COGNOS(R) 8 Business Intelligence

QUERY STUDIO

USER GUIDE

COGNOS(R)

THE NEXT LEVEL OF PERFORMANCE™

Table of Contents

Introduction

This document includes procedures and background information to help you create simple business intelligence reports. Query Studio is a Web product for creating simple queries and reports.

To use this guide effectively, you should be familiar with your organization's business and its data, and the Web.

For a tutorial designed to help you learn basic Query Studio skills, see the Query Studio Quick Tour.

The following documents contain related information and may be referred to in this document. To view these documents, either consult your administrator to determine the online location of Cognos documentation or search the Knowledge Base of the Cognos Global Customer Services Web site: (http://support.cognos.com/kb-app/knowledgebase). If you require logon credentials, either consult with your administrator or send an email to support.america@cognos.com.

Document	Description
Cognos 8 *Getting Started*	Teaching new users how to use Cognos 8
Cognos Connection *User Guide*	Using Cognos Connection to publish, find, manage, organize, and view Cognos content, such as scorecards, reports, analyses, and agents
Cognos 8 *Administration and Security Guide*	Managing servers, security, reports, and Portal Services; setting up Cognos samples; and customizing Cognos 8
Framework Manager *User Guide*	Creating and publishing models using Framework Manager
Report Studio *User Guide*	Authoring reports that analyze corporate data according to specific needs
Cognos 8 *Troubleshooting Guide*	Helping administrators to quickly identify and solve problems

For more information about using this product, visit the Cognos Global Customer Services Web site (http://support.cognos.com). For information about education and training, click the **Training** link from this site.

This document is available as online help and as an online book.

From within the online help, you can click the following link to open a printable version of this document (PDF).

Our documentation includes user guides, tutorial guides, reference books, and other materials to meet the needs of our varied audience.

Online Help

All information is available in online help. Online help is available from the help button in a Web browser, or the **Help** menu and help button in Windows products. You can also download the online help from the Cognos Global Customer Services Web site (http://support.cognos.com).

Books for Printing

The information in each online help system is available in online book format (PDF). However, the information from a given help system may be divided into more than one online book. Use online books when you want to print a document or when you want to search the whole document.

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Online books are available from the introduction to the online help for each component.

You can also read the product readme files and the installation guides directly from Cognos product CDs.

Chapter 1: Using Query Studio

Query Studio is the reporting tool for creating simple queries and reports in Cognos 8, the Web-based reporting solution.

In Query Studio, you can

- view data

  Connect to a data source to view data in a tree hierarchy. Expand the query subjects to see query item details.

- create reports

  Use the data source to create reports, which you can save and reuse. You can also use an existing report to create a new report.

- change the appearance of reports

  Improve the layout of your report. For example, you can create a chart, add a title, specify text and border styles, or reorder columns for easy comparison.

- work with data in a report

  Use filters, summaries, and calculations to compare and analyze data. Drill up and drill down to view related information.

To use Query Studio effectively, you should be familiar with the Web, as well as your organization's business and its data. You may also need to be familiar with other components of Cognos 8.

Report Studio

Report Studio is the professional reporting tool for Cognos 8. Use it to author more complex reports.

Report Studio offers greater flexibility in calculating and formatting results. Report authors can open Query Studio reports to create more advanced reports.

Cognos Connection

Cognos Connection is the Web portal for Cognos 8. Use the portal to store and access your reports. If you have the necessary permissions, you can also use the portal for report administration, including scheduling and distributing reports.

Administrators use the portal to administer servers, optimize performance, and specify access permissions.

Framework Manager

Framework Manager is the data modeling tool for Cognos 8.

The packages that you use to generate reports are based on models that are created in the modeling tool, Framework Manager. A model is a set of related objects, such as query subjects, dimensions, filters, and calculations. When you open a package in Cognos 8, these model objects are visible in the left frame.

Analysis Studio

Analysis Studio is the analysis tool for Cognos 8. Use it to explore, analyze, and compare dimensional data.

Analysis Studio helps you answer business questions by finding meaningful information in large data sources.

Metric Studio

Metric Studio is the metrics tool for Cognos 8. Use it to create scorecard applications and monitor the metrics within them.

Metric Studio helps you translate your organization's strategy into relevant, measurable goals that align each employee's actions with a strategic plan.

Event Studio

Event Studio is the event management tool for Cognos 8. Use it to notify decision-makers in your organization of events as they happen, so that they can make timely and effective decisions.

Event Studio ensures that critical information is detected quickly and delivered to key stakeholders in your business. You can create and manage processes that monitor data and perform tasks when the data meets predefined thresholds.

Open the Web Portal

The Cognos Connection Web portal is a single point of access to all Cognos 8 content.

You also use the portal to manage and distribute your reports. For information about other tasks you can do in Cognos Connection, see "Report Administration" (p. 33).

Steps

1. Start your Web browser.
2. In the address bar, type the URL supplied by your administrator, and then press Enter.
   If prompted, type your logon name, password, and any other information required.

Tip: Create a bookmark in your browser for quick access to the portal.

You can now create a new report using an available package as a data source or open an existing report.

Creating a Report

When you create a report in Query Studio, you are actually creating a query definition, which is a specific set of instructions for extracting particular data.

Before you can create a report, the administrator must have previously created a package in Framework Manager and published it to a location in the Cognos Connection portal to which you have access. In addition, the administrator must grant you Query Studio capabilities before you can begin. You need the **Create** capability to create reports and the **Advanced** capability to use advanced authoring features, such as creating complex filters.

Before you use Query Studio, answer the following questions:

- What business question do you want to answer? For example, you can ask "Which sales representative sold the most products?"
- Which type of report best answers the business question, a crosstab report or a chart?
- Who is the target audience?
- What data items and calculations do you need?

Creating a report involves the following tasks:

❑ Create the report.
❑ Add data.
❑ Save the report.
❑ Run the report.

You can work with the data that appears in the report and change the layout (p. 26).

Create a Report

You can create a report from scratch by inserting items from the data source into an empty report.

You can also create a new report by opening an existing report, changing it, and saving it using another name.

Steps

1. In the Cognos Connection home page, on the **Public Folders** tab, click the package that you want to use as a data source.

   If there is more than one package available, the **Select a Package** page appears. **No Entries** means that no reports were created using this package.

   You may not be able to use a package if you do not have access permission. For example, if the data source is a cube, cube security may prevent you from accessing certain data. For more information, contact your administrator.

2. Click the **Query Studio** link on the toolbar.

   Query Studio opens. The query items you can use are listed in the left pane.

   Tip: To exit Query Studio and return to Cognos Connection, click **Return**.

You can now add data and save the report.

Open an Existing Report

You can open an existing report to make changes to it, use it as the basis of a new report, or view the current data.

You can also create a new report from scratch .

Steps

- In the Cognos Connection home page, locate and click the name of the report you want to open.

  The report opens in Query Studio.

  Tip: You can use the Open with Query Studio icon to identify a Query Studio report in Cognos Connection.

Tips

- If you want to use the report as the basis of a new report, save it using a different name.
- To browse through the pages of a report, use the links at the bottom of the page.
- If a report contains more columns than you can see, use the scroll bar to move left or right.
- To increase the available space for viewing reports, click the hide menu button in the top right corner of the menu.
- To view the menu, click the show menu button in the top left corner of the report.
- You can also resize the menu, and hide/show toolbars.

Reports and Package Versions

In Query Studio, reports always use the most recent version of the package. If the package is republished, you are notified that the report will use the newest version of the package. You must save the report to complete the update.

Note that changes to the package can affect the report.

In Cognos Viewer, if you open a saved report after the package it is based on is republished, one of two things happens:

- If the original version of the package still exists, the report runs against the original version.
- If the original version of the package no longer exists, the report is updated to run against the most recent version.

For information about using the report viewer to produce an HTML version of a report, see the Cognos Connection *User Guide*.

The report modeler specifies whether previous versions of a package are preserved. For information about model versioning, see the Framework Manager *User Guide*.

Add Data to a Report

A new report contains no data. You choose the report items that you want to include in the report from the package. Packages can include

- query subjects
- query items, such as columns of measures and non-measures
- query items created by the data modeler, such calculated report items
- dimensions organized in hierarchies and levels

Items added from the package to your report are called report items. Report items appear as columns in list reports, and as rows and columns in crosstab reports. In charts, report items appear as data markers and axis labels.

You can expand the scope of an existing report by inserting additional report items, or you can focus on specific data by removing unnecessary report items.

You may frequently use items from different query subjects or dimensions in the same reports. Ask your modeler to organize these items into a folder or model query subject and then to republish the relevant package. For example, if you use the product code item in sales reports, the modeler can create a folder that contains the product code item and the sales items you need.

You can also add calculations to a report .

Data Source Icons

Each object in the data source has a representative icon. You can insert all of the following objects in a report, except for packages and dimensions.

Icon	Object
	Package, which contains the objects you can insert in a report.
	Query subject, which represents a table in the database.
	In relational data sources, query item, which represents a column of qualitative data in the database, such as product name or country. In dimensional data sources, level attribute, which represents a property of a level.
	Dimension, which represents a broad grouping of descriptive data about a major aspect of a business, such as products, dates, or markets.
	Hierarchy, which represents a collection of dimensional members organized into a tree structure, with each member having one or more parent members and an arbitrary number of child members.

Icon	Object
	Level, which is a set of members that have common attributes. For example, a geographical dimension might contain levels for country, region, and city.
	Multiple levels can exist within a level hierarchy, beginning with the root level. The root level is the parent and rollup of all members in the first level. It is used to obtain a rollup of all values across the hierarchy and to provide a convenient point to start drilling (p. 50).
	For example, a Years level hierarchy may contain the following levels:
	• Root level Years
	• First level Year
	• Second level Quarter
	• Third level Month
	Measure or fact, a query item that represents a column of quantitative data in the database, such as revenue or quantity.
	Measures folder, which contains hierarchical measures.
	Model filter.

Steps

1. Open a report in Query Studio.
2. Click the **Insert Data** menu command.

   A tree hierarchy of the selected package appears in the left pane.

   Note: If you are working with a dimensional data source, the names of levels and members in a dimension come from the model. It is the responsibility of the modeler to provide meaningful names.
3. In the left pane, double-click the items you want to add.

   The items appear in the work area.

Tips

- By default, each new report item follows the last report item, but you can insert an item in a different position. Click an existing heading in your report. The next item you add from the package precedes this heading.
- You can also control the order of items by dragging them to the work area. For example, you can drag an item between two columns that are already in your report.
- To simultaneously add several query items, use Ctrl+click to select multiple items, and then, at the bottom of the left pane, click **Insert**.
- To remove data permanently from your report, click the report item heading, then click the delete button on the toolbar.

Save a Report

Save your report to preserve any changes.

What you save in Query Studio is the query definition, which is a specific set of instructions for extracting particular data. It is not a snapshot of the data you retrieve at the time you save the report. For example, if you run a report that you saved two weeks ago, the data in the report reflects any changes in the updated data source.

Steps

1. Click the save button on the toolbar.
2. If you are saving the report for the first time, specify where you want to save the report and type a file name.

If you want to include a description, type the information you want to add in the **Description** box.

3. Click **OK**.

Save a Report Using a Different Name or Location

You can save a report using a different name or location to use it as the basis of a new report.

Steps

1. Click the save as button on the toolbar.

2. Specify a name and location.

To include a description, type the information you want to add in the **Description** box.

3. Click **OK**.

Run a Report

You can run a report to retrieve any recently updated data from the data source. A Query Studio report also runs when you open it, or when you make any changes.

If you run a report against a data source that does not support functions or features in the report, an error message appears that explains why the action is not supported. This happens more frequently when you use a dimensional data source.

You can cancel a query that is running only during the initial portion of its execution. After this time, the report runs to completion.

For information about other run options, see the Cognos Connection *User Guide*.

Run with Prompts

In Query Studio, prompts ask for user input to define the content of a report. If a report contains prompts, you are prompted when you open the report and when you run the report. For information about prompts, see "Use a Prompt" (p. 39).

Run with All Data

The **Run With All Data** command runs the report using the full data source. Running a report can take a long time. If you plan to make several changes to a report, run the report in preview mode to save time and computer resources by limiting the rows of data that your report retrieves.

Preview Reports with No Data

Preview reports with no data when you want to see what your report will look like without using actual data. This is useful when you are designing your report or when you want to make formatting changes. When you preview reports with no data, you do not use the data source at all. Artificial data replaces the numbers and characters from the data source. None of the data is correct.

When a preview uses no data, a torn border appears at the top and bottom of your report as a visual reminder that you are not using the entire data source.

Data is turned off		
Product line	Country	Quantity
abcd	abcd	1,234
	abcd	1,234
	abcd	1,234
abcd		**1,234**
abcd	abcd	1,234
	abcd	1,234
	abcd	1,234
abcd		**1,234**
Summary		**1,234**

Preview Reports with Limited Data

By limiting data retrieval, you can run reports more quickly.

Preview mode improves the report performance only if the data modeler defines one or more design mode filters in the Framework Manager project. Design mode filters restrict the amount of data that a preview report retrieves to a predetermined limit. A report based on a package that does not contain a design mode filter is not faster when run in preview mode.

Preview mode does not work if you are using a dimensional data source. In addition, a report in limited data mode does not compute rollups.

Note: You cannot change this predetermined limit in Query Studio. For information about creating filters in Framework Manager, see the Framework Manager *User Guide*.

When you use this command, remember that the data retrieved in preview mode is not complete. The accuracy of the data returned is limited to the number of preview rows predefined in the model. For example, summarized values will be incorrect because they do not include all of the data.

When a preview uses limited data, a torn border appears at the top and bottom of your report as a visual reminder that you are not using the entire data source.

Limited data		
Product line	**Country**	**Quantity**
Camping Equipment	Germany	103,412
	Japan	3,562
	United States	117,136
Camping Equipment		**117,136**
Golf Equipment	Germany	6,410
	Japan	7,158
	United States	10,470
Golf Equipment		**10,470**
Mountaineering Equipment	Germany	27,584
	Japan	3,330
	United States	34,132
Mountaineering Equipment		**34,132**
Outdoor Protection	Germany	39,006
	Japan	28,172
	United States	68,630
Limited data		

Steps

1. Open the report that you want in Query Studio.
2. From the **Run Report** menu, choose how to run the report:
   - To run the report using all data, click **Run with All Data**.
   - To run the report using limited data, click **Preview with Limited Data**.
     If the package that the report is based on contains a design filter, performance is improved.
   - To run the report using no data, click **Preview with No Data**.

View a Report in PDF Format

To save a snapshot of your report data, you can create a PDF (Portable Document Format) version of your report.

Note: For best results, use the PDF format when you want to print a report.

You must have Adobe Acrobat Reader installed on your computer to view a report in PDF format.

Steps

1. Open the report that you want in Query Studio.
2. From the **Run Report** menu, click **View in PDF Format**.

The report opens in PDF format in a new window.

Tip: To specify the orientation and page size of your PDF report, from the **Run Report** menu, click **Specify PDF Options**.

View a Report in CSV Format

You can view list reports in CSV (Comma Separated Values) format.

The output is determined by the configuration of the computer and by the browser. If you have Excel installed on your computer, you may see Excel appear within your browser window or in a new window, depending on the configuration. If Excel appears in your browser window, you will see the **File** menu.

You may be asked whether you want to download the CSV file, or you may have the option to open it or save it.

If the user has an application other than Excel associated with CSV, then the browser will call that application.

You cannot view charts or crosstab reports in CSV format.

Steps

1. Open the report that you want in Query Studio.
2. From the **Run Report** menu, click **View in CSV Format**.
   The report opens in an Excel spreadsheet.
3. In the **File** menu, click **Save As**, and specify a name and location.
   The report is saved as a text file that you can import into other products.

View a Report in XML Format

You can view list reports in XML format.

You cannot view charts or crosstab reports in XML format.

