/ibmcognos in their Web browsers.

#### Use the CGI gateway on older versions of Microsoft IIS

For versions of Microsoft Internet Information Services (IIS) earlier than version 7, use these steps to configure the CGI gateway.

#### Procedure

Create the virtual directories shown in the following table:

		1
Alias	Location	Permission
ibmcognos	<pre>c10_location/webcontent</pre>	Read
ibmcognos/cgi-bin	c10 location/cgi-bin	Execute

Table 22. Required virtual directories

## Configuring WebDAV to view and browse images

To view and browse images in the Report Studio, configure Web Distributed Authoring and Versioning (WebDAV) on your web server. Report authors can browse for images to include in reports in a way that is similar to browsing a file system

#### Procedure

- 1. If you are using Microsoft IIS, do the following.
  - a. If you are using IIS version 7, you must download the WebDAV installer from the Microsoft website. If you are using IIS version 7.5, WebDAV is already available on your computer, but it might have to be enabled.
  - b. Enable the WebDAV Publishing feature in the Server Manager.
  - c. Add the WebDAV Publishing Role Service.
  - d. Configure WebDAV authoring rules to control access to content.
  - e. Enable the read and directory browsing properties for the URL that you want users to access for images.
- 2. If you are using Apache server or IBM HTTP Server, do the following:

- a. In the *webserver\_location*/conf directory, open the httpd.conf file in a text editor.
- b. Uncomment the directives that load modules/mod\_dav.so and modules/mod\_dav\_fs.so. LoadModule dav module modules/mod dav.so

LoadModule dav\_fs\_module modules/mod\_dav\_fs.so

c. Provide a location for the DAVLockDB directive.

For example,

DAVLockDB "webserver\_location/var/DavLock"

Ensure that the directory exists.

- d. Create an alias for the directory where your images are stored.
- e. Add Dav On to the <Directory> information for the alias.

For example, Alias /images "path/shared\_images" <Directory "path/shared\_images"> Dav On Options Indexes MultiViews AllowOverride None Order allow,deny Allow from all </Directory>

- f. Save the file.
- g. Restart your web server.

## Results

With WebDAV enabled, Report Studio users can add images to their reports. When users click Browse in the image browser, the default location for browsing is http://servername/ibmcognos/samples/images. If you created another location, users can enter that location. For example, users can enter http://servername/ images rather than use the default location.

## Test the Installation and Configuration

You can test your configuration settings by running the test feature as you configure IBM Cognos Business Intelligence. After you have completed the configuration and started the services, you can test the installation by connecting to the IBM Cognos BI portal.

#### Procedure

- 1. Open a Web browser.
- 2. Test that Content Manager is running by typing the **Content Manager URIs** value from IBM Cognos Configuration. For example,

http://host\_name:port/p2pd/servlet

The default vale for *host\_name:port* is localhost:9300.

**3**. Test the availability of the dispatcher by typing the **Internal dispatcher URI** value from IBM Cognos Configuration. For example,

http://host\_name:port/p2pd/servlet/dispatch

The default vale for *host\_name:port* is localhost:9300.

If the response shows a list of content in **Public Folders**, the dispatcher is available.

4. Test the gateway by typing the **Gateway URI** value from IBM Cognos Configuration in your Web browser.

It may take a few minutes for the Web page to open. If you see the **Welcome** page in the IBM Cognos BI portal, your installation is working.

## Set variables for data source connections

Use this procedure to set up variables for data source connections for Framework Manager or IBM Cognos Transformer or to set up the import source environment for Metric Designer.

Because metadata is derived from data sources in multi-platform or multilingual environments, there are several things you must think about or do when you set up the data source environment for Framework Manager or IBM Cognos BI Transformer or set up the import source environment for Metric Designer. Commonly, these things depend on the other technology you use for your data or import source.

The IBM Cognos Business Intelligence modeling tools create and manage metadata for IBM Cognos BI. Framework Manager creates and manages metadata for the reporting functions, IBM Cognos BI Transformer creates and manages metadata for PowerCubes, and Metric Designer creates and manages metadata required for the scorecarding functions.

If you upgraded, you are not required to set up anything in the data source environment. You must set up the data source environment only if you installed your modeling tool in a different location from the older version.

Users operating in different languages can connect to an MSAS 2005 data source from the same instance of IBM Cognos BI. Modelers must create a separate package for each language. Users can run reports in any language.

If you use a Sybase data source, these steps are not necessary.

#### Before you begin

Ensure that you install the appropriate fonts to support the character sets and currency symbols you use. For Japanese and Korean currency symbols to appear correctly, you must install the additional fonts from the Supplementary Language Documentation disk.

#### Procedure

- 1. Set the environment variable for multilingual support:
  - For Oracle, set the NLS\_LANG (National Language Support) environment variable on each computer where Framework Manager or Metric Designer and the IBM Cognos BI server are installed by typing the following command:

NLS\_LANG = language\_territory.character\_set

Examples are:

NLS\_LANG = AMERICAN\_AMERICA.UTF8

NLS\_LANG = JAPANESE\_JAPAN.UTF8

The value of the variable determines the locale-dependent behavior of IBM Cognos BI. Error messages, sort order, date, time, monetary, numeric, and calendar conventions automatically adapt to the native language and locale.

• For DB2, set the **DB2CODEPAGE** environment variable to a value of 1252. For more information about whether to use this optional environment variable, see the DB2 documentation.

No settings are required for SAP BW. SAP support only a single code page on non-Unicode SAP BW systems.

2. For Oracle, add \$ORACLE\_HOME/lib to your LD\_LIBRARY\_PATH variable.

When you set the load library paths, ensure that the 32-bit Oracle libraries are in the library search path, which is usually the <code>\$ORACLE\_HOME/lib</code> directory or the <code>\$ORACLE\_HOME/lib32</code> directory if you installed a 64-bit Oracle client.

3. For Oracle, copy the correct library file for your version of the Oracle client from *ORACLE\_HOME*/jdbc/lib to the *c10\_location*\webapps\p2pd\WEB-INF\lib directory.

If you are using Oracle 10g, you must have ojdbc14.jar.

If you are using Oracle 11g, you must have ojdbc5.jar.

4. For SAP BW, configure the following authorization objects so that the modeling tool can retrieve metadata.

Where default values are specified, you may want to modify the values on the SAP system.

S\_RFC

Set the **Activity** field to **16**.

Set the Name of RFC to be protected field to SYST, RSOB, SUGU, RFC1, RS\_UNIFICATION, RSAB, SDTX, SU\_USER.

Set the Type of RFC object to be protected field to FUGR.

• S\_TABU\_DIS

Set the **Activity** field to **03**.

Set the Authorization Group field to &NC&.

**Note: &NC&** represents any table that does not have an authorization group. For security reasons, create an authorization group and assign the table **RSHIEDIR** to it. The new authorization group restricts the user's access to the table only, which is needed by the modeling tool. Create the authorization group as a customization in the SAP system.

• S\_USER\_GRP

Set the Activity field to 03, 05.

Set the User group in user master main field to the default value.

• S\_RS\_COMP

Set the **Activity** field to the default value.

Set the Info Area field to InfoArea Technical Name.

Set the Info Cube field to the value: InfoCube Technical Name.

Set the Name (ID) of reporting components field to the default value.

Set the Type of reporting components field to the default value.

• S\_RS\_COMP1

Set the Activity field to the default value.

Set the **Name (ID) of reporting components** field to the default value. Set the **Type of reporting components** field to the default value.

Set the Owner (Person Responsible) field to the default value.

• S\_RS\_HIER

Set the Activity field to 71.

Set the **Hierarchy Name** field to *Hierarchy Name*. Set the **InfoObject** field to *InfoObject Technical Name*. Set the **Version** field to *Hierarchy Version*.

S\_RS\_ICUBE

Set the **Activity** field to **03**.

Set the InfoCube sub-object field to the values DATA and DEFINITION.

Set the Info Area field to InfoArea Technical Name.

Set the InfoCube field to InfoCube Technical Name.

For more information about SAP BW authorization objects, see Transaction SU03.

#### Results

After you complete these tasks, you must configure the IBM Cognos BI components (see Chapter 11, "Configuration options," on page 215) to work in your environment.

## Creating a metric store database

You must create a metric store database using Oracle, Microsoft SQL Server, or DB2.

A metric store is a database that contains content for metric packages. A metric store also contains scorecarding application settings, such as user preferences. Although you run the command to create the metric store from the location where the Application Tier Components are installed, you can specify a different location for the metric store in the command parameters. If the metric store is on a different computer from the Application Tier Components, you must create an alias to the metric store in the Application Tier Components location.

You cannot use Cognos Content Database as a metric store database.

Your database administrator must back up IBM Cognos Business Intelligence databases regularly because they contain the IBM Cognos data. To ensure the security and integrity of databases, it is also important to protect them from unauthorized or inappropriate access.

## Create a metric store database in IBM DB2

Use this procedure to create a metric store using an IBM DB2 database.

#### Procedure

 In the Application Tier Components location, in the c10\_location/ configuration/schemas/cmm/db2 directory, run the cmm\_create\_db.cmd script by typing the following command:

On a Microsoft Windows operating system, type

cmm\_create\_db dbinstance user\_name password dbname drive dbalias

On a UNIX operating system, type

cmm\_create\_db.sh dbinstance user\_name password dbname path dbalias
Use the values from the following table in your command.

Table 23.	Values	for	cmm_	create_	_db	script
-----------	--------	-----	------	---------	-----	--------

Value	Setting
dbinstance	The DB2 instance name where the database will be created.
user_name	The user ID with permissions to create the database. The user ID must have SYSADM or SYSCTRL privileges, and must have DBADM privileges to create the schema.
password	The password for the <i>user_name</i> value.
dbname	The name of the database that will be created. The name must have a maximum of 8 characters, and it cannot start with a number.
drive/path	On Windows, the drive on which the database objects will be created. For example, C. On UNIX, the path where the database objects will be created.
dbalias	The database alias name. This value is optional.

**Note:** Your database administrator can review the scripts to ensure they suit your environment. The initializedb.db2 script is invoked by the cmm\_create\_db.cmd script and defines the buffer pools and tablespaces.

2. Determine which user account IBM Cognos Metrics Manager will use to access the database.

The user account must have the following privileges.

- CREATETAB
- BINDADD
- CONNECT
- IMPLICIT\_SCHEMA
- LOAD

## Create a metric store database in Microsoft SQL Server

Use this procedure to create a metric store using a Microsoft SQL Server database.

## Procedure

1. Determine which user account IBM Cognos Metrics Manager will use to access the database.

This information is one of the parameters you can use when you run the command to create the database. The user account must be the database owner (dbo) or aliased to the database owner.

 In the Application Tier Components location, in the c10\_location/ configuration/schemas/cmm/sqlserver directory, run the cmm\_create\_db.cmd script by typing the following command:

path\_to\_script cmm\_create\_db host\_name database\_name user\_name password
[user\_to\_create]

Use the values from the following table in your command.

Table 24. Values for chill create up script	Table 24.	Values	for cmn	n create	db script
---	-----------	--------	---------	----------	-----------

Value	Setting
host_name	The name of the computer where the database will be created.
	If there are multiple instances of Microsoft SQL Server, specify <i>host_name\instance_name</i> .

Value	Setting	
database_name	The name of the database that will be created.	
user_name	The user ID with permissions to create the database. The user ID must have permission to create the database, such as the sa user. The user ID must also have a default language of English.	
password	The password for the <i>username</i> .	
user_to_create	The user created by the script and given database owner permissions. This value is optional.	

Table 24. Values for cmm\_create\_db script (continued)

## Create an metric store database in Oracle

Use this procedure to create a metric store using a new Oracle database.

#### Procedure

- 1. Ensure that you are logged into the Oracle server as a user that is a member of the ORA\_DBA user group on Windows or the dba group on UNIX.
- 2. Set the NLS\_LANG (National Language Support) environment variable to the UTF-8 character set on the metric store computer by typing the following command:

NLS\_LANG = language\_territory.character\_set

Examples are:

- NLS\_LANG = AMERICAN\_AMERICA.UTF8
- NLS\_LANG = JAPANESE\_JAPAN.UTF8

The value of the variable determines the locale-dependent behavior of IBM Cognos BI. Error messages, sort order, date, time, monetary, numeric, and calendar conventions automatically adapt to the native language and locale.

**3**. Determine which user account IBM Cognos Metrics Manager will use to access the database.

This information is one of the parameters you can use when you run the command to create the database. You must use a valid Oracle database username with the following permissions granted:

- CREATE TABLE, CREATE VIEW, CREATE PROCEDURE, CREATE TRIGGER, CREATE TYPE, CREATE SEQUENCE, and CREATE SESSION
- EXECUTE on DBMS\_LOCK and DBMS\_UTILITY packages

The CREATE TABLE and CREATE TRIGGER permissions must be granted directly to the user account rather than to a role.

You must grant these permissions only. If you grant fewer or more privileges, the metric store will not initialize.

4. In the Application Tier Components location, in the *c10\_location*/ configuration/schemas/cmm/oracle directory, run the cmm\_create\_db.cmd script by typing the following command:

path\_to\_script cmm\_create\_db sid path database\_version [user\_to\_create]
Use the values from the following table in your command.

Table 25. Values for cmm\_create\_db script

Value	Setting
path_to_script	The path to the script. For example, <pre>c10_location/configuration/schemas/cmm/ oracle</pre>
sid	The SID for the new database that will be created.
path	The path where the data files will be created.
database_version	The version of Oracle software that is installed. For example, oracle9 or oracle10.
user_to_create	The user created by the script and given database owner permissions. This value is optional.

# Create a metric store database in Oracle using an existing database

Use this procedure to create a metric store using an existing Oracle database.

#### Procedure

- 1. Ensure that you are logged into the Oracle server as a user that is a member of the ORA\_DBA user group on Windows or the dba group on UNIX.
- 2. Set the NLS\_LANG (National Language Support) environment variable to the UTF-8 character set on the metric store computer by typing the following command:

NLS\_LANG = language\_territory.character\_set

Examples are:

- NLS\_LANG = AMERICAN\_AMERICA.UTF8
- NLS\_LANG = JAPANESE\_JAPAN.UTF8

The value of the variable determines the locale-dependent behavior of IBM Cognos BI. Error messages, sort order, date, time, monetary, numeric, and calendar conventions automatically adapt to the native language and locale.

- **3**. Determine which user account IBM Cognos Metrics Manager will use to access the database. You must use a valid Oracle database username with the following permissions granted:
  - CREATE TABLE, CREATE VIEW, CREATE PROCEDURE, CREATE TRIGGER, CREATE TYPE, CREATE SEQUENCE, and CREATE SESSION
  - EXECUTE on DBMS\_LOCK and DBMS\_UTILITY packages.

The CREATE TABLE and CREATE TRIGGER permissions must be granted directly to the user account rather than to a role.

You must grant these permissions only. If you grant fewer or more privileges, the metric store will not initialize.

4. Determine if the database is Unicode.

Tip: One method is to type the following select statement:

select \* from NLS\_DATABASE\_PARAMETERS

If the result set returns an NLS\_CHARACTERSET that is not Unicode, create a new database and specify AL32UTF8 for the database character set parameters. The cmm\_create\_db.cmd script mentioned in "Create a metric store database in IBM DB2" on page 106 creates a database with AL32UTF8 character encoding.

## Setting up the database client for the Metric Store

If you are using a database other than Microsoft SQL as a metric store, you must install database client software and Java Database Connectivity (JDBC) drivers on each computer where you install the Application Tier Components for Cognos Metrics Manager. Doing this allows Application Tier Components to access the metric store database.

## Set up the database client for an IBM DB2 metric store

Use this procedure to setup the database client for an IBM DB2 metric store.

#### Procedure

- 1. Install the IBM DB2 client software on the Application Tier Components computer.
- 2. If the metric store is on a different computer from the Application Tier Components, configure a database alias to the metric store by running the IBM DB2 Client Configuration Assistant.

On a UNIX or Linux operating system, use the IBM DB2 command line interface.

**Note:** If the metric store database and the Application Tier Components are on the same computer, the metric store name automatically becomes the alias.

- 3. Copy the following files from *DB2\_installation*/sqllib/java directory to the *c10\_location*/webapps/p2pd/WEB-INF/lib directory.
  - the universal driver file, db2jcc.jar
  - the license file, db2jcc\_license\_cu.jar

Tip: To check the driver version, run the following command: java -cp path\db2jcc.jar com.ibm.db2.jcc.DB2Jjcc -version If the directory contains a db2java.jar or db2java.zip file, delete the file.

## Set up the database client for an Oracle metric store

Use this procedure to setup the database client for an Oracle metric store.

#### Procedure

1. If you are using a 64-bit installation, install a 64-bit Oracle client.

Note: If you are using Oracle 11g, you must also install a 32-bit client.

- On the computer where the Oracle client is installed, go to the ORACLE\_HOME/jdbc/lib directory.
- **3.** Copy ojdbc5.jar to the *c10\_location*/webapps/p2pd/WEB-INF/lib directory on the computer where Application Tier Components are installed.

**Note:** Ensure you copy the jar file from the 64-bit client if you have installed the 64-bit Metrics Manager.

The driver is available from an Oracle client or server installation, and can also be downloaded from the Oracle Web site.

4. Install the SQL Loader utility on the computer where Application Tier Components are installed.

# Set up the database client for a Microsoft SQL Server metric store

Use this procedure to setup the database client for a Microsoft SQL Server metric store.

#### Procedure

- 1. Install the bcp utility on every Windows computer where Application Tier Components for IBM Cognos Metrics Manager are installed.
- 2. Add the location of the bcp utility to the path environment variable.

## Create a metric package

Before users can use Metric Studio, you must create at least one metric package using the New Metric Package wizard. A metric package is an IBM Cognos Connection representation of a Metric Studio application. A metric package contains connection information, reports, and metric management tasks for that application. The metric package content is stored in a metric store.

You open the New Metric Package wizard from the toolbar in IBM Cognos Connection. Use the wizard to define the metric package name and the data source connection to the metric store. For a new metric store, you also provide the information necessary to initialize the database, including the start and end dates of the fiscal year.

#### Before you begin

To create metric packages, you must have execute permissions for the Metric Studio Administration secured feature and traverse permission for the Administration secured function.

#### Procedure

- 1. In IBM Cognos Connection, click the New metric package button
- 2. Type a name and description for the Metric Studio application to represent this metric package, and click **Next**.
- 3. Click New data source.
- 4. Type a name and description for the data source connection for the metric store that contains the content for this metric package, and click **Next**.
- 5. In the **Type** box, click the database type.
- 6. Select the isolation level, and click Next.
- 7. Specify the information required for your database type.
  - If you are using a Microsoft SQL Server database:
    - a. Enter the name of the database server. For example, server\_name or server\_name\instance\_name if there are multiple instances of Microsoft SQL Server. If you are not using the default port number 1433, use server\_name,port.
    - b. Type the database name.
    - c. Select Signons.
    - d. Select the **Password** and **Create a signon that the Everyone group can use** check boxes, and type the user ID and password of the user account with access to the database.

The user account must have the default language set to English.

- If you are using an Oracle database:
  - a. Enter the connection string.
  - b. Select User ID.
  - c. Select the **Password** and **Create a signon that the Everyone group can use** check boxes, and type the user ID and password of the user account with access to the database.
  - d. Optionally, configure a JDBC connection for data source by adding a connection type of Service ID, and specifying the required values for the server name, port number, and Oracle service ID in the appropriate fields. If you are using AIX, a JDBC connection is required.
- If you are using an IBM DB2 database:
  - a. Enter the name of the database as defined in the IBM DB2 client.
  - b. Select User ID.
  - c. Select the **Password** and **Create a signon that the Everyone group can use** check boxes, and type the user ID and password of the user account with access to the database.
  - d. Optionally, configure a JDBC connection for data source by adding the server name, port number, and database name in the appropriate fields. If you are using AIX, a JDBC connection is required.

In most cases, a collation sequence is not required. If you want to provide one, ensure the value that you enter is the same as the collation sequence specified when the database was created. For information about collation sequences, see the database documentation.

Tip: To test whether the parameters are correct, click Test the connection.

- 8. Click Next and then click Finish.
- 9. Click the new data source and click Next.
- **10**. Click **Next** and follow the prompts to provide the information necessary to initialize the database. When you see the page that summarizes the data source details and the metric store settings, click **Initialize**.
- 11. Select **Open this package with Metric Studio after closing the wizard** and then click **Finish**.

#### Results

Metric Studio opens, and the new metric package appears in IBM Cognos Connection.

# Chapter 8. Installing IBM Cognos BI server components on different computers

Use the installation wizard to select the server components that you want to install and the location on your computer where you want to install them. Only the components that you choose to install are copied from the disk to your computer.

If you plan to install two or more IBM Cognos Business Intelligence components on the same computer, install them in the same installation location to avoid conflicts among ports and other default settings.

The IBM Cognos BI server components include the following:

- Content Manager
- Application Tier Components
- Gateway

You can install each component on a separate computer, or on the same computer. You must install the gateway on a computer that is also running a Web server.

If you are installing IBM Cognos Metrics Manager, you must create the metric store database and at least one metric package.

#### Stopping services sequence

If you need to stop services in a distributed environment, the sequence is important. Stop the IBM Cognos service for Application Tier Components first, followed by the standby Content Manager, and then the active Content Manager.

It is important to also stop the following:

- applications that are related to the IBM Cognos service, such as Framework Manager, IBM Cognos Transformer, IBM Cognos Connection, IBM Cognos Administration, and Metric Designer
- any Software Development Kit applications that are running

#### Upgrading your installation

If you are upgrading from a previous release of IBM Cognos products, see Chapter 6, "Upgrade IBM Cognos Business Intelligence," on page 57.

If you are upgrading from an earlier version of IBM Cognos BI, all the distributed components must be the same version of IBM Cognos BI. If you install IBM Cognos BI on additional or alternate hosts, you must update location-specific properties in IBM Cognos Configuration.

#### 64-bit installations

The IBM Cognos BI gateway provides 32-bit libraries, whether you install on a 64-bit server or a 32-bit server. Some Web servers, such as Apache Web Server, cannot load a 32-bit compiled library in a 64-bit compiled server. In that situation, install the 32-bit version of the IBM Cognos gateway on a 32-bit Web server.

The report server component, included with the Application Tier Components, is provided in both 32- and 64-bit versions. Selecting which version you use is done using IBM Cognos Configuration after installation. By default, the report server component is set to use the 32-bit mode, even on a 64-bit computer. The 32-bit mode allows you to run all reports, whereas the 64-bit mode allows you to run only reports created for dynamic query mode.

If you are upgrading IBM Cognos BI in an environment that includes earlier versions of other IBM Cognos BI products, such as IBM Cognos BI Controller Version 8.x, IBM Cognos BI Planning Version 8.x, or IBM Cognos BI Analysis *for Microsoft Excel* Version 8.x, install the new version of IBM Cognos BI in a separate location from the other IBM Cognos BI product and configure the new version of IBM Cognos BI to operate independently of that product. After you upgrade the other product to a compatible version with IBM Cognos BI, you can then configure the two products to operate together.

## Windows installations

For Microsoft Windows operating system installations, ensure that you have administrator privileges for the Windows computer you are installing on. Also ensure that your computer has a TEMP system variable that points to the directory where you want to store temporary files. During installation, files from the disk are temporarily copied to this directory.

## **UNIX** installations

For UNIX operating system installations, you can install server components using a graphical user interface or by running a silent installation. To run graphical-mode installation, the console attached to your UNIX computer must support a Java-based graphical user interface.

Also, IBM Cognos BI respects the file mode creation mask (umask) of the account running the installation program. This affects only the installation directories. It does not affect the file permissions within the directories. However, run-time generated files, such as logs, respect the mask. Use umask 022 on the installation directory.

## Cognos Content Database as content store

If you want to use Cognos Content Database as your content store, you must select it in the installation wizard. If you are installing components on several computers, you need to only install Cognos Content Database once.

#### **Printer requirements**

To ensure that reports print properly on Windows, Adobe Reader requires that you configure at least one printer on the operating system where Application Tier Components are installed. All reports, regardless of the print format that you choose, are sent as temporary PDF files to Adobe Reader for printing.

## Installation sequence for server components

In a distributed installation, the sequence in which you configure components is important. Configure and start the services in at least one location where you installed Content Manager before you configure other server components. You must configure the gateway component last so that cryptographic keys are shared and secure communication can take place among the three components. The server specified for the external dispatcher URI property on the gateway computer must be the last server component that you start.

We recommend that you install and configure all server components before you install Microsoft Windows operating system components.

The following diagram shows the sequence of the installation process for distributed components. After planning and preparing your environment, install and configure Content Manager components, then Application Tier Components and then gateways. After server components are installed, you install and configure Framework Manager.



Figure 9. Distributed installation process workflow

# **Recommendation - Install and Configure the Basic Installation for Distributed Installations**

When you do a distributed installation, there are many different installation and configuration options that you can do to customize IBM Cognos BI so that it fits into your corporate infrastructure.

Do a basic installation first, which involves installing one or more instances of each of the required server components (gateway, Application Tier Components and Content Manager) and installing Framework Manager. Perform only the required configuration tasks, such as configuring distributed components to communicate with each other, to get your distributed environment running before you customize your settings.

Later, you can add optional components and customize your configuration settings to better suit your business intelligence needs.

The sequence in which you configure computers is important. You must configure and then start the services on at least one computer where you installed Content Manager before you configure other server components or Framework Manager. For more information, see "Installation sequence for server components" on page 114.

The simplest and quickest way to get IBM Cognos BI running in your environment is ensuring that a basic installation works in your environment.

## Install Server Components in Interactive Mode

For a complete installation, you must install components on your server and then configure them to work in your environment.

Typically, you run the IBM Cognos installation and configuration programs in interactive mode. This means that in a graphical user interface (GUI) the installer prompts you to provide information, and the configuration tool enables you to change default settings.

You can choose to install server components in silent mode.

#### Silent Mode

You can automate the installation of components using response files and running the installation program in silent mode.

You can automate the configuration of components by exporting the configuration settings from one computer to another as long as the installed components are the same. Run IBM Cognos Configuration in interactive mode the first time.

The other option is to edit the cogstartup.xml file, using settings that apply to your environment, and then running the configuration tool in silent mode.

#### Interactive Mode

Unless you intend to complete a silent-mode installation, install the software from an X Window System workstation, an X terminal, or a PC or other system with X server software installed. To run an interactive-mode installation, the console attached to your computer must support a Java-based graphical user interface.

## Installing and Configuring Content Manager

You can install more than one Content Manager to ensure failover, and you can install Content Manager in a separate location than other components to enhance performance.

The Content Manager computers must know the location of the content store, the location of other Content Manager components, and the database that is used for notification.

In a distributed installation, at least one of the computers where you install Content Manager must be configured, running and accessible before you configure other computers in your IBM Cognos environment. This ensures that the certificate authority service, which is installed with Content Manager, is available to issue certificates to other computers.

Your installation may include more than one Content Manager, each on a different computer. One Content Manager computer is active and one or more Content Manager computers are on standby.

#### Permissions

You can install using either root or non-root authority.

Also, IBM Cognos BI respects the file mode creation mask (umask) of the account running the installation program. This affects only the installation directories. It does not affect the file permissions within the directories. However, run-time generated files, such as logs, respect the mask. We recommend umask 022 on the installation directory.

#### Rules for configuring

In an installation where you have more than one Content Manager components, or where Content Manager is located in a separate location, at least one of the one Content Manager must be configured, running and accessible before you configure other components in your environment. This ensures that the certificate authority service, which is installed with Content Manager, is available to issue certificates to other IBM Cognos computers.

For information about the sequence of the installation process for distributed components, see "Installation sequence for server components" on page 114.

#### **Rules for active Content Manager**

If you are installing multiple Content Manager components, the first Content Manager computer that you start becomes the default active Content Manager. You can designate another Content Manager computer as default active, using IBM Cognos Administration.

The standby Content Manager computers are for failover protection. If the active Content Manager computer is not available because of a software or hardware failure, a standby Content Manager computer becomes active and requests are directed to it.

When the active Content Manager fails, unsaved session data is lost. When another Content Manager becomes active, users may be prompted to log on.

For information about activating a Content Manager service, see the *Administration and Security Guide*. For information about active and standby Content Manager components, see "Active and Standby Content Manager Components."

In installations with multiple Content Managers, configure IBM Cognos BI to use compiled gateways instead of the default CGI gateway. For example, use Apache Module for Apache Server or for IBM HTTP Server, or use ISAPI for IIS. Otherwise, performance may be affected after failover.

#### Upgrading

If you are upgrading from ReportNet or an earlier version of IBM Cognos BI, you can use the existing configuration data. However, some features in IBM Cognos BI are new and may require configuration.

#### **PowerCubes**

If you plan to install IBM Cognos Transformer and you will be using PowerCubes that are secured against an IBM Cognos Series 7 namespace, you must install Content Manager on a computer that supports IBM Cognos Series 7.

## Active and Standby Content Manager Components

You can install any number of installations of Content Manager, although only one is active at any time. The other installations each act as a standby Content Manager.

The standby Content Manager components are for failover protection. If the active Content Manager is not available because of a software or hardware failure, a standby Content Manager becomes active and requests are directed to it.

When the active Content Manager fails, unsaved session data is lost. When another Content Manager becomes active, users may be prompted to log on.

By default, the first Content Manager installed with IBM Cognos BI is the active one. An IBM Cognos BI server administrator can change the default Content Manager and the active Content Manager at any time. When IBM Cognos BI is started, the default Content Manager locks the content store from access by all other installations of Content Manager. These other Content Manager installations enter standby mode.

This failover mechanism works because dispatchers and the active Content Manager routinely communicate with each other. If a dispatcher can no longer reach Content Manager, the dispatcher signals a standby Content Manager, which becomes the active Content Manager. The other installations of Content Manager remain in standby mode for continuing failover support. The standby Content Managers retrieve cryptographic settings, such as the common symmetric key (used to encrypt and decrypt data), from the active Content Manager.

## Install the Content Manager components

To install Content Manager, use the disk for your operating system. In the installation wizard, clear all components except Content Manager.

If you are installing multiple Content Managers, you must ensure that the system clocks on the Content Manager computers are synchronized for successful failover between Content Managers.

## **Cognos Content Database**

If you want to use the Cognos Content Database as your content store, must select it in the installation wizard. If you are installing components on several computers, you need to only install Cognos Content Database once.

## Installing Content Manager on UNIX or Linux operating systems

Use the following procedure to install Content Manager on a UNIX or Linux operating system.

#### Procedure

- 1. If you are installing to a directory with other IBM Cognos BI components, stop the IBM Cognos service.
- **2**. Set the JAVA\_HOME environment variable to point to the installation location of your Java Runtime Environment (JRE).

An example of the installation location of a Java Runtime Environment is /directory/java/*java\_version*/jre.

IBM Cognos BI requires a JVM, such as the Java that is provided by IBM, to run on a Linux operating system.

If you are installing in a location with other IBM Cognos BI components, use the existing JAVA\_HOME environment variable.

3. On HP-UX, set the \_M\_ARENA\_OPTS environment variable as follows: \_M\_ARENA\_OPTS 1:4

This increases the memory allocation for HP-UX to more closely match that of other UNIX operating systems.

4. On AIX, set the AIXTHREAD\_SCOPE environment variable as follows: AIXTHREAD SCOPE=S

This sets the contention scope for user threads to system-wide, which supports more efficient scheduling of user threads.

- 5. If installing from a download, go to the location where the installation files were downloaded and extracted.
- 6. If installing from a disk, mount the disk using Rock Ridge file extensions. To mount the disk on HP-UX, do the following:
  - Add the pfs mount directory in your path.
    - For example,

PATH=/usr/sbin/:\$PATH

export PATH

- To start the required NFS daemons and run the daemons in the background, type bg pfs\_mountd and then type bg pfsd
- To mount the drive, type pfs\_mount -t rrip <device><mount\_dir> -o xlat=unix

For example,

pfs\_mount /dev/dsk/c0t2d0 /cdrom -o xlat=unix

You can now install or copy files as a non-root user using an IBM Cognos disk from this drive.

- When the installation is complete, type pfs\_umount /cdrom and kill the pfsd and pfs\_mountd daemons to unmount the disk.
- 7. To start the installation wizard, go to the operating system directory and then type

./issetup

**Note:** When you use the issetup command with XWindows, Japanese characters in messages and log files may be corrupted. When installing in Japanese on UNIX or Linux, first set environment variables LANG=C and LC\_ALL=C (where C is the language code, for example ja\_JP.PCK on Solaris), and then start the installation wizard.

If you do not use XWindows, run an unattended installation Chapter 19, "Using an unattended installation and configuration," on page 391.

- **8**. Follow the directions in the installation wizard and copy the required files to your computer.
  - When selecting the directory, consider the following:

Install Content Manager in a directory that contains only ASCII characters in the path name. Some UNIX and Linux Web servers do not support non-ASCII characters in directory names.

If you are installing IBM Cognos BI on a computer that has an earlier version of IBM Cognos BI and you want to keep the earlier version, you must install IBM Cognos BI in a different directory.

- When selecting components, clear all components except **Content Manager**. If you want to use the pre configured database, also select **Cognos Content Database**.
- 9. In the Finish page of the installation wizard, do the following:
  - If you want to see the log files, click View for the appropriate log file.
  - If you want to see late-breaking information about the product, select the check box for IBM Cognos Release Notes.
  - Do not configure IBM Cognos BI immediately because you must do other tasks first to ensure that your environment is properly set up. Ensure that the IBM Cognos Configuration check box is clear.

You can later configure IBM Cognos BI using IBM Cognos Configuration by typing cogconfig.sh in the *c10\_location*/bin64 directory.

- Click Finish.
- 10. Append the *c10\_location*/bin64 directory to the appropriate library path environment variable.
  - For Solaris and Linux, LD\_LIBRARY\_PATH
  - For AIX, LIBPATH
  - For HP-UX, SHLIB\_PATH
- 11. On Linux, set the PRINTER environment variable to the name of your printer.

#### Installing Content Manager on Windows operating systems

Use the following procedure to install Content Manager on a Microsoft Windows operating system.

For Windows Vista, Windows 7, or Windows 2008 computers, the default installation location uses the Program Files (x86) directory. If you install to this location, ensure that you run IBM Cognos Configuration as an Administrator.

Alternatively, you can install the product outside of the Program Files (x86) directory. For example, you can change the installation directory to something like C:\IBM\cognos\c10.

#### Procedure

- 1. If you are installing to a directory with other IBM Cognos BI components, stop the IBM Cognos service.
- 2. Do one of the following:
  - Insert the IBM Cognos product disk.

If the installation wizard does not open automatically, go to the operating system directory, and double-click issetup.exe.

- Go to the location where the installation files were downloaded and extracted and then double-click issetup.exe.
- 3. Select the language to use for the installation.

The language that you select determines the language of the user interface. All supported languages are installed. You can change the user interface to any of the installed languages after installation.

- 4. Follow the directions in the installation wizard to copy the required files to your computer.
  - When selecting the directory, consider the following:

Install Content Manager in a directory that contains only ASCII characters in the path name. Some Microsoft Windows operating system Web servers do not support non-ASCII characters in directory names.

If you are installing IBM Cognos BI on a computer that has an earlier version of IBM Cognos BI and you want to keep the earlier version, you must install IBM Cognos BI in a different directory.

- When selecting components, clear all components except **Content Manager**. If you want to use the pre configured database, also select **Cognos Content Database**.
- 5. In the **Finish** page of the installation wizard, do the following:
  - If you want to see the log files, click **View** for the appropriate log file.
  - If you want to see late-breaking information about the product, select the check box for IBM Cognos Release Notes.
  - Do not configure IBM Cognos BI immediately because you must do other tasks first to ensure that your environment is properly set up. Ensure that the IBM Cognos Configuration check box is clear.

You can later configure IBM Cognos BI using the Windows **Start** menu to start **IBM Cognos Configuration** from the shortcut folder.

• Click Finish.

## Install Content Manager for IBM Cognos Metrics Manager

If you are installing IBM Cognos Metrics Manager with the IBM Cognos BI server and you want to share resources, it is not necessary to install Content Manager from the IBM Cognos Metrics Manager disk. Your scorecarding product can use the same Content Manager that is installed for the IBM Cognos BI server. If you want your scorecarding product to operate independently of the IBM Cognos BI server, install Content Manager for IBM Cognos Metrics Manager in a different location from Content Manager for the IBM Cognos BI server.

You may also want to install Metric Designer (see "Installing and Configuring Metric Designer" on page 184).

## Installing fix packs

IBM provides interim maintenance packages that contain updates to one or more components in your IBM Cognos product. If a fix pack is available when you are installing or upgrading your product, you must install it after you install the IBM Cognos components.

If a fix pack becomes available after your IBM Cognos product has been deployed, you must stop the service, install the fix pack in the same location as the IBM Cognos components, and then start the service.

Fix packs are cumulative. When you install the latest fix pack, it includes updates from all the previous fix packs. Fix packs are available for download from IBM Support at http://www.ibm.com/support/us/en/.

**Note:** Fix packs are not standalone installations. You must install them on computers that have IBM Cognos components installed. Install the fix packs that are appropriate for your product version. To check your version, open the component list file at *c10\_location*\cmplst.txt and check the line that starts with C8BISRVR\_version=.

#### Installing Fix Packs on Windows operating systems

Fix packs are product updates that contain cumulative code fixes that were made since the last release of the product. IBMCognos fix packs are installed in the same location as the existing product.

#### Before you begin

Ensure that you do the following tasks before installing a Fix Pack.

- If the IBM Cognos service is running, stop it.
- Back up the directory structure.
- Back up the content store database
- Back up any files that you manually edited.

#### Procedure

- Insert the fix pack disk for the Windows operating system or go to the location where you downloaded and extracted the files, and double-click the issetup.exe file.
- 2. Follow the directions in the installation wizard to install the fix pack files to the same location as the existing IBM Cognos components.
- **3**. If required, update the new installation files with any changes from the backup copies of your customized files.

To prevent errors, before copying the customized files, compare both versions of the files. This validation determines whether you can replace the file.

- 4. Return the deployed IBM Cognos product to service.
  - If you are using Tomcat, open IBM Cognos Configuration, save the configuration, and then start the IBM Cognos service.
  - If you are running the IBM Cognos product on an application server other than Tomcat, redeploy the IBM Cognos product to the application server.
- 5. If you have a distributed environment, repeat these steps for all remaining IBM Cognos servers.

# Installing IBM Cognos fix packs on UNIX or Linux operating systems

Fix packs are product updates that contain cumulative code fixes that were made since the last release of the product. IBM Cognos fix packs are installed in the same location as the existing product.

## Before you begin

Ensure that you do the following tasks before installing a Fix Pack.

- If the IBM Cognos service is running, stop it.
- Back up the directory structure.
- Back up the content store database
- Back up any files that you manually edited.

## Procedure

- 1. Go to the location where the installation files are downloaded, or insert the disc if you have one.
- To start the installation wizard, type the following command ./issetup
- **3**. Follow the directions in the installation wizard to install the fix pack files to the same location as the existing IBM Cognos components.
- 4. If required, update the new installation files with any changes from the backup copies of your customized files.

To prevent errors, before copying the customized files, compare both versions of the files. This validation determines whether you can replace the file.

- 5. Return the deployed IBM Cognos product to service.
  - If you are using Tomcat, open IBM Cognos Configuration, save the configuration, and then start the IBM Cognos service.
  - If you are running the IBM Cognos product on an application server other than Tomcat, redeploy the IBM Cognos product to the application server.
- 6. If you have a distributed environment, repeat these steps for all remaining IBM Cognos servers.

## Java settings

To support the cryptographic services in IBM Cognos Business Intelligence, you may be required to update or set a JAVA\_HOME environment variable. Depending on your security policy, you may also have to install the unrestricted Java Cryptography Extension (JCE) policy file.

You can use an existing Java Runtime Environment (JRE) or the JRE that is provided with Cognos BI.

## JAVA\_HOME

If you want to use your own JRE and have JAVA\_HOME set to that location on Microsoft Windows operating system or if you are installing on a UNIX or Linux operating system, you must update JAVA\_HOME for the cryptographic services.

On Windows, you can set JAVA\_HOME as a system variable or a user variable. If you set it as a system variable, it may be necessary to restart your computer for it to take effect. If you set it as a user variable, set it so that the environment in which Tomcat (or other application server) is running can access it. If you do not have a JAVA\_HOME variable already set on Windows, the JRE files provided with the installation will be used, and you do not have to update any files in your environment. If JAVA\_HOME points to a Java version that is not valid for Cognos BI, you must update JAVA\_HOME with the path to a valid Java version.

You must ensure that the Java Runtime Environment version is appropriate for IBM Cognos Configuration. For example, for a Microsoft Windows operating system, use either a 32-bit or 64-bit version of JRE, depending on the IBM Cognos BI component installed. For UNIX and Linux operating systems, you must use a 64 bit version of JRE.

## **Unrestricted JCE Policy File**

Whether you use the default Windows JRE or download a JRE for UNIX or Linux, the JRE includes a restricted policy file that limits you to certain cryptographic algorithms and cipher suites. If your security policy requires a wider range of cryptographic algorithms and cipher suites than are shown in IBM Cognos Configuration, you can download and install the unrestricted JCE policy file.

#### Update your Java environment

If you do not have a JAVA\_HOME variable already set on a Microsoft Windows operating system, the JRE files provided with your product will be used to generate the cryptographic keys needed to communicate with the IBM Cognos servers.

If you want to use another JRE and have JAVA\_HOME set to that location, the JRE files from that location will be used.

The JRE that is provided with your product includes a restricted policy file that limits you to certain cryptographic algorithms and cipher suites. If your security policy requires a wider range of cryptographic algorithms and cipher suites than are shown in IBM Cognos Configuration, you can download and install the unrestricted JCE policy file.

#### Procedure

- 1. Ensure that the JAVA\_HOME environment variable is set to the JRE location. For example, to set JAVA\_HOME to a JRE that you are already using, the path is *Java location*/bin/jre/*version*.
- **2**. If your security policy requires it, download and install the unrestricted JCE policy file.

For Java that is provided by IBM, the unrestricted JCE policy file is available on the IBM website (https://www14.software.ibm.com/webapp/iwm/web/preLogin.do?source=jcesdk).

For information about configuring the crytopgraphic provider to support your security policy, see "Configuring Cryptographic Settings" on page 223

## Set up database connectivity for the content store database

If you are using a database other than Cognos Content Database or Microsoft SQL Server as the content store, you may have to install database client software, or Java Database Connectivity (JDBC) drivers, or both, on each computer where you install Content Manager. Doing this allows Content Manager to access the content store database.

## Set up database connectivity for an IBM DB2 content store

This procedure describes how to set up database connectivity for a DB2 content store. You must perform this procedure on each computer where you install Content Manager.

You must use a type 4 Java Database Connectivity (JDBC) driver to connect to your content store if you are using IBM DB2.

The type 4 driver is considered an independent product. It does not require the DB2 client to be installed.

#### Procedure

Copy the following files from *DB2\_installation*\sqllib\java directory to the *c10\_location*\webapps\p2pd\WEB-INF\lib directory:

- The universal driver file, db2jcc.jar
- The license file:

For DB2 on Linux, UNIX, or Windows operating systems, use db2jcc\_license\_cu.jar.

For DB2 on z/OS, use db2jcc\_license\_cisuz.jar.

If you are connecting to DB2 on z/OS, use the driver version from Linux, UNIX, or Windows version 9.1 fix pack 5 or version 9.5 fix pack 2.

**Tip:** To check the driver version, run the following command: java -cp *path*\db2jcc.jar com.ibm.db2.jcc.DB2Jcc -version

#### Generating a script file that will create a database for a DB2 content store:

You can generate a script file to automatically create the content store in IBM DB2 on all platforms. The script file is called a DDL file.

#### Procedure

- 1. From the Start menu, click Programs > IBM Cognos 10 > IBM Cognos Configuration.
- 2. In the Explorer window, under Data Access, Content Manager, click Content Store.

The default configuration is for an IBM DB2 database. Ensure that the **Type** is **DB2 database**.

- **3.** In the **Properties** window, for the **Database name** property, type the name of the database or the database alias.
- 4. Change the logon credentials to specify a valid user ID and password:
  - Click the Value box next to the User ID and password property and then click the edit icon when it appears.
  - Type the appropriate values and click **OK**.
- 5. In the **Database server and port number** field, enter the name of your computer and port number on which DB2 is running. For example, localhost:50000. 50000 is the default port number used by DB2. If you are using a different port number, ensure you use that value.
- 6. Right-click Content Store, and click Generate DDL.
- Click Details to record the location of the generated DDL file. The DDL file named createDB.sql is created. The script is created in the c10 location\configuration\schemas\content\db2 directory.

Use this script to create a database in IBM DB2. For more information about using a DDL file, see your IBM DB2 documentation.

#### Create tablespaces for a content store on DB2 on z/OS:

A database administrator must run a script to create a set of tablespaces required for the content store database. The script must be modified to replace the placeholder parameters with ones that are appropriate for your environment.

If you are using the same DB2 on z/OS database for both the content store and notification databases, run the scripts to create the notification database tablespaces at the same time that you create the content store database tablespaces.

Ensure that you use the naming conventions for DB2 on z/OS. For example, all names of parameters must start with a letter and the length must not exceed eight characters. There are two exceptions to the character length limit:

- CMSCRIPT\_CS\_ID is no more than 2 characters.
- CMSCRIPT\_TABLESPACE is no more than 6 characters.

The reason for the exception is that when the two parameters are concatenated the character length can be no more than 8.

For more information, see the IBM DB2 Information Center.

#### Procedure

- 1. Create a database.
- 2. Ensure that the database administrator grants CONNECT and CREATE TABLE rights to the user of the new content store database, or grant DBADM to the user for the content store database.

For example, to grant DBADM to a user CGCUSER

GRANT DBADM ON DATABASE CMDB841 TO CGCUSER

a. Ensure that the user has privileges to create an index on buffer pools. For example,

GRANT USE OF BUFFERPOOL BP2 TO CGCUSER

b. Ensure that the user has privileges to create an index on a storage group For example,

GRANT USE OF STOGROUP SGDBT1DT TO CGCUSER

- **3**. Connect to the database as a user that has privileges to create and drop tablespaces and to allow execution of SQL statements.
- 4. Go to the directory that contains the scripts: .

c8\_location/configuration/schemas/content/db2zOS

- 5. Make a backup copy of the tablespace\_db2z0S.sql script file and save the file to another location,
- 6. Open the original tablespace\_db2z0S.sql script file.
  - a. Add a connection statement to the beginning of the script. For example,

connect to databasename user username using password;

b. Use the following table to help you to replace the generic parameters with ones appropriate for your environment.

Not all of the parameters listed are in the script, but some might be added in the future.

Parameter name	Description
CMSCRIPT_CREATE_IN	Specifies the base tables location
	For example, databaseName.baseTablespaceName
CMSCRIPT_STOGROUP	Specifies the name of the storage group.
CMSCRIPT_DATABASE	Specifies the name of the content store database.
CMSCRIPT_CS_ID	Specifies the instance identification for the content store database.
	The ID must not be longer than two characters.
CMSCRIPT_TABLESPACE	Specifies the name of the tablespace that will contain all of the base tables in the content store.
	Auxiliary tables are not included.
	The name cannot be longer than six characters.
CMSCRIPT_LARGE_BP	Specifies the name of the large buffer pool allocated for especially large objects.
CMSCRIPT_REGULAR_BP	Specifies the name of the regular size buffer pool allocated for regular and large objects.
CMSCRIPT_USERNAME	Specifies the user account that accesses the content store database.

Table 26. Parameter names and description for the tablespace script

- 7. Save and run the script.
- 8. Grant the IBM Cognos user rights to the tablespaces that were created when you ran the tablespace\_db2z0S.sql file script:
  - a. Make a copy of the rightsGrant\_db2z0S.sql script file and store it in another location.
  - b. In the remote access tool, open the original rightsGrant\_db2z0S.sql script file and replace the placeholder parameters with values that are appropriate for your environment.

Ensure that you use the same values that you used when you allocated resources to the buffer pools and user account.

c. Add a connection statement to the beginning of the script.

For example,

- connect to databasename user username using password;
- d. Save and then run the script.
- **9**. If you are using the same database for notification that you use for the content store (the default setup),
  - a. Go to the *c8\_location*/configuration/schemas/delivery/zosdb2 directory.
  - b. Open the NC\_TABLESPACES.sql script file and use the following table to help you to replace the placeholder parameters with ones that are appropriate for your environment.

For parameters that are not in the script, add them.

Table 27. Parameter names and descriptions

Parameter name	Description
NCCOG	Specifies the name of the content store database.
DSN8G810	Specifies the name of the storage group used for the content store database.
BP32K	Specifies the name of the buffer pool used for the tablespaces.

- c. Save and run the script.
- d. Open the NC\_CREATE\_DB2.sql script file and replace the NCCOG placeholder parameter with the name of the content store database.

The job and scheduling monitor services will automatically run the script. However, you might choose to run it yourself.

#### Results

The content store database is created. You can now configure a database connection.

#### Set up database connectivity for an Oracle content store

This procedure describes how to set up database connectivity for an Oracle content store. You must perform this procedure on each computer where you install Content Manager.

#### Procedure

- On the computer where the Oracle client is installed, go to the ORACLE\_HOME/jdbc/lib directory.
- 2. Copy the correct library file for your version of the Oracle client to the *c10\_location*\webapps\p2pd\WEB-INF\1ib directory on the computer where Content Manager is installed and where notification is sent to an Oracle database.

If you are using Oracle 10g, you must have ojdbc14.jar.

If you are using Oracle 11g, you must have ojdbc5.jar.

The files are available from an Oracle client or server install, and can also be downloaded from the Oracle technology Web site.

#### Set up database connectivity for an Informix content store

This procedure describes how to set up database connectivity for an Informix content store. You must perform this procedure on each computer where you install Content Manager.

#### Procedure

- 1. On the computer where Informix is installed, go to the *Informix\_location*/ sqllib/java directory.
- 2. Copy the following files to the *c10\_location*/webapps/p2pd/WEB-INF/lib directory on every computer where Content Manager is installed.
  - the universal driver file, db2jcc.jar
  - the license file, db2jcc\_license\_cisuz.jar

#### Set up database connectivity for a Sybase content store

This procedure describes how to set up database connectivity for a Sybase content store. You must perform this procedure on each computer where you install Content Manager.

#### Procedure

- 1. On the computer where Sybase is installed, go to the Sybase\_location/ jConnect-6/classes directory.
- 2. Copy the jconn3.jar file to the *c10\_location*/webapps/p2pd/WEB-INF/lib directory on every computer where Content Manager is installed and where notification is sent to a Sybase database.

## Start IBM Cognos Configuration

Use IBM Cognos Configuration to configure IBM Cognos Business Intelligence components and to start and stop IBM Cognos services if you are using the default Tomcat servlet container.

## Before you begin

Before starting IBM Cognos Configuration, ensure that the operating environment is properly set up. For example, ensure that all environment variables have been set.

On a Microsoft Windows operating system, you can start IBM Cognos Configuration in the last page of the installation wizard only if additional setup is not required. For example, if you use a database server other than Microsoft SQL or Cognos Content Database for the content store, copy the Java Database Connectivity (JDBC) drivers to the appropriate location before you start the configuration tool.

On UNIX or Linux operating systems, do not start IBM Cognos Configuration in the last page of the installation wizard. Additional setup is required before you can configure IBM Cognos BI. For example, you must update your Java environment.

Ensure that user or service account used to run IBM Cognos has been set up.

#### Procedure

 On Microsoft Windows, from the Start menu, click Programs > IBM Cognos 10 > IBM Cognos Configuration

If you are using a Windows Vista, Windows 7, or Windows 2008 computer, and have installed the product to the Program Files (x86) directory, start IBM Cognos Configuration as an Administrator.

2. On UNIX or Linux operating systems, go to the *c10\_location*/bin64 directory and then type the following command:

./cogconfig.sh

If IBM Cognos Configuration does not open, ensure that you set the DISPLAY environment variable.

If you see a JAVA.Lang.unsatisfied link message, verify that you are using a supported version of Java.

If you see a Java.lang.unsupportedClassVersionError message, ensure that you are using a 64-bit version of Java.

## Set Database Connection Properties for the Content Store

You must specify the database server information to ensure that Content Manager can connect to the database you use for the content store. Content Manager uses the database logon to access the content store. After you set the database connection properties, you can test the connection between Content Manager and the content store.

In a production environment, you must use an enterprise-level database for your content store. If you have been using Cognos Content Database in a test or proof-of-concept system, you can use the features in the administration portal to back up and archive the data before moving to an enterprise-level database in your production environment. For more information, see the topic about deploying the entire content store in the Administration and Security Guide.

If you are upgrading from ReportNet or an earlier version of IBM Cognos BI, configure IBM Cognos BI to point to a copy of the existing content store database. After you save the configuration and start the IBM Cognos service, the data in the content store is automatically upgraded and cannot be used by the earlier version. By using a copy of the original database with the new version, you can keep ReportNet or the earlier version running with the original data.

Ensure that you used one of the supported database servers to create the content store.

#### Setting database connection properties for a DB2 content store

You must specify the database server information to ensure that Content Manager can connect to the database you use for the content store.

#### Procedure

- 1. In the location where you installed Content Manager, start IBM Cognos Configuration.
- 2. In the Explorer window, under Data Access, Content Manager, click Content Store.
- **3**. In the **Properties** window, for the **Database name** property, type the name of the database or the database alias.
- 4. Change the logon credentials to specify a valid user ID and password:
  - Click the Value box next to the User ID and password property and then click the edit button when it appears.

If you are connecting to a database on DB2 on z/OS, ensure that you specify the same user ID as the value you specified for CMSCRIPT\_USERNAME when you created the tablespaces.

- Type the appropriate values and click OK.
- 5. In the Database server and port number field, enter the name of your computer and port number on which DB2 is running. For example, localhost:50000. 50000 is the default port number used by DB2. If you are using a different port number, ensure you use that value.
- 6. If you are connecting to a database on DB2 on z/OS:
  - a. In the Explorer window, click Local Configuration.
  - b. In the **Properties** window, next to **Advanced properties**, click inside the **Value** box, and then click the edit icon.
  - c. Click Add to add the parameters that you used to create the tablespaces. Add all of the parameters except CMSCRIPT\_USERNAME.

- 7. From the **File** menu, click **Save**.
- 8. To test the connection between Content Manager and the content store database, from the **Actions** menu, click **Test**.

Content Manager connects to the database, checks the database permissions, and creates and populates a table. The table is not deleted and is used each time that the test is repeated.

## Setting Database Connection Properties for a DB2 Content Store on z/OS

You must specify the database server information to ensure that Content Manager can connect to the database you use for the content store.

#### Procedure

- 1. In the location where you installed Content Manager, start IBM Cognos Configuration.
- 2. In the Explorer window, under Data Access, Content Manager, click Content Store.
- **3**. In the **Properties** window, for the **Database name** property, type the name of the database or the database alias.
- 4. Change the logon credentials to specify a valid user ID and password:
  - Click the Value box next to the User ID and password property and then click the edit icon when it appears. Ensure that you specify the same user ID as the value you specified for CMSCRIPT\_USERNAME when you created the tablespaces.
  - Type the appropriate values and click **OK**.
- **5.** To use a type 4 JDBC connection, for the **Database server and port number** property, type a value, using *host:port* syntax.
- 6. In the Explorer window, click Local Configuration.
- 7. In the **Properties** window, next to **Advanced properties**, click inside the **Value** box, and then click the edit icon.

The Value - Advanced properties dialog box appears.

- **8**. To add the parameters that you used to create the tablespaces, click **Add**. All of the parameters except CMSCRIPT\_USERNAME are added.
- 9. From the **File** menu, click **Save**.

The logon credentials are immediately encrypted.

**10**. To test the connection between Content Manager and the content store database, from the **Actions** menu, click **Test**.

This tests the connection between Content Manager and the content store database.

#### Setting database connection properties for a Microsoft SQL Server, Oracle, Informix, or Sybase content store

You must specify the database server information to ensure that Content Manager can connect to the database you use for the content store.

#### Procedure

- 1. On the computer where you installed Content Manager, start IBM Cognos Configuration.
- 2. In the **Explorer** window, under **Data Access**, **Content Manager**, right-click **Content Store** and click **Delete**.

This step deletes the connection to the default resource. Content Manager can access only one content store.

- 3. Right-click Content Manager, and then click New resource, Database.
- 4. In the **Name** box, type a name for the resource.
- 5. In the **Type** box, select the type of database and click **OK**.

If you installed more than one version of IBM Cognos BI, you must use a different content store for each version. When a content store is used by a new version of IBM Cognos BI, it cannot be used by an older version.

**Tip:** If you want to use an Oracle Net8 keyword-value pair to manage the database connection, select **Oracle database (Advanced)**.

- 6. In the **Properties** window, provide the values for your database type:
  - If you use a Microsoft SQL Server database, type the appropriate values for the **Database server with port number or instance name** and **Database name** properties.

For a Microsoft SQL Server database, you can choose to use a port number, such as 1433, or a named instance as the value for the **Database server with port number or instance name** property.

For the **Database server with port number or instance name** property, include the instance name if there are multiple instances of Microsoft SQL Server.

To connect to a named instance, you must specify the instance name as a Java Database Connectivity (JDBC) URL property or a data source property. For example, you can type localhost\instance1. If no instance name property is specified, a connection to the default instance is created.

The properties specified for the named instance, along with the user ID and password, and database name, are used to create a JDBC URL. Here is an example:

jdbc:JSQLConnect://localhost\\instance1/user=sa/
more properties as required

To connect to a named instance, you must specify the instance name. For example, you can type localhost\instance1. If an instance name is not specified, a connection to the default instance is created.

- If you use an Oracle database, type the appropriate values for the **Database** server and port number and SID properties.
- If you use an advanced Oracle database, for the **Database specifier** property, type the Oracle Net8 keyword-value pair for the connection. Here is an example:

(description=(address=(host=myhost)(protocol=tcp)(port=1521) (connect\_data=(sid=(orcl)))))

When you select the advanced Oracle database, IBM Cognos BI uses enterprise-oriented Oracle features to select a listener, switch to another listener if the first listener fails, automatically reconnect to the database if the connection fails, balance connection requests among listeners, and balance connection requests among dispatchers.

- If you use an Informix database, type the appropriate values for the **Database server and port number** and **Database name** properties.
- If you use a Sybase database, type the appropriate values for the **Database** server and port number and **Database** name properties.
- 7. To configure logon credentials, specify a user ID and password:
- Click the Value box next to the User ID and password property and then click the edit icon when it appears.
- Type the appropriate values and click **OK**.
- 8. If you host more than one content store database on an Informix instance, create the advanced property CMSCRIPT\_CS\_ID and specify the account under which the instance runs:
  - In the **Explorer** window, click **Local Configuration**.
  - In the **Properties** window, click the **Value** column for **Advanced properties** and then click the edit icon.
  - In the Value Advanced properties dialog box, click Add.
  - In the Name column, type CMSCRIPT\_CS\_ID
  - In the **Value** column, type the user ID of the account under which the instance of the content store runs.

Use a different user account for each instance of Informix content store database.

9. From the File menu, click Save.

The logon credentials are immediately encrypted.

10. To test the connection between Content Manager and the content store database, from the **Actions** menu, click **Test**.

Content Manager connects to the database, checks the database permissions, and creates and populates a table. The table is not deleted and is used each time that the test is repeated.

#### Results

Content Manager can now create the required tables in the content store when you start the IBM Cognos service for the first time. If the connection properties are not specified correctly, you cannot start the IBM Cognos services.

# Configure Environment Properties for Content Manager Computers

The Content Manager computers must know the location of the content store, the other Content Manager computers, and the database that is used for notification.

After installing Content Manager on the computers you are using for failover protection, you must configure Content Manager on those computers. If you installed more than one Content Manager, you must list all Content Manager URIs on each Content Manager computer.

After you complete the required configuration tasks and start the IBM Cognos BI service, the certificate authority service is available to issue certificates to other computers. You can then perform the required configuration tasks on other computers, such as the Application Tier Components computer and gateway computers. Otherwise, you can continue to configure the Content Manager computers by changing the default property settings (see "Changing Default Configuration Settings" on page 218) so that they better suit your environment. For example, you can configure IBM Cognos BI components to use an authentication provider (see Chapter 15, "Configuring IBM Cognos Components to Use an Authentication Provider," on page 319), enable and disable services (see "Enable and Disable Services" on page 230) on the Content Manager computers, or change global settings (see "Changing Global Settings" on page 263).

Note that if you change global settings on one Content Manager computer, you must make the same changes on the other Content Manager computers.

## Configuring the active Content Manager

The Content Manager computers must know the location of the content store, the other Content Manager computers, and the database that is used for notification.

#### Procedure

1. On the Content Manager computer that you want to designate as the default active Content Manager, start IBM Cognos Configuration.

**Tip:** Use the computer with the highest processor speed for the default active Content Manager.

- 2. In the **Explorer** window, click **Environment**.
- **3.** In the **Properties** window, click the value for **Content Manager URIs** and then click the edit button.
- 4. Specify the URIs for the other Content Manager computers:
  - In the Value Content Manager URIs dialog box, click Add.
  - In the blank row of the table, click and then type the full URI of the Content Manager computer.

Do not delete the first value in the table. This value identifies the local Content Manager computer and is required.

Replace the localhost portion of the URI with a host name or IP address. All URI properties must use the the same format: all host names or all IP addresses.

- Repeat the previous two bulleted steps for each URI to be added. You must include all Content Manager URIs in the list.
- Click OK.
- 5. In the Explorer window, under Security, click Cryptography.
- 6. In the **Properties** window, under **CSK settings**, set **Store symmetric key locally** to **True**.
- 7. From the File menu, click Save.

### **Configuring standby Content Managers**

The Content Manager computers must know the location of the content store, the other Content Manager computers, and the database that is used for notification.

#### Procedure

- 1. Ensure that you already configured the Environment properties on at least one Content Manager computer and that IBM Cognos BI components are running on that computer.
- 2. On the standby Content Manager computer, start IBM Cognos Configuration.
- 3. In the Explorer window, click Environment.
- 4. In the **Properties** window, click the value for **Content Manager URIs**, and then click the edit button.
- 5. Specify the URIs for the other Content Manager computers:
  - In the Value Content Manager URIs dialog box, click Add.
  - In the blank row of the table, click and then type the full URI of the Content Manager computer.

Do not delete the first value in the table. This value identifies the local Content Manager computer and is required. Replace the localhost portion of the URI with a host name or IP address. All URI properties must use the the same format: all host names or all IP addresses.

• Repeat the previous two bulleted steps for each URI to be added.

You must include all Content Manager URIs in the list.

- Click OK.
- 6. In the **Explorer** window, under **Security** > **Cryptography**, click **Cognos**, the default cryptographic provider.
- 7. Ensure that all cryptographic settings match what you configured on the default active Content Manager computer.
- 8. In the Explorer window, under Data Access > Content Manager, click Content Store.
- **9**. Ensure that the values for all of the properties match what you configured on the default active Content Manager computer.
- 10. From the File menu, click Save.

## Specify a Connection to a Mail Server Account

If you want to send reports by email, you must configure a connection to a mail server account.

You must also change the host name portion of the Gateway URI from localhost to either the IP address of the computer or the computer name. Otherwise the URL in the email will contain localhost and remote users will not be able to open the report.

## Procedure

- 1. In the Explorer window, under Data Access, click Notification.
- 2. In the **Properties** window, for the **SMTP mail server** property, type the host name and port of your SMTP (outgoing) mail server.

**Tip:** To be able to open reports that are sent by email, you must change the host name portion of the Gateway URI from localhost to either the IP address of the computer or the computer name. Otherwise the URL in the email will contain localhost and remote users will not be able to open the report.

**Tip:** To be able to open reports that are sent as links, ensure that the Gateway URI on report servers and notification servers specifies an accessible Web server hosting IBM Cognos content. If you have mobile users accessing links remotely, consider using an external URI.

- **3**. Click the **Value** box next to the **Account and password** property and then click the edit button when it appears.
- 4. Type the appropriate values in the Value Account and password dialog box and then click OK.

**Tip:** If logon credentials are not required for the SMTP server, remove the default information for the **Account and password** property. When you are prompted for confirmation to leave this property blank, click . Ensure that the default user name has been removed. Otherwise, the default account is used and notifications will not work properly.

5. In the **Properties** window, type the appropriate value for the default sender account.

6. Test the mail server connections. In the **Explorer** window right-click **Notification** and click **Test**.

IBM Cognos Business Intelligence tests the mail server connection.

### Results

If you do not plan to send reports by email, or do not want to set up a mail server account immediately, you are not required. However, when you save the configuration and then you start the services in IBM Cognos Configuration, you will see a warning message when the mail server connection is tested. You can safely ignore the warning.

## Enable Security

By default, IBM Cognos Business Intelligence allows anonymous access. If you want to use security in your IBM Cognos BI environment, you must disable anonymous access and configure IBM Cognos BI to use an authentication provider.

## Procedure

- In the IBM Cognos Configuration Explorer window, click Security >Authentication > Cognos.
- 2. Click the Value box for Allow Anonymous Access, and select False.
- 3. Right-click Authentication, and click New Resource > Namespace.
- 4. In the Name box, type a name for your authentication namespace.
- 5. In the **Type** list, click the appropriate namespace type and then click **OK**. The new authentication provider resource appears in the **Explorer** window, under the **Authentication** component.
- 6. In the **Properties** window, for the **Namespace ID** property, specify a unique identifier for the namespace.
- 7. From the File menu, click Save.

## Verifying supported product versions in IBM Cognos Configuration

Use IBM Cognos Configuration to verify that IBM Cognos components are configured to use supported software, such as databases and authentication providers. IBM Cognos Configuration compares the configured version of the software against the supported versions of the software at the time of the release.

## Before you begin

To verify the software support, you must configure a connection to the software in IBM Cognos Configuration. For example, you must add the content store database connection before the version can be verified.

### Procedure

- 1. Start IBM Cognos Configuration.
- 2. Click Actions and then Check For Supported Software.
- 3. In the Select Items column, select the resource that you want to verify.
- 4. Click Next.

Software that is not supported is shown in the results.

If support for the software version could not be determined, go to the IBM Cognos Customer Center website (http://www.ibm.com/software/data/

cognos/customercenter/) to review the up-to-date list of environments supported by IBM Cognos products. An exact match not being found does not indicate that the software cannot be used with the version you have installed.

## Start Content Manager

After you have set the database connection properties for the content store, you can start the Content Manager computer.

## Before you begin

Ensure that user or service account is set up. For information, see "Configure a User Account or Network Service Account for IBM Cognos Business Intelligence" on page 51.

## Procedure

1. Start IBM Cognos Configuration.

If you are upgrading, a message appears indicating that configuration files were detected and upgraded to the new version.

- **2**. Ensure that you save your configuration, otherwise you cannot start the IBM Cognos service.
- 3. From the Actions menu, click Test.

IBM Cognos Configuration checks the common symmetric keys (CSK) availability, tests the namespace configuration, and tests the connections to the content store and logging database.

If you are using the notification database and the mail server, they are tested as well.

**Tip:** If **Test** is not available for selection, in the **Explorer** window, click **Local Configuration**.

4. If the test fails, reconfigure the affected properties and then test again. You can test some components individually by right-clicking the component in the **Explorer** panel and selecting **Test**.

Do not start the service until all tests pass.

5. From the Actions menu, click Start.

It may take a few minutes for the IBM Cognos service to start.

This action starts all installed services that are not running and registers the IBM Cognos service on Windows.

## **Test the Content Manager Installation**

You can test the installation using a Web browser.

## Procedure

- 1. Open a Web browser.
- 2. Test that Content Manager is running by typing the **Content Manager URIs** value from IBM Cognos Configuration. For example,

http://host\_name:port/p2pd/servlet

The default value for *host\_name:port* is localhost:9300.

The State value should be Running.

## Installing and Configuring Application Tier Components

You can install the Application Tier Components on different computers or on the same computer.

Perform the following tasks to install and configure the Application Tier Components:

- \_ Install the Application Tier Components
- Install Application Tier Components for IBM Cognos Metrics Manager, if required
- \_\_• Install fix packs, if available
- Set up database connectivity for the reporting database
- \_\_• Start IBM Cognos Configuration
- \_• Configure environment properties for Application Tier computers
- Start the Application Tier components
- Test the Application Tier components
- Create the metric store database
- \_• Set up the database client for the metric store, if required
- Create a metric package

## Install the Application Tier Components

You can install Application Tier Components on one or more computers, depending on your environment.

If you are upgrading from ReportNet or an earlier version of IBM Cognos BI, IBM Cognos BI uses the existing configuration data for the Application Tier Components computers. However, if you installed the Application Tier Components in a new location, you must configure the environment properties.

Ensure that the computer where you installed the active Content Manager is configured and available before you configure Application Tier Components computers.

### 64-bit Installations

The report server component, included with the Application Tier Components, is provided in both 32- and 64-bit versions. Selecting which version you use is done using IBM Cognos Configuration after installation. By default, the report server component is set to use the 32-bit mode, even on a 64-bit computer. The 32-bit mode allows you to run all reports, whereas the 64-bit mode allows you to run only reports created for dynamic query mode.

### Printer Requirements

To ensure that reports print properly on a Microsoft Windows operating system, Adobe Reader requires that you configure at least one printer on the operating system where Application Tier Components are installed. All reports, regardless of the print format that you choose, are sent as temporary PDF files to Adobe Reader for printing.

# Installing the Application Tier Components on UNIX or Linux operating systems

You can install Application Tier Components on one or more computers, depending on your environment.

## Procedure

- 1. If you are installing to a directory with other IBM Cognos BI components, stop the IBM Cognos service.
- **2**. Set the JAVA\_HOME environment variable to point to the installation location of your Java Runtime Environment (JRE).

An example of the installation location of a Java Runtime Environment is /directory/java/*java\_version*/jre.

IBM Cognos BI requires a JVM, such as the Java that is provided by IBM, to run on a Linux operating system.

If you are installing in a location with other IBM Cognos BI components, use the existing JAVA\_HOME environment variable.

 On HP-UX, set the \_M\_ARENA\_OPTS environment variable as follows: \_M\_ARENA\_OPTS 1:4

This increases the memory allocation for HP-UX to more closely match that of other UNIX operating systems.

4. On AIX, if you are using a servlet gateway, set the AIXTHREAD\_SCOPE environment variable as follows:

AIXTHREAD\_SCOPE=S

This sets the contention scope for user threads to system-wide, which supports more efficient scheduling of user threads.

- 5. If installing from a download, go to the location where the installation files were downloaded and extracted.
- **6**. If installing from a disk, mount the disk using Rock Ridge file extensions. To mount the disk on HP-UX, do the following:
  - Add the pfs\_mount directory in your path.

For example,

PATH=/usr/sbin/:\$PATH

export PATH

- To start the required NFS daemons and run the daemons in the background, type bg pfs\_mountd and then type bg pfsd
- To mount the drive, type

pfs\_mount -t rrip <device><mount\_dir> -o xlat=unix
For example,

pfs\_mount /dev/dsk/c0t2d0 /cdrom -o xlat=unix

You can now install or copy files as a non-root user using an IBM Cognos disk from this drive.

- When the installation is complete, type pfs\_umount /cdrom and kill the pfsd and pfs\_mountd daemons to unmount the disk.
- **7.** To start the installation wizard, go to the operating system directory and then type

./issetup

**Note:** When you use the issetup command with XWindows, Japanese characters in messages and log files may be corrupted. When installing in

Japanese on UNIX or Linux, first set environment variables LANG=C and LC\_ALL=C (where C is the language code, for example ja\_JP.PCK on Solaris), and then start the installation wizard.

If you do not use XWindows, run an unattended installation (see "Use a response file from an installation on another computer" on page 392).

- **8**. Follow the directions in the installation wizard and copy the required files to your computer.
  - When selecting the directory, consider the following:

Install Application Tier Components in a directory that contains only ASCII characters in the path name. Some UNIX and Linux Web servers do not support non-ASCII characters in directory names.

- When selecting components, clear all components except **Application Tier Components**.
- 9. In the Finish page of the installation wizard, do the following:
  - If you want to see the log files, click View for the appropriate log file.
  - If you want to see late-breaking information about the product, select the check box for IBM Cognos Release Notes.
  - Do not configure IBM Cognos BI immediately because you must do other tasks first to ensure that your environment is properly set up. Ensure that the IBM Cognos Configuration check box is clear.

You can later configure IBM Cognos BI using IBM Cognos Configuration by typing cogconfig.sh in the *c10\_location*/bin64 directory.

- Click Finish.
- 10. Append the *c10\_location*/bin64 directory to the appropriate library path environment variable.
  - For Solaris and Linux, LD\_LIBRARY\_PATH
  - For AIX, LIBPATH
  - For HP-UX, SHLIB\_PATH
- 11. On Linux, set the PRINTER environment variable to the name of your printer.

# Installing the Application Tier Components on Windows operating system

You can install Application Tier Components on one or more computers, depending on your environment.

For Windows Vista, Windows 7, or Windows 2008 computers, the default installation location uses the Program Files (x86) directory. If you install to this location, ensure that you run IBM Cognos Configuration as an Administrator. Alternatively, you can install the product outside of the Program Files (x86) directory. For example, you can change the installation directory to something like C:\IBM\cognos\c10.

#### Procedure

- 1. If you are installing to a directory with other IBM Cognos BI components, stop the IBM Cognos service.
- 2. Do one of the following:
  - Insert the IBM Cognos product disk. If the installation wizard does not open automatically, go to the operating system directory, and double-click issetup.exe.
  - Go to the location where the installation files were downloaded and extracted and then double-click issetup.exe.

**3**. Select the language to use for the installation.

The language that you select determines the language of the user interface. All supported languages are installed. You can change the user interface to any of the installed languages after installation.

- 4. Follow the directions in the installation wizard and copy the required files to your computer.
  - When selecting the directory, consider the following:

Install Application Tier Components in a directory that contains only ASCII characters in the path name. Some Web servers do not support non-ASCII characters in directory names.

- When selecting components, clear all components except **Application Tier Components**.
- 5. In the Finish page of the installation wizard, do the following:
  - If you want to see the log files, click **View** for the appropriate log file.
  - If you want to see late-breaking information about the product, select the check box for IBM Cognos Release Notes.
  - Do not configure IBM Cognos BI immediately because you must do other tasks first to ensure that your environment is properly set up. Ensure that the IBM Cognos Configuration check box is clear.

You can later configure IBM Cognos BI using the Windows **Start** menu to start **IBM Cognos Configuration** from the shortcut folder.

• Click Finish.

## Install Application Tier Components for IBM Cognos Metrics Manager

If you are installing IBM Cognos Metrics Manager with the IBM Cognos BI server and you want to share resources, you must install the Application Tier Components for IBM Cognos Metrics Manager in the same location as the Application Tier Components for the IBM Cognos BI server. If you want your scorecarding product to operate independently of the IBM Cognos BI server, install the Application Tier Components for IBM Cognos Metrics Manager in a different location from the Application Tier Components for the IBM Cognos BI server.

You may also want to install Metric Designer (see "Installing and Configuring Metric Designer" on page 184).

## Installing fix packs

IBM provides interim maintenance packages that contain updates to one or more components in your IBM Cognos product. If a fix pack is available when you are installing or upgrading your product, you must install it after you install the IBM Cognos components.

If a fix pack becomes available after your IBM Cognos product has been deployed, you must stop the service, install the fix pack in the same location as the IBM Cognos components, and then start the service.

Fix packs are cumulative. When you install the latest fix pack, it includes updates from all the previous fix packs. Fix packs are available for download from IBM Support at http://www.ibm.com/support/us/en/.

**Note:** Fix packs are not standalone installations. You must install them on computers that have IBM Cognos components installed. Install the fix packs that

are appropriate for your product version. To check your version, open the component list file at *c10\_location*\cmplst.txt and check the line that starts with C8BISRVR\_version=.

### Installing Fix Packs on Windows operating systems

Fix packs are product updates that contain cumulative code fixes that were made since the last release of the product. IBMCognos fix packs are installed in the same location as the existing product.

## Before you begin

Ensure that you do the following tasks before installing a Fix Pack.

- If the IBM Cognos service is running, stop it.
- Back up the directory structure.
- Back up the content store database
- Back up any files that you manually edited.

#### Procedure

- 1. Insert the fix pack disk for the Windows operating system or go to the location where you downloaded and extracted the files, and double-click the issetup.exe file.
- **2**. Follow the directions in the installation wizard to install the fix pack files to the same location as the existing IBM Cognos components.
- **3.** If required, update the new installation files with any changes from the backup copies of your customized files.

To prevent errors, before copying the customized files, compare both versions of the files. This validation determines whether you can replace the file.

- 4. Return the deployed IBM Cognos product to service.
  - If you are using Tomcat, open IBM Cognos Configuration, save the configuration, and then start the IBM Cognos service.
  - If you are running the IBM Cognos product on an application server other than Tomcat, redeploy the IBM Cognos product to the application server.
- 5. If you have a distributed environment, repeat these steps for all remaining IBM Cognos servers.

# Installing IBM Cognos fix packs on UNIX or Linux operating systems

Fix packs are product updates that contain cumulative code fixes that were made since the last release of the product. IBM Cognos fix packs are installed in the same location as the existing product.

### Before you begin

Ensure that you do the following tasks before installing a Fix Pack.

- If the IBM Cognos service is running, stop it.
- Back up the directory structure.
- Back up the content store database
- Back up any files that you manually edited.

#### Procedure

1. Go to the location where the installation files are downloaded, or insert the disc if you have one.

- To start the installation wizard, type the following command
   ./issetup
- **3**. Follow the directions in the installation wizard to install the fix pack files to the same location as the existing IBM Cognos components.
- 4. If required, update the new installation files with any changes from the backup copies of your customized files.

To prevent errors, before copying the customized files, compare both versions of the files. This validation determines whether you can replace the file.

- 5. Return the deployed IBM Cognos product to service.
  - If you are using Tomcat, open IBM Cognos Configuration, save the configuration, and then start the IBM Cognos service.
  - If you are running the IBM Cognos product on an application server other than Tomcat, redeploy the IBM Cognos product to the application server.
- 6. If you have a distributed environment, repeat these steps for all remaining IBM Cognos servers.

## Set up database connectivity for reporting databases

To support communication between IBM Cognos Business Intelligence and the data sources, you must install additional software for your data sources on the same computer that hosts the report server. Depending on the data source and query mode, the required software might include database clients, or Java Database Connectivity (JDBC) driver files, or both.

For IBM Cognos Business Intelligence, the query database (also known as the reporting database) is only accessed by the reporting engine that runs reports. The reporting engine is installed with Application Tier Components and is also used by Framework Manager, Metric Designer, and IBM Cognos Transformer.

## Compatible query mode

To run reports that use the compatible query mode, you must use 32-bit data source client libraries and configure the report server to be 32-bit. The compatible query mode uses native client and ODBC connections to communicate with data sources.

If the data source is 64-bit, ensure that you use the 32-bit client libraries to connect to the data source to use the compatibility query mode.

## Dynamic query mode

Dynamic query mode provides communication to data sources using Java/XMLA connections.

For supported relational databases, a type 4 JDBC connection is required. A type 4 JDBC driver converts JDBC calls directly into the vendor-specific database protocol. It is written in pure Java and is platform-independent.

For supported OLAP data sources, Java/XMLA connectivity optimizes access by providing customized and enhanced MDX for the specific source and version of your OLAP technology and it harnesses the smarts of the OLAP data source.

You can use the dynamic query mode with the following OLAP data sources:

• IBM Cognos TM1

- SAP Business Information Warehouse (SAP BW)
- Oracle Essbase
- Microsoft Analysis Services

You can use the dynamic query mode for OLAP over relational (dimensionally-modeled relational) models with the following relational data sources:

- IBM DB2
- IBM DB2 for z/OS
- Oracle
- Microsoft SQL Server
- Teradata
- Netezza

For more information about the dynamic query mode, including installing the drivers, see the *IBM Cognos Business Intelligence Dynamic Query Guide*.

To review a list of environments supported by the IBM Cognos Business Intelligence, including the data source versions supported by the dynamic query mode, see http://www.ibm.com/support/docview.wss?uid=swg27019126.

## Access OLAP data sources on Windows operating systems

To access the relational databases and OLAP data sources for reporting, you must install the client API software that is provided by your data source vendor. The software must be installed on the same computer where the Application Tier Components are installed.

#### Procedure

1. Install the database API software for your relational databases and OLAP data sources on the computer that hosts the report server (where Application Tier Components are installed).

On MicrosoftWindows operating systems, the reporting engine supports either native database connectivity or ODBC.

2. If Framework Manager is installed in a separate location from the Application Tier Components, you must also install the client API software on the computer where Framework Manager is installed. For more information, see "Set variables for data source connections for Framework Manager" on page 180.

### Access ODBC data sources on UNIX or Linux operating systems

To use an ODBC data source on UNIX or Linux to connect to a supported data source, you must configure the environment to locate the .odbc.ini file which contains the references to data source, the connectivity libraries, and their accompanying Driver Manager libraries.

To review supported ODBC data sources, see the Supported Environments link at the IBM Cognos Resource Center (http://www.ibm.com/software/data/support/cognos\_crc.html).

After configuring for the ODBC connections, you must create connections to the data sources in IBM Cognos Administration. For information, see the *IBM Cognos Administration and Security Guide*.

If your database vendor does not supply a driver manager, you can use unixODBC or iODBC, depending on your operating system.

On Linux operating systems, the unixODBC package provided with the operating system provides the ODBC Driver Manager. You must install unixODBC version 2.2.11 or later before you can set up data source connections. To verify the version you have installed, use the following command: odbcinst --version. Check which version of unixODBC is required for the database you are using, and ensure you use that version.

On UNIX operating systems, the open source iODBC driver manager is provided as part of the IBM Cognos installation.

#### Procedure

 Create an environment variable to specify the location of the .odbc.ini file. For example,

export ODBCINI=/usr/local/etc/.odbc.ini

2. Set the appropriate library path environment variable to specify the location of the connectivity libraries and Driver Manager for your database.

The following table lists the environment variables for each operating system that must specify the location of the driver manager libraries.

Table 28. Environment variables for your operating system

Operating system	Environment variable
AIX	LIBPATH
Solaris and Linux	LD_LIBRARY_PATH
HP-UX	SHLIB_PATH

- **3.** If your database vendor does not provide a driver manager, set the library path to include the path the local driver manager.
  - On UNIX, iODBC is provided as part of the IBM Cognos installation. The library files are located in the *c10\_location*/bin directory. Your library path should already contain the *c10\_location*/bin directory.

For example,

LIBPATH=/usr/IBM/cognos/bin:\$LIBPATH

• On Linux, the unixODBC package provides the required driver manager libraries.

For example,

LD\_LIBRARY\_PATH=/usr/lib:\$LD\_LIBRARY\_PATH

#### What to do next

If you are using multiple ODBC sources on UNIX or Linux operating systems, you may encounter dependencies of library files with common names but different implementations for both the connectivity and the driver manager. In a scenario where one ODBC source validates while another fails based on a dependency, please contact Customer Support. Using a common .odbc.ini may result in having incompatible entries for different driver managers. To resolve the problem, review the structure requirements between the driver managers you are using and try to use syntax that is common between the conflicting driver managers.

# Configure IBM Cognos Business Intelligence to use Oracle Essbase

If you use IBM Cognos Business Intelligence with an Oracle Essbase data source version 11.1.1, you must edit a configuration file to inform the IBM Cognos BI server of your version.

By default, IBM Cognos BI is configured to use Oracle Essbase version 11.1.2. Therefore, no configuration is required if you use this version. If you use another supported version of Oracle Essbase, you must edit the qfs.config.xml file for your version.

In addition, if you use Oracle Essbase version 11.1.2, you must install Oracle Foundation Services as well as the Oracle Essbase client.

### Procedure

- 1. Go to the *c10\_location*/configuration directory.
- 2. Open the qfs\_config.xml file in an xml or text editor.
- **3**. Locate the following lines:

<!--provider name="DB20lap0DP" libraryName="essodp111" connectionCode="D0"-->
<provider name="DB20lap0DP" libraryName="essodp1112" connectionCode="D0">

4. For Oracle Essbase 11.1.1, change them as follows:

<provider name="DB20lap0DP" libraryName="essodp111" connectionCode="D0">
<!--provider name="DB20lap0DP" libraryName="essodp1112" connectionCode="D0"-->

5. For Oracle Essbase 11.1.2, ensure that the lines appear as follows:

<!--provider name="DB20lap0DP" libraryName="essodp111" connectionCode="D0"-->
<provider name="DB20lap0DP" libraryName="essodp1112" connectionCode="D0">

6. Save the file and restart the IBM Cognos service

# Using Oracle Essbase on a UNIX or 64-bit Microsoft Windows operating systems

If you use an Oracle Essbase version 11.1.2 data source with IBM Cognos Business Intelligence on a UNIX or 64-bit Microsoft Windows operating system, you must manually configure the ARBORPATH and ESSBASEPATH environment variables.

During the Oracle Essbase client installation, the two environment variables ARBORPATH and ESSBASEPATH are created. IBM Cognos BI uses these variables to find the Oracle Essbase client location.

If you use Oracle Essbase version 11.1.2 with IBM Cognos BI on a UNIX or 64-bit Microsoft Windows operating system, you must install the 64-bit Essbase client provided by Oracle. This 64-bit client includes a 32-bit client that IBM Cognos BI uses. To point to this 32-bit client, you must manually change the ARBORPATH and ESSBASEPATH environment variables to replace EssbaseClient with EssbaseClient-32, as follows:

ARBORPATH=C:\Hyperion\EPMSystem11R1\products\Essbase\EssbaseClient-32 ESSBASEPATH=C:\Hyperion\EPMSystem11R1\products\Essbase\EssbaseClient-32

If you use a 32-bit Microsoft Windows operating system with a 32-bit Oracle Essbase client, no configuration is required for these environment variables.

# **Start IBM Cognos Configuration**

Use IBM Cognos Configuration to configure IBM Cognos Business Intelligence components and to start and stop IBM Cognos services if you are using the default Tomcat servlet container.

## Before you begin

Before starting IBM Cognos Configuration, ensure that the operating environment is properly set up. For example, ensure that all environment variables have been set.

On a Microsoft Windows operating system, you can start IBM Cognos Configuration in the last page of the installation wizard only if additional setup is not required. For example, if you use a database server other than Microsoft SQL or Cognos Content Database for the content store, copy the Java Database Connectivity (JDBC) drivers to the appropriate location before you start the configuration tool.

On UNIX or Linux operating systems, do not start IBM Cognos Configuration in the last page of the installation wizard. Additional setup is required before you can configure IBM Cognos BI. For example, you must update your Java environment.

Ensure that user or service account used to run IBM Cognos has been set up.

## Procedure

 On Microsoft Windows, from the Start menu, click Programs > IBM Cognos 10 > IBM Cognos Configuration

If you are using a Windows Vista, Windows 7, or Windows 2008 computer, and have installed the product to the Program Files (x86) directory, start IBM Cognos Configuration as an Administrator.

2. On UNIX or Linux operating systems, go to the *c10\_location*/bin64 directory and then type the following command:

./cogconfig.sh

If IBM Cognos Configuration does not open, ensure that you set the DISPLAY environment variable.

If you see a JAVA.Lang.unsatisfied link message, verify that you are using a supported version of Java.

If you see a Java.lang.unsupportedClassVersionError message, ensure that you are using a 64-bit version of Java.

# Configure Environment Properties for Application Tier Components Computers

If you install the Application Tier Components component on a different computer than Content Manager, you must configure the Application Tier Components computer so that it knows the location of Content Manager. The distributed components can then communicate with each other.

The Application Tier Components computer must know the location of the Content Manager computers and the notification database to use for job and schedule information. The Application Tier Components computer must use the same notification database that the Content Manager computers use. For more information, see "Change the notification database" on page 241.

If you installed more than one Content Manager, you must list all Content Manager URIs on each Application Tier Components computer.

## Procedure

- 1. Start IBM Cognos Configuration.
- 2. In the Explorer window, click Environment.
- 3. In the **Properties** window, change the **localhost** portion of the **Content Manager URIs** property to the name of any Content Manager computer.
- 4. Specify the URIs for the remaining Content Manager computers:
  - In the Value Content Manager URIs dialog box, click Add.
  - In the blank row of the table, click and then type the full URI of the Content Manager computer.

