IBM Cognos Query Studio
Version 10.2.2

User Guide

IBM

Note

Before using this information and the product it supports, read the information in “Notices” on page 107.

Product Information

This document applies to IBM Cognos Business Intelligence Version 10.2.2 and may also apply to subsequent releases.

Licensed Materials - Property of IBM

© Copyright IBM Corporation 2005, 2014.
US Government Users Restricted Rights – Use, duplication or disclosure restricted by GSA ADP Schedule Contract with IBM Corp.

Contents

Chapter 1. Introduction . . . 1

Chapter 2. What's New? . . . 3
New features in version 10.2.2 . . . 3
New features in version 10.2.1 . . . 3
New features in version 10.1.1 . . . 3
Turning Off Automatic Summarization and Suppression . . . 3
Larger worksheet sizes for Microsoft Excel 2007 report outputs . . . 3
New Features in Version 10.1.0 . . . 4
Lifecycle Manager . . . 4
Report Name Used for the Exported Output File Name . . . 4
Curly Brackets and Parentheses are Breakable . . . 4
Removed Features in Version 10.1.0 . . . 4
Excel 2000 and Excel 2000 Single Sheet Report Outputs . . . 5

Chapter 3. Using Query Studio . . . 7
Building IBM Cognos business intelligence applications . . . 8
Open the Web Portal . . . 10
Creating a Report . . . 10
Create a Report . . . 10
Open an Existing Report . . . 11
Add Data to a Report . . . 12
Save a Report. . . . 14
Save a Report Using a Different Name or Location . . . 14
Run a Report . . . 14
View a Report in PDF Format . . . 17
View a Report in CSV Format . . . 18
View a Report in XML Format . . . 18
View a Report in Microsoft Excel Format . . . 18
Open a Report in IBM Cognos Report Studio . . . 20
Print a Report . . . 20
Get the Report Definition . . . 20
Setting up a Multilingual Reporting Environment . . . 20
Report Types . . . 22
List Reports . . . 22
Example - Create a List Report for Quantity . . . 22
Grouped List Reports . . . 23
Example - Create a Grouped List Report for Units Sold . . . 25
Crosstab Reports . . . 26
Charts . . . 28
Apply a Template . . . 31
Set a Default Template. . . . 31
Change the Title . . . 31
Change the Subtitle. . . . 32
Format Text and Data . . . 32
Format Borders . . . 34
Collapse a Report . . . 34
Reorder Report Items . . . 35
Change the Report Item Name . . . 35
Swap Rows and Columns . . . 35
Specify the Rows Per Page . . . 36
Highlight Key Information by Defining Conditional Styles. . . . 36
Example - Define Conditional Styles for Units Sold . . . 37
Set Page Breaks . . . 38
Report Administration . . . 39

© Copyright IBM Corp. 2005, 2014

Chapter 4. Working with Data . . . 41
Filters . . . 41
Multiple-fact Queries . . . 43
Create a Simple Filter . . . 47
Set a Default Filter Dialog Type. . . . 49
Create a Complex Filter . . . 49
Example - Create a Complex Filter for Units Sold . . . 50
Add a Model Filter . . . 52
Use a Prompt. . . . 52
Create Custom Groups . . . 53
Example - Create a Custom Group for North America . . . 54
Sort Data . . . 55
Group Identical Values . . . 56
Turn Off Automatic Summarization . . . 57
Change the Data Format . . . 59
Calculations . . . 61
Add a Summary to a Report. . . . 61
Add a Calculation to a Report . . . 64
Example - Calculate Units Sold in Each Country or Region as a Percentage of the Total . . . 66
Drill Up or Down to View Related Data . . . 67
Go to Another Target Report . . . 68
View Lineage Information for a Data Item . . . 69
The IBM Cognos Business Intelligence lineage tool . . . 69
Suppress Empty Cells . . . 70

