# Contents

## Introduction ......................................................... v

## Chapter 1. IBM Cognos Business Intelligence ...................... 1
- IBM Cognos Connection ............................................ 1
- IBM Cognos Insight ............................................... 2
- IBM Cognos Workspace ........................................... 2
- IBM Cognos Workspace Advanced ................................ 3
- IBM Cognos Report Studio ....................................... 3
- IBM Cognos Event Studio ......................................... 4
- IBM Cognos Metric Studio ....................................... 4
- IBM Cognos for Microsoft Office ................................ 4
- IBM Cognos Query Studio ....................................... 5
- IBM Cognos Analysis Studio ................................... 5
- IBM Cognos Transformer ........................................ 5
- How IBM Cognos Business Intelligence Works .................. 6
- Viewing and Organizing Content ................................ 8
- Administration of IBM Cognos Business Intelligence ....... 10
  - Security ......................................................... 10
  - Scheduling Content .......................................... 10
- The IBM Cognos Software Development Kit ..................... 11
- Integrating with Other IBM Cognos Products ................... 11
- Building IBM Cognos business intelligence applications .... 13

## Chapter 2. IBM Cognos Business Intelligence Examples ............ 15
- Example - Run a Report .......................................... 15
- Example - Schedule a Report ................................... 17
- Example - Create a Portal Page ................................ 19
- Example - Work with a workspace ................................ 21
- Example - Create a Statement-Style Report ..................... 23
- Example - Create a Report ....................................... 26
- Example - Manage an Event ..................................... 30
- Example - Monitor Performance ................................ 33
- Example - Work with IBM Cognos Content in Microsoft Excel ... 38
- Example - Create a Query ....................................... 41
- Example - Create an Analysis ................................... 44

## Notices ........................................................................ 51

## Glossary .................................................................... 55
- A ........................................................................ 55
- B ........................................................................ 55
- C ........................................................................ 55
- D ........................................................................ 57
- E ........................................................................ 57
- F ........................................................................ 57
- G ........................................................................ 57
- H ........................................................................ 58
- I ........................................................................ 58
- J ........................................................................ 58
- L ........................................................................ 58
- M ........................................................................ 58
- N ........................................................................ 59
- O ........................................................................ 59
- P ........................................................................ 59
Introduction

This document is intended for use with IBM® Cognos® Business Intelligence. IBM Cognos BI is a Web-based business intelligence solution with integrated reporting, analysis, scorecarding, and event management features.

This document introduces the IBM Cognos BI architecture and provides examples to illustrate key functionality.

Finding information

To find IBM Cognos product documentation on the web, including all translated documentation, access one of the IBM Cognos Information Centers (http://pic.dhe.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.

Accessibility Features

Accessibility features help users who have a physical disability, such as restricted mobility or limited vision, to use information technology products. Some product components described in this document have accessibility features. For information on these features, see the accessibility sections in the documents for each component.

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

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Chapter 1. IBM Cognos Business Intelligence

IBM Cognos Business Intelligence is an integrated business intelligence suite that provides a wide range of functionality to help you understand your organization's data. Everyone in your organization can use IBM Cognos BI to view or create business reports, analyze data, and monitor events and metrics so that they can make effective business decisions.

IBM Cognos BI integrates the following business intelligence activities in one Web-based solution. Before you use IBM Cognos BI, you should understand how each of the components that make up the IBM Cognos BI user interfaces can help you do your job.

<table>
<thead>
<tr>
<th>Component</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>IBM Cognos Connection</td>
<td>Publishing, managing, and viewing content</td>
</tr>
<tr>
<td>IBM Cognos Insight</td>
<td>Managed workspaces</td>
</tr>
<tr>
<td>IBM Cognos Workspace</td>
<td>Interactive workspaces</td>
</tr>
<tr>
<td>IBM Cognos Workspace Advanced</td>
<td>Ad hoc querying and data exploration</td>
</tr>
<tr>
<td>IBM Cognos Report Studio</td>
<td>Managed reporting</td>
</tr>
<tr>
<td>IBM Cognos Event Studio</td>
<td>Event management and alerting</td>
</tr>
<tr>
<td>IBM Cognos Metric Studio</td>
<td>Scorecarding and metrics</td>
</tr>
<tr>
<td>IBM Cognos for Microsoft(tm) Office</td>
<td>Working with IBM Cognos BI content in Microsoft Office</td>
</tr>
<tr>
<td>IBM Cognos Query Studio</td>
<td>Ad hoc querying</td>
</tr>
<tr>
<td>IBM Cognos Analysis Studio</td>
<td>Data exploration</td>
</tr>
</tbody>
</table>

Depending on your licensing permissions, you may not have access to all the functionality available in IBM Cognos BI.

**Related concepts:**

- "How IBM Cognos Business Intelligence Works" on page 6
- "The IBM Cognos Software Development Kit" on page 11
- "Integrating with Other IBM Cognos Products" on page 11

IBM Cognos Business Intelligence is fully integrated with other IBM Cognos products so your business intelligence capabilities can grow with your needs.

**IBM Cognos Connection**

IBM Cognos Connection is the Web portal for IBM Cognos Business Intelligence. It is the starting point to access your BI information and the functionality of IBM Cognos BI.

Use the portal to publish, find, manage, organize, and view your organization’s business intelligence content, such as reports, scorecards, and agents. If you have
the necessary permissions, you can access the various studios from the portal and use the portal for content administration, including scheduling and distributing reports, and creating jobs.

You view reports in IBM Cognos Viewer.

System administrators also use the portal to administer servers, optimize performance, and set access permissions.

**Related tasks:**

- “Example - Run a Report” on page 15
- “Example - Schedule a Report” on page 17
- “Example - Create a Portal Page” on page 19

IBM Cognos Connection is the Web portal that gives you access to all the IBM Cognos Business Intelligence functionality. In the portal, you can run reports.

You can schedule entries that are stored in IBM Cognos Connection, such as reports, queries, and agents, so that they run at a time that is convenient for you.

You can customize the IBM Cognos Connection portal by creating your own portal pages. You can choose the information that is most important to you and make it available from your page. Choose from different types of content and organize the pages in a way that works for you.

---

**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.

IBM 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 Cognos Connection interface.

For more information about Cognos Insight, see the *IBM Cognos Insight User Guide* and the *IBM Cognos Insight Tutorial*.

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**IBM Cognos Workspace**

In IBM Cognos Workspace, you can create sophisticated interactive workspaces using IBM Cognos content, as well as external data sources such as TM1® Websheets and CubeViews, according to your specific information needs. You can view and open favorite workspaces and reports, manipulate the content in the workspaces, and e-mail your workspaces. You can also use comments, activities and social software such as IBM Connections for collaborative decision making.
Use IBM Cognos Workspace to build sophisticated interactive workspaces that facilitate collaborative decision making. You can open workspace widgets in IBM Cognos Workspace Advanced to edit them.

### IBM Cognos Workspace Advanced

With IBM Cognos Workspace Advanced, you can perform advanced data exploration and author simple reports.

When you are in a workspace in IBM Cognos Workspace and want to perform deeper analysis and report authoring, you can seamlessly graduate to Cognos Workspace Advanced, where you can perform more advanced data exploration, such as adding additional measures, conditional formatting, and advanced calculations. You can also launch Cognos Workspace Advanced directly from the IBM Cognos Connection portal.

With Cognos Workspace Advanced, you can create reports with relational or dimensional data sources, and that show data in lists, crosstabs, and charts. You can also use your own external data source.

When you are using Cognos Workspace Advanced, if you open a report that was authored in IBM Cognos Report Studio, you can see the objects that can be inserted only in Report Studio, such as map. However, you cannot modify these objects.

### IBM Cognos 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.

Use Report Studio for reports that
- Are intended for a wide audience
- Exist long enough to require maintenance for changing requirements and data
- Require detailed control over the appearance

Report Studio provides powerful functionality, such as bursting, prompts, maps, and advanced charting, and provides many ways to customize reports.
Related tasks:
“Example - Create a Report” on page 26
Use IBM Cognos Report Studio to create reports with complex layout, formatting, and report user interactions. Such reports are usually created by professional report authors who have a good knowledge of the data and tools.

IBM Cognos 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.

Related tasks:
“Example - Manage an Event” on page 30
Use IBM Cognos Event Studio to define business events or exceptional conditions in your data that require attention. Create agents to monitor your data and notify decision-makers in your organization of events as they happen, so that they can make timely and effective decisions. You create agents to perform tasks or deliver alerts when the data meets predefined thresholds.

IBM Cognos 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.

Related tasks:
“Example - Monitor Performance” on page 33
With IBM Cognos Metric Studio, you can track the performance of your organization against its objectives. At a quick glance, decision makers at every level of the organization can see the status of the organization, and then react or plan.

IBM Cognos for Microsoft Office

When you use IBM Cognos for Microsoft Office, you can work with secure IBM Cognos Business Intelligence content in your familiar Microsoft Office environment.

You can retrieve report content from a variety of IBM Cognos applications, including IBM Cognos BI and IBM Cognos PowerPlay®. IBM Cognos for Microsoft Office provides access to all IBM Cognos report content, including data, metadata, headers, footers, and charts. You can use predefined reports, or create new content using IBM Cognos Query Studio, IBM Cognos Analysis Studio, or IBM Cognos Report Studio.

By importing content into Microsoft Excel spreadsheet software, you can work with the data and leverage Microsoft Excel's formatting, calculation, and presentation capabilities. You can also use the formatting and charting features of Microsoft Excel.
By importing content into Microsoft PowerPoint and Microsoft Word, you can include reports and charts to enhance your presentations and documents.

**Related tasks:**

“Example - Work with IBM Cognos Content in Microsoft Excel” on page 38

You use IBM Cognos for Microsoft Office to access IBM Cognos content in Microsoft Excel spreadsheet software. In Excel, you can work with and add value to existing IBM Cognos reports, apply calculations, and use your existing Microsoft Excel macros. When you reconnect to the IBM Cognos server, you can refresh the data to obtain the latest information. You can also import content into Microsoft PowerPoint and Microsoft Word.

---

**IBM Cognos 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.

**Related tasks:**

“Example - Create a Query” on page 41

Use IBM Cognos Query Studio to retrieve information from a relational data source when you want to create reports that answer simple business questions. Also use Query Studio to publish reports for audiences who do not require complex layout or formatting.

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**IBM Cognos Analysis Studio**

In Analysis Studio, users can explore, analyze, and compare dimensional data. Analysis Studio provides access to dimensional, OLAP (online analytical processing), and dimensionally modeled relational data sources. Analyses created in Analysis Studio can be opened in Report Studio and used to build professional reports.