Replace the localhost portion of the URI with a host name or IP address. All URI properties must use the same format: all host names or all IP addresses.

- Repeat the previous two bulleted steps for each URI to be added. You must include all Content Manager URIs in the list.
- Click OK.
- 5. Change the **localhost** portion of the **Gateway URI** property to the name of the computer on which you plan to install the gateway component.

This will ensure that users in different locations can connect to reports and workspaces that are sent by email.

- 6. Change the **localhost** portion of the remaining URI properties to the name or IP address of your IBM Cognos BI server.
- In the Explorer window, under Security > Cryptography, click Cognos, the default cryptographic provider.
- 8. Under the **Certificate Authority settings** property group, set the **Password** property to match what you configured on the default active Content Manager computer.
- **9**. Ensure that all other cryptographic settings match what you set on the default active Content Manager computer.
- 10. From the File menu, click Save.

# Configure a Metrics Manager only Application Tier Components instance

If you are installing the Metrics Manager Application Tier Components in a separate instance from your BI Application Tier Components, you can disable many of the common services on your Metrics Manager Application Tier Components instance.

For example, you have installed Content Manager as a separate instance, and have installed the reporting Application Tier Components in another instance. If you add a Metrics Manager Application Tier Components instance, you do not need to duplicate all of the services required for the reporting Application Tier Components.



Figure 10. Metrics Manager Application Tier Components instance with BI components

### Procedure

- 1. For the instance where you have only the Metrics Manager Application Tier Components installed, open IBM Cognos Configuration.
- 2. In the Explorer window, under Local Configuration > Environment, click IBM Cognos service.
- 3. Set the following services to True:
  - Data integration service
  - Delivery service
  - Dispatcher service
  - Metadata service
  - Metric Manager service

The remaining services can be set to False.

4. Save your settings, and restart the services for this instance.

## Enable the 64-bit version of report server

In a 64-bit installation, the report server component is provided in both 32-bit and 64-bit versions. The default option is 32-bit. If you want to use the 64-bit version you must enable it using IBM Cognos Configuration.

The 64-bit version of report server is intended for use with packaged with dynamic query mode enabled. For packages that do not use dynamic query mode, you must also have a server installed with the report server running in 32-bit mode.

To enable the 64-bit version, you must have installed the 64-bit version of the Application Tier Components on a 64-bit computer. If you have installed the 32-bit version of the Application Tier Components or are using a 32-bit computer, do not change the report server mode to 64-bit.

### Procedure

- 1. In the IBM Cognos Configuration Explorer window, click Environment.
- 2. Click the Value box for Report server execution mode, and select 64-bit.
- **3**. From the **File** menu, click **Save**.

# Verifying supported product versions in IBM Cognos Configuration

Use IBM Cognos Configuration to verify that IBM Cognos components are configured to use supported software, such as databases and authentication providers. IBM Cognos Configuration compares the configured version of the software against the supported versions of the software at the time of the release.

## Before you begin

To verify the software support, you must configure a connection to the software in IBM Cognos Configuration. For example, you must add the content store database connection before the version can be verified.

### Procedure

- 1. Start IBM Cognos Configuration.
- 2. Click Actions and then Check For Supported Software.
- 3. In the Select Items column, select the resource that you want to verify.
- 4. Click Next.

Software that is not supported is shown in the results.

If support for the software version could not be determined, go to the IBM Cognos Customer Center website (http://www.ibm.com/software/data/ cognos/customercenter/) to review the up-to-date list of environments supported by IBM Cognos products. An exact match not being found does not indicate that the software cannot be used with the version you have installed.

## Start the Application Tier Components

After you have configured the environment properties, you can start the services on the Application Tier Components computer.

## Before you begin

To use IBM Cognos BI for reporting, you must install and configure the server components, start the IBM Cognos service, and have a package that references an available data source. Note that if you are upgrading, you can continue to use the same data sources.

Ensure that user or service account is set up. For information, see "Configure a User Account or Network Service Account for IBM Cognos Business Intelligence" on page 51.

### Procedure

1. Start IBM Cognos Configuration.

If you are upgrading, a message appears indicating that configuration files were detected and upgraded to the new version.

- **2.** Ensure that you save your configuration, otherwise you cannot start the IBM Cognos service.
- 3. From the Actions menu, click Test.

IBM Cognos Configuration checks the common symmetric keys (CSK) availability, tests the namespace configuration, and tests the connections to the content store and logging database.

If you are using the notification database and the mail server, they are tested as well.

**Tip:** If **Test** is not available for selection, in the **Explorer** window, click **Local Configuration**.

4. If the test fails, reconfigure the affected properties and then test again.

You can test some components individually by right-clicking the component in the **Explorer** panel and selecting **Test**.

Do not start the service until all tests pass.

5. From the **Actions** menu, click **Start**.

It may take a few minutes for the IBM Cognos service to start. This action starts all installed services that are not running and registers the IBM Cognos service on Windows.

## Test the Application Tier Components

You can test the installation using a Web browser.

### Procedure

- 1. Open a Web browser.
- **2**. Test the availability of the dispatcher by typing the **External dispatcher URI** value from IBM Cognos Configuration. For example,

http://host\_name:port/p2pd/servlet

If the response includes the string State: Running, the dispatcher is available.

## Creating a metric store database

You must create a metric store database using Oracle, Microsoft SQL Server, or DB2.

A metric store is a database that contains content for metric packages. A metric store also contains scorecarding application settings, such as user preferences. Although you run the command to create the metric store from the location where the Application Tier Components are installed, you can specify a different location for the metric store in the command parameters. If the metric store is on a different computer from the Application Tier Components, you must create an alias to the metric store in the Application Tier Components location.

You cannot use Cognos Content Database as a metric store database.

Your database administrator must back up IBM Cognos Business Intelligence databases regularly because they contain the IBM Cognos data. To ensure the security and integrity of databases, it is also important to protect them from unauthorized or inappropriate access.

## Create a metric store database in IBM DB2

Use this procedure to create a metric store using an IBM DB2 database.

#### Procedure

 In the Application Tier Components location, in the c10\_location/ configuration/schemas/cmm/db2 directory, run the cmm\_create\_db.cmd script by typing the following command:

On a Microsoft Windows operating system, type

cmm\_create\_db dbinstance user\_name password dbname drive dbalias

On a UNIX operating system, type

 $\verb|cmm_create_db.sh| \textit{dbinstance} \textit{user_name} \textit{password} \textit{dbname} \textit{path} \textit{dbalias}$ 

Use the values from the following table in your command.

Value	Setting		
dbinstance	The DB2 instance name where the database will be created.		
user_name	The user ID with permissions to create the database. The user ID must have SYSADM or SYSCTRL privileges, and must have DBADM privileges to create the schema.		
password	The password for the <i>user_name</i> value.		
dbname	The name of the database that will be created. The name must have a maximum of 8 characters, and it cannot start with a number.		
drive/path	On Windows, the drive on which the database objects will be created. For example, C. On UNIX, the path where the database objects will be created.		
dbalias	The database alias name. This value is optional.		

Table 29. Values for cmm\_create\_db script

**Note:** Your database administrator can review the scripts to ensure they suit your environment. The initializedb.db2 script is invoked by the cmm create db.cmd script and defines the buffer pools and tablespaces.

2. Determine which user account IBM Cognos Metrics Manager will use to access the database.

The user account must have the following privileges.

- CREATETAB
- BINDADD
- CONNECT
- IMPLICIT\_SCHEMA
- LOAD

### Create a metric store database in Microsoft SQL Server

Use this procedure to create a metric store using a Microsoft SQL Server database.

#### Procedure

1. Determine which user account IBM Cognos Metrics Manager will use to access the database.

This information is one of the parameters you can use when you run the command to create the database. The user account must be the database owner (dbo) or aliased to the database owner.

 In the Application Tier Components location, in the c10\_location/ configuration/schemas/cmm/sqlserver directory, run the cmm\_create\_db.cmd script by typing the following command:

path\_to\_script cmm\_create\_db host\_name database\_name user\_name password
[user\_to\_create]

Use the values from the following table in your command.

Table 30	Values	for	cmm	create	dh	scrint
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Value	Setting	
host_name	The name of the computer where the database will be created.	
	If there are multiple instances of Microsoft SQL Server, specify <i>host_name\instance_name</i> .	
database_name	The name of the database that will be created.	
user_name	The user ID with permissions to create the database. The user ID must have permission to create the database, such as the sa user. The user ID must also have a defailanguage of English.	
password	The password for the <i>username</i> .	
user_to_create	The user created by the script and given database owner permissions. This value is optional.	

## Create an metric store database in Oracle

Use this procedure to create a metric store using a new Oracle database.

#### Procedure

- 1. Ensure that you are logged into the Oracle server as a user that is a member of the ORA\_DBA user group on Windows or the dba group on UNIX.
- 2. Set the NLS\_LANG (National Language Support) environment variable to the UTF-8 character set on the metric store computer by typing the following command:

NLS\_LANG = language\_territory.character\_set

Examples are:

- NLS\_LANG = AMERICAN\_AMERICA.UTF8
- NLS\_LANG = JAPANESE\_JAPAN.UTF8

The value of the variable determines the locale-dependent behavior of IBM Cognos BI. Error messages, sort order, date, time, monetary, numeric, and calendar conventions automatically adapt to the native language and locale.

**3**. Determine which user account IBM Cognos Metrics Manager will use to access the database.

This information is one of the parameters you can use when you run the command to create the database. You must use a valid Oracle database username with the following permissions granted:

- CREATE TABLE, CREATE VIEW, CREATE PROCEDURE, CREATE TRIGGER, CREATE TYPE, CREATE SEQUENCE, and CREATE SESSION
- EXECUTE on DBMS\_LOCK and DBMS\_UTILITY packages

The CREATE TABLE and CREATE TRIGGER permissions must be granted directly to the user account rather than to a role.

You must grant these permissions only. If you grant fewer or more privileges, the metric store will not initialize.

4. In the Application Tier Components location, in the c10\_location/ configuration/schemas/cmm/oracle directory, run the cmm\_create\_db.cmd script by typing the following command:

path\_to\_script cmm\_create\_db sid path database\_version [user\_to\_create]
Use the values from the following table in your command.

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	values	101	CIIIII	create	uυ	SCHPL

Value	Setting
path_to_script	The path to the script. For example, <i>c10_location</i> /configuration/schemas/cmm/ oracle
sid	The SID for the new database that will be created.
path	The path where the data files will be created.
database_version	The version of Oracle software that is installed. For example, oracle9 or oracle10.
user_to_create	The user created by the script and given database owner permissions. This value is optional.

# Create a metric store database in Oracle using an existing database

Use this procedure to create a metric store using an existing Oracle database.

### Procedure

- 1. Ensure that you are logged into the Oracle server as a user that is a member of the ORA\_DBA user group on Windows or the dba group on UNIX.
- 2. Set the NLS\_LANG (National Language Support) environment variable to the UTF-8 character set on the metric store computer by typing the following command:

NLS\_LANG = language\_territory.character\_set

Examples are:

- NLS\_LANG = AMERICAN\_AMERICA.UTF8
- NLS\_LANG = JAPANESE\_JAPAN.UTF8

The value of the variable determines the locale-dependent behavior of IBM Cognos BI. Error messages, sort order, date, time, monetary, numeric, and calendar conventions automatically adapt to the native language and locale.

- **3**. Determine which user account IBM Cognos Metrics Manager will use to access the database. You must use a valid Oracle database username with the following permissions granted:
  - CREATE TABLE, CREATE VIEW, CREATE PROCEDURE, CREATE TRIGGER, CREATE TYPE, CREATE SEQUENCE, and CREATE SESSION
  - EXECUTE on DBMS\_LOCK and DBMS\_UTILITY packages.

The CREATE TABLE and CREATE TRIGGER permissions must be granted directly to the user account rather than to a role.

You must grant these permissions only. If you grant fewer or more privileges, the metric store will not initialize.

4. Determine if the database is Unicode.

Tip: One method is to type the following select statement:

select \* from NLS\_DATABASE\_PARAMETERS

If the result set returns an NLS\_CHARACTERSET that is not Unicode, create a new database and specify AL32UTF8 for the database character set parameters. The cmm\_create\_db.cmd script mentioned in "Create a metric store database in IBM DB2" on page 106 creates a database with AL32UTF8 character encoding.

## Manually define the deployment location for Metric Studio

If you are using IBM Cognos Metrics Manager in a distributed installation, you must manually define a deployment location for Metric Studio.

You must manually define a deployment location for Metric Studio in the following situations:

- · if you installed more than one metric server
- if your metric server is separate from Content Manager

If you have just one metric server and it is on the same computer as Content Manager, IBM Cognos Metrics Manager is automatically configured with a deployment location.

Examples where a deployment location does not need to be manually defined

- single server with Content Manager + Application Tier Components + Gateway
- multiple servers, where Server A = Content Manager + Application Tier Components

Server B = Gateway

Examples where a deployment location must be manually defined

- multiple servers, where Server A = Content Manager Server B = Application Tier Components Server C = Gateway
- multiple servers, where Server A = Content Manager + Application Tier Components

Server B = Application Tier Components

Server C = Application Tier Components

Server D = Gateway

The deployment location must be defined on every metric server computer (where Application Tier Components are installed).

**Important:** Create just one deployment location folder. The deployment location is selected when a metric package is created. The same deployment location must be used for every metric package. If the deployment location file contains multiple deployment locations, then to avoid the potential for errors, delete all but one location.

## Before you begin

Before you define the deployment location for Metric Studio, create a shared folder that will serve as the deployment location. The folder must be accessible to all of the metric server computers.

## Procedure

- On the metric server computer where the Application Tier Components are installed, go to c10\_location/configuration directory, and open deployment\_locations.xml in a text editor.
- 2. Select the applicable section:
  - On UNIX or Linux operating systems, select:

<DeploymentLocation> <name>Unix Mount</name> <value>/mount/deployment</value> </DeploymentLocation>

• On Windows operating systems, select:

<DeploymentLocation> <name>windows share</name> <value>\\winserver\deployment location</value> </DeploymentLocation>

**3**. Copy the selected section after the line:

DELETE this line to remove the xml comment tag -->

- 4. Set the deployment location value:
  - On UNIX or Linux operating systems, replace /mount/deployment with the NFS mounted path to the shared folder.
  - On Windows operating systems, replace \\winserver\deployment location with the UNC path to the shared folder.

If IBM Cognos BI is deployed to an application server other than Tomcat, ensure that the location is an absolute path.

5. Save and close the file.

## Setting up the database client for the Metric Store

If you are using a database other than Microsoft SQL as a metric store, you must install database client software and Java Database Connectivity (JDBC) drivers on each computer where you install the Application Tier Components for Cognos Metrics Manager. Doing this allows Application Tier Components to access the metric store database.

## Set up the database client for an IBM DB2 metric store

Use this procedure to setup the database client for an IBM DB2 metric store.

### Procedure

- 1. Install the IBM DB2 client software on the Application Tier Components computer.
- If the metric store is on a different computer from the Application Tier Components, configure a database alias to the metric store by running the IBM DB2 Client Configuration Assistant.

On a UNIX or Linux operating system, use the IBM DB2 command line interface.

**Note:** If the metric store database and the Application Tier Components are on the same computer, the metric store name automatically becomes the alias.

- 3. Copy the following files from *DB2\_installation*/sqllib/java directory to the *c10\_location*/webapps/p2pd/WEB-INF/lib directory.
  - the universal driver file, db2jcc.jar
  - the license file, db2jcc\_license\_cu.jar

Tip: To check the driver version, run the following command: java -cp *path*\db2jcc.jar com.ibm.db2.jcc.DB2Jjcc -version If the directory contains a db2java.jar or db2java.zip file, delete the file.

## Set up the database client for an Oracle metric store

Use this procedure to setup the database client for an Oracle metric store.

#### Procedure

1. If you are using a 64-bit installation, install a 64-bit Oracle client.

Note: If you are using Oracle 11g, you must also install a 32-bit client.

- On the computer where the Oracle client is installed, go to the ORACLE\_HOME/jdbc/lib directory.
- **3.** Copy ojdbc5.jar to the *c10\_location*/webapps/p2pd/WEB-INF/lib directory on the computer where Application Tier Components are installed.

**Note:** Ensure you copy the jar file from the 64-bit client if you have installed the 64-bit Metrics Manager.

The driver is available from an Oracle client or server installation, and can also be downloaded from the Oracle Web site.

4. Install the SQL Loader utility on the computer where Application Tier Components are installed.

# Set up the database client for a Microsoft SQL Server metric store

Use this procedure to setup the database client for a Microsoft SQL Server metric store.

#### Procedure

- 1. Install the bcp utility on every Windows computer where Application Tier Components for IBM Cognos Metrics Manager are installed.
- 2. Add the location of the bcp utility to the path environment variable.

## Create a metric package

Before users can use Metric Studio, you must create at least one metric package using the New Metric Package wizard. A metric package is an IBM Cognos Connection representation of a Metric Studio application. A metric package contains connection information, reports, and metric management tasks for that application. The metric package content is stored in a metric store.

You open the New Metric Package wizard from the toolbar in IBM Cognos Connection. Use the wizard to define the metric package name and the data source connection to the metric store. For a new metric store, you also provide the information necessary to initialize the database, including the start and end dates of the fiscal year.

## Before you begin

To create metric packages, you must have execute permissions for the Metric Studio Administration secured feature and traverse permission for the Administration secured function.

## Procedure



- 1. In IBM Cognos Connection, click the New metric package button
- **2**. Type a name and description for the Metric Studio application to represent this metric package, and click **Next**.
- 3. Click New data source.
- 4. Type a name and description for the data source connection for the metric store that contains the content for this metric package, and click **Next**.
- 5. In the **Type** box, click the database type.
- 6. Select the isolation level, and click Next.
- 7. Specify the information required for your database type.
  - If you are using a Microsoft SQL Server database:
    - a. Enter the name of the database server. For example, server\_name or server\_name\instance\_name if there are multiple instances of Microsoft SQL Server. If you are not using the default port number 1433, use server\_name,port.
    - b. Type the database name.
    - c. Select Signons.
    - d. Select the **Password** and **Create a signon that the Everyone group can use** check boxes, and type the user ID and password of the user account with access to the database.

The user account must have the default language set to English.

- If you are using an Oracle database:
  - a. Enter the connection string.
  - b. Select User ID.
  - c. Select the **Password** and **Create a signon that the Everyone group can use** check boxes, and type the user ID and password of the user account with access to the database.
  - d. Optionally, configure a JDBC connection for data source by adding a connection type of Service ID, and specifying the required values for the server name, port number, and Oracle service ID in the appropriate fields. If you are using AIX, a JDBC connection is required.
- If you are using an IBM DB2 database:
  - a. Enter the name of the database as defined in the IBM DB2 client.
  - b. Select User ID.
  - c. Select the **Password** and **Create a signon that the Everyone group can use** check boxes, and type the user ID and password of the user account with access to the database.
  - d. Optionally, configure a JDBC connection for data source by adding the server name, port number, and database name in the appropriate fields. If you are using AIX, a JDBC connection is required.

In most cases, a collation sequence is not required. If you want to provide one, ensure the value that you enter is the same as the collation sequence specified when the database was created. For information about collation sequences, see the database documentation.

Tip: To test whether the parameters are correct, click Test the connection.

- 8. Click Next and then click Finish.
- 9. Click the new data source and click Next.

- **10**. Click **Next** and follow the prompts to provide the information necessary to initialize the database. When you see the page that summarizes the data source details and the metric store settings, click **Initialize**.
- 11. Select **Open this package with Metric Studio after closing the wizard** and then click **Finish**.

#### Results

Metric Studio opens, and the new metric package appears in IBM Cognos Connection.

## Installing and Configuring the Gateway

You can install the gateway on one or more computers, depending on your environment. If you have a Web farm, you may want to install an IBM Cognos BI gateway on each Web server. Using multiple Web servers to manage incoming requests provides better service. If you install only the gateway component on the same computer as the Web server, your Web server manages the core Web services and does not process user requests. This separation of processing may be required if you have a network firewall between the Web server and your other server components.

If you plan to install IBM Cognos Metrics Manager and share resources with the IBM Cognos BI gateway, install the gateway on a 32-bit system. For more information, see "Install the Gateway for IBM Cognos Metrics Manager" on page 162.

Ensure that the computer where you installed the active Content Manager is configured and available before you configure gateway computers.

Perform the following steps to install and configure the gateway:

- Install the gateway components
- Install the gateway for IBM Cognos Metrics Manager components, if necessary
- Install fix packs, if available
- Start IBM Cognos Configuration
- Configure environment and security properties for the gateway
- Configure your Web server
- Test the gateway installation

#### 64-bit Installations

The IBM Cognos BI gateway provides 32-bit libraries, whether you install on a 64-bit server or a 32-bit server. Some Web servers, such as Apache Web Server, cannot load a 32-bit compiled library in a 64-bit compiled server. In that situation, install the 32-bit version of the IBM Cognos gateway on a 32-bit Web server.

# Installing the gateway components on UNIX or Linux operating systems

You can install the gateway on one or more computers, depending on your environment. If you have a Web farm, you may want to install an IBM Cognos BI gateway on each Web server.

## Procedure

- 1. If you are installing to a directory with other IBM Cognos BI components, stop the IBM Cognos service.
- 2. Set the JAVA\_HOME environment variable to point to the installation location of your Java Runtime Environment (JRE).

An example of the installation location of a Java Runtime Environment is /directory/java/*java\_version*/jre.

IBM Cognos BI requires a JVM, such as the Java that is provided by IBM, to run on a Linux operating system.

If you are installing in a location with other IBM Cognos BI components, use the existing JAVA\_HOME environment variable.

 On HP-UX, set the \_M\_ARENA\_OPTS environment variable as follows: M ARENA OPTS 1:4

This increases the memory allocation for HP-UX to more closely match that of other UNIX operating systems.

 On AIX, set the AIXTHREAD\_SCOPE environment variable as follows: AIXTHREAD SCOPE=S

This sets the contention scope for user threads to system-wide, which supports more efficient scheduling of user threads.

- 5. If installing from a download, go to the location where the installation files were downloaded and extracted.
- 6. If installing from a disk, mount the disk using Rock Ridge file extensions. To mount the disk on HP-UX, do the following:
  - Add the pfs\_mount directory in your path.

For example, PATH=/usr/sbin/:\$PATH export PATH

- To start the required NFS daemons and run the daemons in the background, type bg pfs\_mountd and then type bg pfsd
- To mount the drive, type

pfs\_mount -t rrip <device><mount\_dir> -o xlat=unix
For example,

pfs\_mount /dev/dsk/c0t2d0 /cdrom -o xlat=unix

You can now install or copy files as a non-root user using an IBM Cognos disk from this drive.

- When the installation is complete, type pfs\_umount /cdrom and kill the pfsd and pfs\_mountd daemons to unmount the disk.
- **7**. To start the installation wizard, go to the operating system directory and then type

```
./issetup
```

**Note:** When you use the issetup command with XWindows, Japanese characters in messages and log files may be corrupted. When installing in Japanese on UNIX or Linux, first set environment variables LANG=C and LC\_ALL=C (where C is the language code, for example ja\_JP.PCK on Solaris), and then start the installation wizard.

If you do not use XWindows, run an unattended installation (see Chapter 19, "Using an unattended installation and configuration," on page 391).

- **8**. Follow the directions in the installation wizard and copy the required files to your computer.
  - When selecting the directory, consider the following: Install Gateway components in a directory that contains only ASCII characters in the path name. Some UNIX and Linux Web servers do not support non-ASCII characters in directory names.
  - When selecting components, clear all components except Gateway.
- 9. In the Finish page of the installation wizard, do the following:
  - If you want to see the log files, click View for the appropriate log file.
  - If you want to see late-breaking information about the product, select the check box for IBM Cognos Release Notes.
  - Do not configure IBM Cognos BI immediately because you must do other tasks first to ensure that your environment is properly set up. Ensure that the IBM Cognos Configuration check box is clear.

You can later configure IBM Cognos BI using IBM Cognos Configuration by typing cogconfig.sh in the *c10\_location*/bin64 directory.

- Click Finish.
- 10. Append the *c10\_location*/bin64 directory to the appropriate library path environment variable.
  - For Solaris and Linux, LD\_LIBRARY\_PATH
  - For AIX, LIBPATH
  - For HP-UX, SHLIB\_PATH

### What to do next

If you want users to see product documentation in a language other than English, you must install the Supplementary Language Documentation component in the location where you installed the Gateway components. For more information, see "Installing translated product documentation" on page 206.

# Installing the gateway components on Windowsn operating systems

You can install the gateway on one or more computers, depending on your environment. If you have a Web farm, you may want to install an IBM Cognos BI gateway on each Web server.

### Procedure

- 1. If you are installing to a directory with other IBM Cognos BI components, stop the IBM Cognos service.
- 2. Do one of the following:
  - Insert the IBM Cognos product disk.

If the installation wizard does not open automatically, go to the operating system directory, and double-click issetup.exe.

- Go to the location where the installation files were downloaded and extracted and then double-click issetup.exe.
- 3. Select the language to use for the installation.

The language that you select determines the language of the user interface. All supported languages are installed. You can change the user interface to any of the installed languages after installation.

- 4. Follow the directions in the installation wizard to copy the required files to your computer.
  - When selecting the directory, consider the following: Install Gateway components in a directory that contains only ASCII characters in the path name. Some Microsoft Windows operating system Web servers do not support non-ASCII characters in directory names.
  - When selecting components, clear all components except Gateway.
- 5. In the Finish page of the installation wizard, do the following:
  - If you want to see the log files, click View for the appropriate log file.
  - If you want to see late-breaking information about the product, select the check box for IBM Cognos Release Notes.
  - Do not configure IBM Cognos BI immediately because you must do other tasks first to ensure that your environment is properly set up. Ensure that the IBM Cognos Configuration check box is clear.

You can later configure IBM Cognos BI using the Windows **Start** menu to start **IBM Cognos Configuration** from the shortcut folder.

• Click **Finish**.

#### What to do next

If you want users to see product documentation in a language other than English, you must install the Supplementary Language Documentation component in the location where you installed the Gateway components. For more information, see "Installing translated product documentation" on page 206.

## Install the Gateway for IBM Cognos Metrics Manager

If you are installing IBM Cognos Metrics Manager with the IBM Cognos BI server and you want to share resources, you must install the Gateway for IBM Cognos Metrics Manager in the same location as the Gateway for the IBM Cognos BI server. If you want your scorecarding product to operate independently of the IBM Cognos BI server, install the Gateway for IBM Cognos Metrics Manager in a different location from the Gateway for the IBM Cognos BI server.

You may also want to install Metric Designer (see "Installing and Configuring Metric Designer" on page 184).

## Installing fix packs

IBM provides interim maintenance packages that contain updates to one or more components in your IBM Cognos product. If a fix pack is available when you are installing or upgrading your product, you must install it after you install the IBM Cognos components.

If a fix pack becomes available after your IBM Cognos product has been deployed, you must stop the service, install the fix pack in the same location as the IBM Cognos components, and then start the service.

Fix packs are cumulative. When you install the latest fix pack, it includes updates from all the previous fix packs. Fix packs are available for download from IBM Support at http://www.ibm.com/support/us/en/.

**Note:** Fix packs are not standalone installations. You must install them on computers that have IBM Cognos components installed. Install the fix packs that

are appropriate for your product version. To check your version, open the component list file at *c10\_location*\cmplst.txt and check the line that starts with C8BISRVR\_version=.

# Installing IBM Cognos fix packs on UNIX or Linux operating systems

Fix packs are product updates that contain cumulative code fixes that were made since the last release of the product. IBM Cognos fix packs are installed in the same location as the existing product.

## Before you begin

Ensure that you do the following tasks before installing a Fix Pack.

- If the IBM Cognos service is running, stop it.
- Back up the directory structure.
- Back up the content store database
- Back up any files that you manually edited.

### Procedure

- 1. Go to the location where the installation files are downloaded, or insert the disc if you have one.
- To start the installation wizard, type the following command ./issetup
- **3**. Follow the directions in the installation wizard to install the fix pack files to the same location as the existing IBM Cognos components.
- 4. If required, update the new installation files with any changes from the backup copies of your customized files.

To prevent errors, before copying the customized files, compare both versions of the files. This validation determines whether you can replace the file.

- 5. Return the deployed IBM Cognos product to service.
  - If you are using Tomcat, open IBM Cognos Configuration, save the configuration, and then start the IBM Cognos service.
  - If you are running the IBM Cognos product on an application server other than Tomcat, redeploy the IBM Cognos product to the application server.
- 6. If you have a distributed environment, repeat these steps for all remaining IBM Cognos servers.

### Installing Fix Packs on Windows operating systems

Fix packs are product updates that contain cumulative code fixes that were made since the last release of the product. IBMCognos fix packs are installed in the same location as the existing product.

## Before you begin

Ensure that you do the following tasks before installing a Fix Pack.

- If the IBM Cognos service is running, stop it.
- Back up the directory structure.
- Back up the content store database
- Back up any files that you manually edited.

## Procedure

- 1. Insert the fix pack disk for the Windows operating system or go to the location where you downloaded and extracted the files, and double-click the issetup.exe file.
- **2**. Follow the directions in the installation wizard to install the fix pack files to the same location as the existing IBM Cognos components.
- **3.** If required, update the new installation files with any changes from the backup copies of your customized files.

To prevent errors, before copying the customized files, compare both versions of the files. This validation determines whether you can replace the file.

- 4. Return the deployed IBM Cognos product to service.
  - If you are using Tomcat, open IBM Cognos Configuration, save the configuration, and then start the IBM Cognos service.
  - If you are running the IBM Cognos product on an application server other than Tomcat, redeploy the IBM Cognos product to the application server.
- 5. If you have a distributed environment, repeat these steps for all remaining IBM Cognos servers.

## Start IBM Cognos Configuration

Use IBM Cognos Configuration to configure IBM Cognos Business Intelligence components and to start and stop IBM Cognos services if you are using the default Tomcat servlet container.

## Before you begin

Before starting IBM Cognos Configuration, ensure that the operating environment is properly set up. For example, ensure that all environment variables have been set.

On a Microsoft Windows operating system, you can start IBM Cognos Configuration in the last page of the installation wizard only if additional setup is not required. For example, if you use a database server other than Microsoft SQL or Cognos Content Database for the content store, copy the Java Database Connectivity (JDBC) drivers to the appropriate location before you start the configuration tool.

On UNIX or Linux operating systems, do not start IBM Cognos Configuration in the last page of the installation wizard. Additional setup is required before you can configure IBM Cognos BI. For example, you must update your Java environment.

Ensure that user or service account used to run IBM Cognos has been set up.

## Procedure

 On Microsoft Windows, from the Start menu, click Programs > IBM Cognos 10 > IBM Cognos Configuration

If you are using a Windows Vista, Windows 7, or Windows 2008 computer, and have installed the product to the Program Files (x86) directory, start IBM Cognos Configuration as an Administrator.

2. On UNIX or Linux operating systems, go to the *c10\_location*/bin64 directory and then type the following command:

./cogconfig.sh

If IBM Cognos Configuration does not open, ensure that you set the DISPLAY environment variable.

If you see a JAVA.Lang.unsatisfied link message, verify that you are using a supported version of Java.

If you see a Java.lang.unsupportedClassVersionError message, ensure that you are using a 64-bit version of Java.

# Configure Environment and Security Properties for Gateway Computers

If you install the gateway component on a different computer than Content Manager or Application Tier Components, you must configure the gateway computer so that it knows the location of a dispatcher. A dispatcher is installed on every Content Manager and Application Tier Components computer. Configure the gateway to use the dispatcher on an Application Tier Components computer.

For failover protection, you can configure more than one dispatcher for a gateway computer. When multiple dispatchers are configured, requests are normally routed to the first dispatcher in the list. If this dispatcher becomes unavailable, the gateway determines the next functioning dispatcher on the list and routes requests there. The primary dispatcher status is monitored by the gateway, and requests are routed back to this component when it returns to service.

After you do the required configuration tasks, the gateway computer can work in your environment.

## Before you begin

Ensure that the computers where you installed Content Manager are configured and the default active Content Manager computer is available before you configure gateway computers.

### Procedure

- 1. Start IBM Cognos Configuration.
- 2. In the Explorer window, click Environment.
- 3. In the **Properties** window, under **Gateway Settings**, specify the values for **Dispatcher URIs for the gateway**:
  - Click in the value column.
  - Click the edit button.
  - Change the localhost portion of the URI to the name or IP address of an Application Tier Components computer.

This will ensure that users in different locations can connect to reports and workspaces that are sent by email.

**Tip:** If you want to send requests to the dispatcher from an Software Development Kit application or an IBM Cognos BI modeling tool that is outside of a network firewall, connect to a dedicated gateway that is configured to connect to the dispatcher using the internal dispatcher URI for your environment (for example, http://localhost:9300/p2pd/servlet/ dispatch). For security reasons, the default setting for the Dispatcher URI for gateway property prevents the dispatcher from accepting requests for an Software Development Kit application or modeling tool that is outside the firewall. Ensure that you configure appropriate security for this dedicated gateway, such as SSL (see "Configuring the SSL protocol for IBM Cognos components" on page 249). Do not change your main gateway to use the internal dispatcher URI. Doing so will reduce the security of the IBM Cognos BI portal and studios. For more information about the modeling tool and network firewalls, see "Firewall considerations" on page 25.

• If you want to add another URI, click **Add** and change the localhost portion of the new URI to the name or IP address of another Application Tier Components computer.

**Tip:** If you want to use the dispatcher on a standby Content Manager computer, ensure that you add it after you add the Application Tier Components computers. If you add the dispatcher from the active Content Manager computer, ensure that it is last in the list.

- After you specify all the URIs, click OK.
- 4. In the **Explorer** window, under **Security** > **Cryptography**, click **Cognos**, the default cryptographic provider.
- 5. Under the **Certificate Authority settings** property group, set the **Password** property to match what you configured on the default active Content Manager computer.
- **6**. Ensure that all other cryptographic settings match what you set on the default active Content Manager computer.
- 7. Test that the symmetric key can be retrieved. In the **Explorer** window, right-click **Cryptography** and click **Test**.

IBM Cognos BI components check the common symmetric keys (CSK) availability.

8. From the File menu, click Save.

## Configuring the web server

You must configure your Web server before users can connect to the IBM Cognos BI portal.

For IBM Cognos BI for reporting, you must also set the content expiry for the images directory in your Web server so that the Web browser does not check image status after the first access.

On UNIX and Linux operating systems, the account under which the Web server runs must have read access to the cogstartup.xml file in the *c10\_location*/ configuration directory. By default the cogstartup.xml file has read permission for others. If you run your Web server under a specific group, you can change the cogstartup.xml file permissions to ensure that it belongs to the same group as the Web server. You can then remove the read permission for others.

## Enable the 64-bit web gateway

If you want to use the 64-bit version of the IBM Cognos BI gateway, you must manually move the 64-bit gateway files in your installation directory.

If you are using a 32-bit web server, you can use the default gateways. The default gateways are 32-bit.

#### Procedure

- 1. Go to the *c10\_location*/cgi-bin.
- 2. Type the following command:
  - On UNIX or Linux operating systems, type ./copyGateMod.sh 64bit
  - On Windows operating systems, type copyGateMod.bat 64bit

## Results

The 64-bit gateway files are copied from the cgi-bin/lib64 directory to the cgi-bin directory.

**Note:** If you need to replace the default 32-bit gateway files, follow the procedure using ./copyGateMod.sh 32bit or copyGateMod.bat 32bit. The 32-bit gateway files will be copied from the cgi-bin/lib directory to the cgi-bin directory.

### Use compiled gateways for production systems

For production systems, you can improve performance by changing the gateway from the default CGI gateway.

The compiled gateways include:

- Microsoft Internet Server Application Programming Interface (ISAPI) for Microsoft Internet Information Services (IIS)
- Apache module for Apache Web Server or IBM HTTP Server
- Servlet Gateway Java application if you use an application server other than the default Apache Tomcat

#### Use Apache modules on Apache Server or IBM HTTP Server:

You can use Apache modules for Apache Server 2.2.x or Apache Server 2.0.x or for IBM HTTP Server 8, 7, or 6.1.

**Important:** You cannot use the Apache modules with the version of Apache Server 2.2 that is supplied with Red Hat Enterprise Linux version 5.3 and later.

#### Procedure

- 1. Append the *c10\_location*/cgi-bin directory to the appropriate environment variable:
  - On Solaris or Linux, LD\_LIBRARY\_PATH
  - On HP-UX, SHLIB\_PATH and LD\_LIBRARY\_PATH
  - On AIX, LIBPATH
- 2. Go to the Webserver\_installation/conf directory.
- **3**. Open the httpd.conf file in an editor.
- 4. Ensure that both the server name and web server port number values are specified for the ServerName property.
- 5. Add the following to the end of the load module list:

LoadModule cognos\_module "*c10\_location*/cgi-bin/mod2\_2\_cognos.*suffix*" Where *suffix* is as listed in the following table.

Table 32. Module suffix for your operating system

Operating system	Suffix
Windows	dll
Solaris, AIX, HP-UX IA, Linux	so

Apache modules are provided for different versions of Apache Server or IBM HTTP Server:

• Use the mod2\_2\_cognos module for Apache Server 2.2.x or IBM HTTP Server 8 and 7.

- Use the mod2\_cognos module for Apache Server 2.0.x and IBM HTTP Server 6.1.
- 6. Add the following:

ScriptAlias /ibmcognos/cgi-bin "c10\_location/cgi-bin"

```
<Directory "c10_location/cgi-bin">
   AllowOverride None
   Options None
   Order allow,deny
   Allow from all
</Directory>
Alias /ibmcognos "c10_location/webcontent"
<Directory "c10_location/webcontent">
   Options Indexes MultiViews
   AllowOverride None
   Order allow,deny
   Allow from all
</Directory>
```

The <Directory> directive is optional.

**Tip:** Ensure that you define the /ibmcognos/cgi-bin alias before the /ibmcognos alias.

7. Add the following to the server status reports section:

```
<Location /ibmcognos/cgi-bin/module_alias>
SetHandler cognos-handler
Order allow,deny
Allow from all
</Location>
```

Where *module\_alias* is a name that you can choose.

**8**. To enable the gateway diagnostic page, add the following to the server status reports section:

```
<Location /ibmcognos/cgi-bin/diag_module_alias>
SetHandler cognos-handler
Order allow,deny
Allow from all
</Location>
```

Where *diag\_module\_alias* is a name that you can choose.

9. Add the following to the user directory section:

```
<IfModule mod2_2_cognos.c>
CGIBinDir "c10_location/cgi-bin"
</IfModule>
```

Apache module files are provided for different versions of Apache Server or IBM HTTP Server:

- Use mod2\_2\_cognos.c for Apache Server 2.2.x or IBM HTTP Server 8 and 7.
- Use mod2\_cognos.c for Apache Server 2.0.x and IBM HTTP Server 6.1.
- 10. Save and close the file.
- On HP-UX, enable searching for SHLIB\_PATH by running the following command in the *Apache\_installation*/bin directory: chatr +s enable +b enable httpd
- 12. Restart the web server.
- 13. Start IBM Cognos Configuration.
- 14. In the **Explorer** panel, click **Local Configuration** > **Environment**.
- 15. In the Gateway URI box, change the cognos.cgi part of the URI to module\_alias. For example, http://host name:port/ibmcognos/cgi-bin/module alias.
- 16. Save your changes.

#### Results

Users can access the server by entering the Apache module URI in their browser. For example,

http://servername:port/ibmcognos/cgi-bin/module\_alias.

## Use the ISAPI gateway on Microsoft Internet Information Services (IIS) version 7:

If you are using a Microsoft Internet Information Services (IIS) web server, configure IBM Cognos to use the ISAPI gateway rather that the default CGI gateway.

#### About this task

If you are using Microsoft IIS as your web server and you plan to run more than one IBM Cognos BI product, or several instances of the same product, on one computer, you must create a separate application pool for each product or instance and then associate the aliases for that product or instance to the application pool.

For more information about creating an application pool, see your Web server documentation.

**Important:** If you are using the 32-bit version of the ISAPI gateway, you must enable 32-bit application for the application pool used for the IBM Cognos gateway. In the Internet Information Services (IIS) Manager, select the application pool used for IBM Cognos, and click **Advanced Settings**. Change the value for **Enable 32-Bit Applications** to **True**.

**Note:** If you are changing from the 32-bit ISAPI gateway to the 64-bit ISAPI gateway, you must redo some of the steps to configure your web server. For more information about changing from the 32-bit ISAPI gateway to the 64-bit ISAPI gateway. For more information, see "Changing from the 32-bit ISAPI gateway to the 64-bit ISAPI gateway" on page 479.

#### Procedure

- 1. Click Start > Control Panel > Programs and Features.
- 2. Click Turn Windows features on or off.
- 3. If you are using Microsoft Windows 2008 Server, use the following steps:
  - a. Click Server Manager > Roles > Web Server (IIS).
  - b. If **ISAPI extensions** is set to **Not installed**, select **ISAPI extensions** and click **Add Role Service**.
- 4. If you are using Microsoft Windows 7, use the following steps:
  - a. Expand Internet Information Services > World Wide Web Services > Application Development Features.
  - b. If ISAPI extensions is not selected, select ISAPI extensions.
  - c. Click OK.

5. In the **Internet Information Services (IIS) Manager** console, under **Connections**, select your server name.

If you are using Microsoft Windows 7, click **Start** > **Control Panel** > **System and Security** > **Administrative Tools** to access the **Internet Information Services (IIS) Manager** console.

6. Expand **Sites**, and under your website, add the virtual directories as shown in the table:

Table 33. Required virtual directories

Alias	Location
ibmcognos	c10_location/webcontent
ibmcognos/cgi-bin	<i>c10_location</i> /cgi-bin

- 7. Select the cgi-bin virtual directory you created.
- 8. In the IIS group, double-click Handler Mappings.
- 9. Under Actions, click Add Module Mapping.
  - a. In **Request Path**, type cognosisapi.dll.
  - b. In Module, select IsapiModule.
  - c. In Executable, enter the path to the cognosisapi.dll file. For example, enter:
    - C:\Program Files\ibm\cognos\c10\cgi-bin\cognosisapi.dll
  - d. In Name, enter a name for the entry, such as CognosISAPI.
  - e. Click OK.
  - f. Click Yes in the dialog box to allow the ISAPI extension.
- 10. Start IBM Cognos Configuration.
- 11. In the **Explorer** panel, click **Local Configuration** > **Environment**.
- 12. In the Gateway URI box, change the cognos.cgi part of the URI to cognosisapi.dll.

#### Results

Users can access the ISAPI gateway by entering http://servername/ibmcognos/ isapi in their Web browsers.

#### Configure the servlet gateway for an application server:

If you deploy IBM Cognos to an application server other than Tomcat, you can use the servlet gateway to serve the portal pages rather than using a web server.

#### Before you begin

Ensure the following tasks are complete:

- The application server is installed and running on each computer where the servlet gateway is to be installed.
- IBM Cognos BI gateway components are installed on the same system as the application server.
- The IBM Cognos BI Application Tier Components and Content Manager are installed and running in the environment.
- The application server user account has full access permission for the IBM Cognos installation.

#### About this task

Instead of routing requests directly to the dispatcher, you deploy the servlet gateway to a different JVM instance than the JVM instances that run the IBM Cognos BI Application Tier Components and Content Manager servlets. Doing this type of deployment separates the load for serving static content from the main applications.

#### Procedure

1. Create a separate JVM instance, if necessary.

If you plan to run IBM Cognos BI and the IBM Cognos Servlet Gateway on the same application server, the servlet gateway must be deployed to a separate JVM instance.

- 2. Check that IBM Cognos components are properly set up.
- 3. Set environment variables.
- 4. Configure IBM Cognos Servlet Gateway to run on the application server.
- 5. Change the application server startup script, if necessary.
- 6. Configure application server properties and deploy IBM Cognos Servlet Gateway.
- 7. Enable SSL, if required.

#### Results

You can now access IBM Cognos components using the servlet gateway by entering the gateway URI. For example,http[s]:host\_name:port/ServletGateway.

The IBM Cognos Servlet Gateway URI is case-sensitive.

#### Use CGI gateways

You can use the CGI gateway on IBM HTTP Server, Apache Web Server, or Microsoft Internet Information Services (IIS) Server.

#### Use the CGI gateway on Apache Server or IBM HTTP Server:

The default gateway configured in IBM Cognos Configuration is the CGI gateway. To use the CGI gateway, you must configure aliases for Apache Server or IBM HTTP Server.

#### Procedure

- 1. Go to the Webserver\_installation/conf directory.
- 2. Open the httpd.conf file in an editor.
- **3**. Ensure that both the server name and web server port number values are specified for the ServerName property.
- 4. Add the following:

```
ScriptAlias /ibmcognos/cgi-bin "c10_location/cgi-bin"
```

```
<Directory "c10_location/cgi-bin">
AllowOverride None
Options None
Order allow,deny
Allow from all
</Directory>
```

```
Alias /ibmcognos "c10_location/webcontent"
```

```
<Directory "c10_location/webcontent">
    Options Indexes MultiViews
    AllowOverride None
    Order allow,deny
    Allow from all
</Directory>
```

The <Directory> directive is optional.

**Tip:** Ensure that you define the /ibmcognos/cgi-bin alias before the /ibmcognos alias.

- 5. Save and close the file.
- 6. Restart the web server.

#### Results

Users can access the portal at http://servername:port/ibmcognos.

## Use the CGI gateway on Microsoft Internet Information Services (IIS) version 7:

If you are using Microsoft Internet Information Services (IIS) version 7 or later, use the following task to configure the CGI gateway.

The CGI gateway is provided for both 32-bit and 64-bit web servers.

#### About this task

If you are using Microsoft IIS as your web server and you plan to run more than one IBM Cognos BI product, or several instances of the same product, on one computer, you must create a separate application pool for each product or instance and then associate the aliases for that product or instance to the application pool.

For more information about creating an application pool, see your Web server documentation.

#### Procedure

- 1. Click Start > Control Panel > Programs and Features.
- 2. Click Turn Windows features on or off.
- 3. If you are using Microsoft Windows 2008 Server, do the following:
  - a. Click Server Manager > Roles > Web Server (IIS).
  - b. If CGI is set to Not installed, select CGI and click Add Role Service.
- 4. If you are using Microsoft Windows 7, do the following:
  - a. Expand Internet Information Services > World Wide Web Services > Application Development Features.
  - b. If CGI is not selected, select CGI.
  - c. Click OK.
- 5. In the **Internet Information Services (IIS) Manager** console, under **Connections**, select your server name.

If you are using Microsoft Windows 7, click **Start** > **Control Panel** > **System and Security** > **Administrative Tools** to access the **Internet Information Services (IIS) Manager** console.

- 6. In the IIS group, double-click ISAPI and CGI Restrictions.
- 7. Under Actions, click Add.

8. Enter the path to the cognos.cgi file. The file is located in the *c10 location*\cgi-bin directory.

You must enter the full path including the filename. If the path includes spaces, ensure you use quotation marks around the path. For example, enter:

"C:\Program Files\ibm\cognos\c10\cgi-bin\cognos.cgi"

- 9. Enter a **Description**, such as Cognos CGI.
- 10. Select Allow extension path to execute, and click OK.
- 11. Under Actions, click Edit Feature Settings, select Allow unspecified CGI modules, and click OK.
- 12. Under **Connections**, expand **Sites**, and under your web site, add the virtual directories as shown in the table:

Table 34. Required virtual directories

Alias	Location
ibmcognos	c10_location/webcontent
ibmcognos/cgi-bin	<i>c10_location</i> /cgi-bin

- 13. Select the cgi-bin virtual directory you created.
- 14. In the IIS group, double-click Handler Mappings.
- 15. Under Actions, click Add Module Mapping.
  - a. In Request Path, type cognos.cgi.
  - b. In Module, select CgiModule.
  - c. Leave Executable (optional) blank.
  - d. In Name, enter a name for the entry, such as CognosCGI.
  - e. Click OK.

#### Results

Users can access the CGI gateway by entering http://servername/ibmcognos in their Web browsers.

#### Use the CGI gateway on older versions of Microsoft IIS:

For versions of Microsoft Internet Information Services (IIS) earlier than version 7, use these steps to configure the CGI gateway.

#### Procedure

Create the virtual directories shown in the following table:

Table 35. Required virtual directories

Alias	Location	Permission
ibmcognos	<pre>c10_location/webcontent</pre>	Read
ibmcognos/cgi-bin	<b>c10_location</b> /cgi-bin	Execute

#### Configuring WebDAV to view and browse images

To view and browse images in the Report Studio, configure Web Distributed Authoring and Versioning (WebDAV) on your web server. Report authors can browse for images to include in reports in a way that is similar to browsing a file system

#### Procedure

- 1. If you are using Microsoft IIS, do the following.
  - a. If you are using IIS version 7, you must download the WebDAV installer from the Microsoft website. If you are using IIS version 7.5, WebDAV is already available on your computer, but it might have to be enabled.
  - b. Enable the WebDAV Publishing feature in the Server Manager.
  - c. Add the WebDAV Publishing Role Service.
  - d. Configure WebDAV authoring rules to control access to content.
  - **e**. Enable the read and directory browsing properties for the URL that you want users to access for images.
- 2. If you are using Apache server or IBM HTTP Server, do the following:
  - a. In the *webserver\_location*/conf directory, open the httpd.conf file in a text editor.
  - b. Uncomment the directives that load modules/mod\_dav.so and modules/mod\_dav\_fs.so. LoadModule dav\_module modules/mod\_dav.so
    - LoadModule dav\_fs\_module modules/mod\_dav\_fs.so
  - c. Provide a location for the DAVLockDB directive.

```
For example,
```

```
DAVLockDB "webserver_location/var/DavLock"
```

Ensure that the directory exists.

- d. Create an alias for the directory where your images are stored.
- e. Add Dav On to the <Directory> information for the alias.

```
For example,
Alias /images "path/shared_images"
<Directory "path/shared_images">
    Dav On
    Options Indexes MultiViews
    AllowOverride None
    Order allow,deny
    Allow from all
</Directory>
```

- f. Save the file.
- g. Restart your web server.

#### Results

With WebDAV enabled, Report Studio users can add images to their reports. When users click Browse in the image browser, the default location for browsing is http://servername/ibmcognos/samples/images. If you created another location, users can enter that location. For example, users can enter http://servername/ images rather than use the default location.

## Test the Gateway

You can test the installation using a Web browser.

#### Procedure

- 1. Ensure that your Web server is running.
- 2. Open a Web browser.

3. In your address box, type the Gateway URI from IBM Cognos Configuration. For example, http://host\_name:port/ibmcognos The Welcome page of the IBM Cognos BI portal appears.

# Chapter 9. Install and Configure Modeling Tools for Reporting and Scorecarding

After you install and configure IBM Cognos Business Intelligence server components, you can install and configure the following modeling components for reporting and scorecarding:

- Framework Manager
- Metric Designer

## Installing and Configuring IBM Cognos Framework Manager

You can install IBM Cognos Framework Manager, the metadata modeling tool for IBM Cognos Business Intelligence for reporting, on the same computer as other IBM Cognos BI components, or on a different computer. All required files are copied to one computer. Default settings are used for the configuration. You can change these default settings if necessary, or if you install Framework Manager on a separate computer from IBM Cognos BI.

If you upgraded from an older version of Framework Manager, you can use the same models and projects that you used with the older version. To upgrade existing projects, you must open them in the new version of Framework Manager.

Framework Manager is available as a 32-bit installation only. It must be installed on a 32-bit computer with a Microsoft Windows operating system.

If you are upgrading Framework Manager from an older version, you must first uninstall the older version of Framework Manager. For more information, see Chapter 20, "Uninstalling IBM Cognos BI," on page 397.

Before you install Framework Manager, close all programs that are currently running to ensure that the installation program copies all the required files to your computer.

Also, ensure that you have administrator privileges for the Windows computer you are installing on. If you are not an administrator, ask your system administrator to add you to the Administrator group on your computer. Administrator privileges are also required for the account that is used to run Framework Manager.

Install and configure all IBM Cognos BI server components before you install Framework Manager.

Install in a directory that contains only ASCII characters in the path name. Some servers do not support non-ASCII characters in directory names. Installing Framework Manager in directory that has an apostrophe in the path name may result in the help not opening properly.

If you are installing the modeling tool in the same directory as IBM Cognos BI and do not stop the IBM Cognos services, you are prompted to do so during the installation.

To help you manage, share, and secure different versions of your metadata, you can configure Framework Manager to use an external source control system. For more information, see the section about using external repository control in the Framework Manager *User Guide*.

## System Requirements for Framework Manager

Before you install Framework Manager, ensure that the Windows computer meets IBM Cognos BI software and hardware requirements. The size of your models determines the hardware requirements, such as disk space.

The following table lists the minimum hardware and software requirements to run Framework Manager.

Requirement	Specification	
Operating system	Windows	
RAM	Minimum: 512 MB	
	Optimal: 1 GB	
Disk space	Minimum: 500 MB of free space on the drive that contains the temporary directory used by IBM Cognos BI	
Database	Database client software installed on the same computer as Framework Manager (Oracle, DB2, or Sybase only. Microsoft SQL drivers are installed with IBM Cognos BI by default) Database connectivity set up	
Other	Microsoft Data Access Component (MDAC) 2.6 or later for	
	use with product samples	

Table 36. System requirement for Framework Manager

To help you manage, share, and secure different versions of your metadata, you can configure Framework Manager to use an external source control system. For more information, see the section about using external repository control in the Framework Manager *User Guide*.

## **Default Settings for Framework Manager**

The following table lists the default settings for the IBM Cognos BI ports and URIs that are used by Framework Manager.

Component	Default	Description
Gateway	http://localhost:80/ ibmcognos/cgi-bin/ cognos.cgi	The URI to the IBM Cognos BI gateway
Dispatcher URI for external applications	http://localhost:9300/ p2pd/servlet/dispatch	The URI to the dispatcher
Log Server Port	9362	The port used by the local log server

Table 37. Default settings for Framework Manager

After installation, you can use the configuration tool to change the default settings. You can also change them by editing the cogstartup.xml file in the *c10\_location*\configuration directory.

## Install Framework Manager

For a complete installation of IBM Cognos Business Intelligence, you must install Cognos Framework Manager on a Windows computer.

#### Procedure

- 1. If required, stop the IBM Cognos service.
- 2. Start the installation program.
  - Insert the product disk.

If the installation wizard does not open automatically, go to the operating system directory, and double-click the issetup.exe file.

- Go to the location where the installation files were downloaded and extracted and then double-click the issetup.exe file.
- 3. Select the language to use for the installation.

The language that you select determines the language of the user interface. All supported languages are installed. You can change the user interface to any of the installed languages after installation.

4. Follow the directions in the installation wizard to copy the required files to your computer.

Framework Manager is a 32-bit modeling tool and can be installed in the same location as 32-bit IBM Cognos Business Intelligence server components, or in another location. You cannot install Framework Manager in the same location as 64-bit IBM Cognos BI server components.

5. When notified with an information message about installing the Supplementary Languages Documentation, click **OK** 

The Supplementary Languages Documentation contains translated versions of *Guidelines for Modeling Metadata*. If you want this guide available in languages in addition to English, install the contents of the disk. Otherwise your installation includes only the English version of the guide.

6. On the last page of the installation wizard, select **Start IBM Cognos Configuration** to configure Cognos Framework Manager immediately.

You can choose to configure Cognos Framework Manager later by starting the configuration tool from the Windows **Start** menu shortcut in the IBM Cognos program folder.

7. Secure the installation directory from unauthorized access.

#### What to do next

Default settings are used for the configuration. You can change these default settings during the installation or later, to better suit your environment.

## Update your Java environment

If you do not have a JAVA\_HOME variable already set on a Microsoft Windows operating system, the JRE files provided with your product will be used to generate the cryptographic keys needed to communicate with the IBM Cognos servers.

If you want to use another JRE and have JAVA\_HOME set to that location, the JRE files from that location will be used.

The JRE that is provided with your product includes a restricted policy file that limits you to certain cryptographic algorithms and cipher suites. If your security policy requires a wider range of cryptographic algorithms and cipher suites than are shown in IBM Cognos Configuration, you can download and install the unrestricted JCE policy file.

#### Procedure

- 1. Ensure that the JAVA\_HOME environment variable is set to the JRE location. For example, to set JAVA\_HOME to a JRE that you are already using, the path is *Java\_location*/bin/jre/*version*.
- **2.** If your security policy requires it, download and install the unrestricted JCE policy file.

For Java that is provided by IBM, the unrestricted JCE policy file is available on the IBM website (https://www14.software.ibm.com/webapp/iwm/web/preLogin.do?source=jcesdk).

For information about configuring the crytopgraphic provider to support your security policy, see "Configuring Cryptographic Settings" on page 223

## Set variables for data source connections for Framework Manager

The IBM Cognos BI modeling tools create and manage metadata. Framework Manager creates and manages metadata for the reporting functions. Because metadata is derived from data sources in multi-platform or multilingual environments, there are several things you must think about or do when you set up the data source environment for Framework Manager. Commonly, these things depend on the other technology you use for your data or import source.

If you upgraded from an older version of Framework Manager, you are not required to set up anything in the data source environment. You must set up the data source environment only if you installed Framework Manager in a different location from the older version.

Users operating in different languages can connect to an MSAS 2005 data source from the same instance of IBM Cognos BI. Modelers must create a separate package for each language. Users can run reports in any language.

For more information about data source connections, see the IBM Cognos *Administration and Security Guide*.

Ensure that you install the appropriate fonts to support the character sets and currency symbols you use. For Japanese and Korean currency symbols to appear correctly, you must install the additional fonts from the Supplementary Language Documentation disk.

Perform the following steps in the location where you installed Framework Manager.

If you use a Sybase data source, these steps are not necessary.

#### Procedure

- 1. Set the environment variable for multilingual support:
  - For Oracle, set the NLS\_LANG (National Language Support) environment variable on each computer where Framework Manager or Metric Designer and the IBM Cognos BI server are installed by typing the following command:

NLS\_LANG = language\_territory.character\_set
Examples are:

NLS\_LANG = AMERICAN\_AMERICA.UTF8

NLS\_LANG = JAPANESE\_JAPAN.UTF8

The value of the variable determines the locale-dependent behavior of IBM Cognos BI. Error messages, sort order, date, time, monetary, numeric, and calendar conventions automatically adapt to the native language and locale.

• For DB2, set the **DB2CODEPAGE** environment variable to a value of 1252. For more information about whether to use this optional environment variable, see the DB2 documentation.

No settings are required for SAP BW. SAP support only a single code page on non-Unicode SAP BW systems.

2. For Oracle, add \$ORACLE\_HOME/lib to your LD\_LIBRARY\_PATH variable.

When you set the load library paths, ensure that the 32-bit Oracle libraries are in the library search path, which is usually the <code>\$ORACLE\_HOME/lib</code> directory or the <code>\$ORACLE\_HOME/lib32</code> directory if you installed a 64-bit Oracle client.

**3**. For SAP BW, configure the following authorization objects so that the modeling tool can retrieve metadata.

Where default values are specified, you may want to modify the values on the SAP system.

• S\_RFC

Set the Activity field to 16.

Set the Name of RFC to be protected field to SYST, RSOB, SUGU, RFC1, RS\_UNIFICATION, RSAB, SDTX, SU\_USER.

Set the Type of RFC object to be protected field to FUGR.

S\_TABU\_DIS

Set the **Activity** field to **03**.

Set the Authorization Group field to &NC&.

**Note: &NC&** represents any table that does not have an authorization group. For security reasons, create an authorization group and assign the table **RSHIEDIR** to it. The new authorization group restricts the user's access to the table only, which is needed by the modeling tool. Create the authorization group as a customization in the SAP system.

• S\_USER\_GRP

Set the Activity field to 03, 05.

Set the User group in user master main field to the default value.

• S\_RS\_COMP

Set the **Activity** field to the default value.

Set the Info Area field to InfoArea Technical Name.

Set the Info Cube field to the value: InfoCube Technical Name.

Set the Name (ID) of reporting components field to the default value.

Set the Type of reporting components field to the default value.

• S\_RS\_COMP1

Set the Activity field to the default value.

Set the Name (ID) of reporting components field to the default value.

Set the **Type of reporting components** field to the default value.

Set the Owner (Person Responsible) field to the default value.

• S\_RS\_HIER

Set the **Activity** field to **71**.

Set the Hierarchy Name field to Hierarchy Name.

Set the InfoObject field to InfoObject Technical Name.

Set the Version field to Hierarchy Version.

• S\_RS\_ICUBE

Set the Activity field to 03.

Set the InfoCube sub-object field to the values DATA and DEFINITION.

Set the Info Area field to InfoArea Technical Name.

Set the InfoCube field to InfoCube Technical Name.

For more information about SAP BW authorization objects, see Transaction SU03.

## **Environment Properties for Framework Manager Computers**

When you install Framework Manager on a different computer from the non-modeling components of IBM Cognos BI, you must configure it to communicate with the other components.

If you install Framework Manager on the same computer as the non-modeling components of IBM Cognos BI, no configuration is required if you

- · configure your Web server using the default virtual directories
- use the default ports
- use the default resources
- use the default cryptographic settings

If IBM Cognos BI was installed in more than one location, ensure that all URIs point to the correct version of IBM Cognos BI. Framework Manager must be configured to use the same version of IBM Cognos BI.

## Installations with a Firewall

When the modeling tool is outside a network firewall that protects the Application Tier Components, communication issues with the dispatcher can arise. To avoid communication issues, you can install the modeling tool in the same architectural tier as the Application Tier Components or you can install and configure a gateway that is dedicated to modeling tool communications.

For more information about the modeling tool and network firewalls, see "Firewall considerations" on page 25.

The steps in this topic describe how to configure the modeling tool computer when the computer is inside or outside of the network firewall.

For more information about configuring the dedicated gateway computer, see "Configure Environment and Security Properties for Gateway Computers" on page 165.

## **Prerequisites**

Ensure that the IBM Cognos service on at least one Content Manager computer is running. This ensures that the certificate authority service issues a certificate to the Framework Manager computer. Ensure that the Web server is configured and running .

You must also set up the data sources before you configure Framework Manager.

#### Configuring Framework Manager inside the network firewall

Use the following steps to set up communication between Framework Manager and the other IBM Cognos Business Intelligence components when Framework Manager is inside a network firewall.

#### Procedure

- 1. On the computer where you installed Framework Manager, start IBM Cognos Configuration.
- 2. In the Explorer window, click Environment.
- 3. In the **Properties** window, in the **Gateway URI** box, type the appropriate value.
  - If your web server has been configured for the ISAPI gateway, replace cognos.cgi with cognosisapi.dll.
  - If your web server has been configured to use Apache modules, use the following syntax:

http://host\_name:port/ibmcognos/cgi-bin/module\_alias

• If server has been configured to use the servlet gateway, use the following syntax:

http[s]://host\_name:port/context\_root/servlet/Gateway

- 4. Change the host name portion of the **Gateway URI** from localhost to either the IP address or the host name of the computer where the Gateway component is installed.
- Specify the value for the Dispatcher URI for external applications by typing the URI of the server where Application Tier Components are installed.
   This value will be the same as the Internal dispatcher URI property on your Application Tier Components computer.
- 6. In the **Explorer** window, under **Cryptography**, click **Cognos**, the default cryptographic provider.
- 7. Under the **Certificate Authority settings** property group, for the **Password** property, type the same password you configured on the default active Content Manager computer.
- 8. From the **File** menu, click **Save**.

#### Configuring Framework Manager outside the network firewall

Use the following steps to set up communication between Framework Manager and the other IBM Cognos Business Intelligence components when Framework Manager uses a dedicated gateway and is outside the network firewall.

#### Procedure

- 1. Set up a dedicated gateway for Framework Manager.
- On the dedicated gateway, in IBM Cognos Configuration, change the Dispatcher URIs for gateway property to the URI of the dispatcher on the server where Application Tier Components are installed.

This value will be the same as the **Internal dispatcher URI** property on your Application Tier Components computer.

- **3**. On the computer where you installed Framework Manager, start IBM Cognos Configuration.
- 4. In the **Explorer** window, click **Environment**.

- 5. In the **Properties** window, in the **Gateway URI** box, type the appropriate value for the server you are using as the dedicated gateway.
  - If your web server has been configured for the ISAPI gateway, replace cognos.cgi with cognosisapi.dll.
  - If your web server has been configured to use Apache modules, use the following syntax:

http://host\_name:port/ibmcognos/cgi-bin/module\_alias

• If server has been configured to use the servlet gateway, use the following syntax:

http[s]://host\_name:port/context\_root/servlet/Gateway

- 6. Change the localhost portion of the **Gateway URI** to either the IP address or the host name of the dedicated gateway server.
- 7. Specify the value for the **Dispatcher URI for external applications** by typing the URI of the internal dispatcher on the server where Application Tier Components are installed.

Ensure that you change the host name in the URI from localhost.

- 8. In the **Explorer** window, under **Cryptography**, click **Cognos**, the default cryptographic provider.
- **9**. Under the **Certificate Authority settings** property group, for the **Password** property, type the same password you configured on the default active Content Manager computer.
- 10. From the File menu, click Save.

#### Results

Framework Manager is configured to communicate with the other components of IBM Cognos BI. If you installed Framework Manager on a Microsoft Windows Vista operating system computer, you must update file location properties on Windows Vista computers.

## Test the Installation and Configuration

You can test your configuration by starting the application and creating a project.

#### Procedure

To start Framework Manager, from the **Start** menu, click **Programs** > **IBM Cognos 10** > **Framework Manager**.

You may be prompted to upgrade if the model schema version is older than the currently supported version.

If you see the Welcome page of Framework Manager, your installation is working.

## Installing and Configuring Metric Designer

You can install Metric Designer, the metadata modeling tool for IBM Cognos Metrics Manager, on the same computer as IBM Cognos BI components, or on a different computer. All required files are copied to one computer. Default settings are used for the configuration. However, you may want to change these default settings if existing conditions make the default choices inappropriate, or if you installed IBM Cognos BI on a different computer.

If you upgraded from Metrics Manager version 2.0 or later, you can use the same extracts and projects that you used with the older version. To upgrade existing

projects, you must open them in the new version of Metric Designer and redefine the data source connections and other references.

Metric Designer is available as a 32-bit installation only. It must be installed on a 32-bit Microsoft Windows operating system computer.

#### System Requirements for Metric Designer

Before you install Metric Designer, ensure that the Windows computer meets IBM Cognos BI software and hardware requirements. The size of the your models determines the hardware requirements, such as disk space.

The following table lists the minimum hardware and software requirements to run Metric Designer.

Requirement	Specification	
Operating system	Windows (design interface)	
	UNIX operating system (engine only):	
	Sun Solaris HP-UX IBM AIX	
RAM	Minimum: 512 MB	
	Optimal: 1 GB	
Disk space	Minimum: 500 MB of free space on the drive that contains the temporary directory	
Other	Microsoft Data Access Component (MDAC) 2.6 or later for use with product samples	

Table 38. System requirements for Metric Designer

To install and configure Metric Designer, follow these steps:

- Install Metric Designer Components.
- Set up the database client for the metric store.
- Configure environment properties for Metric Designer.
- Set up the import source environment for Metric Designer
- Test the Metric Designer installation

#### Related concepts:

"Distributing Metric Designer components" on page 29 For Metric Studio, if you want to define and load metrics from relational and dimensional data sources, including cubes, Framework Manager packages, or Impromptu Query Definitions (.iqd files), install Metric Designer to extract the data.

## **Default Settings for Metric Designer**

The following table lists the default settings for the ports and URIs that are used by Metric Designer.

Table 39. Default settings for Metric Designer

Component	Default	Description
Gateway	http://localhost:80/ ibmcognos/cgi-bin/ cognos.cgi	The URI to the gateway

Table 39. Defa	ault settings f	or Metric	Designer	(continued)
----------------	-----------------	-----------	----------	-------------

Component	Default	Description
Dispatcher URI for external applications	http://localhost:9300/ p2pd/servlet/dispatch	The URI to the dispatcher

After installation, you can use IBM Cognos Configuration to change the default settings. You can also change them by editing the cogstartup.xml file in the *c10\_location*\configuration directory.

## Install Metric Designer

Use the following steps to install Metric Designer.

Ensure that you have administrator privileges for the Microsoft Windows computer you are installing on. If you are not an administrator, ask your system administrator to add you to the Administrator group on your computer.

If you are installing the modeling tool in the same directory as IBM Cognos BI and do not stop the IBM Cognos services, you are prompted to do so during the installation.

Install in a directory that contains only ASCII characters in the path name. Some servers do not support non-ASCII characters in directory names.

#### Before you begin

Before you install Metric Designer, close all programs that are currently running to ensure that the installation program copies all the required files to your computer.

Before you configure Metric Designer, other IBM Cognos BI components must be installed and configured, and Metric Designer must be installed.

You should also install and configure the target application where you will load data or metadata.

#### Procedure

- 1. If you are installing in a directory with other IBM Cognos BI components, stop the IBM Cognos service.
- 2. Do one of the following:
  - Insert the Metric Designer disk.

If the installation wizard does not open automatically, go to the operating system directory, and double-click issetup.exe.

- Go to the location where the installation files were downloaded and extracted and then double-click issetup.exe.
- 3. Select the language to use to run the installation wizard.
- 4. Follow the directions in the installation wizard to copy the required files to your computer.
- 5. In the Finish page of the installation wizard, do the following:
  - If you want to see the log files, click **View** for the appropriate log file.
  - If you want to see late-breaking information about the product, select the check box for IBM Cognos Release Notes.

• If the server components are configured, select the IBM Cognos Configuration check box so that you can configure Metric Designer immediately.

If the server components are not configured, ensure that the IBM Cognos Configuration check box is clear. You can later configure Metric Designer using the Microsoft Windows operating system **Start** menu to start **IBM Cognos Configuration** from the shortcut folder.

• Click Finish.

#### Results

To ensure the security and integrity of IBM Cognos BI, it is important to protect the installation directory from unauthorized or inappropriate access.

## Setting up the database client for the Metric Store

If you are using a database other than Microsoft SQL as a metric store, you must install database client software and Java Database Connectivity (JDBC) drivers on each computer where you install Metric Designer. Doing this allows Metric Designer to access the metric store database.

#### Set up the database client for an IBM DB2 metric store

Use this procedure to setup the database client for an IBM DB2 metric store. Doing this allows Metric Designer to access the metric store database.

#### Procedure

- 1. Install the IBM DB2 client software on your Metric Designer computer.
- 2. If the metric store is on a different computer, configure a database alias to the metric store by running the IBM DB2 Client Configuration Assistant.

**Note:** If the metric store database and Metric Designer are on the same computer, the metric store name automatically becomes the alias.

- 3. Copy the following files from *DB2\_installation*/sqllib/java directory to the *c10\_location*/webapps/p2pd/WEB-INF/lib directory.
  - the universal driver file, db2jcc.jar
  - the license file, db2jcc\_license\_cu.jar

**Tip:** To check the driver version, run the following command:

java -cp path\db2jcc.jar com.ibm.db2.jcc.DB2Jjcc -version

If the directory contains a db2java.jar or db2java.zip file, delete the file.

#### Set Up the Database Client for an Oracle Metric Store

If you use an Oracle database for the metric store, you must set up the database driver and utility on the Metric Designer computer.

#### Procedure

- On the computer where the Oracle client is installed, go to the ORACLE\_HOME/jdbc/lib directory.
- 2. Copy ojdbc5.jar to the *c10\_location*/webapps/p2pd/WEB-INF/lib directory on the computer where Metric Designer is installed.

The driver is available from an Oracle client or server installation, and can also be downloaded from the Oracle Web site.

3. Install the SQL Loader utility on the Metric Designer computer.

## Set up the database client for a Microsoft SQL Server metric store

If you use a Microsoft SQL Server database for the metric store, you must set up the database utility on the Metric Designer computer.

#### Procedure

Install the bcp utility on the Metric Designer computer.

## **Configuring Metric Designer**

If you install Metric Designer on a different computer than your IBM Cognos servers, you must configure it to communicate with the IBM Cognos servers.

#### Installations with a Firewall

When the modeling tool is outside a network firewall that protects the Application Tier Components, communication issues with the dispatcher can arise. To avoid communication issues, you can install the modeling tool in the same architectural tier as the Application Tier Components or you can install and configure a gateway that is dedicated to modeling tool communications.

For more information about the modeling tool and network firewalls, see "Firewall considerations" on page 25.

The steps in this topic describe how to configure the modeling tool computer when the computer is inside or outside of the network firewall.

For more information about configuring the dedicated gateway computer, see "Configure Environment and Security Properties for Gateway Computers" on page 165.

#### **Configure Metric Designer**

Use the following steps to configure Metric Designer for communication with the IBM Cognos servers.

#### Procedure

- 1. On the computer where you installed Metric Designer, start IBM Cognos Configuration.
- 2. In the Explorer window, click Environment.
- 3. In the Properties window, in the Gateway URI box, type the appropriate value:
  - If your web server has been configured for the ISAPI gateway, replace cognos.cgi with cognosisapi.dll.
  - If your web server has been configured to use Apache modules, use the following syntax:

http://host\_name:port/ibmcognos/cgi-bin/module\_alias

• If server has been configured to use the servlet gateway, use the following syntax:

http[s]://host\_name:port/context\_root/servlet/Gateway

- 4. Change the host name portion of the **Gateway URI** from localhost to either the IP address or the host name of the computer where the Gateway component is installed.
- 5. Specify the value for the **Dispatcher URI for external applications** by typing the URI of the server where Application Tier Components are installed.

This value will be the same as the **Internal dispatcher URI** property on your Application Tier Components computer.

6. From the **File** menu, click **Save**.

#### Results

Metric Designer is configured to communicate with other IBM Cognos BI components.

## Set variables for your import sources for Metric Designer

The IBM Cognos BI modeling tools create and manage metadata. Metric Designer creates and manages metadata required for the scorecarding functions. Because metadata is derived from data sources in multi-platform or multilingual environments, there are several things you must think about or do when you set up the import source environment for Metric Designer. Commonly, these things depend on the other technology you use for your data or import source.

Users operating in different languages can connect to an MSAS 2005 data source from the same instance of IBM Cognos BI. Modelers must create a separate package for each language. Users can run reports in any language.

For more information about data source connections, see the IBM Cognos *Administration and Security Guide*.

Ensure that you install the appropriate fonts to support the character sets and currency symbols you use. For Japanese and Korean currency symbols to appear correctly, you must install the additional fonts from the Supplementary Language Documentation disk. For more information, see "Installing additional language fonts" on page 207.

Use the following steps to set up Metric Designer for Oracle, DB2, or SAP BW import sources.

#### Procedure

- 1. Set the environment variable for multilingual support:
  - For Oracle, set the NLS\_LANG (National Language Support) environment variable on each computer where Metric Designer or the Application Tier Components for IBM Cognos Metrics Manager are installed by typing the following command:

NLS\_LANG = language\_territory.character\_set

Examples are:

NLS\_LANG = AMERICAN\_AMERICA.UTF8

NLS\_LANG = JAPANESE\_JAPAN.UTF8

The value of the variable determines the locale-dependent behavior of IBM Cognos BI. Error messages, sort order, date, time, monetary, numeric, and calendar conventions automatically adapt to the native language and locale.

• For DB2, set the **DB2CODEPAGE** environment variable to a value of 1252.

For more information about whether to use this optional environment variable, see the DB2 documentation.

No settings are required for SAP BW. SAP support only a single code page on non-Unicode SAP BW systems.

2. For Oracle, add \$ORACLE\_HOME/lib to your LD\_LIBRARY\_PATH variable.

When you set the load library paths, ensure that the 32-bit Oracle libraries are in the library search path, which is usually the *ORACLE\_HOME*/lib directory. If you installed the 64-bit Oracle 10g client, the 32-bit libraries are in the *ORACLE\_HOME*/lib32 directory.

**3.** For SAP BW, configure the following authorization objects so that the modeling tool can retrieve metadata.

Where default values are specified, you may want to modify the values on the SAP system.

• S\_RFC

Set the Activity field to 16.

Set the Name of RFC to be protected field to SYST, RSOB, SUGU, RFC1, RS\_UNIFICATION, RSAB, SDTX, SU\_USER.

Set the Type of RFC object to be protected field to FUGR.

S\_TABU\_DIS

Set the **Activity** field to **03**.

Set the Authorization Group field to &NC&.

**Note: &NC&** represents any table that does not have an authorization group. For security reasons, create an authorization group and assign the table **RSHIEDIR** to it. The new authorization group restricts the user's access to the table only, which is needed by the modeling tool. Create the authorization group as a customization in the SAP system.

S\_USER\_GRP

Set the Activity field to 03, 05.

Set the User group in user master main field to the default value.

• S\_RS\_COMP

Set the **Activity** field to the default value.

Set the Info Area field to InfoArea Technical Name.

Set the Info Cube field to the value: InfoCube Technical Name.

Set the Name (ID) of reporting components field to the default value.

Set the **Type of reporting components** field to the default value.

• S\_RS\_COMP1

Set the **Activity** field to the default value.

Set the Name (ID) of reporting components field to the default value.

Set the **Type of reporting components** field to the default value.

Set the Owner (Person Responsible) field to the default value.

• S\_RS\_HIER

Set the Activity field to 71.

Set the Hierarchy Name field to Hierarchy Name.

Set the **InfoObject** field to *InfoObject Technical Name*.

Set the Version field to *Hierarchy Version*.

#### • S\_RS\_ICUBE

Set the **Activity** field to **03**.

Set the InfoCube sub-object field to the values DATA and DEFINITION.

Set the Info Area field to InfoArea Technical Name.

Set the InfoCube field to InfoCube Technical Name.

For more information about SAP BW authorization objects, see Transaction SU03.

## Test the Installation and Configuration

You can test your configuration by starting the application and creating a project.

## Procedure

To start Metric Designer, from the **Start** menu, click **Programs** > **IBM Cognos 10** > **Metric Designer**.

If you see the Welcome page of Metric Designer, your installation is working.

## Chapter 10. Install and configure optional components

Optional components provide extended functionality for users.

After you install and configure IBM Cognos Business Intelligence server components and modeling tools, you can install the following optional components.

- IBM Cognos Transformer
- Translated Product Documentation
- · Additional fonts for Japanese and Korean currency symbols
- IBM Cognos BI Quick Tours
- IBM Cognos BI for Microsoft Office

## IBM Cognos Transformer

You can install IBM Cognos Transformer, the metadata modeling tool for creating PowerCubes for use with IBM Cognos BI, on the same computer as other IBM Cognos BI components, or on a different computer. You can install IBM Cognos Transformer on the same computer as IBM Cognos Series 7 Transformer.

Transformer can be made available more easily for business specialists who want to design models and build PowerCubes for their own use. For example, IT departments can provide business specialists or Transformer modelers with a Web-based, downloadable installation program from a corporate or secured portal, allowing for easy distribution of the installation files.

Default settings are used for the configuration. You can change these default settings if necessary, or if you install IBM Cognos Transformer on a separate computer from IBM Cognos BI.

#### IBM Cognos Transformer and 64-bit Systems

IBM Cognos Transformer is only available in a 32-bit version. The installation requirements are as follows:

• UNIX and Linux operating system utility for building PowerCubes

This component can be installed on a 64-bit system, but in a separate directory from 64-bit IBM Cognos BI components. For example, 64-bit components are installed to /ibm/cognos/c10\_64 by default. 32-bit components are installed to /ibm/cognos/c10.

• IBM Cognos Transformer client

This component must be installed on a Windows computer. It must be on a 32-bit system or in a separate directory from 64-bit IBM Cognos components on a 64-bit system.

#### Tasks to Install and Configure IBM Cognos Transformer

To install and configure IBM Cognos Transformer, perform these tasks:

- Install IBM Cognos Transformer
- Review default settings
- Configure IBM Cognos Transformer

- \_\_\_• Set up the data source environment for Transformer
- \_\_• Test the IBM Cognos Transformer installation

## Install IBM Cognos Transformer

You install Transformer if you plan to create PowerCubes for use with IBM Cognos BI.

The language that you select in the installation wizard determines the language of the user interface for both the installation wizard and for IBM Cognos Transformer. All available languages are installed.

With a UNIX or Linux operating system, the installation of IBM Cognos Transformer is not complete until you also install IBM Cognos Transformer on a computer with a Microsoft Windows operating system. All components are installed in both environments and you then use the features and tools that are appropriate for each environment. For example, the IBM Cognos Transformer client provides a graphical user interface for designing models on Windows computers. You then build cubes on your UNIX or Linux computer. Models that contain an IQD data source are not supported on Linux.

Install in a directory that contains only ASCII characters in the path name. Some servers do not support non-ASCII characters in directory names.

Before you install IBM Cognos Transformer, close all programs that are currently running to ensure that the installation program copies all the required files to your computer.

If you are installing on Windows, ensure that you have administrator privileges for the Windows computer you are installing on. If you are not an administrator, ask your system administrator to add you to the Administrator group on your computer.

**Note:** When Transformer is installed on Windows Vista, if you do not have Administrator privileges on the computer and you make changes to the cogtr.xml file, the updated file is saved by default to a Virtual Store directory and not to the *c10\_location*/configuration directory.

You must install and configure all IBM Cognos BI server components before you install IBM Cognos Transformer.

#### **Related concepts:**

"Distributing Transformer components" on page 27 Transformer can be installed on a computer that contains other IBM Cognos BI components or on a computer that is separate from other IBM Cognos BI components. When installed separately, Transformer can be used as a standalone product or it can be configured to communicate with other IBM Cognos BI components.

#### System Requirements for IBM Cognos Transformer

Before you install IBM Cognos Transformer, ensure that the computer meets IBM Cognos BI software and hardware requirements. The size of your PowerCubes determines the hardware requirements, such as disk space.

The following table lists the minimum hardware and software requirements to run IBM Cognos Transformer.

Table 40. System requirements for Transformer

Requirement	Specification
Operating system	Windows
	UNIX: Sun Solaris, HP-UX, IBM AIX
	Linux
RAM	Minimum: 512 MB
	Optimal: 4 GB
Disk space	Minimum: 500 MB of free space on the drive that contains the temporary directory used by IBM Cognos BI
Data source	Database client software installed on the same computer as IBM Cognos Transformer
	Database connectivity set up
Other	Microsoft Data Access Component (MDAC) 2.6 or later for use with product samples

## Installing IBM Cognos Transformer on UNIX or Linux operating systems

Use the following steps to install IBM Cognos Transformer on UNIX or Linux operating systems.

#### Procedure

- 1. If installing from a download, go to the location where the installation files were downloaded and extracted.
- 2. If installing from a disk, mount the IBM Cognos Transformer modeling disk using Rock Ridge file extensions.

To mount the disk on HP-UX, do the following:

• Add the pfs\_mount directory in your path.

For example,

```
PATH=/usr/sbin/:$PATH
```

export PATH

- To start the required NFS daemons and run the daemons in the background, type bg pfs\_mountd and then type bg pfsd
- To mount the drive, type

pfs\_mount -t rrip <device><mount\_dir> -o xlat=unix

For example,

pfs\_mount /dev/dsk/c0t2d0 /cdrom -o xlat=unix

You can now install or copy files as a non-root user using an IBM Cognos disk from this drive.

- When the installation is complete, type pfs\_umount /cdrom and kill the pfsd and pfs\_mountd daemons to unmount the disk.
- **3**. To start the installation wizard, go to the operating system directory and then type

./issetup

4. Select the language to use for the installation.

The language that you select in the installation wizard determines the language of the user interface for both the installation wizard and for IBM Cognos Transformer. All available languages are installed.

5. Follow the directions in the installation wizard and copy the required files to your computer.

**Tip:** The Series 7 IQD Bridge component is not supported on Linux and HP-UX Itanium.

- 6. When you are prompted about installing non-English product documentation, click **OK** to continue.
- 7. In the Finish page of the installation wizard, do the following:
  - If you want to see the log files, click View for the appropriate log file.
  - If you want to see late-breaking information about the product, select the check box for IBM Cognos Release Notes.
  - Do not configure Transformer immediately because you must do other tasks first to ensure that your environment is properly set up. Ensure that the IBM Cognos Configuration check box is clear.

You can later configure Transformer using IBM Cognos Configuration by typing cogconfig.sh in the*c10\_location*/bin64directory.

- Click Finish.
- 8. Create a MANPATH environment variable and configure it with the following value:

/c10\_location/webcontent/documentation/en/cogtr\_a.html

The cogtr\_a.html document provides the syntax for UNIX command line options that are supported by IBM Cognos Transformer. The man page for IBM Cognos Transformer is accessible in UNIX by typing cogtr man from the *c10\_location*/bin64 directory.

## Installing IBM Cognos Transformer on Windows operating systems

Use the following steps to install IBM Cognos Transformer on Microsoft Windows operating systems.

#### Procedure

- 1. Do one of the following:
  - Insert the IBM Cognos Transformer modeling disk.

If the installation wizard does not open automatically, go to the operating system directory, and double-click issetup.exe.

- Go to the location where the installation files were downloaded and extracted and then double-click issetup.exe.
- 2. Select the language to use for the installation.

The language that you select in the installation wizard determines the language of the user interface for both the installation wizard and for IBM Cognos Transformer. All available languages are installed.

- **3**. Follow the directions in the installation wizard to copy the required files to your computer.
- 4. When you are prompted about installing non-English product documentation, click **OK** to continue.
- 5. In the **Finish** page of the installation wizard, do the following:
  - If you want to see the log files, click **View** for the appropriate log file.

- If you want to see late-breaking information about the product, select the check box for IBM Cognos Release Notes.
- Do not configure Transformer immediately because you must do other tasks first to ensure that your environment is properly set up. Ensure that the IBM Cognos Configuration check box is clear.

You can later configure Transformer using the Windows **Start** menu to start **IBM Cognos Configuration** from the shortcut folder.

• Click Finish.

## Default Settings for IBM Cognos Transformer

The following table lists the default settings for the IBM Cognos BI ports and URIs that are used by IBM Cognos Transformer.

Component	Default	Description
Gateway	http://localhost:80/ ibmcognos/cgi-bin/ cognos.cgi	The URI to the IBM Cognos BI gateway
Dispatcher URI for external applications	http://localhost:9300/ p2pd/servlet/dispatch	The URI to the dispatcher

Table 41. Default settings for Transformer

After installation, you can use the configuration tool to change the default settings. You can also change them by editing the cogstartup.xml file in the *c10 location*\configuration directory.

## Communication between Transformer and Business Intelligence components

You must configure IBM Cognos Transformer to communicate with the other IBM Cognos BI components.

The instructions in this topic are for the installer or administrator. If you are the Transformer modeler or business specialist who wants to download and use Transformer, see "Deploying IBM Cognos Transformer for Modelers" on page 205

If IBM Cognos BI was installed in more than one location, ensure that all URIs point to the correct version of IBM Cognos BI. Transformer must be configured to use the same version of IBM Cognos BI.

#### Installations with a Firewall

When the modeling tool is outside a network firewall that protects the Application Tier Components, communication issues with the dispatcher can arise. To avoid communication issues, you can install the modeling tool in the same architectural tier as the Application Tier Components or you can install and configure a gateway that is dedicated to modeling tool communications. For more information about the modeling tool and network firewalls, see "Firewall considerations" on page 25.

The steps in this topic describe how to configure the modeling tool computer. If you are using a gateway that is dedicated to the modeling tool, you must also configure the gateway computer. For more information, see "Installing and Configuring the Gateway" on page 159.

## **Configure IBM Cognos Transformer computers**

You must configure IBM Cognos Transformer to communicate with other IBM Cognos BI components.

If you install IBM Cognos Transformer on the same computer as the non-modeling components of IBM Cognos BI, no configuration is required if you

- configure your Web server using the default virtual directories
- use the default ports
- use the default resources
- use the default cryptographic settings

#### Before you begin

Install and configure IBM Cognos BI components before you configure IBM Cognos Transformer. You must first install and configure Content Manager and then start the IBM Cognos service on at least one Content Manager computer before you configure IBM Cognos Transformer. This ensures that the certificate authority service issues a certificate to the IBM Cognos Transformer computer.

Ensure that the Web server is configured and running.

To support the use of IBM Cognos BI data sources (including packages and reports) in Transformer, ensure that the database client is installed on the computer where Transformer is installed.