Appendix A. Troubleshooting . . . 73
Tooltips Show Unexpected Label Values . . . 73
QE-DEF-0260 Parsing Error . . . 73
Chart Labels Overwrite One Another . . . 73
Background Color in Template Does not Appear . . . 73
Subtotals in Grouped Lists . . . 74
HRESULT= DB_E_CANTCONVERTVALUE Error When Filtering on a _make_timestamp Column . . . 74
RQP-DEF-0177 An error occurred while performing operation 'sqlPrepareWithOptions' status='-69' UDA-SQL-0043 Error . . . 74
Cannot Find the Database in the Content Store (Error QE-DEF-0288) . . . 75
Parse Errors When Opening or Running an Upgraded Report . . . 75
Overflow Error Occurs When a Value in a Crosstab Is More Than 19 Characters . . . 75
A Report or Analysis Does Not Run Because of Missing Items . . . 75
Report Output Takes a Long Time to Run . . . 76
Drill-through Links are Not Active in the Safari Browser . . . 76
A Printed HTML Report is Unsatisfactory . . . 76
Problems When Printing a PDF Manual . . . 76
A Running Total in Grouped Reports Gives Unexpected Results . . . 77
Metadata Change in Oracle Essbase Not Reflected in Reports and in the Studios . . . 77
Relationships Not Maintained in a Report With Overlapping Set Levels . . . 77
Limited Support for Relational Functions When Used with OLAP Data Sources . . . 78
Tips for Working with Ragged or Unbalanced Hierarchies . . . 78
Columns, Rows, or Data Disappear With SSAS 2005 Cubes . . . 79
Unexpected Cell Formatting in Reports . . . 80
Report Differences Between TM1 Executive Viewer and IBM Cognos Business Intelligence with TM1 Data Sources 80
Order of Metadata Tree Differs for TM1 Data Sources . . . 80
Measure Format Disappears in SSAS 2005 . . . 80

Appendix B. Samples . . . 83
The Sample Outdoors Company . . . 83
The Sample Outdoors Group of Companies . . . 84
Employees. . . . 85
Sales and marketing . . . 85
Sample Outdoors database, models, and packages . . . 86
Samples in the Go Data Warehouse (analysis) Package . . . 88

Return Quantity by Product Line . . . 88
Return Quantity by Product Line Chart . . . 88
Returns by Product Type . . . 88
Sample in the Go Sales (query) Package . . . 88
Gross Profit for Bella Eyewear Brand . . . 89

Appendix C. Chart Types . . . 91
Choosing a Chart Type and Configuration . . . 91
Pie Charts . . . 91
Column Charts . . . 92
Bar Charts . . . 93
Line Charts . . . 93
Area Charts . . . 94
Column-Line Charts . . . 95
Radar Charts . . . 96
Chart Configurations . . . 96
Standard Charts . . . 96
Stacked Charts . . . 97
100 Percent Stacked Charts . . . 98
Three-dimensional Charts . . . 99

Appendix D. Limitations When Producing Reports in Microsoft Excel Format . . . 101
Unable to Load Images from the IBM Cognos Business Intelligence Content Store in a Report . . . 101
Blank Worksheet Appears . . . 101
Warning Message Appears When Excel Opens an IBM Cognos Business Intelligence Report . . . 101
Spreadsheet Content Not Saved for Reports Saved in XLS Format . . . 101
Unable to Load Excel Report in Netscape 7.01 . . . 102
Unsupported IBM Cognos BI Formatting . . . 102
Cells Contain Series of #. . . . 102
Table and Column Widths . . . 103
Secure Socket Layer (SSL) Is Not Supported in Some Excel Formats and Versions . . . 103
Number Formats Become Currency Formats in Japanese Excel . . . 103
Reports Show Data in Wrong Columns . . . 103
Unable to Access Reports on Remote Servers . . . 103
Unsupported Excel Formatting . . . 103
Hyperlink Buttons Are Not Supported in Excel . . . 104
Unable to View Reports in Excel Format Sent as Email Attachments . . . 104
Many items on axis produces empty chart in Excel . . . 104
Chart legend titles are not supported in Excel . . . 104
Cell Height and Width Are Incorrect . . . 104

Appendix E. Format Rules for Calculations Returning Number Data Types . . . 105
Sum, Difference, Maximum, Minimum . . . 105
Product . . . 105
Division, Average . . . 106
Percent, Percent Difference, Percent Total . . . 106
Percentile, Rank, Quartile, Quantile . . . 106
Round, Round Down. . . . 106
Absolute . . . 106
Power, Sqrt . . . 106

Notices . . . 107

Glossary . . . 111
A . . . 111
B . . . 111
C . . . 111
D . . . 113
E . . . 113
F . . . 113

G 113
H 114
I. 114
J. 114
L 114
M 114
N 115
O 115
P 115
Q 116
R 116
S 117
T 117
U 117
W 118

Index 119

Chapter 1. Introduction

This document is intended for use with IBM® Cognos® Query Studio. Query Studio is a Web-based tool for exploring, analyzing, and comparing dimensional data to help you answer business questions.