**Related tasks:**

“Example - Create an Analysis” on page 44

In IBM Cognos Analysis Studio, you can manipulate items in your data interactively so that you can identify and understand the problems and issues in your business.

---

**IBM Cognos Transformer**

IBM Cognos Transformer is a multi-dimensional data modeling component designed for use with IBM Cognos Business Intelligence.

You use this component to create a multi-dimensional model: a business presentation of the information in one or more different data sources that share common data. After you add the needed metadata from IBM Cognos Business Intelligence packages, reports, and other various data sources, model the dimensions, customize the measures, and apply IBM Cognos BI secured views with dimensional filtering, you can create IBM Cognos PowerCubes based on this model. You can deploy these cubes to support OLAP reporting and analysis around the globe.

For more information, see the IBM Cognos Transformer User Guide.
How IBM Cognos Business Intelligence Works

When you view or create a report, you are viewing data that is stored in your organization’s databases. The following diagram explains the steps that are involved in using IBM Cognos Business Intelligence.
1. In IBM Cognos Framework Manager, the modeler ensures that metadata is presented in a manner that business users can understand. Modelers import the metadata from one or more databases, and then add to the model to meet user requirements.

2. In IBM Cognos Metric Designer, the modeler identifies the data items and calculations that form the targets and actual results for each metric.

3. The modeler then publishes and updates packages to IBM Cognos Connection so that authors can use them to create reports, agents, and scorecards.

4. Business users and report authors use the published packages to understand their business data.

5. Users run, view, and manage their content in IBM Cognos Connection. Depending on their security permissions, they may be able to simply run and view reports or manage schedules, portal layout, and other users’ permissions.

6. In IBM Cognos Transformer, you can leverage queries in published packages, queries from IBM Cognos BI reports, and personal data sources, such as Microsoft Excel spreadsheet software, to create a unique, focused model of your business. Transformer is IBM Cognos’s industry leading OLAP modeling tool, which is designed so that business users can be self-sufficient in modeling a view of the business that suits the needs of their department or specialty.

For more information, see the IBM Cognos Business Intelligence Architecture and Deployment Guide.

Report Specifications

When authors create a report, they are actually creating a report specification. The report specification is an XML representation of the queries and prompts that are used to retrieve data, as well as the layouts and styles that are used to present the data. For simplicity, the report specification is called the report.

Report specifications can be useful to report authors for troubleshooting.


Models and Packages

Because stored data is typically designed for storage and not for reporting, a data modeler uses Framework Manager to create metadata models. Models structure, add to, and manage data in ways that make sense to business users. Models define business rules, data descriptions, data relationships, and business dimensions and hierarchies.

Models can be based on the compatible query mode or the dynamic query mode. The compatible query mode supports legacy reports and is required for some data sources. The dynamic query mode is recommended for new applications of IBM Cognos Business Intelligence.

The dynamic query mode provides the following benefits:

- It is optimized for complex queries and larger data volumes.
- It provides advanced query capabilities, such as in-memory caching, which can improve query planning, execution, and results.
• It enables the use of IBM Cognos Dynamic Cubes as data sources, which allow low-latency, high-performance OLAP analytics over large relational data warehouses.

Planning and creating a model is an important task that should be performed by a modeler or a modeling team familiar with both the database structure and the needs of the business users.

After the metadata model is defined, modelers create a package to make metadata available to report authors. Each package must contain all the information that a specific user or group of users needs to create reports. For example, one package can contain human resources data, and another sales data. When users open an authoring studio, they must select which package to use. Each report can contain data from only one package.

After a package is made available in IBM Cognos Connection, the Transformer modeler can begin to design a multidimensional IBM Cognos PowerCube for a more focused analysis of the business. The queries can be created directly in Transformer using metadata from any published package. Business specialists can also design their own model for a more focused analysis, combining metadata from different packages and even including personal data using flat files.

A more refined query intended for Transformer modeling can be authored by a business specialist by creating a report in IBM Cognos Query Studio or Report Studio. That report can then be used to create a data source in Transformer, allowing the business specialist full control over changes to the report, and therefore the query, rather than relying on the Framework Manager administrator for changes. Once the multi-dimensional design is complete, IBM Cognos BI security can be added with dimensional filtering and the PowerCube can be built. The PowerCube can then be published to IBM Cognos Connection just like any other package, making it available for multi-dimensional analysis and reporting.


**Viewing and Organizing Content**

When you view and run a report, scorecard, or agent, the information that you see comes from data sources, the package, calculations, other properties added by the author, and from IBM Cognos Business Intelligence itself.

You use IBM Cognos Connection to organize your reports and other IBM Cognos content such as agents, metrics packages, URLs, and folders. You can access public content on the **Public Folders** tab or custom portal pages, and store and access your favorite content on the **My Folders** tab.

**Report and Agent Views**

If you want to personalize an existing public report or agent, you can create a report or agent view and save the view on the **My Folders** tab. This allows you to save prompt values, modify the schedule, and change the output format of reports.

For more information, see the online help in IBM Cognos Connection.
Report Outputs

When a report is run, it contains the latest data from the data source. However, viewing the most recent data may not always meet your needs. When you want to view older data, you save and view the report output.

Report outputs are created when you schedule a report, when a report has multiple formats or languages, when a report has a delivery method of save, print, or email, and when a report is burst.

You can produce report outputs in the following formats:
- Hypertext markup language (.html)
- Adobe portable document format (.pdf)
- Microsoft Excel spreadsheet (.xls or .xlsx)
- Delimited text (.csv)
- Extensible markup language (.xml)

If you are the owner of a report or have the necessary permissions, you can specify the default format for each report. You can also specify how many report output versions to keep.

For more information, see the online help in IBM Cognos Connection.

Drill-through Links

A report can contain drill-through links, also known as Go To links, so that you can easily open related content. A value in the report is linked to more detailed information in another report. For example, a report includes sales information for each continent. When you click a continent name, a more detailed report about sales for that specific continent opens.

When you view report data in IBM Cognos Connection, IBM Cognos Query Studio, and IBM Cognos Analysis Studio, you can also drill down and drill up. When you drill down, you follow a link from one layer of data to a more detailed layer within the same report. When you drill up, you access a less detailed layer.

For more information, see the online help in IBM Cognos Connection, Query Studio, or Analysis Studio.

Multilingual User Interface and Content

IBM Cognos Business Intelligence is a multilingual suite that lets you author reports once and deploy them globally. When users open a report, it automatically opens in the proper language, based on their locale settings.

You can select the language that you prefer for the user interface. If your data and reports are available in multiple languages, you can also select the language that you prefer for the content.

There is also support for bidirectional languages such as Hebrew, Arabic, Urdu, and Farsi. Report authors can control the display of native digits and the direction of text, crosstabs, and charts.

For more information, see the IBM Cognos Administration and Security Guide, the IBM Cognos Connection User Guide, the IBM Cognos Workspace User Guide, the IBM
Portal Pages

In IBM Cognos Connection, you can create your own custom portal pages. You use these portal pages to view frequently-used content, to group related reports and folders, and to combine IBM Cognos BI and non-IBM Cognos content within a single page. Within your portal pages, you can add IBM Cognos BI portlets, which you use to view and interact with your IBM Cognos BI content.

If you have the necessary permissions, you can create public pages that other users and groups can access and even use as their own. You can assign security permissions to allow only certain users to access the pages.

For more information, see the online help in IBM Cognos Connection.

Administration of IBM Cognos Business Intelligence

IBM Cognos Business Intelligence administrators ensure that IBM Cognos BI runs smoothly and at its optimum performance.

They can

- Define connections to the organization's data sources
- Define security permissions for users and groups in the organization
- Specify distribution lists, contacts, and printers
- Manage servers and dispatchers and fine-tune the performance of IBM Cognos BI
- Pre-define links for an entire package that authors can then easily add to their reports
- Customize the appearance and functionality of IBM Cognos BI

For more information, see the IBM Cognos Administration and Security Guide.

Security

IBM Cognos BI is secured by setting permissions and enabling user authentication. When anonymous access is enabled, you can use IBM Cognos BI without authenticating as a specific user.

In IBM Cognos BI, administrators define permissions so that users can access functionality. For example, to edit a report using IBM Cognos Report Studio, you must have the appropriate security and licensing permissions.

In addition, each entry in IBM Cognos Connection is secured to define who can read, edit, and run the entry.

For more information, see the online help in the IBM Cognos Administration console.

Scheduling Content

You can schedule most content that appears in IBM Cognos Connection to run at a time that is convenient for you.
You can schedule
- Reports
- Metrics
- Metrics data refreshes
- Agents
- Deployments

You can also create jobs to schedule multiple entries together.

For more information, see the online help in IBM Cognos Connection.

---

**The IBM Cognos Software Development Kit**

The IBM Cognos Software Development Kit provides a platform-independent automation interface for working with IBM Cognos BI services and components.

Developers in your organization can use the IBM Cognos Software Development Kit to create custom reports, manage deployment, and integrate security and portal functionality to suit your needs, locale, and existing software infrastructure. The Software Development Kit uses a collection of cross-platform Web services, libraries, and programming interfaces.

You can choose to automate only a specific task, or you can program the entire process from modeling through to reporting, scheduling, and distribution.

The Software Development Kit is available as a separate package.

For more information, see the *IBM Cognos Software Development Kit Developer Guide* and the *IBM Cognos Software Development Kit Getting Started Guide*.

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**Integrating with Other IBM Cognos Products**

IBM Cognos Business Intelligence is fully integrated with other IBM Cognos products so your business intelligence capabilities can grow with your needs.

**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 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.

**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*. 
Building IBM Cognos business intelligence applications

You use the IBM Cognos Business Intelligence components to build reporting and analysis applications.

The lifetime of an IBM Cognos Business Intelligence application can be months, or even years. During that time, data may change and new requirements appear. As the underlying data changes, authors must modify existing content and develop new content. Administrators must also update models and data sources over time. For more information about using data sources, see the IBM Cognos Business Intelligence Administration and Security Guide and the IBM Cognos Framework Manager User Guide.

Before you begin

In a working application, the technical and security infrastructure and the portal are in place, as well as processes for change management, data control, and so on. For information about the workflow associated with creating IBM Cognos BI content, see the IBM Cognos Business Intelligence Architecture and Deployment Guide. For additional information, see the IBM Cognos Solutions Implementation Methodology toolkit, which includes implementation roadmaps and supporting documents. Information about the toolkit is available on the Cognos Customer Center (http://www.ibm.com/software/data/cognos/customercenter/).

The following graphic provides an overview for how to use IBM Cognos BI to build applications across all of your IBM Cognos BI components.