#### Procedure

- 1. On the computer where you installed IBM Cognos Transformer, start IBM Cognos Configuration.
- 2. In the Explorer window, click Environment.
- 3. In the Properties window, in the Gateway URI box, type the appropriate value.
  - If your web server has been configured for the ISAPI gateway, replace cognos.cgi with cognosisapi.dll.
  - If your web server has been configured to use Apache modules, use the following syntax:

http://host\_name:port/ibmcognos/cgi-bin/module\_alias

• If server has been configured to use the servlet gateway, use the following syntax:

http[s]://host name:port/context root/servlet/Gateway

- 4. Change the host name portion of the **Gateway URI** from localhost to either the IP address of the computer or the computer name.
- 5. Specify the value for the **Dispatcher URI for external applications** by typing the URI of the server where Application Tier Components are installed.

This value will be the same as the **Internal dispatcher URI** property on your Application Tier Components computer.

6. From the **File** menu, click **Save**.

IBM Cognos Transformer is configured to communicate with the other components of IBM Cognos BI.

- 7. If you installed Transformer on a Windows Vista computer, or if any IBM Cognos BI component is installed on a Windows Vista computer, update your file location properties:
  - a. Log on as an administrator.

- b. In the c10\_location\configuration directory, open cogtr.xml.sample in a text editor.
- c. Locate all values that use a relative path, "...\directory".
- d. Replace the relative path element, "...", with the same environment variable and root directory as you use for file locations on the other IBM Cognos BI computers.
- e. Save the file as cogtr.xml.
- f. In the *c10\_location*\CS7Gateways\bin directory, open cs7g.ini in a text editor.
- g. Add the locations for your IBM Cognos Series 7 data sources to the file.
- h. Save the file.

Changes are applied the next time you open Transformer.

## **Data Sources and Transformer**

The IBM Cognos BI modeling tools create and manage metadata. IBM Cognos Transformer creates and manages metadata for PowerCubes. Because metadata is derived from data sources in multi-platform or multilingual environments, there are several things you must think about or do when you set up the data source environment for IBM Cognos Transformer. Commonly, these things depend on the other technology you use for your data or import source.

If users operating in different languages will be connecting to a Microsoft Analysis Services (MSAS) 2000 data source, you must create a separate IBM Cognos BI instance for each language.

Users operating in different languages can connect to an MSAS 2005 data source from the same instance of IBM Cognos BI. Modelers must create a separate package for each language. Users can run reports in any language.

For more information about data source connections, see the *Administration and Security Guide*.

Ensure that you install the appropriate fonts to support the character sets and currency symbols you use. For Japanese and Korean currency symbols to appear correctly, you must install the additional fonts from the Supplementary Language Documentation disk. For more information, see "Installing additional language fonts" on page 207.

#### Related concepts:

"Distributing Transformer components" on page 27

Transformer can be installed on a computer that contains other IBM Cognos BI components or on a computer that is separate from other IBM Cognos BI components. When installed separately, Transformer can be used as a standalone product or it can be configured to communicate with other IBM Cognos BI components.

#### Set Up the Data Source Environment for Transformer

Use these steps to set up Oracle or SAP BW data sources for IBM Cognos Transformer.

If you use a Sybase data source, these steps are not necessary.

#### Procedure

1. Set the environment variable for multilingual support:

• For Oracle, set the NLS\_LANG (National Language Support) environment variable on each computer where Framework Manager or Metric Designer and the IBM Cognos BI server are installed by typing the following command:

NLS\_LANG = language\_territory.character\_set

Examples are:

NLS\_LANG = AMERICAN\_AMERICA.UTF8

NLS\_LANG = JAPANESE\_JAPAN.UTF8

The value of the variable determines the locale-dependent behavior of IBM Cognos BI. Error messages, sort order, date, time, monetary, numeric, and calendar conventions automatically adapt to the native language and locale.

• For DB2, set the **DB2CODEPAGE** environment variable to a value of 1252.

For more information about whether to use this optional environment variable, see the DB2 documentation.

No settings are required for SAP BW. SAP support only a single code page on non-Unicode SAP BW systems.

2. For Oracle, add \$ORACLE\_HOME/lib to the library path.

When you set the load library paths, ensure that the 32-bit Oracle libraries are in the library search path, which is usually the \$ORACLE\_HOME/lib directory or the \$ORACLE\_HOME/lib32 directory if you installed a 64-bit Oracle client.

**3.** For SAP BW, configure the following authorization objects so that the modeling tool can retrieve metadata.

Where default values are specified, you may want to modify the values on the SAP system.

• S\_RFC

Set the Activity field to 16.

Set the Name of RFC to be protected field to SYST, RSOB, SUGU, RFC1, RS\_UNIFICATION, RSAB, SDTX, SU\_USER.

Set the Type of RFC object to be protected field to FUGR.

S\_TABU\_DIS

Set the **Activity** field to **03**.

Set the Authorization Group field to &NC&.

**Note: &NC&** represents any table that does not have an authorization group. For security reasons, create an authorization group and assign the table **RSHIEDIR** to it. The new authorization group restricts the user's access to the table only, which is needed by the modeling tool. Create the authorization group as a customization in the SAP system.

• S\_USER\_GRP

Set the Activity field to 03, 05.

Set the User group in user master main field to the default value.

• S\_RS\_COMP

Set the **Activity** field to the default value.

Set the Info Area field to InfoArea Technical Name.

Set the **Info Cube** field to the value: *InfoCube Technical Name*.

Set the Name (ID) of reporting components field to the default value.

Set the Type of reporting components field to the default value.

• S\_RS\_COMP1

Set the **Activity** field to the default value.

Set the Name (ID) of reporting components field to the default value.

Set the Type of reporting components field to the default value.

Set the Owner (Person Responsible) field to the default value.

S\_RS\_HIER

Set the **Activity** field to **71**.

Set the **Hierarchy Name** field to *Hierarchy Name*.

Set the **InfoObject** field to *InfoObject Technical Name*.

Set the Version field to Hierarchy Version.

• S\_RS\_ICUBE

Set the Activity field to **03**.

Set the InfoCube sub-object field to the values DATA and DEFINITION.

Set the Info Area field to InfoArea Technical Name.

Set the InfoCube field to InfoCube Technical Name.

For more information about SAP BW authorization objects, see Transaction SU03.

## **Test your Transformer installation**

You can test your configuration by starting the application and creating a model.

## Procedure

To start IBM Cognos Transformer, from the **Start** menu, click **Programs** > **IBM Cognos 10** > **IBM Cognos Transformer**.

To start IBM Cognos Transformer manually, double-click the cogtr.exe file in the *c10\_location*\bin directory.

If you see the Transformer window, your installation is working.

## Additional configuration tasks for IBM Cognos Transformer

After you install Transformer, you can perform these tasks:

- If you installed Transformer on a Windows Vista computer, and you plan to use the cogtr.xml.samples file as a templateUpdate default preferences for Windows Vista
- If you want to use Transformer models from IBM Cognos Series 7 and you want to continue to use IQD data sources,Add IBM Cognos Series 7 Data Sources to the Transformer

To make Transformer available for modelers to install and use, you can perform these tasks:

- · Create a network installation location for Transformer modelers
- Export configuration data for Transformer modelers
- Deploy IBM Cognos BI Transformers for modelers

## Update Default Preferences for Windows Vista

With security enhancements in Windows Vista, Microsoft changed the structure of user directories. If you want to use the cogtr.xml.samples file as a template, you must edit the default preferences settings. If you want all users to have the same default directories, you must change the default preferences to a common location to which users have access. If you want users to have the Windows Vista directories, you can delete the default preferences for the directories. The instructions in this topic are for the installer or administrator. If you are the Transformer modeler or business specialist who wants to download and use Transformer, see "Deploying IBM Cognos Transformer for Modelers" on page 205

#### Procedure

- 1. Log on as the administrator.
- 2. In the *c10\_location*\configuration directory, open cogtr.xml.sample in a text editor in elevated mode by right-clicking on the text editor and selecting **Run as Administrator**.
- **3**. If you want all users to have the same default directories, change the directories to a location to which all users have read and write access. The directories to change are as follows:
  - <Preference Name="CubeSaveDirectory" Type="string" Value="...\temp"/>
  - <Preference Name="DataSourceDirectory" Type="string" Value="..\temp"/>
  - <Preference Name="DataWorkDirectory" Type="string" Value="...\temp"/>
  - <Preference Name="LogFileDirectory" Type="string" Value="...logs"/>
  - <Preference Name="ModelSaveDirectory" Type="string" Value="...\temp"/>
  - <Preference Name="ModelWorkDirectory" Type="string" Value="...\temp"/>
- 4. If you want users to have the Windows Vista default directories, delete the preferences specified in step 3 from the file.

The Windows Vista default directories for Transformer are

CubeSaveDirectory

Documents\Transformer\PowerCubes

DataSourceDirectory

In IBM Cognos Configuration, under Environment, Data files location property

DataWorkDirectory

In IBM Cognos Configuration, under Environment, Temporary files location property

LogFileDirectory

Documents\Transformer\Logs

ModelSaveDirectory

Documents\Transformer\Models

- ModelWorkDirectory In IBM Cognos Configuration, under Environment, Temporary files location property
- 5. Change other settings as required.
- 6. Save the file as cogtr.xml.

The changes are applied the next time you open Transformer.

#### Add IBM Cognos Series 7 Data Sources to Transformer

If you plan to use Transformer models and data sources from IBM Cognos Series 7, you must add the location of your IBM Cognos Series 7 data sources to the Transformer gateway file.

The instructions in this topic are for the installer or administrator. If you are the Transformer modeler or business specialist who wants to download and use Transformer, see "Deploying IBM Cognos Transformer for Modelers" on page 205

## Procedure

- 1. Log on as the administrator.
- In the *c10\_location*/CS7Gateways/bin directory, open cs7g.ini in a text editor. On Windows Vista, open it in elevated mode by right-clicking on the text editor and selecting **Run as Administrator**.
- 3. Add the locations for your IBM Cognos Series 7 data sources to the file.
- 4. Save the file.

The changes are applied the next time you open Transformer.

#### **Create a Network Installation Location for Transformer Modelers**

Your organization may have specialized business or power users who want to build PowerCubes that are modeled on a combination of corporate and personal data sources. These users may want to do their own analysis of the data for their line of business or a small group of users. An installer or administrator can download an executable file to a Web or LAN location, where modelers can run the file to launch the IBM Cognos Transformer installation wizard.

The instructions in this topic are for the installer or administrator. If you are the Transformer modeler or business specialist who wants to download and use Transformer, see "Deploying IBM Cognos Transformer for Modelers" on page 205

#### Before you begin

Before you make the installation file available to Transformer modelers, other resources and permissions must be set up:

- Database client software is installed, or available for modelers to install, on the Transformer computers that are used to access IBM Cognos BI data sources or IBM Cognos Series 7 IQD data sources.
- Modelers must have privileges to create a data source in IBM Cognos Administration.

Modelers do not need direct access to IBM Cognos Administration. They can create and update data sources by using Transformer or command line tools. You can provide modelers with a secured folder in IBM Cognos Connection in which to publish PowerCube packages.

• Modelers must have access to a location in which to store the PowerCube after building it.

This location must also be accessible to the IBM Cognos service and can be a secured share on a LAN.

• To build PowerCubes on a specific Transformer server, modelers should have FTP privileges to transfer models and execute privileges to build cubes on that server.

Modelers can transfer models and execute cube builds using scripts. Modelers can also use automated methods to build PowerCubes. For more information, see the *Administration and Security Guide*.

#### Procedure

- 1. Insert the disk for IBM Cognos Transformer modeling product.
- 2. If the Welcome page of the installation wizard appears, exit the wizard.
- 3. On the disk, locate the C8transformerinstall.exe file.
- 4. Copy the file to a secure location to which your Transformer modelers have access.

## **Configuration Data for Transformer Modelers**

If you want to make the Transformer installation file available to Transformer modelers, the modelers will need the dispatcher and encryption settings to configure Transformer on their local computer. You can export the configuration from one Transformer computer for use with all other Transformer computers. The modelers can copy the exported configuration file to their Transformer installation directory and then run the command to configure the Transformer computer silently.

The instructions in this topic are for the installer or administrator. If you are the Transformer modeler or business specialist who wants to download and use Transformer, see "Deploying IBM Cognos Transformer for Modelers" on page 205

If you updated the coglocale, cogtr.xml, or cs7g.ini files on the Transformer computer, you must copy these files to the Web or LAN location so that Transformer modelers can download them to their computer.

To export the configuration, the source computer must have the same IBM Cognos BI components as the Transformer modeler computers "Communication between Transformer and Business Intelligence components" on page 197. If some modelers will be installing on Windows Vista, you must create an export file from a Windows Vista computer. We suggest creating separate folders on the Web or LAN location for Windows and Windows Vista.

#### **Exporting the Transformer configuration:**

Use IBM Cognos Configuration to export the configuration from one Transformer computer for use with all other Transformer computers.

#### Procedure

- 1. In IBM Cognos Configuration, from the File menu, click Export as.
- 2. If you want to export the current configuration to a different folder, in the **Look in** box, locate and open the folder.

Ensure that the folder is protected from unauthorized or inappropriate access.

- 3. In the **File name** box, type a name for the configuration file.
- 4. Click Save.
- 5. Rename the exported file to cogstartup.xml.
- 6. Copy the exported cogstartup.xml file from the source computer to the same Web or LAN location as the Transformer installation file.
- 7. If you changed the global configuration on the source computer, copy the coglocale.xml file from the source computer to the same Web or LAN location as the Transformer installation file.

The default location of the coglocale.xml file is *c*10\_*location*/configuration.

#### Copying updated Transformer configuration files:

If you updated certain configuratoin files, you must copy them to the same location as the Transformer installation file.

#### Procedure

1. If you updated the cogtr.xml, copy it from the *c10\_location*/configuration directory to the same Web or LAN location as the Transformer installation file.
2. If you updated the cs7g.ini file, copy it from the *c*10\_*location*/CS7Gateways/bin directory to the same Web or LAN location as the Transformer installation file.

## **Deploying IBM Cognos Transformer for Modelers**

If you are the business specialist or Transformer modeler, you must now deploy Transformer so that you can build PowerCubes and publish them to selected users or groups.

If you have not completed the installation, follow the steps to install Transformer. To configure Transformer so that it can communicate with the IBM Cognos BI dispatcher, follow the steps to configure Transformer.

To support the use of IBM Cognos BI data sources (including packages and reports) in Transformer, ensure that the database client is installed on the Transformer computer.

#### **Installing Transformer:**

As a business specialist or Transformer modeler, use the following steps to install Transformer from the Web or LAN location that the administrator provided.

#### Procedure

1. From the Web or LAN location that the administrator provided, run the C8transformerinstall.exe file.

The contents are expanded to the Documents and Settings\*username*\Local settings\Temp directory and then the Transformer installation wizard opens.

2. Follow the directions in the installation wizard and copy the required files to your computer.

**Tip:** The Series 7 IQD Bridge component is not supported on Linux and HP-UX Itanium.

- 3. In the **Finish** page of the wizard, select **View the Release Notes** and then click **Finish**.
- 4. Create a MANPATH environment variable and configure it with the following value:

/c10\_location/webcontent/documentation/en/cogtr\_a.html

The cogtr\_a.html document provides the syntax for UNIX command line options that are supported by IBM Cognos Transformer. The man page for IBM Cognos Transformer is accessible in UNIX by typing **cogtr man** from the *c10\_location*/bin directory.

#### **Configuring Transformer:**

As a business specialist or Transformer modeler, use the following steps to configure Transformer.

#### Procedure

- 1. Go to the same Web or LAN location as the Transformer installation file.
- 2. If any .xml files are present, copy them to the *Transformer\_location*\configuration directory, where *Transformer\_location* is the directory where you installed Transformer.

The default location is C:\Program Files\Cognos\c10.

- **3.** If an .ini file is present, copy it to the *Transformer\_location*\CS7Gateways\bin directory.
- 4. Go to the *Transformer\_location*\bin directory.
- 5. Type the configuration command:

./cogconfig.bat -s

IBM Cognos Configuration applies the configuration settings specified in the local copy of cogstartup.xml, encrypts credentials, generates digital certificates, and starts the IBM Cognos services.

 To test IBM Cognos Transformer, from the Start menu, click Programs > IBM Cognos 10 > Transformer.

If you see the Transformer window, your installation is working.

7. After Transformer is installed and running successfully, delete the installation files that were extracted from the installation file.

## Installing translated product documentation

The product installation includes a limited set of translated documentation for some languages, such as installation guides and release notes. To access a complete set of translated documentation, you must install it from IBM Cognos BI Supplementary Language Documentation.

## Before you begin

Before installing the Supplementary Language Documentation, ensure that:

- · IBM Cognos BI is installed and configured correctly
- adequate disk space is available to install supplementary language documentation

You need at least 220 MB of disk space.

• your software environment is supported

### Procedure

1. In the location where the Gateway component is installed, insert the IBM Supplementary Language Documentation disk or go to the directory where the installation files were downloaded and extracted.

On UNIX or Linux operating systems, mount the disk using Rock Ridge file extensions.

On Windows, the installation wizard starts automatically from the product disk.

- **2**. To manually start the installation wizard, go to the operating system directory and do the following:
  - On Windows, if no Welcome page appears, double-click the issetup.exe file.
  - On UNIX or Linux, type

./issetup

**Note:** When you use the issetup command with XWindows, Japanese characters may be corrupted.

**3.** Follow the instructions in the installation wizard to copy the required files to the same location where you installed gateway components for IBM Cognos BI. Install in a directory that contains only ASCII characters in the path name. Some Web servers do not support non-ASCII characters in directory names.

The supplementary languages documentation components is selected by default.

4. Choose the option you want in the Finish page of the installation wizard.

## Installing additional language fonts

To add support for the Japanese Yen or Korean Won character, you must install additional fonts from the IBM Cognos BI Supplementary Language Documentation disk.

The Unicode code point "U+005C" is officially assigned to the backslash. However, in Japan and Korea, that code point is historically assigned to their currency symbols and many people still prefer to see a yen or won sign in certain parts of software, for example in file paths. To accommodate this, you can install the "Andale WT J" and "Andale WT K" fonts.

## Before you begin

Before installing the additional fonts, ensure that following conditions are met:

- IBM Cognos is installed and configured correctly.
- There is adequate disk space available to install additional fonts. You need at least 220 MB of disk space.
- Your software environment is supported.

## Procedure

1. In the location where Application Tier Components are installed, insert the IBM Cognos BI Supplementary Language Documentation disk.

On UNIX or Linux operating systems, mount the disk using Rock Ridge file extensions.

- 2. Go to the directory on the disk that is appropriate for your operating system.
- 3. Start the installation wizard by typing the following command:
  - On Windows, issetup
  - On UNIX or Linux, ./issetup

**Note:** When you use the issetup command with XWindows, Japanese characters may be corrupted.

4. Follow the instructions in the installation wizard to copy the required files to the same location where you installed Application Tier Components.

Install in a directory that contains only ASCII characters in the path name. Some Web servers do not support non-ASCII characters in directory names.

When you are prompted to select components, clear **IBM Cognos Business Intelligence Supplementary Languages Documentation**, expand **Additional Language Fonts**, and then select the font.

These fonts are copied to the *c10\_location*/bin/fonts directory. This font location is defined in the **Physical fonts location** property value in IBM Cognos Configuration under **Environment**. If you move the fonts to another location, ensure that the new location is added to the **Physical fonts location** property value.

Fonts used to display data in a report are selected using a matching process between the fonts requested when the report is designed and the fonts that are available when the report is rendered. For PDF output and charts, this process occurs on the server where all fonts on the server that generates the report can be used.

5. Choose the option you want in the **Finish** page of the installation wizard.

## Results

After you install the additional fonts, you must configure support for them. For more information, see "Configure support for Japanese Yen and Korean Won characters."

## Configure support for Japanese Yen and Korean Won characters

For Japanese and Korean currency characters to display correctly, you must define the additional fonts in the global style sheet.

#### Before you begin

Before you configure these fonts, you must install them from the IBM Cognos BI Supplementary Language Documentation disk.

#### Procedure

1. Open the GlobalReportStyles.css style sheet in a text editor.

The GlobalReportStyles.css style sheet is located in the *c10\_location*\bin directory.

2. Enable one of the following sections and modify it as shown in the following example:

```
/* For Japanese: */
.pg
.pp
{
font-family: 'MS UI Gothic', 'Andale WT J', Tahoma, arial, geneva,
helvetica, sans-serif;
}
/* For Korean: */
.pg,
.pp
{
font-family: Gulim, 'Andale WT K', Tahoma, arial, geneva,
helvetica, sans-serif;
}
The PDF generator uses the first available font on the server and includes all
the point of the server and includes all
```

the characters in the string to be displayed. If you prefer to use other fonts on your server, you can insert them into the list.

- 3. Save the GlobalReportStyles.css file.
- 4. Restart the IBM Cognos BI server.

## Results

Any changes that you make to the style sheet are overwritten if you upgrade IBM Cognos BI. You must repeat this procedure following an upgrade.

## Install Quick Tours Locally

The quick tours are accessible from the IBM Cognos Web site for users with Internet access. For users without Internet access, or if you prefer to install the quick tours locally, you can download them from the IBM Cognos Customer Center and install them in the same location as the Gateway component. All language versions of the quick tours are available from the Web site and from the IBM Cognos Customer Center.

## Procedure

- 1. Go to http://www.ibm.com/software/data/support/cognos\_crc.html.
- 2. Search for the appropriate version of IBM Cognos Business Intelligence and then find the link for IBM Cognos Business Intelligence Quick Tours.
- 3. Follow the instructions to download the package and extract the contents.
- 4. Run the issetup file and follow the instructions in the installation wizard to install the language versions of the quick tours that you need on the IBM Cognos gateway computer in the *c10-location* directory.

For installations of multiple IBM Cognos BI products that use multiple IBM Cognos gateways, you can install the quick tours on every gateway or on a single gateway.

5. If you install the quick tours on a single gateway in an installation with multiple IBM Cognos gateways, edit the *c10\_location*\webcontent\ documentation\*language\_code*\tours\crntours.html file on the other gateways and change the JavaScript string variable sToursLocation to the URL of the gateway that contains the quick tours.

## IBM Cognos BI for Microsoft Office

IBM Cognos BI for Microsoft Office is available for deployment with all IBM Cognos BI products, except for IBM Cognos BI Metrics Manager.

To configure and deploy IBM Cognos BI for Microsoft Office, you can make the client files available for users to install or you can install the client on the user computers, depending on your environment.

IBM Cognos BI for Microsoft Office is available as a 32-bit installation only. It must be installed on a 32-bit Windows computer.

To deploy IBM Cognos BI for Microsoft Office with PowerPlay, you can configure gateway mappings so that IBM Cognos BI for Microsoft Office users can access PowerPlay reports that reside on a PowerPlay server. You can also configure the size of report that can be imported from IBM Cognos BI to IBM Cognos BI for Microsoft Office. For more information about gateway mappings and report size limits, see the *Administration and Security Guide*.

Use the following checklist to configure IBM Cognos BI for Microsoft Office:

- Copy IBM Cognos BI for Microsoft Office files to the LAN for deployment, if required.
- Enable secure sockets layer support, if required.
- Enable anonymous access, if required.
- \_• Deploy IBM Cognos BI for Microsoft Office to client environments.

# Copy IBM Cognos BI for Microsoft Office Client Files to a Central LAN Location

Before users can deploy IBM Cognos BI for Microsoft Office to their computer, they need access to the installation files. You can give users the installation disk that is included with IBM Cognos BI PowerPlay or you can copy the files from the disk to a central location on the LAN or a Web site.

## Procedure

From the IBM Cognos BI for Microsoft Office disk or a directory where the installation files were downloaded and extracted, copy the following components to the LAN location:

- the KB908002 folder
- the setup.exe file
- the CognosOfficeSetup.msi file

## **Results**

Users can then run the setup.exe file from the LAN location to deploy IBM Cognos BI for Microsoft Office.

## Enable SSL Support for the HTTPS Interface to PowerPlay

If your environment includes IBM Cognos Series 7 PowerPlay Enterprise Server and you are using the HTTPS interface to access PowerPlay, you must enable Secure Sockets Layer (SSL) support. To enable SSL support for the PowerPlay gateway and the IBM Cognos BI dispatcher, you must define a password for the IBM Cognos BI key store and then create and store the Web server Certificate Authority (CA) certificate in the IBM Cognos BI key store.

## **Enabling SSL support for PowerPlay**

Use these steps to enable SSL support for IBM Cognos Series 7 PowerPlay Enterprise Server.

## Procedure

- 1. Save the Web server CA certificate in the *c10\_location*\bin directory and name it ca.cer.
- 2. If you did not define a password for the IBM Cognos BI key store, do it now in IBM Cognos Configuration:
  - In the **Explorer** window, click **Cryptography** > **Cognos**.
  - In the **Properties** window, under **Certificate Authority settings**, set the **Certificate Authority key store password**.
  - From the File menu, click Save.
  - From the Actions menu, click Restart.
- **3**. From the command line, go to the *c10\_location*\bin directory.
- 4. Set the JAVA\_HOME environment variable to the Java Runtime Environment location used by the application server running IBM Cognos BI.

The following examples assume that the default Tomcat application server is being used:

• For Microsoft Windows, type

set JAVA\_HOME=c10\_location\bin\jre\version

• For UNIX operating system Cshell, type

setenv JAVA\_HOME c10\_location/bin/jre/version

- 5. From the same command line, run the certificate tool:
  - For Microsoft Windows, type ThirdPartyCertificateTool.bat -T -i -r ca.cer -k ...\configuration\ signkeypair\jCAKeystore -p keystore password
  - For UNIX, type ThirdPartyCertificateTool.sh -T -i -r ca.cer -k ../configuration/ signkeypair/jCAKeystore-p

## Results

You can now install the CA certificate on all client computers, or make the CA certificate available for users to install with the IBM Cognos BI for Microsoft Office client.

#### Installing the CA certificate on the client workstation

Use these steps if you choose the option to install the CA certificate on the client workstations.

## Procedure

1. Retrieve the CA certificate from the issuing authority.

The file has a .cer extension. This is not the same certificate as the one used by the Web server. It is the certificate for the issuing authority itself.

- 2. Double-click the .cer file, click Install Certificate, and then click Next.
- 3. Click Place all certificates in the following store.
- 4. Click **Browse**, click **Trusted Root Certification Authorities**, and then click **Next**.
- 5. Click **Finish**.

## Making the CA Certificate Accessible to Users

Use this step if you choose the option to make the CA certificate accessible to users.

## Procedure

Copy the CA certificate to a central location on the LAN.

## Enable Anonymous Access for PowerPlay

When using single signon with Microsoft Internet Information Services (IIS), anonymous access must be enabled for portal users to access IBM Cognos BI for Microsoft Office documents that are based on PowerPlay reports.

If necessary, a second PowerPlay gateway can be used to provide anonymous access for IBM Cognos BI for Microsoft Office. For more information, see the topic about specifying gateway mappings in the *Administration and Security Guide*.

- 1. On each computer where Content Manager is installed, start IBM Cognos Configuration.
- 2. In the Explorer window, under Security > Authentication, click Cognos.
- **3**. In the **Properties** window, click the box next to the **Allow anonymous access** property and then click **True**.

4. From the File menu, click Save.

## **Deploying IBM Cognos for Microsoft Office Client**

IBM Cognos for Microsoft Office is available for installation with IBM Cognos BI components. After IBM Cognos BI is installed and configured, you can install IBM Cognos for Microsoft Office on client workstations.

IBM Cognos for Microsoft Office Client is available as a 32-bit installation only. It must be installed on a 32-bit Windows computer.

## **Deploying IBM Cognos for Microsoft Office to Client Computers**

IBM Cognos for Microsoft Office uses Microsoft .NET Framework to allow users to interact with server-based components. Microsoft .NET Framework and the required updates are downloaded and installed by the setup file when you install IBM Cognos for Microsoft Office. The setup file must be run on all user computers.

For a list of supported versions of Microsoft .NET Framework, see the IBM Cognos Customer Center (http://www.ibm.com/software/data/cognos/customercenter/).

Use the following checklist to guide you through the deployment process:

Install .NET Framework and IBM Cognos for Microsoft Office.

For more information about installing IBM Cognos for Microsoft Office, see the IBM Cognos for Microsoft Office *Installation Guide*.

- Set the macro security level for Microsoft office XP, if required.
- Install the CA certificate for secure sockets layer support, if required.

## Set Macro Security Level for Microsoft Office XP

For Microsoft Office XP applications to run IBM Cognos for Microsoft Office, you must set your macro security level to an appropriate level. You must set this for Microsoft Office Excel, Microsoft Office Word, and Microsoft Office PowerPoint.

#### Procedure

- 1. Open your Microsoft Office XP application.
- 2. From the Tools menu, click Macros, and then click Security.
- 3. Choose whether to change the security level or the trusted publishers.
  - On the Security Level tab, click Medium or Low, and then click OK
  - On the **Trusted Publishers** tab, select **Trust all installed add-ins or templates**, and then click **OK**.

## Install the CA Certificate for the HTTPS Interface to Series 7 PowerPlay

If your environment includes IBM Cognos Series 7 PowerPlay Enterprise Server and you are using the HTTPS (https://) interface to access Series 7 PowerPlay, you must install a certificate issued by a certificate authority (CA). The CA certificate is required for secure sockets layer (SSL) support.

- 1. Retrieve the CA certificate from your administrator. The file has a .cer extension.
- 2. Double-click the .cer file, click Install Certificate, and then click Next.
- 3. Click Place all certificates in the following store.

- 4. Click **Browse**, click **Trusted Root Certification Authorities**, and then click **Next**.
- 5. Click Finish.

## **Chapter 11. Configuration options**

After you install and configure IBM Cognos components, you can change the configuration for your environment. Initially, default property settings are used to configure the components. However, you can change these default settings if existing conditions make the default choices inappropriate, or to better suit your environment.

For example, you can configure features for IBM Cognos Application Firewall or specify the amount of resources that IBM Cognos components use. Also, you can deliver IBM Cognos content using another portal by configuring Portal Services.

You can configure IBM Cognos components to use other resources, such as using an authentication provider and then enabling single signon for the database connection and the users.

If you use a load-balancing scheme in your environment, you can change settings to improve performance. For example, you can balance requests among dispatchers by changing their processing capacity or by setting the minimum and maximum number of processes and connections. For more information about tuning server performance, see the *Administration and Security Guide*.

For all Microsoft Windows operating system and most UNIX and Linux operating system installations, use IBM Cognos Configuration to configure your settings. However, if the console attached to the UNIX or Linux computer on which you are installing IBM Cognos components does not support a Java-based graphical user interface you must manually edit the cogstartup.xml file in the *c10\_location*/configuration directory, and then run IBM Cognos Configuration in silent mode.

Use these optional configuration tasks to customize your configuration so that IBM Cognos components easily integrate into your existing environment.

# Changing the version of Java Runtime Environment used by IBM Cognos BI components

IBM Cognos Business Intelligence components require a Java Runtime Environment (JRE) to operate.

If you want to change your current JRE, some configuration changes are required. Changing may be appropriate in the following situations:

- You want to use IBM Cognos BI components with an application server that requires a specific JRE version.
- You already use a JRE version with other applications.

The current version provided with IBM Cognos BI is JRE 6.0. For more information about the supported JRE versions, see the IBM Cognos Customer Center (http://www.ibm.com/software/data/cognos/customercenter/).

IBM Cognos Configuration and other IBM Cognos BI components use the JRE referenced by the JAVA\_HOME environment variable. On Microsoft Windows

operating system, if JAVA\_HOME is not set, the JRE that is packaged with IBM Cognos BI components is used by default.

## Changing the JRE versions

Change the JRE version in the following situations: you want to use IBM Cognos BI components with an application server that requires a specific JRE version or you already use a JRE version with other applications.

## Before you begin

Ensure that IBM Cognos BI components are installed and that JRE you want to use is installed.

## Procedure

- 1. Back up existing IBM Cognos data and encryption keys, if required.
- 2. Update the Java environment.
- 3. Import data to the content store, if required.

## Back up existing IBM Cognos information

You must back up existing IBM Cognos information if IBM Cognos Business Intelligence components are running on an application server (including Tomcat) and you are changing to an application server that ships with its own JVM. You must also back up existing IBM Cognos information if you must change the JVM you are using.

**Note:** You must back up existing IBM Cognos information within the working environment prior to upgrade.

Before configuring IBM Cognos BI components to run on the new application server or JVM, you must back up

- content store data by creating a deployment export.
- configuration information by exporting it. Any encrypted data is decrypted during the export.
- cryptographic keys by saving them to an alternate location. New cryptographic keys must be created using the same JVM that the application server uses. Because these keys can be created only if the previous keys are deleted, it is important to back up the previous keys.

To ensure the security and integrity of your IBM Cognos data, back up the content store, configuration information, and cryptographic keys to a directory that is protected from unauthorized or inappropriate access.

**Tip:** To check if any cryptographic keys exist, look in the *c10\_location*/ configuration directory. Cryptographic keys exist if this directory includes the following subdirectories: csk, encryptkeypair or signkeypair.

## Procedure

1. If data exists in the content store, start the IBM Cognos service and export the entire content store using the Deployment tool.

For more information, see the topic about creating an export deployment specification in the *IBM Cognos Business Intelligence Administration and Security Guide*.

2. In IBM Cognos Configuration, from the File menu, click Export As and save the configuration information in a decrypted format. When naming the file, use a name such as decrypted.xml.

Export the data to a directory that is protected from unauthorized or inappropriate access because passwords are stored in plain text. You are prompted to acknowledge that the export is an unsecure operation.

- 3. Stop the IBM Cognos service:
  - If you use Tomcat, stop the IBM Cognos service and close IBM Cognos Configuration.
  - If you use an application server other than Tomcat, shut down IBM Cognos BI in your environment.
- 4. Back up any existing cryptographic keys by saving the appropriate files and directories to an alternate location that is secure.

The files are

- *c10\_location*/configuration/cogstartup.xml
- *c10\_location*/configuration/caSerial
- c10\_location/configuration/cogconfig.prefs
- c10\_location/configuration/coglocale.xml

The directories are

- c10\_location/configuration/csk
- c10\_location/configuration/encryptkeypair
- c10\_location/configuration/signkeypair
- 5. Delete the caSerial and cogconfig.prefs files and the three directories: csk, encryptkeypair, and signkeypair.
- 6. Replace the *c10\_location*/configuration/cogstartup.xml file with the file that contains the data exported from IBM Cognos Configuration (for example, decrypted.xml).

In the *c10\_location*/configuration directory, the file must use the name cogstartup.xml.

The information in this file will be automatically re-encrypted using new cryptographic keys when you save the configuration in IBM Cognos Configuration.

## Update the Java Environment

You can use an existing Java Runtime Environment (JRE) or the JRE that is provided with IBM Cognos Business Intelligence. To support the cryptographic services in IBM Cognos BI, you may be required to update or set a JAVA\_HOME environment variable. Depending on your security policy, you may also have to install the unrestricted Java Cryptography Extension (JCE) policy file.

## JAVA\_HOME

If you want to use your own JRE and have JAVA\_HOME set to that location on Microsoft Windows operating system or if you are installing on a UNIX or Linux operating system, you must update JAVA\_HOME for the cryptographic services.

On Windows, you can set JAVA\_HOME as a system variable or a user variable. If you set it as a system variable, it may be necessary to restart your computer for it to take effect. If you set it as a user variable, set it so that the environment in which Tomcat (or other application server) is running can access it. If you do not have a JAVA\_HOME variable already set on Windows, the JRE files provided with the installation will be used, and you do not have to update any files in your environment. If JAVA\_HOME points to a Java version that is not valid for Cognos BI, you must update JAVA\_HOME with the path to a valid Java version.

You must ensure that the Java Runtime Environment version is appropriate for IBM Cognos Configuration. For example, for a Microsoft Windows operating system, use either a 32-bit or 64-bit version of JRE, depending on the IBM Cognos BI component installed. For UNIX and Linux operating systems, you must use a 64 bit version of JRE.

## **Unrestricted JCE Policy File**

Whether you use the default Windows JRE or download a JRE for UNIX or Linux, the JRE includes a restricted policy file that limits you to certain cryptographic algorithms and cipher suites. If your security policy requires a wider range of cryptographic algorithms and cipher suites than are shown in IBM Cognos Configuration, you can download and install the unrestricted JCE policy file.

## Update the Java environment

To support the cryptographic services in IBM Cognos BI, you may be required to update or set a JAVA\_HOME environment variable. Depending on your security policy, you may also have to install the unrestricted Java Cryptography Extension (JCE) policy file.

#### Procedure

- Ensure that the JAVA\_HOME environment variable is set to the JRE location. For example, to set JAVA\_HOME to the JRE files provided with the installation, the path is c10\_location/bin/jre/version.
- 2. Start IBM Cognos Configuration.
- 3. Save the configuration.

IBM Cognos Configuration generates new keys and encrypts the data.

 Download and install the unrestricted java policy file from the following location: Unrestricted JCE policy files (https://www14.software.ibm.com/ webapp/iwm/web/preLogin.do?source=jcesdk)

## Import Content Store Data

If you exported the content store before changing the JVM, import the deployment to restore and encrypt the data using the new encryption keys.

### Procedure

To import the content store data, start the IBM Cognos BI service and import the entire content store using the Deployment tool. For more information, see the topic about importing to a target environment in the *IBM Cognos Business Intelligence Administration and Security Guide*.

## Changing Default Configuration Settings

When you install IBM Cognos components, the installation uses default configuration settings. If you have any reason not to use these default values, such as a port is being used by another process, use IBM Cognos Configuration to change the value. If you change the value of a property, you must save the configuration and then restart the IBM Cognos service to apply the new settings to your computer.

For distributed installations, ensure that you configured all computers where you installed Content Manager before you change default configuration settings on other IBM Cognos computers. For example, you can

- change the default user and password for Cognos Content Database
- change a URI
- configure cryptographic settings
- configure IBM Cognos components to use IBM Cognos Application Firewall
- configure temporary file properties
- · configure the gateway to use a namespace
- enable and disable services
- configure fonts
- change the default font for reports
- save report output to a file system
- change the location of map charts for Report Studio
- change the notification database

After you change the default behavior of IBM Cognos components to better suit your IBM Cognos environment, you can configure Portal Services, configure an authentication provider, or test the installation.

For IBM Cognos BI, you can install and configure Framework Manager. For Metric Studio, you can install and configure Metric Designer.

# Change Default User and Password for Cognos Content Database

If you install Cognos Content Database, the default database that is created is given a user ID and password. Change this user ID and password.

Administration tasks for Cognos Content Database are performed using a utility named ij. For information about this utility, see the Apache Derby documentation. The documentation is available in the *c10\_location*/derby10.1.2.1/docs directory where you installed Cognos Content Database.

## Changing the default user password

If you install Cognos Content Database, the default database that is created is given a user ID and password. Change this user ID and password.

#### Procedure

- 1. On the computer where you installed Cognos Content Database, go to the *c10\_location*/derby10.1.2.1/bin directory.
- 2. Start the ij utility using the ij.bat or ij.ksh script file.

The ij utility is a command line utility for creating and managing Cognos Content Database.

 Connect to the default database by typing the following ij utility command: connect 'jdbc:derby://localhost:1527/cm;user=cognos;password=cognos';

If you changed the port number from the default 1527, use the correct port number for your Cognos Content Database.

The default database is named cm. The database name is case sensitive.

4. Change the default password for the cognos user by typing the following ij utility command:

CALL SYSCS\_UTIL.SYSCS\_SET\_DATABASE\_PROPERTY('derby.user.cognos', 'NewPassword');

The new password must be used for the next connection to the database.

 Close the ij utility by typing the following command: disconnect;

## Creating a new user and password

If you install Cognos Content Database, the default database that is created is given a user ID and password. Change this user ID and password.

### Procedure

- 1. On the computer where you installed Cognos Content Database, go to the *c10\_location*/derby10.1.2.1/bin directory.
- 2. Start the ij utility using the ij.bat or ij.ksh script file.
- 3. Connect to the default database by typing the following ij utility command: connect 'jdbc:derby://localhost:1527/cm;user=cognos;password=cognos'; If you changed the port number from the default 1527, use the correct port number for your Cognos Content Database.

The default database is named cm. The database name is case sensitive.

- 4. Create a new user by typing the following ij utility command: CALL SYSCS\_UTIL.SYSCS\_SET\_DATABASE\_PROPERTY('derby.user.NewUser', 'NewUserPassword');
- 5. Give the new user full access to the database by typing the following ij utility command:

CALL SYSCS\_UTIL.SYSCS\_SET\_DATABASE\_PROPERTY

('derby.database.fullAccessUsers','cognos, NewUser');

The property that you are changing, the list of users, is a comma-delimited field. In this step, you are including the new user in the list of users with full access. The default user, cognos, is still part of the list of users with full access. You can remove the cognos user.

Close the ij utility by typing the following command: disconnect;

### Removing a user

If you have user accounts that you are no longer using for Cognos Content Database, you can remove them.

- 1. On the computer where you installed Cognos Content Database, go to the *c10\_location*/derby10.1.2.1/bin directory.
- 2. Start the ij utility using the ij.bat or ij.ksh script file.
- 3. Connect to the default database by typing the following ij utility command: connect 'jdbc:derby://localhost:1527/cm;user=NewUser; password=NewUserPassword';
- 4. Choose the kind of user that you want to remove:
  - To remove a user from the list of users with full access, type the following ij utility command:

## CALL SYSCS\_UTIL.SYSCS\_SET\_DATABASE\_PROPERTY ('derby.database.fullAccessUsers', 'NewUser');

You omit the user name from the list of users with full access. For example, the previous command, removes the default cognos user and keeps the new user that you just created.

• To remove a user from the database, type the following ij utility command and omit the user password:

**CALL SYSCS\_UTIL.SYSCS\_SET\_DATABASE\_PROPERTY('derby.user.cognos', '');** This command removes the password for the default cognos user, which also removes the user from the database.

 Close the ij utility by typing the following command: disconnect;

## Port and URI Settings

You can change certain elements in a URI depending on your environment. An IBM Cognos URI contains the following elements:

• For a Content Manager URI, Dispatcher URI for external applications, or dispatcher URI

protocol://host\_name\_or\_IP:port/context\_root/alias\_path

 For a Gateway URI or a Web content URI protocol://host\_name\_or\_IP:port/virtual\_directory/gateway\_application or

protocol://host\_name\_or\_IP:port/context\_root/alias\_path

The elements are described in the following table:

Table 42. IBM Cognos URI elements and descriptions

Element	Description	
protocol	Specifies the protocol used to request and transmit information, either Hyper Text Transfer Protocol or Hyper Text Transfer Protocol (Secure). <b>Example:</b> http or https	
host name or IP	Specifies the identity of the host on the network. You can use an IP address, a computer name, or a fully qualified domain name. In a distributed installation, you must change the localhost element of a URI.	
	In a mixed environment of UNIX and Microsoft Windows operating system servers, ensure that host names can be resolved to IP addresses by all servers in the environment. <b>Example:</b> localhost or 192.168.0.1 or [2001:0db8:0000:0000:0000:148:57ab]:80	
port	Specifies the port on which the host system listens for requests. The default port for Tomcat is 9300. The default port for a Web server is 80. <b>Example:</b> 9300 or 80	

Element	Description
context root	Used by Tomcat or an application server to determine the context of the application so that the request can be routed to the correct Web application for processing.
	Example: p2pa
alias path	Used by the application server to route a request to the correct component within a Web application.
	The alias path must not be modified or IBM Cognos components will not function properly.
	Example: servlet/dispatch
virtual directory	Used by the Web server to map a virtual directory or alias to a physical location.
	For example, in the default Gateway URI of http://localhost:80/ibmcognos/cgi-bin/cognos.cgi, the virtual directory is ibmcognos/cgi-bin.
	Example: ibmcognos/
gateway application	Specifies the name of the Cognos gateway application that is used.
	For example, if you are accessing IBM Cognos components using a Common Gateway Interface (CGI), then the default gateway application would be cognos.cgi.
	Example: cognos.cgi

Table 42. IBM Cognos URI elements and descriptions (continued)

If you are using collaboration with IBM Connections, ensure that you include the full domain for all hostname entries in IBM Cognos Configuration. For example, if your computer is named MyComputer and your domain is

MyCompanyName.com, then for the host\_name\_or\_IP value, use

**MyComputer.MyCompanyName.com**. The domain must be included in order for IBM Connections to allow access. For more information, see "Allow access to IBM Connections from IBM Cognos BI" on page 314.

## Change a Port or URI Setting

Use the following procedure to change URI properties in IBM Cognos Configuration.

#### Procedure

- 1. Start IBM Cognos Configuration.
- 2. In the Explorer window, click the appropriate group or component:
  - To change an element for the dispatcher, click Environment.
  - To change an element for the local log server, under **Environment**, click **Logging**.
- **3.** In the **Properties** window, click the **Value** box next to the URI property that you want to change.
- 4. Select the element and type the new information.

Tips:

- To change the port used by the local dispatcher, change the value of the internal dispatcher URI property. Because the change affects all the URIs that are based on the local dispatcher, you must change the URIs of all local components.
- If you change the dispatcher port in the dispatcher URI, ensure that you specify the new port number when you configure remote computers that use the dispatcher, Content Manager, or Software Development Kit services on this system.
- 5. From the **File** menu, click **Save**.

## **Configuring Cryptographic Settings**

IBM Cognos components require a cryptographic provider; otherwise they will not run. If you delete the default cryptographic provider, you must configure another provider to replace it.

You can configure the following cryptographic settings:

- general cryptographic settings
- settings for the default cryptographic provider
- settings for a cryptographic provider in an Entrust security infrastructure

## **Configure General Cryptographic Settings**

In a distributed installation, IBM Cognos computers communicate with Content Manager to establish trust and obtain some cryptographic keys from Content Manager.

If you change the cryptographic keys in Content Manager, such as by changing application servers or reinstalling Content Manager, you must delete the cryptographic keys on the other IBM Cognos computers. You must then save the configuration on each computer so that they obtain the new cryptographic keys from Content Manager. In addition, all IBM Cognos components in a distributed installation must be configured with the same cryptographic provider settings.

Also, in a distributed environment, the symmetric key should only be stored on computers where Content Manager has been installed.

You can configure the following general cryptographic settings:

• common symmetric key store (CSK) properties

The CSK is used by IBM Cognos to encrypt and decrypt data.

• secure sockets layer (SSL) settings

These include mutual authentication and confidentiality.

• advanced algorithm settings

These include signing and digest algorithms.

- 1. Start IBM Cognos Configuration.
- 2. In the Explorer window, under Security, click Cryptography.
- **3**. In the **Properties** window, change the default values by clicking the **Value** box and then selecting the appropriate value:
  - On computers that do not contain Content Manager, if you do not want to store the CSKs locally, under **CSK settings**, change **Store symmetric key locally** to **False**.

When **Store symmetric key locally** is **False**, the key is retrieved from Content Manager when required. The **Common symmetric key store location** property is ignored.

- If you want the computers at both ends of a transmission to prove their identity, under **SSL Settings**, change **Use mutual authentication** to **True**. Do not change the **Use confidentiality** setting.
- If you want to change the digest algorithm, for the **Digest algorithm** property, select another value.
- 4. From the File menu, click Save.
- 5. Test the cryptographic provider on a gateway computer only. In the **Explorer** window, right-click **Cryptography** and click **Test**.

IBM Cognos components check the availability of the symmetric key.

## Results

After you configure the cryptographic settings, passwords in your configuration and any data you create are encrypted.

## **Configure Settings for the Default Cryptographic Provider**

You can configure some cryptographic settings for the cryptographic provider.

The configurable settings include the following:

- · algorithms and ciphersuites
- identity name settings
- signing key store properties

The signing key pair includes the private key used to generate the digital signature and the public key used to verify authenticity.

· encryption key store properties

The encryption key pair includes the private key used to encrypt data and the public key used to decrypt data.

· certificate authority settings

These include properties for the provided certificate authority (CA) or a third-party CA.

## Procedure

 If you are using a JRE other than the one provided with IBM Cognos server, go to the *c10\_location*/bin/jre/*version*/lib/ext.

If you are using 64-bit components, go to the *c10\_location*/bin64/jre/version/lib/ext directory.

- 2. Copy bcprov-jdkversion.jar to JRE\_location/lib/ext.
- **3.** If you are using a JRE other than one IBM provides, you must also download and install the unrestricted Java Cryptograph Extension (JCE) policy file for your JRE to ensure that all available algorithms and cipher suites are shown in IBM Cognos Configuration.
- 4. Start IBM Cognos Configuration.
- 5. In the Explorer window, under Security, Cryptography, click Cognos.
- 6. In the Properties window, change the properties as needed.
  - To configure the confidentiality algorithm, under the appropriate property, **Confidentiality algorithm** or **PDF Confidentiality algorithm**, click in the **Value** column and then select the algorithm from the drop-down list.

The value of a confidentiality algorithm determines how data is encrypted by IBM Cognos components. For example, database passwords entered in IBM Cognos Configuration are encrypted when you save the configuration. The algorithm selected when the data is encrypted must also be available for the data to be decrypted at a later date.

The availability of confidentiality algorithms can change if there are changes to your environment. For example, if your Java Runtime Environment (JRE) has changed or if you have installed other cryptographic software on the computer. You must ensure that the **Confidentiality algorithm** that was selected when the data was encrypted is also available when you want to access the data.

If you have made changes to a computer, such as upgraded the JRE or installed software that has upgraded the JRE, this may affect the availability of confidentiality algorithms. To ensure that the available algorithms and cipher suites are shown in IBM Cognos Configuration, download and install the unrestricted Java Cryptography Extension (JCE) policy file. For Java that IBM provides, the unrestricted JCE policy file can be downloaded from Unrestricted JCE policy files (https://www14.software.ibm.com/webapp/ iwm/web/preLogin.do?source=jcesdk).

• To adjust the cipher suites, under Supported ciphersuites, click in the Value

column and then click the edit icon

Remove the cipher suites that are not applicable and move the remaining cipher suites up or down in the list so that the cipher suites in the highest range are higher in the list.

Do not mix cipher suites in the 40- to 56-bit range with cipher suites in the 128- to 168-bit range.

- To change the location of the signing keys, under **Signing key settings**, change the **Signing key store location** property to the new location.
- To change the location of the encryption keys, under **Encryption key** settings, change **Encryption key store location** to the new location.
- To use another certificate authority, under **Certificate Authority settings**, change **Use third party CA** to **True**.

You must also ensure that you use the same values for the -k parameter as you used for the **Signing key store location** and **Encryption key store location** properties.

For more information, see "Configuring IBM Cognos components to use another Certificate Authority" on page 244.

7. From the **File** menu, click **Save**.

### Results

If you use another Certificate Authority (CA) server, configure IBM Cognos components to use the CA. For more information, see "Configuring IBM Cognos components to use another Certificate Authority" on page 244.

## Configure Cryptographic Provider Settings in an Entrust Security Infrastructure

To configure encryption in an Entrust security infrastructure, you replace the default cryptographic provider in IBM Cognos Configuration with a provider that you configure for Entrust and then you update security files in your IBM Cognos environment.

## Before you begin

Ensure that the key store passwords match the one in your Entrust Profile (EPF).

To prevent gateway errors, ensure that the Internet Guest Account has read and write permission to the Entrust .epf file and read permission to the Entrust .ual file.

## Procedure

1. If you are using a JRE other than the one provided with IBM Cognos server, go to the *c10\_location*/bin/jre/*version*/lib/ext.

If you are using 64-bit components, go to the *c10\_location*/bin64/jre/ *version*/lib/ext directory.

- 2. Copy bcprov-jdkversion.jar to JRE\_location/lib/ext.
- **3**. Ensure that the following files from IBM Cognos and Entrust exist in the location where the JRE is installed:
  - From the Entrust Authority Security Toolkit that you download from Entrust, copy the .jar file, such as enttoolkit.jar, to JRE\_location/lib/ ext.
- 4. To ensure that all available algorithms and cipher suites are shown in IBM Cognos Configuration, download and install the unrestricted Java Cryptography Extension (JCE) policy file. For Java that IBM provides, the unrestricted JCE policy file can be downloaded from Unrestricted JCE policy files (https://www14.software.ibm.com/webapp/iwm/web/ preLogin.do?source=jcesdk).
- 5. Start IBM Cognos Configuration.
- 6. In the Explorer window, under the Security group, click Cryptography.
- 7. In the **Properties** window, under **Advanced algorithm settings**, change the **Digest algorithm** to the appropriate message digest or secure hash algorithm for your security policy.
- 8. In the **Explorer** window, under the **Security** group and the **Cryptography** component, right-click the **IBM Cognos** resource, and click **Delete**.
- 9. Under the **Security** group, right-click **Cryptography**, and click **New resource** > **Provider**.
- 10. In the Name field, type a name for the encryption service you are creating.
- 11. In the **Type** field, click the arrow, and click **Entrust**, and then click **OK**. A branch with the name you assigned appears below **Cryptography**.
- 12. Click the branch you created.

Resource properties appear in the properties window.

**13**. In the **Properties** window, enter the appropriate values, as listed in the following table:

Property	Description
INI file location	The location of the Entrust initialization file (.ini).
Identity file distinguished name (DN)	The distinguished name associated with the profile of the Entrust identity.
Identity file location	The location of the Entrust identity profile file (.epf).

Table 43. Cryptography property values and descriptions

Property	Description	
Use Entrust Server Login	The parameter that controls whether users must enter a password to log on to the Entrust PKI.	
Identity file password	The Entrust Profile password, which must match the one in your Entrust Profile (EPF).	
Confidentiality algorithm	The level of encryption that is required to comply with your security policy.	
PDF Confidentiality algorithm	The encryption algorithm to use when encrypting PDF data.	
Supported ciphersuites	The cipher suites that are supported in your security environment. Remove the ones that are not applicable and rearrange the remaining cipher suites from highest to lowest. This ensures that the most secure cipher suite is used first.	
Signing Key Store Location	The location of the key store that contains the signing key pairs.	
Encryption Key Store Location	The location of the key store that contains encryption key pairs.	

Table 43. Cryptography property values and descriptions (continued)

**Important:** Record your passwords in a secure location.

- 14. From the File menu, click Save.
- 15. Update to Entrust Java Toolkit 7.2 SP2 Patch 170072.

## **IBM Cognos Application Firewall**

IBM Cognos Application Firewall analyzes and validates HTTP and XML requests before they are processed by IBM Cognos servers. IBM Cognos Application Firewall may modify these HTTP and XML requests.

IBM Cognos Application Firewall protects IBM Cognos Web products from malicious data. The most common forms of malicious data are buffer overflows and cross-site scripting (XSS) attacks, either through script injection in valid pages or redirection to another Web site.

You can track firewall activity by checking the log file, which contains rejected requests. By default, log messages are stored in the *c10\_location*/logs/ cogserver.log file.

If you are using the collaboration features with IBM Connections, you must add the host name, domain, and port number on which IBM Connections is running to the **Valid domains and hosts** property for the Cognos Application Firewall.

All Cognos Application Firewall settings must be the same for all computers where IBM Cognos Application Tier Components are installed within a distributed environment. For example, if Cognos Application Firewall is disabled on some computers and enabled on others, unexpected behavior and product errors may result.

The following types of URLs are accepted by Cognos Application Firewall validation:

- fully qualified (absolute) URLs in the format *protocol://host:port/path*, where *protocol* is http or https and *host* is
  - validated against the valid domain list
- URLs relative to the Web installation directory

in the format /Web\_installation\_root/.\* where Web\_installation\_root is the gateway Web directory, based on the ibmcognos alias that you configured on your Web server.

For example,

/ibmcognos/ps/portal/images/action\_delete.gif

• specific allowed URLs, including the following (all case insensitive) about:blank

JavaScript:window.close()

JavaScript:parent.close( )

JavaScript:history.back( )

parent.cancelErrorPage( )

doCancel()

## Configure IBM Cognos Components to Use IBM Cognos Application Firewall

Using IBM Cognos Configuration, you can change settings for other XSS tool support, and you can add host and domain names to the IBM Cognos list of valid names.

## Procedure

- 1. In each location where IBM Cognos BI Application Tier Components are installed, start IBM Cognos Configuration.
- 2. In the Explorer window, under Security, click IBM Cognos Application Firewall.
- **3**. In the **Properties** window, for the **Enable CAF validation** property, set the appropriate values.

By default, IBM Cognos Application Firewall is enabled.

**Important:** The IBM Cognos Application Firewall is an essential component of IBM Cognos security, helping to provide protection against penetration vulnerabilities. Disabling the IBM Cognos Application Firewall will remove this protection. Under normal circumstances, do not disable the IBM Cognos Application Firewall.

4. If you are using another XSS tool that checks for specific characters in GET request parameters, in the **Properties** window, for the **Is third party XSS checking enabled** property, change the value to **True**.

The default characters that are prohibited include >, <, and '.

- 5. Add host and domain names to the IBM Cognos list of valid names:
  - For the **Valid domains and hosts** property, click the value and then click the

edit icon 🧹

• In the Value - Valid domains or hosts dialog box, click Add.

You must include the domains from all hyperlinks that are added in IBM Cognos Connection. For more information, see the topic about creating a URL in the *IBM Cognos Business Intelligence Administration and Security Guide*.

**Tip:** If you are using drill-through from IBM Cognos Series 7 to reports in IBM Cognos BI, add the hostnames of the IBM Cognos Series 7 gateway servers to the list.

• In the blank row of the table, click and then type the host or domain name. To allow a domain and all its sub-domains, use a wildcard character at the

For example, **\*.mycompany.com** 

begining of the domain name.

If you are using the collaboration features with IBM Connections, you must add the host, domain, and port number for the IBM WebSphere profile where you have installed IBM Connections. For example, if you installed IBM Connections on a computer named **myserver**, and your domain is **mycompany.com**, you would add **myserver.mycompany.com:9080**, where 9080 is the IBM WebSphere port number on which IBM Connections is running.

- Repeat the previous two bulleted steps for each name to be added.
- Click OK.

IBM Cognos Application Firewall validates domain and host names to protect URLs that are created. By default, IBM Cognos Application Firewall considers domain names derived from the environment configuration properties to be safe domain names. Adding names to the list of valid names and hosts is useful when you need to redirect requests to non-IBM Cognos computers using the Back or Cancel functions or when using drill-through to different IBM Cognos product installations.

- 6. Save the configuration.
- 7. Restart the services.

## **Encrypt Temporary File Properties**

Temporary files are used in IBM Cognos BI to store recently viewed reports and to store data used by the services during processing. You can change the location of the temporary files and you can choose to encrypt their content.

By default, IBM Cognos components store temporary files in the *c10\_location*\temp directory and the files are not encrypted.

For optimum security, deny all access to the temp directory, except for the service account used to start the IBM Cognos services. Read and write permissions are required for the service account.

- 1. Start IBM Cognos Configuration.
- 2. In the Explorer window, click Environment.
- **3**. In the **Properties** window, for the **Temporary files location** property, specify the new location.
- 4. If you require the content of temporary files to be encrypted, set the **Encrypt temporary files** property to **True**.
- 5. Ensure that the user account under which IBM Cognos BI components run have the appropriate privileges to the temporary files location. For example:
  - · on Microsoft Windows operating systems, full control privileges
  - on UNIX or Linux operating systems, read-write privileges

## Configure the Gateway to Use a Namespace

If IBM Cognos components use multiple namespaces, or if anonymous access is enabled and IBM Cognos components use one namespace, you can configure the gateway to connect to one namespace. Users logged onto the Web server where the gateway is located are not prompted to choose an authentication source. For example, if you have two Web servers, you can configure each Web server to use a different namespace.

### Procedure

- 1. On the computer where the gateway is located, start IBM Cognos Configuration.
- 2. In the Explorer window, click Environment.
- **3**. In the **Properties** window, in the **Value** box next to the **Gateway namespace** property, type the Namespace ID of the namespace that you want to use.
- 4. From the **File** menu, click **Save**.
- 5. Restart your Web server.

## **Enable and Disable Services**

In a distributed installation, you can send certain types of requests to specific computers by enabling or disabling the installed services.

For example, to dedicate a computer to running and distributing reports, you can disable the presentation service on an Application Tier Components computer. To dedicate a computer in a distributed installation to processing Metric Studio application requests, disable the Data Integration Service on the computer.

**Note:** The default values for dispatcher service and presentation service are false on computers that only have Content Manager installed. On all other types of installations, the default values are true.

If you installed all components on several computers, you can disable appropriate services on each computer to get the distributed configuration you require. Requests are only sent to dispatchers where a given service is enabled.

Disabling a service prevents the service from loading into memory. When disabled, services do not start and therefore do not consume resources. The service does not run until you enable it.

If you disable the dispatcher service, the dispatcher-related services are disabled. Only dispatcher services that are enabled can process requests.

## **Enabling and disabling services**

Use the following procedure to disable selected services on components in a distributed installation.

### Procedure

- 1. Start IBM Cognos Configuration.
- 2. In the Explorer window, under Environment, click IBM Cognos services.
- **3.** In the **Properties** window, click the **Value** next to the service that you want to disable or enable.

By default, all services are enabled.

4. Click the appropriate state for the services:

- To disable the service, click **False**.
- To enable the service, click **True**.
- 5. From the **File** menu, click **Save**.

## **Configuring fonts**

IBM Cognos components use fonts to render PDF reports on the IBM Cognos server. IBM Cognos components also use fonts to render charts used in PDF and HTML reports.

To show output correctly, fonts must be available where the report or chart is rendered. For charts and PDF reports, the fonts must be installed on the IBM Cognos server. If a requested font is not available, IBM Cognos components substitute a different font.

Because HTML reports are rendered on a browser, the required fonts must be installed on the computer of each IBM Cognos user who views the report. If a requested font is not available, the browser substitutes a different font.

Use the following checklist if you want to use a new font in your reports.

- Add the font to the list of supported fonts.
- \_• Specify the file location of the new font.
- Map the new font to the physical font name, if required.

## **Considerations to support Simplified Chinese**

IBM Cognos BI products support the GB18030-2000 character set, which is used in the encoding of Simplified Chinese locales.

If you install on Microsoft Windows, support is provided for the GB18030-2000 character set in the SimSun-18030 font that is provided by Microsoft.

On operating systems other than Windows, you must install a font that supports GB18030-2000.

## Add Fonts to the IBM Cognos Environment

You can add fonts to the list of supported fonts in your IBM Cognos environment if you want to generate reports that use fonts that are currently not available. You can also remove fonts. By default, IBM Cognos components use a set of global fonts, which are available on all IBM Cognos server computers.

### Procedure

- 1. On each Content Manager computer, start IBM Cognos Configuration.
- 2. From the Actions menu, click Edit Global Configuration.
- **3**. Click the **Fonts** tab.
- 4. Click Add.

**Tip:** To remove a font from the list of supported fonts, click the box next to the font name and then click **Remove**.

- 5. In the Supported Font Name box, type the font name and then click OK.
- 6. From the **File** menu, click **Save**.

All global fonts, including new fonts that you add, must be installed on all IBM Cognos computers in your environment.

## Results

If a global font is not installed on all IBM Cognos computers, you must map the global font to an installed, physical font.

## Specify the Location of Available Fonts

You must specify the installation location of all fonts, including fonts that you add to the list of supported fonts.

By default, the list of fonts consists of fonts installed in the *c10\_location*\bin\fonts directory of the IBM Cognos computer. If IBM Cognos components are installed on a Microsoft Windows operating system computer, they also use the fonts installed in the Windows font directory.

You specify the font location on all computers where Application Tier Components are installed.

#### Procedure

- 1. On each Application Tier Components computer, start IBM Cognos Configuration.
- 2. In the Explorer window, click Environment.
- **3.** In the **Properties** window, for the **Physical fonts locations** property, specify the location of the fonts.

If there are multiple font paths, separate each path by a semicolon (;).

If you are using an application server other than Tomcat, type the fully qualified path to the font location. For example: *c10\_location/bin/fonts*.

4. From the File menu, click Save.

### Map Supported Fonts to Installed Fonts

You can substitute global fonts, which are not installed on the computer, for physical fonts.

You map fonts on each computer where the Application Tier Components are installed.

For example, you add a font to the list of supported fonts that is not installed on the IBM Cognos computer. You can specify which font to use as a substitute.

If you want to print reports faster by using the built-in PDF fonts, you can map a global font such as Arial to one of the built-in PDF fonts, such as Helvetica-PDF, using the following steps. You can also select one of the built-in PDF fonts for a text object in Report Studio or Query Studio. For more information, see the *Query Studio User Guide* or the *Report Studio User Guide*.

No mapping is required if you add a font to the supported font list that is installed on IBM Cognos computers. However, you must specify the location of the font.

#### Procedure

- 1. On each Application Tier Components computer, start IBM Cognos Configuration.
- 2. In the **Explorer** window, click **Environment**.
- 3. In the Properties window, click the Value box next to the Physical fonts map

property, and then click the edit icon

The Value - Physical fonts map dialog box appears.

4. Click Add.

Tip: To remove a font, select the check box next to the font and click Remove.

- 5. In the **Global Font Name** box, type the name of the font you added to the supported font list.
- 6. Click the Physical Font Name box.
- 7. If you know the physical font name, type it. Otherwise, click the edit icon

In the **Physical Font Name** dialog box, click **Search Now** and then click a font name from the results.

- 8. Repeat steps 4 to 7 for each global font that requires mapping.
- 9. Click OK.
- 10. From the File menu, click Save.

#### Results

Now, if required, you must specify the installation location of the fonts.

## Change the default font for PDF reports

You can change the default font that IBM Cognos BI components use for PDF reports. You see this default font when you open a report.

You change the default font on the computer where Content Manager is installed. The font then becomes the default for all computers in your installation. You change the font used for PDF reports using IBM Cognos Configuration.

Ensure that the default font is installed on all computers in your IBM Cognos installation.

To ensure that GB18030 characters are displayed correctly in PDF reports, set the default font to SimSun-GB18030.

#### Procedure

- 1. On each Content Manager computer, start IBM Cognos Configuration.
- 2. From the Actions menu, click Edit Global Configuration.
- 3. Click the **General** tab.
- 4. In the **Value** box, for **Default font**, type the font you want to use as the default for reports.
- 5. Click OK.
- 6. From the **File** menu, click **Save**.
- 7. On all Application Tier Components computers, ensure that the installation location of the default font is specified in the **Physical fonts locations** property (under **Environment** in the **Explorer** window) or that the font is in the Windows font directory.

## Configure Embedded Fonts for PDF Reports

When a PDF report opens in Adobe Reader, all the fonts used in that report must be available. Fonts must be either embedded in the report or installed on the user's computer. If a font is not available in either of these locations, Adobe Reader tries to substitute an appropriate font. This substitution may cause changes in the presentation of the report or some characters may not be displayed.

To ensure that PDF reports appear correctly in Adobe Reader, IBM Cognos BI embeds required fonts in reports by default. To minimize the file size, IBM Cognos BI embeds only the characters (also called glyphs) used in the report rather than all characters in the font set. IBM Cognos BI embeds fonts only if they are licensed for embedding. The license information is stored in the font itself and is read by IBM Cognos BI.

If you are confident that the fonts used in reports are available on users' computers, you can limit or eliminate embedded fonts to reduce the size of PDF reports. When limiting fonts, you specify whether a font is always or never embedded, using an embedded fonts list in IBM Cognos Configuration.

## Procedure

- 1. On the Content Manager computer, start IBM Cognos Configuration.
- 2. In the Explorer window, click Environment.
- 3. In the **Properties** window, under **Font Settings**, click the value for **Fonts to embed (Batch report service)** or **Fonts to embed (Report service)**, and then

click the edit icon 🖉

4. If you are not using the default fonts directory or if you want to add a path to an additional directory, in the **Fonts to Embed in PDF Reports** dialog box, specify the new path in the font paths box.

**Tip:** Click **Search Now** to get a list of the available fonts in the specified path or paths.

5. For a font that will always be available on users' computers, scroll to the font name, and click the **Never** check box.

IBM Cognos BI does not embed the font with any reports. Adobe Reader picks up the font from the user's computer when the report is opened.

6. For a font that may not always be available on the users' computers, scroll to the font name and click the **Always** check box.

IBM Cognos BI embeds the font with all reports that use it. Adobe Reader uses the embedded font when the report is opened.

7. Click OK.

## Saved Report Output

By default, report output files are saved in the content store. You have the option of saving a copy of the report output in another file location that is outside or inside IBM Cognos BI. If you use this option, a descriptor file with an \_descr extension is also saved. Saved files are not managed by IBM Cognos BI.

## Save Report Output Outside IBM Cognos BI

If you configure a file system location that is outside of IBM Cognos BI, you can then share the report output with external applications or people who don't have IBM Cognos BI. This is how most report output files are saved.

To use this feature, you must first configure a root directory in IBM Cognos Configuration. An administrator must then set the file location in IBM Cognos Administration. For more information, see the topic about setting a file location for report output saved outside of IBM Cognos BI, in the *IBM Cognos Business Intelligence Administration and Security Guide*.

## Procedure

1. Create a directory for your file system.

**Tip:** Ensure that the directory is accessible to users and separate from the installation directory. For example, in a distributed installation on Microsoft Windows, an archive folder such as \\servername\directory could be used.

- 2. On the Content Manager computer, start IBM Cognos Configuration.
- 3. From the Actions menu, click Edit Global Configuration.
- 4. In the Global Configuration window, click the General tab.
- 5. For Archive Location File System Root, type a URI using the format

file://directory

where *directory* is the directory that you created in step 1.

The file:// portion of the URI is required. Windows UNC names, such as \\servername\directory, can be used. If so, the URI must be formatted as follows:

file://\\servername\directory

**Tip:** Ensure that you do not use a mapped drive when running Cognos as a Microsoft Windows service.

- 6. To confirm that the correct location will be used, click Test.
- 7. Click OK.
- 8. From the File menu, click Save.

#### Results

The administrator must now configure the file location. For information, see the topic about setting a file location for report output saved outside of IBM Cognos BI, in the *IBM Cognos Business Intelligence Administration and Security Guide*.

## Save Report Output Inside IBM Cognos BI

If you configure a file system location that is inside IBM Cognos BI, you can then use the report output again. This may also be useful for archive purposes, because files that are saved in the Content Store may be deleted regularly due to retention rules.

To use this feature, you must first enable the **Save report outputs to a file system** property in IBM Cognos Configuration. An administrator must then configure the file location using the CM.OutPutLocation parameter in IBM Cognos Administration. For more information, see the topic about setting a file location for report output saved inside IBM Cognos BI, in the *IBM Cognos Business Intelligence Administration and Security Guide*.

To protect the security of the report output when using this feature, the file system must have third-party encryption.

#### Procedure

1. Create a directory for your file system.

Tip: Ensure that the directory is accessible to authorized users only.

- 2. On the Content Manager computer, start IBM Cognos Configuration.
- 3. In the Explorer window, click Data Access > Content Manager.
- 4. For the Save report outputs to a file system property, click True.

- 5. To test the connection to the report output directory, from the Actions menu, click Test.
- 6. From the File menu, click Save.

#### Results

The administrator must now configure the file location using the CM.OutPutLocation parameter. For information, see the topic about setting a file location for report output saved inside IBM Cognos BI, in the *IBM Cognos Business Intelligence Administration and Security Guide*.

## **Changing the Location of Temporary Report Output**

When users run interactive reports, the report output is stored in Content Manager or in a temporary session cache in the local report file system. You can change the location of the temporary session cache to a remote computer such as a shared directory on a Microsoft Windows based system or a common mounted directory on a UNIX or Linux based system.

By default, the location of the temporary session cache on the report file system is  $c10\_location/temp/Session$ . The Session directory is created by the report server when the first request from a user session is received.

To configure whether the temporary report output is stored in Content Manager or in the local report file system, see the topic about storing user session files on a local report file system in the *IBM Cognos Business Intelligence Administration and Security Guide*.

### Procedure

- 1. On the computer where Application Tier Components are installed, start IBM Cognos Configuration.
- 2. In the Explorer window, click Environment.
- 3. In the Properties window, click the value for Temporary files location, and

then click the edit icon

- 4. In the **Select Folder** dialog box, use the **Save in** box to locate the computer and directory, and then click **Select**.
- 5. From the **File** menu, click **Save**.

When a user runs an interactive report session, the temporary report output is now stored in the new location.

## Change the Location of Map Charts for Report Studio

IBM Cognos BI comes with a set of sample map charts that you can use in Report Studio. You can change the location of the map charts by using IBM Cognos Configuration.

By default, the map charts are stored in the *c10\_location*/maps directory on the Application Tier Components computer.

For more information about using map charts, see the Report Studio User Guide.

For information about using custom maps from other sources, see the Map Manager *Installation and User Guide*.

## Procedure

- 1. On the Application Tier Components computer, start IBM Cognos Configuration.
- 2. In the Explorer window, click Environment.
- 3. In the Properties window, click the value for Map files location.
- 4. Click the edit button
- 5. In the **Select Folder** window, navigate to the directory you want and then click **Select**.
- 6. From the File menu, click Save.

## Configuring multitenancy settings

Multitenancy provides the capability to support multiple customers or organizations (tenants) by using a single deployment of an application, while ensuring that the users belonging to each tenant can access only the data that they are authorized to use. Such applications are called multi-tenant applications.

IBM Cognos Business Intelligence (BI) provides capabilities that make it easier to administer and secure multi-tenant applications.

The following diagram shows how the Cognos BI multitenancy capabilities isolate access to objects in your content store. Users can access only the objects that they are authorized to access within each tenant grouping.



Figure 11. Content store configured to use the Cognos BI multitenancy capabilities

In this example, the users would have access to the following objects:

- Users belonging to Tenant 1 can access object\_1, object\_2, and object\_3.
- Users belonging to Tenant 2 can access object\_3, object\_4, object\_5, and object\_6.

Note: The system administrator can access all objects in the content store.

Before you can use IBM Cognos multitenancy, you must modify your configuration. Multitenancy properties that you specify for a specific namespace override any multitenancy properties that you set globally. To configure multitenancy, you must perform the following tasks:

- 1. "Identify tenancy information"
- 2. "Enabling multitenancy" on page 239

## Identify tenancy information

Before you can modify your configuration for multi-tenant applications, you need to identify how tenancy information (grouping) is determined in your environment for the individual users. Then, you associate the tenancy information to specific multitenancy properties.

To identify tenancy information, you can use the position of a user within a hierarchy, or you can use the properties associated with user objects. You can also create custom code that is invoked during the user authentication process.

## Use hierarchies to determine tenancy information

One way to determine tenancy information is to reuse the node structure information within a hierarchy.

When reusing the node structure information, you can use the information provided by the ancestors user attribute, which represents the hierarchical path to a user account in the form of an array. The following table shows how you could map the ancestors attribute to a hierarchy to identify the tenancy information:

Ancestors information	Hierarchy	LDAP example
ancestors[0]	Directory node	
ancestors[1]	Namespace ID	base DN
ancestors[2]	Tenant grouping, such as folders	organizational units

Table 44. Ancestors attribute mapped to hierarchy information

For example, if users are stored in an LDAP directory and tenants are directly under the base Distinguished Name (DN) as organizational units, set the multitenancy.TenantPattern advanced property to the following value: multitenancy.TenantPattern = ~/ancestors[2]/defaultName

**Note:** In addition to defaultName, the following ancestors qualifiers can return tenancy information:

- name/locale, where locale is based on the mapping in the namespace configuration. If no locale is given, the name is the title of the object. For example, you could specify: multitenancy.TenantPattern = ~/ancestors[2]/name/EN-ca.
- searchPath/objectID. For example, you could specify: multitenancy.TenantPattern = ~/ancestors[2]/searchPath/objectId.

#### Use object attributes to determine tenancy information

If you cannot use the node structure hierarchy to determine the tenancy information, you can use specific object attributes from your authentication provider. This method requires that you also identify any additional properties to be queried during the user authentication process. For example, if the departmentNumber attribute of an LDAP user object identifies the user's tenant, set the multitenancy.TenantPattern and the AdditionalUserPropertiesToQuery advanced properties as follows:

multitenancy.TenantPattern = ~/parameters/parameter\_name
AdditionalUserPropertiesToQuery = parameters

In this example, you must also set the following LDAP custom property:
parameter\_name = departmentNumber

## Use custom code to determine tenancy information

When the tenancy information cannot be obtained through a hierarchy or a user attribute, you must create a custom class that is invoked during the user authentication process to determine the tenancy information. For example, you might need to join data from multiple authentication sources, or from an authentication source and a relational database.

In such cases, you create a custom Java class using the IBM Cognos Software Development Kit and specify its name during the BI configuration. In this scenario, set the multitenancy.ITenantProvider property as follows: multitenancy.ITenantProvider = custom class name

where *custom\_class\_name* represents the name of your custom class, for example, com.example.Class.

IBM Cognos Software Development Kit includes a sample custom class to determine tenancy information. You can find the sample files in the *c10\_location*\sdk\java\AuthenticationProvider\ MultiTenancyTenantProviderSample directory.

## **Enabling multitenancy**

To enable Cognos multitenancy capabilities, you set advanced authentication properties on all the computers where the Content Manager is configured, and then restart the IBM Cognos service.

## Before you begin

- Identify how tenant information is determined for individual users in your environment. For more information, see "Identify tenancy information" on page 238.
- Compile any required custom Java class files into JAR files and either place them into the *c10\_location*/webapps/p2pd/WEB-INF/lib directory along with any associated files, or update the CLASSPATH environment variable to include the path to these files.
- Determine whether you must apply the multitenancy settings to all configured namespaces or to individual namespaces. Multitenancy properties for a specific namespace override any multitenancy properties that are set globally. If a namespace is not configured to use multitenancy, then policies and permissions for objects are used to determine who can access the objects.

- 1. Open IBM Cognos Configuration.
- **2**. To configure tenancy settings globally or for individual namespaces, use the following steps:

- To configure the tenancy information for all namespaces: In the Explorer window, under Security, click **Authentication**.
- To configure the tenancy information for one namespace: In the Explorer window, under Security, click **Authentication**. Click the namespace that you want to configure.
- 3. Click the Edit button in the Value column for Advanced properties.
- 4. Click Add.
- 5. Add the multitenancy properties that you need.

The following scenarios illustrate possible combinations of the multitenancy properties:

 To use hierarchy information, you could set the following property: multitenancy.TenantPattern = ~/ancestors[2]/defaultName

**Note:** If you use Active Directory namespaces, you must also set the MultiDomainTree advanced property to true to map tenants to domains.

- To use specific object attributes from your authentication provider, such as a department number (departmentNumber), you would follow these steps:
  - a. Set the following advanced properties:

multitenancy.TenantPattern = ~/parameters/parameter\_name AdditionalUserPropertiesToQuery = parameters

b. Set the following namespace custom property:

parameter\_name = departmentNumber

 To use a custom Java class, you would set the following property: multitenancy.ITenantProvider = custom class name

where *custom\_class\_name* represents the name of a Java class that you created.

- 6. Click OK.
- 7. Test the changes. In the Explorer window, right-click **Authentication**, and click **Test**. A message showing that multitenancy is enabled appears in the log.
- 8. From the File menu, click Save.
- 9. Restart the IBM Cognos service for the changes to take effect.

## What to do next

After multitenancy is enabled, the system administrator must set the tenancy information for the objects in the content store. For more information, see the *Administration and Security Guide*.

To track tenant activities, you can use a logging database. For information about creating a logging database, see "Guidelines for creating a logging database" on page 253.

## **Disabling multitenancy**

To disable multitenancy, you must remove all multitenancy advanced authentication properties on all the computers where the Content Manager is configured.

- 1. Open IBM Cognos Configuration.
- **2**. To disable tenancy settings that are set globally or to specific namespaces, use the following steps:
- To disable the tenancy settings for all namespaces: In the Explorer window, under Security, click **Authentication**.
- To disable tenancy settings for one namespace: In the Explorer window, under Security, click **Authentication**. Click the namespace that you want to configure.

**Note:** If multitenancy properties are set globally and individually, the properties for a specific namespace override any global multitenancy properties.

- 3. Click the Edit button in the Value column for Advanced properties.
- 4. Select the multitenancy properties that you want to remove.
- 5. Click the **Remove** button.
- 6. Click OK.
- 7. Test the changes. In the Explorer window, right-click **Authentication**, and click **Test**.
- 8. From the File menu, click Save.
- 9. Restart the IBM Cognos service.

### What to do next

After multitenancy is disabled, the system administrator must review and update the policies on objects and then update the tenancy to public.

## Change the notification database

By default, the notification server uses the same database that Content Manager uses for the content store. You can use a separate database for notification in situations where you run large volumes of batch reports and email.

Using a separate database for notification involves the following tasks:

• Creating a notification database.

For DB2, Oracle, Microsoft SQL Server, or Sybase, use the same procedure that was used to create the content store database. Use the instructions in "Guidelines for creating the content store" on page 44.

**Note:** If you are using DB2, you cannot generate a script to create the notification database in the same way as you can the content store.

For DB2 on z/OS, use the instructions in "Suggested settings for creating a notification database on DB2 on z/OS."

• Setting up the database connectivity.

You can use the same procedure as to set the connectivity for the content store database, "Set up database connectivity for the content store database" on page 79.

Changing the connection properties for the notification database.
 Use the instructions in "Change the Connection Properties for the Notification Database" on page 243.

## Suggested settings for creating a notification database on DB2 on z/OS

The database you create for the notification database must contain the specified configuration settings.

To ensure a successful installation, use the following guidelines when creating the notification database.

Use the following checklist to help you help you set up the notifications database in DB2 on z/OS.

 Create a database instance, storage group, and a user account for the notification database.

A user must have permissions to create and delete tables in the database.

IBM Cognos BI uses the credentials of the user account to communicate with database server.

- Ensure you reserve a buffer pool with a page size of 32 k, and a second one with a page size of 4 k for the database instance.
- \_\_\_\_ Administrators must run a script to create tablespaces to hold Large Objects and other data for the notification database to use the tablespaces.

For information about running the script, see "Creating table spaces for a notification database on DB2 for  $z/OS.^{\prime\prime}$ 

 Your database administrator must back up IBM Cognos BI databases regularly because they contain the IBM Cognos data.

To ensure the security and integrity of databases, protect them from unauthorized or inappropriate access.

## Creating tablespaces for a notification database on DB2 for z/OS

If you are using DB2 for z/OS, a database administrator must run scripts to create a set of tablespaces required for the notification database. The scripts must be modified to replace the placeholder parameters with ones that are appropriate for your environment.

Ensure that you use the naming conventions for DB2 for z/OS. For example, all names of parameters must start with a letter and the length must not exceed 6 characters. For more information, see the IBM DB2 Information Center.

#### Procedure

- 1. Connect to the database as a user with privileges to create and drop tablespaces and to allow execution of SQL statements.
- 2. Go to the *c10\_location*/configuration/schemas/delivery/zosdb2 directory.
- **3.** Make a backup copy of the NC\_TABLESPACES.sql script file and save the file to another location.
- 4. Open the original NC\_TABLESPACES.sql script file and use the following table to help you to replace the placeholder parameters with ones appropriate for your environment.

Table 45. Tablespace parameter names and descriptions for the DB2 notification database on *z*/OS

Parameter Name	Description
NCCOG	Specifies the name of the notification database.
DSN8G810	Specifies the name of the storage group.
BP32K	Specifies the name of the buffer pool.

Not all of the parameters listed are in the script, but may be added in the future.

5. Save and run the script.

```
For example,
```

db2 -tvf NC\_TABLESPACES.sql

- 6. Open the NC\_CREATE\_DB2.sql script file and replace the NCCOG placeholder parameter with the name of the notification database.
- 7. Save the script.

The Job and Scheduling Monitor services will automatically run the script. However, you may choose to run it yourself.

# Change the Connection Properties for the Notification Database

After you create a separate database for notification, you must configure IBM Cognos components to use the new database.

You must configure all Content Managers and Application Tier Components to use the same notification database.

## Procedure

- 1. In each location where Content Manager or Application Tier Components is installed, start IBM Cognos Configuration.
- 2. In the Explorer window, under Data Access, click Notification.
- 3. Identify the database that is used for notification:
  - In the Explorer window, right-click Notification and select New resource > Database.
  - Type a name for the database resource.
  - Select the type of database from the pull-down menu.
  - Click OK.
- 4. In the **Properties** window, enter the values for the notification database resource.
- 5. From the File menu, click Save.
- 6. Test the notification. In the **Explorer** window right-click **Notification** and click **Test**.

This tests the database connection and the mail server connection.

If you have been using the content store database for notification, the schedules will be replicated in the tables of the new notification database.

## Results

Ensure that the values used to identify the notification database resource are the same on all Content Manager and Application Tier Components computers. To use the default notification database, you do not have to edit the values in the **Properties** window.

## Create a New Content Store Using Cognos Content Database

Use the following steps to create another content store database using the Cognos Content Database. This might be required if you install more than one instance of your IBM Cognos product in the test location and you want to run the instances separately.

## Before you begin

Only use Cognos Content Database for test or demonstration purposes. Cognos Content Database gets a test system running quickly. When moving to a production environment with your IBM Cognos product, set up the content store to use a supported database that can be secured and tuned for performance.

Before you create the new content store, do the following:

• Install the additional instance of your IBM Cognos wsproduct in a separate directory on the same computer.

Ensure that you select **Cognos Content Database** on the **Component Selection** page of the installation wizard.

Create a new user and password for the new content store database.

#### Procedure

 In the location where you installed the new instance of Cognos Content Database, in the *c10\_location*/derby10.1.2.1/bin directory, use the ij.bat or ij.ksh script to create a new database.

Use the following syntax:

connect 'jdbc:derby://host:port/db\_name;create=true;user=username; password=password';

Ensure that you use a different name, user, and password for the new content store.

For example, to create a database named contentstore2 on the localhost computer on port number 1527 as a user named cognos2 with a password of cognos2, you would type

#### connect 'jdbc:derby://localhost:1527/

#### contentstore2;create=true;user=cognos2;password=cognos2';

The database name is case-sensitive.

The database files are located in the *c10\_location*\contentstore directory.

2. When you are finished with the ij utility, disconnect by using the following command:

disconnect;

## Configuring IBM Cognos components to use another Certificate Authority

By default, IBM Cognos BI components use their own certificate authority (CA) service to establish the root of trust in the IBM Cognos security infrastructure. However, you can configure IBM Cognos components to use a certificate from another certificate authority, such as iPlanet or Microsoft.

To use another CA certificate, you must use the following process:

1. "Create certificate signing request (CSR) files" on page 245.

Part of this task requires you to submit the CSRs to your certificate authority and generate the certificates. For more information about that process, refer to your CA documentation.

- 2. "Import the CA certificates into IBM Cognos components" on page 247
- **3.** "Configure IBM Cognos BI Components to use certificates generated by your CA" on page 248.

Some tasks use a command line tool named ThirdPartyCertificateTool. The following tables lists the options for this command-line tool.

Table 46. Main operation mode

Command	Description
-c	Create a new CSR
-i	Import a certificate

#### Table 47. Operation modifiers

Command	Description
-S	Work with the signing identity
-е	Work with the encryption identity
-T	Work with the trust store (only with -i)

#### Table 48. Information flags

Command	Description
-d	DN to use for certificate
-r	CSR or certificate file location (depends on mode)
-t	Certificate authority certificate file (only with -i)
-р	Key Store password
-a	Key pair algorithm: either RSA or DSA. RSA is the default value.
-D	Directory location

The sample values from the following table are used:

Table 49.	Sample	values
-----------	--------	--------

Property	Value	
Signing certificate distinguished name (DN)	A unique value, formatted like the following:	
	CN=SignCert,O=MyCompany,C=CA	
Encryption certificate DN	A unique value, formatted like the following:	
	CN=EncryptCert,O=MyCompany,C=CA	
Key store password	password	

## Create certificate signing request (CSR) files

To obtain a certificate from a certificate authority (CA), you must first generate certificate signing request (CSR) files for the signing keys and encryption keys from the IBM Cognos keystores. The CA will use these files to produce a signing certificate, an encryption certificate, and a CA certificate that you will later import into your keystores.

## Procedure

- 1. To ensure no key data is lost:
  - a. Go to the *c10\_location*\configuration directory.
  - b. Back up the cogstartup.xml file to a secure location.
  - c. Back up the contents of the following directories to a secure location:
    - *c10\_location*\configuration\signkeypair
    - *c10\_location*\configuration\encryptkeypair
- 2. Go to the c10\_location\bin directory.
- **3**. Create the certificate signing request for the signing keys by typing the following command:

On UNIX or Linux operating systems, type

ThirdPartyCertificateTool.sh -c -s -d "CN=SignCert,O=MyCompany,C=CA" -r signRequest.csr -D ../configuration/signkeypair -p **password** 

On Microsoft Windows operating system, type

ThirdPartyCertificateTool.bat -c -s -d "CN=SignCert,O=MyCompany,C=CA" -r signRequest.csr -D ..\configuration\signkeypair -p **password** 

The distinguished name (DN) value in the command

("CN=SignCert,0=MyCompany,C=CA") should uniquely identify the IBM Cognos installation. The attributes used reflect a hierarchical structure in your organization.