Steps

1. Open the report that you want in Query Studio.
2. From the **Run Report** menu, click **View in XML Format**.
   The report opens in XML format in a new window.

View a Report in Excel 2000 Format

You can view reports in Microsoft Excel versions earlier than 2002.

Excel 2000 format supports up to 65,536 rows and multiple sheets.

Date Formats and Excel

The Cognos 8 full date format does not always display correctly in Microsoft Excel 2000, if it is on a system with a regional setting other than English. This does not occur with Microsoft Excel 2002 or 2003 versions. To fix this, re-apply the proper format in Excel.

Other limitations exist when producing reports in Microsoft Excel format.

For information about these limitations, see "Producing Reports in Microsoft Excel Format" (p. 67).

Steps

1. Open the report that you want in Query Studio.
2. From the **Run Report** menu, click **View in Excel 2000 Format**.
   The report opens in a new window.

View a Report in Excel 2000 Single Sheet Format

You can view reports on a single sheet in Microsoft Excel versions earlier than 2002.

Excel 2000 single sheet format offers improved security. Excel 2000 may have cookies in the URLs to spreadsheets, which could be used to illegally impersonate a user. Excel 2000 single sheet format does not use outgoing URLs. However, there is a limit of 65,536 rows, and page breaks for multiple-author pages are ignored.

Excel 2000 single sheet format also offers the following benefits:
- Works with SSL protocol.
- Works with a single signon.
  Secure reports can be accessed without subsequent signons because the system automatically identifies users and provides security information.
- Works with Netscape 7.01.
- Spreadsheets are contained in a single file for reliable spreadsheet navigation.

Date Formats and Excel

The Cognos 8 full date format does not always display correctly in Microsoft Excel 2000, if it is on a system with a regional setting other than English. This does not occur with Microsoft Excel 2002 or 2003 versions. To fix this, re-apply the proper format in Excel.

Other limitations exist when producing reports in Microsoft Excel format.

For information about these limitations, see "Producing Reports in Microsoft Excel Format" (p. 67).

Steps

1. Open the report that you want in Query Studio.
2. From the **Run Report** menu, click **View in Excel 2000 Single Sheet Format**.
   The report opens in a new window.

View a Report in Excel 2002 Format

You can view reports in Microsoft Excel versions 2002 and later.

Excel 2002 format offers the following benefits:
- Works with SSL protocol.
- Works with a single signon.

Secure reports can be accessed without subsequent signons because the system automatically identifies users and provides security information.

- Works with Netscape 7.01.
- Spreadsheets are contained in a single file for reliable spreadsheet navigation.

Limitations exist when producing reports in Microsoft Excel format.

For information about these limitations, see "Producing Reports in Microsoft Excel Format" (p. 67).

Steps

1. Open the report that you want in Query Studio.
2. From the **Run Report** menu, click **View in Excel 2002 Format**.
   The report opens in a new window.

Open a Report in Report Studio

You can open a Query Studio report in Report Studio to add more functionality to your report.

You must have the necessary permissions before you can open a Query Studio report in Report Studio.

Steps

- Click the Report Studio icon in the top right corner of the Query Studio screen.
  The Report Studio icon will be absent if you do not have the necessary permissions.

Print a Report

Print your report to obtain a paper copy.

For best results, use the PDF format when you want to print a report.

You can also print a report from Cognos Connection. For more information, see the Cognos Connection *User Guide*.

Steps

1. Open the report that you want in Query Studio.
2. From the **Run Report** menu, click **View in PDF Format**.
   The report opens in PDF format.
3. On the Acrobat Reader toolbar, click print.
4. Select the print options you want and click **OK**.

Recommendation - Creating Accessible Reports

Creating accessible reports ensures access of information to all users, with all levels of ability.

For example, blind users may use screen reading technology to access the information in a report.

The following are some design considerations for creating accessible reports:

- Avoid using visual cues, such as text bolding or color, to convey important information.
- Avoid using pictures and OLE Objects in PDF documents, as these items are tagged as artifacts and ignored by the screen reader.
- Avoid using conditional formatting to convey important information.
- Chart types are inaccessible to the screen reader. They are rendered as images, which the screen reader will ignore. A good practice when including a chart is to ensure there is a corresponding table with the same information. In this way, visually impaired individuals can still obtain the same information from the table.
- Report delivery should be via HTML, as it is the most supported output format for most screen readers.

- Always ensure there is a title on the report.
- Gain an understanding for screen reading technology.
- Avoid spelling and grammar errors, as they will cause the screen reading software to misinterpret the information.
- Prompts can be used in accessible reports, including check boxes, radio buttons, combo boxes, and multi-select boxes. Avoid using features like calendar boxes and up and down selections on time controls.
- When choosing to use embedded Web applications or drill-through paths, ensure the target application is also accessible.
- Avoid using large, complex list or crosstab reports. Displaying the information in multiple simple lists or crosstab reports will be more manageable for users of Assistive Technology.

Get the Report Definition

The **Report Definition** command describes the report items in each report and gives users, administrators, and customer support an important troubleshooting tool.

Note: You cannot change the report properties.

Steps

1. Open the report that you want in Query Studio.
2. From the **Manage File** menu, click **Report Definition**.

    The **Report Properties** dialog box appears. It contains a table that lists every filter, report item, and corresponding expression in the report.

    Tip: Click **Query Information** to bring up a text box containing information about the query that you can send to customer support if needed.

Setting up a Multilingual Reporting Environment

You can create reports that show data in more than one language and use different regional settings. This means that you can create a single report that can be used by report consumers anywhere in the world.

The samples databases provided with Cognos 8 store a selection of text fields, such as names and descriptions, in more than 25 languages to demonstrate a multilingual reporting environment. For information about how data is stored in the samples databases and how the samples databases are set up to use multilingual data, see the *Administration and Security Guide*.

Here is the process for creating a multilingual reporting environment:

❑ Use multilingual metadata.

   The data source administrator can store multilingual data in either individual tables, rows, or columns.

   For more information about configuring your database for multilingual reporting, see the *Administration and Security Guide*.

❑ Create a multilingual model.

   Modelers use Framework Manager to add multilingual metadata to the model from any data source type except OLAP. They add multilingual metadata by defining which languages the model supports, translating text strings in the model for things such as object names and descriptions, and defining which languages are exported in each package. If the data source contains multilingual data, modelers can define queries that retrieve data in the default language for the report user.

   For more information, see the Framework Manager *User Guide*.

❑ Create multilingual maps.

Administrators and modelers use a Windows utility named Map Manager to import maps and update labels for maps in Report Studio. For map features such as country and city names, administrators and modelers can define alternative names to provide multilingual versions of text that appears on the map.

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

❑ Create a multilingual report.

The report author uses Report Studio to create a report that can be viewed in different languages. For example, the report author can specify that text, such as the title, appears in German when the report is opened by a German user. Report authors can also add translations for text objects, and create other language-dependent objects.

For more information, see the Report Studio *User Guide*.

❑ Specify the language in which a report is viewed.

You can use Cognos Connection to do the following:

- Define multilingual properties, such as a name, screen tip, and description, for each entry in the portal.
- Specify the default language to be used when a report is run.

  Tip: You can specify the default language on the run options page, in the report properties, or in your preferences.
- Specify a language, other than the default, to be used when a report is run.

For more information, see the Cognos Connection *User Guide*.

The data then appears in the language and with the regional settings specified in

- the user's Web browser options
- the run options
- the Cognos Connection preferences

Any text that users or authors add appears in the language in which they typed it.

Report Types

Use different report types to look at data in different ways or to answer different business questions. For example, you create a list report to show your entire customer base, and you create a crosstab report to show the quantity of units sold broken down by product line and country. You can create a chart to present data graphically.

In Query Studio, you can create the following report types:

- list reports
- crosstab reports
- charts

You can also combine a chart with either a list report or a crosstab report.

List Reports

Use list reports to show columns of information, such as product lists or customer lists.

Product line	Quantity
Personal Accessories	389,908
Mountaineering Equipment	301,958
Golf Equipment	99,400
Camping Equipment	866,234
Outdoor Protection	557,854
Summary	**2,215,354**

A list report shows data in rows and columns. You can apply a filter, summary, or calculation to manipulate the data that appears in the report.

By default, Query Studio automatically suppresses duplicates, summarizes detail values, and generates footer summaries for measures. You can change these defaults (p. 44).

By default, Query Studio builds list reports when you create a report from scratch. You can try creating a list report yourself.

Example - Create a List Report for Quantity

You are a report author at the Great Outdoors Company, which sells sporting equipment. You are requested to create a report that shows the quantity of units sold for each product line in all countries. You can retrieve this information using a list report.

Before you can try this example, you must set up the sample packages that come with Cognos 8. For more information, see the *Administration and Security Guide*.

Steps

1. In the Cognos Connection home page, click the **Public Folders** tab.
   All available packages appear.
2. Click the **GO Sales and Retailers** package.
3. Click the **Query Studio** link.
   Query Studio opens, and the **GO Sales and Retailers** query items appear in the left pane.
4. Expand **Products**.
5. Double-click the **Product line** item.
6. Expand **Orders**.
7. Double-click the **Quantity** item.
   By default, the report item heading uses the name of the underlying item in the data source. You can also add a descriptive title to the report.
8. At the top of the report, click the **Title** link.
9. In the **Title** box, type
   Units Sold
   You now have a titled report listing the units sold for every product line.
10. Click the save button on the toolbar.
11. In the **Name** box, type
    Units Sold
12. Leave the default destination folder as **Public Folders,** and click **OK**.

Units Sold

Product line	Quantity
Personal Accessories	389,908
Mountaineering Equipment	301,958
Golf Equipment	99,400
Camping Equipment	866,234
Outdoor Protection	557,854
Summary	**2,215,354**

Grouped List Reports

A simple list report that contains columns of unique values is easy to understand. However, after you add more columns, you may find that duplicate values appear in your report.

Grouping a report sorts the data and suppresses duplicate values in the grouped column. For example, a report contains information about the quantity of units sold, in columns named Product line, Country, and Quantity. Each product line is sold in more than one country, so the same product line value appears in multiple rows in the Product line column.

Product line	Country	Quantity
Camping Equipment	Germany	103,412
Camping Equipment	Japan	3,562
Camping Equipment	United States	117,136
Golf Equipment	Germany	6,410
Golf Equipment	Japan	7,158
Golf Equipment	United States	10,470
Mountaineering Equipment	Germany	27,584
Mountaineering Equipment	Japan	3,330
Mountaineering Equipment	United States	34,132
Outdoor Protection	Germany	39,006
Outdoor Protection	Japan	28,172
Outdoor Protection	United States	68,630
Personal Accessories	Germany	43,014
Personal Accessories	Japan	21,984

You group by product line to

- suppress duplicate values of the product line report item
- sort the product lines alphabetically
- generate footer summaries for each product line

Product line	Country	Quantity
Camping Equipment	Germany	103,412
	Japan	3,562
	United States	117,136
Camping Equipment		**224,110**
Golf Equipment	Germany	6,410
	Japan	7,158
	United States	10,470
Golf Equipment		**24,038**
Mountaineering Equipment	Germany	27,584
	Japan	3,330
	United States	34,132
Mountaineering Equipment		**65,046**
Outdoor Protection	Germany	39,006
	Japan	28,172
	United States	68,630

For more information, see . You can try creating a grouped report yourself.

Example - Create a Grouped List Report for Units Sold

You are a report author at the Great Outdoors Company, which sells sporting equipment. You are requested to create a report that shows the quantity of units sold for each product line in three specific countries. You reuse a list report that already contains some of the necessary data, and add another column.

At first, your report shows the total quantity of units sold for all product lines in all countries. You apply a filter to the Country column and group by product line to suppress the duplicate values in the Product line column.

Before you can try this example, you must set up the sample packages that come with Cognos 8. For more information, see the *Administration and Security Guide*.

You must also have created the example list report .

Steps

1. Open the **Units Sold** report.
2. Click the heading of the **Quantity** column.
3. Click the **Insert Data** menu command.
4. Expand **Countries**.
5. Double-click the **Country** item.

   A column appears that represents this item, to the left of the **Quantity** column. You now have a report listing the quantity of units sold for every product line in all countries. However, you are interested only in the quantity of units sold in three specific countries. Apply a filter to include only the countries you want.
6. Click the heading of the **Country** column.
7. Click the filter button on the toolbar.
8. In the **Show only the following** box, click **Germany**, **Japan**, and **United States**, and then click **OK**.

   By default, the filters appear in the subtitle.

   You can group by product line to suppress the duplicate values in the **Product line** column.
9. Click the heading of the **Product line** column.
10. Click the group button on the toolbar.

    The values in the Product line column are sorted alphabetically, and duplicate values are removed.
11. Click the save as button on the toolbar.
12. In the **Name** box, type

    Grouped Units Sold
13. Leave the destination folder as **Public Folders**, and click **OK**.

Units Sold

Country: Germany, Japan, United States

Product line	Country	Quantity
Camping Equipment	Germany	103,412
	Japan	3,562
	United States	117,136
Camping Equipment		**224,110**
Golf Equipment	Germany	6,410
	Japan	7,158
	United States	10,470
Golf Equipment		**24,038**
Mountaineering Equipment	Germany	27,584
	Japan	3,330
	United States	34,132
Mountaineering Equipment		**65,046**
Outdoor Protection	Germany	39,006
	Japan	28,172
	United States	68,630

Crosstab Reports

A crosstab report shows a measure at the intersection of each row and column. This is useful for showing more information in a smaller area. For example, if a report shows Product line as columns, Country as rows, and Quantity as the measure, the value at the intersection of each column and row shows the quantity of units sold for that product line and that country.

Quantity	Camping Equipment	Golf Equipment	Mountaineering Equipment	Outdoo Protecti
Germany	103,412	6,410	27,584	39,0
Japan	3,562	7,158	3,330	28,1
United States	117,136	10,470	34,132	68,6
Summary	**224,110**	**24,038**	**65,046**	**135,8**

You can try creating a crosstab report yourself.

Create a Crosstab Report

Use a crosstab report to show summary information. For example, you create a crosstab report to show quantity of units sold by product line for each country.

Like list reports, crosstab reports show data in rows and columns. However, the values at the intersection points of rows and columns show summarized information rather than detailed information.

Steps

1. Open the report that you want in Query Studio.
2. Click the heading of the report item you want to use as the top row.
3. Click the pivot button on the toolbar.

   The values of the selected report item are now column headings. The other report items become row headings, and the measure is now at the intersection of the two.

   Tip: To change the crosstab report back to a list report, click the top row, and then click the ungroup button on the toolbar.

Example - Create a Crosstab Report for Units Sold

You are a report author at the Great Outdoors Company, which sells sporting equipment. You are requested to create a report that shows the quantity of units sold for each product line in three specific countries. You reuse the grouped report that already contains the necessary data, and change the layout for improved analysis.

Before you can try this example, you must set up the sample packages that come with Cognos 8. For more information, see the *Administration and Security Guide*.

You must also have created the example grouped list report .

Steps

1. Open the **Grouped Units Sold** report.
2. Click the heading of the **Country** column.
3. Click the pivot button on the toolbar.

   The values of the Country column are now column headings. The values of the Product line column become row headings. The measure is at the intersection of the two.
4. Click the save as button on the toolbar.
5. In the **Name** box, type

   Crosstab Units Sold
6. Leave the destination folder as **Public Folders**, and click **OK**.

Units Sold				
⧩ Country: Germany, Japan, United States				
Quantity	Germany	Japan	United States	*Summary*
Camping Equipment	103,412	3,562	117,136	**224,110**
Golf Equipment	6,410	7,158	10,470	**24,038**
Mountaineering Equipment	27,584	3,330	34,132	**65,046**
Outdoor Protection	39,006	28,172	68,630	**135,808**
Personal Accessories	43,014	21,984	51,584	**116,582**
Summary	**219,426**	**64,206**	**281,952**	**565,584**

Charts

Use charts to present information graphically.