![Diagram]

Figure 1. Using Cognos Business Intelligence to build applications

Procedure

1. Locate and prepare data sources and models.
   IBM Cognos BI can report from a wide variety of data sources, both relational and dimensional. Database connections are created in the Web administration interface, and are used for modeling, for authoring, and for running the application.
   To use data for authoring and viewing, the business intelligence studios need a subset of a model of the metadata (called a package). The metadata may need extensive modeling in Framework Manager.

2. Build and publish the content.
   Reports, scorecards, analysis, workspaces and more are created in the business intelligence studios of IBM Cognos BI. Which studio you use depends on the content, life span, and audience of the report, and whether the data is modeled dimensionally or relationally. For example, self-service reporting and analysis are done through IBM Cognos Workspace Advanced, IBM Cognos Query Studio, and IBM Cognos Analysis Studio, and scheduled reports are created in IBM Cognos Report Studio. Report Studio reports and scorecards are usually prepared for a wider audience, published to IBM Cognos Connection or
another portal, and scheduled there for bursting, distribution, and so on. You can also use Report Studio to prepare templates for self-service reporting.

3. Deliver and view the information.

You deliver content from the IBM Cognos portal or other supported portals, and view information that has been saved to portals, or delivered by other mechanisms. You can also run reports, analyses, scorecards, and more from within the business intelligence studio in which they were created.

For information about tuning and performance, see the IBM Cognos Business Intelligence Administration and Security Guide and the Cognos Customer Center (http://www.ibm.com/software/data/cognos/customercenter/).
Chapter 2. IBM Cognos Business Intelligence Examples

Complete the examples to become familiar with the different functionality of the various IBM Cognos Business Intelligence components.

Complete these examples in any order that you choose. For example, you can start with the Analysis Studio example without doing the previous examples.

Before you experiment with a data source of your own, we recommend that you try these examples using the sample data.

IBM Cognos Samples

Before you can work through these examples, ensure that all the IBM Cognos samples are set up. They show a good cross-section of reports that you can create using IBM Cognos BI.

For more information, contact your administrator or see the IBM Cognos Business Intelligence Administration and Security Guide.

The sample databases shipped with IBM Cognos BI contain data from the operations of a fictional retail company, the Sample Outdoors Company. The Sample Outdoors Company sells camping and sports equipment directly in retail stores across the world, and through other manufacturers.

Example - Run a Report

IBM Cognos Connection is the Web portal that gives you access to all the IBM Cognos Business Intelligence functionality. In the portal, you can run reports.

In this exercise, you will learn how to

- Navigate the portal
- Run a report
- Navigate within a report
- Drill through from one report to another
- View the report in a different format

You are a business analyst for the Sample Outdoors Company. You are asked to study the percentage of returned products. Returned items reveal important information about the quality of products, especially products that are returned because they are defective or are missing parts.

You will drill down to more detailed information in the pie chart, drill back up to the beginning, then drill through to another report using the data shown in your current report as a filter.

Things to notice:

- The icon for a report shows the default format and default action of the report.
- Reports that have saved outputs have an additional icon in the Actions column.
- At any time, you can click the arrow next to the help button, and click Go to the Welcome Page to return to the IBM Cognos Welcome page.
**Procedure**

1. Open IBM Cognos Connection:
   a. Start your Web browser.
   b. In the address bar, type the URL supplied by your administrator, and then press Enter. The URL looks something like this: http://servername/cognos
2. In the IBM Cognos Welcome page, click IBM Cognos content. In the Public Folders tab, click Samples, Models, GO Data Warehouse (analysis), and Query Studio Report Samples.
3. Locate the Return Quantity by Product Line Chart report. Tip: The icon beside an entry identifies its default action. The default action for this report is to open it in IBM Cognos Query Studio. Instead, you want to run the report in HTML format in the viewer.
4. Under Actions, click the Run with Options icon next to the report, accept the defaults, and then click Run. The report runs and opens with the latest data about product returns.

You notice that Outdoor Protection products have the highest number of returns. You want to drill down to obtain more detailed information.
5. Click the Outdoor Protection slice in the pie chart to drill down to more detailed information. **Tip:** You can also drill down by right-clicking or by clicking the legend label. At a quick glance, you notice that insect repellents have the highest number of returns.

6. Drill down on Insect Repellents. You notice that the BugShield Lotion has the highest number of returns. You want to drill up to go back to where you started in this report.

7. Drill up twice to return to the high-level product returns data. To do so, right-click any area on the pie chart and click Drill Up, then repeat this step to drill up again.

**Example**

Use IBM Cognos Connection to try the following report features:
- On the toolbar, click the Home or Return icon to return to the portal.
- Change the report format to PDF.

**Tip:** Click Run with Options on the actions toolbar. From the Format list, select PDF, and click Run.
- Change the report to a different language. To do so, change the language settings in IBM Cognos Connection or in your Web browser, and then run the report again. Because the sample data is multilingual, all data will be translated.

**Tip:** Click My Area Options, My Preferences. Under Regional options, change the Product language and the Content language. To see the content language changes, you must run the report.

**What to do next**

For more information about running reports, see the online help in IBM Cognos Connection.

**Example - Schedule a Report**

You can schedule entries that are stored in IBM Cognos Connection, such as reports, queries, and agents, so that they run at a time that is convenient for you.

In this exercise, you will learn how to
- Save a report as a report view
- Schedule a report so it runs daily
- Use the schedule management tool to view the status of the schedule

You are a business analyst for the Sample Outdoors Company. You want to schedule the Return Quantity by Product Line Chart report because some people in your organization need the data updated daily. You schedule the report to run daily, and then check that it is properly scheduled.

**Things to notice:**
- When a report runs according to a schedule, the report output is saved, and appears in the Action column in IBM Cognos Connection.
• At any time, you can click the arrow next to the Help button, and click Go to the Welcome Page to return to the IBM Cognos Welcome page.

Procedure
1. Open IBM Cognos Connection:
   a. Start your Web browser.
   b. In the address bar, type the URL supplied by your administrator, and then press Enter. The URL looks something like this: http://servername/cognos
2. In the IBM Cognos Welcome page, click IBM Cognos content. In the Public Folders tab, click Samples, Models, GO Data Warehouse (analysis), and Query Studio Report Samples.
3. Locate the Return Quantity by Product Line Chart report. You can also use any one of the IBM Cognos sample reports.
4. Create a report view for a daily view of the report:
   a. Under Actions, click the Report View icon next to the report.
   b. In the Name box, remove the words Report View of from the beginning of the name, type (daily) at the end of the name, and click Finish.
   A new entry appears in IBM Cognos Connection, with the report view icon.
5. Schedule the report view to run daily:
   a. Click the Schedule icon next to the entry.
   b. Under Frequency, click the By Day tab.
   c. Accept the default time and other defaults.
   d. Click OK.
6. Check the schedule:
   a. Click My Area Options, My Activities and Schedules.
   b. Click Schedules.
   c. In the Filter pane, select Any status and Any priority, and click Apply.

Results
Your report view appears in the list of scheduled reports.

Example
Use IBM Cognos Connection to try the following report features:
• Modify the schedule so that the report runs weekly.

Tip: Under Actions, click More, and click Modify the schedule.
• Permanently remove the schedule.

   **Tip:** Under **Actions**, click **More**, and click **Remove the schedule**.

**What to do next**

For more information about scheduling reports, see the online help in IBM Cognos Connection.

---

**Example - Create a Portal Page**

You can customize the IBM Cognos Connection portal by creating your own portal pages. You can choose the information that is most important to you and make it available from your page. Choose from different types of content and organize the pages in a way that works for you.

This exercise shows how to
• Create a page
• Add content to a page
• Define the appearance of a page
• Enhance the content of a page

You want to create a personal page that includes all of the reports and content that you worked on in the previous exercises so that you can easily view the content each time you log on to IBM Cognos Business Intelligence.

**Things to notice:**
• In a portal page, you can add IBM Cognos content (such as business intelligence reports), utilities (such as URLs and bookmarks), and third-party portlets.
• You can make a portal page available to a group in your organization, such as to the sales team, or you can create a portal page for your personal use.

**Procedure**

1. Open IBM Cognos Connection:
   a. Start your Web browser.
   b. In the address bar, type the URL supplied by your administrator, and then press Enter. The URL looks something like this: http://servername/cognos

2. In the **IBM Cognos Welcome** page, click **IBM Cognos content** and then click **New Page**.

3. Type the name **My Sample Outdoors page**, click **Select My Folders** as the location for the new page, and click **Next**.

4. Specify the page layout:
   a. Under **Number of columns**, select two columns.
   b. Change the width of the first column to 40% and the second column to 60%.

5. Add content to your page:
   a. Under the first column, click **Add**.
   b. Click **IBM Cognos Content**.
c. Select the **IBM Cognos Navigator**, **IBM Cognos Search**, and **IBM Cognos Viewer** portlets. Click Add \[→\] to move them to the **Selected entries** box. Tip: You can preview the content of the portlets by clicking View This Portlet.

d. Click **OK**.

e. In the first column, click **IBM Cognos Viewer** and click the right arrow \[→\].

f. Click **Next**.

6. Define the appearance of the page:

   a. In the **Title** box, type *My Sample Outdoors page*. **Tip:** You can change the formatting of the text.

   b. Click **Next**.

   c. Select the **Add this page to the portal tabs** check box.

   d. Click **Finish**.

   The My Sample Outdoors page that you created appears as a tab in IBM Cognos Connection.

7. Enhance the content of your page:

   a. Click the **My Sample Outdoors page** tab.

   b. In the **IBM Cognos Viewer** portlet title bar, click Edit \[\[\].

   c. Under **Entry**, click **Select an entry**. Click **Public Folders**, **Samples**, **Models**, **GO Data Warehouse (analysis)**, and **Query Studio Report Samples**. Select the **Return Quantity by Product Line Chart** sample report and click **OK**. **Tip:** You can also use any other sample report.

   d. Under **Height (pixels)**, type 600.

   e. Click **OK**.

   The report now appears in your portal page.
If the report was not previously run and saved, click the run button in the IBM Cognos Viewer portlet. In the Run with options page, click Save the report and then click Run.

Example

Try on your own:
- Set the My Sample Outdoors page as your home page.

  Tip: Next to the home icon, click the arrow, and click Set View as Home.
- Delete the page.

  Tip: From the tab menu, on the left side of the tab bar, click Remove this tab.

What to do next

For information about creating portal pages, see the IBM Cognos Connection online help.

Example - Work with a workspace

Use IBM Cognos Workspace to build sophisticated interactive workspaces that facilitate collaborative decision making. You can open workspace widgets in IBM Cognos Workspace Advanced to edit them.

In this exercise, you will open a Cognos Workspace widget in Cognos Workspace Advanced to make changes and then view your changes in Cognos Workspace.