The password you enter for this key must be used again when import the certificate and again in IBM Cognos Configuration.

You can safely ignore any warnings about logging.

The command creates the jSignKeystore file in the signkeypair directory, sets the specified password, creates a new keypair and stores it in the keystore, and exports the signRequest.csr file to the  $c10\_location\bin$  directory.

4. Create the certificate signing request for the encryption keys by typing the following command:

On UNIX or Linux, type

ThirdPartyCertificateTool.sh -c -e -d "CN=EncryptCert,O=MyCompany,C=CA" -r encryptRequest.csr -D ../configuration/encryptkeypair -p password

On Windows, type

ThirdPartyCertificateTool.bat -c -e -d "CN=EncryptCert,O=MyCompany,C=CA"
-r encryptRequest.csr -D ..\configuration\encryptkeypair -p password

The distinguished name (DN) value in the command

("CN=SignCert,O=MyCompany,C=CA") should uniquely identify the IBM Cognos installation. The attributes used reflect a hierarchical structure in your organization.

The password you enter for this key must be used again when import the certificate and again in IBM Cognos Configuration.

You can safely ignore any warnings about logging.

The command creates the jEncKeystore file in the encryptkeypair directory, sets the specified password, creates a new keypair and stores it in the keystore, and exports the encryptRequest.csr file to the *c10 location*\bin directory.

- 5. Copy the signRequest.csr and encryptRequest.csr files to a directory that is accessible by your certificate authority.
- 6. Input the signRequest.csr and encryptRequest.csr files into the certificate authority, and generate the certificates.

The certificate authority will produce a signing key certificate, an encryption key certificate, and a CA certificate.

**Important:** The certificates generated by your CA must be PEM (Base-64 encoded ASCII) format.

#### Results

You can now import the generated certificates into your IBM Cognos components in the following task.

## Import the CA certificates into IBM Cognos components

After you have obtained the certificates from the CA, you must import them to your IBM Cognos components.

You must import the certificates on each computer where you have IBM Cognos components installed; including Content Manager, the Application Tier Components, the gateway, and the modelling components.

#### Procedure

- 1. Create a copy of the signing certificate file and name it signCertificate.cer.
- Create a copy of the encryption certificate and name it encryptCertificate.cer.
- 3. Create a copy of the root CA certificate and name it ca.cer.
- 4. Copy the signCertificate.cer, encryptCertificate.cer, and ca.cer files to the *c10\_location*/bin directory.
- 5. Import the signing certificate into the IBM Cognos signing key store by typing the following command:

On UNIX or Linux operating systems, type

```
ThirdPartyCertificateTool.sh -i -s -r signCertificate.cer -D
```

```
../configuration/signkeypair -p password -t ca.cer
```

On Windows operating systems, type

```
ThirdPartyCertificateTool.bat -i -s -r signCertificate.cer -D ..\configuration\signkeypair -p password -t ca.cer
```

**Important:** Ensure you use the password you entered when you exported the signing key in the previous task.

You can safely ignore any warnings about logging.

The command reads the signCertificate.cer and ca.cer files in the *c10\_location*\bin directory and imports the certificates from both files into the jSignKeystore file in the signkeypair directory using the specified password.

6. Import the encryption certificate into the IBM Cognos encryption key store by typing the following command:

On UNIX or Linux operating systems, type

ThirdPartyCertificateTool.sh -i -e -r encryptCertificate.cer -D
../configuration/encryptkeypair -p password -t ca.cer

On Windows operating systems, type

ThirdPartyCertificateTool.bat -i -e -r encryptCertificate.cer -D

..\configuration\encryptkeypair -p **password** -t ca.cer

**Important:** Ensure you use the password you entered when you exported the encryption key in the previous task.

You can safely ignore any warnings about logging.

The command reads the encryptCertificate.cer and ca.cer files in the *c10\_location*\bin directory and imports the certificates from both files into the jEncKeystore file in the encryptkeypair directory using the specified password.

7. Import the CA certificate into the IBM Cognos trust store by typing the following command:

On UNIX or Linux operating systems, type

ThirdPartyCertificateTool.sh -i -T -r ca.cer -D ../configuration/ signkeypair -p **password** 

On Windows operating systems, type

ThirdPartyCertificateTool.bat -i -T -r ca.cer -D ..\configuration\
signkeypair -p password

The command reads the ca.cer file and imports the contents into the jCAKeystore file in the signkeypair directory using the specified password.

#### Results

You can now configure your IBM Cognos components to use your CA certificates.

# Configure IBM Cognos BI Components to use certificates generated by your CA

After you have imported the CA certificates, you use IBM Cognos Configuration to configure each computer where an IBM Cognos component is installed to use the certificate.

**Note:** Ensure that the key store locations and password in IBMCognos Configuration match the ones you typed in the command-line tool.

#### Procedure

- 1. Start IBM Cognos Configuration.
- 2. In the Explorer window, under Security > Cryptography, click Cognos.
- **3**. Click the **Value** box next to **Use third party CA**, and select **True**. When you set this property to true, all properties for the certificate authority
  - and identity name are ignored.
- 4. Enter the password you used for the signing key in **Signing key store password**, and enter the path for the **Signing key store location**. If you used the same values in the examples in the previous tasks, you do not have to change the path.
- 5. Enter the password you used for the encryption key in **Encryption key store password**, and enter the path for the **Encryption key store location**. If you used the same values in the examples in the previous tasks, you do not have to change the path.
- 6. Enter the Certificate Authority key store password.
- 7. Click File > Save.
- 8. Restart your IBM Cognos services.

## Configuring the SSL protocol for IBM Cognos components

You can use the Secure Sockets Layer (SSL) protocol for communication between IBM Cognos components in single server and distributed installations.

### **Tomcat connectors**

If the internal dispatcher URI is prefixed with http but the external dispatcher URI is prefixed with https, or vice versa, both the non-SSL Coyote HTTP/1.1 and SSL Coyote HTTP/1.1 connectors are enabled in the server.xml file.

If the internal and external dispatcher URIs use different protocols or ports, the internal dispatcher port is accessible only to the components on the local computer. The internal dispatcher URI must also specify localhost.

## Single computer installations

In a single computer installation, if you are not currently using SSL, you must stop the service before changing the protocol to https. After you save the configuration with SSL settings, you can restart the services.

## **Distributed installations**

In distributed installation, you must first configure the default active Content Manager computer to use the SSL protocol and start the services on that computer before you configure the Application Tier and gateway components to use SSL.

## Add a computer to an installation

If you add a computer to an SSL-enabled environment, you will be prompted to temporarily accept trust for a certificate when you save the configuration. Accepting the temporary certificate will allow permanent trust to be established with the existing components.

## Add a component to a computer

If you add a component to an installation that has already been configured for SSL, the trust to the SSL certificates is inherited from the existing components. If you add the component to a different location on the same computer but to an environment already configured for SSL, you will be prompted to temporarily accept trust for a certificate when you save the configuration. Accepting the temporary certificate will allow permanent trust to be established with the existing components.

## **Configure SSL for IBM Cognos components**

For IBM Cognos components, you can use SSL for internal connections, external connections, or both.

If you configure SSL for internal connections only, IBM Cognos components on the local computer will communicate using this protocol. The dispatcher listens for secure connections on a different port than for remote, HTTP requests. Therefore, you must configure two dispatcher URIs.

If you configure SSL for external connections only, communications from remote IBM Cognos components to the local computer will use the SSL protocol. You must configure the dispatcher to listen for secure, remote requests on a different port than local, HTTP requests. You must also configure the Content Manager URIs and the dispatcher URI for external applications to use the same protocol and port as the external dispatcher.

If you configure SSL for all connections, the dispatcher can use the same port for internal and external connections. Similarly, if you do not use SSL for local or remote communication, the dispatcher can use the same port for all communications.

By default, IBM Cognos BI components use an internal certificate authority (CA) to establish the root of trust in the IBM Cognos security infrastructure. This applies to both SSL and non-SSL connections. If you want to use certificates managed by another service, see "Configuring IBM Cognos components to use another Certificate Authority" on page 244.

In distributed installation, you must first configure the default active Content Manager computer to use the SSL protocol and start the services on that computer before you configure the Application Tier Components computer.

### Procedure

- 1. Start IBM Cognos Configuration.
- 2. In the Explorer window, click Environment.
- 3. In the **Properties** window, type the appropriate values for the URI values:
  - To configure SSL for internal connections only, enter https and a port number for SSL communication in the **Internal dispatcher URI** property.

For the **External dispatcher URI** and **Dispatcher URI for external applications** properties, leave http as the protocol and use the default or another available port number.

If you use Tomcat, the **Internal dispatcher URI** property must specify localhost.

The port number in the two dispatcher URIs must be different.

• To configure SSL for external connections only, enter https and a port number for SSL communication in the **External dispatcher URI** and **Dispatcher URI for external applications** properties.

For the **Internal dispatcher URI** property, leave http as the protocol and use the default or another available port number.

If you use Tomcat, the **Internal dispatcher URI** property must specify localhost.

The port numbers in the two dispatcher URIs must be different.

- To configure SSL for all connections, enter the same URI for both the Internal dispatcher URI, External dispatcher URI, and Dispatcher URI for external applications properties. Enter https and a port number for SSL communication.
- Additionally, you can enter https and a port number for SSL communication in the **Content Manager URI** property.
- If you have installed the gateway on a separate computer, and you are using SSL for external connections, in IBM Cognos Configuration on the gateway computer, enter https and the port number for SSL communication in the **Dispatcher URIs for gateway** property.
- 4. From the **File** menu, click **Save**.
- 5. Restart your services.

In a distributed environment, start the services on the Content Manager computer first, followed by the services on the Application Tier Components computers.

## Select and rank cipher suites for Secure Socket Layer

An SSL connection begins with a negotiation in which the client and server present a list of supported cipher suites in a priority sequence. A cipher suite provides the quality of protection for the connection. It contains cryptographic, authentication, hash, and key exchange algorithms. The SSL protocol selects the highest priority suite that the client and the server both support.

A list of supported cipher suites for SSL is provided. You can eliminate cipher suites that do not meet your requirements and then assign a priority, or preference, to the remaining cipher suites. The selected cipher suites are presented in priority sequence for the client and server sides of the negotiation. At least one of the selected cipher suites between the client and server platforms must match.

The list of supported cipher suites is dynamically generated on each computer, and depends on the Java Runtime Environment (JRE) or whether you have other cryptographic software installed on the computer. If you have made changes to a computer, such as upgraded the JRE or installed software that has upgraded the JRE, this may affect the supported cipher suites available on that computer. If you no longer have a supported cipher suite that matches the other computers in your environment, you may have to change the JRE on the computer to match the other computers in your environment.

## Procedure

- 1. Start IBM Cognos Configuration.
- 2. In the **Explorer** window, click **Cryptography** > **Cognos**.
- 3. In the **Properties** window, click the **Value** column for the **Supported ciphersuites** property.
- 4. Click the edit icon
  - To move a cipher suite to the **Current values** list, click the check box in the **Available values** list and then click **Add**.
  - To move a cipher suite up or down in the **Current values** list, click the check box and then click the up or down arrows.
  - To remove a cipher suite from the **Current values** list, click the check box and then click **Remove**.
- 5. Click OK.
- 6. From the File menu, click Save.

## **Configure IBM Cognos for SSL enabled Web servers**

If you are using secure sockets layer (SSL) on your Web server, you must change the **Gateway URI** values in IBM Cognos Configuration to be able to access the portal.

To enable SSL on your Web server, you must obtain a Web server certificate signed by a Certificate Authority (CA) and install it into your Web server. The certificate must not be self-signed, because self-signed certificates will not be trusted by IBM Cognos components. For more information about using certificates with your Web server, see your Web server documentation. These certificates are not provided with IBM Cognos products.

To enable users to access the IBM Cognos portal using SSL, you must change the **Gateway URI** values in IBM Cognos Configuration for each computer where the Application Tier Components and Framework Manager are installed.

### Procedure

- 1. Configure your Web server for SSL and start the Web server.
- 2. On each computer where the Application Tier Components or Framework Manager are installed, start IBM Cognos Configuration.
- **3.** Under Local Configuration, click Environment, and change the Gateway URI value from http to https.
- 4. In the **Gateway URI** value, change the port number to the SSL port number defined for your Web server. For example, the default port number for SSL connections is usually 443.
- 5. Save your configuration, and restart your services.

#### Results

When you access the portal using https://servername:443/ibmcognos, you should be prompted to install a certificate.

To avoid being prompted by a security alert for each new session, install the certificate into one of your Web browser's certificate stores.

#### Related tasks:

"Set up security for a Google OneBox sample module" on page 403 By default, Google OneBox applications are open and anonymous. If your application requires secure authentication, you must configure the Google Search Appliance (GSA) and your IBM Cognos installation appropriately.

## Configuring a Repository for Log Messages

The BI Bus protocol includes log message processing, an important diagnostic tool for investigating the behavior of IBM Cognos BIs.

In addition to error messages, log messages provide information about the status of components and a high-level view of important events. For example, log messages can provide information about attempts to start and stop services, completion of processing requests, and indicators for fatal errors. Audit logs, which are available from a logging database, provide information about user and report activity.

The IBM Cognos services on each computer send information about errors and events to a local log server. A local log server is installed in the *c10\_location*/logs folder on every IBM Cognos BI computer that contains Content Manager or Application Tier Components. Because the log server uses a different port from the other IBM Cognos BI components, it continues to process events even if other services on the local computer, such as the dispatcher, are disabled.

The following workflow shows the tasks that are required to prepare for logging.

• During planning, determine the logging configuration that is suitable for your environment. For example, evaluate various log message repositories, such as

remote log servers and log files, such as the UNIX or Linux syslog or the Windows NT Event log, in addition to the local log file. You can also send only audit logging information to a database. Consider security, such as methods available for protecting log files from system failures and user tampering. For information about planning, see the *IBM Cognos Architecture and Deployment Guide*.

- During configuration, define the startup properties for logging, such as connection settings for databases. You must also create a logging database if you plan to collect audit logs. If communication between a local log server and a remote log server must be secured, make the appropriate configuration changes on both IBM Cognos BI computers. You can also enable certain logging features, such as user-specific logging. For information about configuring logging, see the *IBM Cognos Business Intelligence Installation and Configuration Guide*.
- When setting up logging, specify the level of detail to log to focus messages on the information that is relevant in your organization. Audit reports may also be set up to track user and report activity. For information about setting up logging, see the *IBM Cognos Business Intelligence Administration and Security Guide*.

For information about using log messages to solve problems and resolving logging-related issues, see the *IBM Cognos Business Intelligence Troubleshooting Guide*.

## Guidelines for creating a logging database

You can create a database to store log messages. Creating a logging database involves the following tasks:

• Create a logging database.

For DB2, Oracle, Microsoft SQL Server, or Sybase, use the same procedure that was used to create the content store database. Use the instructions in "Guidelines for creating the content store" on page 44.

**Note:** If you are using DB2, you cannot generate a script to create the notification database in the same way as you can the content store.

For DB2 on z/OS, use the instructions in "Suggested settings for creating a logging database on DB2 on z/OS."

• Set up the database connectivity.

Use the instructions in "Database connectivity for the logging database" on page 255.

• Specify the log messages repository.

Use the instructions in "Log message repositories" on page 256.

## Suggested settings for creating a logging database on DB2 on z/OS

The database you create must contain the specified configuration settings.

Use the following checklist to help you set up the logging database on DB2 on z/OS.

- Log on to the z/OS system as a user with administrator privileges on DB2 on z/OS.
- Create a database instance, storage group, and a user account for the content store. IBM Cognos uses the credentials of the user account to communicate with the database server.

- Ensure that you allocate a buffer pool with a page size of 8 KB for the database instance.
- \_\_\_• For a logging database on DB2 on z/OS, administrators must run a tablespace script to create tablespaces to hold large objects and other data for the logging database, and then grant user rights to the table. For information about running the tablespace script, see "Create tablespaces for a logging database on DB2 on z/OS."

## Create tablespaces for a logging database on DB2 on z/OS

If you are using DB2 on z/OS, a database administrator must run a script to create a set of tablespaces required for the logging database. The script must be modified to replace the placeholder parameters with ones that are appropriate for your environment.

Ensure that you use the name convention for DB2 on z/OS. For example, all names of parameters must start with a letter and the length must not exceed 6 characters. For more information, see the IBM DB2 Information Center.

### **Procedure**

- 1. Connect to the database as a user with privileges to create and drop tablespaces and to allow execution of SQL statements.
- 2. Go to the *c10\_location*/configuration/schemas/logging/db2zos directory.
- 3. Open the LS\_tablespace\_db2z0S.sql script file and use the following table to help you to replace the generic parameters with ones appropriate for your environment.

z/OS	Table 50.	Tablespace parameter	names and	descriptions	for a	logging	database	on D	B2 on
	z/OS								

Parameter Name	Description
IPFSCRIPT_DATABASE	The name of the logging database.
IPFSCRIPT_STOGROUP	The name of the storage group.
IPFSCRIPT_TABLESPACE	The name of the tablespace that contains the base tables in the logging database. This tablespace is not for Auxiliary tables.
IPFSCRIPT_LS_ID	The instance identifier for the audit database. This value must not be longer than two characters.
IPFSCRIPT_BP	The name of the 8 k buffer pool that is allocated for regular objects.
IPFSCRIPT_USERNAME	The user account that accesses the logging database.

Not all of the parameters listed are in the script, but may be added in the future.

- 4. Save and run the script.
- 5. Grant the IBM Cognos user rights to the tablespaces that were created when you ran the script file:
  - Open the LS rightsGrant db2z0S.sql script file.
  - Replace the parameter values with those that are appropriate for your environment.

**Tip:** Ensure you use the same values that you used when you created the buffer pools and user account.

• Save and run the LS\_rightsGrant\_db2zOS.sql script.

#### Results

The logging database is created.

## Database connectivity for the logging database

After you create a database for audit logs, additional steps are required to set up the database client if you use Oracle, DB2, Informix Dynamic Server, or Sybase as the database server.

You cannot use Cognos Content Database as a logging database.

In a distributed environment, the local log server on an Application Tier Component computer may send log messages to a remote log server, which then sends messages to the logging database. For Oracle, Sybase, and DB2, the appropriate JDBC driver and/or database client software is required only on the Application Tier Components computer with the remote log server that connects to the logging database.

## **Microsoft SQL Server**

If you use a Microsoft SQL Server database, the JSQLConnect.jar file is installed to the appropriate location by default. The only additional step is to ensure that the Microsoft SQL Server uses TCP/IP connectivity.

#### Set up database connectivity for a DB2 logging database

You must set up the database client software and the JDBC driver on all Application Tier Components computers with a connection to the logging database. You must set up the JDBC driver on the Content Manager computer, unless you are using the same type of database for the log messages as you use for the content store.

The driver version must be at least JCC 3.7 from Linux or UNIX operating system, or Microsoft Windows operating system version 9.1 fix pack or JCC 3.42 from Linux, UNIX, or Windows version 9.5 fix pack 2.

#### Procedure

Copy the following files from *DB2\_installation*\sqllib\java directory to the *c10\_location*\webapps\p2pd\WEB-INF\lib directory:

- The universal driver file, db2jcc.jar
- The license file:

For DB2 on Linux, UNIX, or Windows operating systems, use db2jcc\_license\_cu.jar.

For DB2 on z/OS, use db2jcc\_license\_cisuz.jar.

If you are connecting to DB2 on z/OS, use the driver version from Linux, UNIX, or Windows version 9.1 fix pack 5 or version 9.5 fix pack 2.

**Tip:** To check the driver version, run the following command: java -cp *path*\db2jcc.jar com.ibm.db2.jcc.DB2Jcc -version

## Set up database connectivity for an Oracle logging database

You must set up the JDBC driver on all Application Tier Components computers with a connection to the logging database. You must also set up the JDBC driver on the Content Manager computer, unless you are using the same type of database for the log messages as you use for the content store.

### Procedure

- On the computer where the Oracle client is installed, go to the ORACLE\_HOME/jdbc/lib directory.
- 2. Copy the correct library file for your version of the Oracle client to the *c10\_location*\webapps\p2pd\WEB-INF\lib directory on the computer where Content Manager is installed and where notification is sent to an Oracle database.

If you are using Oracle 10g, you must have ojdbc14.jar.

If you are using Oracle 11g, you must have ojdbc5.jar.

The files are available from an Oracle client or server install, and can also be downloaded from the Oracle technology Web site.

## Set up database connectivity for an Informix logging database

You must set up the JDBC driver on all Application Tier Components computers with a connection to the logging database. You must also set up the JDBC driver on the Content Manager computer, unless you are using the same type of database for the log messages as you use for the content store.

### Procedure

- 1. On the computer where Informix is installed, go to the *Informix\_location*/ sqllib/java directory.
- 2. Copy the following files to the *c10\_location*/webapps/p2pd/WEB-INF/lib directory on every computer where Content Manager is installed.
  - the universal driver file, db2jcc.jar
  - the license file, db2jcc\_license\_cisuz.jar

## Set up database connectivity for a Sybase logging database

You must set up the JDBC driver on all Application Tier Components computers with a connection to the logging database. You must also set up the JDBC driver on the Content Manager computer, unless you are using the same type of database for the log messages as you use for the content store.

#### Procedure

- 1. On the computer where Sybase is installed, go to the *Sybase\_location*/ jConnect-6/classes directory.
- 2. Copy the jconn3.jar file to the *c10\_location*/webapps/p2pd/WEB-INF/lib directory on every computer where Content Manager is installed and where notification is sent to a Sybase database.

## Log message repositories

A local log server is automatically installed when you install Content Manager or the Application Tier Components. You can specify one or more repositories where the local log server sends log messages.

## Sending log messages to a remote log server

In a distributed installation, you can configure the log server on each IBM Cognos computer to send log messages to a single remote log server, which acts as a common log server. You can then configure the common log server to send the log messages to a local file or database on the same or different computer.

If the remote log server becomes unavailable, log messages are redirected to recovery files on the local computer in the *c10\_location*/logs/recovery/remote directory. These recovery files have timestamp information in their file names, and are not readable like regular log files. When the remote log server becomes available, an automatic recovery process moves all log information to the remote log server and deletes the local log files.

## Saving log messages to a file

The log server is configured by default to send log messages to the *c10\_location*/logs/cogserver.log file. If the default log file does not exist when the IBM Cognos service starts, it is created automatically.

You can configure the log server to send log messages to a different file. If you configure a different log file, IBM Cognos attempts to automatically create this file on startup, in addition to the default log file. If the location for the configured log file is different from the *c10\_location*/logs directory, you must ensure the path to the log file exists before starting the IBM Cognos service. For example, if you configure the log server to send messages to the /usr/lpp/logfiles/cognos.log file, IBM Cognos attempts to automatically create the cognos.log file in the /usr/lpp/logfiles folder. If this folder does not exist, IBM Cognos does not create the cognos.log file and no log messages can be recorded in it. Note that these log messages are not recorded in the default log file. Although IBM Cognos automatically creates the default log file even when another log file is configured, the default log file is not used as a backup.

## Saving log messages to a database

The log server can also send audit logs to a database on the same or another computer. Audit logs provide information about user and report activity.

The logging database has the same configuration and user account requirements as the content store database. After you configure IBM Cognos components to send messages to a logging database, and restart the IBM Cognos service, IBM Cognos components create the required tables and table fields. You can test the connection to the logging database before you restart the IBM Cognos service.

## Specify the Log Messages Repository for DB2 on UNIX, Linux, or Windows

You can configure a type of repository for the log messages, and then configure properties for the specific repository. You can also configure more than one repository for log messages.

## Before you begin

Before you specify a database as a repository, ensure that you

- created the logging database
- \_• set up the database client

## Procedure

- 1. On the computer where you installed Content Manager or the Application Tier Components, start IBM Cognos Configuration.
- 2. In the Explorer window, under Environment, click Logging.
- **3**. In the **Properties** window, use the following table to help set the log server properties.

Table 51. Log server properties

Task	Action
Use TCP between IBM Cognos components on a computer and its local log server	Set the <b>Enable TCP</b> property to <b>True</b> . UDP provides faster communication with a lower risk of lost connections than TCP. However, the risk of losing a local TCP connection is low. TCP is always used for communication between a local log server and a remote log server.
Change the number of threads available to the local log server	Type the value in the <b>Local log server</b> <b>worker threads</b> property. Keep the default value of 10. The range is between 1 and 20. However, if you have a high number of log messages, you can allocate more threads to improve performance.

- In the Explorer window, under Environment, right-click Logging, and click New resource > Destination.
- 5. In the Name box, type the name of the repository.
- 6. In the Type list, click the type of repository and then click OK.
- 7. If the repository is a file, in the **Properties** window, type the appropriate values for the mandatory and optional properties.
- 8. If the repository is a remote log server, in the **Properties** window, type the appropriate values for the mandatory and optional properties. If the **Internal dispatcher URI** of the repository computer is configured to use SSL, in the **Properties** window, set the **Enable SSL** property to **True**. You must later specify the log messages repository when you configure the remote log server.
   9. If the repository is a database, in the **Explorer** window, under **Logging**,
- If the repository is a database, in the Explorer window, under Logging, specify the type of database and its properties, as follows:
  - Right-click the database name, and click New resource > Database.
  - In the Name box, type the name of the repository.
  - In the **Type** list, click the type of database and then click **OK**.
  - In the **Properties** window, type the appropriate values for the mandatory and optional properties.

For a Microsoft SQL Server database, you can choose to use a port number, such as 1433, or a named instance as the value for the **Database server with port number or instance name** property. Include the port number if you use nondefault ports. Include the instance name if there are multiple instances of Microsoft SQL Server.

To connect to a named instance, you must specify the instance name as a JDBC URL property or a data source property. For example, you can type **localhost\instance1**. If no instance name property is specified, a connection to the default instance is created.

Note that the properties specified for the named instance, along with the user ID and password, and database name, are used to create a JDBC URL. Here is an example:

jdbc:JSQLConnect://localhost\\instance1/user=sa/more properties as required

• Test the connection to the new database. In the **Explorer** window, under **Environment**, right-click **Logging** and click **Test**.

IBM Cognos components connect to the database. If you configured more than one database for logging messages, IBM Cognos components test all the databases.

- **10**. Repeat steps 5 to 10 for each repository to which you want the log server to send messages.
- 11. From the File menu, click Save.
- 12. In the Explorer window, click IBM Cognos services > IBM Cognos.
- 13. From the File menu, click Restart.

If you selected a database as the repository, IBM Cognos components create the required tables and fields in the database that you created.

### Results

If the repository was a remote log server, configure and start the remote log server. Then restart the IBM Cognos service on the local computer.

If the repository was a database, you can use IBM Cognos components to run log reports from the database.

You can also set the logging level, which controls the amount of detail and type of messages that are sent to a log file or database. For instructions, see the *IBM Cognos Business Intelligence Administration and Security Guide.* 

## Specify the Log Messages Repository for DB2 on z/OS

You can configure a type of repository for the log messages, and then configure properties for the specific repository. You can also configure more than one repository for log messages.

#### Procedure

- 1. On the computer where you installed Content Manager or the Application Tier Components, start IBM Cognos Configuration.
- 2. In the Explorer window, under Environment, click Logging.
- **3**. In the **Properties** window, use the following table to help set the log server properties.

Table 52. Log server properties

Task	Action
Use TCP between IBM Cognos components on a computer and its local log server	Set the <b>Enable TCP</b> property to <b>True</b> .
	lower risk of lost connections than TCP.
	TCP is used for communication between a local log server and a remote log server.
Change the number of threads available to the local log server	Type the value in the <b>Local log server</b> worker threads property.
	Keep the default value of 10. The range is
	between 1 and 20. However, if you have a
	high number of log messages, you can
	allocate more threads to improve
	performance.

- 4. In the **Explorer** window, under **Environment**, right-click **Logging**, and click **New resource** > **Destination**.
- 5. In the Name box, type the name of the repository.
- 6. In the Type list, click Database and then click OK.
- 7. In the **Explorer** window, under **Logging**, right-click the database name, and click **New resource** > **Database**.
- 8. In the Name box, type the name of the repository.
- 9. In the **Type** list, click **DB2 database** and then click **OK**.
- 10. In the Properties window, type the Database server and port number, User ID and password, and the z/OS Database name.
  Ensure that the User ID is the same as the value you specified for the IPFSCRIPT\_USERNAME parameter in the LS\_tablespace\_db2zOS.sql script file "Create tablespaces for a logging database on DB2 on z/OS" on page 254.
- 11. In the **Explorer** window, click **Local Configuration**.
- 12. In the Properties window, next to Advanced properties, click inside the Value

box, and then click the edit icon

**13**. Click **Add**, and then add the configuration parameter names and values from the following table:

Table 53. Configuration parameter names and values

Parameter Name	Value
IPFSCRIPT_CREATE_IN	The base tables location.
	For example, databaseName.baseTablespaceName
IPFSCRIPT_STOGROUP	The name of the storage group.
IPFSCRIPT_DATABASE	The name of logging database.
IPFSCRIPT_LS_ID	The instance identifier for the audit database. This value must not be longer than two characters.

- 14. From the File menu, click Save.
- 15. Test the connection to the new database. In the **Explorer** window, under **Environment**, right-click **Logging** and click **Test**.

IBM Cognos components connect to the database. If you configured more than one database for logging messages, IBM Cognos components test all the databases.

## Specify the Log Messages Repository for Informix

You can configure a type of repository for the log messages, and then configure properties for the specific repository. You can also configure more than one repository for log messages.

## Procedure

- 1. In the Explorer window, under Environment, click Logging.
- 2. In the **Properties** window, use the following table to help set the log server properties.

Task	Action
Use TCP between IBM Cognos components on a computer and its local log server	Set the <b>Enable TCP</b> property to <b>True</b> . UDP provides faster communication with a lower risk of lost connections than TCP. TCP is used for communication between a local log server and a remote log server.
Change the number of threads available to the local log server	Type the value in the <b>Local log server</b> <b>worker threads</b> property. Keep the default value of 10. The range is between 1 and 20. However, if you have a high number of log messages, you can allocate more threads to improve performance.

- **3.** In the **Explorer** window, under **Environment**, right-click **Logging**, and click **New resource** > **Destination**.
- 4. In the Name box, type the name of the repository.
- 5. In the **Type** list, click **Database** and then click **OK**.
- 6. In the **Explorer** window, under **Logging**, right-click the database name, and click **New resource** > **Database**.
- 7. In the Name box, type the name of the repository.
- 8. In the Type list, click Informix Dynamic Server database and then click OK.
- 9. In the **Properties** window, type the values for **Database server and port number**, **User ID and password**, and **Database name**.
- **10.** If you have multiple instances of an Informix logging database, create the advanced property IPFSCRIPTIDX and specify the account under which the instance runs:
  - In the **Explorer** window, click **Local Configuration**.
  - In the **Properties** window, click the **Value** column for **Advanced properties** and then click the edit icon

• In the Value - Advanced properties dialog box, click Add.

• In the **Name** column, type **IPFSCRIPTIDX** 

• In the **Value** column, type the user ID of the account under which the instance of the logging database runs.

Use a different user account for each instance of Informix logging database.

- Repeat in every instance of IBM Cognos Configuration that uses an instance of an Informix logging database.
- 11. From the File menu, click Save.
- 12. Test the connection to the new database. In the **Explorer** window, under **Environment**, right-click **Logging** and click **Test**.

IBM Cognos components connect to the database. If you configured more than one database for logging messages, IBM Cognos components test all the databases.

## **Enabling User-specific Logging**

When diagnosing problems, you can temporarily set logging to track one or more specific users instead of all users at once. After you complete the diagnosis, you can resume normal logging. To enable user-specific logging, you use IBM Cognos Configuration to configure connection information for Java Management Extensions (JMX) a technology that supplies tools to manage and monitor applications and service-oriented networks. Then you configure JMX connection information in a deployment properties file.

After enabling user-specific logging for IBM Cognos components, enable logging for a specific user by using the Remote Process service for JMX. For information, see the topic about using logging to diagnose a problem for a specific user in the *IBM Cognos Business Intelligence Administration and Security Guide*.

You must install Oracle Java SE Development Kit or Java Software Development Kit for IBM before you can enable user-specific logging.

## Configure JMX Connection Information using IBM Cognos Configuration

You configure Java Management Extensions (JMX) connection information in IBM Cognos Configuration by specifying a cookie value and then setting the JMX port and credentials.

#### Procedure

- 1. On the computer where Content Manager is installed, start IBM Cognos Configuration.
- 2. In the Explorer window, click Environment.
- **3.** In the **Properties** window, configure the JMX properties under **Dispatcher Settings**:
  - For External JMX port, type an available port number.
  - For **External JMX credential**, click the edit icon in the **Value** column, type a user ID and password, and then click **OK**.

The user ID and password ensure that only an authorized user can connect to the Java environment to specify the user or users to be logged, using the port specified in **External JMX port**.

4. Save the configuration.

## Configure JMX Connection Information in a Deployment Properties File

To support the Java Management Extensions (JMX) settings on your application server, specify the JMX port in the p2pd deployment properties file.

### Procedure

- In a text editor, open the p2pd.deploy\_defaults.properties file located at c10\_location/webapps/p2pd/WEB-INF.
- 2. Uncomment the rmiregistryport line and set the value to the External JMX port that you configured in IBM Cognos Configuration.
- 3. Save the p2pd.deploy\_defaults.properties file.
- 4. Restart the services for IBM Cognos.

#### Results

IBM Cognos now supports logging for one or more specific users. For more information, see the topic about using logging to diagnose a problem for a specific user in the *IBM Cognos Business Intelligence Administration and Security Guide*.

## **Changing Global Settings**

By default, IBM Cognos components ensure that all locales, which may come from different sources and in various formats, use a normalized form. That means that all expanded locales conform to a language and regional code setting. Each computer has a default system locale and one user locale per user. The user locales may be different from the default system locale. If you change global settings on one Content Manager computer, you must make the same changes on the other Content Manager computers.

You change global settings

- to customize language support for the user interface
- to customize currency support
- to customize content locale support
- to map the language used in the product user interface
- to map content locales
- to add fonts to your IBM Cognos environment
- to customize the default time zone
- to change the encoding for email messages
- to customize cookie settings

## **Customize Language Support to the User Interface**

Use the Product Locales table to add or remove the user interface language support. For example, if you do not require a German user interface, you can remove the language from the list.

If you change the user interface language of the product, data is not affected.

If you want users to see product documentation in a language other than English, you must install the Supplementary Language Documentation. For more information, see "Installing translated product documentation" on page 206.

## Before you begin

Ensure that you install the appropriate fonts to support the character sets and currency symbols you use. For Japanese and Korean currency symbols to appear correctly, you must install the additional fonts from the Supplementary Language Documentation disk.

#### Procedure

- 1. On each Content Manager computer, start IBM Cognos Configuration.
- 2. From the Actions menu, click Edit Global Configuration.
- 3. Click the **Product Locales** tab.

All supported locales are displayed.

4. Click Add.

**Tip:** To remove support, select the check box next to the **Supported Locale** and then click **Remove**.

- 5. In the second column, type the language portion of a locale.
- 6. Repeat steps 3 to 5 for other language support that you want to add.
- 7. Click OK.
- 8. From the File menu, click Save.

## **Customizing Currency Support**

If you require additional currencies or want to remove some from the user interface, you can update the list of supported currencies in the Currencies table. If you use Japanese or Korean currencies, you must configure support so that Japanese Yan and Korean Won characters display correctly.

By default IBM Cognos components show only a subset of supported currencies in the user interface. Currencies are identified by their ISO 4217 currency code. The complete list of supported currencies that can be added are listed in the i18n\_res.xml file in the *c10\_location*/bin directory.

Adding currencies to the IBM Cognos environment does not guarantee that your computer has a font with the required characters to display the currency. Ensure that you install the appropriate fonts to support the currency symbols you use. For example, to display the Indian currency symbol (rupee) correctly, you must install a font that contains that character. In addition, for Japanese and Korean currency symbols to appear correctly, you must install the additional fonts from the Supplementary Language Documentation disk.

### Add Currencies to the User Interface

You can add supported or unsupported currencies to the user interface. You add supported currencies in IBM Cognos Configuration. You add unsupported currencies to the i18n\_res.xml file that is provided in IBM Cognos.

If you add a currency code that is not supported by IBM Cognos, you must manually add it to the i18n\_res.xml file in the *c10\_location*/bin directory. Copy this file to each IBM Cognos computer in your installation.

#### Procedure

- 1. On each Content Manager computer, start IBM Cognos Configuration.
- 2. From the Actions menu, click Edit Global Configuration.
- 3. Click the **Currencies** tab.

4. Click Add.

**Tip:** To remove support, select the check box next to the supported item and then click **Remove**.

5. In the second column, type an appropriate value.

The value you add must comply with ISO 4217 codes for the representation of currencies and formats. Usually the value you add is a three-letter alphabetic code. The first two characters are letters representing the ISO 3166 country or region code for the country or region the currency is from. The additional letter represents the first letter of the currency.

- 6. Repeat steps 3 to 5 for other types of support that you want to add.
- 7. From the File menu, click Save.

## Customize content locale support

To ensure users see reports, data or metadata in their preferred language, or specific to their region, you can add partial locales (language) or complete locales (language-region) to the Content Locales table. This way, if content is available in different languages, or in different locales, it is rendered to users based on their user locale. By default, content locale overrides product locale in the portal for some content.

If you view reports in Thai language, digits are not supported.

## Before you begin

If a locale is not required, you can remove it from the list. You must leave at least one content locale in the list for the Application Tier Components to operate.

Adding incomplete locales (languages) to the IBM Cognos environment does not guarantee that your computer has a font that can display Web pages in your preferred languages. Ensure that you install the appropriate fonts to support the character sets and currency symbols you use. For Japanese and Korean currency symbols to appear correctly, you must install the additional fonts from the Supplementary Language Documentation disk.

## Procedure

- 1. On each Content Manager computer, start IBM Cognos Configuration.
- 2. From the Actions menu, click Edit Global Configuration.
- 3. Click the **Content Locales** tab.

All supported locales are displayed.

4. Click Add.

**Tip:** To remove support, select the check box next to the supported item and then click **Remove**.

- 5. In the second column, type an appropriate value.
  - To add language support for report data and metadata, type a partial local (language) setting.
  - To add support specific to a region, type a complete locale (language-region) setting.
- 6. Repeat steps 3 to 5 for each additional locale that you want to support.
- 7. From the **File** menu, click **Save**.

## **Content Locales**

Use the Content Locale Mappings table to map user locales to a complete (language-region) or partial (language) locale. You can also map a user's preferred language to another language if content is not available in the user's preferred language.

For example, if a report or scorecard is not available in a preferred language, for example Vietnamese, but is available in French and German, you can use the Content Mappings table to map the preferred language (Vietnamese) to another language (French or German). This way, you see the report or scorecard in the mapped language.

By default, the Content Locale Mappings table includes locales that do not contain the region. This allows you to use only the language portion of the locale when you specify locale settings and ensures that you always see the correct information. For example, in a multilingual database, data is usually available in different languages, such as French (fr), Spanish (es) and English (en), rather than being available in different locales, such as English Canada (en-ca), English United States (en-us), or French France (fr-fr).

The following examples show the method that IBM Cognos components use to determine which report or scorecard the user sees if the multiple language versions are available.

## Example 1

A report is available in Content Manager in two locales, such as en-us (English-United States) and fr-fr (French-France), but the user locale is set to fr-ca (French-Canadian). IBM Cognos uses the locale mapping to determine which report the user sees.

First, IBM Cognos checks to see if the report is available in Content Manager in the user's locale. If it is not available in the user's locale, IBM Cognos maps the user's locale to a normalized locale configured on the Content Locale Mapping tab. Because the user's locale is fr-ca, it is mapped to fr. IBM Cognos uses the mapped value to see if the report is available in fr. In this case, the report is available in en-us and fr-fr, not fr.

Next, IBM Cognos maps each of the available reports to a normalized locale. Therefore, en-us becomes en and fr-fr becomes fr.

Because both report and the user locale maps to fr, the user having the user locale fr-ca will see the report saved with the locale fr-fr.

#### Example 2

The user's locale and the report locales all map to the same language. IBM Cognos chooses which locale to use. For example, if a user's locale is en-ca (English-Canada) and the reports are available in en-us (English-United States) and en-gb (English-United Kingdom), IBM Cognos maps each locale to en. The user will see the report in the locale setting that IBM Cognos chooses.

## **Example 3**

The report and the user locales do not map to a common language. IBM Cognos chooses the language. In this case, you may want to configure a mapping. For example, if a report is available in en-us (English-United States) and fr-fr (French-France), but the user locale is es-es (Spanish-Spain), IBM Cognos chooses the language.

## **Map Content Locales**

Use the Content Locale Mappings table to map user locales to a complete (language-region) or partial (language) locale. You can also map a user's preferred language to another language if content is not available in the user's preferred language.

### Procedure

- 1. On each Content Manager computer, start IBM Cognos Configuration.
- 2. From the Actions menu, click Edit Global Configuration.
- 3. Click the Content Locale Mapping tab.
- 4. Click Add.
- 5. In the **Key** box, type the user locale:
  - To ensure all regions for a user locale see content in a specific language, type the language portion of the locale, followed by a dash (-) and an asterisk (\*).
     For example, type fr-\*
  - To ensure a user locale (language-region) sees content in a specific language, type the complete locale.
  - For example, type **fr-ch**
  - To map a preferred language to another language, type the preferred language portion of the locale.
    - For example, type **zh**

**Tip:** To specify the locale to use for a range of keys, use the wildcard character (\*) with the **Key** value and then, in the **Locale Mapping** box, type the locale. For example, if you want all the German keys to use the German locale, type **de**\* in the **Key** box and type in the **Locale Mapping** box.

- 6. In the **Locale Mapping** box, type the language portion of the locale.
- User locales specified in the **Key** box will see content in this language.
- 7. Repeat steps 3 to 5 for other mappings you want to do.
- 8. Click OK.
- 9. From the File menu, click Save.

## **Map Product Locales**

Use the Product Locale Mappings table to specify the language used in the user interface when the language specified in the user's locale is not available.

You can ensure that all regions for a locale use the same language, or that a specific, complete locale (language-region) uses a particular language.

By default, the user sees the product interface in the language that matches the language setting of the user locale.

## Procedure

- 1. On each Content Manager computer, start IBM Cognos Configuration.
- 2. From the Actions menu, click Edit Global Configuration.
- 3. Click the Product Locale Mappings tab.
- 4. Click Add.
- 5. In the **Key** box, type the user locale:
  - To ensure all regions for a locale see the user interface in a specific language, type the language portion of the locale, followed by a dash (-) and an asterisk (\*).

For example, type es-\*

• To ensure a complete locale (language-region) see the user interface in a specific language, type the complete locale.

For example, type **es-es** 

• To map a preferred language to another language, type the preferred language portion of the locale.

For example, type zh

**Tip:** To specify which locale to use as the default, use the wildcard character (\*) for the **Key** value and then, in the **Locale Mapping** box type the locale.

- 6. In the **Locale Mapping** box, type the language portion of the locale. User locales specified in the **Key** box will see content in this language.
- 7. Repeat steps 3 to 5 for other mappings you want to do.
- 8. Click OK.
- 9. From the File menu, click Save.

## **Customize the Server Time Zone**

You can customize the time zone used by Content Manager by selecting a different server time zone in IBM Cognos Configuration.

For UNIX installations that do not support a Java-based graphical user interface, you can view the list of acceptable time zones by opening IBM Cognos Configuration on the Windows computer where Framework Manager is installed.

Content Manager is configured to use the time zone of your operating system by default. All scheduled activities in IBM Cognos are set using this time zone. In addition, users in IBM Cognos Connection use this time zone if they set their preferences for the default time zone. For more information about setting user preferences in IBM Cognos Connection, see the *IBM Cognos Business Intelligence Administration and Security Guide*.

### Procedure

- 1. Start IBM Cognos Configuration.
- 2. From the Actions menu, click Edit Global Configuration.
- 3. In the Global Configuration window, click the General tab.
- 4. Click the **Value** column for **Server time zone** and select another time zone from the list.
- 5. From the File menu, click Save.

## **Encoding for Email Messages**

By default, IBM Cognos components use UTF-8 encoding in emails. This value sets the default encoding used by the delivery service in this instance for all email messages. You may have older email clients or send email from IBM Cognos to cell phones and PDAs that do not recognize UTF-8. If so, you can change the email encoding to a value that works on all your email clients (for example, ISO-8859-1, Shift-JIS). Each instance of IBM Cognos that has an available delivery service must be changed.

The specified encoding affects the entire message, including the subject, attachments, attachment names, and plain or HTML body text.

The encoding values are shown in the following table:

Character set	Supported encoding value
UTF-8	utf-8
Western European (ISO 8859-1)	iso-8859-1
Western European (ISO 8859-15)	iso-8859-15
Western European (Windows-1252)	windows-1252
Central and Eastern European(ISO 8859-2)	iso-8859-2
Central and Eastern European (Windows-1250)	windows-1250
Cyrillic (ISO 8859-5)	iso-8859-5
Cyrillic (Windows-1251)	windows-1251
Turkish (ISO 8859-9)	iso-8859-9
Turkish (Windows-1254)	windows-1254
Greek (ISO 8859-7)	iso-8859-7
Greek (Windows-1253)	windows-1253
Japanese (EUC-JP)	euc-jp
Japanese (ISO-2022-JP)	iso-2202-jp
Japanese (Shift-JIS)	shift_jis
Traditional Chinese (Big5)	big5
Simplified Chinese (GB-2312)	gb2312
Korean (EUC-KR)	euc-kr

Table 55. Supported encoding values

Table 55. Supported encoding values (continued)

Character set	Supported encoding value
Korean (ISO 2022-KR)	ISO 2022-KR
Korean (KSC-5601)	ksc_5601
Thai (Windows-874)	windows-874
Thai (TIS-620)	tis-620

## **Change Encoding for Email Messages**

You can change the email encoding to a value that works on all your email clients.

### Procedure

- 1. Start IBM Cognos Configuration.
- 2. From the Actions menu, click Edit Global Configuration.
- 3. In the Global Configuration window, click the General tab.
- 4. Click the Value column for the Email Encoding property.
- 5. Scroll to the desired setting and click it.
- 6. From the **File** menu, click **Save**.

## **Cookie Settings**

Based on the requirements of your IBM Cognos environment, you may need to modify the settings that IBM Cognos components use to create cookies. You can use IBM Cognos Configuration to customize the cookie domain, path, and secure flag.

IBM Cognos components determine the cookie domain from the HTTP request submitted by the client, which is typically a Web browser. In most network configurations, HTTP requests pass through intermediaries such as proxy servers and firewalls as they travel from the browser to IBM Cognos components. Some intermediaries modify the information that IBM Cognos components use to calculate the cookie domain, and IBM Cognos components then cannot set cookies. The usual symptom of this problem is that users are repeatedly prompted to log on. To avoid this problem, configure the cookie domain.

To set the correct value for the cookie domain, use the format and value that represents the widest coverage for the host, as listed in the following table.

Host	Format for domain
computer or server	computer or server name (no dots)
	Example: mycompany
suffix is .com, .edu, .gov, .int, .mil, .net, or	.name.suffix
.org	(two dots)
	Example: .mycompany.com

Table 56. Cookie settings

Table 56. Cookie settings (continued)

Host	Format for domain
other	.name1.name2.suffix
	(three dots)
	Example: .travelinfo.co.nz

Additionally, for security, administrators can set the HTTPOnly attribute to block scripts from reading or manipulating the CAM passport cookie during a user's session with their web browser. For more information about this attribute, see the *IBM Cognos Business Intelligence Administration and Security Guide*.

## **Customize Cookie Settings**

Use IBM Cognos Configuration to customize the cookie domain, path, and secure flag.

### Procedure

- 1. On each Content Manager computer, start IBM Cognos Configuration.
- 2. From the Actions menu, click Edit Global Configuration.
- 3. Click the **General** tab.
- 4. Click in the **Value** column under **Cookie Settings** for each property that you want to change and specify the new value.

If you leave the **Domain** property blank, the dispatcher derives the domain from the host name of the request.

5. Click OK.

## **Change the IP Address Version**

IBM Cognos supports two IP address versions: IPv4 and IPv6. IPv4 uses 32-bit IP addresses and IPv6 uses 128-bit IP addresses. For example:

- IPv4: 192.168.0.1:80
- IPv6: [2001:0db8:0000:0000:0000:148:57ab]:80

In IBM Cognos Configuration, you can select IPv4 or IPv6 for IBM Cognos communication using the **IP Version for Host Name Resolution** property. By default IPv4 is employed.

The setting applies only to the computer where it is set. If you select**Use IPv4 addresses**, all outgoing IBM Cognos connections on that computer are established using IPv4 and the dispatcher accepts only incoming IPv4 connections. If you select **Use IPv6 addresses**, all outgoing IBM Cognos connections on that computer are established using IPv6 and the dispatcher accepts both incoming IPv4 and IPv6 connections.

IPv4 client computers can communicate with dispatcher computers that are configured for IPv6.

Hostnames specified within a URI are resolved based on the value of the **IP Version for Host Name Resolution** property. However, if a URI has been specified with a numeric address, it has precedence over this setting and communication takes place using IPv4. For IBM Cognos Configuration to accept IPv6 addresses in the local URI properties, you must start IBM Cognos Configuration with the -ipv6 option. You can specify the option each time you open IBM Cognos Configuration from the command line.

On Windows, you can set the option permanently by adding the option to the Start menu shortcut.

## Setting the IP version

Use IBM Cognos Configuration to select the IP version.

## Procedure

- 1. Start IBM Cognos Configuration.
- 2. In the Explorer window, click Environment.
- 3. Click the Value box for IP Version for Host Name Resolution and click Use IPv4 addresses or Use IPv6 addresses.
- 4. From the File menu, click Save.
- 5. Close IBM Cognos Configuration.

# Manually configuring IBM Cognos Configuration to start with the IPv6 option

You can manually configure IBM Cognos Configuration to use the IPv6 option by specifying the option in the start command.

## Procedure

- 1. Go to the *c10\_location*/bin or the *c10\_location*/bin64 directory.
- 2. Start IBM Cognos Configuration by including the IPv6 option in the command, as follows:
  - On Windows, type cogconfig.bat -ipv6
  - On UNIX or Linux, type
    - ./cogconfig.sh -ipv6
- **3**. Edit the URI properties that use IPv6 format, specify the values, and then from the **File** menu, click **Save**.

## Configuring IBM Cognos Configuration to always start with the IPv6 option on Windows

You can configure IBM Cognos Configuration to always use the IPv6 option on Microsoft Windows operating systems by setting the option in the Start menu shortcut.

## Procedure

- From the Start menu, select Programs > IBM Cognos 10, and then right-click IBM Cognos Configuration, Properties.
- On the Shortcut tab, in the Target box, type "c10\_location\bin\cogconfigw.exe -ipv6"
- 3. Click OK.

## **Configuring IBM Cognos Index Search**

Index search capability is included with your IBM Cognos Business Intelligence server product as the default search capability. To use index search, you must configure the indexing services and create at least one index. If a search result includes a URL, the URL must be in a trusted domain before users can access it.

**Important:** When an index is created, data collection puts an extra load on the batch report service. To manage the additional indexing needs, plan and scale the batch report services appropriately. The total number of high-affinity connections that are available for indexing must be equal to the number of CPUs that are available on the servers that host the index update service.

If you use the Google Search Appliance for enterprise search, you can integrate IBM Cognos content in Google search results. For more information, see "Configuring the IBM Cognos OneBox Components" on page 402.

To configure index search, do the following:

- Upgrade from a previous version.
- Enable the index services for a distributed installation, as required.
- Configure scalability for index search.
- Ensure that any URL that might turn up in a search result is added to the list of valid hosts and domains in IBM Cognos Configuration.

For more information, see "IBM Cognos Application Firewall" on page 227.

- Add IBM OmniFind<sup>®</sup> Enterprise Edition search functionality to IBM Cognos applications, if required.
- Create at least one index.

For more information, see the Administration and Security Guide.

## Upgrading from a Previous Version of Index Search

If you are upgrading from a product that used IBM Cognos Go! Search and you modified your card.xml file to publish the index to third-party search engines, you must migrate these settings to the new IBM Cognos BI version.

Some versions of IBM Cognos Go! Search included a csnconfig.xml file. If you refined your index in a previous version of Go! Search, you will find equivalent functionality in IBM Cognos Administration. Take note of any custom settings before deleting the csnconfig.xml file. For more information, see the *Administration and Security Guide*.

## Procedure

- 1. After upgrading to IBM Cognos BI, copy the card.xml file from the backup location of your older version to the **c10\_location**\bin\card directory.
- 2. If prompted to overwrite an existing file, click Yes.

# Enabling and Disabling Index Services in a Distributed Installation

Typically, an IBM Cognos BI installation can host one instance of the index data service, one instance of the index update service, and any number of instances of index search services. To achieve specific operational goals such as more robustness or performance, more complex configurations are possible.

In a typical distributed IBM Cognos BI installation, enable the index services and index update service enabled in the applications tier, and the index data service enabled in the data tier.

#### Procedure

- 1. On the server where you installed Application Tier Components in the applications tier, start IBM Cognos Configuration and do the following:
  - In the Explorer window, expand Environment and click IBM Cognos services.
  - In the **Properties** window, change the value for **Index data service enabled** to **False**.
  - Save the configuration.
- 2. On the server where you installed Application Tier Components in the data tier, start IBM Cognos Configuration and do the following:
  - In the Explorer window, expand Environment and click IBM Cognos services.
  - In the **Properties** window, change the values for **Index search service enabled** and **Index update service enabled** to **False**.
  - Save the configuration.
- **3**. For each additional instance of the index search service, on the server where you installed additional Application Tier Components in the applications tier, start IBM Cognos Configuration and do the following:
  - In the Explorer window, expand Environment and click IBM Cognos services.
  - In the **Properties** window, change the values for **Index data service enabled** and **Index update service enabled** to **False**.
  - Save the configuration.

## Scaling Index Search by Using Index Sharing

To scale search operation, you can deploy multiple instances of the index data service to different servers. Because searching is CPU-bound, you can achieve load balancing by introducing new servers that share the same index. This configuration is known as index sharing.

Index sharing allows multiple index data services to search and update a single index that is located on the shared file system within the distributed IBM Cognos BI environment. All index data services can search all index files.

When your installation of IBM Cognos BI includes multiple data tier servers, all instances of the index data service must be identically configured and point to a shared file system. Otherwise, you may only activate one instance of the index data service at a time.

### Procedure

1. Create the root directory for your index search index on one of the servers that is part of the data tier of your IBM Cognos BI deployment.

For example, create a directory named sharedIndex on the host "indexsearch". The path is \\indexsearch\sharedIndex.

On a Microsoft Windows operating system, shared file locations must be specified using the Universal Naming Convention (UNC). Mapped drives are not supported.

- 2. Share the directory and make sure that all the servers that host an index data service can access it. This is the root directory of the shared index.
- **3**. If you are using Windows, make sure that the Windows service for IBM Cognos BI runs under a user that has read and write permissions on that shared file system.
  - Select Start > Control Panel > Administrative Tools > Computer Management.
  - Expand Services and Applications and click Services.
  - Double-click on the IBM Cognos service that hosts the index data service.
  - Select the **Log On** tab and specify a domain account that has read and write permissions on the shared file system.
- 4. Log on to IBM Cognos Connection as an administrator.
- 5. In IBM Cognos Connection, click Launch > IBM Cognos Administration.
- 6. Click the Index Search tab.
- 7. Click Storage, then click Advanced.
- 8. In the Instances box, ensure All is selected.

This applies your changes to all index data service instances within the index search environment. We recommend this for most parameters.

**9**. Remove the default path and type the new path to the shared index directory as the value for **CSN.IndexLocation** parameter.

For example, delete the default setting and type \\indexsearch\sharedIndex as the value for CSN.IndexLocation.

- **10**. If the index data service is on a UNIX operating system Network File System (NFS), add the **CSN.IndexNFSSupport** parameter to the advanced configuration settings list and set the value to true.
- 11. Click Save.

# Adding IBM OmniFind Enterprise Edition Search Functionality to IBM Cognos Applications

If you plan to use IBM OmniFind Enterprise Edition with IBM Cognos BI, you must add the IBM Search and Index API (esapi.jar and siapi.jar files) to the IBM Cognos installation.

For more information about integrating IBM Cognos Applications with another search engine, see the IBM Cognos *Administration and Security Guide*.

Adding the IBM Search and Index API is not required if you plan to use IBM OmniFind Yahoo Edition.

### Before you begin

IBM OmniFindEnterprise Edition product should already be installed and configured with a searchable collection (index).

### Procedure

- 1. On the computer where the IBM OmniFindEnterprise Edition product is installed, go to the *OmniFind\_installation\_location*\lib directory.
- 2. Locate the esapi.jar and siapi.jar files and copy them into the *IBM\_Cognos\_installation\_location*\webapps\p2pd\WEB-INF\lib directory on each computer where the index search service is enabled.

## Configuring the Collaboration Discovery URI

You can configure IBM Cognos Business Intelligence and IBM Cognos Workspace to use IBM Connections for collaborative decision-making. Integration with IBM Connections allows business users to collaborate while creating or viewing reports, performing analysis, or monitoring workspaces. Users have access to IBM Connections activities from within IBM Cognos Workspace and to the IBM Connections homepage from within IBM Cognos BI and IBM Cognos Workspace.

The Collaboration discovery URI specifies the IBM Connections server to use as the collaboration provider. When a URI is specified, collaboration-related support is added to IBM Cognos BI as follows:

- a link is added to the Cognos Connection Welcome page. If the user has access to the IBM Connections homepage, the link is named **Access my social network** and links the user to the homepage. If the user has access to IBM Connection activities, but not the homepage, the link is named **My Activities** and links the user to the activities page.
- a link to the IBM Connections homepage is added to the Launch menu in Cognos Connection
- a link to the IBM Connections homepage is added to the Actions menu in IBM Cognos Workspace
- the Collaborate menu button is added on the workspace application bar in IBM Cognos Workspace. This allows the user to create or view a workspace activity in IBM Connections.

### Procedure

- 1. Start IBM Cognos Connection.
- 2. Click Launch, IBM Cognos Administration.
- **3**. On the **Configuration** tab, click **Dispatchers and Services** to view the list of dispatchers.
- 4. From the toolbar, click the set properties configuration button.
- 5. Click the Settings tab.
- 6. For the **Environment** category, **Collaboration discovery URI**, specify the URI as follows:

http://server\_name:port\_number/activities/serviceconfigs
For example, http://server\_name:9080//activities/serviceconfigs
where server\_name represents the server name where IBM Connections is
installed.

7. Click OK.

## **Configuring IBM Cognos Workspace**

IBM Cognos Workspace is included with IBM Cognos BI server. It delivers dynamic and customizable features that allow you to quickly and easily assemble interactive workspaces using IBM Cognos content, as well as external data sources. After you test that IBM Cognos Workspace is running, configure access to the secured functions and features.

Complete the following configuration tasks.

- \_• Configure access to IBM Cognos Workspace.
- Configure Supported MIME Types in Microsoft Internet Information Services.
After the configuration tasks are completed, you can perform the following tasks as required:

- Set up a database for annotations.
- Configure IBM Cognos Workspace to use metric objects.
- \_• Configure IBM Cognos Workspace to use content from a TM1 Data Server.
- \_• Configure IBM Cognos Workspace to access IBM Cognos TM1 Applications.
- Change styles in your reports.
- Use the samples.

#### Configuring access to IBM Cognos Workspace or its functions

Configure access to IBM Cognos Workspace by granting required permissions for the Executive Dashboard capability to specified namespaces, users, groups, or roles.

You can grant full access to IBM Cognos Workspace or you can grant access only to the publishing function.

IBM Cognos BI must be configured and operating before you can configure access for IBM Cognos Workspace.

#### Granting full access to IBM Cognos Workspace

To grant access to IBM Cognos Workspace and all its functionality, grant execute and traverse permissions for the Executive Dashboard capability.

Additional information about configuring permission for users can be found in a technote on the IBM Web site (http://www.ibm.com/support/ docview.wss?uid=swg21498402.)

#### Procedure

- 1. In IBM Cognos Connection, click Launch, IBM Cognos Administration.
- 2. On the Security tab, click Capabilities.
- 3. Find the **Executive Dashboard** capability, click the actions button inext to the capability name, and then select **Set properties**.
- 4. Select the **Permissions** tab.
- 5. Grant Execute permission to all user groups that should have access to IBM Cognos Workspace, and then click **OK**.

# Granting access to the publishing function for IBM Cognos Workspace

To grant access only to the publishing function within IBM Cognos Workspace, grant traverse permissions for the Executive Dashboard capability and execute permissions for the Publish Dashboards to Collaboration Spaces secured function.

- 1. In IBM Cognos Connection, click Launch, IBM Cognos Administration.
- 2. On the **Security** tab, click **Capabilities**.
- 3. Find and select the Executive Dashboard capability.
- 4. Click the actions button next to **Publish Dashboards to Collaboration Spaces**, and click **Set properties**.

- 5. Select the **Permissions** tab.
- 6. To set access permissions explicitly for each entry, select the **Override the access permissions acquired from the parent entry**.
- 7. For each user group, select the check box for the entry, and in the box next to the list, select the check boxes to grant permissions for the entry.
- 8. To add new entries to the list, click Add and choose how to select entries:
  - To choose from available entries, click the appropriate namespace, and then select the check boxes next to the users, groups, or roles.
  - To search for entries, click **Search** and in the Search string box, type the phrase you want to search for. For search options, click **Edit**. Find and click the entry that you want.
  - To type the name of entries that you want to add, click Type and type the names of groups, roles, or users using the following format, where a semicolon (;) separates each entry: namespace/group\_name;namespace/ role\_name;namespace/user\_name;

You can then grant the appropriate permissions for each new entry.

9. Click OK.

# Configuring Supported MIME Types in Microsoft Internet Information Services

If you use Microsoft Internet Information Services (IIS) 6.0, then for IBM Cognos Workspace to load successfully, you must define the MIME type that IBM Cognos Workspace uses.

#### Procedure

- 1. Open the Microsoft IIS management console.
- 2. Right-click the local computer name, and click Properties.
- 3. Click MIME Types.
- 4. Click New.
- 5. In the Extension box, type .cfg.
- 6. In the MIME Type box, type text/plain.
- 7. Apply the new settings.

The changes will take effect when the worker process recycles. To avoid waiting, you can restart the World Wide Web Publishing Service. For more information, search the Microsoft online library for *Handling MIME Types in Internet Explorer*.

# Creating tablespaces for the human task and annotation database on DB2 on z/OS

If you are using DB2 on z/OS, a database administrator must run two scripts to create the tablespaces required for the human task and annotation database. The script must be modified to replace the placeholder parameters with ones that are appropriate for your environment.

Ensure that you use the name convention for DB2 on z/OS. For example, all names of parameters must start with a letter and the length must not exceed six characters. For more information, see the IBM DB2 Information Center.

You can use your content store database or a separate database for the human task and annotation database. In either case, you must run the scripts to create the tablespaces.

#### Procedure

- 1. Connect to the database as a user with privileges to create and drop tablespaces and to allow execution of SQL statements.
- 2. Go to the *c10\_location*/configuration/schemas/hts/zosdb2 directory.
- 3. Make a backup copy of the hts\_tablespaces.sql script file and save the file to another location.
- 4. Open the original hts\_tablespaces.sql script file and use the following table to help you to replace the generic parameters with ones appropriate for your environment.

Table 57. Tablespace parameter names and descriptions for human task and annotation database on DB2 on z/OS

Parameter Name	Description
NCCOG	The name of the database.
DSN8G810	The name of the storage group.
BP32K	The name of the 32 k buffer pool.

Refer to the script for a complete list of the parameters required.

- 5. Save and run the script.
- 6. Open the hts2\_create\_db2zos.sql script file and use the following table to help you to replace the generic parameters with ones appropriate for your environment.

Table 58. Tablespace parameter names and descriptions for human task and annotation database on DB2 on z/OS

Parameter Name	Description
NCCOG	The name of the database.

Refer to the script for a complete list of the parameters required.

7. Save and run the script.

## Setting up a database for Human Tasks and Annotations

By default, the data used for the Human Tasks and Annotations feature in IBM Cognos Workspace is stored in the same database as the content store. You can configure a separate database for Human Tasks and Annotations.

To set up the database, you must first create the database, create a user account under which the database will operate, and then configure the Human Tasks and Annotations feature to use the new database.

#### Procedure

1. Create a database using the same instructions as "Guidelines for creating the content store" on page 44.

If you are using DB2 on z/OS for your database, you must create the required tablespaces by running two scripts. For more information, see "Creating tablespaces for the human task and annotation database on DB2 on z/OS" on page 278.

2. Create a user account that will be used to operate the database.

- **3.** For the instance where the Application Tier Components are installed, start IBM Cognos Configuration.
- 4. In the Explorer, right-click Human Task and Annotation Services and select New resource > Database.
- 5. In the **New Resource Database** dialog box, type a name for the database, select the type, and then click **OK**.
- 6. In the database resource properties window, configure the following:
  - Specify the mandatory values for all properties that are marked with an asterisk.
  - Specify the **User ID and password** for the account that operates the database.
- 7. From the File menu, click Save.

The logon credentials are immediately encrypted.

- 8. To test the connection to the new database, from the Actions menu, click Test.
- **9**. Repeat these steps on each Application Tier Components and Content Manager instance.

#### Metric objects in IBM Cognos Workspace

By default, a Metric Studio contribution file is provided with IBM Cognos BI server, and metric objects are available for IBM Cognos Workspace. If your product includes the IBM Cognos Metrics Manager and the metric service is enabled, you can access the objects from Metric Studio in your workspaces.

If your product does not include Metrics Manager, remove the Metric Studio contribution file. Otherwise, any metric package that exists continues to display in the IBM Cognos Workspace content pane, and attempts to access it will produce an error message.

Whether the Metric Studio contribution file is present or not, published metric packages always display in IBM Cognos Workspace. If the contribution file is present, metric application content appears in the IBM Cognos Workspace content pane. This content includes watchlist, scorecards, metrics, metric types and strategies. If the contribution file is not present, application content does not appear in the content pane. However, the metric package and all metric reports appear in the content pane. All objects that appear in the content pane can be manipulated in the workspace in the same way that they are manipulated in IBM Cognos Connection.

Perform the following tasks as required to configure IBM Cognos Workspace to use metric objects:

- Change the reports that are rendered by a metric object, if required.
- Remove the metric contribution atom file, if required.

#### Changing the report rendered by a metric object

If an author has created new reports for a metric package, you can associate the new reports with the object types by editing the cmm\_NOT.properties file.

Each type of metric object that is dragged into a workspace in IBM Cognos Workspace renders a specific report, as shown in the following table:

Table 59. Metric objects and the reports rendered from them

Object type	Report rendered
Metric	Metric history graph
Metric type	Metric type data
Scorecard	Scorecard metric list
Strategy	Strategy metric list
Watch list	Watch list metric list

The reports are created automatically with each metric package.

#### Procedure

- 1. For the instance where the Application Tier Components are installed, go to the *c10\_location*\webapps\p2pd\WEB-INF\classes directory.
- 2. Rename the file cmm\_NOT.properties to cmm.properties.
- 3. Open cmm.properties in a text editor.
- 4. In the ##Default reports for BUX section, find the object type that you want to replace in each report:
  - For metric,

```
##cmm.bux_report.metric=/folder[@name='Reports']/
folder[@name='Reports']/report[@name='Metric
History Graph']
```

• For metric type,

##cmm.bux\_report.metric\_type=/folder[@name='Reports']/
folder[@name='Reports']/report[@name='Metric
Type Data']

• For scorecard,

```
##cmm.bux_report.scorecard=/folder[@name='Reports']/
folder[@name='Reports']/report[@name='Scorecard
Metric List']
```

• For strategy,

```
##cmm.bux_report.strategy=/folder[@name='Reports']/
folder[@name='Reports']/report[@name='Strategy
Metric List']
```

• For watchlist,

```
##cmm.bux_report.watchlist=/folder[@name='Reports']/
folder[@name='Workspace Reports']/report[@name='Watch List']
```

- 5. Uncomment the property by removing the *##* symbols.
- 6. Replace the values in the /folder strings with the folder names where the new report is located.
- Replace the value in the /report string with the object\_id parameter of the new report.

If the new report uses a parameter other than object\_id, do the following:

```
a. find the CMM object_id property for the type of object being replaced:
    For metric,
    ##cmm.bux_report.object_id.prompt_param_name.
    metric=object_id
```

For metric type,

```
##cmm.bux_report.object_id.prompt_param_name.
metric_type=object_id
For scorecard,
##cmm.bux_report.object_id.prompt_param_name.
scorecard=object_id
For strategy,
##cmm.bux_report.object_id.prompt_param_name.
strategy=object_id
```

- b. Uncomment the property by removing the ## symbols.
- c. Replace the object\_id string with the parameter name that the new report uses.
- 8. Repeat steps 4 to 7 for each object type that you wish to replace.
- 9. Save the cmm.properties file.
- 10. Restart your IBM Cognos services.

#### Removing the Metric Studio contribution file

If your IBM Cognos BI installation does not include IBM Cognos Metrics Manager, any metric package continues to appear in the IBM Cognos Workspace content pane. However, selecting it causes an error message to appear. To prevent this error message, you can remove the Metric Studio contribution file from your IBM Cognos BI installation. Metric packages then continue to appear, and selecting them in the content pane shows their report content.

#### Procedure

- 1. Go to the *c10\_location*/configuration/icd/contributions/contrib directory.
- 2. Delete the metric\_studio\_contribution.atom file.
- 3. Restart the IBM Cognos service.

# Configuring IBM Cognos Workspace to use IBM Cognos TM1 data

To be able to use IBM Cognos TM1 data in IBM Cognos Workspace, you must modify configuration files in your IBM Cognos BI installation.

To configure the TM1 data server for IBM Cognos Workspace, you must perform the following tasks:

- \_• Set connection information for your TM1 Server.
- Set the names of your IBM Cognos TM1 server as they would appear in IBM Cognos Workspace.
- Optionally, change the name for the Views folder.

#### Set connection information for your TM1 Server

You must modify a configuration file to set the connection information for your TM1 Servers.

A sample contribution file is provided with in your IBM Cognos BI installation. If you are using a distributed installation, the configuration file is available on the computers where you installed the Application Tier Components.

If the IBM Cognos BI gateway is running on a different computer than TM1 Web, ensure that you use the fully qualified domain names for server name values, such as the TM1WebHost. For example, use http://mycomputer.mydomain.com/ibmcognos

rather than http://mycomputer/ibmcognos. Also, you must use the fully qualified domain names for the server name values in the **Environment** section of IBM Cognos Configuration.

#### Procedure

- On the computer where you installed the IBM Cognos BI Application Tier Components, go to the *c10\_location*\configuration\icd\contributions\ contrib directory, and rename the tm1\_contribution.atom.sample file as tm1\_contribution.atom.
- 2. Open the tml\_contribution.atom file in a text editor.

The file contains three <atom:entry> sections. You must change the values in one <atom:entry> section for each TM1 server you want to access in IBM Cognos Workspace. If you have more TM1 servers you want to add, you must add <atom:entry> sections as required. You must also comment out any extra <atom:entry> sections. The third <atom:entry> section in the sample file is already commented out.

The first <atom:entry> section is for a TM1 server that does not use Cognos authentication.

The second <atom:entry> section is for a TM1 server that uses Cognos authentication.

3. In the appropriate <atom:entry> section for the authentication required, replace TM1WebHostName and TM1HostName values with the name or IP address of the TM1 Web server and TM1 data server.

For example, change the highlighted sections of the sample.

TM1WebHost=TM1WebHostName& TM1WebVirtualDirectory=tm1web& TM1Host=TM1HostName&

4. For a TM1 server that does not use IBM Cognos authentication, change the highlighted sections shown for the TM1DataServer value:

```
TM1DataServer=TM1ServerHostWithoutCAM&
TM1username=admin&TM1pass=apple
```

Replace **admin** and **apple** with the user ID and password of the administrator account that is used for the TM1 server.

5. For a TM1 server that uses IBM Cognos authentication, change the highlighted sections shown for the TM1DataServer value:

TM1DataServer=CamAuthenticatedTM1ServerHost

- 6. If you are not using the default values, change the following properties:
  - https

This property describes the protocol used for the TM1 Web server. If the TM1 Web is running with HTTP secure, replace 0 with 1.

• TM1WebVirtualDirectory

This property is the name of the virtual directory for the TM1 Web. If the TM1 Web directory name is not tmlweb, replace the value of the TM1WebVirtualDirectory property with the correct name.

For example,

TM1WebVirtualDirectory=planningweb&

• TM1Toolbar

This property determines whether the internal toolbar is visible. Versions of TM1Web older than version 9.5.2 do not allow for an external toolbar. The default value of TM1Toolbar is **0**. To display the internal toolbar, set the value to **1**.

 If you are defining multiple TM1 server connections, create a <atom:entry> section for each TM1 server.

The samples are unique because of tm1\_rootfeed\_2 and tm1\_rootfeed\_2b. Ensure that you use unique names for values such as tm1\_rootfeed\_1, rootfeed\_title\_1, and rootfeed\_summary\_1.

- 8. Ensure that you comment out or delete any unused <atom:entry> sections.
- 9. Save and close the file.
- **10.** Restart the IBM Cognos services. If you want to change the names of the TM1 servers as they would appear in IBM Cognos Workspace, you can restart the services after the next task.

#### Set the names of your IBM Cognos TM1 server

You can define the names of your TM1 servers as they would appear in IBM Cognos Workspace.

If you use languages other than English, you can create additional language files to display the names in IBM Cognos Workspace.

#### Procedure

- On the computer where you installed the IBM Cognos BI Application Tier Components, go to the *c10\_location*\configuration\icd\contributions\ contrib directory.
- 2. Open the file named tm1\_en.properties in a text editor.
- **3**. Change the text that appears after the equal (=) sign to provide a meaningful name for the TM1 server defined for the title.

For example, if you defined a TM1 server connection using the rootfeed\_title\_1 section in the tm1\_contribution.atom file in the previous task, change the name to appear as:

rootfeed\_title\_1 = MyTM1Server

4. Change the description in the rootfeed\_summary\_1 property to give a meaningful description for the TM1 server.

For example, if you defined a name for your TM1 server connection using rootfeed\_title\_1, change the rootfeed\_summary\_1 value such as: rootfeed\_summary\_1 = Detail about MyTM1Server

- 5. Add new values for each TM1 server you added in the tm1\_contribution.atom file in the previous task. Ensure that you match the rootfeed\_title and rootfeed\_summary sections with the values you defined in the tm1\_contribution.atom file.
- 6. If your environment supports multiple languages:
  - Make a copy of the tml\_en.properties file.
  - Rename the file as tm1\_language\_code.properties, where language\_code is the two-character code for the language that you are using such as ja or es. A sample French properties file is provided: tm1\_fr.properties.
- 7. Restart the IBM Cognos services for the changed to take effect.

#### Change the name for the Views folder

Optionally, you can change the name that is displayed in IBM Cognos Workspace for the **Views** folder.

By default, IBM Cognos Workspace displays an Applications folder and a Views folder for each TM1 server that is identified in the tm1\_contribution.atom file. The name of the Applications folder is returned by the TM1 server. The name of the Views folder is determined by a messages file that is provided with IBM Cognos Workspace.

#### Procedure

- 1. Go to the *c10\_location*\templates\ps\messagesdirectory.
- 2. Create a copy of the tmlbuxmsgs\_en.xml file and name it using the appropriate language code.

A sample French translation file is provided: tmlbuxmsgs\_fr.xml.

- **3**. Open the new translation file in an XML editor.
- 4. Replace the word Views in the following section with an appropriate value: <string id="TM1 VIEWS" type="String" usage="TM1 views">Views</string>
- 5. Save and close the new file.
- 6. Repeat the steps for each supported language.

# Configuring IBM Cognos Workspace to access IBM Cognos TM1 Applications

IBM Cognos BI server can access the Web client for IBM Cognos TM1 Applications through an external iwidget that displays in the content pane of IBM Cognos Workspace. Before the iwidget can display, use the TM1 Applications documentation to perform the following tasks.

#### Procedure

- 1. Install IBM Cognos TM1 Applications.
- 2. Configure IBM Cognos TM1 Applications for interoperability with the IBM Cognos BI server.

When copying the icon\_active\_application.gif file to the Cognos BI server portal images folder, also copy this file to the *c10\_location*/webcontent/icd/ feeds/images folder.

3. Deploy your applications.

IBM Cognos TM1 Applications generates a URL, which the IBM Cognos BI server detects.

#### Results

The TM1 Contributor URL displays under **Public Folders** in the content pane of IBM Cognos Workspace.

# Changing the style of report objects in IBM Cognos Workspace

When you drag a report object onto a workspace, it appears in the silver and blue gradient style of your product. You can configure the report object appear in the original authored style by changing a global property in the IBM Cognos Viewer configuration file.

Report objects that are affected by the global setting include queries, analyses, reports, and report parts that were authored using IBM Cognos Version 1.x style, Version 8.x style, and financial (balance sheet) style. These objects pick up the global setting even if you saved them before changing the global setting. Workspace thumbnails are affected by the global setting only if you rerun the thumbnail.

Some report objects are not affected by the global setting and will always render in the authored style, such as PowerPlay reports and report object thumbnails.

#### Procedure

- For each Content Manager and Application Tier Components instance, go to thec10\_location/webapps/p2pd/WEB-INF/classes directory.
- 2. Open the viewerconfig.properties file in a text editor.
- **3**. To make report objects appear in the original authored style, change the value for **useAuthoredReportStyles** to true.
- 4. Save the file and then restart the services.

### Accessing the IBM Cognos Workspace samples

IBM Cognos Workspace samples are included with the IBM Cognos BI samples.

Business users can access the samples for IBM Cognos Workspace by selecting the option to open existing workspaces and then selecting **Samples** > **Models** > **Cognos Workspace Samples**.

For more information about installing and setting up the samples, see "Install the IBM Cognos Business Intelligence Samples" on page 419 and "Setting up the samples" on page 421. For more information about using the samples, see the *IBM Cognos Workspace User Guide*.

## Configure the Router to Test Dispatcher Availability

If you use a router to distribute requests to IBM Cognos dispatchers, and the router can test the availability of a server using a test URL, you can configure the router to test the availability of an IBM Cognos dispatcher.

#### Procedure

Configure the router to use a URL with the path /p2pd/servlet/ping. If the dispatcher is not ready, the following response is returned: 503 Service Unavailable If the dispatcher is ready, the following response is returned: 200 OK

## Configuring IBM Cognos BI to Work with Other IBM Cognos Products

Some IBM Cognos products provide functionality that is not available in IBM Cognos BI.

You can continue to use these products in the same environment. Additional configuration tasks may be required to ensure that IBM Cognos BI can access objects that were created using other IBM Cognos products. Additional requirements for access depend on how you choose to run the two products.

# Enable Scheduled Reports and Agents for IBM Cognos Planning Contributor Data Sources

To run scheduled reports and agents, which are based on IBM Cognos Planning Contributor data sources, you must specify a shared, secret password. This helps to ensure secure communication between IBM Cognos BI servers and Contributor Data Server.

#### Procedure

- 1. On the Application Tier Components computer, start IBM Cognos Configuration.
- 2. In the Explorer window, click Data Access, IBM Cognos Planning, Contributor Data Server.
- 3. In the Properties window, click the Value box next to the Signature password

property and then click the edit button *when it appears.* 

4. In the **Value - Signature Password** dialog box, type the password that will be digitally signed.

The password is case-sensitive and must match the **Signature password** property that you configure in IBM Cognos Series 7, Configuration Manager, **Cognos Planning/Cognos BI - Contributor Data Server/General** properties.

5. From the **File** menu, click **Save**.

#### Results

A digital signature, based on the password, is created. The digital signature is encoded by IBM Cognos BI and decoded by Contributor Data Server.

## File Location Properties on Windows Vista

If you install IBM Cognos client components in an environment that includes Windows Vista, you must change file locations properties in IBM Cognos Configuration so that IBM Cognos can use a single data location for all users. The changes must be made on all computers where IBM Cognos client components are installed.

Windows Vista has a security enhancement that restricts multiple users from sharing data locations. You can define environment variables and use them in IBM Cognos Configuration when specifying file locations. This allows you to direct applicable files to an area that will be accessible by IBM Cognos users. On Windows, two environment variables are preset for users: one for all users and one for the specific user.

In addition, if you install Transformer on a Windows Vista computer, and you plan to use the cogtr.xml.samples file as a template, you must update default preferences in the Transformer configuration file.

Because the environment variables represent system root locations, also include the root directory name of the installation location when you specify file locations in IBM Cognos Configuration. The default root directory for IBM Cognos is c10.

# **Update File Location Properties on Windows Vista**

You must change file locations properties in IBM Cognos Configuration so that IBM Cognos can use a single data location for all users. The changes must be made on all computers where IBM Cognos client components are installed.

#### Procedure

- 1. Start IBM Cognos Configuration.
- 2. In the Explorer window, click Environment.
- 3. In the Properties window, click Deployment files location.
- 4. Replace the relative path element, "..", with the appropriate environment variable and root directory:
  - For a single file location per user, %LOCALAPPDATA%
  - For a single file location for all users on the computer, %PUBLIC% For example,

To set a single file location per user, specify the path %LOCALAPPDATA%/ c10/deployment.

- 5. Repeat step 4 for the following properties:
  - Under Environment,
    - Data files location
    - Map files location
    - Temporary files location
  - Under Environment, Logging, File,
    - Log file location
  - Under Cryptography,
    - Common symmetric key store location
  - Under Cryptography, Cognos,
    - Certificate location
    - Signing key store location
    - Encryption key store location
- 6. From the **File** menu, click **Save**.

#### Results

The environment variables are resolved when the file locations are accessed during system activities.

# **Chapter 12. Configuring Portal Services**

Portal Services provides a set of IBM Cognos portlets that you can use in IBM Cognos Connection and in other portals. You can use the portlets to navigate, search, and view IBM Cognos reports in your working environment. Other users can view IBM Cognos information without needing to know how to use IBM Cognos products.

For more information, see the *IBM Cognos Business Intelligence Administration and Security Guide*.

Portal Services is installed automatically with IBM Cognos components. In a distributed environment, it is included with the Application Tier Components. The installation includes the deployment files for

- SAP Enterprise Portal (SAP EP)
- IBM WebSphere Portal
- Oracle WebCenter Interaction Portal
- SharePoint Portal

For some deployments of Portal Services, you must modify some Portal Services property settings and prepare the IBM Cognos environment to support the other portal.

When used in another portal, Portal Services can authenticate users in only one namespace. If IBM Cognos components are configured with more than one namespace, you must install a separate gateway for each namespace that will be used to authenticate portal users. You must configure each gateway to use the appropriate namespace and then configure the deployed portlets to use that gateway.

After you configure the required properties, you must deploy the Cognos portlets to the other portal. For more information, see the *IBM Cognos Business Intelligence Administration and Security Guide*.

To use Portal Services with IBM Cognos components, do the following:

- Specify the location of the applications.xml file, if required.
- Install and test the portlets on the other portal.

For more information, see the *IBM Cognos Business Intelligence Administration and Security Guide*.

• Configure security for the other portal environment.

## Specify the Location of the Applications.xml File

If you use the applications.xml file as part of a custom application portlet, all Application Tier Components computers in a distributed environment must reference the same applications.xml file. If you have multiple instances of the applications.xml file, they must be identical.

**Note:** The steps are required only if you want to use the Extended Applications portlet, which is included with the IBM Cognos Business Intelligence software development kit.

#### Procedure

- 1. On the Application Tier Components computer, start IBM Cognos Configuration.
- 2. In the Explorer window, under Environment, click Portal Services.
- 3. In the **Properties** window, click the **Value** next to **Location of** 'applications.xml'.
- 4. Replace localhost with a valid host name or IP address and, if necessary, replace the default port number.
- 5. From the **File** menu, click **Save**.

#### Results

You can now deploy the IBM Cognos portlets to your portal server. For instructions, see the *IBM Cognos Business Intelligence Administration and Security Guide*.

# **Configuring Security for Portal Services**

When using Portal Services in another portal, you must enable single signon to provide seamless integration between the other portal and IBM Cognos components.

Portal Services uses single signon to authenticate users. This means that users do not have to log on to other applications separately through the portal.

You must configure a URI into IBM Cognos components for each portlet in Portal Services.

To enable security between IBM Cognos components and the other portal, do the following:

• Disable anonymous access to IBM Cognos components.

If your security infrastructure requires you to use another method for single signon, use one of the following methods:

- Enable single signon for the other portal using shared secret.
- Configure IBM Cognos components for SSL access, if required.

#### **Disable Anonymous Access to IBM Cognos Components**

Portal Services uses single signon for authentication. If anonymous logon is enabled in IBM Cognos components, Portal Services logs all portal users as anonymous. You must ensure that anonymous access is disabled in IBM Cognos components for single signon in Portal Services to be successful. However, you can test the Portal Services connections using anonymous logon to ensure that the portlets are working in the other portal.

If Portal Services fails to authenticate a user, the user receives an error message at the other portal.

- 1. Start IBM Cognos Configuration.
- 2. In the **Explorer** window, under **Security** > **Authentication**, click **Cognos**.
- 3. In the Properties window, ensure that Allow anonymous access is set to False.
- 4. From the File menu, click Save.

5. Repeat steps 1 to 4 on all servers where you installed IBM Cognos components.

# **Enable Single Signon Using Shared Secret**

You can use shared secret for single signon between IBM Cognos portlets and IBM Cognos components. The Cognos portlets send a message that contains an encrypted version of the portal user ID. The encryption key is determined by the value of a secret character string shared between the portlets and the custom Java security provider on the IBM Cognos server.

You can use shared secret for the other portal only if portal user IDs can be looked up in an authentication namespace that is shared by IBM Cognos components.

IBM Cognos components must have access to a directory server that contains user IDs for all your portal users. Using IBM Cognos Configuration, you must configure an authentication namespace so that the portal and IBM Cognos components share the same authentication source.

You must also create a Custom Java Provider namespace to register the shared secret Java provider that is provided with IBM Cognos components. Within the portlets or iViews, you must link the portlets or iViews to the Custom Java Provider namespace within your respective portal:

- Cognos iViews (SAP EP)
- Cognos Portlet Application (WebSphere Portal)
- remote server (Oracle WebCenter Interaction Portal)
- Cognos WebPart (SharePoint Portal)

You are not required to configure access to the Portal Services Web content. However, if you deploy the portlets to another portal, you can configure access to an alternate URI for Portal Services images and Web content.

#### **Configure the Required Namespaces**

IBM Cognos components must have access to a directory server that contains user IDs for all your portal users. Using IBM Cognos Configuration, you must configure an authentication namespace so that the portal and IBM Cognos components share the same authentication source.

#### Procedure

- 1. In IBM Cognos Configuration, configure a namespace to authenticate portal users.
- 2. For an LDAP namespace, configure the following properties:
  - For the **Use external identity** property, change the setting to **True**.
  - For the External identity mapping property, set it to (uid=\${environment("REMOTE\_USER")})

For SharePoint Portal, if SharePoint is on a different machine from the LDAP server, set **External identity mapping** to

(uid=\${replace(\${environment("REMOTE\_USER")},"SharePoint\_Server\\","")})

**3**. For an IBM Cognos Series 7 namespace, map the portal user IDs to IBM Cognos Series 7 user IDs using OS signons.

For more information, see the IBM Cognos Series 7 documentation.

- 4. In IBM Cognos Configuration, create and configure a Custom Java Provider namespace.
  - For the Namespace ID property, specify any new ID.

For example, **cpstrusted** 

This new ID must be used in the portlet configuration settings.

• For the Java class name property, type com.cognos.cps.auth.CPSTrustedSignon

Java class names are case-sensitive.

- 5. In IBM Cognos Configuration, under **Environment** > **Portal Services**, configure the following properties:
  - For **Trusted Signon Namespace ID**, type the ID of the namespace that you configured in step 1.