A report requires at least one measure and one non-measure to produce a chart. Measures are quantitative data, such as figures for sales, costs, and quantities. Non-measures are qualitative data, such as names, addresses, and countries.

How the data is plotted depends on the chart type. The maximum number of non-measures is two. You can plot any number of measures in a report. However, a chart that has more than four or five measures is difficult to understand.

Query Studio charts plot the most summarized data in the report. Focus the chart by eliminating unnecessary measures from your report and reordering the columns so that the most significant non-measures are in the outer levels of nesting.

For more information, see Chart Types.

Create a Chart

Use charts to see patterns and trends in data. For example, you can see how actual sales compare to projected sales, or whether sales are falling or rising over quarterly periods.

You can show just the chart, or the chart with the table appearing under the chart.

Steps

1. Open the report that you want in Query Studio.
2. Reorder report items, if necessary.
3. Click the chart button on the toolbar.
4. In the **Chart type** box, click a chart style.
5. Click a chart configuration.
6. If you want to view only the chart, click **Chart only**.
7. If you want the values to appear on the chart, select the **Show the values on the chart** check box.
8. Click **OK**.

   Tip: To remove a chart, click the chart button on the toolbar, and then in the **Chart** dialog box, click **None**.

Example - Create a Pie Chart for Units Sold

You are a report author at the Great Outdoors Company, which sells sporting equipment. You are requested to create a chart that illustrates the relative contribution each product line makes to the quantity of units sold. You reuse the units sold report to create a pie chart that emphasizes the percentage contribution of each product line.

When the focus of a report is actual values, and not relative contribution, create a column chart.

Before you can try this example, you must set up the sample packages that come with Cognos 8. For more information, see the *Administration and Security Guide*.

You must already have created the example report for sales .

Steps

1. Open the **Units Sold** report.
2. Click the chart button on the toolbar.
3. In the **Chart type** box, click **Pie**.
4. Click **100 Percent**.
5. Select the **Show the values on the chart** check box.
6. In **Show the following in the report**, click **Chart only**, and then click **OK**.
7. Click the save as button on the toolbar.
8. In the **Name** box, type
   Units Sold Pie
9. Leave the destination folder as **Public Folders**, and then click **OK**.
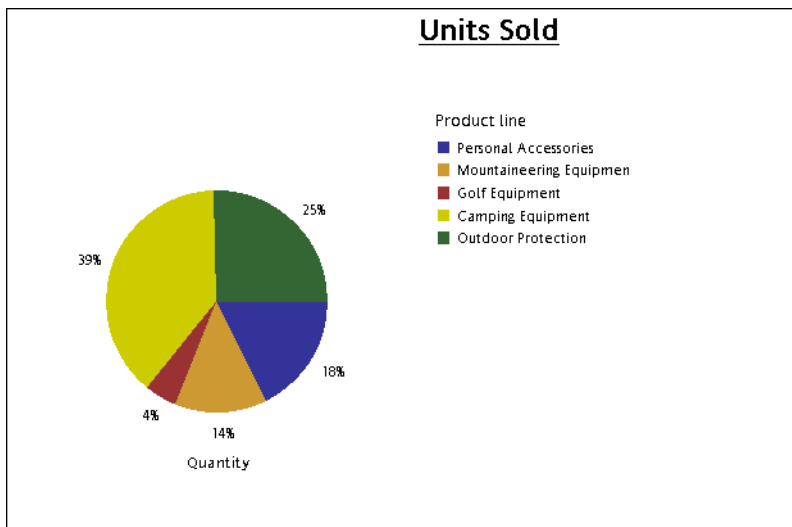
Download a Chart

You can download a chart onto your computer. This is useful when you want to send the chart to someone else or view the chart at a later time.

Steps

1. In Cognos Connection, navigate to the report you want.
2. Under **Actions**, click **Run with options**.
3. In the **Format** box, click **HTML**.
   You can download a chart only if the report is run in HTML format.
4. Click **Run**.
   The report runs in Cognos Viewer.
5. Right-click the chart you want to download to your computer and click **Download Chart**.
6. Click **Save** and choose the location where you want to save the chart.

The chart is saved as a Portable Network Graphics (.png) file.

Changing the Appearance of Reports

You can change the appearance of your reports to make them easier to understand and interpret without changing the underlying data. For information about changing the data itself, see .

In Query Studio, you can change the appearance of reports by

- applying a template
- changing the title
- formatting text and data
- formatting borders
- collapsing or expanding a report
- reordering report items
- changing the heading name
- swapping rows and columns
- controlling the number of rows per page
- highlighting key information
- setting page breaks

If you have the necessary permissions, you can use Report Studio to make more extensive changes, such as adding borders and modifying object properties. However, after you edit a report in Report Studio, you can no longer edit it in Query Studio. For more information, see the Report Studio *User Guide*.

Apply a Template

You can apply a template to your report pages and prompt pages to give them the same look. For example, you can use a Query Studio template to customize page headers and footers and to re-style layout objects.

By default, Query Studio uses a system-wide template. You can change the system-wide template used with another template. For more information, see the *Administration and Security Guide*.

Query Studio templates must be created in Report Studio before they can be applied. For more information, see the Report Studio *User Guide*.

Steps

1. Open the report that you want in Query Studio.
2. From the **Change Layout** menu, click **Apply Template**.
3. Click **Apply a template** and then click **Select a template**.
4. Locate the template you want to apply and click it.
5. Click **OK**.
6. If you want to remove any custom formatting previously added to the report, select the **Reset all styles to template defaults** check box.
7. Click **OK**.

Tips

- To remove a template, in the **Apply Template** dialog box, click **Do not apply a template**.
- If you make style changes after applying a template, you can restore the styles in the report back to those specified in the template. From the **Change Layout** menu, click **Reset Font and Border Styles**.

Change the Title

You can create your own descriptive report titles and subtitles.

By default, the link "Title" appears in a new report. Replace this with a more meaningful title, or remove it.

In addition, you can choose to show filter links and sort links in the title area.

The title appears only in the report. Changing the report title does not change the report name that appears in Cognos Connection. For information about changing the report name, see the Cognos Connection *User Guide*.

Steps

1. Open the report that you want in Query Studio.
2. From the **Change Layout** menu, click **Edit Title Area**.
3. In the **Title** box, type a new title.
4. If you want filters defined in the report to appear in the title area, select the **Show filters** check box.
5. If you want sorting defined in the report to appear in the title area, select the **Show sorts** check box.
6. Click **OK**.

Tips

- To remove a title, delete all text in the **Title** box.
- To change the title without going through the menu, click the **Title** link.

Change the Subtitle

You can create your own descriptive report subtitles.

Steps

1. Open the report that you want in Query Studio.
2. From the **Change Layout** menu, click **Edit Title**.
3. Choose a subtitle option:
   - To create your own subtitle, type a subtitle in the **Subtitle** box.
   - To show no subtitle, make sure the **Subtitle** box is blank.
   - To use the names of filter values as an additional subtitle, select the **Show filters** check box.
4. Click **OK**.

Format Text and Data

You can format text and data in a report to give it the look you want. For example, you can change the font and font color, as well as specify effects, such as strikethrough. You can format the following:

- titles and subtitles
- filter text
- sections
- column headings
- data
- group, section, and overall summary titles and values

You can also format data using conditional styles. In addition, you can format a report by applying a template.

Steps

1. Open the report that you want in Query Studio.
2. If you want to format text for a particular object, such as a specific column or a column heading, click the object.

   Tip: Press Ctrl+click or Shift+click to select multiple objects.
3. From the **Change Layout** menu, click **Change Font Styles**.

   Tip: You can also use the style toolbar to quickly format an object. For example, you can use the toolbar to change the font, the font size, the font color, or the background color.
4. Specify the options you want to apply.
5. If you want to specify the font color, click the font color button, click the color menu, and choose how you want to select the color:

- To select a color from a small set of named colors, click **Named colors** and click the color.
- To select from 216 available colors, click **Web safe colors** and click the color.
- To specify a color based on hexadecimal values that you type for red, green, and blue, click **Custom color** and type the hexadecimal values for the colors that you want to combine.

6. If you want to specify the background color, click the background color button, click the color menu, and choose how you want to select the color:
   - To select a color from a small set of named colors, click **Named colors** and click the color.
   - To select from 216 available colors, click **Web safe colors** and click the color.
   - To specify a color based on hexadecimal values that you type for red, green, and blue, click **Custom color** and type the hexadecimal values for the colors that you want to combine.

7. Click **Advanced options** and click the objects that you want to format.

   You can apply styles to the current selection or to specific objects, such as titles and the filter text.

   Tip: To reset values, click **Reset to default values**.

8. Click **OK**.

The formatting is applied to new columns that you add. When inserting a new column in a list, the column inherits the formatting of the column to its left. If you insert the new column to the left of the first column, it inherits the formatting of the first column. When inserting a new column in a crosstab, the column inherits the formatting of the column above it. If you insert a new column above the topmost column, it inherits the formatting of the column under it.

Tip: If you want to reset your changes to their default values after you apply the formatting, from the **Change Layout** menu, click **Reset Font and Border Styles**. This removes all settings defined in the current report.

Format Borders

You can format the borders of tables and sections in a report to give them the look you want.

Steps

1. Open the report that you want in Query Studio.
2. From the **Change Layout** menu, click **Change Border Styles**.
3. Under **Table borders**, click the borders that you want to format.
4. To specify the color, click the color button.
5. In the **Color** box, choose how you want to choose colors:
   - To select a color from a small set of named colors, click **Named colors** and click the color.
   - To select from 216 available colors, click **Web safe colors** and click the color.
   - To specify a color based on hexadecimal values that you type for red, green, and blue, click **Custom color** and type the hexadecimal values for the colors that you want to combine.

   Tip: To reset values, click **Reset to default values**.

6. Click **OK**.

Tip: If you want to reset your changes to their default values after you apply the formatting, from the **Change Layout** menu, click **Reset Font and Border Styles**. This removes all settings defined in the current report.

Collapse a Report

You can view only the details you want by expanding and collapsing a report. Collapsing a report temporarily removes progressive levels of detail, making it easier to find and compare high-level summaries. Expanding a report restores the collapsed levels.

You can expand and collapse only those reports that contain a measure.

You cannot collapse reports that contain custom groups (p. 40).

Note: There is no visible indication that a report is collapsed. For example, you collapse a report, and then save it. Another person can open the report later and not be aware that the report is collapsed.

Steps

1. Open the report that you want in Query Studio.
2. Click the collapse group button on the toolbar.
3. Repeat until you are at the required level of detail.

    Tip: To expand a collapsed report, click the expand group button on the toolbar.
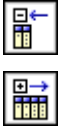
Reorder Report Items

You can reorder report items for easy comparison. For example, you can place a column of prices and a column of costs side by side. You may also want to change the column order to accommodate chart requirements.

You use cut and paste to reorder report items. If you paste a report item before a section, it becomes a section. If you paste a report item before a grouped column, it becomes grouped. If you paste a grouped column after an ungrouped column, it becomes ungrouped.

Steps

1. Open the report that you want in Query Studio.
2. Click the heading of the column that you want to move.
3. Click the cut button on the toolbar.
4. Click the heading of the report item before which you want to insert the column.
5. Click the paste button on the toolbar.

    Tip: To position a column as the last column, paste with nothing selected.

Change the Report Item Name

By default, the heading uses the name of the underlying item in the data source. You can change the heading to make it more meaningful. For example, you can rename a report item named ISO_3_Letter_Code to Country.

Changing the heading name in the report does not change the name of the corresponding report item in the data source.

Steps

1. Open the report that you want in Query Studio.
2. Double-click the heading of the report item that you want to rename.
3. In the **Name** box, type a new name.
4. Click **OK**.

Swap Rows and Columns

You can interchange rows and columns in a crosstab, a chart based on a crosstab, or both. For example, if you have a crosstab report that has few rows and many columns, you can swap the rows and columns to make the report easier to read.

If you have multiple rows or columns in a crosstab report, the outermost rows become the outermost columns, and the outermost columns become the outermost rows.

Note: You cannot swap rows and columns in a list report.

Steps

1. Open the report that you want in Query Studio.
2. Click the swap rows and columns button on the toolbar.

If you have both a chart and a crosstab report open, you can specify which to swap.

Specify the Rows Per Page

You can specify the maximum number of rows of data to appear on the page.

By default, Query Studio shows 20 rows of data. The more rows that are retrieved, the more time that is needed to retrieve data. You can improve performance by showing fewer rows.

By specifying the rows per page to a higher number, you can scroll up or down the report, eliminating the need to repeatedly page up and page down.

Steps

1. Open the report that you want in Query Studio.
2. From the **Change Layout** menu, click **Set Web Page Size**.
3. In the **Number of Rows** box, specify the maximum number of rows you want to appear on a page.
   Tip: To see row numbers in your report, click the **Show row numbers** check box.
4. Click **OK**.

Highlight Key Information by Defining Conditional Styles

You can define conditional styles to highlight key information in a report. You can use conditional styles with numeric data, text data, and date values.

For example, use conditional styles to highlight all revenue greater than five million in green and all revenue less than one million in red.

Steps

1. Open the report that you want in Query Studio.
2. Click the report item for which you want to define conditional styles.
3. From the **Change Layout** menu, click **Define Conditional Styles**.
4. If the report item is a measure or date, do the following:
   - For a measure, in the **New Value** box, type the value that you want and click **Insert**.
     The value appears under the **Range** column, and two ranges are created.
   - For a date, click **Select a date and time** and specify the date and time you want.
     The date appears under the **Range** column, and two ranges are created.
   - For each range, under **Style**, click one of the predefined styles that you want to apply to the range, or click the edit style button and create your own style.
     Tip: You can modify the predefined styles. For more information, see the *Administration and Security Guide*.
   - Repeat to add other values.
     Tip: Under **Style**, pause the pointer over each bracket to see the condition produced for each range.
   - If you want to move a value above or below a threshold, click the arrow button next to the value.
     For example, if the highest value you insert is five million, and the next highest value is one million, the condition created for the five million value is Greater than one million and less than or equal to five million. Moving the five million value above the threshold will produce the condition Greater than or equal to five million.
5. If the report item is text, do the following:
   - If you want to select individual values, click **Select values** and click the values you want.
   - If you want to define a range, click **Define a range**, and in the **From** and **To** boxes, type the values you want to use in the range.
   - For each value or range, under **Style**, click one of the predefined styles that you want to apply, or click the edit style button and create your own style.

- Specify the style to apply to remaining values by clicking one of the predefined styles beside **Remaining values (include future values)**.

6. Click **OK**.

# Example - Define Conditional Styles for Units Sold

You are a report author at the Great Outdoors Company, which sells sporting equipment. You are requested to create a report that shows the quantity of units sold for each product line in all countries. You reuse a list report that already contains the necessary data, and define conditional styles for improved analysis.

Before you can try this example, you must set up the sample packages that come with Cognos 8. For more information, see the *Administration and Security Guide*.

You must also have created the example list report .

Steps

1. Open the **Units Sold** report.
2. Click the heading of the **Quantity** column.
3. From the **Change Layout** menu, click **Define Conditional Styles**.
4. In the **New value** box, type

   100000
5. Click **Insert** to add the value under **Range**.
6. Under **Style**, click **Poor**.
7. Repeat steps 4 to 6 to add 300000 as a value, and assign the style **Average**.
8. Repeat steps 4 to 5 to add 500000 as a value.
9. Click the arrow button next to 500000 to move the value above the threshold.
10. Assign the style **Excellent** to 500000.