You are a report author in the Sample Outdoors Company. You want to create a workspace showing employee training by organization level. You have a report
widget that shows some of the information you need, so you decide to customize this widget and create a workspace for future reference.

To perform this exercise, you must have the appropriate licensing and security permissions for this functionality.

**Procedure**

1. Open Cognos Workspace:
   a. Start your web browser.
   b. In the address bar, type the URL supplied by your administrator, and then press Enter. The URL looks something like this: `http://servername/cognos`
2. In the IBM Cognos Welcome page, click **Create a workspace on the web**.
3. Click **Create New**.
4. In the **Content** tab of the **Content** pane, expand **Public Folders**, **Samples**, **Models**, **Go Data Warehouse (analysis)**, and **Cognos Workspace Source Reports**. Drag **Employee Training Cost** to the workspace.
5. Click the Widget Actions icon for the **Employee Training** widget, and then click **Do More**. The report widget opens in Cognos Workspace Advanced.
6. Click the chart body to show the drop zones where you can insert data items.
7. Delete **Course cost** in the **Default measure (y-axis)** drop zone.
8. In the **Content** pane, click View Metadata Tree.
9. In the **Source** tab of the **Content** pane, expand **HR (analysis)**, **Employee training**, and **Employee training fact**. Drag **Course cost** to replace **Employee expense type** in the **Series (primary axis)** drop zone.
10. In **HR (analysis)**, **Employee training**, expand **Organization**, **Organization**, and drag **Organization name (level 1)** to replace **Organization (level 1)** in the **Categories (x-axis)** drop zone.
11. Click **Done** to return to Cognos Workspace. Note your changes to the Employee Training widget.
12. On the application bar, click the Actions menu icon, and click **Save as**.
13. Click **My Folders**, and type **My Employee Training** in the **Name** text box, and then click **Save**.

The final report looks like this:
What to do next

For information about using Cognos Workspace, see the IBM Cognos Workspace User Guide.

Example - Create a Statement-Style Report

Use IBM Cognos Workspace Advanced to create reports with relational or dimensional data sources and to show data in lists, crosstabs, and charts.

In this exercise, you will learn how to create a statement-style report.

You are a report author in the finance department of the Sample Outdoors Company. You create a balance sheet that shows the assets, liabilities, and equity for the company over the last few years.

To perform this exercise, you must have the appropriate licensing and security permissions for this functionality.

Things to notice:
- When you use Cognos Workspace Advanced, data is live. You do not have to run a report to see the data. From the View menu, you can switch between the Page Design and Page Preview views to see the live data and the design of your report.
**Procedure**

1. Open IBM Cognos Connection:
   a. Start your Web browser.
   b. In the address bar, type the URL supplied by your administrator, and then press Enter. The URL looks something like this: http://servername/cognos

2. In the IBM Cognos Welcome page, click Author business reports.
3. Click Samples, Models, GO Data Warehouse (analysis).
4. Click Create new, click Financial, and click OK.
5. Insert data in the crosstab zones:
   a. In the Content pane, click Insert Members with Children, and click Insert Single Member.
   b. In the Source tab of the Content pane, expand Finance (analysis), Finance, Account, and Balance sheet (total). Drag Assets (total) to the Rows zone.
   c. Under Balance sheet (total), expand Liabilities & equities (total). Drag Liabilities (total) and Equity (total) to the Rows zone, under Assets (total). Tip: When you drag an object to the crosstab, you see a flashing horizontal or vertical bar to indicate where the item will be placed in the crosstab.
   d. Expand Submission. Drag 2012 Actual results in USD to the Columns zone.
   e. Drag 2011 Actual results in USD to the Columns zone, next to 2012 Actual results in USD.
   g. Under Time, expand 2011 and Q4 2011. Drag December 2011 to the Columns zone, under the 2011 Actual results in USD.
   h. Under Finance (analysis), expand Finance fact. Drag Amount (year to date) to the Measures zone.

6. Expand the rows to view the breakdown of assets, liabilities, and equity:
   a. In the report, right-click Assets (total) and click Expand Member to examine the members of the assets.
   b. Repeat for Liabilities (total) and Equities (total).

7. Change the title of the report to reflect the contents of the balance sheet:
   a. Double-click the heading title, type Sample Outdoors Company, and click OK.
b. In the Toolbox tab of the Content pane, drag the Block object to the right of the Sample Outdoors Company title. Repeat the steps to add a second block underneath the first.

c. In the Toolbox tab of the Content pane, drag the Text Item object inside the first block object. When the Text window opens, type balance sheet as at Dec 31, 2012, and click OK.

d. Drag the Text Item object inside the second block object. When the Text window opens, type (with prior year comparative data), and click OK.

e. Ctrl+click both block objects and, by using the toolbar, change the font to 10 point size (10 pt).

8. Change the currency format of the balance sheet:
   a. In your report, under the 2011 Actual results in USD, under December 2011, use Shift+click to select the whole column.
   b. Right-click the selection, click Style, and click Data Format.
   c. In the Format type list, select Currency.
   d. In the Properties pane, click the Currency property, and select $ (USD) - United States of America, dollar.
   e. Click the No. of Decimal Places property, and then select 0.
   f. Click OK.

9. Copy the formatting to the 2012 column:
   a. To copy all the formatting that is applied to the item, click Pick up Style, click the items that you want to format, and then click Apply Style.
   b. To copy only one of the formatting styles, click the down arrow next to the Pick up Style icon, and click the style that you want to copy. Then, click the item that you want to format, and click Apply Style.
   c. If you want to change a style that you copied, click the down arrow next to the Pick up Style icon, and click Edit Dropper Style. Specify basic and advanced style characteristics, and then click OK.

---

### Sample Outdoors Company

**Balance Sheet as at Dec 31, 2012**

(with prior year comparative data)

<table>
<thead>
<tr>
<th>Amount (year to date)</th>
<th>2012 Actual results in USD</th>
<th>2011 Actual results in USD</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>December 2012</td>
<td>December 2011</td>
</tr>
<tr>
<td><strong>Assets (total)</strong></td>
<td>$4,353,303,798</td>
<td>$3,804,483,176</td>
</tr>
<tr>
<td>Current assets (total)</td>
<td>$2,336,352,807</td>
<td>$2,139,666,575</td>
</tr>
<tr>
<td>Operating assets (total)</td>
<td>$1,778,012,688</td>
<td>$1,484,357,872</td>
</tr>
<tr>
<td>Other assets (total)</td>
<td>$330,950,303</td>
<td>$151,159,029</td>
</tr>
<tr>
<td>Liabilities (total)</td>
<td>($1,602,289,213)</td>
<td>($1,754,874,006)</td>
</tr>
<tr>
<td>Current liabilities</td>
<td>($1,144,067,294)</td>
<td>($1,206,574,779)</td>
</tr>
<tr>
<td>Long-term and other liabilities (total)</td>
<td>($457,212,919)</td>
<td>($548,299,225)</td>
</tr>
<tr>
<td>Equity (total)</td>
<td>($2,751,074,196)</td>
<td>($2,046,409,170)</td>
</tr>
<tr>
<td>Common stock</td>
<td>($710,183,090)</td>
<td>($740,178,000)</td>
</tr>
<tr>
<td>Other capital</td>
<td>($69,921,200)</td>
<td>($153,898,457)</td>
</tr>
<tr>
<td>Retained earnings - net</td>
<td>($1,591,542,122)</td>
<td>($1,146,128,225)</td>
</tr>
<tr>
<td>Currency translation gain (or loss)</td>
<td>($428,846)</td>
<td>($624,488)</td>
</tr>
<tr>
<td>Declared dividends</td>
<td>$0</td>
<td>$0</td>
</tr>
</tbody>
</table>

10. Change the text formatting to reflect a standard balance sheet:
a. Right-click **Amount (year to date)** and click **Edit Data Item Label**. In the **Data item label** box, type **Year to date (USD)**, and click **OK**.

b. Select **Year to date (USD)** and, by using the toolbar, change the text to bold.

11. From the **Run** menu, click **Run Report - HTML**.

What to do next

For information about using Cognos Workspace Advanced, see the *IBM Cognos Workspace Advanced User Guide*.

**Example - Create a Report**

Use IBM Cognos Report Studio to create reports with complex layout, formatting, and report user interactions. Such reports are usually created by professional report authors who have a good knowledge of the data and tools.

In this exercise, you will learn how to:

- Create a chart
- Make the report interactive with prompts

You are a business analyst for the Sample Outdoors Company. You create a chart report in Report Studio to show the performance of returns over the last few years. You make the report interactive by adding a prompt.

You will create a report that looks like the Report Studio sample **Returns by Order Method - Prompted Chart** in the GO Data Warehouse (analysis) sample package.

To perform this exercise, you must have the appropriate licensing and security permissions for this functionality.

Things to notice:
- When you use Report Studio, data is not live. You must run the report to view data.
- You can view the XML report specification.
You can add multilingual capabilities.

**Procedure**

1. Open IBM Cognos Connection:
   a. Start your Web browser.
   b. In the address bar, type the URL supplied by your administrator, and then press Enter. The URL looks something like this: http://servername/cognos

2. In the **IBM Cognos Welcome** page, click **Author advanced reports** to open Report Studio.

3. Click **Samples, Models, GO Data Warehouse (analysis)**.

4. Click **Create new**, click **Crosstab**, and click **OK**.

5. Insert data in the crosstab zones:
   a. In the **Source** pane, expand **Sales and Marketing (analysis)**, **Returned items**, **Return reason**, and **Return reason**. Drag **Reason description** to the **Columns** zone.
   b. Under **Returned items**, expand **Returned items**. Drag **Return quantity** to the **Measures** zone.
   c. Under **Returned items**, expand **Products**, and **Products**. Drag **Product line** to the **Rows** zone.

6. Click **Run Report** to run your report and verify the content.
   The report output appears in IBM Cognos Viewer.
   **Tip:** To return to Report Studio, close the IBM Cognos Viewer Web browser.

7. Insert another column in the report:
   a. In the **Source** pane, expand **Sales and Marketing (analysis)**, **Returned items**, **Time**, and **Time**.
   b. Drag **Year** to the column after the **Reason description** column.

8. Insert a chart in the report:
   a. In the **Source** pane, click the **Toolbox** tab.
   b. Drag the **Chart** object below the crosstab.
   c. When the **Insert Chart** window opens, click the **Column** chart type.
   d. Select **Fill with data from** and click **OK**. The data from the crosstab is automatically added to the chart.
   e. Click the chart to select it.
f. In the **Properties** pane, under **Data** properties, select the **Query** property. Select **Query1** from the list. **Tip:** When you change the **Query** property to the query that you used for the crosstab, it becomes easier to find and reuse the same data items for the chart.