**Tip:** The trusted signon namespace acts as an intermediary and must be attached to a real directory-based namespace.

• For Shared Secret, type the key to be used for single signon.

This parameter represents the authorization secret that must be shared between the Cognos portlets and the IBM Cognos server. Consider this as a secret password. You must use the same character string when you configure the portlet application. You must use a single word as the key.

For security reasons, specify a non-null value.

- 6. Under Environment, for Gateway Settings, set the Allow Namespace Override property to true.
- 7. From the File menu, click Save.
- 8. Restart the IBM Cognos service.

#### **Configure Access to the Portal Services Web Content**

After creating the required namespaces, you must configure access so that users can access the Web content.

#### Procedure

- 1. On the computer where you installed the Application Tier Components, start IBM Cognos Configuration.
- 2. In the Explorer window, under Environment, click Portal Services.
- 3. In the Properties window, click the Value box next to Web Content URI.
- 4. Specify the host name or IP address of the gateway and a port number using the format

host\_or\_IP\_address:port

5. From the File menu, click Save.

#### Configure the Cognos iViews for SAP EP

Within the iViews, you must link the iViews to the Custom Java Provider namespace within your respective portal.

- 1. Open the iView editor for each Cognos iView.
- 2. In the Property Category box, select Show All.
- **3**. For the **cpsauthsecret: CPS Authorization Secret** property, enter the secret character string that you used for the Shared Secret property when you configured the Custom Java Provider namespace.
- 4. For the **cps: authentication namespace ID** property, enter the Custom Java Provider namespace ID.

- For the cpsserver: CPS Connection Server property, enter the URL path to access Portal Services components through the gateway. The format of the URL is as follows:
  - For Cognos content portlets *Gateway\_URI/wsrp/cps4/portlets/nav?wsdl&b\_action=cps.wsdl* Example for a CGI gateway: http://*myserver/ibmcognos/cgi-bin/cognos.cgi/wsrp/cps4/portlets/* nav?wsdl&b\_action=cps.wsdl Example for a servlet gateway: http://172.0.16.1:9500/wsrp/cps4/portlets/nav?wsdl&b\_action=cps.wsdl
    For Cognos Extended Applications

*Gateway\_URI/wsrp/cps4/portlets/sdk?wsdl&b\_action=cps.wsdl* Example for a CGI gateway: http://*myserver/ibmcognos/cgi-bin/cognos.cgi/wsrp/cps4/portlets/* sdk?wsdl&b\_action=cps.wsdl Example for a servlet gateway: http://172.0.16.1:9500/wsrp/cps4/portlets/sdk?wsdl&b\_action=cps.wsdl

 For Metrics Manager Watchlist portlets
 Gateway\_URI/wsrp/cps4/portlets/cmm?wsdl&b\_action=cps.wsdl
 Example for a CGI gateway:
 http://myserver/ibmcognos/cgi-bin/cognos.cgi/wsrp/cps4/portlets/
 cmm?wsdl&b\_action=cps.wsdl

Example for a servlet gateway:

http://172.0.16.1:9500/wsrp/cps4/portlets/cmm?wsdl&b\_action=cps.wsdl

## **Configure the Cognos Portlets for WebSphere Portal**

Within the portlets, you must link the portlets to the Custom Java Provider namespace within your respective portal.

#### Procedure

- 1. For each Cognos portlet application, click the edit value icon.
- 2. For the **cps\_auth\_secret** property, enter the secret character string that you used for the **Shared Secret** property when you configured the Custom Java Provider namespace.
- **3.** For the **cps\_auth\_namespace** property, enter the Custom Java Provider namespace ID.
- 4. For the **CPS Endpoint** property, enter the URL path to access Portal Services components through the gateway.

The format of the URL is as follows:

- For Cognos content portlets
   Gateway\_URI/wsrp/cps4/portlets/nav?wsdl&b\_action=cps.wsdl

   Example for a CGI gateway:
   http://myserver/ibmcognos/cgi-bin/cognos.cgi/wsrp/cps4/portlets/
   nav?wsdl&b\_action=cps.wsdl

   Example for a servlet gateway:
   http://172.0.16.1:9500/wsrp/cps4/portlets/nav?wsdl&b\_action=cps.wsdl
- For Cognos Extended Applications *Gateway\_URI*/wsrp/cps4/portlets/sdk?wsdl&b\_action=cps.wsdl

Example for a CGI gateway:

http://*myserver*/ibmcognos/cgi-bin/cognos.cgi/wsrp/cps4/portlets/sdk?wsdl&b\_action=cps.wsdl

Example for a servlet gateway:

http://172.0.16.1:9500/wsrp/cps4/portlets/sdk?wsdl&b\_action=cps.wsdl

 For Metrics Manager Watchlist portlets *Gateway\_URI/wsrp/cps4/portlets/cmm?wsdl&b\_action=cps.wsdl*  Example for a CGI gateway: http://myserver/ibmcognos/cgi-bin/cognos.cgi/wsrp/cps4/portlets/ cmm?wsdl&b\_action=cps.wsdl

Example for a servlet gateway:

http://172.0.16.1:9500/wsrp/cps4/portlets/cmm?wsdl&b\_action=cps.wsdl

# Configure the Remote Server for Oracle WebCenter Interaction Portal

Within the portlets, you must link the portlets to the Custom Java Provider namespace within your respective portal.

- 1. Using a plain ASCII editor, such as Notepad, edit the cpsalui.properties file in the *c*10\_*location*/cps/oracle/webapps/gadgets/WEB-INF/classes directory.
- 2. Configure the settings shown in the following table.

Table 60. Settings	for the cpsalui.properties file

Parameter	Value
cps_endpoint	The URL to connect to the Application Tier Components and extract the WSDL information.
	Specify the URI to the gateway.
	For a servlet or ISAPI gateway, replace the localhost/ibmcognos/cgi-bin/cognos.cgi portion with the values to target the gateway.
	For example,
	http://host_name/ibmcognos/cgi-bin/ cognosisapi.dll/wsrp/cps4/portlets/ [package]?wsdl&b_action=cps.wsdl
forward_cookies=	The names of the cookie that should be sent to the Application Tier Components for single signon.
	Leave blank.

Table 60. Settings for	or the o	cpsalui.properties	file	(continued)
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Parameter	Value
cps_auth_secret	The shared secret code IBM Cognos uses to encrypt an HTTP header variable that carries the user identity.
	This parameter represents the authorization secret that must be shared between the Cognos portlets and the IBM Cognos server. Consider this as a secret password. Use the same value that you used for <b>Shared Secret</b> in IBM Cognos Configuration. For security reasons, specify a non-null
	value.
cps_auth_namespace	The namespace ID for the Custom Java Provider.

- 3. Go to the c10\_location/cps/oracle directory and run the following build file:
  - On UNIX or Linux operating systems, build.sh
  - On Microsoft Windows operating system, build.bat

This creates a cps-wci.war file in the **c10\_location**/cps/oracle/gadgets directory.

- 4. If IBM Cognos BI components are using Tomcat,
  - Stop IBM Cognos BI.
  - Copy the cps-wci.war file to the **c10\_location**/webapps directory.

Tomcat automatically expands the WAR file and starts the remote server.

- Start IBM Cognos BI.
- 5. If IBM Cognos BI components are running under another type of application server, copy the cps-wci.war file to the application server.

For instructions, see the administration guide for your application server.

#### Results

Single signon is configured.

# Configure Properties for the Cognos WebPart for SharePoint Portal

Within the portlets, you must link the portlets to the Custom Java Provider namespace within your respective portal.

- 1. Using a plain ASCII editor, such as Notepad, edit the web.config file in the *drive*\inetpub\wwwroot\wss\VirtualDirectories\virtual\_directory\_sharepoint \_is\_running\_under.
- **2**. Find the following string:
  - <SSO cps auth namespace="" cps auth secret="" />
- **3**. Set cps\_auth\_namespace to the namespace ID for the Custom Java Provider namespace.
- 4. Set cps\_auth\_secret to the value that you used for **Shared Secret** in IBM Cognos Configuration.

# Enable Single Signon for SAP EP with the SAP Logon Ticket

If you enable single signon with the SAP Logon Ticket, you must configure IBM Cognos components with an SAP namespace that links to an SAP BW server.

Then you must copy the certificate that was generated during SAP EP installation to the SAP BW personal security environment.

Users must have the same user ID in all SAP systems that are accessed through single signon.

Before you start, ensure that you have

- configured IBM Cognos components to use an SAP authentication source
- enabled single signon between IBM Cognos components and SAP BW
- installed the latest service packs on the SAP BW server Service packs can be downloaded from SAPNET.
- installed the latest hot patches for the SAP portal
- installed the Enterprise Portal plug-in that corresponds to the SAP EP release or SAP BW server

For SAP releases earlier than 6.2, on SAPNET, download EP50\_PLUG-IN for Basis 620 (SAPKINE32A). Using transaction SAINT, install SAPKINE32A.

• installed the SAP Security Library on the SAP BW servers

From sapservX, under /general/misc/security/SAPSECU/platform, download sapsecin and sepsecu.dll and place both files in the /run directory of the SAP BW server.

To enable SSO for SAP EP, complete the procedures for single signon with SAP logon tickets in the SAP Enterprise Portal *Security Guide*.

You can now use the Cognos iViews in the SAP Enterprise Portal. For more information, see the *Administration and Security Guide*.

## Enable Single Signon for SAP EP with User Mapping

If you enable single signon with user mapping, you define an IBM Cognos data source in SAP EP. Individual users or an administrator can enter the user IDs and passwords for IBM Cognos components in the data source. You must map the users logon credentials in the data source to a namespace. Portal Services iViews transmit the logon credentials to IBM Cognos components using HTTP Basic Authentication.

#### Prepare the Environment

Before you map user logon credentials, you must perform certain tasks in the security environment.

#### Procedure

1. Configure the gateway URI that will be used by Portal Services to require authentication using HTTP Basic Authentication.

For information about configuring a URL to use HTTP Basic Authentication, see the documentation for the gateway or for your Web server.

- 2. Adjust the iView configuration to access the secure URL. For information, see the documentation for your Web server.
- **3**. In IBM Cognos Configuration, configure a namespace to authenticate portal users.

- 4. If you use an LDAP namespace, configure the following properties:
  - For the Use external identity property, change the setting to True.
  - For the External identity mapping property, set it to (uid=\${environment("REMOTE\_USER")})

#### Create the Data Source and Map the Users

You must set up the logon credentials and define the user mappings for the Cognos iViews.

#### Procedure

- In the SAP portal, ensure that the following properties are configured for the data source in the /PortalContent/other\_vendors/every\_user/ com.cognos.pct.c8/systems/Cognos directory:
  - Logon Method = UIDPW
  - server name = the name of the IBM Cognos server
  - port number = port number of the gateway
  - Protocol of Target system = HTTP
  - User Mapping Type = admin,user
  - system alias (Create a system alias)
  - For more information, see the SAP Enterprise Portal Administration Guide.
- 2. For each Cognos iView, enable user mapping for the data source by entering the name of the system alias at the iView level, in an attribute called **CPS: User Mapping Datasource**.

For more information, see the SAP Enterprise Portal Administration Guide.

- **3.** For each Cognos iView, set the **CPS: Authentication Namespace ID** property to the namespace that you want to use for authentication.
- 4. Register the IBM Cognos credentials for the portal users.

Users can enter their own user IDs and passwords.

For more information, see the SAP Enterprise Portal Administration Guide.

5. Enable secure communication between SAP EP and IBM Cognos.

#### Results

You can now use the Cognos iViews in the SAP Enterprise Portal. For more information, see the *Administration and Security Guide*.

# Enable Secure Communication Between SAP EP and IBM Cognos Components

A secure connection, using SSL, is not required between SAP EP and IBM Cognos components. It is more important if you enabled single signon with user mapping.

To enable SSL between SAP EP and IBM Cognos components, see your SAP EP security documentation.

After SSL is enabled, edit properties for the all iViews so that the **cpsserver: CPS Connection Server** property uses https instead of http.

You can now use the IBM Cognos portlets in the SAP Enterprise Portal. For more information, see the *Administration and Security Guide*.

# Enable Single Signon for WebSphere Portal Using the Application Server

The Portal Services portlets can use the Active Credentials objects provided by WebSphere Portal to connect to IBM Cognos components. Portal Services supports the following Active Credentials objects: HttpBasicAuth, LtpaToken, SiteMinderToken, and WebSealToken.

Credentials for the portal user are passed to the gateway using this object. For more information about Active Credential objects, see the documentation for IBM WebSphere Portal.

To use application server single signon, see the documentation for IBM WebSphere Application Server.

For information about SSL for IBM Cognos components on a WebSphere Application Server, see "Configuring the SSL protocol for IBM Cognos components" on page 249.

After single signon is set up, you can use the IBM Cognos portlets in the WebSphere Portal. For more information, see the *Administration and Security Guide*.

# Enable Single Signon for Oracle WebCenter Interaction Portal Using Basic Authentication

You can configure a portlet in WebCenter Interaction Portal to send the username and password as an HTTP Basic authentication header. The header can be used with an authentication namespace to provide single signon.

#### Procedure

- 1. In IBM Cognos Configuration, configure a namespace to authenticate portal users.
- 2. Install an alternate CGI or ISAPI or servlet gateway in IBM Cognos.
- 3. Configure the gateway.
- 4. In the administration console of the Web server, configure the virtual directories to access the gateway.

For more information, see the documentation for your Web server.

- 5. Configure the WebCenter Interaction remote server to access IBM Cognos BI:
  - Edit the cpsalui.properties file in the *c10\_location*/cps/oracle/webapps/gadgets/WEB-INF/classes directory.
  - Change the cps\_endpoint property to indicate the URL of the gateway.

For a CGI gateway, you can use the default setting if the gateway and the remote server are on the same computer. Otherwise, replace the localhost portion with **host\_name:port** 

For a servlet or ISAPI gateway, replace the localhost/ibmcognos/cgi-bin/ cognos.cgi portion with the values to target the gateway. For example,

http://host\_name:port/ibmcognos/cgi-bin/cognosisapi.dll/wsrp/cps4/
portlets/[package]?wsdl&b\_action=cps.wsdl

• Set the cps\_auth\_namespace property to the namespace that you want to use for authentication.

# Enable Single Signon for Oracle WebCenter Interaction Portal Using SiteMinder

If you use eTrust SiteMinder to provide single signon in your security infrastructure, you can also use it for single signon withWebCenter Interaction Portal.

You must configure a SiteMinder authentication namespace in IBM Cognos BI. WebCenter Interaction Portal sends the SiteMinder active authentication token to the remote server, which sends the token to the IBM Cognos gateway.

#### Procedure

1. In IBM Cognos Configuration, configure a SiteMinder authentication namespace.

For instructions, see "Configuring IBM Cognos Components to Use eTrust SiteMinder" on page 347.

- 2. Configure the remote server to forward the authentication token:
  - Edit the cpsalui.properties file in the *c10\_location*/cps/oracle/webapps/gadgets/WEB-INF/classes directory.
  - Change the forward\_cookies property to include the name of the active authentication token that SiteMinder provides.
  - Change the cps\_endpoint property to indicate the URL of the gateway.

For a CGI gateway, you can use the default setting if the gateway and the remote server are on the same computer. Otherwise, replace the localhost portion with *host\_name* : *port* .

For a servlet or ISAPI gateway, replace the localhost/ibmcognos/cgi-bin/ cognos.cgi portion with the values to target the gateway.

For example,

http://host\_name:port/ibmcognos/cgi-bin/cognosisapi.dll/wsrp/cps4/
portlets/[package]?wsdl&b\_action=cps.wsdl

• Change the cps\_auth\_namespace property to the namespace that you want to use for authentication.

# Chapter 13. IBM Cognos Content Archival

Storing archived content in your external repository provides you with the ability to adhere to regulatory compliance requirements, and can enhance the scalability and performance of IBM Cognos products by reducing the size of content in the content store.

The software supports an IBM FileNet Content Manager with IBM FileNet CMIS external repository. If you already have IBM Filenet CMIS version 1 of the software installed, you must upgrade this software with fix pack, version 2. Content archival can also be configured to use your file system.

Administrators create a data source connection to an external repository to allow content to move from the content store to the repository. Users can view the archived content in the external repository from IBM Cognos Connection. By providing search results for recent and archived content, users can make critical comparisons between current data and historical data. This efficient mechanism allows your company to meet corporate and government requirements while providing a seamless user experience.

For information about administering your archives, see the *Administration and Security Guide*.

There are two workflow scenarios for archiving your content. The first workflow allows administrators archive packages and folders after installing IBM Cognos Content Archival software. The second workflow allows administrators to create repository connections for new packages and folders.

# Workflow 1: Archiving content after installing connectivity software

Administrators can archive saved report output for specific packages and folders or all packages and folders after installing or upgrading IBM Cognos Business Intelligence. This workflow only needs to be completed once since all of your content is currently located in your content store.

- Create a data source connection to the external repository.
- In Cognos Connection, select repository connections for the packages and folders that need to be archived.
- Create and run a content archival maintenance task to select folders and packages to archive in the external repository.

Once you set a repository connection for packages and folders, any new report output is automatically archived, which means that there is no need to run the content archival maintenance task again.

# Workflow 2: Creating repository connections for new packages and folders

Administrators can create repository connections for new packages and folders by completing these tasks:

• Create a data source connection to the external repository.

• In Cognos Connection, select repository connections for the packages and folders that need to be archived.

#### Using content archival content maintenance tasks

The content archival content maintenance task creates a reference to the report versions in the folders and packages that you select and configure. Selecting folders and packages marks the content within and allows it to remain in the content store until it is archived in your external repository.

It is important to note that this task does not move your content from the content store to the external repository. You must select repository connections for your packages and folders in IBM Cognos Connection first. Report versions in folders and packages that are not marked for archiving are available for deletion from the content store.

Once the content is marked, the content archival task is complete. A background task in Content Manager finds the marked items and then copies and saves them in the external repository.

Importing content into a folder or package that is configured for archiving to an external repository does not automatically move and archive the imported content into the repository. An administrator must run a content archival content maintenance task for this folder or package to archive the imported content.

#### **Background tasks**

The background XML tasks used to move content from the content store to the external repository are archiveTask.xml and deleteTask.xml. The archiveTask.xml file moves marked content to an external ECM repository. You can also use this file to set thread execution times and archive outputs of selected formats. The deleteTask.xml file is a configuration file that retrieves and deletes marked version objects from the queue.

#### Preserve Content IDs before you archive

If required, you can preserve content IDs before report output is archived.

Objects in the content store have content IDs that are deleted and replaced with new IDs by default when you run an import deployment and move content to a target environment. However, there may be situations when you must preserve content IDs, for example, when moving report output to a external report repository.

## **Configure content archival**

You must configure your environment for content archival. For the configuration changes to take effect you must stop and start your IBM Cognos services.

## Creating a file location for a file system repository

To archive reports or report specifications to an IBM Cognos content archival file system repository, you must create an alias root that points to a file location on a local drive or network share.

## Before you begin

You must be an administrator and have access to the file location. Content Manager and Application Tier Components must be able to access this location by using a file URI.

#### Procedure

- 1. If running, stop the IBM Cognos service.
- 2. Start IBM Cognos Configuration.
- 3. Click Actions > Edit Global Configuration.
- 4. On the **General** tab, select **Alias Roots**, click inside the value field, click the edit button, and when the **Value Alias Roots** dialog box appears, click **Add**.
- 5. In the **Alias root name** column, type a unique name for your file system repository.

Note: There is no limit to the number of aliases you can create.

- **6**. Type the path to your file system location, where file-system-path is the full path to an existing file location:
  - On Windows, in the **windowsURI** column, type file:/// followed by the local path, for example, file:///c:/file-system-path or type file:// followed by the server name and share path, for example file://server/share.
  - On UNIX or Linux, in the **unixURI** column, type file:/// followed by the local path, for example, file:///file-system-path.

**Note:** Relative paths, such as file:///../file-system-path, are not supported.

In a distributed installation, both the Content Manager and Application Tier Components computers must have access to the file location. Use both URIs only in a distributed installation. The UNIX URI and the Windows URI in an alias root must point to the same location on the file system.

- 7. Click OK.
- 8. Restart the IBM Cognos service. This might take a few minutes.

#### Results

Use this file system repository name to create a data source connection to use with the Cognos content archival software. For more information, see the *IBM Cognos Administration and Security Guide*.

# Importing custom classes definitions and properties into IBM FileNet Content Manager

To use IBM Cognos content archival, you must import a set of custom classes and properties files into IBM FileNet Content Manager.

Custom classes definitions and properties include FileNet specific metadata. You can install custom classes and properties files at any time.

- 1. If you have FileNet archiving set up, go to *c10\_location*/configuration/ repository/filenet/upgrade/directory.
- 2. If FileNet archiving is not already set up, go to *c10\_location*/configuration/ repository/filenet/new/ directory.

- Copy the CMECMIntegrationObjects\_CEExport.\_xxx.xml files to a local folder on the FileNet server.
- 4. Open the FileNet Enterprise Manager Administration tool and connect to the domain for the FileNet external repository.
- 5. Select a target Object Store, and click **Import All Items** to import the definitions into the object store.
- 6. In the Import Options pane, click **Import Manifest File** and browse to where the CMECMIntegrationObjects\_CEExport.\_xxx.xml files are located.
- Select the CMECMIntegrationObjects\_CEExport\_Manifest.xml file and click Import.
- 8. Restart the FileNet Content Engine and FileNet CMIS application to apply the changes to your environment.

**Note:** It might take a long time for changes to be updated across all FileNet nodes.

### Specifying an available time to run the archival process

To maintain high system performance during peak hours, you can configure a blackout period to specify when the archive or delete tasks run.

A blackout period is a temporary period in which the movement of data is denied. By default, a blackout period is not defined when the software is installed.

#### Procedure

- 1. Go to the *c10\_location*/webapps/p2pd/WEB-INF/cm/tasks/manager directory.
- 2. Using an XML text editor, open the tasksManager.xml file.
- 3. For example, to specify a weekly blackout period from 8.00 a.m. to 5 p.m., Tuesday through Friday, add the following <blackoutPeriods> element as a child element of the backgroundTasksManager element.
  - start time = <hour>08</hour>
  - stop time = <hour>17</hour>
  - days =

```
<day>Tuesday</day>
<day>Wednesday</day>
<day>Thursday</day>
<day>Friday</day>
```

- 4. If required, decrease the number of threads available to the archiving and deletion processes. The maximum number of threads is 7.
- 5. Save and close the file.
- 6. Restart background activities on the Content Manager service.

## Specifying thread execution time

You can use threads to schedule operating system processing time.

The archive and delete background tasks use threads to move content. Threads are units of processing time that are scheduled by the operating system.

- 1. Go to the *c10\_location*/webapps/p2pd/WEB-INF/cm/tasks/config directory.
- 2. Using an XML text editor, open the archiveTask.xml file.

3. For example, to configure three threads that execute from midnight to 8.00 a.m., one thread that executes from 8.00 a.m. to 5.00 p.m., no threads that execute from 5.00 p.m. to midnight, and all threads that run every day of the week, add the following <executionPeriods> XML element as a child element of the backgroundTask element.

<executionPeriods> <executionPeriod> <threads>3</threads> <startTime> <hour>00</hour> <minute>00</minute> </startTime> <stopTime> <hour>08</hour> <minute>00</minute> </stopTime> <days> <day>Monday</day> <day>Tuesday</day> <day>Wednesday</day> <day>Thursday</day> <day>Friday</day> <day>Saturday</day> <day>Sunday</day> </days> </executionPeriod> <executionPeriod> <startTime> <hour>08</hour> <minute>00</minute> </startTime> <stopTime> <hour>17</hour> <minute>00</minute> </stopTime> <days> <day>Monday</day> <day>Tuesday</day> <day>Wednesday</day> <day>Thursday</day> <dav>Fridav</dav> <day>Saturday</day> <day>Sunday</day> </days> </executionPeriod> </executionPeriods>

4. Save and close the file.

# Archiving selected formats of report outputs

You can limit archiving to limit archiving to specific output formats. By default outputs of any given format, including PDF, XML, HTML and Excel, are archived.

You can limit archiving of specific output formats to the repository.

- 1. Go to the *c10\_location*/webapps/p2pd/WEB-INF/cm/tasks/config directory.
- 2. Using an XML text editor, open the archiveTask.xml file.
- 3. For example, to define the archiving of only PDF report output versions, add the following <outputFormats> XML element as a child element of the runOptions XML element.

<outputFormats>
 <outputFormat>PDF</outputFormat>
 </outputFormats>

You can use the existing sample outputFormats element and modify the list to specify output formats to be archived.

You cannot selectively archive multiple file report output versions, for example HTML with graphics.

Save and close the file.

# Removal of marked version objects from the queue

The deleteTask.xml file is a configuration file for the background task called deleteTask, which retrieves and deletes marked version objects from the queue.

There are two content maintenance tasks that mark and move version content into a queue:

- Retention Rules Updater that updates and applies retention rules on reports, queries, analysis, and document objects
- · Content Removal that marks versions and histories.

The deleteTask.xml file is located in the *c10\_location*/webapps/p2pd/WEB-INF/cm/ tasks/config directory.

For more information about retention rules, see the *IBM Cognos Administration and Security Guide.* 

## Specifying that report specifications are not archived

By default, report specification output is archived. Report specifications describe how data was generated within a report.

To turn off the archiving of report specifications to an IBM FileNet Content Manager repository, you must configure both the CM.xml and CM\_FileNet.xml files.

- 1. Go to the *c10\_location*/webapps/p2pd/WEB-INF/repositories/config directory.
- 2. Using an XML text editor, open the CM.xml file.
- Comment out or remove the following line: <property name="specifications" metadataPropertyName="specification" useTempFile="true"
- 4. Save and close the file.
- 5. Go to the *c10\_location*/webapps/p2pd/WEB-INF/repositories/config directory.
- 6. Using an XML text editor, open the file named CM.FILENET.xml.
- 7. Comment out or remove the following element:

8. Restart background activities on the Content Manager service. For more information, see the *IBM Cognos Administration and Security Guide*.

# Chapter 14. Using Collaboration with IBM Cognos Workspace

Collaboration capabilities in IBM Cognos Workspace provide a bridge between using IBM Cognos Business Intelligence to discover a business problem and acting to resolve it.

Activities is a web-based collaboration tool for collecting, organizing, sharing, and reusing work related to a goal. Members of an activity interact in an online location in which they create, collect, and share a set of ideas and resources to support a goal. An activity is a way for you to organize your work and collaborate with others in a shared web space. Because it is easy to invite new members, you can quickly pull together the correct people and resources you need to get the job done. You can post messages, share files and links to web sites, and create and assign to-do items. Activities are part of IBM Connections and are integrated with IBM Cognos Workspace.

To use activities with IBM Cognos Workspace, you must install IBM Connections and configure it to work with IBM Cognos BI. IBM Connections is social networking software designed for the workplace.

For more information about IBM Connections version 2.5 requirements, see the following:

- the customer support site (http://www.ibm.com/support/docview.wss?rs=899 &uid=swg27016547)
- the IBM Connections Information Center (http://publib.boulder.ibm.com/ infocenter/ltscnnct/v2r0/index.jsp)
- the IBM Connections wiki page (http://www.lotus.com/ldd/lcwiki.nsf)

For more information about IBM Connections version 3.0 requirements, see the following:

- the customer support site (https://www.ibm.com/support/ docview.wss?uid=swg27019882)
- the IBM Connections Information Center (http://www.lotus.com/ldd/ lcwiki.nsf/xpViewCategories.xsp?lookupName=Lotus%20Connections%203 %20documentation&SessionID=CPF70J9VI3)

## Installation considerations

Installing IBM Cognos BI and IBM Connections requires some deployment choices.

For example, IBM Connections version 2.5 requires you to have IBM WebSphere Application Server version 6.1.0.23 running and to have security enabled on your IBM WebSphere Application Server profile. To allow single signon between IBM Cognos BI and IBM Connections, you will also have to deploy IBM Cognos BI to IBM WebSphere Application Server, rather than using the Apache Tomcat servlet container that is provided with IBM Cognos BI.

IBM Connections and IBM Cognos BI must be installed on computers in the same domain.

When you install IBM Connections, you must, at a minimum, install Activities and Home Page to allow collaboration with IBM Cognos BI. For more information about IBM Connections features, see the IBM Connections features and benefits page (http://www.ibm.com/software/lotus/products/connections/features.html).

IBM Connections has different database support than IBM Cognos BI. IBM Connections requires a database for each of the features you install, such as Activities, Home Page, etc. You do not have to use the same database server for IBM Connections as for your IBM Cognos BI server.

To install IBM Connections, you must install IBM WebSphere Application Server, install updates for IBM WebSphere Application Server, and create the required IBM Connections databases. You must also secure the IBM WebSphere Application Server profile you will be using for IBM Connections against your authentication provider using an IBM WebSphere Application Server federated repository configuration.

If you choose to install the Profiles feature of IBM Connections, you must use the IBM Tivoli Directory Integrator to create user profiles in order for your users to be able to log in to IBM Connections. The directory integrator will create profiles in IBM Connections for users from your LDAP. Users can then log in and create activities from IBM Cognos Workspace, as well as use any of the other IBM Connections features you have installed.

To use single signon between IBM Cognos BI and IBM Connections, you must deploy IBM Cognos BI to IBM WebSphere Application Server. You must use a separate IBM WebSphere Application Server instance or a separate profile on the same instance.

#### Installation process

Use the following list to guide you through the install process for the software needed to deploy IBM Cognos BI with IBM Connections.

#### Install a database server or prepare an existing database server

Ensure you use a supported database for IBM Connections and for IBM Cognos BI.

To install IBM Connections, and to populate user profiles, you require a JDBC driver for your database. You must have the required JDBC driver before you install the product. For more information about the database drivers, see the installation instructions in the IBM Connections Information Center (http://publib.boulder.ibm.com/infocenter/ltscnnct/v2r0/index.jsp?topic=/ com.ibm.connections.25.help/t\_install\_standalone.html).

The Database Wizard for IBM Connections allows you to create the IBM Connections databases on IBM DB2, Microsoft SQL Server, or an Oracle database. For more information, see the IBM Connections Information Center (http://publib.boulder.ibm.com/infocenter/ltscnnct/v2r0/index.jsp?topic=/ com.ibm.connections.25.help/t\_install\_databases\_using\_wizard.html).

At a minimum, you must create databases for **Activities** and **Home page** to use IBM Cognos BI collaboration with IBM Connections.

#### Install IBM WebSphere Application Server

Ensure you use a supported version of IBM WebSphere Application Server for IBM Connections. For example, you must update your IBM WebSphere Application Server 6.1 installation with Fix Pack 23.

Fix packs are available from the IBM Fix Central web site (http://www.ibm.com/support/fixcentral/).

Search for the Fix Pack by entering the appropriate search criteria: for example, in **Product Group**, select **WebSphere**. In **Product**, select **WebSphere Application Server**. In **Installed Version** select **6.1.0.0**. In the **Text** box, enter **23**. Select the appropriate Fix Pack for your installation. For example, for Microsoft Windows, the Fix Pack would be **6.1.0-WS-WAS-WinX32- FP0000023**.

The system requirements for IBM Connections 2.5 (http://www.ibm.com/support/docview.wss?rs=899&uid=swg27016547).

The system requirements for IBM Connection 3.0 (https://www.ibm.com/support/docview.wss?uid=swg27019882).

When you install IBM WebSphere Application Server, you can clear the **Enable administrative security** check box. Security is required for IBM Connections, but you can apply it after you have installed the product.

# Create an additional IBM WebSphere Application Server profile, if required

If you are installing IBM Cognos BI and IBM Connections to the same IBM WebSphere Application Server, you must create an additional profile for one of the applications. Do not use the same profile for both applications.

To set up single signon, you must set a shared key between the profile you are using for IBM Connections and the profile you are using for IBM Cognos BI. For more information, see the IBM WebSphere Information Center (http://publib.boulder.ibm.com/infocenter/wasinfo/v6r1/index.jsp).

You do not have to install IBM Cognos BI to IBM WebSphere Application Server to use collaboration with IBM Connections. Installing to IBM WebSphere Application Server does, however, provide the option for single signon between the applications. Single signon allows the applications to share your log in information such that users only have to log in once to use either application. If you do not require single signon, you can deploy IBM Cognos BI using Apache Tomcat or a supported application server.

#### Secure your IBM WebSphere Application Server profile(s)

You must enable security for the IBM WebSphere Application Server profile into which you will be installing IBM Connections.

When you secure your IBM WebSphere Application Server profile, you must configure IBM WebSphere Application Server with an LDAP directory used for authentication and user attributes using a federated repository configuration. For more information about setting up security using a federated repository configuration, see the IBM Connections Information Center (http://publib.boulder.ibm.com/infocenter/ltscnnct/v2r0/index.jsp?topic=/

com.ibm.connections.25.help/t\_inst\_federated\_repositories.html). For IBM Connections 3.0, see the IBM Connections wiki page (http://www.lotus.com/ldd/lcwiki.nsf/dx/Setting\_up\_federated\_repositories\_lc3).

If you are installing IBM Cognos BI to IBM WebSphere Application Server, and you want single signon, you should secure the profile you are using for IBM Cognos BI, as well as IBM Cognos BI, to the same authentication source as your profile for IBM Connections.

#### Install IBM Connections

You must have created and secured an IBM WebSphere Application Server profile before you install IBM Connections. You must also have created the required IBM Connections databases.

During the installation, you are prompted for a database driver to connect to the IBM Connections databases. For more information about the database drivers, see the following topic in the IBM Connections Information Center (http://publib.boulder.ibm.com/infocenter/ltscnnct/v2r0/index.jsp?topic=/ com.ibm.connections.25.help/t\_install\_standalone.html).

#### Update IBM Connections for IBM Cognos BI

For more information, see "Mandatory updates required for IBM Connections" on page 313.

After you have installed the Fix Pack and the Interim Fix, you must modify a configuration file to allow IBM Cognos BI to communicate with IBM Connections. You do this by modifying two IBM Connections configuration files. For more information, see "Allow access to IBM Connections from IBM Cognos BI" on page 314.

To be able to successfully create Activities from IBM Cognos Workspace, you must add your domain to your IBM WebSphere Application Server profile security configuration. For more information, see "Enable IBM Connections to accept activities created by IBM Cognos Workspace" on page 315.

# Install IBM Cognos BI, and then build the application for IBM WebSphere Application Server, if required

If you are installing IBM Cognos BI on IBM WebSphere Application Server and you want to use single signon between IBM Connections and IBM Cognos BI, you must enable access for a BI User role before you build the application file to install on IBM WebSphere Application Server. For more information, see "Add user role to enable single signon between IBM WebSphere profiles" on page 358.

If you are installing IBM Cognos BI on IBM WebSphere Application Server, you must build the application in IBM Cognos Configuration, and then install the application in IBM WebSphere Application Server. For more information, see "Configure application server properties and install IBM Cognos components" on page 364.
## **Configure IBM Cognos BI**

When you configure IBM Cognos BI, you must add the server and port information to the Cognos Application Firewall in order to allow access from IBM Cognos BI to IBM Connections. For more information, see "IBM Cognos Application Firewall" on page 227.

When you configure your IBM Cognos BI, you must ensure that you use the full domain name of the computer where your services are running and for your gateway. If you do not include the domain, then IBM Connections will not allow access as it cannot verify the domain from which the access is coming. For more information, see "Port and URI Settings" on page 221.

You can set the domain values when you configure IBM Cognos BI. For more information, see "Configure IBM Cognos components to run within the application server" on page 359.

After you have installed and configured your IBM Connections and IBM Cognos BI software, you must set the **Collaboration discovery URI** in IBM Cognos Administration. The **Collaboration discovery URI** provides access to creating activities from IBM Cognos Workspace and adds links to IBM Connections from menus in IBM Cognos Connection. For more information, see "Configuring the Collaboration Discovery URI" on page 276.

# Create IBM Connections profiles using the population wizard, if required

If you have installed the IBM Connections Profiles feature, you must create user profiles in IBM Connections using the Tivoli Directory Integrator before users can log in. The directory integrator creates user profiles from your LDAP. For more information about setting up Tivoli Directory Integrator and adding user profiles, see the IBM Connections Information Center (http://publib.boulder.ibm.com/infocenter/ltscnnct/v2r0/index.jsp?topic=/com.ibm.connections.25.help/t\_prof\_install\_profiles\_db.html).

## Mandatory updates required for IBM Connections

To use IBM Connections with IBM Cognos Business Intelligence, you must update your IBM Connections installation by applying required Fix Packs or Interim Fixes.

For the most up-to-date information about required Fix Packs and Interim Fixes, see the Information Center for this product at http://publib.boulder.ibm.com/ infocenter/cogic/v1r0m0/index.jsp.

You must apply the following to your IBM Connections 2.5 installation:

• Fix Pack version 2.5.0.2

For more information about updating IBM Connections, see the following topic in the IBM Connections Information Center: http://publib.boulder.ibm.com/ infocenter/ltscnnct/v2r0/index.jsp?topic=/com.ibm.connections.25.help/ c\_updating\_lotusconnections.html

The Fix Pack is available from the IBM Fix Central Web site: http://www.ibm.com/support/fixcentral/.

Search for the Fix Pack by entering the appropriate search criteria: for example, in **Product Group**, select **Lotus**. In **Product**, select **IBM Connections**. In

Installed Version select 2.5.0.0. In the Individual fix IDs box, enter 2.5.0.2-LC-Multi-FP000002. The downloaded Fix Pack is named LC2502\_FixPack.jar.

• The following Interim Fixes must be applied:

LO52700

LO52560

LO51723

LO53215

LO51605

For IBM Cognos BI integration, you must then install Interim Fix LO52425.

The Interim Fixes are available from the IBM Fix Central Web site: http://www.ibm.com/support/fixcentral/.

You can apply multiple Interim Fixes at the same time. For more information, see http://publib.boulder.ibm.com/infocenter/ltscnnct/v2r0/index.jsp?topic=/ com.ibm.connections.25.help/t\_install\_interim-fix\_silent-mode.html.

Search for the Interim Fix by entering the appropriate search criteria: for example, in **Product Group**, select **Lotus**. In **Product**, select **IBM Connections**. In **Installed Version** select **2.5.0.0**. For example, in the **APAR or SPR** box, enter **LO52700**.

You must apply the following to your IBM Connections 3.0 installation:

Interim Fix, or iFix, LO56863 and LO57924

The iFixes are available from the IBM Fix Central Web site: http://www.ibm.com/eserver/support/fixes/fixcentral/.

Search for the iFix by entering the appropriate search criteria: for example, in **Product Group**, select **Lotus**. In **Product**, select **IBM Connections**. In **Installed Version** select **3.0.0.** In the **APAR or SPR** box, enter **LO56863**.

The iFix appears in the search results as interim fix: 3.0.0.0-LC-Multi-ACTIVITIES-IFLO56863, and is downloaded as L056863.jar.

## Allow access to IBM Connections from IBM Cognos BI

To enable collaboration between IBM Cognos BI and IBM Connections, you must update a file in your IBM Connections installation and then modify a file to add the domain for the server where IBM Cognos BI is running.

Adding the domain allows access to IBM Connections from computers in that domain. If you do not add the domain, IBM Cognos BI will not be able to create activities. For example, if your IBM Cognos BI server is running on **mycomputer.mycompany.com**, then you must add **mycompany.com** to the list of allowable domains in IBM Connections.

The file to be copied is named oa-config.xsd and it is included with the required Interim Fix. The file to be modified is named oa-config.xml. oa-config.xml allows access from IBM Cognos BI. The files are located in your IBM WebSphere Application Server directory. Ensure that you back up the files before you modify them.

You must have installed the appropriate Fix Pack and Interim Fix before you modify these files.

If you are using a network deployment of IBM Connections, you must modify the files in the LotusConnections-config directory on the Deployment Manager computer, then synchronize these changes with the nodes before restarting the profile.

#### Procedure

- Go to the WebSphere\_location\profiles\connections\_profile\InstalledApps\ computer\_nameNode##Cell\LotusConnections-config directory, and make a copy of the file named oa-config.xsd.
- 2. From the IBM Cognos BI product CDs or the location where you downloaded the Interim Fix file, copy the file named oa-config.xsd to the WebSphere\_location\profiles\connections\_profile\InstalledApps\ computer\_nameNode##Cell\LotusConnections-config directory.
- 3. In the same directory, open the file named oa-config.xml in a text editor.
- 4. At the end of the file, but before the </config> element, add the following element:

```
<WidgetRedirectWhitelist>
<domain>.*\.mycompany\.com</domain>
</WidgetRedirectWhitelist>
```

where .mycompany and .com make up your domain.

- 5. Save and close the file.
- 6. Open the IBM WebSphere Application Server administration console.
- 7. Click the link for the **Secure administration**, **applications**, **and infrastructure** page.
- 8. In the Authentication section, click Web Security > Single sign-on (SSO).
- 9. In the Domain name box, enter your domain name.

For example, enter **.mycompany.com**.

Ensure that you include the period before the domain name. If you have different subdomains on your network, ensure that you use only the common part of the domain name.

For example, IBM Cognos BI is installed on a computer with **.deptA.mycompany.com** as the domain, and IBM Connections is installed on a computer with **.deptB.mycompany.com**, you must include only the **.mycompany.com** part of the domain name.

- 10. Click **OK**, and then click **Save**.
- 11. Restart the IBM WebSphere Application Server profile where IBM Connections is installed.

#### Results

IBM Cognos BI will now be able to communicate with IBM Connections and to create activities.

# Enable IBM Connections to accept activities created by IBM Cognos Workspace

To allow IBM Cognos Workspace to properly create activities in IBM Connections, you must add your domain to a setting in your IBM WebSphere Application Server profile where you have installed IBM Connections.

If you do not add the domain, you may see errors when you create the activity in IBM Cognos Workspace.

## Procedure

 Start the IBM WebSphere Application Server administration console, by clicking Start > All Programs > IBM WebSphere > Application Server v6.1 > Profiles > profile name > Administrative Console.

The Integrated Solutions Console appears prompting you to log in.

- Click Security > Secure administration, applications and infrastructure. The Secure administration, applications, and infrastructure page appears.
- 3. In the Authentication section, click Web Security > Single sign-on (SSO).
- In the Domain name box, enter the domain for your computer, for example enter .mycompany.com, including the period before the domain name.
   Ensure that you use the appropriate domain for your computer.
- 5. Click **OK**, and then click **Save**.

# Enable single signon between IBM Connections and IBM Cognos Business Intelligence

To enable single signon between IBM Connections and IBM Cognos Business Intelligence using your Web server as the access point, you must install a Web server plug-in that is provided with your IBM WebSphere Application Server installation.

## Procedure

1. Install the IBM Cognos Business Intelligence components.

If you are distributing your installation, you must install the Gateway component on your Web server computer. If you are using a single server installation, install all of the components.

You must install the Gateway component on the Web server computer so that the required static content is available.

- 2. Create a virtual directory for the Gateway named /p2pd/servlet that points to the *c10\_location*/webcontent directory.
- **3**. Run your IBM WebSphere Application Server installation, and select Web Server Plug-ins Installation.
- 4. Follow the steps in the wizard, and ensure sure you select the appropriate Web server for what you have installed.

For more information about installing the plug-in, see the following IBM WebSphere page: http://publib.boulder.ibm.com/infocenter/wasinfo/v6r0/ index.jsp?topic=/com.ibm.websphere.nd.doc/info/ae/ae/ tins\_road\_plugins.html

- 5. After you install the plug-in, you must configure IBM WebSphere Application Server to know about the Web server following the information provided in the IBM WebSphere page.
- 6. Go to the *c10\_location*\webapps\p2pd\WEB-INF directory on the computer where you installed IBM Cognos BI, and open the file named ibm-web-ext.xmi file in a text editor.
- 7. Change all values for fileServingEnabled to false.
- 8. Save and close the file.
- 9. Go to the c10\_location\war\p2pd directory, and do the following:
  - Open the file named application.xml.template in a text editor.
  - Edit the application section to include a security-role element, as shown in the following example:

```
<application>
<display-name>IBM Cognos 10</display-name>
<module>
<web>
<web>uri>@p2pdwar@</web-uri>
<context-root>@p2pd@</context-root>
</web>
</module>
<security-role id="SecurityRole_Cognos_BI_User">
<description/>
<role-name>BI User</role-name>
</security-role>
</application>
```

• Save and close the file.

After you have installed the IBM Cognos application to IBM WebSphere, you must enable the security role.

- 10. Go to the *c10\_location*\webapps\p2pd\WEB-INF directory, and do the following:
  - If you have installed Content Manager on the computer, open the file named web.xml.withCM in a text editor.

If you have not installed Content Manager, open the file named web.xml.noCM.

• After the last servlet-mapping section, and before the closing web-apps element, add the following:

```
<security-constraint>
    <web-resource-collection>
     <web-resource-name>Cognos Dispatcher</web-resource-name>
        <url-pattern>/servlet/dispatch/ext/*</url-pattern>
        <http-method>GET</http-method>
        <http-method>POST</http-method>
      </web-resource-collection>
      <auth-constraint>
        <role-name>BI User</role-name>
   </auth-constraint>
</security-constraint>
<login-config>
   <auth-method>BASIC</auth-method>
   <realm-name>Cognos Dispatcher</realm-name>
</login-config>
<security-role>
  <role-name>BI User</role-name>
</security-role>
```

- Save and close the file.
- 11. Use IBM Cognos Configuration to create the deployment file to install to IBM WebSphere.

Ensure that you do not include the static content when you generate the EAR file.

- **12**. Configure IBM Cognos BI as required using IBM Cognos Configuration, including securing it using the same authentication source as you have used for IBM Connections, and save your configuration.
- **13**. Install the IBM Cognos application on IBM WebSphere Application Server. For single signon, you must enable a user role after you have installed the application.
  - In the IBM WebSphere administration console, click Applications > Enterprise applications.
  - Click IBM Cognos.
  - In the Detail properties section, click Security role to user/group mapping.

- Select the **Select** check box for **BI User**, and select the **All authenticated**? check box.
- Click **OK**, and then click **Save**.
- 14. After you install IBM Cognos to IBM WebSphere Application Server, you must generate and propagate the Web server plug-in configuration.

To do this, in the IBM WebSphere administration console, under **Servers**, click **Web servers**. Select the Web server, and click **Generate Plug-in**. Then select the Web server again, and click **Propagate Plug-in**.

- **15.** If you are not using an IBM WebSphere Network Deployment, you must swap keys between your IBM WebSphere profiles.
  - In your IBM WebSphere administration console, click **Security** > **Secure** administration, applications, and infrastructure.
  - In the Authentication section, click Authentication mechanisms and expiration.
  - In the **Cross-cell single sign-on section**, enter a password.
  - Export the key, and then import the key to the other profile.
  - Repeat these steps for the other profile so that you import a key from profile B into profile A, and import a key from profile A into profile B.
- **16**. If you are using the Web server plug-in for load balancing, turn off the internal load balancing done by the dispatcher. For the more information, see the topic on using cluster compatible mode for dispatchers in the IBM Cognos Business Intelligence *Administration and Security Guide*.

#### Results

To access the IBM Cognos BI portal, your URL will be: http://web\_server\_name/ p2pd/servlet/dispatch/ext

# Chapter 15. Configuring IBM Cognos Components to Use an Authentication Provider

IBM Cognos components run with two levels of logon: anonymous and authenticated. By default, anonymous access is enabled.

You can use both types of logon with your installation. If you choose to use authenticated logon only, you can disable anonymous access.

For authenticated logon, you must configure IBM Cognos components with an appropriate namespace for the type of authentication provider in your environment. You can configure multiple namespaces for authentication and then choose, at run time, which namespace you want to use. For more information, see the *Administration and Security Guide*.

If you upgraded from ReportNet and IBM Cognos detects a previously configured namespace that is no longer configured, the unconfigured namespace appears in the list of authentication providers in the Administration portal. You can configure the namespace if you still require the user account information. Otherwise, you can delete the namespace. For information about deleting the namespace, see the *Administration and Security Guide*.

Also, when upgrading from one version to another, you must use the same authentication namespace for both versions. Otherwise, the old secured content will not be available because the new version may not contain the same policies, users, roles, and groups.

IBM Cognos components support the following types of servers as authentication sources:

- Active Directory Server
- IBM Cognos Series 7
- Custom Authentication Provider
- LDAP
- eTrust SiteMinder
- RACF
- SAP

If you use more than one Content Manager, you must configure identical authentication providers in each Content Manager location. This means that the type of authentication provider you select and the way you configure it must be identical in all locations for all platforms. The configuration must contain information that is accessible by all Content Managers.

When IBM Cognos is installed in a single Linux-based computer, or when Content Manager is installed on a Linux-based computer, IBM Cognos can be configured to use only LDAP V3-compliant directory servers and custom providers as authentication sources.

Some authentication providers require libraries external to the IBM Cognos environment to be available. If these libraries are not available on Linux, the authentication provider cannot be initialized. If you want to configure one of the following as your authentication source, you must install Content Manager on a non-Linux computer:

- IBM Cognos Series 7 namespace
- Active Directory Server
- eTrust SiteMinder
- SAP BW

If you enable security, you must configure security settings immediately after you complete the installation and configuration process. For more information, see the *Administration and Security Guide*.

**Important:** Do not disable security after you enable it. If you delete a namespace, the user preferences, My Folders, and My Pages entries are permanently lost. Existing permission settings will refer to users, groups, or roles that no longer exist. While this does not affect how the permissions work, a user administering the permission settings may see "unknown" entries. Because these entries refer to users, groups, and roles which no longer exist, you can safely delete them.

After you configure an authentication provider for IBM Cognos components, you can enable single signon between your authentication provider environment and IBM Cognos components. This means that a user logs on once and can then switch to another application without being asked to log on again.

Users can select namespaces when they log in to the IBM Cognos portal. You can hide Custom Java namespaces and eTrust SiteMinder namespaces from users. For more information, see "Hide the Namespace from Users During Login" on page 333 and "Hide the Namespace from Users During Login" on page 350.

To use an authentication provider and to require users to authenticate, do the following:

- \_\_• Disable anonymous access, if required.
- Configure IBM Cognos components to use an authentication provider.

#### Related tasks:

"Set up security for a Google OneBox sample module" on page 403 By default, Google OneBox applications are open and anonymous. If your application requires secure authentication, you must configure the Google Search Appliance (GSA) and your IBM Cognos installation appropriately.

### **Disable Anonymous Access**

If you want to use authenticated logon only, you can use IBM Cognos Configuration to disable anonymous access.

By default, IBM Cognos components do not require user authentication. Users can log on anonymously.

#### Procedure

- 1. In each location where Content Manager is installed, start IBM Cognos Configuration.
- 2. In the **Explorer** window, under **Security** > **Authentication**, click **Cognos**.

The IBM Cognos resource represents the Cognos namespace. The Cognos namespace stores information about IBM Cognos groups, such as the Anonymous User, contacts, and distribution lists, and refers to objects in other

security namespaces. For more information, see the *IBM Cognos Business Intelligence Administration and Security Guide*.

- **3.** In the **Properties** window, click the box next to the **Allow anonymous access** property and then select **False**.
- 4. From the **File** menu, click **Save**.

#### Results

Now, you must configure a namespace so that users are required to provide logon credentials when they access IBM Cognos resources.

### **Restrict User Access to the Cognos Namespace**

You can restrict access to users belonging to any group or role defined in the Cognos built-in namespace.

By default, all users belong to several built-in groups or roles. To restrict access, you must do the following:

- Enable the property to restrict access, using IBM Cognos Configuration.
- Remove the Everyone group from the built-in roles and groups, using IBM Cognos Administration.
- Ensure that authorized users belong to at least one role or group, using IBM Cognos Administration.

#### Procedure

- 1. In each Content Manager location, start IBM Cognos Configuration.
- 2. In the Explorer window, under Security, click Authentication.
- 3. In the **Properties** window, change the value of **Restrict access to members of the built-in namespace** to **True**.
- 4. From the File menu, click Save.

#### Results

You must now use the portal to remove the Everyone group from the built-in roles and groups, and then ensure that authorized users belong to at least one built-in role or group.

For information about adding or removing members of a group or role, see the *IBM Cognos Business Intelligence Administration and Security Guide*.

### Configuring IBM Cognos Components to Use Active Directory Server

If you install Content Manager on a Microsoft Windows operating system computer, you can configure Active Directory as your authentication source using an Active Directory namespace.

If you install Content Manager on a UNIX-based computer, you must instead use an LDAP namespace to configure Active Directory as your authentication source. If you install Content Manager on a mix of Windows and UNIX computers, you must use an LDAP namespace to configure Active Directory for all Content Managers. When you use an LDAP namespace to authenticate against Active Directory Server, you are limited to LDAP features only. You do not have access to Active Directory features such as advanced properties for domains and single signon using Kerberos delegation. If you install Content Manager on a Linux-based computer, the same restrictions apply as for UNIX. You must use an LDAP namespace to configure Active Directory as your authentication source.

If you want to use Microsoft SQL Server or Microsoft Analysis Server as a data source and use single signon for authentication, you must use Active Directory as your authentication source.

You cannot connect to the Active Directory Global Catalog, which is a caching server for Active Directory Server. If the connection uses port 3268, you must change it. By default, Active Directory Server uses port 389.

#### Procedure

- 1. Configure IBM Cognos components to use an Active Directory Server namespace
- 2. Enable secure communication to the Active Directory Server, if required
- 3. Enable single signon between Active Directory and IBM Cognos components

#### **Related concepts:**

"Enabling Single Signon Between Active Directory Server and IBM Cognos Components" on page 326

By default, the Active Directory provider uses Kerberos delegation and integrates with the IIS Web server for single signon if integrated authentication (formerly named NT Challenge Response) on Microsoft Windows operating system is enabled on the IIS Web server.

#### **Related tasks**:

"Include or Exclude Domains Using Advanced Properties" on page 324 When you configure an authentication namespace for IBM Cognos, users from only one domain can log in. By using the Advanced properties for Active Directory Server, users from related (parent-child) domains and unrelated domain trees within the same forest can also log in.

"Configure an LDAP Namespace for Active Directory Server" on page 335 If you configure a new LDAP namespace for use with an Active Directory Server, you must modify the necessary settings and change the values for all properties of the Active Directory objects.

## Configure an Active Directory Namespace

You can use Active Directory Server as your authentication provider.

You also have the option of making custom user properties from the Active Directory Server available to IBM Cognos components.

#### Before you begin

For IBM Cognos to work properly with Active Directory Server, ensure that the Authenticated users group has Read privileges for the Active Directory folder where users are stored.

If you are configuring an Active Directory namespace to support single signon with a Microsoft SQL Server or Microsoft Analysis Server data source, ensure the following configuration:

- The IBM Cognos gateway is installed on an IIS Web server that is configured for Integrated Authentication on Microsoft Windows operating system .
- The gateway is assigned to the local intranet Web site in your Web browser.

- Content Manager is installed on a Windows 2000 or Windows 2003 server.
- Content Manager, Application Tier Components, IIS Web server, and the data source server (Microsoft SQL Server or Microsoft Analysis Server) belong to the Active Directory domain.
- The data source connection for Microsoft SQL Server or Microsoft Analysis Server is configured for **External Namespace** and that namespace must be the Active Directory namespace.

For more information about data sources, see the *IBM Cognos Business Intelligence Administration and Security Guide*.

#### Procedure

- 1. In every location where you installed Content Manager, open IBM Cognos Configuration.
- 2. In the **Explorer** window, under **Security**, right-click **Authentication**, and then click **New resource** > **Namespace**.
- 3. In the Name box, type a name for your authentication namespace.
- 4. In the **Type** list, click the appropriate namespace and then click **OK**. The new authentication provider resource appears in the **Explorer** window, under the **Authentication** component.
- 5. In the **Properties** window, for the **Namespace ID** property, specify a unique identifier for the namespace.
- 6. Specify the values for all other required properties to ensure that IBM Cognos components can locate and use your existing authentication provider.
- 7. Specify the values for the Host and port property.

To support Active Directory Server failover, you can specify the domain name instead of a specific domain controller. For example, use *mydomain*.com:389 instead of dc1.*mydomain*.com:389.

8. If you want to search for details when authentication fails, specify the user ID and password for the **Binding credentials** property.

Use the credentials of an Active Directory Server user who has search and read privileges for that server.

- 9. From the File menu, click Save.
- Test the connection to a new namespace. In the Explorer window, under Authentication, right-click the new authentication resource and click Test.

#### Results

IBM Cognos loads, initializes, and configures the provider libraries for the namespace.

# Make Custom User Properties for Active Directory Available to IBM Cognos Components

You can use arbitrary user attributes from your Active Directory Server in IBM Cognos components. To configure this, you must add these attributes as custom properties for the Active Directory namespace.

The custom properties are available as session parameters through Framework Manager. For more information about session parameters, see the *Framework Manager User Guide* 

You can also use the custom properties inside command blocks to configure Oracle sessions and connections. You can use the command blocks can be used with Oracle light-weight connections and virtual private databases. For more information, see the *IBM Cognos Business Intelligence Administration and Security Guide*.

#### Procedure

- 1. In every location where you installed Content Manager, open IBM Cognos Configuration.
- 2. In the **Explorer** window, under **Security** > **Authentication**, click the Active Directory namespace.
- **3**. In the **Properties** window, click in the **Value** column for **Custom properties** and click the edit icon.
- 4. In the Value Custom properties window, click Add.
- 5. Click the **Name** column and type the name you want IBM Cognos components to use for the session parameter.
- 6. Click the **Value** column and type the name of the account parameter in your Active Directory Server.
- 7. Repeat steps 4 to 6 for each custom parameter.
- 8. Click OK.
- 9. From the File menu, click Save.

# Enabling Secure Communication to the Active Directory Server

If you are using an SSL connection to the Active Directory Server, you must copy the certificate from the Active Directory Server to the Content Manager location.

#### Procedure

- 1. In every Content Manager location, use your Web browser to connect to the Active Directory Server and copy the CA root certificate to the Content Manager location.
- **2**. Add the CA root certificate to the certificate store of the account that you are using for the current IBM Cognos session:
  - If you are running the IBM Cognos session under a user account, use the same Web browser as in step 1 to import the CA root certificate to the certificate store for your user account.

For information, see the documentation for your Web browser.

• If you are running the IBM Cognos session under the local account, use Microsoft Management Console (MMC) to import the CA root certificate to the certificate store for the local computer.

For information, see the documentation for MMC.

- 3. In IBM Cognos Configuration, restart the service:
  - In the Explorer window, click IBM Cognos services, IBM Cognos.
  - From the Actions menu, click Restart.

## Include or Exclude Domains Using Advanced Properties

When you configure an authentication namespace for IBM Cognos, users from only one domain can log in. By using the Advanced properties for Active Directory Server, users from related (parent-child) domains and unrelated domain trees within the same forest can also log in. If you set a parameter named chaseReferrals to true, users in the original authenticated domain and all child domains of the domain tree can log in to IBM Cognos. Users from a parent domain of the original authenticated domain or in a different domain tree cannot log in.

If you set a parameter named MultiDomainTrees to true, users in all domain trees in the forest can log in to IBM Cognos.

#### Procedure

- 1. In every location where you installed Content Manager, open IBM Cognos Configuration.
- 2. In the **Explorer** window, under **Security** > **Authentication**, click the Active Directory namespace.
- 3. In the **Properties** window, specify the **Host and port** property:
  - For users in one domain, specify the host and port of a domain controller for the single domain.
  - For users in one domain tree, specify the host and port of the top-level controller for the domain tree.
  - For users in all domain trees in the forest, specify the host and port of any domain controller in the forest.
- 4. Click in the Value column for Advanced properties and click the edit icon.
- 5. In the Value Advanced properties window, click Add.
- 6. Specify two new properties, **chaseReferrals** and **MultiDomainTrees**, with the values from the following table:

Authentication for	chaseReferrals	MultiDomainTrees
One domain	False	False
One domain tree	True	False
All domain trees in the forest	True	True

Table 61. Advanced properties settings

- 7. Click OK.
- 8. From the File menu, click Save.

#### Related tasks:

"Configuring IBM Cognos Components to Use Active Directory Server" on page 321

If you install Content Manager on a Microsoft Windows operating system computer, you can configure Active Directory as your authentication source using an Active Directory namespace.

#### Authenticating Domain Trees Procedure

- 1. In every location where you installed Content Manager, open IBM Cognos Configuration.
- 2. In the **Explorer** window, under **Security** > **Authentication**, click the Active Directory namespace.
- 3. In the **Properties** window, specify the **Host and port** property:

- For users in one domain, specify the host and port of a domain controller for the single domain.
- For users in one domain tree, specify the host and port of the top-level controller for the domain tree.
- For users in all domain trees in the forest, specify the host and port of any domain controller in the forest.
- 4. Click in the Value column for Advanced properties and click the edit icon.
- 5. In the Value Advanced properties window, click Add.
- 6. Specify two new properties, **chaseReferrals** and **MultiDomainTrees**, with the values from the following table:

Authentication for	chaseReferrals	MultiDomainTrees
One domain	False	False
One domain tree	True	False
All domain trees in the forest	True	True

Table 62. Properties for setting authenticating domain trees

- 7. Click OK.
- 8. From the File menu, click Save.

# Enabling Single Signon Between Active Directory Server and IBM Cognos Components

By default, the Active Directory provider uses Kerberos delegation and integrates with the IIS Web server for single signon if integrated authentication (formerly named NT Challenge Response) on Microsoft Windows operating system is enabled on the IIS Web server.

If Windows integrated authentication is enabled, you are not prompted to reenter authentication information when accessing IBM Cognos content that is secured by the Active Directory namespace.

If you do not want Kerberos delegation, you can configure the provider to access the environment variable REMOTE\_USER to achieve single signon.

#### Related tasks:

"Configuring IBM Cognos Components to Use Active Directory Server" on page 321

If you install Content Manager on a Microsoft Windows operating system computer, you can configure Active Directory as your authentication source using an Active Directory namespace.

#### Single Signon Using Kerberos Delegation

You can enable single signon between the Active Directory provider and the IBM Cognos components using Kerberos delegation.

By default, Active Directory uses Kerberos delegation and integrates with the IIS Web server for single signon if integrated authentication (formerly named NT Challenge Response) on Microsoft Windows operating system is enabled on the IIS Web server.

If Windows integrated authentication is enabled, you are not prompted to reenter authentication information when accessing IBM Cognos content that is secured by the Active Directory namespace.

#### Procedure

- 1. Set up Windows integrated authentication on the IIS Web server.
- **2**. Install Content Manager in a location that is part of the domain, for the active and standby Content Managers.
- **3**. Set up the computers, or the user account under which Content Manager runs, to be trusted for delegation.

When setting up the computers using the Active Directory user tool, do not select the **Account** attribute, which is sensitive and cannot be delegated.

# Enabling Single Signon Between Active Directory Server and IBM Cognos Components using REMOTE\_USER

If you do not want Kerberos delegation, you can configure the provider to access the environment variable REMOTE\_USER to achieve single signon.

You must set the advanced property singleSignOnOption to the value IdentityMapping. You must also specify bind credentials for the Active Directory namespace.

Microsoft IIS sets REMOTE\_USER by default when you enable Windows integrated authentication. If Kerberos authentication is bypassed, single signon to Microsoft OLAP (MSAS) data sources will not be possible.

#### Procedure

- 1. In every location where you installed Content Manager, open IBM Cognos Configuration.
- 2. In the **Explorer** window, under **Security** > **Authentication**, click the Active Directory namespace.
- **3**. Click in the **Value** column for **Advanced properties** and then click the edit icon.
- 4. In the Value Advanced properties dialog box, click Add.
- 5. In the Name column, type singleSignOnOption
- 6. In the Value column, type IdentityMapping.
- 7. Click OK.
- 8. Click in the Value column for Binding credentials, and then click the edit icon.
- **9**. In the **Value Binding credentials** dialog box, specify a user ID and password and then click OK.

#### Results

The Active Directory provider now uses REMOTE\_USER for single signon.

**Tip:** To switch back to Kerberos delegation, edit **Advanced properties** and, in the **Value** column, type KerberosAuthentication.

### Configuring IBM Cognos to Use IBM Cognos Series 7 Namespace

You can configure IBM Cognos components to use an IBM Cognos Series 7 namespace as the authentication provider. Users will be authenticated based on the authentication and signon configuration of the IBM Cognos Series 7 namespace. An IBM Cognos Series 7 namespace is required if you want to use IBM Cognos Series 7 PowerCubes and Transformer models in IBM Cognos Business Intelligence. You must configure the namespace before you load the Transformer models.

**Note:** You cannot use an IBM Cognos Series 7 Local Authentication Export (LAE) file for authentication with IBM Cognos components.

You can configure IBM Cognos components to use multiple IBM Cognos Series 7 authentication providers. All IBM Cognos Series 7 namespaces must use the same primary IBM Cognos Series 7 Ticket Server. Otherwise, you may receive errors or be prompted for authentication more than once. To maintain performance, also ensure that the ticket server is running.

If you change the configuration information stored in the directory server used for IBM Cognos Series 7, you must restart the IBM Cognos service before the changes take effect in the IBM Cognos installation.

A user must be in at least one Access Manager user class to log on to IBM Cognos components.

#### Procedure

- 1. Configure a Series 7 namespace
- 2. Enable secure communication to the directory server used by the IBM Cognos Series 7 namespace, if required
- 3. Enable single signon between IBM Cognos Series 7 and IBM Cognos

## Configure an IBM Cognos Series 7 Namespace

You can configure IBM Cognos to use one or more IBM Cognos Series 7 namespaces for authentication.

#### Procedure

- 1. In every location where you installed Content Manager, open IBM Cognos Configuration.
- In the Explorer window, under Security, right-click Authentication, and then click New resource > Namespace.
- 3. In the Name box, type a name for your authentication namespace.
- 4. In the **Type** list, click the appropriate namespace and then click **OK**. The new authentication provider resource appears in the **Explorer** window, under the **Authentication** component.
- 5. In the **Properties** window, for the **Namespace ID** property, specify a unique identifier for the namespace.
- 6. Specify the values for all other required properties to ensure that IBM Cognos components can locate and use your existing authentication provider.

If your IBM Cognos Series 7 namespace version is 16.0, ensure that the **Data encoding** property is set to **UTF-8**. In addition, the locations where Content Manager is installed must use the same locale as the data in the IBM Cognos Series 7 namespace.

The host value can be a server name or an IP address. If you are publishing from PowerPlay Enterprise Server to IBM Cognos BI, you must use the same value format used in IBM Cognos Series 7 Configuration Manager for the location of the directory server. For example, if the server name is used in IBM Cognos Series 7 Configuration Manager, you must also use the server name in IBM Cognos Configuration for IBM Cognos BI.

- If your namespace environment includes version 15.2 of the IBM Cognos Series 7 namespace, you must disable the Series7NamespacesAreUnicode setting.
  - In the **Properties** window, in the **Advanced Properties** value, click the edit icon.
  - In the Value Advanced properties window, click Add.
  - In the Name box, type Series7NamespacesAreUnicode.
  - In the Value box, type False, and then click OK.
- 8. In the **Properties** window, under **Cookie settings**, ensure that the **Path**, **Domain**, and **Secure flag enabled** properties match the settings configured for IBM Cognos Series 7.
- 9. From the File menu, click Save.
- Test the connection to a new namespace. In the Explorer window, under Authentication, right-click the new authentication resource and click Test.

# Enabling Secure Communication to the Directory Server Used by the IBM Cognos Series 7 Namespace

If you are using an SSL connection to the Directory Server used by the IBM Cognos Series 7 namespace, you must copy the certificate from the Directory Server to each Content Manager location.

For more information, see the IBM Cognos Access Manager *Administrator Guide* and the documentation for your Directory Server.

# Enabling Single Signon Between IBM Cognos Series 7 and IBM Cognos

If your IBM Cognos Series 7 namespace has been configured for integration with your external authentication mechanisms for single signon, the IBM Cognos Series 7 provider will automatically use this configuration.

By configuring single signon, you are not prompted to reenter authentication information when accessing IBM Cognos content that is secured by the IBM Cognos Series 7 namespace.

#### Procedure

- 1. Ensure that you configured IBM Cognos components to use an IBM Cognos Series 7 namespace as an authentication provider.
- 2. For IBM Cognos Series 7, start Configuration Manager.
- 3. Click Open the current configuration.
- 4. On the **Components** tab, in the **Explorer** window, expand **Services**, **Access Manager - Web Authentication** and click **Cookie Settings**.
- 5. In the **Properties** window, ensure that the **Path**, **Domain**, and **Secure Flag Enabled** properties match the settings configured for IBM Cognos BI.
- 6. Save and close Configuration Manager.
- 7. If the IBM Cognos Series 7 namespace uses the Trusted Signon plug-in for single signon, you must now define the SaferAPIGetTrustedSignonWithEnv function.

#### Results

You can now add IBM Cognos Upfront Series 7 NewsBoxes to your IBM Cognos Connection portal pages.

# IBM Cognos Series 7 Namespaces and the IBM Cognos Series 7 Trusted Signon Plug-in

If the IBM Cognos Series 7 namespace uses the Trusted Signon plug-in for single signon, you must define the SaferAPIGetTrustedSignonWithEnv function in your plug-in. Then you must recompile and redeploy the library for single signon to be achieved between IBM Cognos components and your authentication mechanism.

The SaferAPIGetTrustedSignonWithEnv function is an updated version of the SaferAPIGetTrustedSignon function. This update is required because IBM Cognos logon is not performed at the Web server as is the case for IBM Cognos Series 7 applications. Therefore, it is not possible for the plug-in to perform a getenv() API call to retrieve Web server environment variables. The plug-in can request that specific environment variables be removed from the Web server using the SaferAPIGetTrustedSignonWithEnv function.

If you are running both IBM Cognos Series 7 and IBM Cognos products using the same plug-in, both the SaferAPIGetTrustedSignonWithEnv and SaferAPIGetTrustedSignon functions are required. For information about the SaferAPIGetTrustedSignon function, see the IBM Cognos Series 7 documentation.

#### SaferAPIGetTrustedSignonWithEnv Function

For users to be successfully authenticated by Access Manager, OS signons must exist and be enabled in the current namespace.

The memory for the returned trustedSignonName and trustedDomainName is allocated internally in this API. If the function returns SAFER\_SUCCESS, Access Manager calls SaferAPIFreeTrustedSignon to free the memory allocated.

The memory for the returned reqEnvVarList is allocated internally in this API. If the function returns SAFER\_INFO\_REQUIRED, Access Manager calls SaferAPIFreeBuffer() to free the memory allocated.

You must implement both the SaferAPIGetTrustedSignon and SaferAPIFreeBuffer functions to successfully register the library when SaferAPIGetTrustedSignonWithEnv is implemented. The function SaferAPIGetError

is required only if you want specific error messages returned from your plug-in.

#### Syntax

SaferAPIGetTrustedSignonWithEnv(

EnvVar	envVar[],	/*[IN]*/
char	<pre>**reqEnvVarList,</pre>	/*[OUT]*/
void	<pre>**trustedSignonName,</pre>	/*[OUT]*/
unsigned long	<pre>*trustedSignonNameLength,</pre>	/*[OUT]*/
void	<pre>**trustedDomainName,</pre>	/*[OUT]*/
unsigned long	<pre>*trustedDomainNameLength,</pre>	/*[OUT]*/
SAFER_USER_TYPE	*userType,	/*[OUT]*/
void	<pre>**implementerData);</pre>	/*[IN/OUT]*/

# Parameters for the SaferAPIGetTrustedSignonWithEnv Function

Parameter	Description	
[in] envVar	An array of environment variable names and values that were retrieved from the Web server. The end of the array is represented by an entry with a null envVarName and a null envVarValue. Note that the first time this API is called, the envVar array contains only the end of array marker.	
[in] reqEnvVarList	A string that contains a comma-separated list of environment variable names that are requested by the Safer implementation. The end of the list must be null-terminated.	
[out] trustedSignonName	A sequence of bytes that identifies the currently authenticated user. This value does not need to be null-terminated. This value is mandatory.	
[out] trustedSignonNameLength	An integer value that indicates the length of the trustedSignonName. This length should exclude the null terminator, if there is one. This value is mandatory.	
[out] trustedDomainName	A sequence of bytes that identifies the domain of the currently authenticated user. You do not need to null-terminate this value. If there is no trustedDomainName, the return is null. This value is optional.	
[out] trustedDomainNameLength	An integer value that indicates the length of the trustedDomainName. This length should exclude the null terminator, if there is one. This value is mandatory and must be set to zero if there is no trustedDomainName.	
[out] userType	A value that indicates the type of user that Access Manager will authenticate. This value is mandatory.	
	The following return values are required for Access Manager to successfully authenticate users:	
	SAFER_NORMAL_USER A named user. OS signons must exist and be enabled in the current namespace.	
	SAFER_GUEST_USER A guest user. A guest user account must exist and be enabled in the current namespace.	
	SAFER_ANONYMOUS_USER An anonymous user. An anonymous user account must exist and be enabled in the current namespace.	
[in/out] implementerData	A pointer used to preserve implementation-specific data between invocations. An invocation occurs every time Access Manager calls the trusted signon plug-in. This value is valid only if the trusted signon plug-in was invoked and you set a value for it.	

Table 63. Parameters and description for the SaferAPIGetTrustedSignonWithEnv Function

# **Configuring IBM Cognos to Use a Custom Authentication Provider**

If you implemented a custom Java authentication provider with your existing security infrastructure, you can configure IBM Cognos components to use it.

You can use a custom authentication provider to access and authenticate users to an alternate authentication source. You can also use it as a single signon mechanism to integrate IBM Cognos components with your security infrastructure. You can hide the namespace from users during logon.

For more information, see the Custom Authentication Provider Developer Guide.

## **Configure a Custom Authentication Namespace**

You can configure IBM Cognos components to use a custom authentication namespace. Any additional configuration for authentication source access, single signon, or custom attributes are dependent on the custom authentication provider implementation.

Ensure that the versions of Java runtime environment (JRE) and Java Software Development Kit that you use are compatible with each other. If you use supported versions of the JRE and Java Software Development Kit that are not compatible with each other, then the custom Java authentication provider that you configure will not appear in the list of namespaces in IBM Cognos Configuration.

#### Procedure

- 1. In every location where Content Manager is installed, open IBM Cognos Configuration.
- In the Explorer window, under Security, right-click Authentication, and click New resource > Namespace.
- 3. In the **Name** box, type a name for your authentication namespace.
- 4. In the Type list, select Custom Java Provider and then click OK.

The new authentication provider resource appears in the **Explorer** window, under the **Authentication** component.

5. In the **Properties** window, for the **NamespaceID** property, specify a unique identifier for the namespace.

Tip: Do not use colons (:) in the Namespace ID property.

- 6. Specify the values for all other required properties to ensure that IBM Cognos can locate and use your existing authentication provider.
- 7. From the File menu, click Save.
- 8. Test the connection to a new namespace. In the **Explorer** window, under **Authentication**, right-click the new authentication resource and click **Test**.

#### Results

IBM Cognos loads, initializes, and configures the provider libraries for the namespace.

# Hide the Namespace from Users During Login

You can hide namespaces from users during login. You can have trusted signon namespaces without showing them on the namespace selection list that is presented when users log in.

For example, you may want to integrate single signon across systems but maintain the ability for customers to authenticate directly to IBM Cognos without being prompted to choose a namespace.

### Procedure

- 1. In each location where you configured a custom Java authentication provider, open IBM Cognos Configuration.
- 2. In the **Explorer** window, under **Security** > **Authentication**, click the custom Java authentication provider.
- **3**. In the **Properties** window, click the box next to **Selectable for authentication** and select **False**.
- 4. From the **File** menu, click **Save**.

#### Results

The namespace is not shown on the selection list that is presented at login.

# Configuring IBM Cognos Components to Use LDAP

You can configure IBM Cognos components to use an LDAP namespace as the authentication provider. You can use an LDAP namespace for users that are stored in an LDAP user directory, Active Directory Server, IBM Directory Server, Novell Directory Server, or Oracle Directory Server.

You can also use LDAP authentication with DB2 and Essbase OLAP data sources by specifying the LDAP namespace when you set up the data source connection. For more information, see the *IBM Cognos Business Intelligence Administration and Security Guide*.

You also have the option of making custom user properties from the LDAP namespace available to IBM Cognos components.

If you want to bind users to the LDAP server, see "LDAP Mapping."

#### Procedure

- 1. "Configure an LDAP Namespace" on page 334
- 2. Make custom user properties available to IBM Cognos components, if required
- 3. Enable secure communication to the LDAP server, if required
- 4. Enable single signon between LDAP and IBM Cognos components, if required

## LDAP Mapping

To bind a user to the LDAP server, the LDAP authentication provider must construct the distinguished name (DN). If the Use external identity property is set to True, it uses the External identity mapping property to try to resolve the user's DN. If it cannot find the environment variable or the DN in the LDAP server, it attempts to use the User lookup property to construct the DN.

If users are stored hierarchically within the directory server, you can configure the User lookup and External identity mapping properties to use search filters. When the LDAP authentication provider performs these searches, it uses the filters you specify for the User lookup and External identity mapping properties. It also binds to the directory server using the value you specify for the Bind user DN and password property or using anonymous if no value is specified.

When an LDAP namespace has been configured to use the External identity mapping property for authentication, the LDAP provider binds to the directory server using the Bind user DN and password or using anonymous if no value is specified. All users who log on to IBM Cognos using external identity mapping see the same users, groups, and folders as the Bind user.

If you do not use external identity mapping, you can specify whether to use bind credentials to search the LDAP directory server by configuring the **Use bind credentials for search** property. When the property is enabled, searches are performed using the bind user credentials or using anonymous if no value is specified. When the property is disabled, which is the default setting, searches are performed using the credentials of the logged-on user. The benefit of using bind credentials is that instead of changing administrative rights for multiple users, you can change the administrative rights for the bind user only.

Note that if you use a DN syntax, such as *uid*=\${*userID*}, ou=*mycompany*.com, for the properties **User lookup**, **External identity mapping**, or **Bind user DN and password**, you must escape all special characters that are used in the DN. If you use a search syntax, such as (*uid*=\${*userID*}), for the properties **User lookup** or **External identity mapping**, you must not escape special characters that are used in the DN.

## **Configure an LDAP Namespace**

You can configure IBM Cognos components to use an LDAP namespace when the users are stored in an LDAP user directory. The LDAP user directory may be accessed from within another server environment, such as Active Directory Server or eTrust SiteMinder.

If you are configuring an LDAP namespace for a directory server other than LDAP, see the appropriate section:

- For Active Directory Server, see Configure an LDAP Namespace for Active Directory Server.
- For IBM Directory Server, see Configure an LDAP Namespace for IBM Directory Server.
- For Novell Directory Server, see Configure an LDAP Namespace for Novell Directory Server.
- For Oracle Directory Server, see Configure an LDAP Namespace for Oracle Directory Server.

You can also use LDAP authentication with DB2 and Essbase OLAP data sources by specifying the LDAP namespace when you set up the data source connection. For more information, see the *IBM Cognos Business Intelligence Administration and Security Guide*.

#### Procedure

1. In every location where you installed Content Manager, open IBM Cognos Configuration.

- 2. In the **Explorer** window, under **Security**, right-click **Authentication**, and then click **New resource** > **Namespace**.
- 3. In the Name box, type a name for your authentication namespace.
- 4. In the **Type** list, click the appropriate namespace and then click **OK**. The new authentication provider resource appears in the **Explorer** window, under the **Authentication** component.
- 5. In the **Properties** window, for the **Namespace ID** property, specify a unique identifier for the namespace.
- **6.** Specify the values for all other required properties to ensure that IBM Cognos components can locate and use your existing authentication provider.
- 7. If you want the LDAP authentication provider to bind to the directory server using a specific **Bind user DN and password** when performing searches, then specify these values.

If no values are specified, the LDAP authentication provider binds as anonymous.

If external identity mapping is enabled, **Bind user DN and password** are used for all LDAP access. If external identity mapping is not enabled, **Bind user DN and password** are used only when a search filter is specified for the **User lookup** property. In that case, when the user DN is established, subsequent requests to the LDAP server are executed under the authentication context of the end user.

- **8**. If you do not use external identity mapping, use bind credentials for searching the LDAP directory server by doing the following:
  - Ensure that Use external identity is set to False.
  - Set Use bind credentials for search to True.
  - Specify the user ID and password for **Bind user DN and password**.

If you do not specify a user ID and password, and anonymous access is enabled, the search is done using anonymous.

9. Check the mapping settings for required objects and attributes.

Depending on the LDAP configuration, you may have to change some default values to ensure successful communication between IBM Cognos components and the LDAP server.

LDAP attributes that are mapped to the **Name** property in **Folder mappings**, **Group mappings**, and **Account mappings** must be accessible to all authenticated users. In addition, the **Name** property must not be blank.

- 10. From the File menu, click Save.
- Test the connection to a new namespace. In the Explorer window, under Authentication, right-click the new authentication resource and click Test.

#### Results

IBM Cognos loads, initializes, and configures the provider libraries for the namespace.

## **Configure an LDAP Namespace for Active Directory Server**

If you configure a new LDAP namespace for use with an Active Directory Server, you must modify the necessary settings and change the values for all properties of the Active Directory objects.

### Procedure

- 1. In every location where you installed Content Manager, open IBM Cognos Configuration.
- 2. In the **Explorer** window, under **Security**, right-click **Authentication**, and then click **New resource** > **Namespace**.
- 3. In the Name box, type a name for your authentication namespace.
- In the Type list, click the appropriate namespace and then click OK. The new authentication provider resource appears in the Explorer window, under the Authentication component.
- 5. In the **Properties** window, for the **NamespaceID** property, specify a unique identifier for the namespace.

Tip: Do not use colons (:) in the Namespace ID property.

6. Specify the values for all other required properties to ensure that IBM Cognos components can locate and use your existing authentication provider.

The following settings are examples:

- For User lookup, specify (sAMAccountName=\${userID})
- If you use single signon, for Use external identity, set the value to True.
- If you use single signon, for External identity mapping, specify (sAMAccountName=\${environment("REMOTE\_USER")})

If you want to remove the domain name from the REMOTE\_USER variable, specify(sAMAccountName=\${replace(\${environment("REMOTE\_USER")}, "domain\\","")}).

- For Bind user DN and password, specify user@domain
- For Unique identifier, specify objectGUID
- 7. If you want the LDAP authentication provider to bind to the directory server using a specific **Bind user DN and password** when performing searches, then specify these values.

If no values are specified, the LDAP authentication provider binds as anonymous.

- 8. If you do not use external identity mapping, use bind credentials for searching the LDAP directory server by doing the following:
  - Ensure that Use external identity is set to False.
  - Set Use bind credentials for search to True.
  - Specify the user ID and password for **Bind user DN and password**.
- **9**. To configure the LDAP advanced mapping properties for use with the Active Directory Server objects, use the values specified in the following table.

Table 64. LDAP advanced mapping values for use with Active Directory Server objects

Mappings	LDAP property	LDAP value
Folder	Object class	organizationalUnit,organization,container
	Description	description
	Name	ou,o,cn
Group	Object class	group

Mappings	LDAP property	LDAP value
	Description	description
	Member	member
	Name	cn
Account	Object class	user
	Business phone	telephonenumber
	Content locale	(leave blank)
	Description	description
	Email	mail
	Fax/Phone	facsimiletelephonenumber
	Given name	givenname
	Home phone	homephone
	Mobile phone	mobile
	Name	displayName
	Pager phone	pager
	Password	unicodePwd
	Postal address	postaladdress
	Product locale	(leave blank)
	Surname	sn
	Username	sAMAccountName

Table 64. LDAP advanced mapping values for use with Active Directory Server objects (continued)

These mapping properties represent changes based on a default Active Directory Server installation. If you have modified the schema, you may have to make additional mapping changes.

LDAP attributes that are mapped to the **Name** property in **Folder mappings**, **Group mappings**, and **Account mappings** must be accessible to all authenticated users. In addition, the **Name** property must not be blank.

- 10. From the File menu, click Save.
- 11. Test the connection to a new namespace. In the **Explorer** window, under **Authentication**, right-click the new authentication resource and click **Test**.

### Results

IBM Cognos loads, initializes, and configures the provider libraries for the namespace.

#### Related tasks:

"Configuring IBM Cognos Components to Use Active Directory Server" on page 321

If you install Content Manager on a Microsoft Windows operating system computer, you can configure Active Directory as your authentication source using an Active Directory namespace.

# **Configure an LDAP Namespace for IBM Directory Server**

If you configure a new LDAP namespace for use with an IBM Directory Server, you must modify the necessary settings and change the values for all properties of the IBM Directory objects.

### Procedure

- 1. In each location where you installed Content Manager, open IBM Cognos Configuration.
- 2. In the **Explorer** window, under **Security**, right-click **Authentication**, and then click **New resource** > **Namespace**.
- 3. In the Name box, type a name for your authentication namespace.
- 4. In the Type list, click LDAP, and then click OK.

The new authentication namespace resource appears in the **Explorer** window, under the **Authentication** component.

5. In the **Properties** window, for the **NamespaceID** property, specify a unique identifier for the namespace.

Tip: Do not use colons (:) in the Namespace ID property.

- 6. Specify the values for all other required properties to ensure that IBM Cognos can locate and use your existing authentication namespace.
  - For User lookup, specify (cn=\${userID})
  - For Bind user DN and password, specify cn=root
- 7. If you want the LDAP authentication provider to bind to the directory server using a specific **Bind user DN and password** when performing searches, then specify these values.

If no values are specified, the LDAP authentication namespace binds as anonymous.

- 8. If you do not use external identity mapping, use bind credentials for searching the LDAP directory server by doing the following:
  - Ensure that Use external identity is set to False.
  - Set Use bind credentials for search to True.
  - Specify the user ID and password for Bind user DN and password.
- **9**. To configure the LDAP advanced mapping properties for use with IBM Directory Server objects, use the values specified in the following table.

Table 65. LDAP advanced mapping values for use with IBM Directory Server objects

Mappings	LDAP property	LDAP value
Folder	Object class	organizationalunit,organization,container

Mappings	LDAP property	LDAP value
	Description	description
	Name	ou,o,cn
Group	Object class	groupofnames
	Description	description
	Member	member
	Name	cn
Account	Object class	inetorgperson
	Business phone	telephonenumber
	Content locale	(leave blank)
	Description	description
	Email	mail
	Fax/Phone	facsimiletelephonenumber
	Given name	givenname
	Home phone	homephone
	Mobile phone	mobile
	Name	cn
	Pager phone	pager
	Password	userPassword
	Postal address	postaladdress
	Product locale	(leave blank)
	Surname	sn
	Username	uid

Table 65. LDAP advanced mapping values for use with IBM Directory Server objects (continued)

These mapping properties represent changes based on a default IBM Directory Server installation. If you have modified the schema, you may have to make additional mapping changes. LDAP attributes that are mapped to the **Name** property in **Folder mappings**, **Group mappings**, and **Account mappings** must be accessible to all authenticated users. In addition, the **Name** property must not be blank.

10. From the File menu, click Save.

# **Configure an LDAP Namespace for Novell Directory Server**

If you configure a new LDAP namespace for use with a Novell Directory Server, you must modify the necessary settings and change the values for all properties of the Novell Directory objects.

#### Procedure

- 1. In every location where you installed Content Manager, open IBM Cognos Configuration.
- 2. In the **Explorer** window, under **Security**, right-click **Authentication**, and then click **New resource** > **Namespace**.
- 3. In the Name box, type a name for your authentication namespace.
- 4. In the **Type** list, click **LDAP** and then click **OK**.

The new authentication namespace resource appears in the **Explorer** window, under the **Authentication** component.

5. In the **Properties** window, for the **Namespace ID** property, specify a unique identifier for the namespace.

Tip: Do not use colons (:) in the Namespace ID property.

- 6. Specify the values for all other required properties to ensure that IBM Cognos can locate and use your existing authentication namespace.
  - For User lookup, specify (cn=\${userID})
  - For **Bind user DN and password**, specify the base DN for an administration user, such as **cn**=*Admin*,**0**=*COGNOS*
- 7. If you want the LDAP authentication provider to bind to the directory server using a specific **Bind user DN and password** when performing searches, then specify these values.

If no values are specified, the LDAP authentication namespace binds as anonymous.

- 8. If you do not use external identity mapping, use bind credentials for searching the LDAP directory server by doing the following:
  - Ensure that Use external identity is set to False.
  - Set Use bind credentials for search to True.
  - Specify the user ID and password for Bind user DN and password.
- **9**. To configure the LDAP advanced mapping properties for use with Novell Directory Server objects, use the values specified in the following table.