11. Click **OK**.
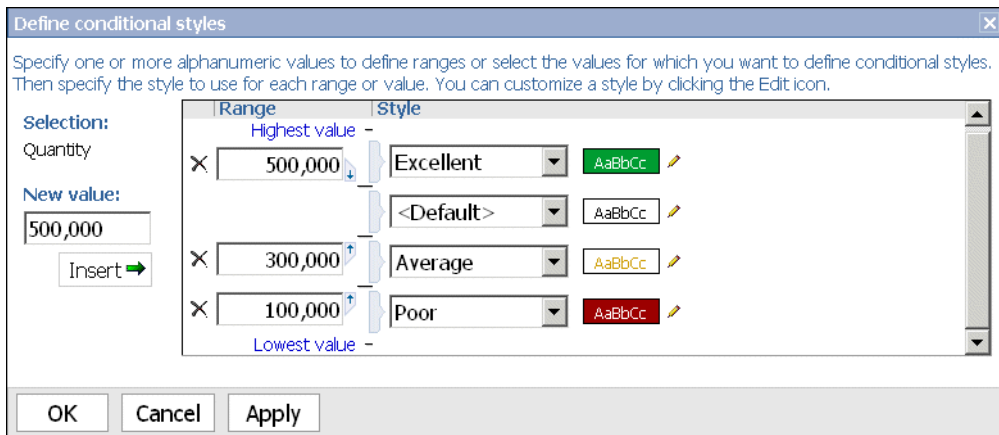
    Values in the **Quantity** column are formatted according to the ranges you defined.
12. Click the save as button on the toolbar.
13. In the **Name** box, type

    Conditional Styles Example
14. Leave the destination folder as **Public Folders**, and click **OK**.

Set Page Breaks

You can set page breaks in a report to control the data that appears on each page. For example, you have a list that shows all products sold by your company, grouped by product line. You insert a page break so the details for each product line appear on a separate page.

You must have a grouped column or you must create sections before you can set page breaks. For more information, see "Group Identical Values" (p. 42).

Steps

1. Open the report that you want in Query Studio.
2. Click the report item that you want to use to insert page breaks.
3. From the **Change Layout** menu, click **Set Page Breaks**.

Tip: After you have set page breaks, view the report in PDF, Excel 2000, or Excel 2002 format to see the page breaks. If you view the report in HTML, it appears in a single HTML page with space separating each group or section.

Report Administration

If you have the necessary permissions, you can use the Web portal to perform administrative tasks. You can

- schedule a report or a group of reports to run at a specific time
- distribute reports to other users
- select the language to use when a report is run
- maintain the history of a report
- maintain different versions of a report

For more information, see the *Administration and Security Guide*.

Chapter 2: Working with Data

You can control what data your report uses, as well as how it is formatted, calculated, and sorted.

In Query Studio, you can

- filter the data to retrieve only the data you need
- organize the results by sorting and grouping
- format the data to determine how number, currency, date, and time values appear
- perform calculations using the data in your reports
- drill to view related data

Filters

You can use a filter to specify the subset of records that the report retrieves. Any data that does not meet the criteria is eliminated from the report, which can improve performance.

You can filter textual, numeric, or date and time data. When filtering measures, you can apply the filter to

- details
- summaries in reports that contain summaries
- individual records in the database for measures only

Filtering Based On Details

When you filter on details, you filter the values that appear in the detail rows of your report.

For example, you filter on details using as criteria all quantities greater than 100000. The only data that matches this criteria are the detail rows for camping equipment sold in the United States and Germany.

Product line	Country	Quantity
Camping Equipment	Germany	103,412
	United States	117,136
Camping Equipment		220,548
Summary		220,548

Filtering Based On Group Summaries

When you filter on summaries, you filter the values in the footers. Filtering on summaries eliminates groups from your report.

For example, if you filter on summaries using as criteria all quantities greater than 100000, the groups Golf Equipment and Mountaineering Equipment are excluded from the report.

Filtering Based On Individual Records in the Database

The following report shows the quantity of units of camping equipment sold in three countries. These actual figures do not exist in the data source. The numbers are aggregates, the result of totaling a number of individual records.

Product line	Country	Quantity
Camping Equipment	Germany	103,412
	Japan	3,562
	United States	117,136
Camping Equipment		224,110

If you add another column to the report based on order numbers, it would look like this, listing the quantity of units sold for each individual order.

Product line	Country	Order number	Quantity
Camping Equipment	Germany	1668	42
	Germany	1669	64
	Germany	1671	70
	Germany	1672	68
	Germany	1673	26
	Germany	1674	10
	Germany	1675	58

When you use a filter based on individual records in the database, it is these underlying values that are filtered. For example, if you remove the order number column and then filter based on individual records using all quantities greater than 50 as criteria, you get the following results.

Product line	Country	Quantity
Camping Equipment	Germany	94,704
	Japan	386
	United States	39,656
Camping Equipment		134,746

Note that the quantity of units sold is now smaller because a filter based on individual records in the database includes only those orders where the quantity is greater than 50.

Create a Simple Filter

You can create a filter that retrieves specific data, such as the orders for a specific customer.

You can also combine two or more filters into a complex filter, add a model filter, and create a prompt report.

Steps

1. Open the report that you want in Query Studio.
2. Click the heading of the item you want to filter.
3. Click the filter button on the toolbar.
4. If filters already exist for the item, do one of the following:
   - To edit a filter, click **Modify the existing filter**.
   - To create a new filter, click **Add a filter to** *data item*.
   - To create a combined filter, click **Open the "Combine filters" dialog**.
5. Click the **Condition** box and choose one of the following options:
   - If you want to select items that will appear in the report, click **Show only the following**.
   - If you want to select items that will not appear in the report, click **Do not show the following** (**NOT**).
6. Depending on the type of data you are filtering, select the items you want or specify the range of values to include.

   If you are filtering text or alphanumeric values, click **Search for values** or **Type in values** to find specific values. Note that these options will not appear if the data source you are using does not support search or type in values.

   If you are working with a dimensional data source and you are filtering a level, there may be duplicate names, such as Paris, Ontario and Paris, France.

   Tip: Click **Show details** to view parent information for each item.
7. If you are filtering a measure, click one of the following options under **Apply the filter to**:
   - To filter details in the report, click **Values in the report**.
   - To filter group summaries in the report, click **Group summaries in the report**, and click the report item you want.
   - To filter on individual values in the data source, click **Individual values in the data source**.
8. If you are filtering alphanumeric values, select the **Apply the filter to individual values in the data source** check box to filter on individual values in the data source.
9. Under **Missing values**, click the option you want to use to handle missing values in the report:
   - If you want to include missing values, click **Include missing values**.
   - If you do not want to include missing values, click **Leave out missing values**.
   - If you want to only see missing values, click **Show only missing values**.
     When selected, all other options in the **Filter** dialog box are disabled.

   If set to (**Default**), missing values are left out if you defined a range filter. If you did not define a range filter, missing values are included.
10. Click **OK**.

By default, the values of any filters applied appear as an additional subtitle.

Tips

- To remove the filter values subtitle, from the **Change Layout** menu, click **Edit Title** and then clear the **Show filters** check box.
- You can delete a filtered column but keep the filter itself. Click the column you want to delete and click the delete button. The **Delete** dialog box appears, and you can choose to delete or keep filters and sorting associated with the column.

Create a Complex Filter

You can combine two or more filters to do more complex filtering. For example, you want to filter the columns Product line and Country in a report. The specific data you want to retrieve is the quantity of Camping Equipment sold in Germany and the quantity of Golf Equipment sold in Japan. To do this, you must create a complex filter that combines several filters.

You must enable the **Advanced Query Studio** capability before you can create complex filters. For more information, see the *Administration and Security Guide*.

Steps

1. Open the report that you want in Query Studio.
2. From the **Edit Data** menu, click **Combine Filters**.
3. If the filters you want to combine do not yet exist, click **Add a filter line** and create them.
4. Press Shift+click or Ctrl+click to select the select line icon of the filters you want to combine.
5. Click **Group**.

    Tip: You can modify a filter line by clicking its link.
6. Click the operator that appears between the filters and click **AND** or **OR** to combine them.
7. If you want to convert a filter line or a combined filter into a NOT filter, click the filter line or combined filter and click **Apply NOT**.

    Tip: If NOT has already been applied to a filter line or combined filter and you click **Apply NOT**, the NOT operator will remain. If you want to remove NOT, click **Remove NOT**.
8. Click **OK**.

Tip

You can delete a filtered column but keep the filter itself. Click the column you want to delete and click the delete button. The **Delete** dialog box appears, and you can choose to delete or keep filters and sorting (p. 42) associated with the column.

Example - Create a Complex Filter For Units Sold

You are a report author at the Great Outdoors Company, which sells sporting equipment. You are requested to create a report that shows the quantity of Camping Equipment sold in Austria and the quantity of Golf Equipment sold in China. You reuse a list report that already contains some of the necessary data, and add another column. You then combine filters to retrieve the data you need.

Before you can try this example, you must set up the sample packages that come with Cognos 8. For more information, see the *Administration and Security Guide*.

You must also have created the example list report (p. 21).

Steps

1. Open the **Units Sold** report.
2. Click the **Insert Data** menu command.
3. Expand **Countries**.
4. Drag the **Country** item to the report, between **Product line** and **Quantity**.

    If you are working in the Mozilla Web browser, you cannot drag data items to the report. Double-click the item instead.

    A column that represents this item appears to the left of the **Quantity** column. You now have a report listing the quantity of units sold for every product line in all countries. However, you are interested in the quantity of units sold only for two specific product lines in two specific countries.
5. Click the heading of the **Product line** column.
6. Click the filter button on the toolbar.
7. In the **Show only the following** box, select the **Camping Equipment** and **Golf Equipment** check boxes, and then click **OK**.
8. Repeat steps 5 to 7 for the **Country** column, selecting **Austria** and **China** as the countries you want.

    The **Combine Filters** dialog box appears.
9. Press Ctrl+click to select the select line icon for both filters, click **Group**, and then click **Apply**.

    The filters are combined. You now have a report listing the quantity of Camping Equipment and Golf Equipment sold in Austria and China. However, you are interested only in the quantity of Camping Equipment sold in Austria and Golf Equipment in China.
10. Click the **Product line: Camping Equipment, Golf Equipment** filter, clear the **Golf Equipment** check box, and then click **OK**.

11. Click the **Country: Austria, China** filter, clear the **China** check box, and then click **OK**.
12. Click **Apply** to apply the filter.
13. In the report, click the **Product line** column.
14. In the **Combine Filters** dialog box, click **Add a filter to Product line**.
15. Select the **Golf Equipment** check box and click **OK**.
16. In the report, click the **Countries** column.

    Query Studio assumes you want to create a new filter line and opens the **Filter** dialog box.
17. Select the **China** check box and click **OK**.
18. In the **Combined Filters** dialog box, press Ctrl+click to select the select line icon for the **Product line: Golf Equipment** and **Country: China** filter lines and click **Group**.

    You combined two filters by an AND operator.
19. Click the **AND** operator, change it to **OR**, and click **OK**.

    You now have a report listing the quantity of Camping Equipment sold in Austria and the quantity of Golf Equipment sold in China.
20. Click the save as button on the toolbar.
21. In the **Name** box, type

    Filtered Units Sold
22. Leave the destination folder as **Public Folders**, and click **OK**.

Product line	Country	Quantity
Camping Equipment	Austria	33,752
Golf Equipment	China	5,822
Summary		**39,574**

Add a Model Filter

You can add predefined filters to a report by adding filters that were created in the model.

Steps
1. Open the report that you want in Query Studio.
2. In the left pane, double-click the model filter you want to add.

   Tip: You can identify a model filter in the left pane by its icon.
3. Click the filter in the title area.
4. Under **Condition,** click one of the following options:
   - If you want to show only the values specified in the filter, click **Show only the filter values**.
   - If you want to show only the values that are not specified in the filter, or click **Do not show the values (NOT)**.
5. Expand **Options** and click one of the following options:
   - To filter details in the report, click **Values in the report**.
   - To filter on individual values in the data source, click **Individual values in the data source**.
6. Click **OK**.

Use a Prompt

Use a prompt when you want to use different criteria for the same report item each time the report runs. The report does not run until you choose the values or click the **Finish** button. If you click the **Finish** button without choosing any values, all data is returned.

For example, use prompts if you want multiple reports, each containing sales information for a different country.

Using prompts is faster and easier than repeatedly changing the filter.

Unless you are using a dimensional data source, the modeler can also set the type of prompt control that Query Studio generates when you run a report, such as an edit box or a list box that users can search for values.

If you use a dimensional data source, the following prompts are not supported:
- Select Date Time
- Select Interval

Steps

1. Open the report that you want in Query Studio.
2. Click the heading of the column you want to filter.
3. Click the filter button on the toolbar.
4. Select the **Prompt every time the report runs** check box.

   Each time you open or run the report, you can choose or type in the desired filter values. If no filter values are specified, all data is returned.
5. Click **OK**.
6. Repeat steps 2 to 5 to add other prompts.

   For example, add more than one prompt to create cascading prompts. However, you can create cascading prompts only if the cascade property for the query item is set in the package. For more information, see the Framework Manager *User Guide*.

Note: Prompts in Query Studio are optional. This means that you do not have to select a value when you run the report, and the report will still appear. In addition, if you drill through from another report, such as a Report Studio report, to a Query Studio report, you will not be prompted, even if the Query Studio report contains prompts.

Create Custom Groups

Create custom groups to produce a new report item containing values that are meaningful to you. Use custom groups to
- convert a list of numeric results into broader categories

   For example, break down sales results into Low, Medium, and High.
- reduce the number of values into a smaller, more meaningful set

   For example, change a list of employees into My Team and Others.

You cannot collapse a report that contains custom groups.

Note: Custom groups are not available if you are working with a dimensional data source.

Steps

1. Open the report that you want in Query Studio.
2. Click the heading of the report item for which you want to create a custom group.

   Tip: You can also click a column value.
3. From the **Edit Data** menu, click **Define Custom Groups**.
4. In **Customization type**, choose how to define the values:
   - To create a group of values based on individual items, click **Individual values**.

      Note: This option is not available if the report item is numeric, such as revenue.

      In the **New group name** box, type a name, and click the down arrow link to add it to the **Custom groups** box. In the **Available values** box, click the values you want, and click the left arrow link to add them to the **Custom group values** box.
   - To create a group of values by defining a range, click **Ranges**.

      In the **New range name** box, type a name. In the **From** and **To** boxes, specify the criteria you want, and click the arrow link to add to the **Ranges** (**in sequential order**) box.
5. In the **Item name** box, type a name for your report item.
6. Click **All remaining values** (**including future values**) and decide how remaining and future values are handled:

- If you want the group name for remaining values to match each value, click **Use the individual values as range names**.

   For example, the group name produced for the margin value 0.411 would be 0.411.

- If you do not want a group name to appear for remaining values, click **Do not show range names**.

   Clicking this option will produce empty cells in the new report item for remaining values.

   Tip: This option may improve performance.

- If you want to specify your own group name for all remaining values, click **New range name** and type the name you want.

7. Click **OK**.

Example - Create a Custom Group for North America

You are a report author at the Great Outdoors Company, which sells sporting equipment. You often work with data about your North American customers, so you want to create a value that combines Canada, Mexico, and the United States into one value.

Before you can try this example, you must set up the sample packages that come with Cognos 8. For more information, see the *Administration and Security Guide*.

You must also have created the example grouped list report .

Steps

1. Open the **Grouped Units Sold** report.
2. Click the heading of the **Country** column.
3. From the **Edit Data** menu, click **Define Custom Groups**.
4. In the **New group name** box, type

   North America
5. Click the down arrow link to add it to the **Custom groups** box.
6. In the **Available values** box, click **Canada**.
7. Click the left arrow link to add it to the **Custom group values** box.
8. Repeat steps 6 to 7, clicking **Mexico** and **United States**.

   Tip: You can also press Ctrl+click to select multiple values.
9. In the **New group name** box, type

   Others
10. Click the down arrow link to add it to the **Custom groups** box.
11. Scroll to the bottom of the **Available values** box and click **Remaining values (includes future values)**.
12. Click the left arrow link to add it to the **Custom group values** box.

    This creates a new custom group named **Others** that includes all values that do not belong to the custom group **North America**.
13. Click **OK**.