---

9. Create a filter to exclude the **Wrong product ordered** return reason from the crosstab:
   a. In the crosstab, click the **Reason description** column heading.
   b. On the toolbar, click the arrow next to the Filter icon, and click **Create Custom Filter**.
   c. Under **Condition**, select **Do NOT show the following values**.
   d. Under **Values**, select **Wrong product ordered** and move it to the **Selected values** list.
   e. Click **OK**.

10. Create a prompt page for the order method to allow users to filter data in the report and retrieve data only for the order method they select:
   a. Click the background of the work area to clear.
   b. From the **Tools** menu, click **Build Prompt Page**.
   c. Use Ctrl+click to select the **Back** and **Next** buttons, and the **Double click to edit text** prompt page title (that are automatically created) and delete them.
   d. In the **Source** pane, click the **Toolbox** tab.
   e. Drag the **Value Prompt** object into the prompt page.

   The **Prompt Wizard - Value Prompt** window opens.
f. Click Next.
g. Beside the Package item box, click the ellipsis (…) button.
h. When the Choose Package Item window opens, expand Sales and Marketing (analysis), Returned items, Order method, and Order method.
i. Click the Order method type dimension, and then click OK.
j. Click Next to accept the defaults, and click Finish.

11. Pause the pointer over the Page Explorer button on the Explorer bar. In Report Pages, click Page1 to return to the report page.
    Tip: Click the Prompt Pages folder title to remove or rename a page, or to edit properties.

12. Add a title to the report:
    a. Double-click the Double click to edit text title area, type Returns by Order Method, and click OK.

13. Save the report:
    a. From the File menu, click Save As.
    b. Name the report Returns by Order Method - Prompted Chart and click Save.

14. Run your report and verify the content:
    a. Click the run report button.
    b. In the Order method drop-down list, click E-mail and then click Finish.
    The report output appears in IBM Cognos Viewer.
Example

Try on your own:

- Save the report as a template so you can create reports with the same layout and include different data.
  Tip: From the File menu, click Convert to Template and then save the report with a new name.

- Change the chart background color.
  Tip: In the work area, click the chart. In the Properties pane, expand Color & Background, click Background Color, and click the ellipsis (...) button next to Background Color.

- View the XML specification for the report.
  Tip: From the Tools menu, click Show Specification.

What to do next

For information about using Report Studio, see the IBM Cognos Report Studio User Guide.

Example - Manage an Event

Use IBM Cognos Event Studio to define business events or exceptional conditions in your data that require attention. Create agents to monitor your data and notify decision-makers in your organization of events as they happen, so that they can make timely and effective decisions. You create agents to perform tasks or deliver alerts when the data meets predefined thresholds.

This exercise shows how to
- Define business events
- Define agent tasks
• Review the status of events

You are a business analyst for the Sample Outdoors Company. You want to ensure that your customers are satisfied with the products and services that you provide. In particular, if products are returned, you want to investigate why, and ensure that you offer a replacement before your customers decide to shop elsewhere.

Event Studio can notify you when a customer returns a product because it was defective, unsatisfactory, incomplete, or because the wrong product was shipped to them. You want to immediately send an email to your customer service department with details about the order and the customer, so that they can contact the customer.

You will create an agent that looks like the Event Studio sample Returns Agent in the GO Sales (query) sample package.

To perform this exercise, you must have the appropriate licensing and security permissions.

The tasks that you need to perform to create an agent in Event Studio appear in the I want to area. By default, when you open Event Studio, you start with the first task, defining an event.

Procedure
1. Open IBM Cognos Connection:
   a. Start your Web browser.
   b. In the address bar, type the URL supplied by your administrator, and then press Enter. The URL looks something like this: http://servername/cognos
2. In the IBM Cognos Welcome page, click Manage my events to open Event Studio.
3. Click Samples, Models, GO Sales (query).
4. Create the expression that defines the event:
   a. In the Insertable Objects pane, expand Returned items (query) and Returned items.
   b. Under Returned items (query), expand Return reason.
   c. Use both Return quantity and Reason description to create the following expression: [Return quantity]>0 AND [Reason description] IN ('Wrong product shipped','Unsatisfactory product','Incomplete product','Defective product') Tip: Insert items from the Insertable Objects pane. To select from a list of possible values for the return reason, click the select values button. Move the values you want from the Select Value box to the Selected Items box and click OK.
   d. Click the validate button to validate your expression. Tip: You can also click Preview from the Actions menu to see the data retrieved from the data source.
   
   You defined the expression that will notify you whenever a customer returns a product because it was defective, unsatisfactory, incomplete, or because the wrong product was shipped to them.

5. Create an email task to immediately send an email to your customer service department with details about the returned order and the customer so that they can contact the customer:
   a. In the I want to list, click Add a task and click Send an email.
b. In the To box, type the email address for the customer service department.  
Tip: Since this example is for learning purposes, the agent will not actually run. Therefore, you can type any email address.

c. In the Subject, type Products Returned.

d. Above the Body box, click the insert table button, specify four columns and two rows, and click OK.

e. Add information about returned products to the table as follows:
   Manually type the text for the heading row of the table. Overwrite the insert text... text in each cell.
   Drag objects from the Insertable Objects pane to the bottom row of the table.
   Tip: In the Insertable Objects pane, expand Returned items (query).
   Expand Order to find Order number, Products to find Product; Returned items to find Return quantity, and Retailers to find Company name.

<table>
<thead>
<tr>
<th>Order Number</th>
<th>Product Name</th>
<th>Quantity</th>
<th>Company Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>[Order number]</td>
<td>[Product]</td>
<td>[Return quantity]</td>
<td>[Company name]</td>
</tr>
</tbody>
</table>

When the agent runs, the data item for each event is replaced by the current value in the package.

f. Select the heading row and then click bold to make the column headings more prominent.

6. Set the execution rules so that a notification is sent for new events only:
   a. In the I want to list, click Manage the task execution rules.
   b. Click the Event Key tab.
   c. In the Insertable Objects pane, click the Source tab.
   d. Expand Sales (query), Order, and drag Order number to the Event key box.
   e. Click the Event Selection tab.
f. Under **Select when to perform this task**, ensure that only the **New events** check box is selected.

g. Click **OK**.

7. Set the schedule for when you want the event to run:
   a. In the **I want to** list, click **Schedule the agent**.
   b. In the **Set the schedule** pane, under **Frequency**, click the **By Day** tab, and select **Every 1 hour(s)**.
   c. Click **OK**.

8. Save the agent as **Returns Agent**. Each hour, the agent runs and the next time a customer returns a product, an email is sent to the customer service department with information about the order.

**Example**

Attach the event list to the email. An event list shows the events that the agent processed. In this example, the event that we defined is when a customer returns a product.

**Tip:** In the summary area, click the **Products Returned** email task. Below the **Body** box, click **Attach**, and then click **Attach the event list**.

**What to do next**

For information about creating agents, see the Cognos Event Studio online help.

**Example - Monitor Performance**

With IBM Cognos Metric Studio, you can track the performance of your organization against its objectives. At a quick glance, decision makers at every level of the organization can see the status of the organization, and then react or plan.

A metric is an indicator of key measures that compares actual results to targets. A metric also records who is responsible for the results and the impact of the metric. A scorecard is a collection of performance metrics and projects that reflects the strategic goals of a unit in an organization.

This exercise shows how to

- Review a strategy map for a visual representation of the strategy and the objectives of that strategy for an organization
- Review and understand the performance of a metric on a scorecard
- Create an action on a metric
- Add a metric to your watch list

You are a sales manager for a region for the Sample Outdoors Company. You regularly look at a scorecard that contains metrics about your sales area. The metrics give you an instant idea of how the current sales compare to the sales targets set by the company. Return quantity is one of the metrics.

To perform this exercise, you must have the appropriate licensing and security permissions for this functionality.

Things to notice:
• Metrics appear as either Poor (red), Average (yellow), or Excellent (green).
• For each metric, you can see whether the trend is improving, staying the same, or getting worse.
• When you move your pointer over the title of a metric, you see a history chart that shows the performance of the metric. A fly-out menu extends when you pause your pointer over a metric or a diagram.

Procedure
1. Open IBM Cognos Connection:
   a. Start your Web browser.
   b. In the address bar, type the URL supplied by your administrator, and then press Enter. The URL looks something like this: http://servername/cognos
2. In the IBM Cognos Welcome page, click Manage my metrics.
3. Click Samples, Models, GO Metrics.
4. View the strategy map:
   a. In the left pane, click the Scorecards tab, and click GO Consolidated.
   b. In the right pane, click the Diagrams tab.
   In the GO Strategy map, notice how you can quickly evaluate the performance of each of the goals of the organization. The large indicators show the status for a specific strategy. The smaller indicators that appear below a strategy show the trend. The values for metrics that are not performing well appear in red. Status and trend indicators that appear in red indicate possible problem areas.
   For example, in the Production and Distribution function of the strategy map, in the Control product quality metric, Return quantity % is red, which shows a poor performance metric.
5. Explore the scorecard:
   a. In the left pane, click the **Scorecards** tab.
   b. Expand **GO Consolidated**.
      You see that the Sample Outdoors Company has scorecards for each of the four functions of the company: Finance, Sales and Marketing, Production and Distribution, and Human Resource.
   c. Expand **Production and Distribution**, and click **Asia Pacific**.
   d. Click the **Metrics** tab.
      All the metrics associated with the Asia Pacific region are shown. Notice that the **Asia Pacific Return by reason % Wrong product ordered** metric is red. You might want to explore this metric further to see what is causing the problem.
   e. Click **Asia Pacific Return quantity %**, and click the **Diagrams** tab.
   f. Expand the metrics in the diagram by clicking the arrow next to the **Asia Pacific Return by reason % Failed Orders** metric.
      You can see what data is in the **Return quantity %** metric. You can also see which return reason has a critical issue.
g. Pause your pointer over **Asia Pacific Return quantity %** to see more information about that metric.

h. In the left pane, under **Production and Distribution**, click **Asia Pacific**, and then click the **Metrics** tab to view the metric related to return quantity. Notice that the status of **Asia Pacific Return by reason % Wrong product ordered** metric is poor.
6. Click the **Asia Pacific-Return by reason %-Wrong product ordered** metric.

   In Metric Studio, the tabs represent the questions you might ask yourself, as you try to solve a problem or understand a piece of information.

7. On the right pane, on the **History** tab, click **List**.

   The information on the **History** tab answers the question "When?". You see the actual and target values for the metric data for previous periods. You also see quarterly and yearly summaries.

8. Click the **Diagrams** tab.

   The information in the **Diagrams** tab helps you understand the question "How?" by comparing your metric with other metrics. Impact diagrams show the relationships between the **Return by reason %** metric and other metrics.