Table 66. LDAP advanced	mapping values f	or use with Novell	Directory Server	objects
-------------------------	------------------	--------------------	------------------	---------

Mappings	LDAP property	LDAP value
Folder	Object class	organizationalunit,organization,container
	Description	description
	Name	ou,o,cn

Mappings	LDAP property	LDAP value
Group	Object class	groupofnames
	Description	description
	Member	member
	Name	cn
Account	Object class	inetOrgPerson
	Business phone	telephonenumber
	Content locale	Language
	Description	description
	Email	mail
	Fax/Phone	facsimiletelephonenumber
	Given name	givenname
	Home phone	homephone
	Mobile phone	mobile
	Name	cn
	Pager phone	pager
	Password	(leave blank)
	Postal address	postaladdress
	Product locale	Language
	Surname	sn
	Username	uid

Table 66. LDAP advanced mapping values for use with Novell Directory Server objects (continued)

These mapping properties represent changes based on a default Novell Directory Server installation. If you have modified the schema, you may have to make additional mapping changes.

LDAP attributes that are mapped to the **Name** property in **Folder mappings**, **Group mappings**, and **Account mappings** must be accessible to all authenticated users. In addition, the **Name** property must not be blank. For users to successfully log in to IBM Cognos Connection, they must have permission to read the ou and o attributes.

10. From the File menu, click Save.

# **Configure an LDAP Namespace for Oracle Directory Server**

If you configure a new LDAP namespace for use with Oracle Directory Server, you must modify the necessary settings and change the values for all properties of the Oracle Directory Server objects.

### Procedure

- 1. In every location where you installed Content Manager, open IBM Cognos Configuration.
- 2. In the **Explorer** window, under **Security**, right-click **Authentication**, and then click **New resource** > **Namespace**.
- 3. In the **Name** box, type a name for your authentication namespace.
- 4. In the **Type** list, click **LDAP** and then click **OK**.

The new authentication namespace resource appears in the **Explorer** window, under the **Authentication** component.

5. In the **Properties** window, for the **Namespace ID** property, specify a unique identifier for the namespace.

Tip: Do not use colons (:) in the Namespace ID property.

6. Specify the values for all other required properties to ensure that IBM Cognos can locate and use your existing authentication namespace.

The following settings are examples:

- For User lookup, type (uid=\${userID})
- If you use single signon, for Use external identity, set the value to True.
- If you use single signon, for External identity mapping, specify any attribute, such as the NT user domain ID or the user ID: (ntuserdomainid=\$environment("REMOTE\_USER")})

```
(uid=${environment("REMOTE_USER")})
```

- · For Unique identifier, type nsuniqueid
- 7. If you want the LDAP authentication provider to bind to the directory server using a specific **Bind user DN and password** when performing searches, then specify these values.

If no values are specified, the LDAP authentication namespace binds as anonymous.

- **8**. If you do not use external identity mapping, use bind credentials for searching the LDAP directory server by doing the following:
  - Ensure that Use external identity is set to False.
  - Set Use bind credentials for search to True.
  - Specify the user ID and password for **Bind user DN and password**.
- **9**. To configure the LDAP advanced mapping properties for use with Oracle Directory Server objects, use the values specified in the following table.

Mappings	LDAP property	LDAP value
Folder	Object class	organizationalUnit,organization
	Description	description

Table 67. LDAP advanced mapping values for use with Oracle Directory Server objects

Mappings	LDAP property	LDAP value
	Name	ou,o
Group	Object class	groupofuniquenames
	Description	description
	Member	uniquemember
	Name	cn
Account	Object class	inetorgperson
	Business phone	telephonenumber
	Content locale	preferredlanguage
	Description	description
	Email	mail
	Fax/Phone	facsimiletelephonenumber
	Given name	givenname
	Home phone	homephone
	Mobile phone	mobile
	Name	cn
	Pager phone	pager
	Password	userPassword
	Postal address	postaladdress
	Product locale	preferredlanguage
	Surname	sn
	Username	uid

Table 67. LDAP advanced mapping values for use with Oracle Directory Server objects (continued)

These mapping properties represent changes based on a default Oracle Directory Server installation. If you have modified the schema, you may have to make additional mapping changes.

LDAP attributes that are mapped to the **Name** property in **Folder mappings**, **Group mappings**, and **Account mappings** must be accessible to all authenticated users. In addition, the **Name** property must not be blank.

10. From the File menu, click Save.

# Make Custom User Properties for LDAP Available to IBM Cognos Components

You can use arbitrary user attributes from your LDAP authentication provider in IBM Cognos components. To configure this, you must add these attributes as custom properties for the LDAP namespace. The custom properties are available as session parameters through Framework Manager.

You can also use the custom properties inside command blocks to configure Oracle sessions and connections. You can use the command blocks with Oracle lightweight connections and virtual private databases. For more information, see the *IBM Cognos Business Intelligence Administration and Security Guide*.

For more information about session parameters, see the *Framework Manager User Guide*.

#### Procedure

- 1. In each location where you installed Content Manager, open Cognos Configuration.
- **2.** In the **Explorer** window, under **Security** > **Authentication**, click the LDAP namespace.
- **3.** In the **Properties** window, click in the **Value** column for **Custom properties**, and click the edit icon.
- 4. In the Value Custom properties window, click Add.
- 5. Click the **Name** column, and type the name you want IBM Cognos components to use for the session parameter.
- 6. Click the **Value** column, and type the name of the account parameter in your LDAP authentication provider.
- 7. Repeat the preceding two steps for each custom parameter.
- 8. Click OK.
- 9. From the File menu, click Save.

## Enable Secure Communication to the LDAP Server

Secure LDAP protocol (LDAPS) encrypts the communication between the Access Manager component of Content Manager and the directory server. LDAPS prevents sensitive information in the directory server and the LDAP credentials from being sent as clear text.

To enable LDAPS, install a server certificate that is signed by a certificate authority in the directory server. Next, create a certificate database to contain the certificates. Finally, configure the directory server and the IBM Cognos LDAP namespace to use LDAPS.

The server certificate must be a copy of either

• the trusted root certificate and all other certificates that make up the chain of trust for the directory server certificate.

The trusted root certificate is the certificate of the root certificate authority that signed the directory server certificate.

the directory server certificate only

The certificates must be Base64 encoded in ASCII (PEM) format. All certificates except the trusted root certificate must not be self-signed.

#### Before you begin

IBM Cognos works with both the cert8.db and cert7.db versions of the client certificate database. You must use the certutil tool from Netscape OpenSource toolkit NSS\_3\_11\_4\_RTM to create the certificate database. IBM Cognos does not accept other versions of cert8.db files, including those from the certutil tool that is provided with Microsoft Active Directory. The appropriate certutil tool is available from the FTP Web site at Mozilla.

You must also use version 4.6.7 of the NSPR library, which is available from the FTP Web site at Mozilla.

#### Procedure

- 1. Create a directory for the certificate database.
- 2. Create the certificate database by typing

certutil -N -d certificate\_directory

where *certificate\_directory* is the directory that you created in step 1.

This command creates a cert8.db file and a key3.db file in the new directory.

- **3**. Add the certificate authority (CA) certificate or the directory server certificate to the certificate database by typing the appropriate command for the type of certificate:
  - For a CA certificate, type
    - certutil -A -n certificate\_name -d certificate\_directory -i CA.cert -t C,C,C
  - For a directory server certificate, type certutil -A -n certificate\_name -d certificate\_directory -i server\_certificate.cert -t P

where *certificate\_name* is an alias that you assign, such as the CA name or host name; and *server\_certificate* is the prefix of the directory server certificate file.

- 4. Copy the certificate database directory to the *c10\_location*/configuration directory on every location where Content Manager is installed.
- 5. Configure the directory server to use LDAPS and restart the directory server. For more information, see the documentation for the directory server.
- 6. In each Content Manager location where you configured the LDAP namespace to use the directory server, start IBM Cognos Configuration.
- In the Explorer window, under Security > Authentication, click the LDAP namespace.
- 8. In the **Properties** window, for the **Host and port** property, change the port to the secure LDAPS port.

For the SSL certificate database property, specify the path to the cert7.db file.

- **9**. In the **Explorer** window, right-click the LDAP namespace and click **Test**. If the test fails, revise the properties, ensuring that the correct certificate is used.
- 10. From the File menu, click Save.
- 11. From the Actions menu, click Restart.
- 12. Repeat steps 6 to 11 on every other location where Content Manager is installed.

# Enabling Single Signon Between LDAP and IBM Cognos Components

You achieve single signon to IBM Cognos components by configuring the External Identity mapping property.

The External Identity mapping can refer to a CGI environment variable or an HTTP header variable. In the case of an application server gateway or dispatcher entry pointing to IBM Cognos components, the External Identity mapping can refer to the userPrincipalName session variable. The resolved value of the External Identity mapping property at runtime must be a valid user DN.

When an LDAP namespace is configured to use the External Identity mapping property for authentication, the LDAP provider binds to the directory server using the Bind user DN and password or using anonymous if no value is specified. All users who log on to IBM Cognos using external identity mapping see the same users, groups, and folders as the Bind user.

If you want IBM Cognos components to work with applications that use Java or application server security, you can configure the External identity mapping property to obtain the user ID from the Java user principal. Include the token \${environment("USER\_PRINCIPAL")} in the value for the property. For more information, see the online help for IBM Cognos Configuration.

You can apply limited expression editing to the External Identity mapping property using the replace operation.

# **Replace Operation**

The replace operation returns a copy of the string with all occurrences of the old substring replaced by the new substring.

The following rules apply:

- The character \ escapes the characters in the function parameters. Characters such as \ and " need escaping.
- Nested function calls are not supported.
- Special characters are not supported.

#### Syntax

\${replace(str , old , new)}

#### Parameters for the Replace Operation

Table 68. Parameters and description for the Replace Operation

Parameter	Description
str	The string to search.
old	The substring to be replaced by the new substring.
new	The substring that replaces the old substring.

### **Examples**

\${replace(\${environment("REMOTE\_USER")},"NAMERICA\\",)}

\${replace(\${environment("REMOTE\_USER")},"NAMERICA\\","")}

# Configuring IBM Cognos Components to Use eTrust SiteMinder

You can configure IBM Cognos components to use a Netegrity SiteMinder namespace as the authentication source, provided that you installed Content Manager on a non-Linux computer.

To configure an authentication provider in an eTrust SiteMinder environment, you configure an LDAP or Netegrity SiteMinder namespace depending on your eTrust SiteMinder configuration. Supported eTrust SiteMinder configurations are LDAP and Active Directory Server user directories.

**Note:** The authentication provider uses an eTrust SiteMinder Software Development Kit to implement a custom agent. The custom agent deployment requires that you set the Agent Properties in the eTrust SiteMinder Policy server administration console to support 4.x agents.

If you plan to run IBM Cognos Business Intelligence products within a 64-bit application server, you cannot configure a Netegrity SiteMinder namespace as your authentication source.

# eTrust SiteMinder Configured for More Than One User Directory

If you configured eTrust SiteMinder for more than one user directory, you must use the Netegrity SiteMinder namespace. After configuring the Netegrity SiteMinder namespace in IBM Cognos, you must also add a corresponding LDAP or Active Directory Server namespace to the IBM Cognos configuration for each user directory defined in eTrust SiteMinder.

When configuring a corresponding LDAP namespace, ensure that the External identity mapping property is enabled and that you include the token REMOTE\_USER in the value for the property. This does not mean that you must configure eTrust SiteMinder to set REMOTE\_USER. The IBM Cognos Netegrity SiteMinder namespace passes user information internally to the corresponding LDAP namespace when it receives successful user identification from the eTrust SiteMinder environment.

When configuring a corresponding Active Directory namespace, ensure that the singleSignOnOption property is set to IdentityMapping. The IBM Cognos Netegrity SiteMinder namespace passes user information internally to the corresponding LDAP namespace using the REMOTE\_USER environment variable when it receives successful user identification from the eTrust SiteMinder environment. For more information, see "Enabling Single Signon Between Active Directory Server and IBM Cognos Components using REMOTE\_USER" on page 327.

# eTrust SiteMinder Configured With Only One User Directory

If eTrust SiteMinder is configured with only one user directory, the Netegrity SiteMinder namespace is not required. You can use the user directory as your authentication source by configuring the appropriate namespace, or you can configure the eTrust SiteMinder provider with one user directory. For example, if the eTrust SiteMinder user directory is LDAP, you can configure IBM Cognos components with an LDAP namespace or configure IBM Cognos components with one Netegrity SiteMinder namespace, referring to one user directory that is an LDAP namespace.

If the eTrust SiteMinder user directory is Active Directory, you can use an Active Directory namespace or an LDAP namespace that is configured for use with Active Directory.

If you want to use the user directory as your authentication source directly instead of configuring a Netegrity SiteMinder namespace, configure the appropriate LDAP or Active Directory namespace. In this case, verify the Agent Configuration Object properties in eTrust SiteMinder Policy Server. Ensure that SetRemoteUser is activated.

**Note:** When configuring the LDAP namespace, in this case, ensure that the External identity mapping property is enabled and that you include the token REMOTE\_USER in the value for the property.

**Note:** When configuring the Active Directory namespace, in this case, ensure that the singleSignOnOption property is set to IdentityMapping. For more information, see "Enabling Single Signon Between Active Directory Server and IBM Cognos Components using REMOTE\_USER" on page 327.

#### Procedure

- 1. Configure IBM Cognos components to use a Netegrity SiteMinder namespace
- Enable secure communication to the eTrust SiteMinder user directory, if required
- 3. Enable single signon between eTrust SiteMinder and IBM Cognos
- 4. Protect the IBM Cognos Web alias

#### What to do next

You can hide the namespace from users during login. For more information, see "Hide the Namespace from Users During Login" on page 333.

## Configure a Netegrity SiteMinder Namespace

If you configured eTrust SiteMinder for more than one user directory, you must use the Netegrity SiteMinder namespace. After adding the Netegrity SiteMinder namespace, you must also add a corresponding LDAP namespace for each user directory.

You can also configure an Netegrity SiteMinder namespace if users are stored in

- an LDAP server
- an Active Directory server

#### Procedure

- 1. In the location where you installed Content Manager, open IBM Cognos Configuration.
- In the Explorer window, under Security, right-click Authentication, and click New resource > Namespace.
- 3. In the **Name** box, type a name for your authentication namespace.
- 4. In the **Type** list, click the Netegrity SiteMinder namespace and then click **OK**.
The new authentication provider resource appears in the **Explorer** window, under the **Authentication** component.

5. In the **Properties** window, for the **NamespaceID** property, specify a unique identifier for the namespace.

Tip: Do not use colons (:) in the Namespace ID property.

- 6. Specify the values for all other required properties to ensure that IBM Cognos components can locate and use your existing authentication provider.
- 7. In the **Explorer** window, under **Security** > **Authentication**, right-click the namespace and click **New resource** > **SiteMinder Policy Server**.
- 8. In the Name box, type a name for the policy server and click OK.
- 9. In the **Properties** window, specify the **Host** property and any other property values you want to change.
- **10.** In the **Explorer** window, right-click the new SiteMinder Policy Server and click **New resource** > **User directory**.

**Tip:** Configure a user directory for each user directory in the SiteMinder policy server.

- In the Name box, type a name for the user directory and click OK. The name of the user directory must match the name that appears on the policy server.
- **12.** In the **Properties** window, type a value for the **Namespace ID reference** property.
- 13. From the File menu, click Save.
- 14. Test the connection to a new namespace. In the **Explorer** window, under **Authentication**, right-click the new authentication resource and click **Test**.
- **15**. Configure a corresponding LDAP or Active Directory namespace for each user directory.

Ensure that you use the same value for the **Namespace ID** property that you use for the **Namespace ID** property for the Netegrity SiteMinder namespace.

# Enabling Secure Communication to the eTrust SiteMinder User Directory

If you use an SSL connection to the directory server, you must appropriately configure the Cognos namespace for the user directory.

For more information, see "Configure an LDAP Namespace" on page 334.

# Enable Single Signon Between eTrust SiteMinder and IBM Cognos

By configuring single signon, you are not prompted to reenter authentication information.

IBM Cognos components automatically refer to the eTrust SiteMinder session cookie for user session data.

You must configure the eTrust SiteMinder user directory to use external identity mapping to the REMOTE\_USER environment variable.

# Protecting the IBM Cognos Web Alias

Ensure that eTrust SiteMinder is configured correctly to protect the IBM Cognos Web alias.

Use the test tool provided with eTrust SiteMinder to verify that the resource is protected, authenticated, and authorized. For more information, see your eTrust SiteMinder documentation.

## Hide the Namespace from Users During Login

You can hide namespaces from users during login. You can have trusted signon namespaces without showing them on the namespace selection list that is presented when users login.

For example, you may want to integrate single signon across systems but maintain the ability for customers to authenticate directly to IBM Cognos without being prompted to choose a namespace.

#### Procedure

- 1. In each location where you configured an eTrust SiteMinder authentication provider, open IBM Cognos Configuration.
- In the Explorer window, under Security, > Authentication, click the Netegrity Siteminder authentication provider.
- **3**. In the **Properties** window, click the box next to **Selectable for authentication** and then click **False**.
- 4. From the File menu, click Save.

#### Results

The namespace is not shown on the selection list that is presented at login.

### Configuring IBM Cognos to Use a RACF Provider for Authentication

If you use a Resource Access Control Facility (RACF) provider for authentication in your enterprise environment, you can also use it for authentication in IBM Cognos products.

#### Procedure

- 1. Configure IBM Cognos components to use a RACF namespace
- 2. Configure secure communication
- 3. Enable single signon between the RACF provider and IBM Cognos components

## Configuring a RACF Namespace

You can configure a Resource Access Control Facility (RACF) namespace using IBM Cognos Configuration.

#### Before you begin

Before you configure the RACF namespace, you must do the following:

- You must be running Tivoli Directory Server.
- Tivoli Directory Server must be configured for LDAP, to access the SDBM (RACF) database.

For more information, see the topic about configuring Tivoli Access Manager for LDAP in the IBM Information Center.

#### Procedure

- 1. In the location where you installed Content Manager, open IBM Cognos Configuration.
- 2. To create the namespace, do the following:
  - In the **Explorer** window, under **Security**, right-click **Authentication**, and click **New resource** > **Namespace**.
  - In the Name box, type a name for your authentication namespace.
  - In the **Type** list, click **RACF** and then click **OK**.

The new authentication provider resource appears in the **Explorer** window, under the Authentication component.

**3.** In the **Properties** window, for the **Namespace ID** property, specify a unique identifier for the namespace.

Do not use colons (:) in the Namespace ID property.

- 4. For the **Host and port** property, type the value that corresponds to the Tivoli Directory Server.
- 5. For the **Base Distinguished Name** property, type the value that matches the suffix that is configured for SDBM in the Tivoli Directory Server.
- 6. If you are using an SSL connection to the RACF provider, set the **Enable SSL** property to **true**.
- 7. To map to RACF account properties such as email and phone number, for the **Base segment DATA** and the **TSO segment USERDATA** properties under **Account mappings**, click in the value column and select the value from the drop-down list.
- 8. From the File menu, click Save.
- 9. Test the connection to a new namespace. In the **Explorer** window, under **Authentication**, right-click the new authentication resource and click **Test**.

# **Enabling Single Signon Between RACF and IBM Cognos**

Enable single signon between the Resource Access Control Facility (RACF) provider and IBM Cognos components to simplify the authentication process for users, avoid the need for multiple signons, and simplify user identity management across the network.

You achieve single signon by configuring identity mapping in IBM Cognos Configuration, configuring IBM WebSphere Application Server to set the REMOTE\_USER, and then configuring WebSphere to authenticate against RACF.

When a RACF namespace is configured to use identity mapping for authentication, the RACF namespace binds to the RACF provider using the binding credentials or using anonymous if no binding credentials are specified. All users who log on to IBM Cognos using identity mapping see the same users, groups, and folders as the binding user.

#### Procedure

- 1. In every location where you installed Content Manager, open IBM Cognos Configuration.
- 2. In the **Explorer** window, under **Security**, right-click **Authentication**, and then click the RACF namespace.

- 3. In the Resource properties window, change Enable identity mapping to True.
- 4. Click the value column for **Binding credentials** and then click the edit icon.
- 5. In the Value Binding credentials dialog box, specify the User ID and Password.
- 6. In IBM Cognos Configuration, restart the service:
  - In the Explorer window, expand IBM Cognos services, and select the service.
  - From the Actions menu, click Restart.
- 7. Using the WebSphere documentation, configure WebSphere to set REMOTE\_USER.
- 8. Using the WebSphere documentation, configure WebSphere to authenticate using the RACF provider.

## **Delete an Authentication Provider**

If they are no longer required, you can delete namespaces that you added, or unconfigure namespaces that IBM Cognos components detected.

You must not delete the Cognos namespace. It contains authentication data that pertains to all users and is required to save the configuration.

When you delete a namespace, you can no longer log on to the namespace. Security data for the namespace remains in Content Manager until you permanently delete it in the portal. For more information, see the *IBM Cognos Business Intelligence Administration and Security Guide*.

#### Procedure

- 1. In each location where you installed Content Manager, open Cognos Configuration.
- 2. In the **Explorer** window, under **Security** > **Authentication**, right-click the namespace and click **Delete**.
- 3. Click Yes to confirm.

The namespace disappears from the **Explorer** window and you can no longer log on to the namespace in that location.

- 4. From the File menu, click Save.
- 5. Repeat steps 1 to 4 for each location where you installed Content Manager. You must now log on to the portal and permanently delete the data for the namespace. For more information, see the *IBM Cognos Business Intelligence Administration and Security Guide*.

#### Results

After you delete a namespace, it appears as Inactive in the portal.

# Chapter 16. Using an application server other than Tomcat

IBM Cognos Business Intelligence installs and uses Tomcat as the application server by default. However, you can choose to run IBM Cognos BI in another supported application server instead.

The application servers you can use to run IBM Cognos BI in include the following:

- IBM WebSphere Application Server
- Oracle WebLogic Server
- Red Hat JBoss
- SAP NetWeaver

For IBM Cognos BI for Linux on System z, IBM WebSphere Application Server is supported.

To ensure that your product works properly, apply all minimum required operating system patches and use only the versions of other software that are supported for an IBM Cognos product.

You can also choose to run the IBM Cognos Servlet Gateway on a supported application server instead of using a Web server. When using the servlet gateway, your environment does not require a Web server. The application server and the servlet gateway replace the functions provided by the Web server and other IBM Cognos gateways.

For information about configuring a multi-server distributed installation of IBM Cognos BI in an application server environment, contact the IBM Cognos Customer Center (http://www.ibm.com/software/data/cognos/customercenter/).

To set up IBM Cognos BI to run on your application server, do the following:

- Create a separate JVM instance, if necessary.
- Check that IBM Cognos components are properly set up.
- Back up any existing IBM Cognos data and encryption keys, if required.
- Set environment variables.
- · Add user role to enable single signon for collaboration with IBM Connections
- Configure IBM Cognos components to run within the application server.
- Identifying the JDK for WebLogic 9 on AIX , if necessary.
- Change the application server startup script, if necessary.
- · Configure application server properties and deploy IBM Cognos BI.
- Enable SSL, if required.
- Configure the web server.
- Unregister dispatchers that are no longer used.

## Create a separate JVM instance

When possible, IBM Cognos Business Intelligence must be installed in a Java Virtual Machine (JVM) instance that is separate from the application server admin processes to isolate both IBM Cognos BI and the administrative functions of the application server.

Running IBM Cognos BI in a separate JVM instance eliminates potential Java class or system resource conflicts and ensures that IBM Cognos BI does not affect any existing customer applications.

An isolated JVM instance can be established by creating one of the following:

- a separate server instance in IBM WebSphere
- a separate managed server in Oracle WebLogic
- a separate server instance for Red Hat JBoss
- a separate Java instance for SAP NetWeaver

If you are using the IBM Cognos Servlet Gateway, it must be run in an instance that is separate from IBM Cognos BI.

## Set JVM parameters for performance

To improve performance of IBM Cognos BI in your application server, you can apply some or all of the following Java virtual machine (JVM) settings.

You do not need to change these settings if you are using Tomcat as the application server.

#### For example, you can:

- Include the -Xcompressedrefs option if you are using a 64-bit application server. This option causes object references to be stored as a 32-bit representation, which reduces the 64-bit object size to be the same as a 32-bit object.
- Include the -Xdump option to control how dump agents and dumps are used. For example, include the following options:
  - -Xdump:heap+system:none
  - -Xdump:system:events=gpf+abort,range=1..2,request=
  - serial+compact+prepwalk
  - Xdump:system:events=systhrow+throw,filter=java/lang/OutOfMemory\*,
    - range=1..2,request=serial+compact+prepwalk

## Check the setup of IBM Cognos components

Ensure that the following is done before you set up IBM Cognos components to run on the application server:

- IBM Cognos components are installed.
- Before you start IBM Cognos Business Intelligence, the database for the content store must be set up. Install and configure the database clients, if required, and then test the database connectivity.
- The application server is installed and operational on each computer where IBM Cognos components are installed.

For more information about installation, see your application server documentation.

- The fully qualified installation location of all fonts is specified on all Application Tier Component computers. You specify this location in IBM Cognos Configuration. By default, the installation location does not use a fully qualified path.
- The application server user account has full access permissions for the IBM Cognos installation.

**Tip:** Create a new UNIX or Linux operating system group named cognos. This group must contain the user that starts the application server and the user that owns the IBM Cognos files. Change the group ownership of the IBM Cognos files to the cognos group and change the file permissions for all IBM Cognos files to GROUP READABLE/WRITABLE/EXECUTABLE. For simplicity, you can also use the application server user account to install and run IBM Cognos components.

## Back up existing IBM Cognos information

You must back up existing IBM Cognos information if IBM Cognos Business Intelligence components are running on an application server (including Tomcat) and you are changing to an application server that ships with its own JVM. You must also back up existing IBM Cognos information if you must change the JVM you are using.

**Note:** You must back up existing IBM Cognos information within the working environment prior to upgrade.

Before configuring IBM Cognos BI components to run on the new application server or JVM, you must back up

- content store data by creating a deployment export.
- configuration information by exporting it. Any encrypted data is decrypted during the export.
- cryptographic keys by saving them to an alternate location. New cryptographic keys must be created using the same JVM that the application server uses. Because these keys can be created only if the previous keys are deleted, it is important to back up the previous keys.

To ensure the security and integrity of your IBM Cognos data, back up the content store, configuration information, and cryptographic keys to a directory that is protected from unauthorized or inappropriate access.

**Tip:** To check if any cryptographic keys exist, look in the *c10\_location*/ configuration directory. Cryptographic keys exist if this directory includes the following subdirectories: csk, encryptkeypair or signkeypair.

#### Procedure

1. If data exists in the content store, start the IBM Cognos service and export the entire content store using the Deployment tool.

For more information, see the topic about creating an export deployment specification in the *IBM Cognos Business Intelligence Administration and Security Guide*.

2. In IBM Cognos Configuration, from the File menu, click Export As and save the configuration information in a decrypted format. When naming the file, use a name such as decrypted.xml.

Export the data to a directory that is protected from unauthorized or inappropriate access because passwords are stored in plain text. You are prompted to acknowledge that the export is an unsecure operation.

- **3**. Stop the IBM Cognos service:
  - If you use Tomcat, stop the IBM Cognos service and close IBM Cognos Configuration.
  - If you use an application server other than Tomcat, shut down IBM Cognos BI in your environment.
- 4. Back up any existing cryptographic keys by saving the appropriate files and directories to an alternate location that is secure.

The files are

- c10\_location/configuration/cogstartup.xml
- c10\_location/configuration/caSerial
- c10\_location/configuration/cogconfig.prefs
- c10\_location/configuration/coglocale.xml

The directories are

- *c10\_location*/configuration/csk
- *c10\_location*/configuration/encryptkeypair
- c10\_location/configuration/signkeypair
- 5. Delete the caSerial and cogconfig.prefs files and the three directories: csk, encryptkeypair, and signkeypair.
- 6. Replace the *c10\_location*/configuration/cogstartup.xml file with the file that contains the data exported from IBM Cognos Configuration (for example, decrypted.xml).

In the *c10\_location*/configuration directory, the file must use the name cogstartup.xml.

The information in this file will be automatically re-encrypted using new cryptographic keys when you save the configuration in IBM Cognos Configuration.

# Set environment variables

You must set environment variables to identify the location of the Java Virtual Machine (JVM) environment and the library path.

You can set environment variables using any of the following methods:

• On Microsoft Windows operating system, set a system or user variable, or edit the application server's startup script.

If you set a user variable, ensure that you set it for the user account that will run the application server, or administration console.

• On UNIX and Linux operating systems, set an environment variable in the user profile, or edit the application server's startup script.

For information about editing an application server's startup script, see "Change the application server startup script" on page 362.

Tip: Most application server versions ship with a script specifically intended for setting environment variables. For example, some IBM WebSphere versions ship with setupCmdLine.bat or setupCmdLine.sh. These scripts can be modified to set appropriate values for use with IBM Cognos components. Most of these scripts set the JAVA\_HOME environment variable by default.

## Procedure

1. Set the JAVA\_HOME environment variable to point to the JVM used by the application server.

**Tip:** If the application server ships with a JVM, then the JAVA\_HOME environment variable must be set to reference it.

IBM Cognos Configuration uses this variable to create encryption keys for IBM Cognos components that are compatible with the JVM used by the application server.

For example, for WebLogic under Windows, the JVM used by the application server is specified as:

drive:/WebLogic\_location/jdkversion

2. Append *c10\_location*/bin to the appropriate environment variable from the following table.

Operating system	Environment variable
Windows	РАТН
AIX	LIBPATH
Solaris and Linux	LD_LIBRARY_PATH
HP-UX	SHLIB_PATH

Table 69. Application server environment variables

The library path environment variable is used to locate the IBM Cognos library files.

**Note:** Ensure that the 32-bit or 64-bit library files are set in your environment variables. For a 64-bit version of IBM Cognos BI, the 64-bit library files must be listed first. For a 32-bit version, the 32 bit library files must be listed first.

**Tip:** To install multiple instances of IBM Cognos Business Intelligence on a single server, set the PATH, LIBPATH, LD\_LIBRARY\_PATH, or SHLIB\_PATH variable within the application server instance scope and not as a global variable to ensure that each instance has a unique value.

# Adjusting the default connection time-out value for IBM Cognos Business Intelligence

The default setting for the connection time-out value used in IBM Cognos Business Intelligence is 25 seconds. Some application servers, such as IBM WebSphere, use a shorter value. To avoid conflicts between the connection time-out settings, change the connection time-out value in IBM Cognos BI. The value must be smaller than the setting that is configured in the application server.

## Procedure

- 1. Open thec10\_location/configuration/BIBusTK\_Config.xml file in a text editor.
- **2**. Find the following string:

<BIBUSTK\_CONNECTION\_TIMEOUT>25000</BIBUSTK\_CONNECTION\_TIMEOUT>

3. Change the value to 90% of the value specified for the application server. For example, WebSphere uses a default connection time-out value of 30 seconds. Calculate 90% of 30 seconds, which is 27 seconds. Change the string to <BIBUSTK CONNECTION TIMEOUT>27000</BIBUSTK CONNECTION TIMEOUT>

- 4. Save the file.
- 5. Repeat these steps in each location where you installed IBM Cognos BI.

# Add user role to enable single signon between IBM WebSphere profiles

If you are using collaboration with IBM Connections, and you want to enable single signon between your IBM WebSphere profiles, you must modify two IBM Cognos Business Intelligence configuration files before you build and install your IBM Cognos BI application.

To set up single signon, you must set a shared password between the profile you are using for Lotus<sup>®</sup> Connections and the profile you are using for IBM Cognos BI. For more information, see the IBM WebSphere http://publib.boulder.ibm.com/infocenter/wasinfo/v6r1/index.jsp.

Single signon between IBM Cognos BI and IBM Connections is enabled by IBM WebSphere. This means that you must access IBM Cognos BI directly through the dispatcher, rather than through your Web server. For example, instead of accessing the IBM Cognos BI application from a URL such as http://webserver\_name/ ibmcognos, you will have to access it though the dispatcher URL, such as http://webSphere\_servername.domain:port/p2pd/servlet/dispatch/ext, where port is the port number of the IBM WebSphere profile where you have installed IBM Cognos BI. The URL is the same as that for your **Dispatcher URIs for gateway** in IBM Cognos Configuration.

#### Procedure

- 1. Go to the cognos\_install\_location\war\p2pd directory.
- 2. Open the file named application.xml.template in a text editor.
- 3. Edit the application section to include the following elements:

```
<application>
<display-name>IBM Cognos 10</display-name>
<module>
<web>
<web-uri>@p2pdwar@</web-uri>
<context-root>@p2pd@</context-root>
</web>
</module>
<security-role id="SecurityRole_Cognos_BI_User">
<description/>
<role-name>BI User</role-name>
</security-role>
</application>
```

- 4. Save and close the file.
- 5. Go to the *cognos\_install\_location*\webapps\p2pd\WEB-INF directory.
- 6. Open the file named web.xml.withCM in a text editor.
- 7. After the last servlet-mapping section, and before the </web-apps> element, add the following:

```
<security-constraint>
   <web-resource-collection>
   <web-resource-name>Cognos Dispatcher</web-resource-name>
        <url-pattern>/servlet/dispatch/ext/*</url-pattern>
        <http-method>GET</http-method>
        <http-method>POST</http-method>
        </web-resource-collection>
        <auth-constraint>
```

```
<role-name>BI User</role-name>
</auth-constraint>
</security-constraint>
<login-config>
<auth-method>BASIC</auth-method>
<realm-name>Cognos Dispatcher</realm-name>
</login-config>
<security-role>
<role-name>BI User</role-name>
</security-role>
```

8. Save and close the file.

#### Results

You can now configure IBM Cognos components to run within IBM WebSphere.

# Configure IBM Cognos components to run within the application server

IBM Cognos Business Intelligence must be configured with the application server configuration information, and the configuration must be saved to create new cryptographic keys. IBM Cognos Configuration uses the Java Virtual Machine (JVM) that is defined by the JAVA\_HOME environment variable.

You must set the JAVA\_HOME environment variable to the JVM supplied or used by the application server before you run IBM Cognos Configuration.

If you are using IBM WebSphere, you can use the Build Application Wizard to create the application as well as install it. You do not have to use the IBM WebSphere administration console to set properties or install the application. For more information, see "Use the Build Application Wizard to build and install IBM Cognos on IBM WebSphere Application Server" on page 361.

## Procedure

- 1. Stop the IBM Cognos service if it is running.
- 2. Start IBM Cognos Configuration:

If you have existing incompatible encryption keys, you will be prompted to automatically generate new ones at this time.

**Tip:** Ensure that the existing keys are backed up to a secure location before proceeding. There is no undo action available after you generate new keys.

**3.** Use the Build Application Wizard to create the application file that will be deployed to the application server. To launch the Build Application Wizard from IBM Cognos Configuration, under **Actions**, click **Build Application Files**. The wizard allows you to select the type of application to build and the context root used to access the application.

You must build the application file on the same computer on which you will be deploying the file.

The context root value entered in the wizard must be the same as is entered in the Environment tab, and used to deploy to the application server. For IBM Cognos BI, the default context root and application directory name is p2pd, which can be used in most cases. For the IBM Cognos Servlet Gateway, the default context root and application directory name is ServletGateway. Other default application deployment values, such as the application name, may be changed to better suit your environment.

**Note:** If you are installing IBM Cognos BI on IBM WebSphere and using collaboration with IBM Connections, ensure that you select **Include static files from the Webcontent folder**. This will allow you to access the application without using a Web server and allow you to configure single signon between IBM Cognos BI and IBM Connections.

**Tip:** It is not necessary to rebuild or redeploy the archive file when you make configuration changes because configuration information is stored externally to the application.

For WebLogic and JBoss, you can use the Build Application wizard in IBM Cognos Configuration to build the application to an expanded directory.

For example, for WebLogic, you put the application in C:\bea\user\_projects\ domains\apps\p2pd, where p2pd is the name of the application. When deploying the application from the WebLogic Administration Console, you would select the p2pd directory.

For JBoss, if you use the Expand files into a folder option, you must include the .war extension in the name of the folder where the wizard will create the p2pd application. When the wizard prompts for the folder location, go to *JBoss\_location*/server/*instance\_name*/deploy and create a folder named p2pd.war.

For information about which type of application file, WAR, EAR or expanded directory, is supported in your environment, see your application server documentation.

- 4. In the **Explorer** window of IBM Cognos Configuration, expand **Environment** and then change the following properties to use the port number and host name or IP address of the server where the IBM Cognos BI component and application server are installed.
  - All URIs for the dispatcher, including
    - Dispatcher URIs for Gateway
    - External dispatcher URI
    - Internal dispatcher URI
    - Dispatcher URI for external applications
  - Gateway URI
  - Content Manager URIs

The application server must be configured to listen on the host name or IP address entered in the URI. For more information, see your application server documentation.

If you change the context root from the default value of p2pd, you must change the context root portion of the URI as well.

**Important:** If you are using collaboration with IBM Connections, ensure that you use the full domain name of the computer where your services are running for the URIs. If you do not include the domain, IBM Connections will not allow access as it cannot verify the domain from which the access is coming.

For example, you must change values such as http://localhost:9300 to use the server name, domain, and the transport port number for your IBM WebSphere profile. If you have IBM WebSphere installed on a computer named MyComputer that is running on your domain named MyCompanyName.com, then localhost must be changed to MyComputer.MyCompanyName.com. If you are using the default IBM WebSphere transport port number, 9080, then http://localhost:9300/ would be http:// MyComputer.MyCompanyName.com:9080/.

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5. Under Environment > IBM Cognos services, right-click IBM Cognos, and then click Delete.

The entry for the IBM Cognos service is used to configure environment settings for running under Tomcat. The entry is not required when using a different application server.

- 6. Complete other required configuration changes such as
  - specifying properties for the Content Manager database
  - · entering user IDs and passwords

If you used the default settings for the IBM Cognos installation, you may only have to make minor changes to the default configuration settings.

7. Save the configuration.

New cryptographic keys are created using the JVM that is defined by the JAVA\_HOME variable.

8. Close IBM Cognos Configuration.

# Use the Build Application Wizard to build and install IBM Cognos on IBM WebSphere Application Server

Use the Build Application Wizard to build, install, and configure your IBM Cognos application on IBM WebSphere Application Server.

You can perform all of the actions in sequence, or you can perform them individually. The following task describes the process in sequence.

#### Before you begin

IBM WebSphere Application Server must be installed on the same computer as you have installed IBM Cognos BI.

You must set the JAVA\_HOME environment variable to the JVM supplied or used by the application server before you run IBM Cognos Configuration.

IBM WebSphere Application Server does not need to be running to use the Build Application Wizard to install IBM Cognos BI.

#### Procedure

- 1. Start IBM Cognos Configuration.
- 2. In the Explorer window, under IBM Cognos services, right-click IBM Cognos, and click Delete.
- 3. Right-click IBM Cognos Service, click New Resource > Configuration.
- 4. Enter a Name, and select WebSphere in the Type box.
- 5. Click OK.
- 6. In the **WebSphere Application Server location** box, click the browse icon, and select the location of your IBM Websphere Application Server installation.
- 7. In the **Profile** box, select the name of the profile into which you want IBM Cognos BI installed.

You can enter a new name in the **Profile** box. IBM Cognos Configuration will create a new profile using the name you enter.

If a previous installation of IBM Cognos exists in the profile you select, the Build Application Wizard will allow you to uninstall the previous installation before installing the new one.

- 8. In the Server Instance box, select the server instance for your IBM WebSphere profile.
- 9. Right-click the name you gave your IBM WebSphere configuration, and click **Build**.

The **Build Application Wizard** appears. Follow the instructions in the wizard and click the **Help** icon for more information for each page. The wizard will allow you to build the application, and install it to the IBM WebSphere profile.

The application will be configured to run. For example, the path values will be added and the correct JVM settings will be applied.

On the **Configure IBM Cognos for WebSphere** page, ensure that you enter the correct port numbers for the IBM WebSphere profile. The values are provided in the page. These values will be applied to the IBM Cognos Configuration **Environment** settings.

**Tip:** To test your IBM WebSphere configuration, right-click the name you gave your IBM WebSphere configuration, and click **Test**. The dialog will show any configuration errors. Click the **Details** icon to view any messages.

10. Restart your IBM WebSphere profile.

You can uninstall your IBM Cognos application from IBM WebSphere from IBM Cognos Configuration. Right-click the name you gave your IBM WebSphere configuration, and click **Uninstall**.

## Identifying the JDK for WebLogic 9 on AIX

WebLogic 9 requires Java Development Kit (JDK) 1.5. If you use WebLogic Server 9 on AIX, you must update the Java options in the commEnv.sh file to specify the appropriate serial version unique identifier (UID). If you do not make this update, a serial version UID mismatch occurs when using WebLogic Server 9 with IBM Java 5.

#### Procedure

- 1. Open the *WebLogic9\_location*/common/bin/commEnv.sh file.
- 2. Modify the file to include the following command: JAVA\_OPTIONS="\${JAVA\_OPTIONS} -Dcom.sun.xml.namespace.QName.useCompatibleSerialVersionUID=1.0" export JAVA\_OPTIONS
- 3. Save and close the commEnv.sh file.

#### Change the application server startup script

Some application servers have specific requirements that you must meet before you can run IBM Cognos Business Intelligence. Depending on the application server, you may have to define environment variables, copy files, and add or change code in files.

If you are using Red Hat JBoss or Oracle WebLogic Server, you must make changes to the application server startup script.

If you are using IBM WebSphere Application Server, you do not have to change the startup script unless you want to add the environment variable changes. If you do make changes, use the administration console.

If your environment contains a JRE that you are using for other products, the JRE folder may contain .jar files that are not compatible with the .jar files that are

provided with IBM Cognos BI. This may result in a failure to start IBM Cognos BI on your application server. In this situation, direct IBM Cognos BI to use the endorsed .jar files by including the following parameter in the Java command line:

-Djava.endorsed.dirs=\${ibmcognos\_home}/tomcat[version]/common/endorsed

## Change the application server startup script for WebLogic

If you are using Oracle WebLogic Server, the startup script must be modified to specify Java Virtual Machine (JVM) settings. For WebLogic 9, use the Administration Console to modify the WebLogic environment.

#### Procedure

1. Create a WebLogic Server (WLS) domain for IBM Cognos BI.

If you are configuring the IBM Cognos Servlet Gateway, create a second domain for this application.

For information about creating domains, see the WebLogic documentation.

2. Go to the *WebLogic9\_location*/user\_projects/domains/*domain\_name*/bin directory and open the application server startup script in an editor.

The name of the startup script may vary depending on the type of WebLogic installation performed. For example, in a managed server installation, the name of the startup script is startManagedWebLogic.sh or startManagedWebLogic.cmd.

- 3. For non-IBM JRE versions, select the JVM run mode, and change the default setting from JAVA\_VM= to JAVA\_VM=-server.
- 4. Modify the JAVA\_OPTIONS to set the appropriate XML parser for IBM Cognos BI. Add the third line, as shown in this example:

```
JAVA_OPTIONS=
```

```
-Dweblogic.security.SSL.trustedCAKeyStore=
%WL_HOME%\server\lib\cacerts
-Dorg.xml.sax.driver=org.apache.xerces.parsers.SAXParser
```

5. Set the minimum and maximum memory used by the JVM.

Typically, the memory is set using two JVM parameters: -Xms and -Xmx. A minimum of 256 MB and a maximum of 768 MB are suggested starting values. You can change these values to suit your environment.

The MaxPermSize parameter must also be set. Here is an example:

-XX:MaxPermSize=128m

For information about JVM parameters, see the JVM or application server documentation.

- 6. Ensure that the production mode is enabled by changing PRODUCTION\_MODE= to PRODUCTION\_MODE=true.
- 7. Save and close the file.

## Change the application server startup script for JBoss

If you are using Red Hat JBoss, the startup script must be modified to specify Java Virtual Machine (JVM) settings. You must also specify a log4j argument.

For Red Hat JBoss, create a copy of the default server instance so that you can use the original default server instance as a backup. Give the copy a name that does not use spaces, such as cognos.

### Procedure

- 1. Go to the *JBoss\_location*/bin directory and open run.bat or run.sh in an editor.
- 2. Go to the JAVA\_OPTS variable and add the following parameters:

```
-Xms512m -Xmx1024m
-XX:PermSize=64m -XX:MaxPermSize=256m
-Dorg.jboss.resolver.warning=true
-Dsun.rmi.dgc.client.gcInterval=3600000
-Dsun.rmi.dgc.client.gcInterval=3600000
-DLog4j.defaultInitOverride=true
```

The minimum and maximum memory settings are suggested starting values. You can change these values to suit your environment. For information about these parameters, see the JVM or application server documentation.

**3**. For HP Itanium 64 bit, also add the following parameters:

-Djava.library.path=/install\_location/bin64 -d64 -Xss4m

If SSL is enabled, increase the Java thread stack to 12 MB. For example, -Xss12m.

4. Save and close the file.

# Configure application server properties and install IBM Cognos components

You must configure application server properties and install the IBM Cognos components on your application server.

## Install IBM Cognos on WebSphere

Follow these steps to install on WebSphere.

#### Procedure

- 1. Start the WebSphere Application Server, and then access the WebSphere Administrative Console.
- 2. Create a new server instance into which the IBM Cognos Business Intelligence application will be deployed, if this option is available in the version you are running.

If you are deploying the IBM Cognos Servlet Gateway, create a second separate server instance.

**3**. Install a new Enterprise Application using the application file that was built by IBM Cognos Configuration.

For IBM Cognos BI, the default context root is p2pd, which can be used in most cases. For the IBM Cognos Servlet Gateway, the default context root is ServletGateway. Other default application deployment values, such as the application name, may be changed to better suit your environment. The context root value used to deploy the application must be the same as the context root value entered in IBM Cognos Configuration when running the Build Application wizard.

4. Set the memory used by the JVM.

Usually, the memory is set by adding or changing the initial and maximum Java heap size. For information about these parameters, see the JVM or application server documentation.

**Tip:** A minimum of 256 MB and a maximum of 768 MB are suggested starting values. You can change these values to suit your environment.

5. Set other JVM options, if required.

The JVM process can be tuned by specifying various options as arguments to the Java process. For information about the possible parameters, see the JVM documentation.

6. In the server properties, add an environment variable, as listed in the following table, that references the *installation\_location*/bin directory.

Operating system	Environment variable
Microsoft Windows	РАТН
AIX	LIBPATH
Solaris	LD_LIBRARY_PATH
HP-UX	SHLIB_PATH

Table 70. Operating system environment variables

Ensure that you use the appropriate library files for the version of the IBM Cognos BI server that you install. IBM Cognos BI requires 32-bit library files when running in a 32-bit application server and it requires 64-bit library files when running in a 64-bit application server. Depending on the version of DB2 that you have installed, you may have to change the library files or change the order in which the library files are listed so that IBM Cognos BI server can find the correct files. Whichever version of library files are needed must be listed first.

- 7. If you are using collaboration with IBM Connections, you must enable access for the BI User role you added in "Add user role to enable single signon between IBM WebSphere profiles" on page 358.
  - In the IBM WebSphere administration console, click Applications > Enterprise applications.
  - Click **IBM Cognos**.
  - In the Detail properties section, click Security role to user/group mapping.
  - Select the **Select** check box for **BI User**, and select the **All authenticated**? check box.
  - Click **OK**, and then click **Save**.
- **8**. Stop and then restart the WebSphere application server instance used for IBM Cognos components.
- **9**. Verify that IBM Cognos components are running by looking for the following message in the application server admin console or in the application server log file:

The dispatcher is ready to process requests.

### Install IBM Cognos on WebLogic

Follow these steps to install on WebLogic.

### Procedure

- 1. If you used the expanded directory option when building the application in IBM Cognos Configuration, go to step 2. If you created a WAR file, expand the application manually:
  - Create a directory in a location that is accessible to the application server, giving the directory the same name as the context root.

For IBM Cognos BI, the default context root and application directory name is p2pd, which can be used in most cases. For the IBM Cognos Servlet Gateway, the default context root is ServletGateway. Other default application deployment values, such as the application name, may be changed to better suit your environment. The context root value used to deploy the application must be the same as the context root value entered in IBM Cognos Configuration.

• From the directory you just created, extract the application WAR file to the WebLogic installation using the following command from a command prompt:

WebLogic\_location/jdk\_version/bin/jar xvfm "installation\_location/
application.war" .

A space and then a period are required at the end of the command. In this command, the period does not refer to the current directory.

**2**. Start the WebLogic Administration Server and the WebLogic Managed Server associated with the IBM Cognos domain.

Node Manager must be started before you can start and stop Managed Server instances using the Administration Console

- **3**. You must modify the environment in the WebLogic Administration Console before deploying IBM Cognos BI. Logon to the Administration Console and navigate to the Managed Server instance that will host the IBM Cognos BI application. Select the **Server Start** tab for the Managed Server instance and enable edit mode.
- 4. In the **Java Home** box, enter the path for the JVM. This value must be the same as is used for IBM Cognos BI. You must use the JVM that is included with the WebLogic installation.
- 5. Set the Java arguments.

The Java arguments include all JVM settings, such as memory settings specified using two JVM parameters: -Xms and -Xmx.

The MaxPermSize must also be set. You must also set the appropriate XML parser for IBM Cognos BI.

For example, in the Arguments box, type

-Xms768m -Xmx768m -XX:MaxPermSize=128m

-Dorg.xml.sax.driver=org.apache.xerces.parsers.SAXParser

If you use WebLogic on AIX, you must also specify the appropriate serial version UID in the Java arguments. If you do not make this update, a serial version UID mismatch occurs when using WebLogic with Java 5 because WebLogic requires JDK 1.5.

For example, in the Arguments box, type

-Xms768m -Xmx768m -XX:MaxPermSize=128m

-Dorg.xml.sax.driver=org.apache.xerces.parsers.SAXParser

-Dcom.sun.xml.namespace.QName.useCompatibleSerialVersionUID=1.0

For information about JVM parameters, see the JVM or application server documentation.

6. Save and apply the changes.

You can now start and stop the Managed Server instance from the **Control** tab.

- 7. Start the server instance. The server instance must be started before deploying IBM Cognos BI or IBM Cognos Servlet Gateway.
- **8**. Deploy the IBM Cognos BI or IBM Cognos Servlet Gateway application in the WebLogic console using a new Web application as follows:
  - Set the application name.
  - For example, ibmcognos
  - Set the path to the directory where the expanded application files are located.

**Note:** IBM Cognos BI uses a custom loader. You must use the expanded directory option when deploying.

• Select the target server instance.

Use the Administration Server only for WebLogic administration tasks and deploy the IBM Cognos BI application to its own Managed Server instance.

- **9**. After the deployment has completed successfully, set the reload period for the Web application to **-1** to improve performance. This will prevent WebLogic from checking for updated application files that are used only in a development environment.
- **10.** Stop and then restart the WebLogic Managed Server associated with the IBM Cognos domain to activate the changes.
- **11**. Verify that IBM Cognos components are running by looking for the following message in the application server console window or in the application server log file:

The dispatcher is ready to process requests.

## Install IBM Cognos on SAP NetWeaver

Follow these steps to install on SAP NetWeaver.

#### Procedure

 Open the configuration tool by typing drive:\usr\sap\sapid\JCxx\j2ee\configtool\configtool.bat For example, if the SAP ID is J2E and the installation is on drive D, you would type

D:\usr\sap\J2E\JC00\j2ee\configtool\configtool.bat

- 2. When prompted to use the default DB settings, click Yes.
- **3**. Under **cluster-data**, **instance\_IDxxxxxx**, **Dispatcher\_IDxxxxxx**, **services**, where xxxxxx is the ID number for your installation, highlight **http**.
- 4. Under **Global Properties**, highlight **KeepAliveTimeout** and type a higher number and then click **Set**.

Tip: We suggest an initial KeepAliveTimeout number of at least 60.

- 5. Under cluster-data, instance\_IDxxxxxx, highlight Server\_IDxxxxxx.
- 6. Set the memory used by the JVM.

Follow the recommendations from SAP. For more information, see SAP Note 723909 in the SAP Support Portal.

If your computer has less than 1.5 GB of memory, you may have issues when you run SAP NetWeaver. We suggest a minimum value of 768 MB.

7. In the Java parameters box, set the XML parser as follows:

-Dorg.xml.sax.driver=org.apache.xerces.parsers.SAXParser

- 8. For IBM Cognos BI environments that use Report Studio, under cluster-data, instance\_IDxxxxxx, highlight Server\_IDxxxxxx, services, and highlight http.
- 9. Under Global Properties, highlight CompressedOthers, type false, and then click Set.
- 10. Save the changes.

You are prompted to restart the server.

- 11. Restart the server by using the SAP Management Console or by restarting the services in Services.
- 12. Use the Deploy tool to create a new project.
- Load the IBM Cognos application file you created using IBM Cognos Configuration. By default, the file is named p2pd.ear for IBM Cognos BI and ServletGateway.ear for IBM Cognos Servlet Gateway.
- 14. Using the Deploy tool, connect to the Administration tool and deploy the application file.
- 15. When you are prompted to start the application, click Yes.
- 16. Save the project.

## Install IBM Cognos on JBoss

Follow these steps to install on JBoss.

#### Procedure

- If you do not want to use the default port of 8080, open the *JBoss\_location/server/instance\_name/deploy/jbossweb-tomcat55.sar/server.xml* file.
- 2. In the server.xml file, change the default port number of 8080 used by the server instance to the port specified in IBM Cognos Configuration. For example,

```
<Service name="jboss.web"
className="org.jboss.web.tomcat.tc5.StandardService">
<!-- A HTTP/1.1 Connector on port 8080 -->
<Connector port="8080" address="${jboss.bind.address}"
maxThreads="250" strategy="ms" maxHttpHeaderSize="8192"
emptySessionPath="true"
enableLookups="false" redirectPort="8443" acceptCount="100"
connectionTimeout="20000" disableUploadTimeout="true"/>
```

- 3. Save and close the server.xml file.
- 4. Put the p2pd application in the *JBoss\_location/server/instance\_name/*deploy folder, if it is not already in this location.
- 5. Start the application server.

For jBoss 5.0, the default behaviour is to bind its services to the localhost (127.0.0.1). However, this may cause errors when you access your IBM Cognos BI application. To avoid these errors, add the -b attribute when you start the server. For example, use a command like

run.bat -c <server\_name> -b #.#.#

In a test environment, to run jBoss 5.0 with legacy behaviour, you can use -b 0.0.0.0, which binds to all available interfaces.

**Important:** For a production environment, ensure that you secure your application server properly and do not use -b 0.0.0.0 as the binding address. For more information, see the jBoss documentation.

The p2pd application is automatically detected and started by the application server.

6. Verify that IBM Cognos components are running by looking for the following message in the application server console window or in the application server log file:

The dispatcher is ready to process requests.

## Enable the secure socket layer

If you use the Secure Socket Layer (SSL) for IBM Cognos components, you must also enable SSL in the application server environment. You then identify the SSL server certificate to Cognos components.

#### Procedure

1. Configure the application server to use SSL.

An SSL server certificate is generated by another Certificate Authority (CA). The certificate of the CA that generated the SSL server certificate is also provided.

For more information about configuring the application server to use SSL, refer to the application server documentation. For information about using CA certificates with your application server, see the CA documentation.

2. Copy the CA certificate to the *installation\_location*/bin directory and rename the file to ca.cer.

This file must be Base-64 encoded X.509 format.

- 3. From the *installation\_location*/bin directory:
  - On Microsoft Windows operating system, type: ThirdPartyCertificateTool.bat -T -i -r ca.cer -k ../configuration/ signkeypair/jCAKeystore -p password
  - On UNIX or Linux operating systems, type: ThirdPartyCertificateTool.sh -T -i -r ca.cer -k ../configuration/ signkeypair/jCAKeystore -p password

You must type jCAKeystore as the name of the CA key store.

# Configuring web communication

For most types of supported application servers, you use a web server and an IBM Cognos gateway for Web communication.

For information about configuring the web server, see "Configuring the web server" on page 95.

For information about configuring the WebSphere Web server plugin, see the IBM Cognos Customer Center (http://www.ibm.com/software/data/cognos/customercenter/).

If you are using SAP NetWeaver on Microsoft Windows and you are not using a Web Server and an IBM Cognos gateway for web communication, follow the steps to configure a virtual directory.

# Configure virtual directory for SAP NetWeaver

If you are using SAP NetWeaver and you are not using a web Server and an IBM Cognos gateway for web communication, you must create a virtual directory, also known as a web alias.

This virtual directory is required to allow the static content (html pages, images, and so on) to load. When building the IBM Cognos application file, select the option to include the static files from the webcontent folder. Create a virtual directory that uses the context root value as a name (by default, p2pd for IBM Cognos Business Intelligence or ServletGateway for the IBM Cognos Servlet Gateway). Ensure the virtual directory points to the *c10\_location*/webcontent folder.

### Procedure

Create the virtual directory listed in the following table:

Table 71. Virtual directories for SAP NetWeaver

Alias	Location	Permission
<i>context_root</i> (for example, p2pd)	<pre>c10_location/webcontent</pre>	Read

# Unregister dispatchers that were configured for Tomcat

If you are installing IBM Cognos BI to an application server after you have already started the product with Tomcat, you will have dispatchers registered in the content store. You must unregister any dispatchers that were previously registered for Tomcat.

You remove dispatchers using IBM Cognos Administration.

## Procedure

- 1. Open IBM Cognos Connection by connecting to the IBM Cognos Business Intelligence portal and clicking **IBM Cognos Content** on the **Welcome** page.
- 2. Click Launch > IBM Cognos Administration.
- 3. On the Configuration tab, click Dispatchers and Services.
- 4. For the dispatcher you want to unregister, from the **Actions** column, click **More**.
- 5. Click Unregister.
- 6. In the confirmation dialog box, click OK.

## Upgrade to IBM Cognos BI in an application server environment

If you are upgrading from a supported release to IBM Cognos Business Intelligence, perform the following steps.

#### Procedure

- 1. Back up your existing IBMCognos information.
- **2**. Use the administrative tools for your application server to undeploy the existing IBM Cognos application.

For information about undeploying applications, see your application server documentation.

If the directory to which the existing IBM Cognos application was originally deployed is not removed during the undeploy process, delete the directory. Also, remove any IBM Cognos .jar files that are cached in your application server environment.

- **3**. Uninstall the existing version.
- 4. Install the new version of IBM Cognos BI.
- 5. Follow the appropriate instructions in this chapter for changing to your application server.

Most installations must perform the following:

- "Configure IBM Cognos components to run within the application server" on page 359
- Configure application server properties and deploy IBM Cognos BI.
- **6**. To activate new features after upgrading, save the configuration in IBM Cognos Configuration, and then restart the services.

# **Chapter 17. Performance Maintenance**

This section includes topics about using IBM Cognos Business Intelligence and other tools and metrics to maintain the performance of your IBM Cognos Business Intelligence environment.

## System Performance Metrics

IBM Cognos BI provides system metrics that you can use to monitor the health of the entire system and of each server, dispatcher, and service. You can also set the thresholds for the metric scores. Some examples of system performance metrics are the number of sessions in your system, how long a report is in a queue, how long a Java Virtual Machine (JVM) has been running, and the number of requests and processes in the system.

System performance metrics reside in the Java environment, but can be monitored in IBM Cognos Administration through IBM Cognos Connection. For more information about monitoring system performance metrics, see the *IBM Cognos Business Intelligence Administration and Security Guide*.

You can take a snapshot of the current system metrics so that you can track trends over time or review details about the state of the system at a particular time. For more information, see the topic about the metric dump file in the *IBM Cognos Business Intelligence Troubleshooting Guide*.

You can also monitor system metrics externally to IBM Cognos Administration by using Java Management Extensions (JMX), a technology that supplies tools to manage and monitor applications and service-oriented networks.

# Monitoring System Metrics Externally

You can monitor system metrics outside of IBM Cognos Administration by using industry standard Java Management Extensions (JMX). First, you configure two JMX properties in IBM Cognos Configuration to enable secure access to the metrics in the Java environment. Then you use a secure user ID and password to connect to the metrics through a JMX connection tool.

## Before you begin

You must install Oracle Java SE Development Kit or the Java Software Development Kit from IBM before you can use the external monitoring feature.

#### Procedure

- 1. In the location where Content Manager is installed, start IBM Cognos Configuration.
- 2. In the Explorer window, click Environment.
- 3. In the Properties window, under Dispatcher Settings, click External JMX port.
- 4. In the Value column, type an available port number.
- 5. Click External JMX credential.
- 6. In the **Value** column, click the edit icon, type a user ID and password, and then click **OK**.

The user ID and password ensure that only an authorized user can connect to the system metrics data in the Java environment, using the port specified in **External JMX port**.

- 7. Save the changes and restart the service.
- **8**. To access the system metrics data, specify the following information in the JMX connection tool:
  - the URL to connect to the system metrics data For example,

service:jmx:rmi://Content\_Manager\_server/jndi/rmi://
monitoring server:<JMXport>/proxyserver

where *JMXport* is the value that you typed for **External JMX port**, and *Content\_Manager\_server* and *monitoring\_server* are machine names. Do not use localhost, even if connecting locally.

- the user ID and password to secure the connection
  - Use the same values that you configured for External JMX credential.

## Enabling Only Services That are Required

If some IBM Cognos BI services are not required in your environment, you can disable them to improve the performance of other services.

For example, to dedicate a computer to running and distributing reports, you can disable the presentation service on an Application Tier Components computer. When you disable the presentation service, the performance of the Application Tier Components will improve.

#### Note:

- The Presentation service must remain enabled on at least one computer in your IBM Cognos BI environment.
- If you want to use Query Studio, you must enable the Presentation service.
- If you want to use Analysis Studio, you must enable the Report service.
- If some IBM Cognos BI components are not installed on a computer, you should disable the services associated with the missing components. Otherwise the IBM Cognos BI components will randomly fail.

#### **IBM Cognos services**

After you install and configure IBM Cognos BI, one dispatcher is available on each computer by default. Each dispatcher has a set of associated services, listed in the following table.

Table 72. IBM Cognos services

Service	Purpose
Agent service	Runs agents. If the conditions for an agent are met when the agent runs, the agent service asks the monitor service to run the tasks.

Table 72.	IBM	Cognos	services	(continued)
-----------	-----	--------	----------	-------------

Service	Purpose
Annotation service	Enables the addition of commentary to reports via the IBM Cognos Workspace. These comments persist across versions of the report.
Batch report service	Manages background requests to run reports and provides output on behalf of the monitor service.
Content Manager cache service	Enhances the overall system performance and Content Manager scalability by caching frequent query results in each dispatcher.
Content Manager service	<ul> <li>Performs object manipulation functions in the content store, such as add, query, update, delete, move, and copy</li> <li>Performs content store management functions, such as import and export</li> </ul>
Data movement service	Manages the execution of data movement tasks in IBM Cognos BI. Data movement tasks, such as Builds and JobStreams, are created in Data Manager Designer and published to IBM Cognos BI.
Delivery service	Sends emails to an external SMTP server on behalf of other services, such as the report service, job service, agent service, or data integration service
Event management service	Creates, schedules, and manages event objects that represent reports, jobs, agents, content store maintenance, deployment imports and exports, and metrics
Graphics service	Produces graphics on behalf of the Report service. Graphics can be generated in 4 different formats: Raster, Vector, Microsoft Excel XML or PDF.
Human task service	Enables the creation and management of human tasks. A human task such as report approval can be assigned to individuals or groups on an ad hoc basis or by any of the other services.
Index data service	Provides basic full-text functions for storage and retrieval of terms and indexed summary documents.
Index search service	Provides search and drill-through functions, including lists of aliases and examples.

Service	Purpose
Index update service	Provides write, update, delete, and administration functions.
Job service	Runs jobs by signaling the monitor service to run job steps in the background. Steps include reports, other jobs, import, exports, and so on.
Log service	Records log messages generated by the dispatcher and other services. The log service can be configured to record log information in a file, a database, a remote log server, Windows Event Viewer, or a UNIX system log. The log information can then be analyzed by customers or by Cognos Software Services, including: • security events • system and application error information • selected diagnostic information
Metadata service	Provides support for data lineage information displayed in Cognos Viewer, Report Studio, Query Studio, and Analysis Studio. Lineage information includes information such as data source and calculation expressions.
Metric Studio service	Provides the Metric Studio user interface for monitoring and entering performance information
Migration service	Manages the migration from IBM Cognos Series 7 to IBM Cognos BI.
Monitor service	<ul> <li>Manages the monitoring and execution of tasks that are scheduled, submitted for execution at a later time, or run as a background task</li> <li>Assigns a target service to handle a scheduled task. For example, the monitor service may ask the batch report service to run a report, the job service to run a job, or the agent service to run an agent.</li> <li>Creates history objects within the content manager and manages failover and recovery for executing entries</li> </ul>
PowerPlay service	Manages requests to run PowerPlay reports.

Table 72. IBM Cognos services (continued)

Service	Purpose
Presentation service	• Transforms generic XML responses from another service into output format, such as HTML or PDF
	<ul> <li>Provides display, navigation, and administration capabilities in IBM Cognos Connection</li> </ul>
Query service	Manages Dynamic Query requests and returns the result to the requesting batch or report service.
Report data service	Manages the transfer of report data between IBM Cognos BI and applications that consume the data, such as IBM Cognos BI for Microsoft Office and IBM Cognos Mobile.
Report service	Manages interactive requests to run reports and provides output for a user in IBM Cognos Connection or a studio.
Repository service	Manages requests to retrieve archived report output from an archive repository.
Statistics service	If you install IBM Cognos Statistics, the optional Statistics service is available in IBM Cognos Administration. The Statistics service computes statistical results using the integrated IBM SPSS <sup>®</sup> statistics engine. This service generates textual statistics and statistical visualizations.

Table 72. IBM Cognos services (continued)

## **Tuning a DB2 Content Store**

If you use a DB2 database for the content store , you can take steps to improve the speed with which requests are processed.

By default, DB2 assigns tables that contain large objects (LOBS) to a database-managed tablespace. As a result, the LOBS are not managed by the DB2 buffer pools. This results in direct I/O requests on the LOBS, which affects performance. By reassigning the tables that contain LOBS to a system-managed tablespace, you reduce the number of direct I/O requests.

Before changing a DB2 content store, allocate sufficient log space to restructure the database.

To reconfigure the DB2 content store, do the following:

- Export the data from the tables that contain at least one large object (LOB).
- Create the tables in a system-managed table space.
- Import the data into the tables.

## Adjusting the Memory Resources for the IBM Cognos Service

To improve performance in a distributed environment, you can change the amount of resources that the IBM Cognos service uses.

By default, the IBM Cognos service is configured to use minimal memory resources to optimize startup time.

The configuration settings for the IBM Cognos service apply only to Tomcat, the application server that IBM Cognos BI uses by default. If you want to configure IBM Cognos BI to run on another application server, do not use IBM Cognos Configuration to configure the resources. Instead, configure the resources within that application server environment.

The IBM Cognos service is available only on the computers where you installed Content Manager or the Application Tier Components.

#### Procedure

- 1. Start IBM Cognos Configuration.
- 2. In the **Explorer** window, expand **Environment** > **IBM Cognos services**, and then click **IBM Cognos**.
- 3. In the Properties window, change the value for Maximum memory in MB.
  - To reduce the startup time, memory footprint, and resources used, use the default setting of 768.
  - To balance between fast startup time and quick operating speeds, type a value about 1.5 times the default value, such as 1152.
  - To maximize operating speeds and if performance is more important than fast startup time, and if your computer has a lot of resources, type a value about double the default value, such as 1536.
- 4. From the File menu, click Save.

## Reducing the number of requests per process

Use the following steps to reduce the number of requests per process for an instance of the IBM Cognos service.

#### Procedure

- 1. Go to the *c10\_location*/webapps/p2pd/WEB-INF/services directory.
- 2. Open the reportservice.xml file in an XML editor.
- Change the value for default\_process\_use\_limit from θ (unlimited) to a fixed number of requests.
- 4. Save the file.
- 5. Restart the IBM Cognos service.
- If you deployed IBM Cognos BI to an application server, rebuild the application file and deploy it to the application server.
   For example, for WebSphere, regenerate the EAR file and deploy it to the

For example, for WebSphere, regenerate the EAR file and deploy it to the WebSphere application server.

## Tune Apache Tomcat settings for 64-bit installations

If you are using Apache Tomcat on a 64-bit installation, you can edit the maxThreads and acceptCount settings to improve performance.

## Procedure

- 1. Go to the *c10\_location*/tomcat/conf directory.
- 2. Open the server.xml file.
- 3. Fine the line <Connector port="9300" protocol="HTTP/1.1".
- 4. In that section, change the following values:
  - a. Change maxThreads="500" to maxThreads="1500"
  - b. Change acceptCount="500" to acceptCount="100"
- 5. Save the file.
- 6. Restart your IBM Cognos services.

## Increase the Request-handling Capacity for Cognos Content Database

Cognos Content Database is configured for use with a small system. If you use Cognos Content Database in a large system, where the number of simultaneous requests is greater than ten, you must adjust the default JVM memory settings and increase the page cache size for Derby.

### Procedure

- 1. On the computer where you have installed the Cognos Content Database component, go to the *c10\_location*\bin directory.
- 2. Open the derby.bat file (on Windows) or derby.sh file (on UNIX or Linux).
- 3. Find the following line:
  - set MEM\_SETTINGS=-Xmx256m

and change it to the following:

set MEM\_SETTINGS="-Xmx1152m -XX:MaxPermSize=128M -XX:MaxNewSize=576m
-XX:NewSize=288m"

- 4. In the *c10\_location*\configuration directory, rename derby.properties.sample to derby.properties.
- 5. In the same directory, open the derby.properties file.
- 6. Comment out the following line:

derby.storage.pageCacheSize=15000

## Improve Metric Store Database Performance

IBM Cognos BI provides a script called cmm\_update\_stats that updates your metric store database indexes, which improves performance. Typically, you use this script before or after loading data when the volume or distribution of data has changed significantly. For example, performance may improve if you run this script after increasing the number of scorecards from 100 to 1000.

#### Procedure

- 1. Ensure that there is no activity in the metric store database.
- 2. Go to the following directory:

c10\_location\configuration\schemas\cmm

- 3. Go to the appropriate database directory.
- 4. Depending on the database type, run one of the following scripts from the command line:
  - For Microsoft SQL Server or DB2:
    - cmm\_update\_stats host\_name metric\_store\_name Admin\_user\_name password

• For Oracle:

cmm\_update\_stats metric\_store\_name Admin\_user\_name password

# **Reduce Delivery Time for Reports in a Network**

Reports that are distributed globally take longer to open in remote locations than to open locally. In addition, HTML reports take longer than PDF reports to open because more requests are processed for HTML reports.

You can reduce the amount of time for reports to open in remote locations in two ways. You can reduce the number of requests between the browser and the server by running the report in PDF format. If HTML reports are required, you can speed up the delivery of the report by configuring additional gateways in some of the remote locations. Static content, such as graphics and style sheets, will be delivered faster.

## Increase Asynchronous Timeout in High User Load Environments

If you have a high user load (over 165 users) and interactive reports are running continuously in a distributed installation, you may want to increase the asynchronous timeout setting to avoid getting error messages. The default is 30000.

You may also want to set the Queue Time Limit setting to 360. For information, see the *IBM Cognos Business Intelligence Administration and Security Guide*.

To resolve this problem, increase the wait timeout.

#### Procedure

- 1. Go to the following directory:
  - c10\_locationwebapps/p2pd/WEB-INF/services/.
- 2. Open the reportservice.xml file in a text editor.
- 3. Change the async\_wait\_timeout\_ms parameter to 120000.
- 4. Save the file.
- 5. Restart the service.

# Chapter 18. Manually configuring IBM Cognos Business Intelligence on UNIX and Linux operating systems

The console attached to the UNIX or Linux operating system computer on which you are installing IBM Cognos Business Intelligence may not support a Java-based graphical user interface.

You must perform the following tasks manually:

- Change default configuration settings by editing the cogstartup.xml file, located in the c10\_location/configuration directory.
- Change language or currency support, or locale mapping by editing the coglocale.xml file, located in the c10\_location/configuration directory.
- Apply the configuration and the locale settings to your computer by running IBM Cognos Configuration in silent mode.

For all installations, some configuration tasks are required so that IBM Cognos BI works in your environment. If you distribute IBM Cognos BI components across several computers, the order in which you configure and start the computers is important.

Other configuration tasks are optional and depend on your reporting environment. You can change the default behavior of IBM Cognos BI by editing the cogstartup.xml file to change property values. You can also use sample files that enable IBM Cognos BI to use resources that already exist in your environment.

## Manually change default configuration settings

If the console attached to your UNIX or Linux operating system computer does not support a Java-based graphical user interface, you must edit the cogstartup.xml to configure IBM Cognos Business Intelligence to work in your environment.

**Important:** Some configuration settings are not saved in the cogstartup.xml file unless you use the graphical user interface. For example, the server time zone is not set for your IBM Cognos components when you modify the cogstartup.xml file directly and then run IBM Cognos Configuration in silent mode. In this case, other user settings that rely on the server time zone may not operate as expected.

If you want IBM Cognos BI to use a resource, such as an authentication provider that already exists in your environment, you can add a component to your configuration. You do this by copying the required XML code from the sample files into the cogstartup.xml file and then edit the values to suit your environment.

By default, the cogstartup.xml file is encoded using UTF-8. When you save the cogstartup.xml file, ensure that you change the encoding of your user locale to match the encoding used. The encoding of your user locale is set by your environment variables.

When you edit the cogstartup.xml file, remember that XML is case-sensitive. Case is important in all uses of text, including element and attribute labels, elements and values.

Before you edit the cogstartup.xml file, ensure that you

- make a backup copy
- create the content store on an available computer in your network
- review the configuration requirements for your installation type

#### Procedure

- 1. Go to the *c10\_location*/configuration directory.
- 2. Open the cogstartup.xml file in an editor.
- Find the configuration setting you want to change by looking at the help and description comments that appear before the start tag of the <crn:parameter> elements.
- 4. Change the value of the <crn:value> element to suit your environment.

**Tip:** Use the type attribute to help you determine the data type for the configuration property.

- **5**. Repeat steps 3 to 4 until the configuration values are appropriate your environment.
- 6. Save and close the file.

### **Results**

You should now use a validating XML editor to validate your changes against the rules in the cogstartup.xsd file, located in the *c10\_location*/configuration.

## Adding a component to your configuration

The cogstartup.xml file contains configuration settings used by IBM Cognos Business Intelligence and by default components. You can change the components that IBM Cognos BI uses by copying XML elements from sample files into the cogstartup.xml file. You can then edit the configuration values to suit your environment.

For example, to use an Oracle database for the content store, you can use the ContentManager\_language code.xml sample file to replace the default database connection information.

IBM Cognos BI can use only one instance at a time of the following elements:

- The database for the content store
- A cryptographic provider
- A configuration template for the IBM Cognos service

You should be familiar with the structure of XML files before you start editing them.

#### Procedure

- 1. Go to the *c10\_location*/configuration/samples directory.
- 2. Choose a sample file to open in an editor:
  - To use Oracle, DB2, or Sybase for the content store, open the ContentManager\_language\_code.xml file.
  - To use an authentication provider, open the Authentication\_language\_code.xml file.
  - To use a cryptographic provider, open the Cryptography\_language\_code.xml file.

- To send log messages somewhere other than a file, open the Logging\_language\_code.xml file.
- To use a medium or large template for the amount of resources the IBM Cognos BI process uses, open the CognosService\_language\_code.xml file.
- **3**. Copy the elements that you need.

**Tip:** Ensure that you copy the code including the start and end tags for the <crn:instance>element.

For example, look for the (Begin of) and (End of) comments: <!--

```
(Begin of) DB2 template
-->
<crn:instance ...>
...
</crn:instance>
<!--
End of) DB2 template
```

-->

- 4. Go to the c10\_location/configuration directory.
- 5. Open the cogstartup.xml file in an editor.
- 6. Paste the code from the sample file to the cogstartup.xml file and replace the appropriate <crn:instance> element.
- 7. Change the values of these new elements to suit your environment.

For the <crn:instance> element, do not change the class attribute. You can change the name attribute to suit your environment.

For example, if you use an Oracle database for the content store, change only the name attribute to suit your environment.

<crn:instance class="Oracle" name="MyContentStore">

- 8. Save and close the file.
- **9**. Run IBM Cognos Configuration in silent mode by typing the following command:

./cogconfig.sh -s

This ensures that the file is valid and that passwords are encrypted.

# Changing manually encrypted settings

You can manually change encrypted settings, such as passwords and user credentials, in the cogstartup.xml file.

To prompt IBM Cognos Configuration to save an encrypted setting, you change the value and then set the encryption flag to false.

#### Procedure

- 1. Go to the *c10\_location*/configuration directory.
- 2. Open the cogstartup.xml file in an editor.
- **3**. Find the encrypted setting you want to change by looking at the help and description comments that appear before the start tag of the <crn:parameter> elements.
- 4. Change the value of the <crn:value> element to suit your environment.

**Tip:** Use the type attribute to help you determine the data type for the configuration property.

5. Change the encryption value to false. For example,

<crn:value encrypted="false">

- **6**. Repeat steps 3 to 5 until the configuration values are appropriate for your environment.
- 7. Save and close the file.
- Type the following configuration command: ./cogconfig.sh -s

#### Results

The new settings are saved and encrypted.

# Global settings on UNIX and Linux operating systems

If the console attached to your UNIX or Linux operating system computer does not support a Java-based graphical user interface, you must manually edit the coglocale.xml file.

You can change global settings

- to specify the language used in the user interface when the language in the user's locale is not available
- to specify the locale used in reports when the user's locale is not available
- to add currency or locale support to report data and metadata
- to add language support to the user interface

By default, IBM Cognos BI components ensure that all locales, which may come from different sources and in various formats, use a normalized form. That means that all expanded locales conform to a language and regional code setting.

Before you can add language support to the user interface, you must install the language files on all computers in your distributed installation. For more information, contact your support representative.

#### Example 1

A report is available in Content Manager in two locales, such as en-us (English-United States) and fr-fr (French-France), but the user locale is set to fr-ca (French-Canadian). IBM Cognos uses the locale mapping to determine which report the user sees.

First, IBM Cognos checks to see if the report is available in Content Manager in the user's locale. If it is not available in the user's locale, IBM Cognos maps the user's locale to a normalized locale configured on the Content Locale Mapping tab. Because the user's locale is fr-ca, it is mapped to fr. IBM Cognos uses the mapped value to see if the report is available in fr. In this case, the report is available in en-us and fr-fr, not fr.

Next, IBM Cognos maps each of the available reports to a normalized locale. Therefore, en-us becomes en and fr-fr becomes fr.
Because both report and the user locale maps to fr, the user having the user locale fr-ca will see the report saved with the locale fr-fr.

#### Example 2

The user's locale and the report locales all map to the same language. IBM Cognos chooses which locale to use. For example, if a user's locale is en-ca (English-Canada) and the reports are available in en-us (English-United States) and en-gb (English-United Kingdom), IBM Cognos maps each locale to en. The user will see the report in the locale setting that IBM Cognos chooses.

### **Example 3**

The report and the user locales do not map to a common language. IBM Cognos chooses the language. In this case, you may want to configure a mapping. For example, if a report is available in en-us (English-United States) and fr-fr (French-France), but the user locale is es-es (Spanish-Spain), IBM Cognos chooses the language.

# Changing manually the global settings on UNIX and Linux operating systems

Use the following steps to change global settings on UNIX and Linux operating systems using the coglocale file.

#### Procedure

- 1. On every computer where you installed Content Manager, go to the *c10\_location*/configuration directory.
- 2. Open the coglocale.xml file in an editor.
- **3**. Add or modify the required element and attribute between the appropriate start and end tags.

The elements, attributes, and start and end tags are listed in the following table.

	Table 73.	Tags	for	global	settings
--	-----------	------	-----	--------	----------

Type of element	Start tag	End tag
Language	<supportedproductlocales></supportedproductlocales>	
Content Locales	<supportedcontentlocales></supportedcontentlocales>	
Currency	<supportedcurrencies></supportedcurrencies>	
Product Locale Mapping	<productlocalemap></productlocalemap>	
Content Locale Mapping	<contentlocalemap></contentlocalemap>	
Fonts	<supportedfonts></supportedfonts>	
Cookie settings, archive location for reports	<pre><parameter name="setting"></parameter></pre>	

**Tip:** To remove support, delete the element.

4. Save and close the file.

#### Results

**Tip:** Use a validating XML editor to validate your changes against the rules in the cogstartup.xsd file, located in the *c10\_location*/configuration.

If you add a currency code that is not supported, you must manually add it to the i18n\_res.xml file in the *c10\_location*/bin/ directory. Copy this file to each IBM Cognos computer in your installation.

# Starting and stopping Cognos BI in silent mode on UNIX and Linux operating systems

You run IBM Cognos Configuration in silent mode to apply the configuration settings and start the services on UNIX or Linux operating system computers that do not support a Java-based graphical user interface.

Before you run the configuration tool in silent mode, you should ensure the cogstartup.xml file is valid according to the rules defined in the cogstartup.xsd file. The cogstartup.xsd file is located in the *c10\_location*/configuration directory.

# Starting Cognos BI in silent mode on UNIX and Linux operating systems

Use the following steps to start the IBM Cognos Business Intelligence software in silent mode.

#### Procedure

1. Ensure that the cogstartup.xml file, located in the *c10\_location*/configuration directory, has been modified for your environment.

For more information, see "Manually change default configuration settings" on page 381.

- 2. Go to the *c10\_location*/bin64 directory.
- **3**. Type the following command

./cogconfig.sh -s

**Tip:** To view log messages that were generated during an unattended configuration, see the cogconfig\_response.csv file in the *c10\_location*/logs directory.

#### Results

IBM Cognos Configuration applies the configuration settings specified in the cogstartup.xml file, encrypts credentials, generates digital certificates, and if applicable, starts the Cognos service or process.

# Stopping Cognos BI in silent mode on UNIX and Linux operating systems

Use the following steps to stop the IBM Cognos Business Intelligence software in silent mode.

### Procedure

- 1. Go to the *c10\_location*/bin64 directory.
- 2. Type the following command

./cogconfig.sh -stop

### Manually create an IBM Cognos application file

IBM Cognos Business Intelligence and the servlet gateway must be packaged into an application file for deployment to supported application servers. IBM Cognos Business Intelligence provides a Build Application wizard that you can use to create the application file.

You can create a Web archive (.war) file, an Enterprise archive (.ear) file, or an expanded directory that includes all the files necessary for the application. For information about WAR and EAR files or expanded directories and to determine what is supported by your application server, see the documentation provided with the application server.

If you choose not to use the Build Application wizard, you must complete the following steps to create the application file.

If the application server is not being used as a Web server, you do not need to include the IBM Cognos static content (html pages, images, and so on) in the application file. Excluding the static content when creating the application file reduces the size of the file.

# Creating an IBM Cognos application file for the Business Intelligence software

If you choose not to use the Build Application wizard, you must complete the following steps to create the application file.

#### Procedure

- 1. Stop the IBM Cognos service if it is running.
- 2. Go to the c10\_location/war/p2pd directory.
- 3. Run the build script by using the following command syntax:
  - · For Microsoft Windows operating system,
    - build.bat *file\_type* option
  - For UNIX or Linux operating systems, build.sh *file\_type* option

where *file\_type* can be one of the values listed in the following table:

Table 74. A list of file type options and descriptions for an application file for the Business Intelligence software

Value	Description
war	WAR file with static content
war_without_webcontent	WAR file with no static content
war_without_docsamples	WAR file with static content and with no documentation and sample files

Table 74. A list of file type options and descripti	ons for an application file for the Business
Intelligence software (continued)	

Value	Description
ear	EAR file with static content
ear_without_webcontent	EAR file with no static content
ear_without_docsamples	EAR file with static content and with no documentation and sample files
expand	directory containing the application with static content
expand_without_webcontent	directory containing the application with no static content
expand_without_docsamples	directory containing the application with static content and with no documentation and sample files

and where *option* can be one or more of the values listed in the following table:

Table 75. A list of options, values, and descriptions for an application file for the Business Intelligence software

Option	Value	Description
-Dappserver_type=value	jboss other (default)	Perform actions for a JBoss application server Perform actions for a non-JBoss application server
-Dcontext_root=value	p2pd (default)	Preset a context root value for the application
-Dwar_name=value	<i>path/filename</i> Default is//p2pd.war	Path and name of the WAR file to be created
-Dear_name=value	<i>path/filename</i> Default is//p2pd.ear	Path and name of the EAR file to be created
-Dexpand_location= <i>value</i> (For expand file types)	<pre>path/directory Default is//temp/expand</pre>	Path to directory where the application files are to be expanded

# Creating an IBM Cognos application file for a servlet gateway

If you choose not to use the Build Application wizard, you must complete the following steps to create the application file.

## Procedure

- 1. Stop the IBM Cognos service if it is running.
- 2. Go to the *c10\_location*/war/gateway directory.
- 3. Run the build script by using the following command syntax:
  - For Windows,
    - build.bat file\_type option
  - For UNIX or Linux,
    - build.sh *file\_type* option

where *file\_type* can be one of the values listed in the following table:

Value	Description
gateway_war	WAR file with static content
gateway_war_without_docsamples	WAR file with static content and with no documentation and sample files
gateway_ear	EAR file with static content
gateway_ear_without_docsamples	EAR file with static content and with no documentation and sample files
expand	directory containing the application with static content
expand_without_docsamples	directory containing the application with static content and with no documentation and sample files

and where option can be one or more of the values listed in the following table:

Table 77. Option values and descriptions for an application file for a servlet gateway

Option	Value	Description
-Dappserver_type=value	jboss other (default)	Perform actions for a JBoss application server Perform actions for a non-JBoss application server
-Dcontext_root=value	ServletGateway (default)	Preset a context root value for the application
-Dwar_name=value	<i>path/filename</i> Default is //ServletGateway.war	Path and name of the WAR file to be created
-Dear_name=value	<i>path/filename</i> Default is //ServletGateway.ear	Path and name of the EAR file to be created

Option	Value	Description
-Dexpand_location=value	<i>path/directory</i> Default is//temp/expand	Path to directory where the application files are to be expanded

Table 77. Option values and descriptions for an application file for a servlet gateway (continued)

# Chapter 19. Using an unattended installation and configuration

Use an unattended installation and configuration to do the following:

- install an identical configuration across several computers on your network
- automate the installation and configuration process by specifying options and settings for users
- install and configure components in a UNIX or Linux environment that does not have XWindows

Before you set up an unattended installation and configuration, ensure that all the system requirements and prerequisites are met and that all other software that you need is installed and configured.

You can also set up an unattended uninstallation.

#### Procedure

- 1. Configure a transfer specification file (.ats) to specify installation options.
- 2. Run the installation tool in silent mode.
- 3. Use a pre configured configuration file from another computer.
- 4. Run the configuration tool in silent mode.

#### Results

After you complete these tasks, ensure that the IBM Cognos Business Intelligence installation directory on all computers is protected from unauthorized or inappropriate access. Then you will be ready to use IBM Cognos BI.

## **Unattended installations**

You use a transfer specification file to copy IBM Cognos BI components to your computer without being prompted for information.

Each time you install IBM Cognos BI components using the installation wizard, the options you select are recorded in a transfer specification file. Therefore, if you already installed IBM Cognos BI components on a sample computer, you can use the generated transfer specification file as a template for unattended installations on different computers.

If you do not use the installation wizard to install components, you can use the default transfer specification file named response.ats. You must modify the response.ats file for your environment before you can use it for an unattended installation.

You can check if the unattended installation was successful by checking the return status. A value of zero (0) indicates success and all other values indicate that an error occurred.

# Use a response file from an installation on another computer

Use the following steps to duplicate an installation from one computer to another without being prompted for information.

#### Procedure

- 1. Use the installation wizard to install IBM Cognos BI components on one computer.
- 2. After the installation has completed, go to c10\_location/instlog.
- **3**. Locate the transfer specification file (.ats) that was generated during the installation.