    A new column **Country (Custom)** appears, containing the value North America.
14. Click the save as button on the toolbar.
15. In the **Name** box, type

    Custom Group Example
16. Leave the destination folder as **Public Folders**, and click **OK**.

Product line	Country	Country (Custom)	Quantity
Camping Equipment	Germany	Others	103,412
	Japan	Others	3,562
	United States	North America	117,136
Camping Equipment			**224,110**
Golf Equipment	Germany	Others	6,410
	Japan	Others	7,158
	United States	North America	10,470
Golf Equipment			**24,038**
Mountaineering Equipment	Germany	Others	27,584
	Japan	Others	3,330
	United States	North America	34,132

Sort Data

Sorting organizes your data in either ascending or descending alphabetical or numeric order. For example, you can sort on a column that lists product sales in descending order to rank product sales from the highest to the lowest.

When sorting grouped data, you can choose to sort the detail values or you can sort the summary values in the footers.

Steps

1. Open the report that you want in Query Studio.
2. Click the heading of the report item you want to sort on.
3. From the **Edit Data** menu, click **Sort**.
4. In the **Sort** dialog box, choose the desired sort options.
5. Click **OK**.

   A small up or down arrow in the heading indicates sorted data.

Tips

- To remove sorting, from the **Edit Data** menu, click **Sort**, then under **Sort order**, click **Don't sort**, and click **OK**.
- You can delete a sorted column but keep the sort itself. Click the column you want to delete and click the delete button. The **Delete** dialog box appears, and you can choose to delete or keep filters (p. 36) and sorting associated with the column.

Group Identical Values

If a column in a report contains multiple instances of the same value, you can group these identical values together.

Grouping and ungrouping may change the order of the report items. Sections must precede grouped columns, and grouped columns must precede ungrouped columns.

Grouping

Grouping reorders the rows of a selected report item so that identical values appear together and suppresses the display of duplicates.

Each group shows footer values for report items that have footer summarization turned on.

Product line	Country	Quantity
Camping Equipment	Germany	103,412
	Japan	3,562
	United States	117,136
Camping Equipment		**224,110**
Golf Equipment	Germany	6,410
	Japan	7,158
	United States	10,470
Golf Equipment		**24,038**
Mountaineering Equipment	Germany	27,584
	Japan	3,330
	United States	34,132
Mountaineering Equipment		**65,046**
Outdoor Protection	Germany	39,006
	Japan	28,172
	United States	68,630

Creating Sections

Creating sections shows the value of a selected report item as the heading of a section.

If you create a chart for a report that is grouped in section headings, one chart appears for each section.

Product line : Camping Equipment	
Country	Quantity
Germany	103,412
Japan	3,562
United States	117,136
Camping Equipment	**224,110**

Product line : Golf Equipment	
Country	Quantity
Germany	6,410
Japan	7,158
United States	10,470
Golf Equipment	**24,038**

Product line : Mountaineering Equipment	
Country	Quantity
Germany	27,584

You cannot group measures. You can group only report items containing text data or non-measure numeric data, such as order numbers.

Steps

1. Open the report that you want in Query Studio.
2. Click the heading of the report item you want to group by.
3. Choose how you want to group:

   - To group, click the group button on the toolbar.

     The report suppresses duplicate values of the selected report item and lists the values in each group.

   - To create sections, click the create sections button on the toolbar.

Tips

- To ungroup or to remove sections, click the original item heading or section heading and then click the ungroup button on the toolbar.
- To remove the subtotals in a grouped report, click the summarize button on the toolbar, and then, in the **Summary for footers** box, click **None**.
- To change a sectioned report to a crosstab, click the original item heading and then click the pivot button on the toolbar.

Turn Off Automatic Summarization

Query Studio automatically suppresses duplicates. For example, if you add the report items Product Line and Country to a report, Query Studio will only show each unique combination of Product Line and Country once, rather than show all combinations that occur.

Query Studio also automatically summarizes detail values. For example, if you add the report items Product Line and Quantity to a report, you get one row for each Product Line, with the Quantities summarized for that Product Line, rather than thousands of rows, showing each individual record.

Query Studio also automatically generates footer summaries for measures. For example, if you add the report items Product Line and Quantity to a report, you get an overall total for Quantity at the bottom of the report.

Product line	Quantity
Personal Accessories	389,908
Mountaineering Equipment	301,958
Golf Equipment	99,400
Camping Equipment	866,234
Outdoor Protection	557,854
Summary	**2,215,354**

These defaults make the presentation of reports more convenient for users, but can also make the report run slower or produce unexpected results. You can change these defaults.

Note: This changes the normal behavior of Query Studio, and can affect the usability of reports.

If you turn off the automatic generation of footer summaries for measures, the report looks like this.

Product line	Quantity
Personal Accessories	389,908
Mountaineering Equipment	301,958
Golf Equipment	99,400
Camping Equipment	866,234
Outdoor Protection	557,854

You can also turn off the automatic suppression of duplicates and summarization of detail values.

If you turn off the automatic suppression of duplicates and the summarization of detail values, the report looks like this.

Product line	Quantity
Camping Equipment	84
Camping Equipment	126
Camping Equipment	122
Camping Equipment	122
Camping Equipment	272
Camping Equipment	232
Camping Equipment	104
Camping Equipment	130
Camping Equipment	50
Camping Equipment	170
Camping Equipment	100
Camping Equipment	42
Camping Equipment	120
Camping Equipment	84

Steps

1. From the **Run Report** menu, click **Advanced Options**.
2. In the **Query Options** dialog box, choose an option:
   - To turn off the automatic generation of footer summaries for measures, clear the **Automatically generate footer summaries for measures** check box.
   - To turn off the automatic suppression of duplicates and the summarization of detail values, clear the **Automatically summarize detail values, suppressing duplicates** check box.
3. Click **OK**.

Change the Data Format

You can use predefined formats to change the appearance of numbers, dates, and times without changing the underlying data. For example, you can show a date in abbreviated format or in long format, which spells out the day and month.

If you use an SAP BW data source, units of measure are included in the same column as the data values, separated by one space. For example, Celsius and Fahrenheit notations are appended to the end of the value. This format is maintained in Cognos 8 and appears in Query Studio.

Note that an asterisk character (*) designates
- an unknown currency
- a value that represents an unknown unit of measure, such as a mixed currency calculation or rollup
  Mixed currency values occur when you calculate values with different currencies.

This behavior occurs when you are using a Cognos cube as a data source.

This behavior also occurs for SAP BW data sources.

Default

The default format is the format of the report item before any formatting is applied in Query Studio. Use default to remove formatting.

Number

Use the number format to change the number of decimal places, to specify whether to use a thousands separator, to choose different symbols to represent negative numbers, and to scale large numbers.

Currency

You can choose from many world currencies. Use either the currency symbol or the international code. For example the currency symbol for the euro is € and the international code is EUR.

You can also change the number of decimal places, specify whether to use a thousands separator, choose different symbols to represent negative numbers, and to scale large numbers.

Percentage

This format shows a number multiplied by 100, using two decimal places and a percent sign. For example, 0.7356 appears as 73.56%.

Scientific

This format shows a number in exponential notation. For example, the number 224,110 is 2.24110E+05 in scientific notation.

Date and Time

You can choose from a list of date and time formats, including the 12 or 24 hour clock.

Steps

1. Open the report that you want in Query Studio.
2. Click the heading of the report item you want to format.
3. From the **Edit Data** menu, click **Format Data** and then click one of the following:
   - To format numeric data, in the **Category** box, click a type and define the format as required.
   - To format text data, in the **Category** box, click **Text** and type a number in the **Number of visible characters** box.
   - To format date and time data, in the **Category** box, click a type and then in the **Type** box, click a format.
4. Click **OK**.

Calculations

You can perform many types of calculations in Query Studio. For example, you can calculate the sum or average of the values in one column, or multiply the values in two columns.

Calculation results are not stored in the underlying data source. Instead, Query Studio reruns the calculation each time you run the report. The results are always based on the most current data in the data source.

Note: The functions available when creating calculations are restricted by functions available in the data source.

You can perform calculations in Query Studio by adding summaries or by adding calculations.

Summaries

Use the **Summarize** command to add or remove footer values, or to change how detail values are calculated. For example, use the **Summarize** command to place an average in each footer.

Calculations

Use the **Calculate** command to create new report items using data from one or more report items. For example, use the **Calculate** command to add together several columns in a list report.

Add a Summary to a Report

You can use predefined summaries to calculate the total, count, maximum, minimum, or average of the values in individual report items.

You can apply a summary to

- detail values

  These values appear in the detail rows of your report. This functionality is available only if the data in a report item is a measure.
- summary values

  These values appear in footers.

The summaries available depend on the type of data in the selected report item. For example, the only summaries you can use with text data is Count or Count Distinct.

There is no visible indication that a summary is applied. For example, you apply the predefined summary function Average, and then save the report. Someone can open the report later and not be aware that the summary figures shown are averages, not totals.

Query Studio provides the following predefined summary functions.

Function	Description
Total	Returns the sum of a set of values.
	Note: The largest value that **Total** can return is the maximum value for the data type of the column. The **Total** function is performed iteratively. It takes the value from the first row and then adds the second row to it, followed by the third row, and so on. If at any point the intermediate value exceeds the maximum value for the data type, the data source will return an error.
Count	Returns the total number of records.
Maximum	Returns the maximum value. When applied to date or time data, this returns the latest value.
Minimum	Returns the minimum value. When applied to date or time data, this returns the earliest value.
Average	Returns the average of a set of values.
Calculated	Specifies that the summary is defined within the expression that is used to populate the column.
	Note: It is expected that the expression itself is an aggregation function and should not require modification to provide summary values.
Automatic	Summarizes values based on the data type.
Median	Returns the median value of the selected data item.
Standard Deviation	Returns the standard deviation of the selected data item.
Count distinct	Returns the total number of unique non-null records.
Variance	Returns the variance of the selected data item.
None	Removes footers. This applies only to footer values, not details.

Advanced Summaries

You can use the advanced summaries feature to apply one summary calculation to the detail values and a different summary calculation to the footer values.

In most calculations, the default order of operations for detail values is summarize first, then calculate.

However, if a calculation involves two or more columns that have different detail summaries applied, the default order of operations is calculate first, then summarize. For example, you create the calculated column SALES using the formula PRICE (averaged) * QUANTITY (totaled).

For footer values, the default order of operations for most calculations is also summarize first, then calculate. However, there are two exceptions when the default order of operations is calculate first, then summarize. The first exception is when a calculation involves two or more columns that have different detail summaries applied. The default is calculate first, then summarize. For example, you create the calculated column SALES using the formula PRICE (averaged) * QUANTITY (totaled). The second exception is when a calculation involves a single column that is totaled, and a constant is added to this column. For example, you create the calculated column SALES + 1.00.

Steps

1. Open the report that you want in Query Studio.
2. Click the heading of the report item you want to summarize.
3. From the **Edit Data** menu, click **Summarize**.
4. In the **Summary for footers** box, click the function you want.

   If you want to apply one summary calculation to the detail values and a different summary calculation to the footer values, or you want to change the default order of operations in a calculated column, click the **Advanced** link.
5. Click **OK**.

   Tip: To remove a summary, in the **Summary for footers** box, click **None**.

Add a Calculation to a Report

You can perform calculations in a report using data from one or more report items. For example, you can multiply the values of a salary column by 1.05 to see the results of a 5 percent increase. You can also concatenate first names and last names into a single column.

You cannot edit a calculation. Instead, you must delete the calculated report item and recalculate it.

You can see the syntax of the calculation in the **Expression** box of the **Calculate** dialog box. You can also see the expression used in a calculation by viewing the report definition.

If you have the necessary permissions, you can open the report in Report Studio and add more complex calculations. However, after you edit a report in Report Studio, you can no longer edit it in Query Studio. For more information, see the Report Studio *User Guide*.

If an expression is used in multiple reports, or by different report authors, ask your modeler to create the expression as a standalone object in the model and include it in the relevant package.

The following functions are available when you create a calculation. Note that the analytic operations available depend on the data source you are using.

Arithmetic operations	Description
+ (sum)	Adds the values of the selected report items
- (difference)	Subtracts the values of one selected report item from another
* (multiplication)	Multiplies the values of the selected report items
/ (division)	Divides the values of the selected report items
^ (power)	Raises the values of the selected report item to an exponent
Absolute value	Calculates the absolute value of the numbers in the selected report item
Round	Rounds the values in the selected report item to the nearest integer

Arithmetic operations	Description
Round down	Rounds the values in the selected report item to the next lowest integer
Square Root	Calculates the square root of the values in the selected report item

Analytic operations	Description
Average	Calculates the average of values in the selected report items.
Maximum	Calculates the largest of the values in the selected report items.
Minimum	Calculates the smallest of the values in the selected report items.
Rank	Returns the rank of each value in the selected report item. For grouped reports, it can return the rank of each value in a group or within all values.
% of total	Calculates each value of a selected report item as a percentage of the total. For grouped reports, returns each value as the percentage of the group total or the overall total.
Percentile	Returns a percentile of values. For grouped reports, it can return the percentile for each value in a group or within all values.
Quartile	Returns the quartile of values. For grouped reports, it can return the quartile for each value in a group or within all values.
Quantile	Returns the quantile of values. For grouped reports, it can return the quantile for each value in a group or within all values.

Steps

1. Open the report that you want in Query Studio.
2. Click the headings of the report items you want to include in the calculation.
3. Click the calculate button on the toolbar.
4. In the **Operation** box, click the type of operation you want to perform.

   Depending on the selected data, you may first need to choose an operation type from the **Operation type** box.
5. Choose which data to use for the calculation:
   - To use the data in existing report items, in the **Selected report items** box, click the report items you want.
   - To use other data, in the **Number** box, specify a number.

   Depending on the calculation you choose, you may see additional options, such as changing the order of the operands, typing in a number, or choosing a grouping level.
6. Click **Insert**.

   The calculated results appear in a new column. By default, the expression used in the calculation is used as the heading name.

Tips

- To make the name of the calculated column more meaningful, type a new name in the **New item name** box.
- To concatenate text into a single column, use the **Concatenation** operation.
- When creating calculations that return a number data type, Query Studio applies formatting rules that depend on the calculation operation used. For more information, see "Format Rules for Calculations Returning Number Data Types" (p. 77).

Concatenating Strings

When Cognos 8 concatenates strings locally and if any of the involved strings contain null values, the result of the concatenation is an empty cell or a null value. This occurs because Cognos 8 requires that an expression that involves a null value returns a null value. Many databases ignore null strings when they perform concatenations. For example, if you concatenate strings A, B, and C, and if string B is a null value, the database may concatenate only strings A and C.

Example - Calculate Units Sold in Each Country as a Percentage of the Total

You are a report author at the Great Outdoors Company, which sells sporting equipment. You are requested to create a report that shows the quantity of units sold for each product line in three specific countries as a percentage of the total. You reuse the grouped sales report that already contains the necessary data, and add a calculation that shows the percentage of the total.

It becomes obvious in your report that camping equipment accounts for nearly 40 percent of the total units sold for these three countries.

Before you can try this example, you must set up the sample packages that come with Cognos 8. For more information, see the *Administration and Security Guide*.

You must also have created the example grouped list report .

Steps

1. Open the **Grouped Units Sold** report.
2. Click the heading of the **Quantity** column.
3. From the **Edit Data** menu, click **Calculate**.
4. In the **Operation type** box, click **Percentage**.
5. In the **Operation** box, click **% of total**.
6. Leave the default as **Based on the overall total**.
7. Click **Insert**.

   The calculated results appear in a new column, with the expression **% of total** (**Quantity**) used as the heading.
8. Click the save as button on the toolbar.
9. In the **Name** box, type

   Calculated Column Example
10. Leave the destination folder as **Public Folders**, and click **OK**.