9. Create an action for one of your business analysts to have her investigate the performance of product returns:
   a. Click the **Actions** tab.

   b. Click **New Action**. **Tip**: You must select a metric to see the New Action icon.

   c. In the **Name** box, type Kazumi Uragome, the person who will own the action.
d. To let Kazumi know what to do, in the **Description** box, type **Please investigate**.

e. **Beside the Planned Finish** box, click the calendar icon, select a date one week from today. **Tip:** You may need to scroll down to see the **Planned Finish** box.

f. Click **OK**.

10. Add the **Asia Pacific Return reason % Wrong product ordered** metric to your watch list so that you can easily monitor it in the future:

a. In the left pane, in the **Production and Distribution** scorecard, click **Asia Pacific**, and click the **Metrics** tab.

b. Click the **Asia Pacific Return reason % Wrong product ordered** metric.

c. On the upper toolbar, click **Add to Watch List** and click **OK**.

d. In the left pane, click **My Folders** and click **Watch List**.

The **Asia Pacific Return by reason % Wrong product ordered** metric appears in your watch list.

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**Example**

- Add a comment to the metric to communicate information to users of the metric.
  **Tip:** Beside the metric, in the comment column, click the ellipsis (...) button. After you add a comment, a comment icon appears.

- Add an email notification so that you will be notified when the metric changes.
  **Tip:** Beside the metric, click the email alerts button. The email alerts button changes to show that email alerts is now turned on. You can also specify when and how often you receive email notification about changes to metrics in the watch list, by changing the email alerts properties.

- Filter the scorecard according to the status of the metrics.
  **Tip:** On the **Metrics** tab, in the **Filter** box, select the status or trend that you want.

**What to do next**

For more information about using scorecards, see the Metric Studio online help.

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**Example - Work with IBM Cognos Content in Microsoft Excel**

You use IBM Cognos for Microsoft Office to access IBM Cognos content in Microsoft Excel spreadsheet software. In Excel, you can work with and add value to existing IBM Cognos reports, apply calculations, and use your existing Microsoft Excel macros. When you reconnect to the IBM Cognos server, you can refresh the data to obtain the latest information. You can also import content into Microsoft PowerPoint and Microsoft Word.
IBM Cognos security is maintained in your Microsoft Office environment. For example, if you share a Microsoft Excel workbook with coworkers, when they connect to the IBM Cognos server to retrieve or refresh data, their security permissions retrieve the appropriate data.

This exercise shows how to
- Import IBM Cognos content into a Microsoft Excel workbook
- Refresh data
- Publish a workbook to IBM Cognos Connection

You want to import the information from the two IBM Cognos Query Studio sample reports named Return Quantity by Product Line and Return Quantity by Product Line Chart into Microsoft Excel.

To perform this exercise, you must have the appropriate licensing and security permissions. IBM Cognos for Microsoft Office as well as the .NET framework must be installed and configured on your computer.

Things to notice:
- You use IBM Cognos for Microsoft Office to import IBM Cognos report elements, such as headers, footers, images, lists, and charts in your Microsoft Excel workbook. You can import elements from different reports into the same workbook.
- When you save your workbook, you can save it with or without data.
- You can publish workbooks to IBM Cognos Connection so that other users can access them.

**Procedure**

1. Start Microsoft Excel. The IBM Cognos for Microsoft Office pane appears on the right side.
2. To begin using IBM Cognos for Microsoft Office, on the toolbar, click the Logon icon, select the server that you want to connect to, type your user ID and password, and click OK.
3. Import the sample reports Return Quantity by Product Line and Return Quantity by Product Line Chart in the workbook:
   a. In the IBM Cognos for Microsoft Office pane, click the Browse Content tab.
   b. Expand Public Folders, Samples, Models, GO Data Warehouse (analysis), Query Studio Report Samples, and click Returns Quantity by Product Line.
   c. Click Import content.
      In the Import Content window, you can select the specific report elements that you want to import. You want to keep the default selections.
   d. Click Finish.
   e. Repeat the steps for the Return Quantity by Product Line Chart report.
The reports appear in the workbook.

4. Refresh the data in the report:
   a. In the IBM Cognos for Microsoft Office pane, click the Manage Data tab. In the Imported report elements box, you can see all the elements in your workbook and their properties.
   b. Right-click the report and click Refresh Data and Formatting.
      Because the sample database is static, the report contents do not actually change.

5. Publish the workbook to My Folders in IBM Cognos Connection:
   a. Save the workbook on your computer.
      Tip: To save the workbook without data, right-click the report and click Remove Data. You can refresh all data later.
   b. From the IBM Cognos for Microsoft Office toolbar, click the publish icon.
   c. In the Publish window, select the IBM Cognos Business Intelligence server where you want to save the report, and click Publish.
The workbook now appears in IBM Cognos Connection. To open a workbook from IBM Cognos Connection, select it and save it locally to your computer.

What to do next

For information about working with IBM Cognos content in Microsoft Office, see the IBM Cognos for Microsoft Office online help.

Example - Create a Query

Use IBM Cognos Query Studio to retrieve information from a relational data source when you want to create reports that answer simple business questions. Also use Query Studio to publish reports for audiences who do not require complex layout or formatting.

In this exercise, you will learn how to
- Add columns
- Add calculations
- Add conditional formatting
- Apply a template to the report
- Save the report

You are a business analyst for the Sample Outdoors Company. You want to create a report that shows which products have the highest return rate and how much revenue was lost from product returns.

To perform this exercise, you must have the appropriate licensing and security permissions.

Things to notice:
- Data that you can add to the report has a different icon depending on the data type.
- The reports that you create in Query Studio can be viewed and edited in IBM Cognos Report Studio.

Procedure

1. Open IBM Cognos Connection:
   a. Start your Web browser.
   b. In the address bar, type the URL supplied by your administrator, and then press Enter. The URL looks something like this: http://servername/cognos
2. In the IBM Cognos Welcome page, click Query my data, and select the GO Data Warehouse (query) package. A blank report appears.
3. Add columns to the report:
   a. From the Menu, click Insert Data.
   b. Expand Sales and Marketing (query), Sales (query), and Products. Drag Product type and Product to the work area. The work area is the area within a studio that contains the report, analysis, query, or agent that you are currently using.
   c. From Sales (query), expand Sales fact, and drag Quantity and Unit cost to the work area. The item Unit cost will not appear in the final report, but you need it to build a calculation.
d. Expand Returned items (query), and Returned items fact, and drag Return quantity to the work area.

4. Create a calculation to show the lost revenue (Return quantity * Unit cost = Lost revenue):
   a. Select the column headings that you want for the calculation. In the work area, click the heading for Return quantity and Ctrl+click the heading for the Unit cost column.
   b. Click Calculate.
   c. In the Operation box, select * (multiplication).
   d. In the New item name box, type Lost revenue.
   e. Click Insert.
   f. Delete the Unit cost column.

5. Format the calculated column that you added:
   a. Right-click the heading for the Lost revenue column and click Format Data.
   b. In the Category list, click Currency.
   c. In the Thousands separator list, click Yes, and then click OK.

6. Create a calculation to show the percentage of returns (Return quantity / Quantity)*100):
   a. In the work area, click the heading for the Return quantity column, and Ctrl+click the heading for the Quantity column.
   b. Click Calculate.
   c. In the Operation type box, select Percentage.
   d. The content of the Operation box changes to percent (%).
   e. In the New item name box, type % Returned.
   f. Click Insert.

7. Sort the % Returned column in descending order:
   a. Right-click the heading for the % Returned column, and click Sort.
   b. Under Sort order, click Descending (9 to 1), and then click OK.

8. Apply conditional formatting to highlight products with a lost revenue greater than $200,000:
   a. Click the heading for the Lost revenue column.
   b. From the Menu, click Change Layout, and click Define Conditional Styles.
   c. In the New value: box, type 200000, and click Insert.
   d. For the first range, in the Style column, select Poor, and click OK.
The cells with a lost revenue greater than $200,000 appear with a red background.

9. Apply a template to the report:
   a. From the Menu, click Change Layout, and click Apply Template.
   b. Select Apply a template, and click Select a template.
   c. In Public Folders, click Samples, Sample Template. Select Great Outdoors Template, and click OK twice.

   The report appears with the styles from the template.

10. Add a title to the report:
    a. Above the report, click the report title.
    b. In the Title box, type Returns by Product Type. Clear the Subtitle box, and click OK.

11. Save the report:
    a. From the toolbar, click Save.
    b. In the Name box, type Returns by Product Type.
    c. Accept the default save location, and click OK.

   The final report looks like this:
Returns by Product Type

<table>
<thead>
<tr>
<th>Product Type</th>
<th>Base product</th>
<th>Quantity</th>
<th>Return quantity</th>
<th>% Returned</th>
<th>Lost revenue</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insect Repellents</td>
<td>Bug Spray Lotion</td>
<td>773,324</td>
<td>31,189</td>
<td>10.50%</td>
<td>$109,170.37</td>
</tr>
<tr>
<td>Navigation</td>
<td>Trail Star</td>
<td>65,146</td>
<td>5,461</td>
<td>8.38%</td>
<td>$156,601.20</td>
</tr>
<tr>
<td>Insect Repellents</td>
<td>Bug Spray Lotion</td>
<td>364,513</td>
<td>14,171</td>
<td>3.69%</td>
<td>$26,641.68</td>
</tr>
<tr>
<td>Sunscreen</td>
<td>Sun Shield</td>
<td>991,495</td>
<td>32,262</td>
<td>3.27%</td>
<td>$39,374.32</td>
</tr>
<tr>
<td>Lanterns</td>
<td>Everglade Lamp</td>
<td>965,019</td>
<td>29,434</td>
<td>3.05%</td>
<td>$194,954.32</td>
</tr>
<tr>
<td>Insect Repellents</td>
<td>Bug Spray Lotion</td>
<td>2,666,714</td>
<td>72,255</td>
<td>2.71%</td>
<td>$174,057.10</td>
</tr>
<tr>
<td>Sunscreen</td>
<td>Sun Blocker</td>
<td>614,002</td>
<td>16,287</td>
<td>2.65%</td>
<td>$31,759.65</td>
</tr>
<tr>
<td>Sunscreen</td>
<td>Sun Shelter 15</td>
<td>1,026,459</td>
<td>25,124</td>
<td>2.45%</td>
<td>$44,971.96</td>
</tr>
<tr>
<td>Sunscreen</td>
<td>Sun Shelter 30</td>
<td>1,955,570</td>
<td>43,750</td>
<td>2.24%</td>
<td>$20,952.30</td>
</tr>
<tr>
<td>Tents</td>
<td>Star Gazer 6</td>
<td>41,748</td>
<td>813</td>
<td>1.95%</td>
<td>$366,070.00</td>
</tr>
<tr>
<td>Tents</td>
<td>Star Gazer 2</td>
<td>269,029</td>
<td>9,002</td>
<td>1.86%</td>
<td>$1,965,635.14</td>
</tr>
<tr>
<td>Sunscreen</td>
<td>Sun Shelter Stick</td>
<td>796,010</td>
<td>14,626</td>
<td>1.04%</td>
<td>$26,666.86</td>
</tr>
<tr>
<td>Putters</td>
<td>Blue Seal Max Putt</td>
<td>235,198</td>
<td>3,637</td>
<td>1.55%</td>
<td>$325,192.62</td>
</tr>
<tr>
<td>Lanterns</td>
<td>Flicker Lantern</td>
<td>207,080</td>
<td>3,192</td>
<td>1.54%</td>
<td>$45,959.04</td>
</tr>
</tbody>
</table>

Notice that the Star Gazer 2 tent has the highest lost revenue rate.