Audience

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

Finding information

To find product documentation on the web, including all translated documentation, access IBM Knowledge Center (http://www.ibm.com/support/knowledgecenter). Release Notes are published directly to IBM Knowledge Center and include links to the latest technotes and APARs.

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

Accessibility features

IBM Cognos Query Studio does not currently support accessibility features that help users with a physical disability, such as restricted mobility or limited vision, to use this product.

Forward-looking statements

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

Samples disclaimer

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

© Copyright IBM Corp. 2005, 2014

Chapter 2. What's New?

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

For information about upgrading, see the *IBM Cognos Business Intelligence Installation and Configuration Guide* for your product.

For information about other new features for this release, see *IBM Cognos Business Intelligence New Features*.

What's New information for past releases is available by accessing documentation in IBM Knowledge Center (http://www.ibm.com/support/knowledgecenter).

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

New features in version 10.2.2

There are no new features in this release of IBM Cognos Query Studio.

New features in version 10.2.1

There are no new features in this release of IBM Cognos Query Studio.

New features in version 10.1.1

Listed below are new features since the last release.

Turning Off Automatic Summarization and Suppression

You can use **My Preferences** to specify default settings for summarization and suppression preferences that persist when using the same computer.

For more information about how to specify the default settings, see "Turn Off Automatic Summarization" on page 57.

Larger worksheet sizes for Microsoft Excel 2007 report outputs

IBM Cognos Business Intelligence now supports a larger worksheet size for report outputs exported in Microsoft Excel 2007 format.

In previous versions of IBM Cognos Business Intelligence, report output in Microsoft Excel format was limited to a maximum of 256 columns by 65,000 rows. Although this remains as the default worksheet size, administrators can now enable larger worksheets and change the maximum number of rows in a worksheet - up to a maximum of 16,384 columns by 1,048,576 rows - by using advanced server properties. This number matches the Microsoft Excel 2007 worksheet size limitations.

© Copyright IBM Corp. 2005, 2014

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

For an up-to-date list of environments supported by IBM Cognos products, such as operating systems, patches, browsers, Web servers, directory servers, database servers, and application servers, visit http://www.ibm.com/.

Related tasks:

"View a Report in Microsoft Excel Format" on page 18
You can export your report output to several different Microsoft Excel spreadsheet software formats.

New Features in Version 10.1.0

The following features are new since the last release. Links to directly-related topics are included.

Lifecycle Manager

Lifecycle Manager is a verification tool that checks that your reports run and produce the same results in the new environment.

You can download IBM Cognos Lifecycle Manager from http://www.ibm.com/ to help you test your reports.

Lifecycle Manager is a Windows-based application for auditing upgrades to the latest version of IBM Cognos Business Intelligence from IBM Cognos ReportNet 1.1 MR3 or MR4, and from IBM Cognos 8 versions 8.2, 8.3, or 8.4.

It provides a verification feature that validates, executes, and compares report results from two different IBM Cognos Business Intelligence releases. This helps to identify upgrade and compatibility issues between releases. User interface design and status reporting functionality provide both a proven practice process and support for upgrade project planning and status reporting. Lifecycle Manager also automates much of the process of bundling the required files, such as reports and models, for the test case. For more information, see the *IBM Cognos Lifecycle Manager User Guide*.

Report Name Used for the Exported Output File Name

When you run a report in an export format such as PDF, delimited text (CSV), Microsoft Excel (XLS), the IBM Cognos report name is now used as the exported file name. This allows you to save the report output using the same name as the original report.

For more information, see "Run a Report" on page 14.

Curly Brackets and Parentheses are Breakable

When you run a report in PDF format, curly brackets {} and parentheses () no longer stay on the same line as the text before them. For example, **Products(2004)** may now break to a new line between **Products** and **(2004)**.

Removed Features in Version 10.1.0

Listed below are features that are removed since the last release.

Excel 2000 and Excel 2000 Single Sheet Report Outputs

The Microsoft Excel 2000 spreadsheet software and Excel 2000 Single Sheet spreadsheet software report outputs are no longer supported in this release.

Chapter 3. Using Query Studio

IBM Cognos Query Studio is the reporting tool for creating simple queries and reports in IBM Cognos Business Intelligence.

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 create a new report by opening an existing report, changing it, and saving it using another name.
- 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 your organization's business and its data. You may also need to be familiar with other components of IBM Cognos Business Intelligence.

IBM Cognos Report Studio

IBM Cognos Report Studio is the professional reporting tool for IBM Cognos Business Intelligence. Report Studio offers greater flexibility in calculating and formatting results. 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 *IBM Cognos Report Studio User Guide*. Use Report Studio to create any report type, including charts, maps, lists, and repeaters, using any data source (relational or multi-dimensional).