Product line	Country	Quantity	% of total (Quantity)
Camping Equipment	Germany	103,412	18.28%
	Japan	3,562	0.63%
	United States	117,136	20.71%
Camping Equipment		**224,110**	**39.62%**
Golf Equipment	Germany	6,410	1.13%
	Japan	7,158	1.27%
	United States	10,470	1.85%
Golf Equipment		**24,038**	**4.25%**
Mountaineering Equipment	Germany	27,584	4.88%

Drilling to View Related Data

Query Studio supports various drill operations so that you can view related data. You can perform drill operations in lists, crosstabs, and charts.

You can

- drill up or drill down within the same report
- navigate to another target

Drill Up or Drill Down

You can drill up or drill down within the same report. In lists and crosstabs, hyperlinks identify drillable items. In charts, the pointer changes to a hand when you pause the pointer over a drillable item, and a tooltip indicates what you are drilling on. For example, a column chart shows revenue by product line by year. You can drill on a single axis, such as product line or year. You can also drill on both axes, such as Camping Equipment and 2005. In this case, you are drilling on the intersection of Camping Equipment and 2005.

You can also drill up and drill down in a report that is run from Cognos Connection. Reports run from Cognos Connection appear in Cognos Viewer. After you drill up or drill down, you can save the report as a report view for viewing later on. For more information, see the Cognos Connection *User Guide*.

Drill up and drill down is available only when you are using dimensionally structured data and viewing the report in HTML format. Furthermore, you can drill only on members in a level. For more information about members, levels, and other dimensional objects, see "Add Data to a Report" (p. 12). In addition, drill up and drill down must be enabled.

By default, drill up and drill down is enabled.

Tip: To enable drill up and drill down, from the **Run Report** menu, click **Advanced Options**. Select the **Enable drill up and drill down in the report output** check box.

Steps
1. Open the report that you want in Query Studio.
2. Right-click the report item you want to drill on and click **Drill Up** or **Drill Down**.

   Tip: You can also click the report item itself.

Navigate to Another Target

You can navigate from a Query Studio report to another target. You can navigate to the following targets:
- a Query Studio report
- a Report Studio report
- an Analysis Studio analysis
- a Cognos Series 7 cube action
- a Microsoft Analysis action

Before you can navigate to another target, a drill-through definition must be created in the package. For more information, contact your administrator. In addition, drill-through from a package must be enabled in Query Studio.

By default, drill-through from a package is enabled.

Tip: To enable drill through, from the **Run Report** menu, click **Advanced Options**. Select the **Enable drill through from a package in the report output** check box.

Steps
1. Open the report you want in Query Studio.
2. Right-click the column from which you want to navigate and click **Go To**.

   The **Go To** page appears, showing the available targets for the column.
3. Click the target you want to navigate to.

The target appears in Cognos Viewer.

Appendix A: Troubleshooting

You can use the **Report Definition** command on the **Manage File** menu or the **Query Information** command in the **Report Definition** box to troubleshoot problems with your reports. The **Report Definition** command shows the expression for each report item. The **Query Information** command shows the query information for each report item.

Note: You cannot change the report properties using these commands.

You can find more troubleshooting topics in the *Troubleshooting Guide*.

No Data Appears in the Report

You open a saved report, and no data appears. There are two possible reasons. The package or the connection to the data source may no longer be functioning. Alternatively, a filter may exclude all data. For example, if all sales in your region are below 1 million, and you create a filter to show only sales greater than 1 million, your report is empty.

Steps to Check Data Source or Package
1. Click the new report button on the toolbar.
2. Add a column to the report from the data source.

    If no data appears, the problem is with the package or the data source. Contact your administrator.

Steps to Check Filters
1. From the **Change Layout** menu, click **Edit Title**.
2. Select the **Show filters** check box and click **OK**.

    The report reappears. If one or more filters appear in the subtitle area, click the filters to edit them.

Incorrect or Unexpected Values Appear in the Report

You open a saved report, and incorrect or unexpected values appear. One possible cause is that the report is run with limited data.

Tip: When a preview uses limited data, a torn border appears at the top and bottom of the report.

To run the report using all data, click the run button on the toolbar.

Another possible cause is that the report item is improperly named. Renaming report items can produce misleading results. For example, if Units Sold is accidentally renamed to Units Returned, it can produce unexpected results.

Tip: To check for the original name of a report item, double-click the heading of the report item and note the original name in the **Rename** dialog box.

Another possible cause is that the report is run with summarized data, which means it uses total, count, average, minimum, or maximum. There is no visible indication that a report item is summarized.

Steps to Check for Summarized Data
1. Click the heading of the report item that contains the incorrect or unexpected values.
2. From the **Edit Data** menu, click **Summarize**.
3. Click **Advanced**.

If the values in the report item are summarized, you see the type of summarization in the **Summary for footers** or **Summary for cells** boxes.

Cannot Remove Filter Value Subtitles

By default, the values of any filters applied in a report appear as an additional subtitle. You want to remove these, but cannot find the appropriate command in the Filter dialog box.

Steps to Remove Filter Value Subtitles
1. From the **Change Layout** menu, click **Edit Title**.
2. In the **Edit Title** dialog box, clear the **Show filters** check box and click **OK**.

A Printed HTML Report is Unsatisfactory

Printing HTML may produce unsatisfactory results.

For best results, use the View in PDF Format command, and then print the PDF. This alternative gives you more control over such things as pagination than the browser does.

Problems When Printing a PDF Manual

You print a document in PDF format, but the print job is incomplete. For example, the job stops printing when it reaches a particular graphic.This is an Adobe Acrobat Reader issue that can occur when printing some PDFs using some versions of Acrobat Reader and some printer models. The same PDF may print correctly under one or both of the following conditions:
* using a different version of Acrobat Reader
* using a different printer

If you print from an Acrobat 4.0 or later product, you can try the following solution.

Steps to Force a Page to Print as an Image
1. In Acrobat Reader, from the **File** menu, click **Print**.
2. In the **Printer** section, select the **Print as image** check box.

   Because files print more slowly using this option, make sure you specify only the nonprinting page.
3. In the **Print Range** section, click **Pages from** and **Pages to,** type only the page number of the nonprinting page, and then click **OK**.

   You can print the rest of the PDF by resending the job starting on the next page.
4. Clear the **Print as image** check box.
5. In the **Print Range** section, click **Pages from** and **Pages to,** type the page range for the remaining pages, and then click **OK**.

   Although you can use the **Print as image** option to print the file, this setting does not resolve the original printing problem. For more information, see the Adobe Web site.

Cannot Collapse the Report in Query Studio

You use the **Collapse Group** command, but the report does not collapse.

This command does not work if you do not have a measure in the report or if you have a custom group in your report.

A Report Does Not Appear in XML Format

You use the View In XML Format command, but the report does not work. Check whether the report you want to view as XML is a chart or a crosstab. You cannot view charts or crosstab reports in XML format.

Another possible cause is that you use Netscape 7, which does not render XML directly.

Steps to View a Report in XML Format Using Netscape

1. Right-click the blank page, and click **View Page Source**.

   A window appears that shows the XML in text form.

2. Copy the XML, and paste it into an application that renders XML directly.

CSV File Has No Commas

Comma Separated Values (CSV) is a term that is familiar to many North American users. It refers to text items separated by commas. CSV format, however, does not work well in countries where the decimal point is a comma. To make this feature more international, Query Studio uses tabs rather than commas to separate text values in CSV files. The term CSV is retained for its recognition value.

For information on customizing the CSV format, see the Cognos 8 *Administration and Security Guide*.

A Filter Does Not Work on Report Item

You apply a filter to a report item in Query Studio and get the following error message:

A filter cannot be based on the selected report item.

This can occur if data items are imported from Framework Manager with no data type set.

To resolve this problem, in Framework Manager, select the item and set the data type to match the table item.

A Running Total in Grouped Reports Gives Unexpected Results

You have a running total calculation in a grouped report that returns unexpected values.

Because tabulation of the running total calculation depends on the order in which the grouping is executed, you must ensure that the grouped totals are tabulated before applying the running total.

To ensure that the grouping is executed in correct order, define a running total calculation as a freestanding calculation outside the query subject in Framework Manager, and ensure that the Regular Aggregate property is set to Automatic.

This may also be an issue with other running, moving, and ranking aggregations.

Appendix B: Samples

Cognos 8 includes sample reports. When installed, you can find them in the **Public Folders** tab in Cognos Connection.

In addition, the **Query Studio Templates** folder contains templates that were created in Report Studio. You can apply these templates to your reports to give them a consistent look.

Sample Reports in the GO Sales and Retailers Package

The following reports are found in the GO Sales and Retailers package.

Expand and Collapse

This report uses a grouped list to demonstrate the **Collapse Group** command.

High Margin Product Types

This report filters product type groups based on whether the average % margin for the group falls within the prompted value range. You can run the report using different value ranges.

Low Revenue Products

This report shows products whose total revenues account for less than 5% of product type revenues. The Revenue Percent column was created as a calculation from the Revenue column.

Product Line % Margin Comparison Chart

This report uses a pie chart to compare product line % margins.

Product Line Revenue Chart

This report uses a column chart to present product line revenues. The chart is ordered by revenue, with product lines appearing in order from the highest to the lowest.

Returns by Order Method

This report shows the % of revenue lost by return orders. You can find step by step instructions for this report in the *Getting Started* tutorial.

Web Product Sales

This report shows product sales for orders placed on the corporate Web site versus all other order methods. The Web and Other values were created from the Order method column using the **Define Custom Groups** command. The group totals show the average quantity, maximum revenue, and minimum profit.

Sample Reports in the Great Outdoors Company Package

The following reports are found in the Great Outdoors Company package.

Returns by Product Line Chart

This report uses a pie chart to show the number of products returned. It is illustrated in the *Getting Started* tutorial.

Returns by Product Type

This report shows the percentage of products returned and the lost revenue. Conditional formatting is applied to highlight the products with a lost revenue greater than $20,000. It is illustrated in the *Getting Started* tutorial.

Sample Reports in the GO Sales Package

The following reports are found in the GO Sales package.

Quantity and Revenue by Specified Product

This report uses a chart and list to show data for golf equipment sold over the web and camping equipment sold by sales visit.

Revenue by Product Line

This report shows revenue for different product lines in a specified year. The report includes conditional formatting to show high and low value ranges.

Appendix C: Chart Types

Charts are a graphical way of presenting data. For example, you can create a chart to visualize how actual sales compare to projected sales, or to discover whether sales are falling or rising over quarterly periods.

Chart Elements

This column chart shows the most common chart elements. You can add extra elements such as baselines and notes using Report Studio.
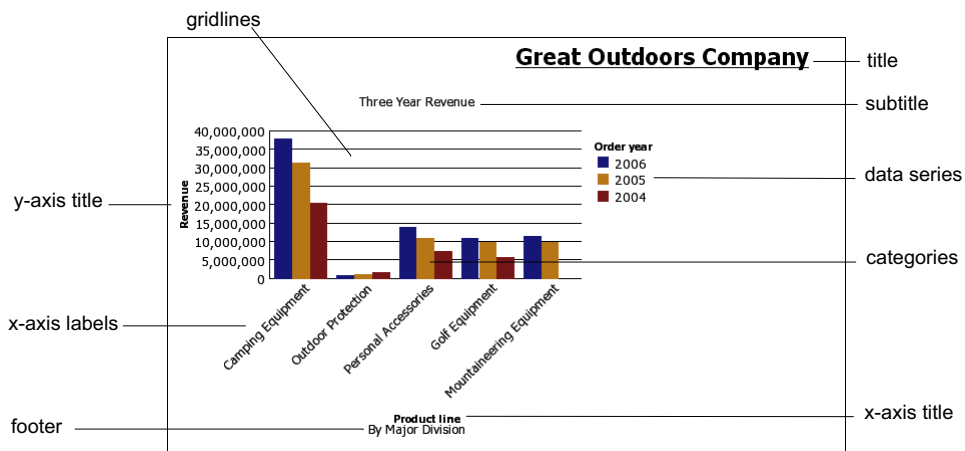
Axes

Axes are lines that provide a frame of reference for measurement or comparison.

The y-axis refers to measures of quantitative data, such as sales figures or quantities. Charts may have more than one y-axis.

The x-axis or ordinal axis plots qualitative data, such as products or regions. It runs horizontally, except in bar charts.

The z-axis is the vertical axis in a 3-D chart.

Gridlines

Axes are lines that provide a frame of reference for measurement or comparison. Major gridlines extend from the tick marks on an axis and run behind the data markers.

Data Series

A data series is a group of related data points plotted in a chart. Each series has a unique color or pattern and is described in the legend.

In the example chart, the data series are order years 2004, 2005, and 2006.

Legend

A legend is a key to the patterns or colors assigned to the data series or categories in a chart.

Categories

Categories are groups of related data from the data series, plotted on the x-axis. Categories of multiple data series are shown together using clustered and stacked data markers.

In the example chart, the categories are the product lines of The Great Outdoors Company, in clustered columns.

Columns, Lines, and Areas

Charts use columns, lines, and areas as visual representations of data points. Other examples of visual representations include horizontal bars, points, and bubbles.

Choosing a Chart Type and Configuration

To choose a chart type, consider what you want the chart to illustrate. Different chart types and configurations emphasize different things.

Purpose	Chart type or configuration
Show contributions of parts to a whole	pie
	stacked configuration
	100% stacked configuration
Show trends in time or contrast values across different categories	line
	area
	bar
	column
Compare groups of related information against actual values	standard configuration
	radar
	3D
Compare different kinds of quantitative information	column-line

Pie Charts

Pie charts are useful for highlighting proportions.

Pie charts use segments of a circle to show the relationship of parts to the whole. To highlight actual values, we recommend that you use another chart type, such as a stacked chart.

Pie charts plot a single data series. To avoid multiple pies when plotting multiple data series, we recommend that you use a 100% stacked chart.

The maximum number of pies that can be shown is 16.

This pie chart shows that the largest proportion of revenue comes from the Americas, followed closely by the Central Europe region.
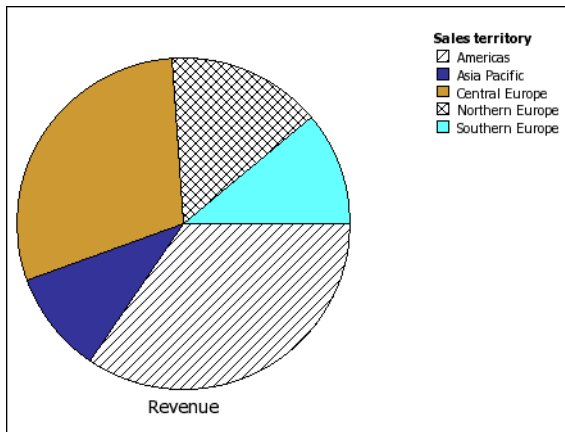
Pie charts can plot data using standard, 100%, and 3D configurations.

Column Charts

Column charts are useful to compare discrete data or to show trends over time.

Column charts use vertical data markers to compare individual values.

This column chart uses actual values to show the revenue for each product line.
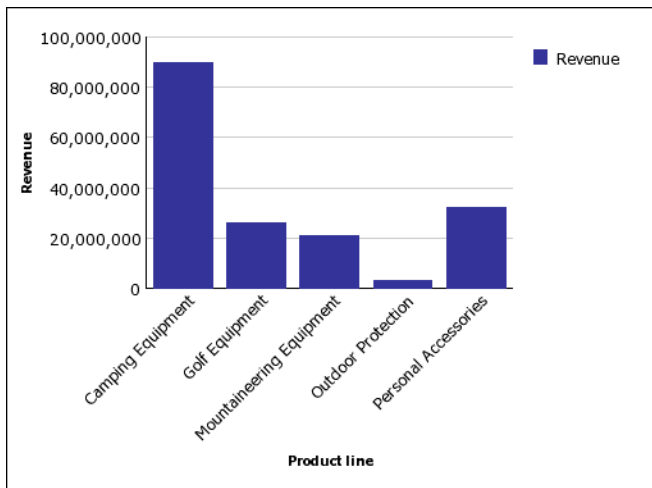
Column charts can plot data using standard, stacked, 100% stacked, and 3D configurations.