Example

Try on your own:
- Every time you modify a report, Query Studio updates the results by running a query. Use the run options to preview the report with no data. From the Run Report menu, click Preview with No Data.
  Tip: To preview a report with limited data, you must define design filters in the model.
- Review the definition of all report items in the report. From the Manage File menu, click Report Definition. This is useful for troubleshooting a report.

What to do next

For information about using Query Studio, see the Query Studio online help.

Example - Create an Analysis

In IBM Cognos Analysis Studio, you can manipulate items in your data interactively so that you can identify and understand the problems and issues in your business.

In this exercise, you will learn how to
- Drill down
- Create a top filter
- Create a summary calculation
- Create a crosstab and a chart
You are a business analyst for the Sample Outdoors Company. You want to further analyze the returns business items to find out where and why products are the most frequently returned, and that have the biggest impact on the profit of the company.

To perform this exercise, you must have the appropriate licensing and security permissions.

Things to notice:
- The items and measures that you can add to your analysis appear in the data tree in the left pane.
- The overview area above the work area is a convenient place to quickly explore and change the contents of your analysis. You manipulate rows and columns, drill up or down, and provide context for the work area.
- Cognos Analysis Studio uses sets, which are collections of similar items. You manipulate items by applying actions to sets. You can sort, filter, and nest sets. You can also save custom sets and view subtotals for your sets.

Procedure
1. Open IBM Cognos Connection:
   a. Start your Web browser.
   b. In the address bar, type the URL supplied by your administrator, and then press Enter. The URL looks something like this: http://servername/cognos
2. In the IBM Cognos Welcome page, click Analyze my business.
3. Click Samples, Cubes, Sales and Marketing (cube).
4. Click Blank Analysis, and click OK.
5. Insert data in the crosstab:
   a. In the Insertable objects pane, expand Measures. Drag Returns to the Measure zone or to the upper-left corner of the work area.
   b. Drag Products to the Rows zone.
   c. Expand Time and Time. Select all four years (2010, 2011, 2012, 2013) and drag them to the Columns zone.

   You now see the returns for all the product brands over a four-year span. The total number of returns is visible in the Total column.
6. Filter the top 10 product brands based on their total returns over the last four years:
   a. In the overview area, right-click Products and click Down a Level.
      The overview area is located above the work area. You can use the overview area as a convenient place to quickly explore and change the contents of the work area. The overview area shows any applied filters and sorting.
   b. Repeat the previous step to see a list of all individual products.
   c. In the overview area, right-click Products (depth 3) and click Top or Bottom > Top > 10.
      You see that the top 10 products with the most returns are now the only products in the crosstab.
Tip: To use a specific product name rather than having to drill down multiple layers, in the Insertable objects pane, navigate to the product that you want. Select the product you want, and in the Information pane, drag the level name into the crosstab.

7. Create a summary calculation to see what the average returns are per year for the top 10 products:
   a. In the overview area, right-click Time (list) and click Summarize >
      Average (Time (list)).
      The Average (Time (list)) summary is added to the crosstab. This
      summary shows the average number of returns over the fours years in the
      crosstab.

8. View your analysis as a chart to see whether there is a trend or spike in any of the top 10 returns:
   a. Click View > Select Chart Type > Line Chart > Standard.
      Take note of the top 10 products with the highest returns. There may be
      some products, like BugShield Lotion, that are anomalies. You may want
      to exclude them from your analysis, or you may decide that you need to
      be comparing returns to other metrics; such as quantity sold or gross
      profit.
9. Change the top 10 definition to filter on year 2013 to give you the most recent data for product returns.
   a. In the overview area, right-click **Products (depth 3)** and click **Top or Bottom > Top > Custom**.
   b. In the **Define top or bottom filter** pane, from the **For column** list, select **2013**.

   By specifying 2013 in the top definition, you change the filter context to focus on the highest 10 returns for the year 2013. In addition, you see the other years in the crosstab, to give you some additional historical information.

   **Tip:** In the definition, you can specify the number of items you want by number, percentage, or sum.

   c. Click **OK**.

   Notice that EverGlow Lamp has the highest number of returns.

   **Tip:** In the overview area, using the **Time (list)** column, you can also filter on 2013. The data returned when using this filter is different from the data...
returned when you set the 2013 context in the top definition. Only 2013 data appears in the crosstab, and historical data does not appear.

10. Save the analysis as **Returns vs Gross Profit over Time**.

**Example**

For report formatting and layout control, edit the report in IBM Cognos Report Studio. With Cognos Report Studio, you can extend the report definition to include other reporting elements, or enhance the report by defining bursting rules. To use Cognos Report Studio, you must have the appropriate licensing and security permissions.

**Tip:** From the **File** menu, click **Open in Report Studio**. After you save an analysis in Cognos Report Studio, you can no longer edit the analysis in Cognos Analysis Studio.
What to do next

For information about using Cognos Analysis Studio, see the Cognos Analysis Studio online help.
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Glossary

This glossary includes terms and definitions for IBM Cognos Business Intelligence.

The following cross-references are used in this glossary:
- See refers you from a term to a preferred synonym, or from an acronym or abbreviation to the defined full form.
- See also refers you to a related or contrasting term.

To view glossaries for other IBM products, go to www.ibm.com/software/globalization/terminology (opens in new window).

A

access permission
A privilege that permits the access or use of an object.

accountability scorecard
A scorecard that Metric Studio automatically builds for each user which contains the metrics and projects they own.

agent
A process that performs an action on behalf of a user or other program without user intervention or on a regular schedule, and reports the results back to the user or program.

alias
An alternative name used instead of a primary name.

anonymous access
A type of access that allows users and servers to access a server without first authenticating with it.

application tier component
For installation, the set of processors that access the query databases to gather information and then render the results as PDF and HTML reports and metrics. Application tier components also pass requests to Content Manager and render the results that Content Manager retrieves from the content store.

attribute
In BI Modeling, a characteristic of an entity which is descriptive rather than a unique identifier or an aggregative measure.

authentication
The process of validating the identity of a user or server.

authentication provider
The communication mechanism to an external authentication source. Functionalities, such as user authentication, group membership, and namespace searches, are made available through authentication providers.

B

burst
To create several report results by running a single report once. For example, the user can create a report that shows sales for each employee, and run it once, sending different results to regional managers by bursting on region.

burst key
The dimension or level of a query in the report specification that is used to create, or burst, a set of report results.

C

CA
See certificate authority.

calculated member
A member of a dimension whose measure values are not stored but are calculated at run time using an expression.

canvas
An area within a dashboard or workspace that users interact with to create, view, and manipulate content and data.

capability
A group of functions and features that
can be hidden or revealed to simplify the user interface. Capabilities can be enabled or disabled by changing preference settings, or they can be controlled through an administration interface.

cardinality
1. For relational data sources, a numerical indication of the relationship between two query subjects, query items, or other model objects.
2. For OLAP data sources, the number of members in a hierarchy. The cardinality property for a hierarchy is used to assign solve orders to expressions.

cascading prompt
A prompt that uses values from a previous prompt to filter the values in the current prompt or pick list.

certificate
In computer security, a digital document that binds a public key to the identity of the certificate owner, thereby enabling the certificate owner to be authenticated. A certificate is issued by a certificate authority and is digitally signed by that authority. See also certificate authority.

certificate authority (CA)
A component that issues certificates to each computer on which components are installed.

class style
A combination of formatting characteristics, such as font, font size, and border, that the user names and stores as a set.

custom set
In Analysis Studio, a named object which can include filter rules, calculations, and sort rules. Custom sets can define a set of members that is different from any set originally defined in the cube model. See also predefined set, set.

credential
A set of information that grants a user or process certain access rights.

cube
A multidimensional representation of data needed for online analytical processing, multidimensional reporting, or multidimensional planning applications.

copyright
A component that issues certificates to each computer on which components are installed.

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D

dashboard
A web page that can contain one or more widgets that graphically represent business data.

data source
The source of data itself, such as a database or XML file, and the connection information necessary for accessing the data.

data source connection
The named information that defines the type of data source, its physical location, and any sign-on requirements. A data source can have more than one connection.

data tree
Within a studio, a structure that contains objects such as query subjects, query items, dimensions, levels, and members. A data tree is used as a palette of the available data that can be inserted into calculations, filters, display areas, and other authoring gestures.

deployment
The process of moving an application (such as a report or model) to a different instance. For example, reports are often created in a test environment and then deployed to production. When an application is deployed, it is exported, transferred, and imported.

deployment archive
A file used for deployment. A deployment archive contains the data from the content store that is being moved.

deployment specification
A definition of what packages to move (deploy) between source and target environments, the deployment preferences, and the archive name. Deployment specifications are used for import and export.

derived index
A calculated metric that provides a status and a score based on other metrics.

details-based set
A set based on an item and its immediate details. See also set.

dimension
A broad grouping of descriptive data about a major aspect of a business, such as products, dates, or locations. Each dimension includes different levels of members in one or more hierarchies and an optional set of calculated members or special categories.

dimensional data source
A data source containing data modeled using OLAP concepts, including dimensions, hierarchies, and measures.

drill down
In a multidimensional representation of data, to access information by starting with a general category and moving downwards through the hierarchy of information, for example from Years to Quarters to Months.

E

event
A change to a state, such as the completion or failure of an operation, business process, or human task, that can trigger a subsequent action, such as persisting the event data to a data repository or invoking another business process.

event key
A combination of data items that uniquely defines an event instance. Identifying an event instance enables the agent to determine if it is new, ongoing or stopped.

event list
The set of detected event instances evaluated by the task execution rules to determine which agent tasks should be performed.