The filename format is ts-product\_code-version-yyyymmdd\_hhmm.ats. Where product\_code is as listed in the following table:

Table 78. Transfer specification file product codes

Product_code	Product
BISRVR	IBM Cognos BI Server
CRNSRVR	IBM Cognos BI Reporting Server
BIMODEL	IBM Cognos Framework Manager
CMMSRVR	IBM Cognos Metrics Manager
BIMEMOD	IBM Cognos Metric Designer
BITRSFRMR	IBM Cognos BI Transformer
BISAMPLES	Samples
LP	Supplementary Language Documentation

- 4. Copy the generated transfer specification file to the computer where you plan to install IBM Cognos BI.
- 5. On the computer where you plan to install the software, do one of the following:
  - Insert the appropriate product installation disk, and copy the contents of the disk to your computer.
  - Copy the product installation files you downloaded to your computer.
- 6. Open the transfer specification file in a text editor.
- 7. In the License Agreement dialogs, change the I Agree property to y.

This action means that you are accepting the license agreement. To read the terms of the license agreement, see the LA\_language\_code and notices files in either of these locations:

- on the product disk in the root installation directory for the operating system
- on the computer from which you copied the transfer specification file in the c10\_location\license\product directory
- **8**. Save the transfer specification file in the directory where you copied the installation files.
- **9**. In a command or terminal window, go to the operating system directory where you copied the installation files.
- 10. Type the following command:
  - On Windows, type the following, where *location* is the directory where you copied the *filename*.ats file:

issetup -s location\filename.ats

- On UNIX or Linux, type:
  - ./issetup -s location/filename.ats
- On UNIX or Linux where you do not have XWindows, type: ./issetupnx -s *location/filename*.ats

#### Results

If a return status other than zero (0) is returned, check the log files for error messages. Errors are recorded in the *c10\_location*\instlog directory in a summary error log file. The filename format is tl-*product\_code-version-yyyymmdd-hhmm\_*summary-error.txt.

If errors occur before sufficient initialization occurs, log messages are sent to a log file in the Temp directory. The filename format is tl-product\_code-versionyyyymmdd-hhmm.txt.

After all errors are resolved, you can set up an unattended configuration.

# Modifying a response file

Generate and modify a response file to specify and record your installation preferences. You can also modify the response file template that is provided.

### Procedure

- 1. On the computer where you plan to install the software, do one of the following:
  - Insert the appropriate product installation disk, and copy the contents of the disk to your computer.
  - Copy the product installation files you downloaded to your computer.
- 2. Use a repsonse.ats file.
  - To use the response file that is provided with the installation, go to the directory for your operating system and find the response.ats file.
  - On UNIX computers, to generate the a response.ats file, go to the directory for your operating system and type ./issetup -ats *filename*
  - On Windows computers, to generate the a response.ats file, go to the directory for your operating system and type issetup -ats *filename*
- 3. Open the response.ats file in a text editor.
  - Each section in the file corresponds to a dialog box in the installation wizard.
- 4. In the License Agreement dialogs, change the I Agree property to y.

This action means that you are accepting the license agreement. To read the terms of the license agreement, see the LA\_language\_code and notices files in either of these locations:

- on the product disk in the root installation directory for the operating system
- on the computer from which you copied the transfer specification file in the c10\_location\license\product directory
- 5. Type the installation location in APPDIR=*location*.

Tip: There should be no space on either side of the equal sign, (=).

6. In the [Component List] section, enter 1 for each component you want to install. Enter 0 if you do not want to install the component.

7. For a Windows installation, for the APPFOLDER= property, type a name for the **Start** menu shortcut.

**Tip:** To ensure that the shortcut folder is visible to all users, type 1 for the ALLUSERS\_FLAG= property.

- 8. For the install information in the [Install Conditions] section, enter 1 if the condition is true. Enter 0 if the condition is false.
- **9**. Save the response.ats file to a local directory after you make the necessary changes.
- 10. Go to the directory where you saved the response.ats file.
- 11. At the command prompt type the following command:
  - On Windows, type the following, where *location* is the directory where you copied the *filename*.ats file:

issetup -s location\filename.ats

- On UNIX or Linux, type:
  - ./issetup -s location/filename.ats
- On UNIX or Linux where you do not have XWindows, type:

./issetupnx -s location/filename.ats

**Note:** To view the status of the installation on the screen, add the -displayLog option to the **issetup** or **issetupnx** command.

#### Results

If a return status other than zero (0) is returned, check the log files for error messages. Errors are recorded in the *c10\_location*\instlog directory in a summary error log file. The filename format is t1-*product\_code-version-yyyymmdd-hhmm\_*summary-error.txt.

If errors occur before sufficient initialization occurs, log messages are sent to a log file in the Temp directory. The filename format is tl-product\_code-versionyyyymmdd-hhmm.txt.

After all errors are resolved, you can set up an unattended configuration.

#### **Related concepts:**

"Option to view the status of silent installations on the screen" on page 4 You can use the -displayLog option to view the status of the silent installation on the screen.

#### Use an unattended configuration

To use an unattended configuration, you must export a configuration from an existing installation that has the same IBM Cognos BI components installed. You can then run IBM Cognos Configuration in silent mode.

The exported configuration contains the properties of the IBM Cognos BI components that you installed on one computer. If you made changes to the global configuration settings, you must also copy the global configuration file to the computer where you plan to use the unattended configuration. Global configuration includes such settings as content locale, product locale, currencies, fonts, and cookie settings.

For more information, see "Changing Global Settings" on page 263.

## Before you begin

Ensure that the configuration settings on the computer where you are exporting the configuration are appropriate to use on another computer with the same installed components. For example, if you changed the host name portion of the Gateway URI property from localhost to an IP address or computer name, ensure this setting is appropriate for the new computer's configuration.

#### Procedure

- 1. In IBM Cognos Configuration, from the File menu, click Export as.
- 2. When prompted about exporting decrypted content, click Yes.
- **3**. If you want to export the current configuration to a different folder, in the **Look in** box, locate and open the folder.
- 4. In the File name box, type a name for the configuration file.
- 5. Click Save.
- 6. Copy the exported configuration file to the *c10\_location*/configuration directory on the computer where you plan to use the unattended configuration.
- 7. Rename the file to cogstartup.xml.
- 8. If you changed the global configuration on the source computer, copy the coglocale.xml file to the *c10\_location*/configuration directory on the computer where you plan to do the unattended configuration.
- 9. Go to *c10\_location*/bin or *c10\_location*/bin64 directory.
- **10**. Type the following command:
  - On UNIX or Linux, type
    - ./cogconfig.sh -s
  - On Windows, type cogconfig.bat -s

**Tip:** To view log messages that were generated during an unattended configuration, see the cogconfig\_response.csv file in the *c10\_location*/logs directory.

You can check if the unattended configuration was successful by checking the return status. A value of zero (0) indicates success and all other values indicate that an error occurred.

### Results

IBM Cognos Configuration applies the configuration settings specified in the cogstartup.xml file, encrypts credentials, generates digital certificates, and if applicable, starts IBM Cognos service or process.

### Use an unattended uninstallation

Use an unattended uninstallation to automate the removal of components on several computers that have the same components or remove components on a UNIX or Linux environment that does not have XWindows.

#### Procedure

- 1. Go to the *c10\_location*/uninstall directory.
- 2. Open the file named uninst.ini in a text editor.

 In the section named [Package List], enter 1 for each component you want to uninstall. Enter 0 if you want to leave the component installed.

By default, all installed components are set to be removed.

The packages listed in the [Package List] section are described in the following table:

Package code	Product
BISRVR	IBM Cognos BI Server
CRNSRVR	IBM Cognos BI Reporting Server
BIMODEL	Framework Manager
CMMSRVR	IBM Cognos Metrics Manager
BIMEMOD	Metric Designer
BITRSFRMR	IBM Cognos BI Transformer
BISAMPLES	Samples
LP	Supplementary Language Documentation

- 4. Save and close the file.
- 5. From the command line, go to the *c10\_location*\uninstall directory.
- 6. At the command prompt, type the following command:
  - On Windows, type
     uninst -u -s
  - On UNIX or Linux, type
    - ./uninst -u -s
  - On UNIX or Linux without XWindows, type
    - ./uninstnx -u -s

# Chapter 20. Uninstalling IBM Cognos BI

It is important to use uninstall programs to completely remove all files and modifications to system files. To uninstall IBM Cognos Business Intelligence, you uninstall server components and modeling tools.

If you are running IBM Cognos BI in an application server environment, use the administration tool provided with the application server to stop the application if it is running and undeploy the Java portion of IBM Cognos BI components. Many application servers do not completely remove all deployed application files or directories during an undeployment; therefore, you may have to perform this action manually. After you have undeployed IBM Cognos BI components, complete the steps in this section to uninstall on UNIX and Microsoft Windows operating systems.

**Important:** Do not delete the configuration and data files if you are upgrading to a new version of IBM Cognos BI and you want to use the configuration data with the new version.

**Important:** If you are using Cognos Content Database, the default location for the database files is in the *c10\_location*/contentstore directory. If you want to keep your database after uninstalling, do not delete this directory.

# Uninstall IBM Cognos Business Intelligence on UNIX or Linux operating systems

If you no longer require IBM Cognos Business Intelligence or if you are upgrading on your UNIX or Linux operating system, uninstall IBM Cognos BI.

Uninstalling does not remove any files that changed since the installation, such as configuration and user data files. Your installation location remains on your computer, and you retain these files until you delete them manually.

### Procedure

1. If the console attached to your computer does not support a Java-based graphical user interface, determine the process identification (pid) of the IBM Cognos BI process by typing the following command:

ps -ef | grep cogbootstrapservice

- 2. Stop the IBM Cognos BI process:
  - If you run XWindows, start IBM Cognos Configuration, and from the Actions menu, click Stop.
  - If you do not run XWindows, type:

kill -TERM pid

- **3**. To uninstall IBM Cognos BI, go to the *c10\_location*/uninstall directory and type the appropriate command:
  - If you use XWindows, type
    - ./uninst -u
  - If you do not use XWindows, do an unattended uninstallation (see "Use a response file from an installation on another computer" on page 392).
- 4. Follow the prompts to complete the uninstallation.

5. Delete all temporary Internet files from the Web browser computers.

# Uninstall IBM Cognos Business Intelligence on Windows operating systems

If you no longer require IBM Cognos Business Intelligence or if you are upgrading, uninstall all IBM Cognos BI components and the IBM Cognos service.

If you installed more than one component in the same location, you can choose the packages to uninstall using the uninstall wizard. All components of the package will be uninstalled. You must repeat the uninstallation process on each computer that contains IBM Cognos BI components.

It is not necessary to back up the configuration and data files on a Microsoft Windows operating system. These files are preserved during the uninstallation.

Close all programs before you uninstall IBM Cognos BI. Otherwise, some files may not be removed.

Uninstalling does not remove any files that changed since the installation, such as configuration and user data files. Your installation location remains on your computer, and you retain these files until you delete them. Do not delete the configuration and data files if you are upgrading to a new version of IBM Cognos BI and you want to use the configuration data with the new version.

#### Procedure

1. From the Start menu, click Programs, IBM Cognos 10, Uninstall IBM Cognos, Uninstall IBM Cognos.

The Uninstall wizard appears.

**Tip:** IBM Cognos BI is the default name of the Program Folder that is created during the installation. If you chose another name, go to that folder to find the program.

2. Follow the instructions to uninstall the components.

The cognos\_uninst\_log.htm file records the activities that the Uninstall wizard performs while uninstalling files.

**Tip:** To find the log file, look in the Temp directory.

**3**. Delete all temporary Internet files from the Web browser computers. For more information, see your Web browser documentation.

# Appendix A. Accessibility features

Accessibility features help users who have a physical disability, such as restricted mobility or limited vision, to use information technology products.

See the IBM Accessibility Center (http://www.ibm.com/able) for more information about the commitment that IBM has to accessibility.

# Keyboard Shortcuts for the Installation Wizard

Keyboard shortcuts, or shortcut keys, provide you with an easier and often faster method of navigating and using software.

The installation wizard uses standard Microsoft Windows operating system navigation keys in addition to application-specific keys.

Note: The following keyboard shortcuts are based on US standard keyboards.

The following table lists the keyboard shortcuts that you can use to perform some of the main tasks in the installation wizard on the Windows operating system.

To do this	Press
Move to the next field on a page	Tab
Return to the previous field on a page	Shift+Tab
Close the installation wizard	Alt+F4
Move to the next configuration step	Alt+N
Return to the previous configuration step	Alt+B
Move to the next selection in a list	Down arrow
Move to the previous selection in a list	Up arrow

Table 79. List of keyboard shortcuts on a Windows operating system

The following table lists the keyboard shortcuts you can use to perform some of the main tasks in the installation wizard on the UNIX or Linux operating system.

Table 80. List of keyboard shortcuts on a UNIX or Linux operating system

To do this	Press
Move to the next field on a page	Tab
Return to the previous field on a page	Shift+Tab
Close the installation wizard	Alt+F4
Move to the next selection in a list	Down arrow
Move to the previous selection in a list	Up arrow

The following table lists the keyboard shortcuts you can use to perform some of the main tasks in the License Agreement page of the installation wizard.

Table 81. List of keyboard shortcuts on the License Agreement page

To do this	Press
Accept the license agreement	Alt+A
Decline the license agreement	Alt+D
Quit the installation wizard	Alt+x

The following table lists the keyboard shortcuts you can use to perform some of the main tasks in IBM Cognos Configuration on a Windows operating system.

Table 82. List of keyboard shortcuts for IBM Cognos Configuration on a Windows operating system

To do this	Press
Save the current configuration	Crtl+S
Close IBM Cognos Configuration	Alt+F4
Rename the selected item	F2
Display the File menu	Alt+F
Display the Edit menu	Alt+E
Display the View menu	Alt+V
Display the Actions menu	Alt+A
Display the Help menu	Alt+H

The following table lists the keyboard shortcuts you can use to perform some of the main tasks in IBM Cognos Configuration on a UNIX or Linux operating system.

Table 83. List of keyboard shortcuts for IBM Cognos Configuration on a UNIX or Linux operating system

To do this	Press
Save the current configuration	Crtl+S
Close IBM Cognos Configuration	Alt+F4
Rename the selected item	F2

# Appendix B. Google OneBox Integration for IBM Cognos Business Intelligence

IBM Cognos indexed search can integrate with Google Search Appliance (GSA) to provide Google OneBox results on your IBM Cognos Business Intelligence content.

With Google OneBox integration, if a search request includes predefined trigger keywords, IBM Cognos content appears in the OneBox section of the results page. The type of content that appears in the results is configurable. AThe OneBox results show IBM Cognos BI content such as a report or metrics, or a list of index search results similar to what would appear if the user ran the search from IBM Cognos Connection.

You must use GSA for an enterprise search to take advantage of this feature.

Before you begin, you must ensure that the index search capability is configured. For more information, see "Configuring IBM Cognos Index Search" on page 273.

Google OneBox integration uses two IBM Cognos components:

- A OneBox module for IBM Cognos content This component must be installed and configured on the GSA.
- A OneBox provider for IBM Cognos content

This components is installed automatically with IBM Cognos BI. You can configure it to customize the way results for specific search requests are processed and appear in the OneBox results.

#### Search request process

The following diagram shows communication among components when a search is processed by the GSA with a module for IBM Cognos content.



- 1. The search request is sent to GSA.
- 2. GSA processes the request in two ways:
  - It requests a result set from the index maintained by GSA.
  - It requests a result set from the Google OneBox capability.
- **3**. If the search request matches the trigger criteria, the OneBox module sends the request to the OneBox provider.
- 4. The OneBox provider processes the request based on a rule set defined in the provider configuration.
- 5. The OneBox provider returns results to the Google OneBox module, either specific content such as a report or metric, or an index search result set.
- 6. Search results, including IBM Cognos content shown as OneBox results, are returned to the user.

Figure 12. Communications among components using a GSA search

# **Configuring the IBM Cognos OneBox Components**

To set up the integration of IBM Cognos content in Google OneBox search results, you must install and configure at least one OneBox module for IBM Cognos content.

You can customize the Google OneBox integration for IBM Cognos BI by using either of the following methods:

• Configure and install additional OneBox modules for IBM Cognos content on the Google Search Appliance.

With more than one module, you can configure the OneBox components to return more than one type of IBM Cognos content for specific search requests. For example, with more than one module, the search term inventory report may return both a report and a metric.

You can configure the modules for either anonymous or secure modes.

• Create a map.xml file.

Specify how to process search requests received from one or more OneBox modules for IBM Cognos content. For example, you can define processing rules that return a specific report when a user enters "inventory report" as a search request.

#### Sample modules

Four sample Google OneBox modules are provided with the IBM Cognos BI installation:

#### Onebox.xslt

Used for validation.

#### Onebox\_module\_metric.xml

Search results for Metric Studio reports only.

#### Onebox\_module\_report.xml

Search results for Report Studio reports only.

#### Onebox\_module\_search.xml

Search results for Report Studio or Metric Studio reports.

# Set up security for a Google OneBox sample module

By default, Google OneBox applications are open and anonymous. If your application requires secure authentication, you must configure the Google Search Appliance (GSA) and your IBM Cognos installation appropriately.

If you do not require secure authentication, proceed to "Configure a Google OneBox sample module" on page 404.

### Before you begin

You must be familiar with the GSA administration interface and the Google OneBox authentication options. For more information, see the GSA documentation.

#### Procedure

1. Enable SSL on your Web server, and configure IBM Cognos BI for an SSL enabled Web server.

For more information, see "Configure IBM Cognos for SSL enabled Web servers" on page 251.

- 2. Start IBM Cognos Configuration.
- 3. Add an authentication provider to your IBM Cognos BI installation.

For more information, see Chapter 15, "Configuring IBM Cognos Components to Use an Authentication Provider," on page 319.

- a. In the **Explorer** window, under **Security**, right-click **Authentication**, and click **New resource** > **Namespace**.
- b. In the **Name** box, type a name for your authentication namespace. For example, type onebox.
- c. In the Type list, select Custom Java Provider and then click OK.

- d. In the **Properties** panel, for the **NamespaceID** property, specify a unique identifier for the namespace. For example, type onebox.
- e. For the Java class name property, enter com.cognos.CAM\_AAA.authentication.ClientCertTrustedSignon. ClientCertTrustedSignon
- f. Save your configuration.
- 4. Go to the *c10\_location*/bin/jre/version/bin directory.
- 5. Enter the following command:

keytool -import -file filename -keystore keystore\_filename
Where:

- *filename* is the name of the file that contains PEM version of certificate authority's certificate.
- *keystore\_filename* is the name of the keystore file.
- 6. Go to the c10\_location/configuration directory.
- 7. Create a text file, and name it ClientCertTS namespace ID.properties.

Where *namespace\_ID* is the name you used for the **NamespaceID** property in IBM Cognos Configuration.

8. Open the file in a text editor and add the following content:

# Identifies the keystore location and password

```
keystoreFileName=trustedCAs/mykeystore.ks
#java keystore file as generated by "keytool"
```

```
keystorePassword=mypassword
# password (in clear text) for the keystore file
```

redirectNamespaceID=namespace
#the Cognos BI namespace ID to which the user should be
authenticated, for example onebox

9. Save and close the file.

#### **Related concepts:**

Chapter 15, "Configuring IBM Cognos Components to Use an Authentication Provider," on page 319

IBM Cognos components run with two levels of logon: anonymous and authenticated. By default, anonymous access is enabled.

#### Related tasks:

"Configure IBM Cognos for SSL enabled Web servers" on page 251 If you are using secure sockets layer (SSL) on your Web server, you must change the **Gateway URI** values in IBM Cognos Configuration to be able to access the portal.

#### Configure a Google OneBox sample module

Use this task to configure a Google OneBox module, either for anonymous access or authenticated access.

#### Procedure

- 1. Go to the *c10\_location*\webapps\p2pd\WEB-INF\classes\search\onebox\sample directory.
- 2. Open the sample file you want to use in a text editor.

All of the samples files use the same basic structure. One section is for the basic configuration of the module. The other section is for customizing the presentation of the search results in the user interface.

3. Edit the <name>cognos\_demo\_search</name> element to change the name of the module shown to the user.

For example, you can change the element to something like <name>Search Reports and Metrics<name>.

- 4. Edit the <description>*Displays Cognos 10 search results*</description> element to change the description shown to the user.
- 5. Edit the <providerURL> element to the URL for your IBM Cognos BI installation.
  - For anonymous mode, set <providerURL> to machine\_name:port/ibmcognos/ cgi-bin/cognos.cgi/onebox
  - For secure mode, set <providerURL> to machine\_name:port/ibmcognos/cgibin/cognos.cgi/onebox?CAMNamespace=namespace\_ID
- 6. Set security userAuth to the appropriate value.
  - For anonymous mode, set security userAuth to none. For example, <security userAuth="none" />.
  - For secure mode, set security userAuth to LDAP. For example, <security userAuth="LDAP" />.
- 7. Save and close the file.
- 8. Go to the *c10\_location*\templates\ps\onebox directory.
- 9. Rename sample-map.xml to map.xml.

For more information about map files, see "Customizing the search results for the Google OneBox provider."

- 10. Restart you IBM Cognos service.
- 11. Run an index update task in IBM Cognos Connection. For more information, see the IBM Cognos BI *Administration and Security Guide*.

# Customizing the search results for the Google OneBox provider

You can configure the provider to customize the way search results are processed and appear in the Google OneBox results.

Using the default configuration, the Google OneBox results are a prioritized list of IBM Cognos BI search results.

By default, the IBM Cognos components required for Google OneBox integration are configured to return a list of IBM Cognos BI search results. Other than the required configuration, such as configuring the OneBox module to specify the location of the OneBox provider, you do not need to customize the configuration to show IBM Cognos content as OneBox results.

You can change the default configuration by using a map.xml file. The map.xml file allows you to specify how to process the search requests received from the OneBox modules. For example, you can define processing rules that return a specific report when a user enters "inventory report" as a search request.

You can create the map.xml file or use the sample-map.xml file that is provide with your IBM Cognos BI installation. For more information, see "Google OneBox provider configuration examples" on page 406.

### Procedure

1. For each report that you want to use as a target for Google OneBox results, run and save the report in XHTML format.

For more information about selecting XHTML format for a report, see the topic about advanced report options in the IBM Cognos BI *Administration and Security Guide*.

- 2. On the computer where you installed IBM Cognos BI, go to the *c10\_location*\templates\ps\onebox directory.
- 3. Open sample-map.xml in a text editor.
- 4. Modify the entries to define processing behavior for one or more modules.

**Tip:** Use the comments in the sample-map.xml file to help you configure the file.

- 5. Save and close the file.
- 6. Rename sample-map.xml to map.xml.
- 7. Restart IBM Cognos BI.

#### What to do next

To test the configuration changes, run a variety of searches to ensure that the expected content is returned in your OneBox results. Check the search results to ensure that the appearance of reports is acceptable.

#### Google OneBox provider configuration examples

Use the following examples to understand how you can customize search processing for the OneBox provider to return IBM Cognos content as Google OneBox results.

In addition to modifying the OneBox provider configuration using the map.xml file, you must install and configure one or more OneBox modules on the Google Search Appliance (GSA). For more information about working with Google OneBox modules, see the Google OneBox documentation.

To use a report as a target for use as Google OneBox results, you must run and save the report in XHTML format. Also, the report must be small enough to fit in the limited space provided for OneBox results. Ensure you test all reports used for Google OneBox results.

Additional authoring steps are not required for metric charts used as OneBox results. A metrics chart is generated dynamically as a response to a search request. Unlike a chart format report, a metric chart does not have to be pre-authored and tested to ensure an acceptable appearance in OneBox results.

For more information about selecting XHTML format for a report, see the IBM Cognos *Administration and Security Guide*.

#### Example - Configure a OneBox provider to return a report

You have two reports that you want to use as Google OneBox results, Revenue Report and Inventory Report. You want one of the reports returned when a search query includes the keyword report and one or more of the following keywords, revenue and inventory. The GSA includes a OneBox module named cognos\_report. The keyword report is one of the triggers for this module. You modify the map.xml file to include the following module entry:

```
<module oneboxName="cognos report">
 <mapEntries>
  <mapEntry provider="cm">
  <regex>.*revenue.*</regex>
   <path type="output">/content/package
       [@name='Onebox Reports']/query[@name='RevenueReport']
      </path>
  </mapEntry>
  <mapEntry provider="cm">
  <regex>.*inventory.*</regex>
   <path type="output">/content/package
       [@name='Onebox Reports']/query[@name='InventoryReport']
      </path>
  </mapEntry>
</mapEntries>
</module>
```

The following communication flow takes place when a user types report inventory as a search term.

- 1. The GSA receives the search query and requests a result set from both its own index capability and from the OneBox capability.
- 2. The OneBox capability identifies the search term report as a trigger for the cognos\_report module and passes the query to this module as a search request.
- 3. The cognos\_report module passes the query to the OneBox provider.
- 4. The provider evaluates the search request and, based on the map.xml file entries, determines that Inventory Report is to be returned as the search result. If the search query included both terms revenue and inventory, the Revenue Report would be returned as the search result because it is the first mapEntry.
- 5. The provider returns the Inventory Report to the GSA.
- 6. The GSA formats the report using the XSL stylesheet included with the cognos\_report module.
- 7. The Inventory Report appears as a OneBox result along with the search results returned from the Google index.

#### Example - Configure a OneBox provider to return a chart

In addition to crosstab and list reports, you have chart reports. To return a chart when a search request includes the term margin, you add a <mapEntry> entry to the map.xml file. Like the map.xml example for reports, the <mapEntry> order is important. If the search request includes both the terms revenue and margin, the Revenue Report is returned because revenue is the first <mapEntry>. Margin Chart is returned only when the search request includes the term margin, but not the term revenue or inventory.

The GSA includes a OneBox module named cognos\_report. The search term report is one of the triggers for this module.

You modify the map.xml file to include the following module entry:

```
<module oneboxName="cognos_report">
<mapEntries>
<mapEntry provider="cm">
<regex>.*revenue.*</regex>
<path type="output">/content/package
[@name='Onebox Reports']/query[@name='RevenueReport']
</path>
</mapEntry>
```

```
<mapEntry provider="cm">

<regex>.*inventory.*</regex>

<path type="output">/content/package

[@name='Onebox Reports']/query[@name='InventoryReport']

</path>

</mapEntry>

<mapEntry provider="cm">

<regex>.*margin.*</regex>

<path type="image">/content/package

[@name='Onebox Reports']/query[@name='MarginChart']

</path>

</mapEntry>

</mapEntrys

</mapEntries>

</module>
```

The following communication flow takes place when a user enters the term report margin as a search query.

- 1. The GSA receives the search query and requests a result set from both its own index capability and from the OneBox capability.
- The OneBox capability identifies the search term report as a trigger for the cognos\_report module and passes the query to this module as a search request.
- 3. The cognos\_report module passes the query to the OneBox provider.
- 4. The provider evaluates the search request and, based on the map.xml file entries, determines that Margin Chart is to be returned as the search result.

If the search query included the term revenue or inventory, a report is returned because the <mapEntry> items for these keyword appear before the <mapEntry> for margin.

- 5. The provider returns the Margin Chart to the GSA.
- 6. The GSA formats the report using the XSL stylesheet included with the cognos\_report module.
- 7. Margin Chart appears as a OneBox result along with the search results returned from the Google index.

Another configuration option is to add a OneBox module to process search requests that include a trigger for charts. In this case, the map.xml file includes separate <module\_OneBox name> items. The OneBox provider processes requests from each module separately. The order of the modules in the map.xml file does not affect results. An advantage to using more than one module is that the OneBox results for a single search term may return both a report and a chart.

# Example - Configure the OneBox provider to return both a report and a chart

You want to return both a crosstab report and a chart when a search request includes inventory. You use two <path type> items in the same <mapEntry>.

You modify the map.xml file to include the following module entry:

```
<module oneboxName="cognos_report">
<mapEntries>
<mapEntry provider="cm">
<regex>.*revenue.*</regex>
<path type="output">/content/package
[@name='Onebox Reports']/query[@name='RevenueReport']
</path>
</mapEntry>
<mapEntry>
<mapEntry provider="cm">
<regex>.*inventory.*</regex>
<path type="image">/content/package
```

```
[@name='Onebox Reports']/query[@name='InventoryChart']
    </path>
    <path type="output">/content/package
        [@name='Onebox Reports']/query[@name='InventoryReport']
        </path>
        </mapEntry>
        </mapEntries>
        </module>
```

The following communication flow takes place when a user enters the term report inventory as a search query.

- 1. The GSA receives the search query and requests a result set from both its own index capability and from the OneBox capability.
- 2. The OneBox capability identifies the search term report as a trigger for the cognos\_report module and passes the query to this module as a search request.
- 3. The cognos\_report module passes the query to the OneBox provider.
- 4. The provider evaluates the search request and, based on the map.xml file entries, determines that both Inventory Chart and Inventory Report is to be returned as the search result.

If the search query included both the terms revenue and inventory, the Revenue Report would be returned as the search result because it is the first mapEntry.

- 5. The provider returns the Inventory Chart and Inventory Report to the GSA.
- 6. The GSA formats the reports using the XSL stylesheet included with the cognos\_report module.
- 7. Inventory Chart and Inventory Report appear as a OneBox result along with the search results returned from the Google index.

Another configuration option is to add a OneBox module to process search requests that include a trigger for charts. In this case, the map.xml file includes separate <module\_OneBox name> items. The OneBox provider processes requests from each module separately. The order of the modules in the map.xml file does not affect results.

#### Example - Configure the OneBox provider to return a metric

You can configure the OneBox provider to return the chart and data of a specified metric. The package name is specified in the map.xml file with the attribute <path>. You specify a different <mapEntry provider> in the map.xml file compared to reports, <mapEntry provider="mm"> instead of <mapEntry provider="mm">.

You can install and configure one or more OneBox modules to process requests for reports and metrics. You want to return both a report and a metric for a single search request. To support this type of OneBox result, you install an additional OneBox module on the GSA and configure the module to use metric as a trigger. The GSA includes two OneBox modules, each with a unique name, cognos\_report and cognos\_metric.

You modify the map.xml file to include the following module entry:

```
<module oneboxName="cognos_report">
<mapEntries>
<mapEntry provider="cm">
<regex>.*revenue.*</regex>
<path type="output">/content/package
[@name='Onebox Reports']/query[@name='RevenueReport']
</path>
```

```
</mapEntrv>
  <mapEntry provider="cm">
  <regex>.*inventory.*</regex>
   <path type="output">/content/package
       [@name='Onebox Reports']/query[@name='InventoryReport']
      </path>
 </mapEntry>
 </mapEntries>
</module>
<module oneboxName="cognos metric">
  <mapEntries>
    <mapEntry provider="mm">
      <regex>.*</regex>
      <path>International Sales</path>
    </mapEntry>
  </mapEntries>
</module>
```

The following communication flow takes place when a user enters the term metric revenue or revenue metric as a search query.

- 1. The GSA receives the search query and requests a result set from both its own index capability and from the OneBox capability.
- The OneBox capability identifies the search term metric as a trigger for the cognos\_metric module and passes the query to this module as a search request.
- 3. The cognos\_metric module passes the query to the OneBox provider.
- 4. The provider evaluates the search request and, based on the map.xml file entries, requests results from the provider used for metrics.
- **5**. The metrics provider searches the International Sales package and returns the chart and data for a metric whose name best matches revenue.
- 6. The OneBox provider returns the metric to the GSA.
- The GSA formats the metric using the XSL stylesheet included with the cognos\_metric module.
- **8**. The metric appears as OneBox results along with the search results returned from the Google index.

Another configuration option is to use a single OneBox module and add <mapEntry provider="mm"> entries to the map.xml file. With this configuration, OneBox results can include content from only one of the provider types, cm or mm, but not both.

# Appendix C. IBM Cognos Configuration command-line options

Use command-line options with the configuration command to modify the behavior of IBM Cognos Configuration when it starts.

Table 84. Command line options and descriptions

Option	Descriptions
-h	Displays commands for IBM Cognos Configuration.
-S	Runs IBM Cognos Configuration in silent mode.
	Uses property values specified in the cogstartup.xml file to configure installed components and then starts all services.
	./cogconfig.sh -s
	cogconfig.bat -s
-stop	Stops all IBM Cognos services.
	./cogconfig.sh -stop
	cogconfig.bat -stop
<pre>-startupfile path/filename.xml</pre>	Runs IBM Cognos Configuration using a file other than the cogstartup.xml file in the <i>c10_location</i> /configuration directory.
-test	Uses property values specified in the cogstartup.xml file to test configuration settings.
	./cogconfig.sh -test
	cogconfig.bat -test
-notest	Starts IBM Cognos Configuration with the automatic testing tasks disabled.
	./cogconfig.sh -notest
	cogconfig.bat -notest
	This option should not be used for the first time you start the product or if you are making configuration changes.
-utf8	Saves the configuration in UTF-8 encoding.
	./cogconfig.sh -s -utf8
	cogconfig.bat -s -utf8

Option	Descriptions
-1 language ID	Runs IBM Cognos Configuration using the language specified by the language identifier.
	To run the configuration tool in silent mode using Simplified Chinese
	./cogconfig.sh -1 zh-cn
	cogconfig.bat -1 zh-cn
-e filename.xml	Exports the current configuration settings to the specified file.
	./cogconfig.sh -e <i>filename</i> .xml
	cogconfig.bat -e <i>filename</i> .xml
-log	Creates a cogconfig. <i>timestamp</i> .log error log file in the <i>cognos_location</i> /logs directory.
	./cogconfig.sh -log
	cogconfig.bat -log
-java:{local env}	Runs IBM Cognos Configuration on Microsoft Windows operating systems using the Java Runtime Environment version that is defined as either
	• env: environmentally using the JAVA_HOME environment variable
	• local: locally from the <i>c10_location</i> /bin/jre directory
	If you do not set this flag, IBM Cognos uses the <b>JAVA_HOME</b> environment variable setting.
	To run IBMCognos Configuration in silent mode, using the local JVM, type the following command:
	./cogconfig.sh -s -java:local
	cogconfig.bat -s -java:local

Table 84. Command line options and descriptions (continued)

You can use more than one command-line option at a time. For example, you can run IBM Cognos Configuration in silent mode and send all error messages to a log file.

# **Appendix D. Samples**

This section explains the purpose, content and location of IBM Cognos Business Intelligence samples. It also discusses the sample company, Great Outdoors, its structure, databases, model and packages.

# The Sample Outdoors Company

The Sample Outdoors Company samples illustrate product features and technical and business best practices.

You can also use them for experimenting with and sharing report design techniques and for troubleshooting. As you use the samples, you can connect to features in the product.

For examples related to different kinds of businesses, see the product blueprints on the IBM Cognos Information Centers (http://publib.boulder.ibm.com/infocenter/ cogic/v1r0m0/index.jsp).

For information about audit samples, see the *IBM Cognos Business Intelligence Administration and Security Guide*.

For information about Mobile samples, see the *IBM Cognos Mobile Installation and Administration Guide*.

The Sample Outdoors Company, or GO Sales, or any variation of the Sample Outdoors name, is the name of a fictitious business operation whose sample data is used to develop sample applications for IBM and IBM customers. Its fictitious records include sample data for sales transactions, product distribution, finance, and human resources. Any resemblance to actual names, addresses, contact numbers, or transaction values, is coincidental. Unauthorized duplication is prohibited.

#### Where to find the samples

The samples are included with the product and the samples for each studio are described in the related user guide and online help. To use the samples, you must install, set up, and configure them or contact your administrator to find out where they are installed.

#### Samples outline

The samples consist of the following:

- Two databases that contain all corporate data, and the related sample models for query and analysis
- Five samples cubes and the related models
- A metrics data source including associated metrics and a strategy map for the consolidated company, and a model for Metric extracts.
- · Reports, queries, query templates, and workspaces

To run interactive reports, scripts are required. To see all the reports included in the samples packages, copy the files from the samples content installation into deployment folder and then import the deployments into the IBM Cognos Business Intelligence product.

#### Security

Samples are available to all users.

## The Sample Outdoors Group of Companies

To make designing examples faster, especially financial examples, some general information about The Sample Outdoors Company is useful.

To look for samples that use particular product features, see the individual sample descriptions in this section.

Revenue for The Sample Outdoors Company comes from corporate stores and from franchise operations. The revenues are consolidated from the wholly-owned subsidiaries. There are six distinct organizations, each with its own departments and sales branches. Five of these are regionally-based companies.

The sixth company, GO Accessories:

- Has its own collection of products, differentiated from the other GO companies by brand, name, price, color and size.
- Sells from a single branch to all regions and retailers.
- Functions both as an operating company based in Geneva, and as a part owner of the three GO subsidiaries in Europe.

The diagram illustrates the consolidated corporate structure, including the percentage changes in ownership for GO Central Europe, and shows the reporting currency and GL prefix for each subsidiary.



Figure 13. Consolidated corporate structure

Each corporation has the same departmental structure and the same GL structure, shown in the table. Divisions may not report in the same currencies. For example, the Americas subsidiary reports in US dollars, but the Corporate division local currency is Canadian dollars, and the Operations division local currency is pesos.

Table 85. Departmental structure

Division (GL)	Department (GL)
Corporate (1700)	Sales (1720)
	Marketing (1750)
	IS&T (1760)
	Human Resources (1730)
	Finance (1740)
	Procurement (1710)
Operations (1800)	Production and Distribution (1820)
	Customer Service (1820)

Each corporation has a complete chart of accounts. Most of the accounts, such as those under non-personnel expenses, are at the department level, and contain only summary amounts. For example, although each marketing department has expenses, the cost is unspecified at the transaction level where marketing promotions occur.

# **Employees**

The Sample Outdoors data contains a full list of employees in all divisions, departments, and locations.

Data is available for reports about bonuses (Global Bonus report) and sales commissions (Sales Commissions for Central Europe report), training (Employee Training by Year report), and performance reviews and employee satisfaction surveys (Employee Satisfaction 2012). If you use Metric Studio, sample metrics for human resources are also available.

In the GO Data Warehouse (analysis) package, groups of measures and the related dimensions are organized into folders. The employees are organized in hierarchies for region and manager, to make different kinds of aggregation easy to report on. Aggregation has been defined for the Employee Position Summary measures, so that Position count and Planned position count aggregate correctly at each level of time: monthly, quarterly, or yearly. For example, see the Planned Headcount report.

The employees are also listed in a sample LDIF file which could be used for any LDAP IBM product authentication including Tivoli. This authentication directory is necessary for IBM Cognos Planning samples. No other samples depend on security profiles.

# Sales and marketing

Data about sales and marketing is available for all of the companies in the Sample Outdoors group.

GO Accessories has richer details to support analysis examples. For example, see the Revenue vs % Profit Margin by Product Brand analysis, based on the Sales and Marketing cube. Marketing and sales campaigns are tied to the Sample Outdoors regional companies.

Overall, the GO companies have experienced solid growth across most product lines (Sales Growth Year Over Year), in all regions (Revenue by GO Subsidiary 2011), because of factors like an increase in repeat business and new or improved products, such as the high margin sunglasses product line. In the product lines sold by the five regional companies (all but GO Accessories) promotions have had mixed success (Promotion Success by Campaign, Bundle and Quarter). If you use Metric Studio, this can also be seen in the sample metrics.

#### **Customer surveys**

The data also contains information from customer surveys. For example, the product line that includes bug spray, sun screen, and so on has not been successful (Product Satisfaction - Outdoor Protection 2011) and a source of retailer dissatisfaction may be the level of customer service rather than the returns (Customer Returns and Satisfaction). If you use Metric Studio, this information can also be monitored in metrics.

#### Sales outlets

Revenue from the corporate outlets is available at the transaction level. Revenue from the franchise outlets is available at the consolidated level only (Sales and Marketing cube). Metrics about retailers show that the number of new retail outlets has dropped over the time period covered by this data.

GO Accessories sells worldwide, and sells only accessories. Transaction data for GO Accessories is the primary source for analysis of product by brand, color and size. The other five subsidiaries in the group of companies are regional and sell all product lines for retailers in their region. For example, the report Top 10 Retailers in 2011 uses sparklines and list data to review revenues at the retailer level.

# Sample Outdoors database, models, and packages

The Sample Outdoors models illustrate modeling techniques and support the samples.

The models are based on the GO data warehouse and the GO sales transactional database and are the basis for the sample reports and queries. Each model contains two packages for publishing analysis (dimensional) and query views of the data.

For a description of each sample report or query, see the user guide for the studio that you open the sample in. For more information about modeling techniques, see the *Guidelines for Modeling Metadata*, or the *IBM Cognos Framework Manager User Guide*.

You must have access to Framework Manager, the modeling tool in IBM Cognos Business Intelligence, to look at the sample models. You may also need to set up the sample databases and connections.

#### **GO Data Warehouse**

The GO Data Warehouse model, great\_outdoors\_data\_warehouse.cpf, is based on the database GOSALESDW. It contains data about human resources, sales and marketing, and finance, grouped into business areas. In the Database view, the three business areas are grouped into separate namespaces. The Database view contains a fourth namespace (GO Data) for the common information.

The Database view is very similar to the structure of the underlying database. All tables (database query subjects) are unchanged. This enables IBM Cognos BI to retrieve metadata directly from the package in most cases, instead of using a metadata call to the database. The following changes and additions have been made in the Database view:

- Joins have been added as necessary.
- To allow for aggregation at different levels of granularity, some model query subjects have been created. For example, see the relationships between Time and Sales or Sales fact.
- To allow single joins to be made between the lookup tables and each level in a dimension, lookup tables have been copied. For example, see the Products look up tables.

The Business view contains only model query subjects, with no joins. The following changes and additions have been made in the Business view:

- Calculations were added to the model query subjects. For example, the time dimension contains language calculations.
- Where the database has multiple hierarchies, new dimensions have been created to organize each hierarchy. For example, see the employee hierarchies, where employees are organized by manager and region.



Figure 14. Employee hierarchies

#### The GO Sales transactional database

The GO Sales model, great\_outdoors\_sales.cpf, is based on the GOSALES database, which is structured as a transactional database. It contains principally sales data.

The Database view is very similar to the underlying database structure. The following changes and additions have been made in the Database view:

- To make it possible to join the fact tables to the time dimension, model query subjects and multipart joins have been used.
- Other joins have been added as necessary.

The Business view contains only model query subjects, with no joins. The following changes and additions have been made in the Business view:

- Calculations were added to the model query subjects.
- Model query subjects that were created in the Database view to enable joins on the time dimension have been linked as reference shortcuts.
- Where the database has multiple hierarchies, new dimensions have been created to organize each hierarchy.
- Sales Staff is a subset of the slowly changing Employee dimension. There is no unique Employee key in GO Sales, so a filter retrieves the current record only. This model does not use historical data.

#### The samples PowerCubes

The following cubes are delivered with the Sample Outdoors samples in English, French, German, Japanese and Chinese:

- sales\_and\_marketing.mdc
- employee\_expenses.mdc

- go\_accessories.mdc
- go\_americas.mdc
- go\_asia\_pacific.mdc
- great\_outdoors\_sales\_en.mdc

#### The samples packages

The Sample Outdoors samples include six packages. A brief description of each available package is provided.

Go Data Warehouse (analysis) is a dimensionally modeled view of the GOSALESDW database. This package can be used in all studios, including IBM Cognos Analysis Studio. Using this package you can drill up and down.

Go Sales (analysis) is a dimensionally modeled view of the GOSALES database. This package can be used in all studios, including Analysis Studio. Using this package you can drill up and down.

Go Data Warehouse (query) is a non-dimensional view of the GOSALESDW database. This package can be used in all studios except Analysis Studio, and is useful for reporting when there is no need for drilling up and down.

Go Sales (query) is a non-dimension view of the GOSALES database. This package can be used in all studios except Analysis Studio, and is useful for reporting when there is no need for drilling up and down.

Sales and Marketing (cube) is an OLAP package, based on the sales\_and\_marketing.mdc cube.

Great Outdoor Sales (cube) is an OLAP package, based on the great\_outdoors\_sales\_en.mdc cube.

**Note:** The OLAP packages, Great Outdoor Sales (cube) and Sales and Marketing (cube), are not multilingual. The IBM\_Cognos\_PowerCube.zip archive contains five versions of each package; one in English, French, German, Japanese and Chinese.

# Install the IBM Cognos Business Intelligence Samples

The IBM Cognos Business Intelligence samples illustrate product features and technical and business best practices. You can also use them for experimenting with and sharing report design techniques, and for troubleshooting. If you want to use the samples, install them from the IBM Cognos Business Intelligence Samples disk or from the location where you downloaded and extracted the files.

Install in a directory that contains only ASCII characters in the path name. Some servers do not support non-ASCII characters in directory names.

The packages in the samples are also available for the dynamic query mode. For information about setting up the sample reports for the dynamic query mode, see the *Dynamic Query Guide*.

## Installing samples on UNIX or Linux

Use the following procedure to install the IBM Cognos Business Intelligence samples on UNIX or Linux operating systems.

#### Procedure

1. Mount the IBM Cognos product disk using Rock Ridge file extensions or go to the location where the installation files were downloaded.

To mount the IBM Cognos disk on HP-UX, do the following:

• Add the pfs\_mount directory in your path.

For example,
PATH=/usr/sbin/:\$PATH

export PATH

- To start the required NFS daemons and run the daemons in the background, type bg pfs\_mountd and then type bg pfsd
- To mount the drive, type

pfs\_mount -t rrip &ltdevice><mount\_dir> -o xlat=unix

For example,

pfs\_mount /dev/dsk/c0t2d0 /cdrom -o xlat=unix

You can now install or copy files as a non-root user using an IBM Cognos disk from this drive.

- When the installation is complete, type pfs\_umount /cdrom and kill the pfsd and pfs\_mountd daemons to unmount the disk.
- To start the installation wizard, go to the operating system directory and type
   ./issetup

**Note:** When you use the issetup command with XWindows, Japanese characters in messages and log files may be corrupted. When installing in Japanese on a UNIX operating system, first set environment variables LANG=C and LC\_ALL=C (where C is the language code, for example ja\_JP.PCK on Solaris), and then run an unattended installation. For more information, see "Use a response file from an installation on another computer" on page 392.

If you do not use XWindows, run an unattended installation. For more information, see "Use a response file from an installation on another computer" on page 392.

**3**. Follow the directions in the installation wizard and copy the required files to your computer.

Install the samples in the same location as the server components.

4. In the **Finish** page of the installation wizard, click **Finish**.

# Installing samples on Windows

Use the following procedure to install the IBM Cognos Business Intelligence samples on Microsoft Windows operating systems.

#### Procedure

1. Insert the Samples disk or go to the location where the installation files were downloaded and extracted.

The Welcome page of the installation wizard appears.

- 2. If no **Welcome** page appears, go to the operating system directory and double-click the issetup.exe file.
- 3. Select the language to use for the installation.

The language that you select determines the language of the user interface. You can change the language to any of the installed languages after installation.
4. Follow the directions in the installation wizard to copy the required files to your computer.

Install the samples in the same location as the server components.

- 5. In the **Finish** page of the installation wizard, click **Finish**.
- 6. Click Finish.

Use the Microsoft Windows operating system **Start** menu to start **IBM Cognos Configuration** from the shortcut folder.

### Setting up the samples

To set up the samples, you must perform several set up tasks, such as restoring the samples databases and creating data source connections.

After setting up the samples, you can use them to learn how to use IBM Cognos software, including Framework Manager, Metric Studio, Metric Designer, Event Studio, IBM Cognos Workspace and IBM Cognos Mobile.

IBM Cognos BI provides sample databases that contain sales, marketing, and financial information for a fictional company named the Sample Outdoors Company that sells sporting equipment.

Before you can use the sample databases, IBM Cognos BI must be installed, configured, and running and then the IBM Cognos BI Samples must be installed. To use the modeling tool, you should install the components Framework Manager, Metric Designer and Transformer.

### Using samples

You can use the IBM Cognos samples to learn how to use IBM Cognos Business Intelligence, including Framework Manager, Metric Studio, Metric Designer, Event Studio, IBM Cognos Workspace, and IBM Cognos Mobile.

IBM Cognos BI provides sample databases that contain sales, marketing, and financial information for a fictional company named the Sample Outdoors Company that sells sporting equipment.

Before you can use the sample databases, IBM Cognos BI must be installed, configured, and running and then the IBM Cognos BI Samples must be installed.

To use the modeling tool, you should install the components for Framework Manager, Metric Designer and Transformer.

To set up the samples, do the following:

• Restore the samples databases. You can manually restore the backup files for the sample databases. For instructions, see "Steps to restore backup files for the samples databases" on page 424.

You can also restore the backup files using scripts. For DB2, see "Restore the samples on IBM DB2 using a script" on page 424. For Oracle, see "Restore the samples on Oracle using a script" on page 428.

- Create the data source connections to the samples databases.
- If you plan to use OLAP data source samples, set up the connection to the sample cubes, if this is required, and create data source connections to the OLAP data sources you want to use.

Setup tasks are required only for Microsoft Analysis Services cubes, Essbase cubes and Cubing Services.

- If you plan to use the Metric Studio sample, set up the Metric Studio sample
- If you plan to use the Metric Designer sample, set up a data source connection to it, set up the Metric Studio sample, and import the IBM\_Cognos\_Samples and IBM\_Cognos\_Metrics deployment archives.
- Import the samples content (packages) into the content store.
- If you want to test the sample agent ELM Returns Agent using Event Studio, run the sample agent against changed data.

After you complete these tasks, use IBM Cognos BI to run the sample reports or scorecards. You can later remove the IBM Cognos BI samples.

### Restoring backup files for the samples databases

To use the samples, you must restore backup files for the samples databases. This action re-creates multilingual versions of the Great Outdoors databases.

The following sample databases and associated files are provided with IBM Cognos Business Intelligence. For Microsoft SQL Server, each database is delivered as a Microsoft SQL Server backup file. For Oracle, you will need to unzip the file GS\_DB\_ORA.tar.gz. For IBM DB2, you will need to unzip the file GS\_DB.tar.gz. The location for the databases are as follows.

Databases	File Location
IBM DB2	GS_DB\data
Oracle	GS_DB_ORA\data

Table 86. IBM DB2 and Oracle samples back up locations

#### Table 87. IBM DB2 databases and files

Database or schema description	File name
Great Outdoors sales	GS_DB.tar.gz
Great Outdoors retailers	GS_DB.tar.gz
Great Outdoors sales data warehouse	GS_DB.tar.gz
Great Outdoors market research	GS_DB.tar.gz
Great Outdoors human resources	GS_DB.tar.gz

	Table 88.	Microsoft	SQL	Server	databases	and	files
--	-----------	-----------	-----	--------	-----------	-----	-------

Database or schema description	File name
Great Outdoors sales	GOSALES.zip
Great Outdoors retailers	GOSALES.zip
Great Outdoors sales data warehouse	GOSALESDW. zip
Great Outdoors market research	GOSALES.zip
Great Outdoors human resources	GOSALES.zip

#### Table 89. Oracle databases and files

Database or schema description	File name
Great Outdoors sales	GS_DB_ORA.tar.gz

Table 89. Oracle databases and files (continued)

Database or schema description	File name
Great Outdoors retailers	GS_DB_ORA.tar.gz
Great Outdoors sales data warehouse	GS_DB_ORA.tar.gz
Great Outdoors market research	GS_DB_ORA.tar.gz
Great Outdoors human resources	GS_DB_ORA.tar.gz

When restoring the samples databases, ensure that you do the following:

• Give the restored databases the same names as the backup or export file names. The names are case-sensitive.

You use the correct username and password.

• Create users with select privileges for tables in multiple schemas.

Setup for the GO Data Warehouse packages specifies a single connection object and user signon. This requires a single user named GOSALESDW with the select privilege to tables in a single schema named GOSALESDW.

Setup for the GO Sales packages specifies a single connection object and user signon. This requires a single user named GOSALES with the select privilege to tables in four schemas: GOSALES, GOSALESHR, GOSALESMR, and GOSALESRT.

- Use the UTF-8 character set on the Microsoft Windows operating system computer that is the Oracle or DB2 client to see reports in multiple languages.
   For DB2, you must set the DB2CODEPAGE environment variable to a value of 1208. For Oracle, you must set the NLS\_LANG environment variable to a value that is specific to a region. For example, set NLS\_LANG for Americas to American\_America.UTF8.
- Have sufficient disk space available in the target location. Reserve 150MB for the GO Sales data (four schemas) and 200MB for the GO Data Warehouse data (one schema).

### **IBM DB2 Considerations**

The data files for db2move and the scripts, to add constraints, are located in the data directory. The data directory is created when you unzip the GS\_DB.tar.gz file.

If you use WinZip to extract the DB2 move file on Windows, ensure that the TAR file smart CR/LF conversion option is not selected.

After extracting the DB2 move file, restore the schemas to a database named GS\_DB.

To add views, constraints, user privileges, and stored procedures to GS\_DB, prepare and run the gs\_db\_modify files included with the samples in the following order:

- Update the user name and password in gs\_db\_modify.sql and save it.
- Execute gs\_db\_modify.bat

**Note:** If the script file attempts to create a stored procedure where the procedure does not exist an error is generated. This error does not affect the samples.

### **Oracle Considerations**

To create foreign key constraints in tables that reference different schemas, you must run gs\_or\_modify.sql, found in the same folder as the .dmp files.

### **Microsoft SQL Server Considerations**

If you restore the Microsoft SQL Server backup files, you must use Microsoft SQL Server 2000 or Microsoft SQL Server 2005. Ensure that TCP/IP connectivity is used for the Microsoft SQL Server.

### Steps to restore backup files for the samples databases

Use this procedure to restore backup files.

#### Procedure

- On the computer where IBM Cognos BI is installed, go to the sql server, oracle, or db2 directory located in *c10\_location*/webcontent/samples/ datasources.
- 2. If required, copy the backup files for the samples databases to your database backup directory.
- 3. Restore the samples databases using your database management tool.

#### Tip:

- For SQL backup files, restore the database from a device, and ensure that the restore locations are correct for the .ldf and .mdf database files. For more information, see the Microsoft SQL Server documentation or the IBM Cognos Knowledge Base on the IBM Cognos Customer Center (http://www.ibm.com/software/data/cognos/customercenter/).
- For DB2, when you create the GS\_DB database, create a buffer pool with a page size of 16 KB and an associated tablespace.
- 4. For each database, create at least one user who has select permissions for all the tables in the restored databases.

#### Results

You can now create the data source connections in the portal.

### Restore the samples on IBM DB2 using a script

You can use scripts to restore backup files for sample databases for DB2.

To set up the sample database, you must extract the GS\_DB tar.gz file, customize a configuration file, and run the setup script.

There are prerequisites for installing the Great Outdoors sample database for DB2 on Linux, UNIX and Windows. Before you can install the sample databases, you must verify or configure privileges.

- 1. Extract the GS\_DB.tar.gz file and retain the original directory structure. If you use WinZip to extract the DB2 move file on Microsoft Windows operating system, ensure that the TAR file smart CR/LF conversion option is not selected.
- 2. On Linux and UNIX operating systems, modify the file permissions on the setupGSDB.sh file so that it is executable: chmod u+x setupGSDB.sh.
- **3**. Ensure that the user ID used to set up the database has DBADM authority or the following authorities in DB2:

- CREATETAB
- CREATE\_NOT\_FENCED\_ROUTINE
- LOAD

### Optional: Editing the configuration file

The configuration file contains the default configuration options that are used when creating the GOSALES data. The default configuration settings are.

Table 90. Optional values for restoring the samples on IBM DB2

Configuration Setting	Default	Description
GOSALES_INST	GS_DB	Used to set the name or alias of the database.
GOSALES_CREATEDB		Optional: Causes an existing database with the same name to be dropped.
GOSALES_DB_TERRITORY	US	When creating a database this is the territory of the UTF-8 database that is created.
GOSALES_BP	GOSALES_BP	Optional: Enter the buffer
GOSALES_TS	GOSALES_TS	these are to be created by the script.
GOSALES_GRANTEES	GOSALES, DB2ADMIN	Enter the list of users, groups or PUBLIC that will have CONTROL permissions for the GOSALES, GOSALESHR, GOSALESMR and GOSALESRT schemas. This string needs to follow the syntax of the GRANT command.
GOSALESDW_GRANTEES	GOSALESDW	Enter the list of users, groups
	DB2ADMIN	CONTROL permissions for the GOSALESDW schema.
GOSALES_DPF	N	Change to 'Y' if installing a database partitioned environment (DPF)
GOSALES_SCHEMA	GOSALES	Enter the names to be used
GOSALESHR_SCHEMA	GOSALESHR	for each schema.
GOSALESMR_SCHEMA	GOSALESMR	
GOSALESRT_SCHEMA	GOSALESRT	
GOSALESDW_SCHEMA	GOSALESDW	

You can customize the sample configuration file to use settings other than the default values.

The setup script creates the GS\_DB database, table spaces, tables, views, grants privileges, and modifies the schema names for the sample database. In most

situations, you can accept the default options. If you want to change the database name or modify the users or groups that have permissions on the data, you must update the GOSalesConfig configuration file.

Edit the configuration file by using a text editor.

**Note:** If you edit UNIX shell scripts in a Windows environment, ensure that you preserve the UNIX line endings.

The configuration file on Windows is GOSalesConfig.bat. The configuration file on UNIX is GOSalesConfig.sh.

By default, the GS\_DB database name is used and permissions are granted to the DB2ADMIN (Linux, UNIX, Windows) and GOSALES users.

#### Running the setup script in interactive mode

In interactive mode, the setupGSDB script prompts you to confirm or provide configuration information for the GS\_DB database installation. You can accept the default settings or provide different settings to replace the defaults.

• Run the setup script for your operating system.

Table 91. Running the samples restore script

Operating System	Command
Microsoft Windows	In a DB2 command window, change to the GS_DB/win directory and run the setupGSDB.bat script.
UNIX	From a shell prompt, source the db2profile change to the GS_DB/unix directory, and run the setupGSDB.sh script.

• Press Enter to proceed. The script displays a summary of your choices before you commit to changes to your environment. If you approve the choices, press Enter and the script makes the changes. For example:

```
Please confirm the following settings:
Database Name: GS DB
Drop and Recreate Database: Y
DPF environment: N
Create a 16k Bufferpool named: GOSALES BP
Create a 16k Tablespace named: GOSALES TS
GOSALES Grant users/groups: GOSALES, DB2ADMIN
GOSALESDW Grant users/groups: GOSALESDW, DB2ADMIN
Administration User Name: db2admin
Import the sample data to the following schemas:
GOSALES
GOSALESHR
GOSALESMR
GOSALESRT
GOSAL ESDW
WARNING: If the database GS DB already exists it will be dropped
Continue creating the sample data with these settings? (Y/N) Default=Y:
```

The GS\_DB database is set up.

### Running the setup script with command line options

The setupGSDB script lets you provide information on the command line to reduce the number of prompts from the script. From a command line, run the script for your operating system. On Windows use setupGSDB.bat. On UNIX or Linux operating systems use setupGSDB.sh.

You can run the **setupGSDB** script with the following options:

Table 92. setupGSDB options for IBM DB2

Option	Description
-createdb	Creates the database. This option drops any existing database with the same name. It creates the required buffer pool and table space.
-database database name	Specifies the name of the database. This value overrides the default value of GS_DB.
-userid administration_user_ID	Specifies the name of the DB2 administrator user ID that is used to create the database.
-password administration_user_ID	Specifies the password for the DB2 administrator user ID.
-noprompt	Indicates that no prompt will display. This option runs the script in silent mode. Any missing information causes the script to fail. You will not be prompted for any confirmations.

Example 1: You are a DB2 administrator and want to create the default GS\_DB database on the local node. You run the following command:

setupGSDB -createDB -noprompt

Example 2: You want to create the tables in an existing database named GSDBY, and you want to use the administrator user ID db2admin. Run the following command:

setupGSDB -database GSDBY -userid db2admin

The script prompts you for the password when it connects to GSDBY. The script will replace any tables that already exist in the GSDBY database, unless you choose to drop the database.

### Optional: Installing the sample data on a remote server

If the GS\_DB sample database is installed on a remote server in your environment, you can link to it by cataloguing the remote database on your local computer and then running the setup script locally.

• If the sample database does not yet exist on the remote server, create it with the CREATE DATABASE command. The database requires a UTF-8 codeset and a default table space with a pagesize of 16 KB or larger. For example, on the remote server, create the database by running the following command: CREATE

DATABASE GS\_DB USING CODESET UTF-8 TERRITORY US PAGESIZE 16k

• On your local computer, catalog the remote database: db2

catalog tcpip node nodename remote ipaddr server port\_number db2 catalog database GS\_DB as GS\_DB at node nodename

• On your local computer, run the script:

```
setupGSDB
-database GS_DB -userid administration_user_ID
```

You are prompted for a password to connect to the database.

### Restore the samples on Oracle using a script

You can use scripts to restore backup files for sample databases for Oracle.

To set up the sample database, you must extract the file GS\_DB\_ORA.tar.gz, customize a configuration file, and run the setup script.

There are prerequisites for installing the Great Outdoors sample database for Oracle. Before you can install the sample databases, you must verify or configure privileges.

- Extract the GS\_DB\_ORA.tar.gz file and retain the original directory structure.
- On Linux and UNIX operating systems, modify the file permissions on the setupGSDB.sh file so that it is executable: chmod u+x setupGSDB.sh.
- Ensure that the user ID used to set up the Oracle database has authority to create users and run the import utility.

### Optional: Editing the configuration file

The configuration file contains the default configuration options that are used when creating the GOSALES data. The default configuration settings are.

Configuration Setting	Default	Description
GOSALES_IMP_CMD	imp	If necessary can be modified to specify the complete path to the correct version of the import utility.
GOSALES_INST		Oracle host string.
GOSALES_TS	GOSALES_TS	If users are created by scripts, used to enter the tablespace name to assign to users.
GOSALES_CREATE_TS		Optional: Used to create the default tablespace for users.
GOSALES_TEMP_TS		If users are created by scripts, used to name a temporary tablespace to assign to users. Leave blank to use the default temporary tablespace.
GOSALES_SCHEMA	GOSALES	Used to enter the username and password for the
GOSALES_SCHEMA_PW	GOSALESPW	GOSALES user. You will be prompted for a password if not entered.

Table 93. Optional values for restoring the samples on Oracle

Configuration Setting	Default	Description
GOSALESHR_SCHEMA GOSALESHR_SCHEMA_PW	GOSALESHR GOSALESHRPW	Used to enter the username and password for the GOSALESHR user. You will be prompted for a password if not entered.
GOSALESMR_SCHEMA GOSALESMR_SCHEMA_PW	GOSALESMR GOSALESMRPW	Used to enter the username and password for the GOSALESMR user. You will be prompted for a password if not entered.
GOSALESSRT_SCHEMA GOSALESRT_SCHEMA_PW	GOSALESRT GOSALESRTPW	Used to enter the username and password for the GOSALESRT user. You will be prompted for a password if not entered.
GOSALESDW_SCHEMA GOSALESDW_SCHEMA_PW	GOSALESDW GOSALESDWPW	Used to enter the username and password for the GOSALESDW user. You will be prompted for a password if not entered.
GOSALES_GRANTEES	GOSALES	Used to enter the users that will have SELECT, INSERT, DELETE, UPDATE, and ALTER permissions for GOSALES, GOSALESHR, GOSALESMR and GOSALESRT schemas. <b>Note</b> : The owner of the GOSALES_SCHEMA will always be granted SELECT, INSERT, DELETE, UPDATE and ALTER privilege on all schemas.
GOSALESDW_GRANTEES	GOSALESDW	Used to enter the users that will have SELECT, INSERT, DELETE, UPDATE and ALTER permissions for GOSALESDW schema.

Table 93. Optional values for restoring the samples on Oracle (continued)

You can customize the sample configuration file to use settings other than the default values.

The setup script creates the users and schemas specified in the configuration file. In most situations, you can accept the default options. If you want to change the schema names or modify the users or groups that have permissions on the data, you must update the GOSalesConfig configuration file.

Edit the GOSalesConfig.bat or GOSalesConfig.sh configuration file by using a text editor.

### Running the setup script in interactive mode

In interactive mode, the setupGSDB script prompts you to confirm or provide configuration information for the sample database installation. You can accept the default settings or provide different settings to replace the defaults.

• Run the setup script for your operating system.

Table 94. Running the samples restore script

Operating System	Command
Microsoft Windows	In a DOS command window, change to the GS_DB_ORA\win directory and run the setupGSDB.bat script.
UNIX	From a shell prompt, change to the GS_DB_ORA/unix directory, and run the setupGSDB.sh script.

• Press Enter to proceed. The script will run the sample database setup and display a summary of your choices before you commit to changes to your environment. If you approve the choices, press Enter and the script makes the changes. For example:

Please confirm the following settings:

```
Instance Name is ORAINST123
Create the following user accounts and import the data:
 GOSALES
 GOSALESHR
 GOSALESMR
 GOSLAESRT
 GOSALESDW
Default tablespace is GOSALES TS
Temporary tablespace is DEFAULT
Administration User name is sys
WARNING: If the users already exist they will be dropped
Create a Tablespace named GOSALES TS
Grant select on the GOSALES schemas to GOSALES
Grant select on the GOSALESDW schema to GOSALESDW
Continue creating the sample data with these settings?
(Y/N) Default=Y:
```

**Tip:** If you edit UNIX shell scripts in a Windows environment, ensure that you preserve the UNIX line endings.

#### Running the setup script with command line options

The setupGSDB script lets you provide information on the command line to reduce the number of prompts from the script.

From a command line, run the script for your operating system. On Windows use setupGSDB.bat. On UNIX or Linux operating systems use setupGSDB.sh.

You can run the **setupGSDB** script with the following options:

Table 95. setupGSDB options for Oracle

Option	Description
-createdb	Creates the users. This option drops any existing users with the same name.
-database database name	Specifies the name of the Oracle instance. This value overrides the default value specified in the configuration file.
-userid administration_user_ID	Specifies the name of the Oracle administrator user ID that is used to create the users.
-password administration_user_ID	Specifies the password for the Oracle administrator user ID.
-noprompt	Indicates that no prompt will display. This option runs the script in silent mode. Any missing information causes the script to fail. You will not be prompted for any confirmations.

Example 1: You are an Oracle administrator and want to create the default sample database schemas. You run the following command:

setupGSDB -createDB -noprompt

Example 2: You want to create the tables in the existing schemas specified in the configuration file, and you want to use the administrator user ID sys. Run the following command:

```
setupGSDB -YourOracleInstance -userid sys -sysdba
```

The script prompts you for the password when it connects to the Oracle instance. The script deletes any existing tables or views in the specified schemas and replaces them.

### Create data source connections to the samples databases

You must create data source connections to the samples databases that you restored.

IBM Cognos Business Intelligence uses data source connections to the samples databases to connect to the samples databases and run the sample reports or use the sample package.

### Before you begin

The DB2 database name that you type must use uppercase letters. Also, in Framework Manager, the schema names that you type for the DB2 data sources must use uppercase letters.

Before you create the data source connections, you must restore the backup files for the samples databases. Also, ensure that the IBM Cognos BI service is running.

To create data sources, you must have execute permissions for the **Data Source Connections** secured feature and traverse permissions for the Administration secured function. You must have write permissions for the Cognos namespace. If you have restored the sample databases on a different computer than where you have installed the IBM Cognos BI Application Tier Components, you may have to install the database client to access the sample databases. For more information, see "Set up database connectivity for reporting databases" on page 84.

### Procedure

- 1. Open IBM Cognos Administration by connecting to the IBM Cognos BI portal and clicking **Administer IBM Cognos Content** on the **Welcome** page.
- 2. Click the **Configuration** tab.



- 4. In the Name box, type great\_outdoors\_sales and then click Next.
- 5. In the connection page, click the type of database that you restored and want to connect to, select an isolation level, and then click **Next**.

The connection string page for the selected database appears.

**Tip:** The user specified in the great\_outdoors\_sales data source must have select privileges on the tables in each of the GOSALES, GOSALESRT, GOSALESMR, AND GOSALESHR schemas.

- 6. Do one of the following:
  - If you restored the samples databases in Microsoft SQL Server, in the **Server Name** box, type the name of the server where the restored databases are located. In the **Database name** box, type **GOSALES**.

IBM Cognos BI samples require TCP/IP connectivity with Microsoft SQL Server. Ensure the SQL Server Security is set to SQL Server and Microsoft Windows operating system, instead of Windows Only. The samples use SQL Server security for authentication.

- If you restored the samples databases in Oracle, in the **SQL\*Net connect string** box, type the instance name of the Oracle database as it is entered in the tnsnames.ora file.
- If you restored the samples database in DB2, in the **DB2 database name** box, type **GS\_DB** using uppercase letters. Leave the **DB2 connect string** box blank.
- If you deployed the sample cube to IBM InfoSphere<sup>®</sup> Warehouse Cubing Services, in the **Name** box, type sales\_and\_marketing\_cs. On the **Specify the connection** page for the **Type** box, select IBM InfoSphere Warehouse cubing services (XMLA). On the **Specify the connection string** page for the **Server URL** box, type the name of the server and the XMLA port number for the cube, followed by /IBMXmlAnalysis. For example, myserver:1999/IBMXmlAnalysis.
- Under Signons, select the both Password and Create a signon that the Everyone group can use check boxes, type the user ID and password for the user that you created when you restored the databases, and then click Finish.

Tip: To test whether the parameters are correct, click Test the connection....

- 8. Click Finish.
- **9**. Repeat steps 4 to 9 for the GOSALESDW samples database or schema, and type **great\_outdoors\_warehouse** in step 5.
- **10.** If the GOSALESW model will be used by modelers in IBM Cognos Transformer, the connection string must be manually added to the cs7g.ini file.

### Results

The Great Outdoors data source connections appear as entries in **Data Source Connections**.

You can now import the samples unless there is a syntax error in the connection string or an incorrect parameter.

### Set Up Microsoft Analysis Services Cube Samples

IBM Cognos Connection or Framework Manager provides sample cubes for Microsoft Analysis Services (MSAS).

For finance data, use the GO Finance Fact cube derived from the GOSALESDW database. This cube contains year-to-date and monthly financial data for all accounts so that you can create financial statements in Analysis Studio, Query Studio, and Report Studio. The data is in actual US dollars submissions for 2004, 2005, 2006, or 2007 (7 months actual data only).

The MSAS2005 version is in the GOFinanceFact\_XX.abf file. XX represents the language. For example, XX is replaced with EN which indicates English. The MSAS2008 version of cubes also exists, with report content only for the 2005 version.

For sales data, use the GOSalesFact cube derived from the GOSalesFact\_XX Analysis Services database, based on the GOSALESDW SQLSERVER Database. The cube contains measures such as unit cost, unit price, quantity, and gross profit. Dimensions include Time, Product, and Retailers.

The MSAS2005 version is in the GOSalesFact\_XX.abf restorable backup file.

The backup files are located in the *c10\_location*/webcontent/samples/datasources/ cubes/MSAS directory. The files must be restored to a Microsoft SQL Server database running the applicable Microsoft Analysis Services and hosting the GOSALESDW database.

**Note:** Both Microsoft XML 6.0 Parser and Microsoft SQL 2005 Analysis Services 9.00 OLEDB Provider must be installed on the local client to establish data source connections to MSAS cubes.

### Procedure

- 1. On the computer where IBM Cognos Business Intelligence is installed, go to the *c10\_location*/webcontent/samples/datasources/cubes/MSAS/en directory.
- Copy the GOSALESDW.cab and GOSALESDW.abf files to a directory that you can access from the Analysis Manager console in the Analysis Servers of Microsoft SQL Server.
- **3**. Use the Microsoft Analysis Services Analysis Manager to restore the database from the GOSALESDW.cab and GOSALESDW.abf files.

### Results

You can now create the data source connections to these MSAS datasources in Cognos Administration by referencing either the GOSalesFact\_XX or GOFinanceFact\_XX cubes you restored.

### Set Up the InfoSphere Warehouse Cubing Services Sample

IBM Cognos Connection or Framework Manager provides sample cubes for InfoSphere Warehouse Cubing Services.

### Before you begin

Before you set up the InfoSphere Warehouse Cubing Services samples, you must restore the DB2 sample database.

### Procedure

- On the computer where IBM Cognos software is installed, go to the db2 directory located in *c10\_location*/webcontent/samples/datasources/cubes/ CubingServices/EN.
- 2. If required, copy the csgodw.xml file to your working directory.
- **3**. In IBM InfoSphere Warehouse Design Studio, import the csgodw.xml metadata file into a data model based on the DB2 GS\_DW schema.
- 4. Deploy the CSGODW cube to the DB2 GS\_DW schema.
- 5. Use the IBM InfoSphere Warehouse Administration Console to add the new cube to a cube server, and run it.

Note the XMLA port number for the cube, as this number is required for the data source connection.

#### Results

You can now create the data source connections in the IBM Cognos Connection portal.

### Set up the TM1 samples

To use the TM1 samples, you must set up the servers, create a shortcut to the configuration file, import the deployment files, and create the data source connections.

To set up the TM1 server samples, unzip and install the greatoutdoors.zip files. To set up the TM1 FinanceFact Server, unzip and install the financefact.zip files. The default installation path for these files is: C:\Program Files\IBM\Cognos\c10\ webcontent\samples\datasources\cubes\tm1.

#### Procedure

- 1. Ensure that you have the TM1 software installed and the server started.
- 2. Create a desktop shortcut to the preconfigured location of the TM1s.cfg configuration file. The default location is: "C:\Program Files\IBM\Cognos\TM1\bin\tm1s.exe" -z "C:\Program Files\IBM\Cognos\c10\webcontent\samples\datasources\cubes\tm1\greatoutdoors"
- **3**. If the location of your configuration file is different, open the configuration file in a text editor and modify it. An example of a basic configuration file is as follows.
  - If IntegratedSecurity Mode is set to 1. All clients must provide a database username and password.
  - If IntegratedSecurity Mode is set to 2. The clients will have the choice to connect by providing a database username and password or use the single-login mechanism for authentication.

• If IntegratedSecurity Mode is set to 3. All clients must use the single-login mechanism for authentication.

TM1S

 $\label{eq:DataBaseDirectory=C:\ProgramFiles\IBM\Cognos\c10\webcontent\samples\datasources\tm1\greatoutdoors$ 

LoggingDirectory=C:\ProgramFiles\IBM\Cognos\c10\webcontent\samples\
datasources\tm1\greatoutdoors\LogFiles

ServerName=GreatOutdoors

PortNumber=33339

AdminHost=localhost

Language=eng

Protocol=tcp

NetworkFrame= SaveTime=

DownTime=

RuleTraceOn=

For more information about setting up the configuration file and its parameters, see the *TM1 Operations Guide*.

- 4. To start the server, launch the desktop shortcut to TM1s.cfg.
- 5. To import the report deployment files, Sales\_plan.zip, Sales\_plan\_TC.zip, and TM1\_FinanceFact.zip, use IBM Cognos Administration.

### Results

The Financefact and Salesplan packages are created. These packages connect to the TM1\_FinanceFact and TM1\_SalesPlan data sources which you must now create in Cognos Administration.

The deployment packages refer to the following data sources.

**Tip:** For Traditional Chinese, use the x\_TC packages.

Table 96. TM1 samples data sources

Application	Data Sources
Great Outdoors	TM1_SalesPlan
	TM1_SalesPlan_TC
FinanceFact	TM1_FinanceFact
	TM1_FinanceFact_TC

The deployment packages refer to the following Report Studio reports.

Table 97. TM1 samples deployment packages

Packages	Reports
GreatOutdoors	Best Selling Products
	Channel Pricing Comparison
	Forecast Revenue by Region: Golf Shops
	Golf Shop Sales Forecast - Americas versus Asia Pacific

Table 97. TM1 samples deployment packages (continued)

Packages	Reports
	Gross Margin Forecast
FinanceFact	Balance Sheet - Americas
	Balance Sheet - Central Europe
	Income Statement
	Source and Application of Funds (Central Europe)

### Set up the Essbase cube sample

To set up the Essbase cube sample, you must have Oracle Essbase and Essbase Integration Services Console installed.

Alternatively, you can set up the smaller Essbase cube GODBReduced.zip which is a filtered version of the full version, GODWENU. To set up the small version, unzip GODBReduced.zip, load the otl and txt file in the Essbase environment before you follow the precedure.

### Procedure

 Go to the c10\_location\webcontent\samples\datasources\cubes\Essbase\ Outlines\_and\_Raw\_Data directory.

This directory contains zip files for the different languages, such as EN.zip or JA.zip for English and Japanese, respectively.

- 2. Unzip the file for your language.
  - Each zip file contains the following two files:
  - *languageU\_Data.txt*, such as ENU\_Data.txt or JAU\_Data.txt.
  - GODWlanguageU.otl, such as GODWENU.otl or GODWJAU.otl.
- 3. Using block storage in Essbase, create a Unicode application.
- 4. Within the application, create a new database.

You can use GODWlanguageU, such as GODWENU or GODWJAU, as your database name, or use the name of your choice.

- 5. Copy and paste the GODWlanguageU.otl file in your database directory.
- 6. If the database name specified in step 4 is different than GODW*language*U, rename the GODW*language*U.otl file to match the database name that you created.

Confirm that you want to overwrite the otl file.

7. In **Essbase Administration Services** console, open your database outline and save it.

Confirm that you want to save the outline even if it was not changed.

- Copy the languageU\_Data.txt file and paste it in the same directory as the otl file.
- 9. In Essbase Administration Services console, right-click the database you created and select Load Data.
- 10. Browse to the *languageU\_Data.txt* file in your database directory, select the file, and click **OK**.
- 11. After the data loads successfully, right-click the database and select **Execute Calculation**.
- 12. Select the default calculation, and click OK.

The calculation process may take up to 5 hours, depending on the computer where Essbase OLAP Server is installed.

### Results

You can now create a data source connection to the cube.

### **Creating Data Source Connections to OLAP Data Sources**

IBM Cognos Business Intelligence provides OLAP samples.

Samples are accessible to everyone by default. To create customized data sources, you must have execute permissions for the **Data Source Connections** secured feature, and traverse permissions for the **Administration** secured function. You must have write permissions for the Cognos namespace.

The OLAP samples are

- GO Sales Fact and GO Finance Fact Microsoft Analysis Services cubes
- Great Outdoors Company cubes which includes sales\_and\_marketing, employee\_expenses, go\_accessories, go\_americas, go\_asia\_pacific, and great\_outdoors\_sales\_en.
- Great Outdoors DB2 cube

You must create data source connections to the cubes to use the samples. You must set up the Microsoft Analysis Services cube samples, or set up the Oracle Essbase cube sample, if you are using them, before creating data source connections.

### Create Data Source Connections to PowerCubes

Use the following procedure to create a data source connection to a PowerCube.

#### Procedure

- 1. Open IBM Cognos Administration by connecting to the IBM Cognos BI portal and clicking Administer IBM Cognos Content on the Welcome page.
- 2. Click the **Configuration** tab.



Note: You must add a data source connection for each cube.

- 4. To create a data source connection for the Sales and Marketing cube, type **sales\_and\_marketing** in the **Name** box, and then click **Next**.
- 5. In the connection page, under **Type** click **IBM Cognos PowerCube**, and then click **Next**.

The connection string page for the selected database appears.

6. Optional: In the **Read cache size (MB)** box, type the cache size of the cube in megabytes.

If you leave this field blank or type 0, IBM Cognos Connection uses the default value in the ppds\_cfg.xml file in the configuration folder.

7. In the **Windows location** box, type the location and name of the sales\_and\_marketing.mdc file for the data source connection. For example, type

c10\_location/webcontent/samples/datasources/cubes/PowerCubes/En/
Sales\_and\_Marketing.mdc

You can define a Microsoft Windows operating system path or a UNIX operating system path.

If you define a UNIX path and you plan to use Framework Manager, you must also define the Windows path and ensure that the cube is also available in the Windows location. Framework Manager can access cubes only from Windows locations.

- 8. To test whether the parameters are correct, do the following:
  - Click Test the connection.
  - Click Test.
  - When the test finishes, click **Close** twice.
- 9. Click Finish.

#### Results

You can now import the sample package for the PowerCube to use this data source or you can create your own package using cube.

#### Create Data Source Connections to Oracle Essbase Cubes

Use the following procedure to create a data source connection to an Oracle Essbase cube.

**Note:** To connect to an Oracle Essbase data source, the client software must be installed and configured on the IBM Cognos Business Intelligence server and in the same location as IBM Cognos Framework Manager.

#### Procedure

- 1. Launch IBM Cognos Admistration.
- 2. On the Configuration tab, click New Data Source.
- **3.** In the name and description page, type a unique name for the data source and, optionally, a description and screen tip, and then select **Next**.
- 4. In the connection page, from the Type drop-down list, select **Oracle Essbase**, and then click **Next**. The connection string page appears.
- 5. Type the name of the Oracle Essbase sever.
- 6. Select **Signons**, and then click **Password** and **Create a signon the Everyone** group can use.
- 7. Type the User ID, Password, and then confirm the password for the cube.
- 8. Select **Test the connection**, and then **Test** to test whether parameters are correct. In the Status column, you can see if the connection was successful. If it was unsuccessful, select **Close**, return to the previous steps, and verify your connection parameters. If it was successful, go to the next step.
- 9. Click Finish.

#### Results

To use this data source, you must create a package using this data source in Framework Manager, and then publish the package.

## Create Data Source Connections to Microsoft Analysis Service Cubes

Use the following procedure to create a data source connection to a Microsoft Analysis Service cube.

### Procedure

- 1. Open IBM Cognos Administration by connecting to the IBM Cognos BI portal and clicking Administer IBM Cognos Content on the Welcome page.
- 2. On the **Configuration** tab, click **New Data Source**.
- **3.** In the **Name** box, type the name of the data source connection, and then click **Next**.
  - For the GOFinanceFact cube, type GOFinanceFact\_XX\_MSAS2005.
  - For the GOSalesFact cube, type GOSalesFact\_XX\_MSAS2005.
- 4. In the **Specify Connection** page of the New Datasource Wizard, click **Microsoft Analysis Services 2005**.
- 5. Click Next.
- 6. In the **Server Name** box, type the name of the server where the restored databases are located. Back slashes are not required.
- 7. Under Signon, select the Password check box and then select the Create a signon that the Everyone group can use check box. Type the user ID and password for the MSAS2005 database. For MSAS2005, this is a network login.
- 8. Click Test the connection, and then click the Test button. Click Close.
- 9. Click **Finish**. You are now prompted to create a package.

Alternatively, you can deploy an existing package from a sample deployment archive. The names of the deployment archives match the datasource connection names specified in step 4 and contain sample reports that work with the associated cubes.

In Content Administration on the Configuration tab in IBM Cognos Administration, click **New Import**. The New Import Wizard prompts you to select a deployment archive. When you select a deployment archive, it is important to click **Edit** and specify a target name for the package to prevent an existing package from being overwritten.

- 10. To create a package, check Create a Package and then click OK.
- 11. Specify a package name and then click **OK**.
  - For the GO Finance Fact cube, type GOFinanceFact\_XX\_MSAS2005.
  - For the GO Sales Fact cube, type GOSalesFact\_XX\_MSAS2005.
- **12.** Specify the Analysis Services database you restored either GOFinanceFact\_XX or GoSalesFact\_XX:
  - For either the GOFinanceFact cube or the GOSalesFact cubes, type GOSALESDW.
  - For the GO Sales Fact cube, type GO Sales Fact.
- **13**. Click the cube applicable to the database.
- 14. Click Finish.

### Setting up the Metric Studio sample

To set up the Metric Studio sample, you must create a metric store and a new metric package, set the import source, and import the metric data and files into the metric store.

- 1. Create a metric store named GOMETRIC.
- 2. Create a new metric package named GO Metrics that uses the data source named **go\_metrics**.

When prompted by the wizard, select the standard Gregorian calendar and accept the defaults for Years, Quarters, and Months. Select January 1, 2010 as the start date for a period that includes the current year, and use a period of at least five years.

For more information, see the section about metrics in the *Administration and Security Guide*.

- **3**. Set the import source.
- 4. Import the metric data and files into the metric store.

### Set the import source

To set up the Metric Studio sample, you must set the import source.

### Procedure

- Copy all text files from the appropriate folder to the c10\_location/deployment/ cmm folder:
  - For Microsoft SQL Server or Oracle, copy from *c10\_location*/webcontent/ samples/datasources/metricsdata/*GOMetrics\_Unicode*
  - For DB2, copy from c10\_location/webcontent/samples/datasources/ metricsdata/GOMetrics\_UTF8
  - For all databases, for English instead of the multilingual Unicode samples, copy from c10\_location/webcontent/samples/datasources/metricsdata/ GOMetrics

Note: You may need to create the cmm folder.

- 2. In Public Folders, click GO Metrics.
- 3. In Metric Studio, in the Tools list, click Import Sources.
- 4. Click the **Set Properties** icon in the **Actions** column next to the **Default Import Source**.
- 5. Under **Metric Deployment Location**, click **cmm** folder. This is the default deployment location.
- 6. In the File format box, click 10.1.1.
- 7. Under Character Set Encoding, select the appropriate encoding and click OK.
  - For Microsoft SQL Server or Oracle, select Unicode (UTF-16)
  - For DB2, select Unicode (UTF-8)
  - For **GO Metrics** data set, select Western European (Windows-1252), or leave the data set empty by selecting **Other**.
- 8. If you are using IBM DB2, accept the default choice for the **Decimal separator value**.

#### Results

You can now use the GO Metrics package in Metric Studio.

### Import metric data and files into the metric store

To set up the Metric Studio sample, you must import the metric data and files into the metric store.

#### Procedure

1. Choose whether to import the files into the metric store using IBM Cognos Connection or Metric Studio:

- To use IBM Cognos Connection, in **Public Folders** or **My Folders**, open the GO Metrics package by clicking the view metric package contents icon in the **Actions** column. Click **Metric Maintenance**.
- To use Metric Studio, in Metric Studio, in the **Tools** list, click **Metric Maintenance**.
- 2. Click the Import and transfer data from files into metric store metric task.

**Tip:** If an error occurs, click **Clear staging area rejected data logs**, **Clear metric history data only**, and **Clear metric history and calendar data**.

**Tip:** You can also clear all existing audit log data from the metric data store by clicking **Clear audit history**. For more information, see the topic about clearing audit history in the *Administration and Security Guide*.

### Results

You can now use the GO Metrics package in Metric Studio.

### Import the samples

To use the sample package and other content, you must import them from the sample deployment archive.

### Before you begin

Before you import the deployment archives other than IBM\_Cognos\_PowerCube.zip, you must restore the databases. You must also create data source connections to the samples databases. Every deployment requires a data source connection in order to run reports.

Before you import the IBM\_Cognos\_PowerCube.zip deployment archive, you must create a database connection to the appropriate PowerCube and select the language that you want to use. The language that you select must be supported by your locale.

### Procedure

- Copy the zip file from the c10\_location/webcontent/samples/content directory to the directory where your deployment archives are saved. The default location is c10\_location/deployment. The location is set in the configuration tool. For information about changing the location, see the configuration tool online help.
- 2. Open IBM Cognos Administration by connecting to the IBM Cognos BI portal and clicking Administer IBM Cognos Content on the Welcome page.
- 3. On the Configuration tab, click Content Administration.

**Note:** To access this area in IBM Cognos Administration, you must have the required permissions for the **Administration tasks** secured feature.

4. On the toolbar, click the New Import button.

The New Import wizard appears.

- 5. In the **Deployment Archive** box select the archive:
  - IBM\_Cognos\_Samples
  - IBM\_Cognos\_PowerCube
  - IBM\_Cognos\_Metrics

- IBM\_Cognos\_DrillThroughSamples
- IBM\_Cognos\_Audit
- IBM\_Cognos\_Mobile
- IBM\_Cognos\_csgodw
- IBM\_Cognos\_Office
- IBM\_Cognos\_Prompt\_API
- 6. Click Next.
- 7. Type a unique name and an optional description and screen tip for the deployment archive, select the folder where you want to save it, and then click **Next**.
- 8. In the Public Folders Content box, select the folders that you want to import. The IBM\_Cognos\_Samples deployment archive has a single folder named Samples with subfolders: Models and Sample Template. The Models folder contains the following packages or folders:
  - GO Data Warehouse (analysis), GO Data Warehouse (query), GO Sales (analysis), GO Sales (query).
  - Dashboard Folder, Dashboard Objects, Cognos Workspace Samples, Interactive Samples

The **Cognos Workspace Advanced** folder from the **GO Data Warehouse** (analysis) package contains reports used for external data.

The IBM\_Cognos\_PowerCube deployment archive has packages or folders for the following languages:

- English Sales and Marketing (cube)
- French localized packages
- German localized packages
- Japanese localized packages
- · Simplified Chinese localized packages

The **IBM\_Cognos\_Metrics** deployment archive has the **GO Metrics** package.