Bar Charts

Bar charts are useful for showing trends over time and for charts that plot many data series.

Bar charts use horizontal data markers to compare individual values.

This bar chart shows actual revenue for every country.
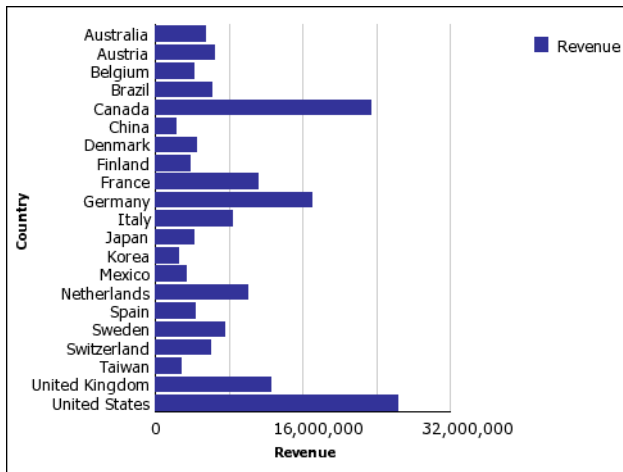
Bar charts can plot data using standard, stacked, and 100% stacked configurations.

Line Charts

Line charts are useful for showing trends over time and for charts with many data series.

Line charts plot data at regular points connected by lines.

We do not recommend that you use stacked line charts because they are difficult to distinguish from unstacked line charts using multiple data series.

This line chart shows a rising revenue trend in every territory.
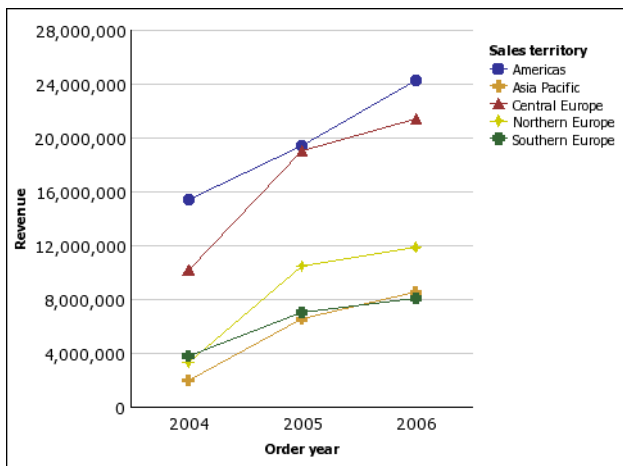
Line charts can plot data using standard, stacked, 100% stacked, and 3D configurations.

Area Charts

Area charts are useful for emphasizing the magnitude of change over time. Stacked area charts are also used to show the relationship of parts to the whole.

Area charts are like line charts that have the areas below the lines filled with colors or patterns.

We do not recommend that you use standard area charts in a chart that has multiple data series because it is possible for areas with lower values to be covered by others.

This stacked area chart shows the quantity of products sold over a two-year period in multiple territories.
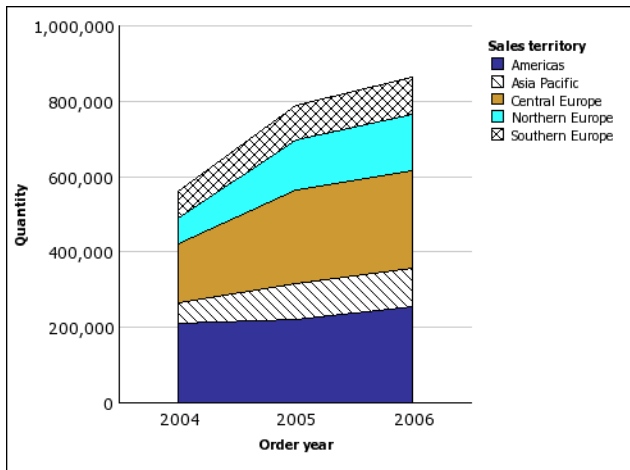
Area charts can plot data using standard, stacked, 100% stacked, and 3D configurations.

Column-Line Charts

Column-line charts are useful for comparing two different measures. An additional quantitative axis appears on the right side of the chart.

This column-line chart shows the quantity of units sold as a column chart and the quantity of returns as a line chart.
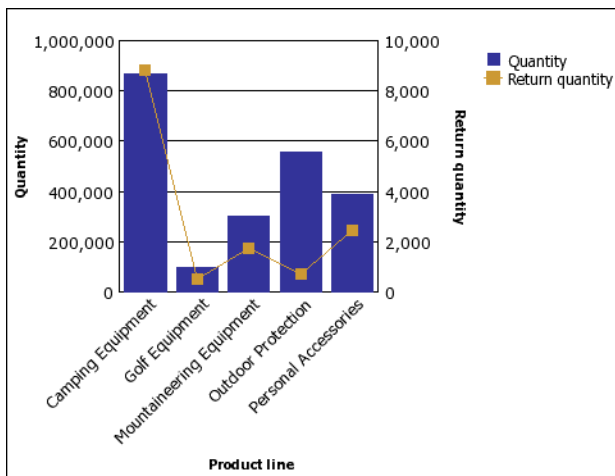
Radar Charts

Radar charts are useful as a comparative tool and for charts with few data series.

Radar charts integrate multiple axes into a single radial figure. Data is plotted on each axis and joined to adjacent axes by connecting lines.

This radar chart shows the revenue from multiple retailer types in multiple territories.
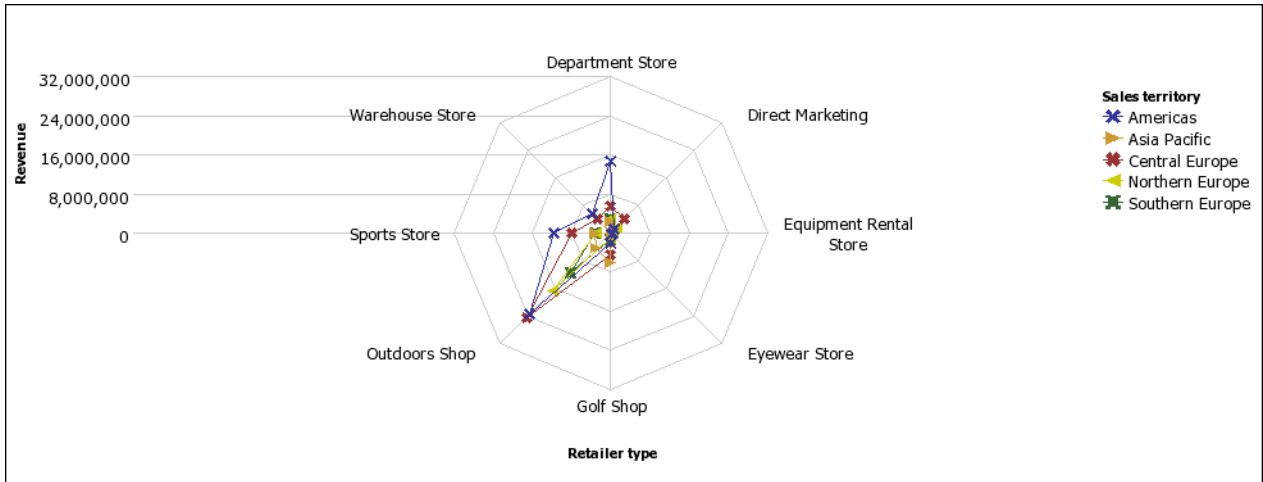
Radar charts can plot data using standard and stacked configurations.

Chart Configurations

Chart configurations specify the grouping type of the columns, bars, lines, and areas in a chart. Some examples are standard, stacked, and 100% stacked charts.

Standard Charts

Standard - or absolute - charts are useful for comparing specific values and for representing discrete data, such as different regions or individual employees. For example, a standard column chart that plots regional sales emphasizes the actual value that each region achieves in sales.

Standard charts plot the actual value of each data series from a common axis.

When you create charts using multiple data series, you can distinguish each series by the color or pattern of its data marker. Related data series are shown together in clusters for easy comparison.

In area and radar charts that have multiple data series, areas with lower values may be covered by others.

This clustered column chart shows the revenue values for each product line within each territory.
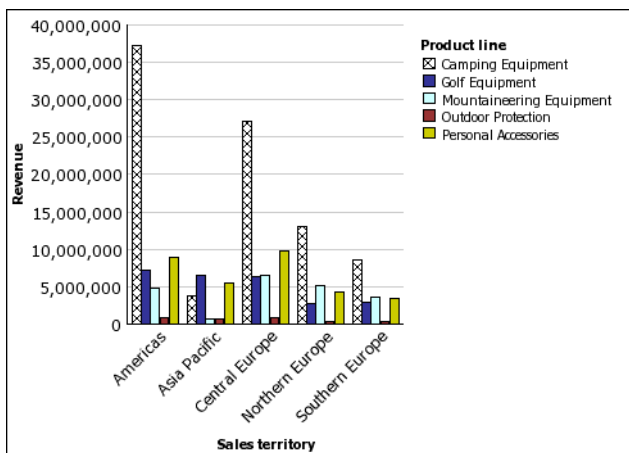
Stacked Charts

Stacked charts are useful for comparing proportional contribution within a category. They plot the relative value that each data series contributes to the total. For example, a stacked column chart that plots product line sales will emphasize the proportion that each product line contributes to the total in each territory.

You can distinguish each data series by the color or pattern of its section in the stack. The top of each stack represents the accumulated totals for each category.

We recommend that you do not use the stacked configuration in line charts that have multiple data series because it is difficult to distinguish between standard and stacked configurations.

This stacked column chart shows the high proportion that camping equipment contributed to the actual revenue in most markets.
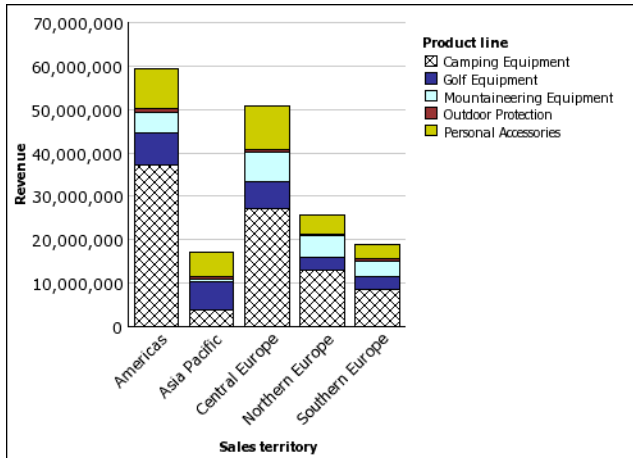
100% Stacked Charts

100% stacked charts are useful for comparing proportional contribution across all categories. They plot the relative contribution of each data series to the total, expressed as a percentage. For example, a 100% stacked column chart that plots product line sales emphasizes the percentage within each region without referring to actual values.

You can distinguish each data series by the color or pattern of its section in the stack. Each stack represents 100 per cent.

100% stacked charts highlight proportions. When actual values are important, we recommend that you use another chart configuration.

This 100% stacked chart shows the percentage of sales for each product line in each region.
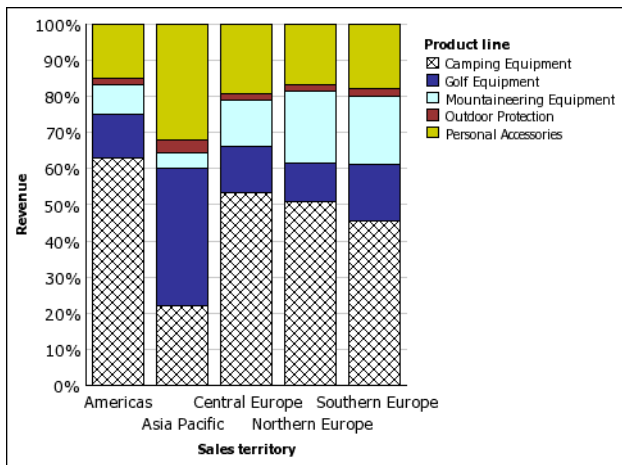
3-D Charts

3-D charts are useful for creating charts with high visual content, such as graphics for use in presentations.

3-D column, bar, line, and area charts plot data by using three axes.

3-D pie charts have a three-dimensional visual effect.

We recommend that you do not use 3-D charts where there is a need to show exact values, such as for control or monitoring purposes. The distortion in 3-D charts can make them difficult to read accurately.

This 3-D chart shows actual revenue for each product line in each territory. Note the skipping of the labels on the x and y axes.
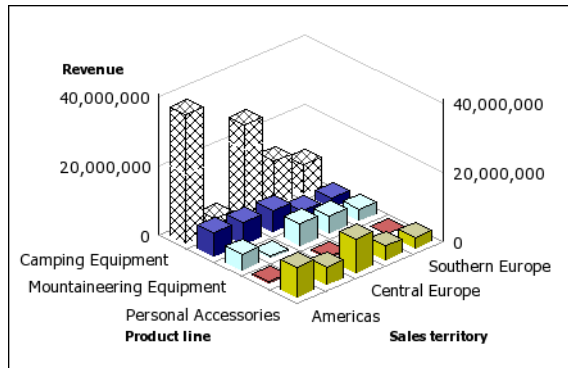
Appendix D: Producing Reports in Microsoft Excel Format

The following limitations exist when producing reports in Microsoft Excel format.

Microsoft Excel Limitations

The following issues were identified in Microsoft Excel and affect producing Cognos 8 reports in Excel format.

Unable to Load Images from the Cognos 8 Content Store in a Report

If a report contains an image whose URL points to the Cognos 8 content store, Microsoft Excel generates an access violation error and shuts down.

This problem is a known issue in the Microsoft knowledge base, and Microsoft is currently investigating the problem. This problem occurs only in Excel 2000 and 2002.

A Blank Worksheet is Opened

If Microsoft Excel cannot download a worksheet within a timeout period, Excel may instead open a blank worksheet.

A Warning Message Appears When Excel Opens a Cognos 8 Report

Each time Microsoft Excel opens a Cognos 8 report, the following message appears:

Some of the files in this Web page aren't in the expected location. Do you want to download them anyway? If you're sure the Web page is from a trusted source, click Yes.

The Excel workbook in HTML/XML format requires the presence of the file filelist.xml. Cognos 8 does not allow the creation of local files on the client side. In addition, a local file that contains URLs introduces a security issue. Consequently, this message will appear whenever you open a Cognos 8 report in Excel.

Using Reports Saved in XLS Format

If you open a report that was saved in XLS format or run a report in XLS format, and security settings in your browser are set so that you are prompted to open or save the report, do not click **Save**. If you save the report, the spreadsheet content will not be saved. This is because Excel reports in Office 2000 HTML format use relative paths to the spreadsheets. The relative URL paths are no longer available when you open a saved XLS report.

Instead, click **Open** first and then choose to save the report.

Loading Excel Reports in Netscape 7.01 Is Not Supported

This version of Cognos 8 does not support loading Microsoft Excel reports in Netscape 7.01.

Nested Labels in Charts Are Not Supported

Currently, it is not possible to specify nested labels for the category axis via XML.

Data Series Are Truncated

Microsoft Excel may show data series or categories grouped differently when compared to a chart produced by Cognos 8.

Excel limits the maximum number of data series per chart to 255. Data series over 255 are truncated.

Charts and Custom Colors

When running a report containing a chart in Excel format, the chart requires that 16 Cognos 8 default colors be added to the Excel custom palette. 16 is the maximum number of colors that Excel accepts in its custom palette. If the report contains a report object that uses an additional custom color, Excel cannot add it to the custom palette. Excel will attempt to match the custom color to one of its available standard colors. As a result, the report object will be a few shades away from the custom color used.

Repeating Pie Charts

If you have a report that has repeating pie charts, and you define a chart title, Excel will show each pie with a title that is a concatenation of the chart title and the data series. For example, if the chart title is Quantity Sold by Order Method and Product Line and the data series is Order method, the title of each pie in Excel will be

Quantity Sold by Order Method and Product Line, *order method*

Discrete Axis Label Skip Control in Charts

In Cognos 8 charts, you can control the skipping of discrete axis labels. This feature is not supported in Excel charts.