F

fact
See measure

G

gateway
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 ISAPI and Apache modules.

glyph  The actual shape (bit pattern, outline) of a character image. For example, italic A and roman A are two different glyphs representing the same underlying character. Strictly speaking, any two images which differ in shape constitute different glyphs. In this usage, glyph is a synonym for character image, or simply image (The Unicode Standard – Version 1.0).

**group**  A collection of users who can share access authorities for protected resources.

**grouping**  In reporting, the process of organizing common values of query items together and only displaying the value once.

**H**

**hierarchy**  The organization of a set of entities into a tree structure, with each entity (except the root) having one or more parent entities and an arbitrary number of child entities.

**I**

**information card**  A display of high-level information about dashboard, workspace, or report content, such as owner, contact information, date modified, and an optional thumbnail view of the dashboard, workspace, or report.

**information pane**  In Analysis Studio, a pane that helps the user to confirm their selection in the data tree by displaying related information, such as the level and attributes.

**initiative**  A task developed to achieve objectives or close the gap between performance and targets. Initiatives are associated with individual objectives and often known as projects, actions, or activities.

**item**  See member.

**J**

**job**  A group of runnable objects, such as reports, agents, and other jobs that the user runs and schedules as a batch.

**job step**  The smallest part of a job that can be run separately. A job step can be a report or it can be another job.

**L**

**layout**  The arrangement of printed matter on a screen or page, including margins, line spacing, type specification, header and footer information, indents, and more.

**level**  A set of entities or members that form one section of a hierarchy in a dimension and represent the same type of object. For example, a geographical dimension might contain levels for region, state, and city.

**locale**  A setting that identifies language or geography and determines formatting conventions such as collation, case conversion, character classification, the language of messages, date and time representation, and numeric representation.

**M**

**MDX**  See Multidimensional Expression Language.

**measure**  A performance indicator that is quantifiable and used to determine how well a business is operating. For example, measures can be Revenue, Revenue/Employee, and Profit Margin percent.

**member**  A unique item within a hierarchy. For example, Camping Equipment and 4 Man tent are members of the Products hierarchy.

**metric**  A measure to assess performance in a key area of a business.

**metric extract**  A set of mappings between an existing Cognos data source and a Metric Studio object or value. For example, a cube
measure named Revenue is mapped to a Metric Studio metric named Revenue Actual Value.

**metric package**

In Cognos Connection, a representation of a Metric Studio application. A metric package contains connection information, reports, and metric management tasks for that application. See also **package**.

**metric store**

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

**metric type**

A category of metrics that defines the business rules such as performance pattern, units, and meaning of a group of metrics. For example, Revenue can be a metric type, and European Revenue and North American Revenue would be metrics of this type.

**model**

A physical or business representation of the structure of the data from one or more data sources. A model describes data objects, structure, and grouping, as well as relationships and security. In Cognos BI, a model is created and maintained in Framework Manager. The model or a subset of the model must be published to the Cognos server as a package for users to create and run reports.

**multidimensional data source**

See **dimensional data source**

**Multidimensional Expression Language (MDX)**

The multidimensional equivalent of Structured Query Language (SQL).

**object**

In Report Studio, an empty information container that can be dragged to a report from the Toolbox tab and then filled with data. Reports are made up of objects, which include crosstabs, text items, calculations, graphics, and tables.

**object extract**

An extract that defines the metadata for a Metric Studio object, such as a user defined column, a scorecard, or a data source.

**package**

A subset of a model, which can be the whole model, to be made available to the Cognos server. See also **metric package**

**page set**

In Report Studio, a set of one or more designed pages which repeat in the report output for each instance of a chosen query item. See also **set**

**passport**

Session-based information, stored and encrypted in Content Manager memory, regarding authenticated users. A passport is created the first time a user accesses Cognos 8, and it is retained until a session ends, either when the user logs off or after a specified period of inactivity.

**portlet**

A reusable component that is part of a web application that provides specific information or services to be presented in the context of a portal.

**predefined set**

A set of members defined inside an OLAP data source as a list or by an expression. Predefined sets can be used in analysis and report authoring. See also **custom set**

**product locale**

The code or setting that specifies which language, regional settings, or both to use for parts of the product interface, such as menu commands.
project

1. In Metric Studio, a task or set of tasks undertaken by a team and monitored on a scorecard. A project tracks dates, resources, and status.

2. In Metric Designer, a group of extracts. Each extract contains the metadata that is used to populate the Metric Studio data store or to create applications.

prompt

A report element that asks for parameter values before the report is run.

properties pane

Within a studio, a pane that provides an overview of the properties for selected data. The properties pane can also be used to make several changes and apply them at the same time, instead of repeating several different commands.

publish

In Cognos BI, to expose all or part of a Framework Manager model or Transformer PowerCube, through a package, to the Cognos server, so that the data can be used to create reports and other content.

Q

query

The simple report specifications created and edited by Query Studio.

query item

A representation of a column of data in a data source. Query items may appear in a model or in a report and contain a reference to a database column, a reference to another query item, or a calculation.

query subject

A named collection of query items that are closely functionally related. Query subjects are defined using Framework Manager to represent relational data and form the set of available data for authoring reports in Query Studio and Report Studio. A query subject is similar to a relational view in that it can be treated as a table but does not necessarily reflect the data storage.

R

Really Simple Syndication (RSS)

An XML file format for syndicated web content that is based on the Really Simple Syndication specification (RSS 2.0). The RSS XML file formats are used by Internet users to subscribe to websites that have provided RSS feeds. See also Rich Site Summary.

repeater

In Report Studio, a cell container that repeats values within itself with no predefined internal structure.

repeater table

In Report Studio, a table-like container that repeats cells across and down the page or row in the associated query.

report

A set of data deliberately laid out to communicate business information.

report output

The output produced as a result of executing a report specification against a data set.

report specification

An executable definition of a report, including query and layout rules, which can be combined with data to produce a report output.

report view

A reference to another report that has its own properties, such as prompt values, schedules, and results. Report views can be used to share a report specification instead of making copies of it.

response file

An ASCII file that can be customized with the setup and configuration data that automates an installation. During an interactive installation, the setup and configuration data must be entered, but with a response file, the installation can proceed without any intervention.

Rich Site Summary (RSS)

An XML-based format for syndicated web content that is based on the RSS 0.91 specification. The RSS XML file formats are used by Internet users to subscribe to websites that have provided RSS feeds. See also Really Simple Syndication.
<table>
<thead>
<tr>
<th>S</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>score</strong></td>
</tr>
<tr>
<td><strong>scorecard</strong></td>
</tr>
<tr>
<td><strong>scorecard structure</strong></td>
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<tr>
<td><strong>security provider</strong></td>
</tr>
<tr>
<td><strong>selection-based set</strong></td>
</tr>
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<td><strong>session</strong></td>
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<td><strong>set</strong></td>
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<td><strong>stacked set</strong></td>
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<td><strong>strategy</strong></td>
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<td><strong>strategy map</strong></td>
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<td><strong>summary</strong></td>
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<tr>
<td><strong>task</strong></td>
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<tr>
<td><strong>task execution rule</strong></td>
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<tr>
<td><strong>template</strong></td>
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<td><strong>tuple</strong></td>
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<td>U</td>
</tr>
<tr>
<td><strong>union set</strong></td>
</tr>
<tr>
<td><strong>user</strong></td>
</tr>
<tr>
<td><strong>user-defined column</strong></td>
</tr>
</tbody>
</table>
watch list
   A list of metrics that each user has chosen to monitor closely. If notification is enabled in Metric Studio, the user will receive email notification of changes to these metrics. Users can also choose to display their watch list as a portlet within Cognos Connection.

watch rule
   A user-defined condition that determines whether a report is delivered to the user. When the rule is run, the output is evaluated and, if it satisfies the condition or rule, the report is delivered by email or news item. Watch rules limit report delivery to those reports containing data of significance to the user.

Web Services for Remote Portlets
   A standard for creating presentation-oriented web services so that they can be easily integrated within other applications, such as web portals.

widget
   A portable, reusable application or piece of dynamic content that can be placed into a web page, receive input, and communicate with an application or with another widget.

work area
   The area within a studio that contains the report, analysis, query, or agent currently being used.

workspace
   See dashboard
IBM Cognos Finance  
data access in IBM Cognos BI 12  
IBM Cognos for Microsoft Office 4  
IBM Cognos Mobile  
mobile reports 11  
IBM Cognos Planning - Analyst  
data access in IBM Cognos BI 11  
IBM Cognos Planning - Contributor  
data access in IBM Cognos BI 12  
IBM Cognos Software Development Kit 11  
IBM Cognos Viewer 16  
integrating  
other IBM Cognos products with IBM Cognos BI 11

**L**
- language support 9
- linking reports 9

**M**
- managed reports 3
- managing
  - reports 8
- Metric Designer 7
- Metric Studio 4
  - examples 15, 34
  - monitoring performance 34
  - metrics 4
  - examples 34
- Microsoft Excel 4
  - importing IBM Cognos 8 content 39
  - report outputs 9
- Microsoft PowerPoint 4
  - importing IBM Cognos 8 content 39
- Microsoft Word 4
  - importing IBM Cognos 8 content 39
  - mobile devices
    - using to access reports 11
- models 7
- monitoring
  - agents 4
  - events 4
- multidimensional models
  - creating in Transformer 5
- multilingual solution 9
- My Folders 8

**O**
- organizing
  - entries in the portal 8
  - outputs 9

**P**
- packages 7
- PDFs
  - report outputs 9
  - performance monitoring using Metric Studio 34
  - permissions 10
  - required for samples 15
- personalizing
  - agents 8
  - (continued)
  - portal pages 10, 19
  - reports 8
  - portal pages 10
  - examples 19
  - portals 1
  - portlets 10, 19
  - PowerCubes
    - access in IBM Cognos BI 12
    - prompts
      - creating in Report Studio 27
- Public Folders 8

**Q**
- queries
  - examples 41
- Query Studio 5
  - examples 15, 41

**R**
- report outputs 9
- report specifications 7
- Report Studio 3
  - examples 15, 27
- report views 8
  - creating 18
  - reports 11
    - advanced 3
    - creating 41
    - creating in Cognos Workspace Advanced 24
    - managing 8
    - running 16
    - scheduling 18
    - simple 3
    - statement-style 3
  - running
    - reports 16

**S**
- samples
  - IBM Cognos 8 15
  - permissions required 15
  - scheduling 11
    - reports 18
    - scorecards 4
    - examples 34
    - security 10

**T**
- templates
  - applying in Query Studio 41
- TM1
  - business planning 12
- Transformer 5, 7
  - data access in IBM Cognos BI 12

**W**
- watch lists 34
- workflow 6