The IBM\_Cognos\_Mobile deployment contains the **Sales and Marketing (cube)** folder in five languages: English, French, German, Japanese and Chinese. You must set up a data source connection for the Sales and Marketing cube. A separate connection is required for each language.

The IBM\_Cognos\_Office deployment contains:

- GO Data Warehouse (analysis)
- GO Data Warehouse (query)
- GO Sales (analysis)
- Sales and Marketing cube

The IBM\_Cognos\_DrillThroughSamples deployment archive has the following packages and folders:

- Sales and Marketing (cube) package in five languages: English, French, German, Japanese, and Chinese
- GO Data Warehouse (analysis)
- GO Data Warehouse (query)

For the IBM\_Cognos\_DrillThroughSamples deployment archive, you must set up data source connections for the following data sources:

- the sales and marketing cube. A separate connection is required for each language.
- the great\_outdoors\_sales.

- the great\_outdoors\_warehouse.
- 9. Select the options you want, along with your conflict resolution choice for options that you select, and then click **Next**.
- **10**. In the **Specify the general options** page, select whether to include access permissions and references to external namespaces, and who should own the entries after they are imported.
- 11. Click Next.

The summary information appears.

- 12. Review the summary information and click Next.
- 13. Select the action that you want:
  - To run once now or later, click **Save and run once**. Click **Finish**, specify the time and date for the run, then click **Run**. Review the run time and click **OK**.
  - To schedule at a recurring time, click **Save and schedule**. Click **Finish**, and then select frequency and start and end dates. Click **OK**.
  - To save without scheduling or running, click **Save only** and click **Finish**.
- 14. When the import is submitted, click **Finish**.

#### Results

You can now use the sample packages to create reports and analyses in Report Studio, Query Studio, and Analysis Studio, view extracts in Metric Designer, or create agents in Event Studio. You can also run the sample reports that are available on the **Public Folders** tab in the portal.

### Sample Database Models

Sample models that are included with IBM Cognos Business Intelligence provide information for the fictional company, the Sample Outdoors.

The samples include

- great\_outdoors\_sales, which refers to the samples database GOSALES
- great\_outdoors\_warehouse, which refers to the database GOSALESDW
- gosales\_scriptplayer, which refers to the samples databases GOSALES

You can use sample database models on different platforms. For information about moving models from one platform to another, see the Framework Manager *User Guide*.

**Note:** Transformer uses some of the reports in the GO Data warehouse (query) package as source data for various cubes. These reports are meant to be simple list reports with no formatting. The description information for the reports indicates if the report was developed to be source data for Transformer.

### GO Sales Model

This model contains sales analysis information for the fictional company, The Sample Outdoors. It also has the query items required by the Event Studio samples. The model accesses three schemas and has two packages. One package is based on the dimensional view and the other is based on the query (relational) view.

### GO Data Warehouse Model

This model contains financial, human resources, and sales and marketing information for the fictional company, The Sample Outdoors. The model accesses a dimensional relational data source. The model has two packages. One package is based on the dimensional view, the other is based on the query (relational) view.

### **GO Sales Scriptplayer**

These files can be used to run the action logs in sequence. This action generates a model named gosales\_scriptplayer, and publishes a package to the content store.

### Example - Running the Sample ELM Returns Agent Against Changed Data

You can change data in the GOSALES database if an Event Studio user wants to test the sample agent ELM Returns Agent. The Event Studio user can then run the sample agent twice and detect a new event.

For more information, see the Event Studio User Guide.

Running the sample agent against changed data involves the following steps:

- The Event Studio user runs the sample agent against the default data and then asks you to change the data.
- You simulate the occurrence of some initial events and then ask the Event Studio user to run the sample agent a second time.
- The Event Studio user runs the sample agent against the changed data. The Event Studio user informs you when the agent has completed running.
- You simulate the passage of time and the resolution of some events and then ask the Event Studio user to run the sample agent a third time.
- The Event Studio user runs the sample agent for the final time. The Event Studio user informs you when the agent has completed running.
- You modify the data so that the ELM Returns Agent detects no events.

#### Example - Simulate the Occurrence of Initial Events

Run part of the Event\_Studio\_ELM\_Agent\_Modify\_GOSALES.sql script to simulate data changes.

The data changes include the following:

- change the date to the current date
- change the follow-up code to -1 in four records.

A code of -1 indicates that follow-up is required.

#### Procedure

- 1. In SQL Query Analyzer, from the File menu, click Open.
- 2. Go to *c10\_location*/webcontent/samples/datasources/sqlserver and double-click the Event\_Studio\_ELM\_Agent\_Modify\_GOSALES.sql file.
- 3. In the toolbar, from the list of databases, click GOSALES.
- 4. In the Query window, under Part 1, select all sixteen lines of code.
- 5. From the Query menu, click Execute.

### Results

The database is updated with the changes.

## Example - Simulate the Passage of Time and the Resolution of Some Events

Run part of the Event\_Studio\_ELM\_Agent\_Modify\_GOSALES.sql script to simulate data changes.

First, change it so that two days elapsed since the ELM Returns Agent sample was last run. Second, for three of the four event instances found the last time that the ELM Returns Agent sample ran, change the follow-up code from -1 to +1. This indicates that only one of the these event instances still requires follow-up and the other instances are resolved.

### Procedure

- 1. In SQL Query Analyzer, from the File menu, click Open.
- 2. Go to *c10\_location*/webcontent/samples/datasources/sqlserver and double-click the Event\_Studio\_ELM\_Agent\_Modify\_GOSALES.sql file.
- 3. On the toolbar, click **GOSALES** from the list of databases.
- 4. In the **Query** window, under **Part 2**, select all lines of code that appear after the comments.
- 5. From the **Query** menu, click **Execute**.

#### Results

The database is updated with the changes.

## Example - Modify the Data So That the ELM Returns Agent Detects No Events

When the Event Studio user finishes running the sample ELM Returns Agent against changed data, they should notify you.

You can then modify the GOSALES database so that the agent no longer detects any event instances.

#### Procedure

Run the following sql commands: UPDATE GOSALES.RETURNED\_ITEM SET FOLLOW\_UP\_CODE = 0 UPDATE GOSALES.RETURNED\_ITEM SET ASSIGNED\_TO = 0 UPDATE GOSALES.RETURNED\_ITEM SET DATE\_ADVISED = NULL

#### **Results**

The data is modified. The sample ELM Returns Agent is ready to be used by another Event Studio User.

### **Remove the Samples Databases from IBM Cognos BI**

After you finish using the sample reports to learn about IBM Cognos Business Intelligence, including Framework Manager, you can delete the packages on which the samples are based. This action permanently removes the samples from the content store.

### Procedure

- 1. Open IBM Cognos Connection by connecting to the IBM Cognos BI portal and clicking **IBM Cognos Content** on the **Welcome** page.
- 2. Click the **Public Folders** tab.
- 3. Select the check box for the sample package you want to delete.
- 4. Click the delete button on the toolbar, and click **OK**.

### Appendix E. Troubleshooting

Use this troubleshooting reference information and these solutions as a resource to help you solve specific problems you may encounter during or after the installation of IBM Cognos Business Intelligence components.

For more information about troubleshooting resources, see the Troubleshooting section of the *Adminsitration and Security Guide*.

Problems are characterized by their symptoms. Each symptom can be traced to one or more causes by using specific troubleshooting tools and techniques. After being identified, each problem can be fixed by implementing a series of actions.

When you are troubleshooting, log files can help you. Another valuable troubleshooting tool is the Knowledge Base, which is available on the IBM Cognos Resource Center (http://www.ibm.com/software/data/support/cognos\_crc.html). The Knowledge Base is a database of problems and solutions for all IBM Cognos products.

When you cannot resolve a problem, the final resource is your technical support representative. To analyze a problem, your technical support representative requires information about the situation and the symptoms that you are experiencing. To help isolate the problem, collect the necessary data before you contact your representative.

### Troubleshooting a problem

*Troubleshooting* is a systematic approach to solving a problem. The goal of troubleshooting is to determine why something does not work as expected and how to resolve the problem.

The first step in the troubleshooting process is to describe the problem completely. Problem descriptions help you and the IBM technical-support representative know where to start to find the cause of the problem. This step includes asking yourself basic questions:

- What are the symptoms of the problem?
- Where does the problem occur?
- When does the problem occur?
- Under which conditions does the problem occur?
- Can the problem be reproduced?

The answers to these questions typically lead to a good description of the problem, which can then lead to a resolution of the problem.

### What are the symptoms of the problem?

When starting to describe a problem, the most obvious question is "What is the problem?" This question might seem straightforward; however, you can break it down into several focused questions that create a more descriptive picture of the problem. These questions can include:

• Who, or what, is reporting the problem?

- What are the error codes and messages?
- How does the system fail? For example, is the problem a loop, hang, crash, performance degradation, or incorrect result?

### Where does the problem occur?

Determining where the problem originates is not always easy, but it is one of the most important steps in resolving a problem. Many layers of technology can exist between the reporting and failing components. Networks, disks, and drivers are only a few of the components to consider when you are investigating problems.

The following questions help you to isolate the problem layer:

- Is the problem specific to one platform or operating system, or is it common across multiple platforms or operating systems?
- Is the current environment and configuration supported?

If one layer reports the problem, the problem does not necessarily originate in that layer. Part of identifying where a problem originates is understanding the environment in which it exists. Take some time to completely describe the problem environment, including the operating system and version, all corresponding software and versions, and the hardware. Confirm that you are running within an environment that is supported; many problems can be traced back to incompatible levels of software that are not intended to run together or have not been fully tested together.

#### When does the problem occur?

Develop a detailed timeline of events leading up to a failure, especially for cases that are one-time occurrences. You can most easily develop a timeline by working backward: Start at the time an error was reported (as precisely as possible, even down to the millisecond), and work backward through the available logs and information. Typically, you need to look only as far as the first suspicious event that you find in a diagnostic log.

To develop a detailed timeline of events, answer these questions:

- Does the problem happen only at a certain time of day or night?
- How often does the problem happen?
- What sequence of events leads up to the time that the problem is reported?
- Does the problem happen after an environment change, such as an upgrade or an installation of software or hardware?

#### Under which conditions does the problem occur?

Knowing which systems and applications are running at the time that a problem occurs is an important part of troubleshooting. These questions about your environment can help you to identify the cause of the problem:

- Does the problem always occur when the same task is being performed?
- Does a certain sequence of events need to occur for the problem to occur?
- Do any other applications fail at the same time?

Answering these types of questions can help you explain the environment in which the problem occurs and correlate any dependencies. Remember that just because multiple problems might have occurred around the same time, the problems are not necessarily related.

### Can the problem be reproduced?

Problems that you can reproduce are often easier to solve. However, problems that you can reproduce can have a disadvantage. If the problem as a significant business impact, you do not want it to recur. If possible, re-create the problem in a test or development environment, which typically offers you more flexibility and control during your investigation. Answer the following questions:

- Can the problem be re-created on a test system?
- Are multiple users or applications encountering the same type of problem?
- Can the problem be re-created by running a single command, a set of commands, or a particular application?

### Searching knowledge bases

You can often find solutions to problems by searching IBM knowledge bases. You can optimize your results by using available resources, support tools, and search methods.

### About this task

You can find useful information by searching the information center for IBM Cognos, but sometimes you need to look beyond the information center to resolve problems.

### Procedure

To search knowledge bases for information that you need, use one or more of the following approaches:

• Find the content that you need by using the IBM Support Portal.

The IBM Support Portal is a unified, centralized view of all technical support tools and information for all IBM systems, software, and services. The IBM Support Portal lets you access the IBM electronic support portfolio from one place. You can tailor the pages to focus on the information and resources that you need for problem prevention and faster problem resolution. Familiarize yourself with the IBM Support Portal by viewing the demo videos (https://www.ibm.com/blogs/SPNA/entry/the\_ibm\_support\_portal\_videos) about this tool. These videos introduce you to the IBM Support Portal, explore troubleshooting and other resources, and demonstrate how you can tailor the page by moving, adding, and deleting portlets.

- Search for content about IBM Cognos by using one of the following additional technical resources:
  - IBM Cognos BI APARs (problem reports)
  - Searching technotes.
  - IBM Cognos forums and communities.
  - Cognos Customer Center
- Search for content by using the IBM masthead search. You can use the IBM masthead search by typing your search string into the Search field on any ibm.com<sup>®</sup> page.
- Search for content by using any external search engine, such as Google, Yahoo, or Bing. If you use an external search engine, your results are more likely to

include information that is outside the ibm.com domain. However, sometimes you can find useful problem-solving information about IBM products in newsgroups, forums, and blogs that are not on ibm.com.

**Tip:** Include "IBM" and the name of the product in your search if you are looking for information about an IBM product.

### Getting fixes

A product fix might be available to resolve your problem.

### Procedure

To find and install fixes:

- 1. Determine which fix you need (Fix Central) (opens in new window) (http://www.ibm.com/support/fixcentral/)
- 2. Download the fix. Open the download document and follow the link in the "Download package" section.
- **3.** Apply the fix by following the instructions in the "Installation Instructions" section of the download document.
- 4. Subscribe to receive weekly email notifications about fixes and other IBM Support information.

### **Contacting IBM Support**

IBM Support provides access to a variety of IBM resources for help with software questions.

### Before you begin

After trying to find your answer or solution by using other self-help options such as technotes, you can contact IBM Support. Before contacting IBM Support, your company must have an active IBM maintenance contract, and you must be authorized to submit problems to IBM. You should also have the following information at hand:

- Your customer identification number
- · Your service request number, if it is an ongoing service request
- · The phone number where you can be reached
- The version of the software you use
- The version of the operating environment you use
- · A description of what you were doing when the problem occurred
- The exact wording of any error messages that display
- Any steps you took to attempt to solve the problem

For information about the types of available support, see the Support portfolio topic in the *Software Support Handbook* (opens in new window).

#### Procedure

Complete the following steps to contact IBM Support with a problem:

1. Define the problem, gather background information, and determine the severity of the problem. For more information, see the Getting IBM support (opens in new window) topic in the *Software Support Handbook*.

- 2. Gather diagnostic information.
- 3. Submit the problem to IBM Support in one of the following ways:
  - Using IBM Support Assistant (ISA): Use this feature to open, update, and view an Electronic Service Request with IBM. Any data that has been collected can be attached to the service request. This expedites the analysis and reduces the time to resolution.
  - Online through the IBM Support Portal (opens in new window): You can open, update, and view all your Service Requests from the Service Request portlet on the Service Request page.
  - By phone: For the phone number to call, see the Directory of worldwide contacts (opens in new window) web page.

### Results

If the problem that you submit is for a software defect or for missing or inaccurate documentation, IBM Support creates an Authorized Program Analysis Report (APAR). The APAR describes the problem in detail. Whenever possible, IBM Support provides a workaround that you can implement until the APAR is resolved and a fix is delivered. IBM publishes resolved APARs on the IBM Support Web site daily, so that other users who experience the same problem can benefit from the same resolution.

### **Exchanging information with IBM**

To diagnose or identify a problem, you might need to provide IBM Support with data and information from your system.

In other cases, IBM Support might provide you with tools or utilities to use for problem determination.

### Sending information to IBM Support

To reduce the time that it takes to resolve your problem, you can send trace and diagnostic information to IBM Support.

### Procedure

To submit diagnostic information to IBM Support:

- 1. Open a problem management record (PMR). You can use the IBM Support Assistant (opens in new window) or the IBM Service Request tool (opens in new window).
- 2. Collect the diagnostic data that you need. Diagnostic data helps reduce the time that it takes to resolve your PMR. You can collect the diagnostic data manually or automatically.
- **3**. Compress the files by using the TRSMAIN or AMATERSE program. Download the free utility from the IBM to the IBM Cognos BI system and then install the utility using the TSO RECEIVE command.
- 4. Transfer the files to IBM. You can use one of the following methods to transfer the files to IBM:
  - The Service Request tool (opens in new window)
  - Standard data upload methods: FTP, HTTP
  - Secure data upload methods: FTPS, SFTP, HTTPS
  - Email

If you are using an IBM Cognos product and you use ServiceLink / IBMLink to submit PMRs, you can send diagnostic data to IBM Support in an email or by using FTP.

All of these data exchange methods are explained on the IBM Support site (opens in new window).

### **Receiving information from IBM Support**

Occasionally an IBM technical-support representative might ask you to download diagnostic tools or other files. You can use FTP to download these files.

#### Before you begin

Ensure that your IBM technical-support representative provided you with the preferred server to use for downloading the files and the exact directory and file names to access.

#### Procedure

To download files from IBM Support:

- 1. Use FTP to connect to the site that your IBM technical-support representative provided and log in as anonymous. Use your email address as the password.
- 2. Change to the appropriate directory:
  - a. Change to the /fromibm directory.
     cd fromibm
  - b. Change to the directory that your IBM technical-support representative provided.

cd nameofdirectory

- 3. Enable binary mode for your session. binary
- 4. Use the **get** command to download the file that your IBM technical-support representative specified.

get filename.extension

5. End your FTP session.

### Subscribing to Support updates

To stay informed of important information about the IBM products that you use, you can subscribe to updates.

#### About this task

By subscribing to receive updates, you can receive important technical information and updates for specific Support tools and resources. You can subscribe to updates by using one of two approaches:

#### **RSS** feeds and social media subscriptions

The following RSS feeds and social media subscriptions are available for IBM Cognos BI:

- RSS feed for a developerWorks<sup>®</sup> forum (opens in new window).
- Subscription to Cognos Support notebook blog (opens in new window)
- RSS feed for the Support site for IBM Cognos Business Intelligence (opens in new window)

For general information about RSS, including steps for getting started and a list of RSS-enabled IBM web pages, visit the IBM Software Support RSS feeds (opens in new window) site.

### **My Notifications**

With My Notifications, you can subscribe to Support updates for any IBM product. You can specify that you want to receive daily or weekly email announcements. You can specify what type of information you want to receive, such as publications, hints and tips, product flashes (also known as alerts), downloads, and drivers. My Notifications enables you to customize and categorize the products that you want to be informed about and the delivery methods that best suit your needs.

#### Procedure

To subscribe to Support updates:

- 1. Subscribe to the *Product* RSS feeds.
- 2. To subscribe to My Notifications, begin by going to the IBM Support Portal (opens in new window) and clicking **My Notifications** in the **Notifications** portlet.
- **3**. If you have already registered for My support, sign in and skip to the next step. If you have not registered, click **Register now**. Complete the registration form using your email address as your IBM ID and click **Submit**.
- 4. Click Edit profile.
- 5. Click Add products and choose a product category; for example, Software.
- 6. In the second list, select a product segment; for example, **Data & Information Management**.
- 7. In the third list, select a product subsegment, for example, Databases.
- 8. Select the products that you want to receive updates for.
- 9. Click Add products.
- 10. After selecting all products that are of interest to you, click **Subscribe to email** on the **Edit profile** tab.
- 11. Select Please send these documents by weekly email.
- 12. Update your email address as needed.
- 13. In the Documents list, select the product category; for example, Software.
- 14. Select the types of documents that you want to receive information for.
- 15. Click Update.

#### Results

Until you modify your RSS feeds and My Notifications preferences, you receive notifications of updates that you have requested. You can modify your preferences when needed (for example, if you stop using one product and begin using another product).

### Log Files

Log files can help you troubleshoot problems by recording the activities that take place when you work with a product.

Operations performed in IBM Cognos BI are recorded in various log files for tracking purposes. For example, if you experienced problems installing IBM

Cognos BI, consult the transfer log file to learn what activities the installation wizard performed while transferring files.

Before you begin viewing log files, ensure that they contain the information that you need. The number of log files and the information they contain are set by parameters in IBM Cognos Connection and in IBM Cognos Configuration.

Use IBM Cognos Administration to set the level of detail to log for each category.

For more information, see the *IBM Cognos Business Intelligence Administration and Security Guide*.

Use IBM Cognos Configuration to specify the size, number, and location of log files, and to configure the properties of the log server.

When troubleshooting, the following files can assist you:

#### The Transfer Log File

This file records the activities that the installation wizard performed while transferring files.

The transfer log file is located in the *c10\_location*\instlog directory. The file name identifies the product name, version, and build number, and includes a time stamp. The following is an example of the file name format:

tl-BISRVR-8.1-0.0-20080901\_1122.txt

#### The Transfer Summary-Error Log File

This file records the components you installed, disk space information, the selections you made in the transfer dialogs, and any errors the installation wizard encountered while transferring components.

The transfer summary-error log file is located in the *c10\_location*/instlog directory. The file name identifies the product name, version, and build number, and includes a time stamp. The following is an example of the file name format:

t1-BISRVR-8.1-0.0-20080901\_1122\_summary\_error.txt

### The Startup Configuration File

This file records your configuration choices each time you save your property settings. The file name is cogstartup.xml.

If you are unable to save your configuration, or are having problems you can revert to a previously saved configuration file. The backup configuration files are located in the *c10\_location*/configuration directory. The following is an example of the file name format for backup configuration files:

cogstartup\_200811231540.xml

#### The Startup Configuration Lock File

This file is created each time you open IBM Cognos Configuration. It prevents you from opening more than one IBM Cognos Configuration window.

If you experience problems opening IBM Cognos Configuration, you can check the *c10\_location*/configuration directory for the cogstartup.lock file. If the file exists and IBM Cognos Configuration is not open, it means that IBM Cognos Configuration did not shut down properly the last time you used it. You can delete the lock file and then open IBM Cognos Configuration.

### The Locale Configuration File

This file records the configuration choices you make in IBM Cognos Configuration for product and content locales, locale mapping, and currency support.

If you experience problems with language support in the user interface or in reports, use these files to track your changes. The backup configuration files are located in the *c10\_location*/configuration directory. The following is an example of the file name format:

coglocale\_200811231540.xml

### The Runtime Log File

The default IBM Cognos log file, named cogserver.log file, or other log files that you configure to receive log messages from the log server, record information after you start the IBM Cognos BI service. They are located in the *c10\_location*/logs directory. If you configured another destination for log messages, check the appropriate file or database.

Some log messages indicate problems. Most messages provide information only, but others can help you to diagnose problems in your runtime environment.

### The Gateway Log File

The gateways record errors in the gateway log file, which is located in the *c10\_location*/logs directory.

You can use the gateway log file to troubleshoot problems that prevent the gateway from processing requests or from using encryption. Symptoms of these problems are as follows:

- User IDs and passwords do not work
- Single signon does not work
- The dispatcher is running but users receives an error message advising that the IBM Cognos BI server is not available

The gateway log file uses the following naming format, where *gateway\_interface* is cgi, mod2 (Apache 2.0 module), or isapi.

gwgateway\_interface.log (for example, gwcgi.log)

### The Uninstallation Log File

This file records the activities that the Uninstall wizard performed while uninstalling files. The log file is named cognos\_uninst\_log.htm and is located in the Temp directory. You can use the log file to troubleshoot problems related to uninstalling IBM Cognos BI components.

### The Silent Mode Log File

This file records the activities that IBM Cognos Configuration performed while running in silent mode. This log file is named cogconfig\_response.csv and is located in the  $c10\_location/logs$  directory.

### Problems starting IBM Cognos Business Intelligence

You can perform the following tasks when encountering problems starting IBM Cognos Business Intelligence.

You may encounter problems when you try

- to start the IBM Cognos BI service
- to open the Welcome page for the IBM Cognos BI portal for the first time
- to start an application server, such as WebLogic or WebSphere

The following table shows some common symptoms and their solutions.

Table 98. Symptoms and suggested solutions for starting IBM Cognos Business Intelligence

Symptoms	Solution
You do not see the splash screen for the IBM Cognos BI portal when you start IBM Cognos BI.	Check your Web server configuration.
The service starts, but no tables are created in the content store database.	Check your content store configuration.
The service does not start.	Ensure that you wait a few moments before submitting a request.
The application server does not start.	Check the file permissions and directory names of the application server installation location.

Ensure that you use other software that is supported by IBM Cognos components. You can view an up-to-date list of environments, such as operating systems, patches, browsers, Web servers, directory servers, and database servers on the Cognos Customer Center http://www.ibm.com/software/data/cognos/ customercenter.

# CFG-ERR-0106 error when starting the IBM Cognos service in IBM Cognos Configuration

When you start the IBM Cognos Business Intelligence service, you may receive the following error message:

CFG-ERR-0106 IBM Cognos Configuration received no response from the IBM Cognos service in the allotted time. Check that IBM Cognos service is available and properly configured.

There are two possible causes for this problem:

• The IBM Cognos service needs more time to start.
• A standby Content Manager computer may be configured incorrectly.

## The IBM Cognos service needs more time

By default, IBM Cognos Configuration checks the progress of the start request every half second for three minutes. If IBM Cognos Configuration does not receive a response within this time, the error message displays.

The amount of time that IBM Cognos Configuration waits to receive a response from the IBM Cognos service is controlled by the ServiceWaitInterval and ServiceMaxTries properties.

The ServiceWaitInterval property represents the time interval, in milliseconds, at which IBM Cognos Configuration checks the progress of the start request. By default, its value is 500, which is equivalent to half a second.

The ServiceMaxTries property represents the number of times that IBM Cognos Configuration checks the progress of the start request. By default, its value is 360.

## **Content Manager Is configured incorrectly**

If the error message displays on a standby Content Manager computer, the setting for storing the symmetric keys may be incorrect.

### Changing the wait time for the IBM Cognos service

If you received the CFG-ERR-0106 error because the IBM Cognos service needs more time to start, change the amount of time that IBM Cognos Configuration waits to receive a response from the IBM Cognos service.

#### Procedure

- 1. Using IBM Cognos Configuration, stop the IBM Cognos service.
- 2. Open the *c10\_location*/configuration/cogconfig.prefs file in an editor. This file is created automatically the first time you open IBM Cognos Configuration.
- Add the following code to the file: ServiceWaitInterval=number of milliseconds ServiceMaxTries=number of times

Tip: Add the numeric values that correspond to your configuration needs.

- 4. Save the file.
- 5. Using IBM Cognos Configuration, start the IBM Cognos service.

### Changing the location where symmetric keys are stored

If you received the CFG-ERR-0106 error on a standby Content Manager computer, configure the computer to store the symmetric keys locally.

### Procedure

- 1. On the standby Content Manager computer, start IBM Cognos Configuration.
- 2. In the Explorer window, under Security, click Cryptography.
- 3. In the **Properties** window, under **CSK settings**, set **Store symmetric key locally** to **True**.
- 4. From the **File** menu, click **Save**.
- 5. From the Actions menu, click Start.

This action starts all installed services that are not running. If you want to start a particular service, select the service node in the **Explorer** window and then click **Start** from the **Actions** menu.

# Cryptographic error when starting IBM Cognos Business Intelligence

If the following error occurs when you try to start the IBM Cognos Business Intelligence service after installing server or client components, then your Java Runtime Environment (JRE) is missing the encryption and decryption routines.

If you receive this error, then you must copy the Java Archive (.jar) file that is provided to your JRE director since it is required by IBM Cognos BI.

[Cryptography]
1. [ ERROR ] java.lang.NoClassDefFoundError:
javax/net/ServerSocketFactory:

Your Java Runtime Environment (JRE) is missing the encryption and decryption routines that are required by IBM Cognos BI. You must copy the Java Archive (.jar) file that is provided to your JRE directory.

#### Procedure

Copy bcprov-jdkversion.jar from the c10\_location/bin/jre/version/lib/ext directory to the *JRE\_location*/lib/ext directory. If you are using 64-bit components, copy the files from c10\_location/bin64.

# Unable to start the IBM Cognos service because the port is used by another process

You may not be able to start the IBM Cognos Business Intelligence service or process if one of the default ports is used by another process.

**Tip:** To view the current network TCP/IP network connections, use the netstat command.

Use IBM Cognos Configuration to change the default port that IBM Cognos BI uses.

When you change the port used by the local dispatcher, you must change the value of the Dispatcher URI properties. Because the change affects all the URIs that are based on the local dispatcher, you must change the URIs of all local components. By default, local components contain localhost in the URI.

For example, if you install all components on one computer and you want to change the dispatcher port, replace 9300 in all dispatcher and Content Manager URIs with the new port number.

### Procedure

- 1. Start IBM Cognos Configuration.
- 2. In the Explorer window, click the appropriate group or component:
  - To access the port number in the dispatcher and Content Manager URIs, click **Environment**.
  - To access the port number for the local log server, under **Environment**, click **Logging**.

- To access the shutdown port number, under Environment, click IBM Cognos services > IBM Cognos BI.
- To access the port number for the location of the applications.xml file used by Portal Services, under Environment, click Portal Services.
- **3**. In the **Properties** window, click the **Value** box next to the property that you want to change.
- 4. Change the value from 9300 to the new value.

Ensure that you change the ports in all URIs that contain localhost:9300.

- 5. From the **File** menu, click **Save**.
- 6. From the Action menu, click Start.

## IBM Cognos service does not start or fails after starting

You start the IBM Cognos Business Intelligence service but services either do not start correctly or are very slow to start. After services start, the system fails a short time afterwards. While services are starting, Java uses 100 percent of the CPU time.

You may also receive multiple occurrences of error messages such as the following:

- DPR-DPR-1035 Dispatcher detected an error.
- CAM-CRP-1157 Unable to synchronize the local common symmetric key store with Content Manager.

### Procedure

If you use a DB2 database for the content store, ensure that the database version and Java version are compatible.

For DB2 version 8.2, Java 1.5 is not supported. For DB2 version 9, Java 1.5 is supported on all operating systems except HP-UX and Solaris.

#### Results

To review an up-to-date list of environments supported by IBM Cognos products, such as operating systems, patches, browsers, Web servers, directory servers, database servers, and application servers, visit the IBM Cognos Customer Center http://www.ibm.com/software/data/cognos/customercenter.

# IBM Cognos Business Intelligence server fails to start and gives no error message

An IBM Cognos BI server may fail to start after an upgrade or new installation, but no error message displays. This may occur when a previously running or new IBM Cognos BI server is configured to use a large amount of memory.

If the server on which IBM Cognos BI is installed contains version 1.0 of Microsoft security update 921883, there may be an issue when a lot of contiguous memory is requested by an application.

This is a known issue with version 1.0 of Microsoft security patch 921883. Microsoft distributed a second version of the patch to fix the problem. As a workaround, uninstall the first security patch, or install version 2.0 of the patch. Alternatively, you can configure the IBM Cognos BI server to use less memory.

For more information, see the Microsoft knowledge base article about programs using a lot of contiguous memory failing, at the Microsoft support Web site.

# Server not available when starting IBM Cognos Business Intelligence

After you configure IBM Cognos components and start the IBM Cognos services, when you connect to the IBM Cognos Business Intelligence portal, the following error message may display:

The Cognos Gateway is unable to connect to the Cognos BI server.

The server may be unavailable, or the gateway may not be correctly configured.

Check the IBM Cognos server log file for more information. By default, the cogserver.log file is located in the *c10\_location*/logs directory. If you configured another destination for log messages, check the appropriate file or database.

Content Manager may not be able to connect to the content store if the content store is not configured properly. This may occur if

- the content store uses an unsupported character encoding
- the content store uses a database collation sequence that is case sensitive
- the configuration settings you specified in IBM Cognos Configuration are not valid

### Unsupported character encoding

If the following messages display in the log file, the database you created for the content store does not use a supported character encoding:

• For Oracle:

CM-CFG-5063 A Content Manager configuration error was detected while connecting to the content store.

CM-SYS-5121 Content Manager cannot start because the database character set for the content store is not supported.

CM-SYS-5126 The content store database server uses the character set US7ASCII. CM-SYS-5125 The content store database client uses the character set US7ASCII.

• For DB2 UDB:

CM-CFG-5063 A Content Manager configuration error was detected while connecting to the content store.

CM-SYS-5121 Content Manager cannot start because the database character set for the content store is not supported.

CM-SYS-5124 The content store database server uses the code page 1252.

• For Sybase:

CM-CFG-5063 A Content Manager configuration error was detected while connecting to the content store.

CM-SYS-5121 Content Manager cannot start because the database character set for the content store is not supported.

For Content Manager to connect to the content store, the content store must use the appropriate character encoding, as listed in the following table. Table 99. Character encoding used by the content store to connect to a specific database type

Database	Character encoding
Oracle 9i	AL32UTF8
	AL32UTF16
DB2 UDB	Codeset UTF-8
Sybase ASE	UTF-8
Microsoft SQL Server	UTF8
	UTF16

To resolve this problem, you must recreate the content store database using the correct character encoding, or convert the character encoding. For more information, see the database documentation.

### **Case-sensitive collation sequence**

If the following messages are in the log file, the database you created for the content store uses a database collation sequence that is case sensitive:

CM-CFG-5063 A Content Manager configuration error was detected while connecting to the content store.

CM-SYS-5122 The content store database has a default collation that is case-sensitive. Content Manager requires a content store that has a case-insensitive collation.

CM-SYS-5123 The content store database server uses the collation <parameter>.

CM-SYS-5007 Content Manager build @cm\_build\_version@ failed to start! Review the Content Manager log files and then contact your system administrator or customer support.

To resolve this problem, you must recreate the content store database using a database collation sequence that is not case sensitive. For more information, see the database documentation.

## Invalid configuration settings

If the following or similar messages are in the log file, you did not configure the content store correctly in IBM Cognos Configuration.

• For Microsoft SQL Server:

CM-CFG-5063 A Content Manager configuration error was detected while connecting to the content store.

CM-CFG-5036 Content Manager failed to connect to the content store. The connection string is "jdbc:JSQLConnect://localhost:1433/cm".

*Failed Logon:com.jnetdirect.jsql.x: Cannot open database requested in login 'cm'. Login fails. url:jdbc:JSQLConnect://localhost:1433/cm.* 

• For DB2:

CM-CFG-5063 A Content Manager configuration error was detected while connecting to the content store.

CM-SYS-5003 Content Manager is unable to access the content store. Verify your database connection parameters and then contact your database administrator.

[IBM][CLI Driver] SQL1013N The database alias name or database name "CM123" could not be found.

For Oracle:

CM-CFG-5063 A Content Manager configuration error was detected while connecting to the content store.

CM-CFG-5036 Content Manager failed to connect to the content store. The connection string is "jdbc:oracle:thin:@localhost:1521:pb1".

ORA-01017: invalid username/password; logon denied.

• For Sybase:

CM-CFG-5063 A Content Manager configuration error was detected while connecting to the content store.

CM-CFG-5036 Content Manager failed to connect to the content store. The connection string is "jdbc:sybase:Tds:localhost:5000/cm".

JZ006: Caught IOException: java.net.ConnectException: Connection refused: connect.

If you are using an Oracle database, do not use illegal characters, such as an underscore in IBM Cognos Configuration for the Service Name property. If the Service Name includes illegal characters, tables are not created in the content store database when the IBM Cognos service is started.

#### Configuring a content store in IBM Cognos Configuration

If you received a CM-CFG-5036 or CM-CFG-5063 error code, the content store might not be configured correctly.

To resolve the issue, reconfigure the content store (see "Setting database connection properties for a Microsoft SQL Server, Oracle, Informix, or Sybase content store" on page 91).

### **Related concepts:**

"Set up database connectivity for the content store database" on page 79 If you are using a database other than Cognos Content Database or Microsoft SQL Server as the content store, you may have to install database client software, or Java Database Connectivity (JDBC) drivers, or both, on each computer where you install Content Manager. Doing this allows Content Manager to access the content store database.

# Cannot log on to a namespace when using IBM Cognos Connection

You open IBM Cognos Business Intelligence through IBM Cognos Connection. However, when you attempt to create a data source and log on to a namespace, the following error messages display:

- *PRS-CSE-1255 Exception error encountered in data decryption.*
- CAM-CRP-1064 Unable to process the PKCS #7 data because of an internal error. Reason: java.lang.IndexOutOfBoundsException.

This issue might occur if you do not have the necessary permissions for the following directories:

• *c10\_location*\configuration

- *c10\_location*\configuration\csk
- c10\_location\configuration\encryptkeypair
- c10\_location\configuration\signkeypair

Enable the read and execute permissions on these listed directories for anyone who must start the IBM Cognos service.

# IBM Cognos services fail to restart after a network outage

The IBM Cognos Bootstrap Service restarts IBM Cognos services after a network outage.

For Tomcat installations where a network IP address is specified in the internal dispatcher URI, the IBM Cognos services may not initialize successfully during the restart. This requires a manual restart after the network is restored.

## Procedure

To resolve the problem, configure the **Internal dispatcher URI** property in IBM Cognos Configuration to use localhost or the network host name.

# No warning that installing a later version of IBM Cognos Business Intelligence will automatically update the earlier version of the content store

You have a version of IBM Cognos BI installed on your computer. You install a later version into a new location. You use the same database for the content store for both versions. After you configure the later version and start the IBM Cognos service, the earlier version of IBM Cognos BI no longer works because all content is automatically upgraded.

If you want to use different versions of IBM Cognos BI after you upgrade, ensure that before you install the later version, you

- · back up the database you use for the content store
- restore the backup to a new location

Alternatively, you can choose to use the deployment tool to import the entire content store from an earlier version to the later version. All existing content in the content store database is replaced by the imported content. You receive a warning message about this.

# Download of resource fails

If the download resource fails, it may be caused by recent Microsoft XMLHTTP upgrades if you do not have a language preference set in Internet Explorer.

You start Report Studio in Internet Explorer and the following error message displays:

The download of the specified resource has failed.

## Procedure

To resolve the problem, specify a language preference in Internet Explorer.

# DB2 returns SQL1224N error when connecting from AIX

If your content store is a DB2 database and you receive an SQL1224N error on AIX, check the db2diag.log file for additional information about the error.

If the error includes reason code 18, you might need to change the DB2 configuration to accept more connections. For more information, see the IBM DB2 support pages for the error SQL1224N.

## Content Manager error when starting IBM Cognos Business Intelligence

After starting IBM Cognos BI, no BIBUSTKSERVMA process is started. There are errors listed in the pogo\*\*\*\*\*\*.log and cogserver.log files. Users receive errors in the browser when connecting to the IBM Cognos BI portal.

In the pogo\*\*\*\*\*\*.log file, an error related to Content Manager displays.

In the cogserver.log file, the following error displays:

An attempt to register the dispatcher in Content Manager was unsuccessful. Will retry periodically.

When connecting to http://*computer name*/ibmcognos, the following error messages display in the browser:

- DPR-ERR-2058 The dispatcher cannot service the request at this time. The dispatcher is still initializing
- SoapSocketException: Connection Refused

IBM Cognos Configuration uses a user ID to bind to the LDAP database. If this user ID is moved to another group, IBM Cognos Configuration can no longer locate it.

#### Procedure

To correct the problem, move the user ID back to the original group.

## Content Manager fails to start or takes a long time to start

On Microsoft Windows, you try to start the service on the computer where you installed Content Manager. As the service is starting, the details include errors similar to the following:

DPR-CMI-4006 Unable to determine the active Content Manager. Will retry periodically.

CM-SYS-5007 Content Manager build x.x.x.x failed to start!

Details within the error log may also include references to OutOfMemoryError.

To resolve this problem, start the service using the DuseCMLargeResultSet parameter. You can add the parameter to the bootstrap configuration file and then start the service using IBM Cognos Configuration or you can add the parameter to the startup configuration file and then run the file.

# Resolving an out-of-memory error using the bootstrap configuration file

Start the IBM Cognos service by adding the DuseCMLargeResultSet parameter to the bootstrap configuration file.

### Procedure

- 1. Go to the *c10\_location*\bin directory and open bootstrap\_win32.xml in an XML editor.
- 2. Find the section that begins with <param>"\${install\_path}.
- **3**. Add the DuseCMLargeResultSet parameter to that section, in the location shown by the bold text in the following example.

```
<param>"-Dcatalina.base=${install_path}/tomcat"</param>
<param>"-Dcatalina.home=${install_path}/tomcat"</param>
<param>"-Djava.io.tmpdir=${temp}"</param>
```

#### <param>"-DuseCMLargeResultSet=true"</param>

- 4. Save and close the file.
- 5. Start IBM Cognos Configuration and start the service.

# Resolving an out-of-memory error using the startup configuration file

Start the IBM Cognos service by adding the DuseCMLargeResultSet parameter to the startup configuration file.

### Procedure

- 1. Go to the *c*10\_*location*\bin directory and open startup.bat in a text editor.
- 2. Find the following line:

```
set CATALINA_OPTS=-Xmx768m -XX:MaxNewSize=384m -XX:NewSize=192m
-XX:MaxPermSize=128m
%DEBUG OPTS%
```

**3**. Append the DuseCMLargeResultSet parameter to the line, as shown by the bold text in the following example:

```
set CATALINA_OPTS=-Xmx768m -XX:MaxNewSize=384m -XX:NewSize=192m
-XX:MaxPermSize=128m
%DEBUG OPTS%-DuseCMLargeResultSet=true
```

- 4. Save and close the file.
- 5. Start the service by running the startup.bat file.

# DPR-ERR-2014 error displays in log file on Content Manager computer

If Content Manager is installed on a separate computer and the event management service on the Content Manager computer is disabled.

The following error message may be in the cogserver.log file:

DPR-ERR-2014 Unable to load balance the request because no nodes in the cluster are available, or no nodes are configured for the service: eventManagementService

To correct the problem, turn off the event management service.

### Procedure

- 1. Start IBM Cognos Configuration on the Content Manager computer.
- 2. In the Explorer pane, go to Environment > IBM Cognos services.

3. Set the Event management service enabled property to False.

# Non-ASCII characters in installation directory cause run-time errors

On all operating systems, if you use non-ASCII characters in the installation directory for IBM Cognos Business Intelligence, it causes run-time errors. It also causes some product functions, such as report execution, to fail.

Install IBM Cognos BI in the default directory or use a directory name that contains only ASCII Latin-1 characters.

## Cannot Open a Microsoft Cube or PowerCube

You are unable to open a Microsoft Cube or PowerCube, or you can open an Microsoft Cube but only metadata is shown. For an Microsoft Cube, you may receive the following error message:

#### MO-ERR-0030

Cannot connect to the datasource. Please set the service to run as a domain user with the correct privileges.

To solve this problem, ensure that the user running the IBM Cognos Business Intelligence service has access rights to the cube.

PowerCubes are accessed through mapped drives or UNC path names.

#### Assigning access rights to MS cubes

For a user account to open MS cubes, it must be assigned the appropriate privileges in the system administrative tools.

#### Procedure

- 1. Add the domain user account that starts the IBM Cognos service to the Act as part of the operating system privilege:
  - Under Administrative Tools, select Local Security Policy.
  - Expand Security Settings, Local Policies and click User Rights Assignment.
  - Right-click the **Act as part of the operating system** policy and select **Properties**.
  - Click **Add User or Group** and add the user account that starts the IBM Cognos service.
- 2. If you use the domain userID and password method of authentication, add the user account that starts the IBM Cognos service to the domain that includes Content Manager, the Application Tier Components, IIS Web server, and the data source server (Microsoft SQL Server or Microsoft Analysis Server).
- **3.** If you use an external namespace, such as Active Directory Server, for authentication, add the user account that starts the IBM Cognos service to the domain that includes the authentication provider.

This domain must also include Content Manager, the Application Tier Components, IIS Web server, and the data source server (Microsoft SQL Server or Microsoft Analysis Server).

For more information about configuring external namespaces for authentication, see the topics about authentication providers in the *IBM Cognos Business Intelligence Installation and Configuration Guide*.

### Assigning access rights to PowerCubes

For a user account to open PowerCubes, it must be assigned the appropriate privileges in IBM Cognos Administration.

#### Procedure

Ensure that the IBM Cognos user profile has sufficient operating system or domain access rights to open the PowerCube file.

For more information, see the *IBM Cognos Business Intelligence Administration and Security Guide.* 

# The page cannot be found when starting IBM Cognos Business Intelligence in Windows 2003

Installing IBM Cognos Business Intelligence on Microsoft Windows operating system 2003 may cause an error message when you try to start IBM Cognos BI.

The following error is caused by a security feature in Windows 2003 Internet Information Services (IIS). This security feature does not allow unknown cgi file extensions.

The page cannot be found. The page you are looking for might have been removed, had its name changed, or is temporarily unavailable. HTTP Error 404 - File or Directory not found.

### Procedure

To resolve this problem, add a new file extension in IIS for the cognos.cgi file. For more information, see the IIS documentation.

# The page is not shown when opening a portal after installing IBM Cognos Business Intelligence

After you install and configure IBM Cognos Business Intelligence, you are unable to connect to the Cognos BI portal.

This may be because the Web server is not properly configured. For example, the virtual directories required for IBM Cognos BI may not exist or they may point to the wrong physical folders.

For information about configuring the Web server, see the *IBM Cognos Business Intelligence Installation and Configuration Guide*.

# DPR-ERR-2058 Error Displays in Web Browser When Starting IBM Cognos Business Intelligence

After you start the services in IBM Cognos Configuration and then try to open the portal, a message similar to one of the following may display:

DPR-ERR-2058 The dispatcher encountered an error while servicing a request. XTS handler must be initialized before being invoked. DPR-ERR-2058 The dispatcher cannot service the request at this time. The dispatcher is still initializing. Please try again or contact your administrator. These error messages usually occur when the dispatcher cannot communicate with the Content Manager. To help you determine the specific cause, look in the cogserver.log file in the  $c10\_location/logs$  directory. The following are the most common causes with their solutions.

### IBM Cognos Services are Not Done Initializing

After you start the services in IBM Cognos Configuration and the configuration tool shows that the services are running, wait a few minutes for all services to start before you open the portal.

### **Content Manager is Not Available**

In a distributed installation, ensure that Content Manager is installed, configured, and running. Ensure also that the other IBM Cognos computers are configured with the correct Content Manager URI.

#### The Content Store is Not Available or is Not Configured Properly

Ensure that the content store database was created and that you configured it correctly in IBM Cognos Configuration.

### Tables are Not Created in the Content Store

Ensure that you are using a version of DB2, Microsoft SQL Server, Oracle, or Sybase that is supported by IBM Cognos components.

### The Logon Credentials for the Content Store Are Incorrect

Check whether the information changed. For example, DB2 reads information from the NT user management. If the password for the NT account changed, you must also change the logon credentials for the content store in IBM Cognos Configuration.

Check for special characters in the logon password. Occasionally, the JDBC driver does not accept characters that are reserved for xml, such as %, !, <, and >.

#### The User Does not Have Appropriate Permissions

Ensure that the user has the appropriate permissions.

#### Out of Memory on HP-UX

If you are using Tomcat, you can determine the issue is related to HP-UX server configuration. You may be exceeding the expected maximum number of simultaneously active threads per process.

#### Increasing the maximum number of threads per process on HP-UX:

If you are exceeding the expected maximum number of simultaneously active threads per process on HP-UX, increase the number of active threads.

#### Procedure

- 1. Have your system administrator change the Kernel parameter as follows:
  - max\_thread\_proc = 512
  - nkthread = 1024
- 2. Ensure that the ulimit settings are unlimited.

#### Checking for an HP-UX configuration problem:

If increasing the maximum number of active threads per process does not resolve the out-of-memory error on HP-UX, perform the following steps.

#### Procedure

1. In the /bin/startup.sh file, find

../tomcat/bin/catalina.sh start "\$@"

2. Change it to the following:

../tomcat/bin/catalina.sh run "\$@"

The run command causes the Tomcat output to display in the console window for IBM Cognos BI.

- **3**. Stop and restart IBM Cognos BI using the ./shutdown.sh and ./startup.sh commands.
- 4. If the following error message displays in the console window for any of the application servers, the issue is an HP-UX configuration problem:

OutofMemoryException error: Unable to create new native thread on HP-UX.

The problem is that the default values for HP-UX 11.0 and 11i are set too low for most Java applications.

**Tip:** You can check the number of threads in your process by using the -eprof option available in JDK 1.1.8 and by analyzing the Java.eprof file using HPjmeter by selecting the threads metric.

## Content Manager Cannot Connect to the Content Store on Oracle

If you are using an Oracle database as a content store, the DPR-ERR-2058 error may be generated when logging onto the portal All tables are created on the database.

You may also receive the following error messages:

- CM-CFG-5036 Content Manager failed to connect to the content store.
- ORA-01017: invalid username/password; logon denied

#### Setting the Oracle database server name:

The Content Manager might fail to connect to an Oracle database because of inconsistencies between the Oracle server name in IBM Cognos Configuration and the server name in the tsnnames.ora file.

#### Procedure

- 1. Start IBM Cognos Configuration.
- 2. In the Explorer window, click Data Access, Content Manager, Content Store.
- **3**. Change the Oracle database server name to a fully qualified name such as host\_name.companyname:1534 to match the name in the tnsnames.ora file.

# **Report Studio does not start**

You may not be able to start Report Studio if you are using pop-up blocking software on your computer.

When you start Report Studio, it opens in a new browser window. In addition, a new browser window opens when you run a report and when an error is detected.

## Procedure

To correct the problem, disable any pop-up blocking software when working in Report Studio.

# DPR-ERR-2022 error displays in Web browser when starting IBM Cognos Business Intelligence

After you start the services in IBM Cognos Configuration and then try to open the portal, a message similar to the following may display:

DPR-ERR-2022 No response generated. This may be due to an incorrect configuration, a damaged installation, or the dispatcher not having finished initializing.

This problem can occur if

- You try to open the portal before IBM Cognos services are initialized.
- A system.xml file has been edited.

In this case, replace the edited system.xml file in the appropriate subdirectory in  $c10\_location\templates\ps$  with a copy from backup or use an XML editor to edit it.

There are many instances of system.xml in the directories in *c10\_location*\templates\ps. Ensure that you replace the correct file.

# Corrupt characters while installing in some languages on Linux

When running the installation wizard on Linux in Korean, Chinese (simplified or traditional), or Japanese, you may see corrupted characters in the dialog boxes of the user interface or in messages that display during the installation.

To avoid the problem of corrupt characters in the user interface during installation, you can use one of the following solutions:

- Configure the Asian fonts on the Linux server:
  - Set the locale to utf8.

For example,

- ko\_KR.utf8, ja\_JP.utf8, zh\_CN.utf8, or zh\_TW.utf8
- Ensure that Asian language Fontset \*medium-r\*--14\* is available on X server.
- Run an unattended installation using the default response.ats file that is provided with your IBM Cognos BI product. For information about setting up an unattended installation, see the *IBM Cognos Business Intelligence Installation and Configuration Guide*.

## Unable to download the cognos.xts file

After installing IBM Cognos BI, you are prompted to download the cognos.xts file when connecting to the IBM Cognos Business Intelligence portal. The following error message may display:

You have chosen to download a file from this location. cognos.xts from servername

This problem occurs when the permissions on the virtual directories are not set properly. You must provide the cgi-bin virtual directory in the Microsoft Internet Information Service (IIS) with execute permissions.

To resolve this problem, recreate the virtual directories in IIS with the permissions from the following table, where *c10\_location* represents the installation location.

Alias	Path	Permissions
ibmcognos	c10_location\webcontent	Read
ibmcognos\ cgi-bin	c10_location\cgi-bin	Read Execute

Table 100. Alias, path, and permissions for creating IIS virtual directories

For example, the default installation location is C:\Program Files\IBM\Cognos\ c10.

# Application server startup script fails

You may have problems running the startup scripts for an application server to deploy the IBM Cognos application if IBM Cognos Business Intelligence components are installed in a directory with a name that includes spaces.

## Procedure

- 1. Reinstall to a new directory and do not include spaces in the new name.
- 2. If this solution is not easily handled by the startup scripts, try adding quotation marks around the directory name that includes spaces or use the 8.3 DOS naming convention.

# IBM Cognos Business Intelligence running under WebLogic Application Server on AIX fails

The IBM Cognos Business Intelligence server instance may go into a FAILED\_NOT\_RESTARTABLE state in the WebLogic Administration Console on AIX.

Numerous core files and Java core files are written to the IBM Cognos BI domain directory. IBM Cognos BI terminates and is not accessible via the portal. This behavior occurs only when the IBM Cognos BI Managed Node is started with the WebLogic Administration Console.

## Procedure

Start the IBM Cognos BI Managed Node using the WebLogic startup scripts instead.

# Deploying IBM Cognos Business Intelligence IBM WebSphere Application Server fails

Deploying IBM Cognos BI to an IBM WebSphere application server may fail.

These errors can occur because the application file that you are trying to deploy is too large. If a deployment fails, any of the following errors may occur:

- Browser timeout in administration console
- HTTP 500 Internal Error
- Return to application file selection page

## Procedure

If you are using the **Build Application Wizard**, clear the **Include static files from the Webcontent folder** check box when you select the application to build. This will reduce the size of the application file. If static content is required, you can manually copy it to the deployed application location after you have successfully deployed IBM Cognos BI into the application server.

# Unable to deserialize context attribute error when deploying the p2pd.war file to WebLogic

An error may occur when you deploy the p2pd.war file to WebLogic.

This error does not affect the deployment of the p2pd.war file.

Error [context]Could not deserialize context attribute

java.io.NotSerializableException: com.cognos.logserver.LogService

#### Procedure

To avoid this problem, add at least one language preference in Internet Explorer.

# Error displays after upgrading IBM Cognos Business Intelligence on a WebLogic Application Server

You are using WebLogic and upgrade IBM Cognos BI from an earlier release.

After you deploy the p2pd.war file for the new installation, a message similar to the following may display:

<BEA-101215> <Malformed Request "null". Request parsing failed, Code: -10>

#### About this task

This can occur if you undeploy IBM Cognos BI from WebLogic and some files from the earlier version are not removed from the system.

To solve the problem, do the following:

#### Procedure

1. Use the administrative tools for your application server to ensure that IBM Cognos BI has been undeployed.

For information about undeploying applications, see your application server documentation.

2. If the directory to which IBM Cognos BI was originally deployed is not removed during the undeploy process, delete the directory.

Also, remove any IBM Cognos BI .jar files that are cached in your application server environment.

**3**. After you remove all files from the previous installation, redeploy IBM Cognos BI.

# Accented or double-byte characters may not display correctly when installing IBM Cognos Business Intelligence on Linux

If you are using issetup under a UTF-8 locale, accented or double-byte characters may not display correctly.

## Procedure

- 1. To resolve this problem when installing in German or French, use a non-UTF-8 locale and then launch issetup to install IBM Cognos BI.
- **2**. To resolve this problem when installing in Japanese, change the encoding setting of X Terminal to Shift-JIS, and then install IBM Cognos BI using an unattended installation.

# RSV-SRV-0066 a soap fault has been returned or RQP-DEF-0114 the user cancelled the request errors display in high user load environments

These errors may be in the IBM Cognos cogserver.log if you have a high user load (over 165 users) and interactive reports are running continuously in a distributed installation.

## Procedure

1. Increase the async\_wait\_timeout\_ms parameter parameter in webapps/p2pd/WEB-INF/services/reportservice.xml file.

For more information, see the *IBM Cognos Business Intelligence Installation and Configuration Guide*.

2. Increase the Queue Time Limit setting to 360.

For information, see the *IBM Cognos Business Intelligence Administration and Security Guide.* 

# Problems configuring IBM Cognos Business Intelligence

After you install IBM Cognos Business Intelligence components, you may encounter problems when you save changes in IBM Cognos Configuration.

Ensure that you

- configure and start the services on the computer where Content Manager is located before you configure other components
- restart the IBM Cognos service after you make any configuration changes

# Configuration Tool cogconfig.sh Return Values Are Not Compliant with Conventional UNIX Return Values

On UNIX platforms, the configuration tool command cogconfig.sh returns 0 for an unsuccessful execution and 1 for a successful execution. These return values are not compliant with the conventional UNIX return results, where a return value of 0 indicates a successful execution and a non-zero return value indicates an error.

The non-compliant behavior will be corrected in a future release. You may be required to make changes to your customer applications and scripts before making use of the new behavior.

# **Running Database and Index Cleanup Scripts**

In some troubleshooting situations, you may be advised to start with new configuration data.

You can run SQL scripts to delete all the tables in any of the following databases that IBM Cognos BI components use:

- · content store for data that IBM Cognos BI needs to operate
- · delivery database for report notifications
- metric store for metric package content and Metric Studio user preferences
- · database for human tasks and annotations

You can run SQL scripts to delete all the tables and indexes in the following database:

logging database for log messages

When you delete a table, its structural definition and data are deleted permanently from the database. For the metric store, database objects may also be deleted.

When you delete the indexes from a logging database, they are deleted permanently from the database.

When you restart the IBM Cognos service, a new set of required database tables and indexes are created automatically in the location specified by your configuration settings.

### Procedure

- 1. On each computer where Content Manager is located, stop the IBM Cognos service.
- 2. Go to the appropriate directory:
  - To delete tables and indexes from the logging database, go to *c10\_location*\configuration\schemas\logging.
  - To delete tables from the content store, go to *c10\_location*\configuration\ schemas\content.
  - To delete tables from the notification database, go to *c10\_location*\ configuration\schemas\delivery.
  - To delete tables from the metric store, go to *c10\_location*\configuration\ schemas\cmm.
  - To delete tables from the human task and annotation database, go to *c10\_location*\configuration\schemas\hts.
- 3. Go to the appropriate database directory.
- 4. Depending on the database and database type, run one of the following scripts in the appropriate database tool to delete the tables.

The following table lists the script names for the content store database.

Table 101. Database type and script name for the content store database

Database type	Script name
DB2	dbClean_db2.sql
DB2 on z/OS	dbClean_db2zOS.sql

Database type	Script name
Derby	dbClean_derby.sql
Informix	dbClean_informix.sql
Microsoft SQL Server	dbClean_mssqlserver.sql
Oracle	dbClean_oracle.sql
Sybase	dbClean_sybase.sql

Table 101. Database type and script name for the content store database (continued)

The following table lists the script names for the notification database.

Table 102. Database types and script names for the notification database

Database type	Script name
DB2	NC_DROP_DB2.sql
DB2 on z/OS	NC_DROP_DB2.sql
Derby	NC_DROP_Derby.sql
Informix	NC_DROP_IFX.sql
Microsoft SQL Server	NC_DROP_MS.sql
Oracle	NC_DROP_ORA.sql
Sybase	NC_DROP_SYBASE.sql

The following table lists the script names to clean up tables and indexes for the logging database.

For Informix, the index cleanup script must be edited if you host more than one audit logging database on the Informix instance and use them at the same time. See step 5.

Table 103. Script names to cleanup tables and indexes for the logging database.

Database type	Script name
DB2	LS_dbClean_db2.sql
	LS_dbCleanIndexes_db2.sql
DB2 on z/OS	LS_dbClean_db2zOS.sql
	LS_dbCleanIndexes_db2zOS.sql
Derby	LS_dbClean_derby.sql
	LS_dbCleanIndexes_derby.sql

Database type	Script name
Informix	LS_dbClean_informix.sql
	LS_dbCleanIndexes_informix.sql
Microsoft SQL Server	LS_dbClean_mssql.sql
	LS_dbCleanIndexes_mssql.sql
Oracle	LS_dbClean_oracle.sql
	LS_dbCleanIndexes_oracle.sql
Sybase	LS_dbClean_sybase.sql
	LS_dbCleanIndexes_sybase.sql

Table 103. Script names to cleanup tables and indexes for the logging database. (continued)

The following table lists the script names for the metric store database.

Table 104. Script names for the metric store database

Database type	Script name
DB2	cmm_uninstall <i>dbalias username password</i> Specify the dbalias only if a database with the same name is already cataloged
Microsoft SQL	cmm uninstall metric store name
	database_name Admin_user_name password
Oracle	cmm_uninstalldatabase_name database_user_name password
	Replace <i>database_name</i> with the name in the tnsnames.ora file that refers to the database SID for Metric Studio

The following table lists the script names for the Human Task and Annotation database.

Table 105. Script names for the Human Task and Annotation database

Database type	Script name
all types	humanTaskService-dropScript.sql

- 5. If you have more than one audit logging database on your Informix instance, do the following:
  - Go to *c10\_location*\configuration\schemas\logging\informix and open the file LS\_dbCleanIndexes\_informix.sql in a text editor.
  - Replace every instance of IPFSCRIPTIDX with the value that you specified when you created the IPFSCRIPTIDX property in IBM Cognos Configuration.

For more information, see the topic about specifying a log messages repository in the *IBM Cognos Business Intelligence Installation and Configuration Guide*.

- Save and close the file.
- 6. Start the IBM Cognos service.

# Error trying to encrypt information when saving your configuration

When you save your configuration using the configuration tool, you may see an error message that the cryptographic information cannot be encrypted. An error occurred when requesting a certificate from the Certificate Authority.

*The cryptographic information cannot be encrypted. Do you want to save the configuration in plain text?* 

Before you can encrypt your configuration settings, the computer where Content Manager is installed must be configured and running. On UNIX operating systems, ensure that you copied the appropriate .jar files to the installation location of your Java Runtime Environment. In addition, ensure that your Java environment is configured correctly, the URIs are correct, and the same certificate authority password is configured for all Content Manager computers.

On Linux operating systems, ensure that you copied the appropriate .jar files to the installation location of your Java Runtime Environment.

Also, an error message similar to the following may display:

#### java.lang.NoClassDefFoundError: javax/net/ServerSocketFactory.

The cryptographic error usually means the Java environment is not configured correctly. Ensure that the JAVA\_HOME environment variable is set correctly and the appropriate security providers are installed, such as JSSE for JRE 1.5.

### Checking the URI properties and certificate authority password

To ensure that configuration settings can be encrypted, ensure that the URI properties and certificate authority password in IBM Cognos Configuration are correct.

#### Procedure

- 1. On the Content Manager computer, start IBM Cognos Configuration.
- 2. In the **Explorer** window, click **Environment**.
- 3. In the Properties window, verify these properties:
  - Under Gateway Settings > Gateway URI
  - Under Dispatcher Settings > External dispatcher URI and Internal dispatcher URI
  - Under Other URI Settings > Dispatcher URI for external applications and Content Manager URIs
- 4. In the **Explorer** window, click **Security** > **Cryptography** > **Cognos**.
- 5. In the **Properties** window, under **Certificate Authority settings**, click the value for **Password**.

Ensure that the same password is used on all Content Manager computers.

6. Save the configuration and restart IBM Cognos BI.

# CAM-CRP-1315 error when saving configuration

When you save your configuration, an error occurs when there has been a change to your environment's trust domain.

The trust domain is managed by the certificate authority associated with the content store. The following error occurs if the content store you originally used was removed or if you modified your configuration to use a Content Manager associated with a different content store after you have saved your original configuration.

CAM-CRP-1315 Current configuration points to a different Trust Domain than originally configured.

To resolve the problem, change your configuration to use the original content store or regenerate the cryptographic keys using the following steps.

### Procedure

- 1. On the Content Manager computer, back up the existing cryptographic keys by saving the following directories to an alternate location that is secure:
  - *c10\_location*/configuration/csk
  - c10\_location/configuration/encryptkeypair
  - *c10\_location*/configuration/signkeypair
- 2. Delete the csk, encryptkeypair, and signkeypair directories.
- 3. In IBM Cognos Configuration, save the configuration and restart the services.
- 4. Repeat steps 1 to 3 on all computers that have IBM Cognos BI components installed.

## CAM-CRP-0221 error when logging into the portal

After installing IBM Cognos Business Intelligence on Microsoft Windows operating system (either a 32-bit or 64-bit system) and configuring IBM HTTP Server as the gateway, attempts to log in to the IBM Cognos BI portal result in an error message that contains the following:

CAM-CRP-0221 Unable to load the provider 'CAM\_Crypto\_TOpenSSL.dll' specified in the configuration file.

This error occurs when incompatible versions of OpenSSL libraries are loaded. To resolve the problem, load the OpenSSL libraries that are provided with IBM Cognos BI.

#### Procedure

- 1. On the gateway computer, go to *IBM\_HTTP\_location*\conf directory and open httpd.conf in a text editor.
- Add the following lines to the file: LoadFile "c10\_location/cgi-bin/ssleay32.dll"

LoadFile "c10\_location/cgi-bin/libeay32.dll"

where *c10\_location* is the path to the IBM Cognos BI installation directory.

# Prompted to download the ISAPI gateway

You are using the ISAPI gateway, and when you access the URL, you are prompted to download the ISAPI gateway file, cognosisapi.dll.

This problem can occur if the application pool used for your IBM Cognos gateway is set to use the incorrect bit setting for your gateway. For example, if you are using the 32-bit ISAPI gateway and the application pool is not enabled for 32-bit applications. Or, if you are using the 64-bit ISAPI gateway and the application pool is enabled for 32-bit applications.

### Procedure

- 1. In the **Internet Information Services (IIS) Manager** console, under **Connections**, and expand your server name.
- 2. Select Application Pools.
- 3. Select the application pool used for IBM Cognos BI.
- 4. Click Advanced Settings.
- 5. Change the setting for Enable 32-Bit Applications to the correct value.

For example, if you are using the 32-bit gateway, change the value to **True**. If you are using the 64-bit gateway, change the value to **False**. **False** is the default.

- 6. Click OK.
- 7. Access the ISAPI gateway in your web browser again.

# Changing from the 32-bit ISAPI gateway to the 64-bit ISAPI gateway

If you have configured your Microsoft Internet Information Services (IIS) Server to use the default 32-bit ISAPI gateway, and want to change it to use the 64-bit ISAPI gateway, you redo some of the steps to configure your web server.

For example, you must remove the Handler Mapping you created, and then add it again using the new, 64-bit gateway.

### Procedure

- 1. In the **Internet Information Services (IIS) Manager** console, under **Connections**, select your server name.
- 2. In the IIS group, double-click ISAPI and CGI Restrictions.
- 3. Select the entry for cognosisapi.dll, and click **Remove**.
- 4. Expand **Sites**, and expand the virtual directories you created for IBM Cognos BI, and select the cgi-bin virtual directory.
- 5. In the **IIS** group, double-click **Handler Mappings**.
- 6. In the list of mappings, select the mapping you created for cognosisapi.dll, and click **Remove**.
- 7. Under Actions, click Add Module Mapping.
  - a. In Request Path, type cognosisapi.dll.
  - b. In Module, select IsapiModule.
  - c. In Executable, enter the path to the cognosisapi.dll file. For example, enter:
    - C:\Program Files\ibm\cognos\c10\cgi-bin\cognosisapi.dll
  - d. In Name, enter a name for the entry, such as CognosISAPI.
  - e. Click OK.
  - f. Click Yes in the dialog box to allow the ISAPI extension.

# Manually changing the installation directory name affects installations running under an application server

After installing IBM Cognos Business Intelligence using the installation wizard and later renaming the installation directory or manually copying the contents to another directory, you attempted to run IBM Cognos Business Intelligence within an application server.

One of the following problems occurs:

- IBM Cognos BI does not start.
- Log directories are empty.
- Logs contain a linkage error or unsatisfied link error.

When you manually change the installation directory, the information in the IBM Cognos BI root directory becomes invalid. To resolve the problem, you must either update the IBM Cognos BI root directory before you create the IBM Cognos BI application file to deploy to the application server or you must reinstall IBM Cognos BI in the original location. If you reinstall IBM Cognos BI, follow the process for upgrading.

### Procedure

- 1. In the new or renamed installation directory, open *c10\_location*/webapps/ p2pd/WEB-INF/classes/cogroot.link in a text editor.
- 2. Replace the path with the new location of the installation directory and save the file.
- **3.** To build the application file to be deployed to the application server, in IBM Cognos Configuration, from the **Actions** menu, select **Build Application Files**.
- 4. If you built and deployed an application file to the application server before updating the cogroot.link file, undo the deployment.
- 5. Deploy the new application file to the application server.

For more information about configuring IBM Cognos BI for another application server, see the *IBM Cognos Business Intelligence Installation and Configuration Guide*.

# Configuration data is locked by another instance of IBM Cognos Configuration

You may get an error message that the configuration data is locked by another instance of IBM Cognos Configuration.

When you start IBM Cognos Configuration, it checks to see if the cogstartup.lock file exists in *c10\_location*/configuration. The file may exist if a previous instance did not shut down properly or if another instance of IBM Cognos Configuration is running.

#### Procedure

- 1. If another instance of IBM Cognos Configuration is running, exit that instance. Otherwise, any changes you make to the local configuration may result in errors.
- 2. If no other instance of IBM Cognos Configuration is running, delete the cogstartup.lock file in *c10\_location*/configuration.
- 3. If the IBM Cognos service is stopped, click Start.

# Unable to exit a tab sequence when using keyboard-only navigation in IBM Cognos Configuration

If you use the Tab key to navigate in IBM Cognos Configuration, you may experience problems exiting a tab sequence. For example, in the Properties window, you can press the Tab key to move from one property to another.

However, because IBM Cognos Configuration is a Java application, when you want to close the Properties window, you must press Ctrl+Tab.

# Unable to save your configuration

You may be unable to save your configuration because you are missing a resource. For example, you delete a resource such as the Cognos namespace, a cryptographic provider, or the content store. You can specify a different database type for the content store with Oracle, Microsoft SQL Server, Informix, or Sybase. You can also configure a new cryptographic provider. You cannot specify a new Cognos namespace, but you can recreate it. However, you must then recreate your Cognos groups and roles.

For more information about creating groups and roles in IBM Cognos Connection, see the *IBM Cognos Business Intelligence Administration and Security Guide*.

## **Recreating the Cognos namespace**

If you deleted the Cognos namespace, you must recreate it and then recreate your Cognos groups and roles.

## Procedure

- 1. Start IBM Cognos Configuration.
- 2. In the **Explorer** window, under **Security**, right-click **Authentication** and then click **New resource** > **Namespace**.
- 3. In the **Name** box, type a name for the resource.
- 4. In the Type box, click Cognos, and then click OK.

The Cognos namespace displays in the Explorer window.

- 5. From the **File** menu, click **Save**.
- 6. Recreate the Cognos groups and roles using IBM Cognos Administration. For more information, see the *IBM Cognos Business Intelligence Administration and Security Guide*.

# Java error when starting IBM Cognos Configuration

When you start IBM Cognos Configuration, you may receive an error message that the Java Runtime Environment (JRE) has changed and that the current cryptographic information is not compatible with the new JRE. You may then be prompted to regenerate the cryptographic information for the new JRE or exit to switch back to the previous JRE.

This error may occur for one of these reasons:

- Your configuration data was encrypted using a different JRE than the one IBM Cognos BI components are currently using.
- The cryptographic information may have been corrupted.

If you click **Regenerate** in the error dialog, the IBM Cognos service is stopped and the cryptographic information is regenerated.

If you click **Exit** in the error dialog, you must set the JAVA\_HOME environment variable to point to the JRE that you used to save your configuration.

On Microsoft Windows operating system, if you want IBM Cognos BI components to use the JRE that is installed by default, unset JAVA\_HOME or set JAVA\_HOME to *c10\_location*/bin/jre.

**Note:** If you want to change from one JRE to another, see the topic on changing the version of JVM that IBM Cognos BI components use. For more information, see the *IBM Cognos Business Intelligence Installation and Configuration Guide*.

## Cryptographic error when starting IBM Cognos Configuration

When you start IBM Cognos Configuration, the following error message may display:

The cryptographic information may have been corrupted or the cogstartup.xml file is invalid. You may have to fix this file or remove it from disk. For more information, see the Installation and Configuration Guide.

This error occurs when IBM Cognos BI components detect an error in the cogstartup.xml file. This can occur when the cogstartup.xml file is manually edited and there is an error in the changed text.

To resolve the problem, replace the cogstartup.xml file with a copy from your backup location.

# Restarting the IBM Cognos service to apply configuration settings

After changing default property values or adding a resource to your installation in IBM Cognos Configuration and then saving the configuration, you may not see the changes or be able to use the resource in the run-time environment.

To apply the new settings to your computer, you must restart the IBM Cognos service.

#### Procedure

1. Start IBM Cognos Configuration.

- 2. From the Actions menu, click the appropriate command:
  - If the IBM Cognos service is currently running, click Restart.

This action starts all installed services that are not running and restarts services that are running. If you want to restart a particular service, select the service node in the **Explorer** window and then click **Restart** from the **Actions** menu.

• If the IBM Cognos service is stopped, click Start.

This action starts all installed services that are not running. If you want to start a particular service, select the service node in the **Explorer** window and then click **Start** from the **Actions** menu.

# CM-CFG-029 error when trying to save a configuration that specifies a Microsoft SQL Server content store

In IBM Cognos Configuration, you try to save a configuration and the following error message is in the cogserver.log file:

CM-CFG-029 Content Manager is unable to determine whether the content store is initialized.

EXECUTE permission is denied on object "sp\_tables", database "master", owner "dbo'.

This indicates that you do not have the correct permissions to initialize a content store or create a table in the database.

Ensure that the content store user has permissions to use the sp\_tables stored procedure in the master database.

## DB2 not found error for Linux on System z

You installed IBM Cognos Business Intelligence and after you ran the C8DB2.sh script, an error stating that DB2 cannot be found is displayed or written to the log files.

### Procedure

1. Create a profile that sources the sqllib/db2profile from the user's home directory for the user you enter when you run the script.

An example .profile would contain something like the following:

if [ -f /home/db2user/sqllib/db2profile ]; then

- ./home/db2user/sqllib/db2profile
  fi
- 2. Run the C8DB2.sh script again.

## DPR-ERR-2079 when Content Manager configured for failover

You configured multiple computers as standby computers to ensure failover for Content Manager.

However, the following error message displays to the user: DPR-ERR-2079 Firewall Security Rejection. Your request was rejected by the security firewall

This error message can occur if you have not configured all the standby computers as valid hosts for the IBM Cognos Application Firewall.

To solve this problem, on each distributed computer, start IBM Cognos Configuration and enter the names of all the computers that you are configuring for failover.

### Procedure

- 1. In the Explorer pane, click Security > IBM Cognos Application Firewall.
- 2. In the IBM Cognos Application Firewall Component Properties window, click in the Value column next to Valid domains or hosts.
- 3. Click the edit icon.
- 4. Enter the names of all the computers that you are configuring for failover.
- 5. Save and start the configuration.

## Importing a large content store in Solaris using JRE 1.5 fails

If you export a content store that is greater than 2 GB when exported, and then attempt to import it in Solaris using JRE 1.5, the import fails with the following error message:

CM-SYS-5001 A Content Manager internal error occurred.

This is due to a bug in JRE 1.5 on Solaris. Use JRE 1.4.2 instead.

# Importing a large deployment in Windows crashes the Java virtual machine

The Java virtual machine under Microsoft Windows operating system may crash under the following circumstances.

- The maximum Java memory setting is 1152 MB or higher.
- You are importing a large archive from a previous release of IBM Cognos Business Intelligence.
- The archive contains large models that require upgrading.

#### Procedure

- 1. Start IBM Cognos Configuration.
- 2. In the Explorer, under Environment, IBM Cognos services, click IBM Cognos.
- 3. Set the Maximum memory in MB property to 768.

# CCL-BIT-0006 error message when using WebSphere Application Server on a heavily loaded system

On a heavily loaded system that uses Websphere Application Server, some connections might terminate before IBM Cognos Business Intelligence finishes processing a request.

You might see the following message in the *c10\_location*/logs cogserver.log file:

*Failure RSV-SRV-0063 An error occurred while executing the 'asynchRun\_Request' command. CCL-BIT-0006 The HTTP message is unexpectedly short.* 

When the connection closes before the request is processed, the request is lost and the user must resubmit the request.

You can help reduce the frequency of this error by increasing the **Persistent Timeout** parameter for the **Web container transport chains** in the WebSphere Administrative Console.

Increase the time in 10-15 second intervals until the error no longer or rarely occurs.

## Users are prompted for Active Directory credentials

The single signon mechanism does not work when IBM Cognos Business Intelligence is configured as follows:

- Microsoft Internet Explorer runs on a Microsoft Windows operating system NT computer.
- The authentication namespace is configured with the Active Directory provider.
- Microsoft Internet Explorer on a Windows 2000 or Windows 2003 server is configured for Integrated Windows Authentication.

As a result, users are prompted for their Active Directory credentials.

This problem occurs because the IBM Cognos BI Active Directory provider uses ADSI protocol and Kerberos delegation for authentication in a single signon environment. When Microsoft Internet Explorer runs on Windows NT, it cannot authenticate to the IIS server using Kerberos delegation.

When your system is configured for Windows Integrated Authentication, for the single signon to work with IIS, you must

- configure IBM Cognos BI to communicate with the Active Directory server using the LDAP provider.
- configure the external identity mapping property to read the REMOTE\_USER environment variable.

# Font on UNIX not found when starting IBM Cognos Configuration

A common problem occurs on UNIX, when you start IBM Cognos Configuration.

The following error message may display:

Font specified in font.properties not found...

This error occurs if the Java Virtual Machine (JVM) is trying to use one or more fonts that are not installed on your computer. However, the JVM should use the system default, and IBM Cognos Configuration should start and run normally.

## Procedure

Add the missing fonts to your Java Runtime Environment by editing the font.properties files.

Several font.properties files, which contain standard font environment information, are installed with your Java Software Development Kit. You can find these files in the *JRE\_location*/lib directory.

For more information, see the Java documentation.

## ESSBASEPATH cannot be detected

For Microsoft Windows and UNIX platforms, Oracle Essbase software uses the ESSBASEPATH environment variable to locate the Essbase 11 client software. The Oracle Hyperion Enterprise Performance Management (EPM) System Installer creates ESSBASEPATH as a user environment variable.

If the IBM Cognos service is configured to run or log on as a system account, you must manually add ESSBASEPATH as a system environment variable, if it does not exist. When IBM Cognos software cannot locate the ESSBASEPATH environment variable, you receive the following error:

DB2-ERR-0044 Essbase environment variable "ESSBASEPATH" cannot be detected. Check if Essbase client is installed.

To resolve this issue, do one of the following, and then restart the IBM Cognos service:

- Double-click IBM Cognos service, and on the Log On tab, specify a user account that has access to ESSBASEPATH.
- Add ESSBASEPATH as a system environment variable.

Note that if you are upgrading to Essbase 11 software from Essbase 9 software, you must install the appropriate client and then edit the qfs\_config.xml file to change the library name.

## Changing the library name in the qfs\_config.xml file

If you are upgrading to Essbase 11 software from Essbase 9 software, then after installing the appropriate client, you must change the library name in the qfs\_config.xml file.

#### Procedure

- 1. In the *c10\_location*/configuration directory, open the file named qfs\_config.xml.
- Find the line of code <provider name="DB20lapODP" libraryName="essodp93" connectionCode="D0"/> and change the library name from essodp93 to essodp111.
- 3. Save the changes.

# Problems testing data source connections with IBM Cognos BI deployed on SAP NetWeaver Application Server 7.1.1 on UNIX

If you have deployed IBM Cognos BI on SAP NetWeaver Application Server 7.1.1 running on a UNIX operating system, you may receive an error when you test your data source connections in IBM Cognos Administration.

To resolve this problem, you must update the library path and all paths used for database client access in a SAP environment file named .sapenv\_servername.sh, where *servername* is the name of your server.

### Procedure

- 1. Go to the SAP administrator user's home directory.
- 2. Locate the file named .sapenv\_servername.sh, where servername is the name of your server.
- **3**. Open the file in a text editor.
- 4. Add *c10\_location*/bin64 to the library path and any path locations required for database client access.

For example, if you have installed IBM Cognos BI to /server1/home/ibm/ cognos/c10, your library path would look like the following:

LIBPATH=/server1/home/ibm/cognos/c10/bin64:/db/oracle/11.1.0.6/lib32: /server1/home/db2user/sqllib/lib32:/usr/lib:/lib:\$\_DEF\_EXE; export LIBPATH

- 5. Save the file, and restart the SAP and IBM Cognos BI processes.
- 6. Test your database connections again in IBM Cognos Connection.

## Query fails when using Oracle Essbase Server

You run a query to retrieve metadata or data from an Oracle Essbase server and you receive a message similar to one of the following messages:

- The IBM Cognos gateway is unable to connect to the IBM Cognos BI server. The server may be unavailable or the gateway may not be correctly configured.
- DB2-ERR-0005 An unknown error occurred during the login. Database error code: 1,042,006.
- XQE-DS-0006 Unable to logon to the data source.

These IBM Cognos errors can result from Windows not having enough sockets or ports available on the Microsoft Windows operating system. A lack of sufficient ports can cause data retrieval from Essbase to fail because of network communication errors. To resolve this problem, increase the number of Windows sockets or ports that are available for program use.

## Increasing the number of Windows sockets or ports

To resolve connection errors with an Oracle Essbase Server, increase the number of sockets or ports on the Microsoft Windows operating system that are available for program use by adding two entries in Microsoft Registry Editor.

**Important:** Use Microsoft Registry Editor at your own risk. Incorrect use may cause problems that require you to reinstall your operating system. Microsoft cannot guarantee that you can solve problems that result from using Registry Editor incorrectly.

### Procedure

- 1. From the Windows **Start** menu, run the regedit application.
- 2. In the HKEY\_LOCAL\_MACHINE\SYSTEM\CurrentControlSet\Services\ Tcpip\Parameters directory, create a new **DWORD** value named **MaxUserPort**.
- 3. Set the properties for **MaxUserPort** to use a value of **65534** and a base of **Decimal**.

The range for value is from 30000 to 65534.

- 4. In the same directory, add another **DWORD** value named **TcpTimedWaitDelay**.
- 5. Set the properties for **TcpTimedWaitDelay** to use a value of **50** and a base of **Decimal**.

The range for value is from 30 seconds to 300 seconds, with a default value of 240 seconds (4 minutes).

**6.** After closing the regedit application, restart the Microsoft CRM server or restart your computer.

### Results

For more information, visit the technet2.microsoft.com Web site and search on the terms MaxUserPort and TcpTimedWaitDelay.

# Group membership is missing from Active Directory namespace

If an Active Directory namespace is configured for the same forest and a user is authenticated using a credential, the group membership will be missing.

The process identity of IBM Cognos Business Intelligence, when running as a local system account or a domain user, must have one of these privileges:

- impersonate a client after authentication
- act as part of the operating system

If the privilege is missing, there is no group membership for the authenticated user.

### Adding group membership for an Active Directory namespace

To add group membership for an Active Directory namespace, you must add the process identity for IBM Cognos Business Intelligence to the local security policy.

### Procedure

- 1. From the Start menu, click Settings, Control Panel.
- 2. Click Administrative Tools, and then double-click Local Security Policy.
- 3. In the console tree, click Security Settings, Local Policies.
- 4. Click User Rights Assignment.
- 5. Add the process identity of IBM Cognos BI to one of the following policies:
  - Impersonate a client after authentication

The default is Administrators, Service.

For more information, see the library article fe1fb475-4bc8-484b-9828a096262b54ca1033.mspx at the Microsoft Web site.

Act as part of the operating system

The default is Local system.

For more information, see the library article ec4fd2bf-8f91-4122-8968-2213f96a95dc1033.mspx at the Microsoft Web site.

Both of these privileges give an account the ability to act as another user.

The privilege Impersonate a client after authentication is similar to the Act as part of the operating system privilege except that it will only allow a process to impersonate after authentication, whereas the privilege Act as part of the operating system allows a process to impersonate before authentication.

For more information, see the library article tkerbdel.mspx at the Microsoft Web site.

# Errors displayed when deploying to Oracle 10G Application Server

You are deploying IBM Cognos Business Intelligence to an Oracle 10G Application Server.

The following error messages may occur:

CMM-APP-3254 The initialization of the metrics store failed. DIS-ERR-3115 Task execution failed.

MDS-RUN-3213 Unable to locate database bulk load utility. Please install the appropriate database tool for this platform ('bcp' for SQL Server, 'sqlldr' for Oracle)

These errors occur because the bulk loading utilities (SQL Loader on Oracle) are not included in the deployment file created by IBM Cognos Configuration.

#### Procedure

To install the missing components, use the Oracle client software on the computer where you installed the Oracle 10G Application Server. Ensure that you install SQL Loader.

# Page cannot be found error running reports using IBM Cognos for Microsoft Office

In a Microsoft Office document configured for IBM Cognos for Microsoft Office, you use Run Report but receive a "The page cannot be found" error message.

This can occur if the IBM Cognos BI gateway and dispatcher use "localhost" as the server name values on the IBM Cognos BI server.

## Procedure

- 1. Start IBM Cognos Configuration.
- 2. In the Explorer, click Environment.
- **3**. Ensure that the localhost portion of all URI properties is replaced by the computer name.

# CGI timeout error while connected to IBM Cognos Business Intelligence through a Web browser

When performing operations through your Web browser, you receive the following error message:

CGI Timeout, process will be deleted from server.

The error occurs when you use Microsoft Internet Information Services (IIS) as your Web server and the gateway is configured to use CGI. IIS has a default timeout for CGI applications.

To resolve this problem, you can configure the gateway to use ISAPI or increase the CGI timeout in IIS.

IIS does not have a default timeout for ISAPI applications. Or, if you want to keep using a CGI gateway, you can increase the CGI timeout in IIS.

### Changing the gateway to ISAPI

To resolve a CGI timeout error in the Web browser, you can change the gateway from CGI to ISAPI.

#### Procedure

- 1. On the gateway computer, start IBM Cognos Configuration.
- 2. Under **Environment**, for the **Gateway URI** property, change the cognos.cgi portion of the URI to

cognosisapi.dll

 In your Web browser, specify the ISAPI URI: http://computer\_name/ibmcognos/isapi

### Increasing the CGI timeout

To resolve a CGI timeout error in the Web browser, you can increase the duration of the CGI timeout in IIS.

#### Procedure

- 1. In the administrative tools for Microsoft Windows operating system, open Internet Information Services.
- 2. Under the local computer node, right-click Websites and select Properties.
- 3. In the Home Directory tab, click Configuration.
- 4. In the **Process Options** tab, increase the CGI script timeout.

# Servlet class fails to load in WebLogic

You may have problems when configuring a distributed server installation and using WebLogic as the application server for IBM Cognos BI.

When deploying the p2pd.war for the Application Tier Components computer, you may receive servlet exceptions and the dispatcher does not start. The cogserver.log is also not created.

The following error messages display in the WebLogic Server console:

<Jul 9, 2004 3:47:37 PM EDT> <Error> <HTTP><BEA-101249> <[ServletContext(id=19023494,name=p2pd,context-path=/p2pd)]:Servlet class com.cognos.pogo.isolation.ServletWrapper for servletcfgss could not be loaded because the requested class was not found in the classpath /host2/bea812/user\_projects/domains/c10/ applications/p2pd/WEB-INF/classes. java.lang.ClassNotFoundException: com.cognos.pogo.isolation.ServletWrapper.>

<Jul 9, 2004 3:47:37 PM EDT> <Error> <HTTP> <BEA-101216> <Servlet: "cfgss" failed to preload on startup in Web application: "p2pd".

#### javax.servlet.ServletException:

[HTTP:101249][ServletContext(id=19023494,name=p2pd,context-path=/p2pd)]: Servlet class com.cognos.pogo.isolation.ServletWrapperfor servlet cfgss could not be loaded because the requested class was not found in the classpath /host2/bea812/user\_projects/domains/c10/ applications/p2pd/WEB-INF/classes.java.lang.ClassNotFoundException: com.cognos.pogo.isolation.ServletWrapper. at weblogic.servlet.internal.ServletStubImpl.prepareServlet (ServletStubImpl.java:799)

at weblogic.servlet.internal.WebAppServletContext.preload Servlet(WebAppServletContext.java:3252)

To avoid this problem, do not deploy the p2pd application from the WebLogic applications directory. Create the p2pd directory in another location and deploy p2pd from there.

# Deploying the p2pd application outside of the WebLogic applications directory

To resolve issues with the servlet class failing to load when deploying IBM Cognos Business Intelligence to WebLogic, deploy the p2pd application to a different directory than the WebLogic applications directory.

#### Procedure

- 1. Open IBM Cognos Configuration and configure the Application Tier Components computer.
- 2. Restart the Content Manager computer.
- **3**. Create a p2pd directory in a location that is accessible by the WebLogic server but is not in the WebLogic applications directory.

For example, create a directory named p2pd in the following location:

WebLogic\_location/user\_projects/domain\_name

- 4. Create the p2pd.war file.
- 5. In the p2pd directory, extract the p2pd.war file to the WebLogic installation using the following command:

%JAVA\_HOME%/bin/jar xvfm "c10\_location/p2pd.war".

- 6. Start WebLogic.
- 7. In the WebLogic Server Console, deploy the p2pd application.

# Desktop icons or IBM Cognos Configuration window flicker on Windows

When you run IBM Cognos Configuration on Microsoft Windows operating system, you may notice that the desktop icons or the IBM Cognos Configuration window flickers.

## Procedure

Start IBM Cognos Configuration using the -noddraw command line option.
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