Formatting Limitations

About 70% of the formatting functions available in Cognos 8 are supported in Microsoft Excel. The following table shows which formatting functions are supported in Excel and which are not.

Cognos 8 format	Supported in Excel	Notes
Currency	✔	
Currency Symbol	✔	
Decimal Separator		Excel does not allow changing locale-dependent formatting attributes.
Exponential Symbol		Excel does not allow changing locale-dependent formatting attributes.
Format Width		Not required. Excel automatically adjusts the width.
Group Separator		Excel does not allow changing locale-dependent formatting attributes.
Group Size	✔	
International Currency Symbol		

Cognos 8 format	Supported in Excel	Notes
List Separator		Not required. Excel automatically adjusts the width.
Maximum Fraction Digits	✔	
Maximum Integer Digits	✔	
Minimum Exponent Digits	✔	
Minimum Fraction Digits	✔	
Minimum Integer Digits	✔	
Minus Sign	✔	
Monetary Decimal Separator		Excel does not allow changing the locale-dependent formatting attributes.
Multiplier		Not supported by Excel.
Negative Prefix	✔	
Negative Suffix	✔	
Pad Character	✔	
Percent Symbol		Not supported by Excel.
PerMill Symbol		Not supported by Excel.
Plus Sign		
Positive Prefix	✔	
Positive Suffix	✔	
Scale		Excel has a different scaling formula than Cognos 8.
Secondary Grouping Size	✔	
When Negative	✔	
WhenZero	✔	
Use Currency Symbol	✔	

Cognos 8 format	Supported in Excel	Notes
Use Grouping	✔	
Use Scientific	✔	
Use Trailing Currency Symbol	✔	
Use Trailing Sign	✔	
AM String		Excel does not allow changing locale-dependent formatting attributes.
Calendar		Excel does not allow changing the calendar.
Date Separator Symbol	✔	
Day Name		Excel does not allow changing locale-dependent formatting attributes.
Day Short Name		Excel does not allow changing locale-dependent formatting attributes.
Decimal Delimiter Symbol		Excel does not allow changing locale-dependent formatting attributes.
Era Name		Not supported by Excel.
First Day Of Week		Not supported by Excel.
Month Name		Excel does not allow changing locale-dependent formatting attributes.
Month Short Name		Excel does not allow changing locale-dependent formatting attributes.
PM String		Excel does not allow changing locale-dependent formatting attributes.
Symbol Display Order	✔	
Time Separator Symbol	✔	
Show AmPm Symbol	✔	
Show Century	✔	
Show Clock	✔	
Show Days	✔	
Show Era		Not supported by Excel.

Cognos 8 format	Supported in Excel	Notes
Show Hours	✔	
Show Milliseconds	✔	
Show Minutes	✔	

Overline Text Format

Microsoft Excel does not support the overline text format.

Text Strings with More Than 255 Characters

Cells in Microsoft Excel have a limit of 255 characters. If your report contains text strings that are longer than 255 characters, they will be formatted as text and appear as ######.

Reports with More Than 256 Columns

Microsoft Excel limits the size of a worksheet size to 65536 rows by 256 columns. If your report contains more than 65536 rows, it is split into multiple worksheets. The number of worksheets that your report can contain is limited by the physical memory of your computer. If your report contains more than 256 columns, the following error occurs:

Reports with more than 256 columns cannot be rendered in Excel.

Table and Column Width

Microsoft Excel does not support using percentages to determine the width of tables. If the report contains only one table, the value of the width attribute for the Table element in the report specification determines the width of the table in the Excel worksheet. If the report contains more than one table, Excel determines the width of all the tables in the worksheet. If the tables are nested, the width specified for the outer table is used and, if necessary, the width is adjusted to accommodate data in the nested tables. The columns and rows around the table are merged to preserve the appearance of the nested table. When the workbook is saved, only a single table is saved per worksheet.

Excel Formats and Secure Socket Layer (SSL)

SSL is supported for the following formats and Microsoft Excel versions.

Format	Version
Excel 2000 single sheet	Microsoft Excel 2000, 2002, XP, 2003
Excel 2000	Microsoft Excel 2003
Excel 2002	Microsoft Excel 2002, XP, 2003

Number Format Becomes Currency Format in Japanese Excel

A report uses the Number data format and you save it as Microsoft Excel output. When you open the report in the Japanese version of Microsoft Excel, the data format is listed as Currency rather than Number. This occurs because Japanese Excel intreprets the standard Number data format slightly differently than other versions of Excel.

The value appears correctly in Number format. For example, if you specified five digits as your number format, five digits still appear. In Excel, click the **Custom** number format to see the exact format string being used.

Cognos 8 Limitations

The following Cognos 8 limitations exist when producing reports in Microsoft Excel format.

Accessing Reports on a Remote Server

To access a report in Excel format on a remote server, you must change the hostname portion of the gateway URI from localhost to either the IP address of the computer or the computer name. You do this using Cognos Configuration.

Drill-through Reports

Cognos 8 does not support drill-through for reports in Excel format.

Map Reports

Cognos 8 does not support map reports in Excel format.

Formats Not Supported for Reports in Excel Format

Cognos 8 does not support the following for reports in Excel formats:
- background images in table cells
- Excel-specific headers and footers
- text flow and justification
- floating text objects
- white space, normal, and wrap text formatting
- maximum characters

Some layouts do not show exactly in HTML and PDF due to Microsoft Excel limitations.

Hyperlink Buttons

Microsoft Excel does not support hyperlink buttons.

Emailing Reports in Excel Format

Cognos 8 can send Excel reports in HTML and XML format by email. However, the Excel email attachments must be saved to your computer before you can view them.

Charting Support in Excel and Cognos 8

The following Cognos 8 chart properties are not supported in Microsoft Excel:
- tool tips
- conditional text
- depth
- visual angle
- show values
- marker text location
- show baseline
- new note

- new marker
- truncation text and allow n-degrees rotation category labels
- border
- margin
- box type
- font and font alignment
- footer
- subtitle
- regression line
- baseline

In addition, Cognos 8 makes sure that Excel reuses the same color palette that is defined in Cognos 8. However, Excel can only use the first 16 colors from the Cognos 8 palette. If the number of categories in a chart exceeds 16, the rest of the colors are taken from the default Excel palette.

About 70% of the chart types available in Cognos 8 are matched in Microsoft Excel. The following table shows which chart types are supported in Microsoft Excel 2000 and later and which are not. Charts not supported will return a default column chart.

Chart group	Chart type	Supported in Excel	Notes
Column	Column	✔	Similar
	Column 3-D	✔	Results are better in HTML
	Stacked	✔	Similar
	Stacked 3-D	✔	Results are better in HTML
	100% stacked	✔	Similar
	100% stacked 3-D	✔	Chart is viewed from a different angle
	3-D axis	✔	Similar, but category data is presented in the reverse order
Bar	Bar	✔	Similar
	Bar 3-D	✔	Similar
	Stacked	✔	Similar
	Stacked 3-D	✔	Similar
	100% stacked	✔	Similar
	100% stacked 3-D	✔	Similar

Chart group	Chart type	Supported in Excel	Notes
Progressive	Column		
	Column with 3-D effect		
	Bar		
	Bar with 3-D effect		
Pareto	Stacked column		
	Stacked column 3-D		
	Stacked bar		
	Stacked bar 3-D		
Line	Line with markers	✔	Similar
	Line	✔	Similar
	Line 3-D	✔	Shows as a Line 3-D axis chart
	Stacked line with markers	✔	
	Stacked line	✔	Similar
	Stacked line 3-D	✔	Shows as a stacked line
	100% stacked line with markers	✔	Similar
	100% stacked line	✔	Similar
	100% stacked line 3-D	✔	Shows as 100% stacked line
	3-D Axis	✔	Similar
Pie	Pie	✔	Cognos 8 shows many types of pie charts, Microsoft Excel shows only one type
	Pie 3-D	✔	Microsoft Excel shows the pie chart at a different angle
	Donut	✔	Microsoft Excel may fill in the donut hole to accommodate extra measures
	Donut 3-D		Shows as a donut chart

Chart group	Chart type	Supported in Excel	Notes
Area	Area	✔	Similar
	Area 3-D	✔	Shows a smaller version of an Area 3-D axis chart
	Stacked area	✔	Similar
	Stacked area 3-D	✔	Shows at a different angle
	100% stacked area	✔	Similar
	100% stacked area 3-D	✔	Shows at a different angle
	3-D Axis	✔	Similar
Scatter, bubble, point	Scatter	✔	Similar
	Bubble	✔	Similar but actual details on the chart may differ slightly
	Quadrant		
	Polar		
Radar, polar	Radar with markers	✔	Similar
	Radar	✔	Returns Radar with markers
	Area radar	✔	Microsoft Excel names this chart type Filled radar
	Stacked area radar		
	Bipolar		
Combination	Combination	✔	
	Combination 3-D		
	Stacked combination	✔	
	Stacked combination 3-D		
	3-D axis		Returns Combination
Gauge	Dial gauge		

Appendix E: Format Rules for Calculations Returning Number Data Types

When you create a calculation that returns a number, the formatting of the resulting column is based on
- the calculation operation
- the format of the parent column or columns
- the number of decimals specified when a value is typed in the **Number** box

Note: All non-numeric format elements are ignored when creating the calculation format.

Sum, Difference, Maximum, Minimum

The following applies when the calculation operation is sum, difference, maximum, or minimum:
- If all calculation parents are percentages, the resulting column will also have a percentage format.
- If all calculation parents are currency formats with the same currency code, the resulting column will have the currency format with that currency code.
- For all other cases, the resulting column will have the number format.
- The number of decimals of the resulting column is set to that of the parent that has the largest number of decimals.
- All other formatting that is identical in all parents is passed to the resulting column.

Product

The following applies when the calculation operation is product:
- If all calculation parents have the number format, the resulting column will also have the number format.
- If the calculation parents are a mix of number and percent formats, the resulting column will have the percent format.
- If the calculation parents are a mix of currency and number or percent formats, the resulting column will have the currency format if all currency formats have the same currency code. Otherwise, the resulting column will have the number format.
- If all calculation parents are percentages, the resulting column will also have a percent format.
- If the calculation parents are a mix of more than two format types, or some parents are unformatted, the resulting column will have the number format.
- The number of decimals in the resulting column is set to that of the parent that has the largest number of decimals or to the number typed in the **Number** box, whichever number is higher.
- All other formatting that is identical in all parents is passed to the resulting column.

Division, Average

The following applies when the calculation operation is division or average:
- If all calculation parents have the number format, the resulting column will also have the number format.

- If the calculation parents are a mix of number and percent formats, the resulting column will have the percent format.
- If the calculation parents are a mix of currency and number or percent formats, the resulting column will have the currency format if all currency formats have the same currency code. Otherwise, the resulting column will have the number format.
- If all calculation parents are percentages, the resulting column will also have a percent format.
- If the calculation parents are a mix of more than two format types, or some parents are unformatted, the resulting column will have the number format.
- The number of decimals in the resulting column is set to a maximum of three.
- All other formatting that is identical in all parents is passed to the resulting column.

Percent, Percent Difference, Percent Total

The following applies when the calculation operation is percent, percent difference, or percent total:
- The resulting column will have the percentage format.
- The number of decimals in the resulting column is set to two.

Percentile, Rank, Quartile, Quantile

The following applies when the calculation operation is percentile, rank, quartile, or quantile:
- The resulting column will have the number format.
- The number of decimals of the resulting column is set to two.

Round, Round Down

The following applies when the calculation operation is round or round down:
- The resulting column will have the same format as the parent.

Absolute

The following applies when the calculation operation is absolute:
- The resulting column will have the same format as the parent.

Power, Sqrt

The following applies when the calculation operation is power or sqrt:
- The resulting column will have the number format.
- The resulting column will have the same format as the parent, such as number of decimals, sign, and scale.

Glossary

attribute

In relational models, a query item that is not a measure or identifier. When a query item is an attribute, it is not intended to be aggregated, or used for grouping or generating prompt pick lists.

In dimensional models, attributes provide qualitative information about members of a level in a dimension. For example, the Store level within the Retailer dimension might have properties such as "address" or "retail space." In general, dimensional attributes do not have measure values or rollups associated with them, but are used to locate or filter members.

condition

An expression that yields a boolean value. Conditions are used in query expressions, query filters, and boolean report variables that can be used for conditional formatting, styles, data sources, layouts and blocks.

content locale

A code that is used to set the language or dialect used for browsers, report text, and so on; and the regional preferences, such as formats for time, date, money, money expressions, and time of day.

For Cognos products, you can specify a locale for the product interface (product locale) and for the data in the report (content locale).

cube

A physical data source containing a multidimensional representation of data. A cube contains information organized into dimensions and optimized to provide faster retrieval and navigation in reports.

data source

A relational database, dimensional cube, file, or other physical data store that can be accessed though Cognos 8.

data tree

Within a studio, 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.

dimension

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

drill down

The act of navigating from one level of data to a more detailed level. The levels are set by the structure of the data.

See also drill up.

drill up

The act of navigating from one level of data to a less detailed level. The levels are set by the structure of the data.

See also drill down.

group

In security, a list of users or other groups that can be used to assign access permissions and capabilities.

Groups can be referenced from third-party authentication sources or can be local to Cognos 8. Local groups are managed from the administration portal. The list of groups that an authentication user is a member of is part of the users passport for a Cognos 8 session.

In reporting, grouping is the action of organizing common values of query item together and only displaying the value once. Headers and footers often appear after each instance of a common value in a grouped column

hierarchy

A hierarchy represents a collection of dimensional members organized into a tree structure, with each member having one or more parent members and an arbitrary number of child members.

The root of a hierarchy has no parent, and leaf members of a hierarchy have no children.

layout

In reporting, layout defines the appearance of the report, including formatting, style, and design.

In report specifications, layout is the portion of the specification that defines how the data returned by queries is presented.

level

A level is a set of members that have common attributes. For example, a geographical dimension might contain levels for country, region, and city. Levels are used to define the structure of hierarchies in a dimension.

measure

A performance indicator that is quantifiable and used to determine how well a business is operating. For most business purposes the aggregate values of a measure are more useful than individual values. For example, measures can be Revenue, Revenue/Employee, and Profit Margin %. In relational modeling, this is also called a "fact."

member

A member is a unique item within a level. For example, Camping Equipment and Golf Equipment are members of the Product Line level.

See also member unique name.

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.

A model, called a design model, is created and maintained in Framework Manager. The design model or a subset of the design model must be published to the Cognos 8 server as a package for users to create and run reports.

package

A subset of a model, which can be the whole model, to be made available to the Cognos 8 server.

prompt

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

query

A specification for a set of data to retrieve from a data source. A report specification can contain one or more queries.

The type of object created and edited by Query Studio. A query is a subtype of report.

query item

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

query subject

One of the types of objects inside a model. A query subject can be defined as a collection of references to items of other query subjects, or expressed as an SQL expression that represents selected query items. These query items will be retrieved from objects such as tables, synonyms, views, and so on. Query subjects contain query items.

report

A set of data deliberately laid out to communicate business information. Depending on the context, "report" may refer to report specification or report output.

Report (more precisely, report specification) is the generic term for the objects created by edited by Query Studio, Report Studio, and Analysis Studio.

summary

In reporting and analysis, summaries are aggregate values that are calculated for all the values of a particular level or dimension. Examples of summaries include total, minimum, maximum, average, and count.

template

A reusable report layout or style that can be used to set the presentation of a query or report.

work area

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

XML

A language that uses markup symbols or tags to create descriptions of the structure of data. The XML standard is defined by the World Wide Web Consortium (W3C), and is related to HTML and SGML. Unlike HTML, XML is extensible because the tags aren't predefined or limited.

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