IBM Cognos Workspace

IBM Cognos Workspace is a new report consumption tool that provides an integrated Business Intelligence experience for business users. This Web-based tool allows you to use IBM Cognos content and external data sources to build sophisticated interactive workspaces that facilitate collaborative decision making.

IBM Cognos Workspace Advanced

IBM Cognos Workspace Advanced provides a simple and focused report authoring interface. It is designed for business users to create reports that analyze corporate data according to specific information needs. When you are consuming reports using IBM Cognos Workspace, and you want to edit the report or author a new report, use IBM Cognos Workspace Advanced to do so.

This new report authoring tool replaces IBM Cognos Report Studio Express®.

© Copyright IBM Corp. 2005, 2014

Cognos Connection

IBM Cognos Connection is the Web portal for IBM Cognos Business Intelligence. 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

IBM Cognos Framework Manager is the data modeling tool for IBM Cognos Business Intelligence.

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

Analysis Studio

IBM Cognos Analysis Studio is the analysis tool for IBM Cognos Business Intelligence. 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

IBM Cognos Metric Studio is the metrics tool for IBM Cognos Business Intelligence. 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

IBM Cognos Event Studio is the event management tool for IBM Cognos Business Intelligence. 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.

Building IBM Cognos business intelligence applications

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

The lifetime of an IBM Cognos Business Intelligence application can be months, or even years. During that time, data may change and new requirements appear. As the underlying data changes, authors must modify existing content and develop

new content. Administrators must also update models and data sources over time. For more information about using data sources, see the *IBM Cognos Business Intelligence Administration and Security Guide* and the *IBM Cognos Framework Manager User Guide*.

Before you begin

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

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

Procedure

1. Locate and prepare data sources and models.

   IBM Cognos BI can report from a wide variety of data sources, both relational and dimensional. Database connections are created in the Web administration interface, and are used for modeling, for authoring, and for running the application.

   To use data for authoring and viewing, the business intelligence studios need a subset of a model of the metadata (called a package). The metadata may need extensive modeling in Framework Manager.

2. Build and publish the content.

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

3. Deliver and view the information.

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

For information about tuning and performance, see the *IBM Cognos Business Intelligence Administration and Security Guide* and the IBM Support Portal (http://www.ibm.com/software/analytics/support/finding-answers).

Open the Web Portal

The IBM Cognos Connection Web portal is a single point of access to all IBM Cognos Business Intelligence content.

You also use the portal to manage and distribute your reports. For information about other tasks you can do in IBM Cognos Connection, see "Report Administration" on page 39.

Procedure

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.

Results

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 IBM Cognos Query Studio, you are actually creating a query definition, which is a specific set of instructions for extracting particular data.

Before you begin

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?

Before you can create a report, the administrator must have previously created a package in IBM Cognos Framework Manager and published it to a location in the IBM 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.

Create a Report

You can create a new report 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.

Procedure

1. In the IBM Cognos Connection home page, on the **Public Folders** tab, navigate to 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. From the **Launch** menu in the top right corner, click the **Query Studio** link .

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

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

Results

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.

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.

Procedure

1. From the **Manage File** menu, click **Open**.
2. Locate and click the report you want to open, then click **OK**.

   The report opens in Query Studio.
3. To increase the available space for viewing reports, click the hide menu button in the top right corner of the menu.
4. 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 IBM Cognos 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 IBM 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 *IBM Cognos Connection User Guide*.

The report modeler specifies whether previous versions of a package are preserved. For information about model versioning, see the *IBM Cognos 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 the following objects:

- query subjects
- query items, such as columns of measures and non-measures
- query items created by the data modeler, such as 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.

If you 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.

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.

You can also add calculations to a report.

Procedure

1. Open a report in IBM Cognos 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.

4. To simultaneously add several query items, use Ctrl+click to select multiple items, and then, at the bottom of the left pane, click **Insert**.
5. To remove data permanently from your report, click the report item heading, then click the delete button on the toolbar.

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.
	Namespace, used to organize objects.
	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 or region. In dimensional data sources, level attribute, which represents a property of a level.
	A member is a unique item within a hierarchy. For example, Camping Equipment and 4 Man tent are members of the Products Hierarchy.
	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.
	Level, which is a set of members that have common attributes. For example, a geographical dimension might contain levels for country or region or 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. 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.
	Model calculation.

Icon	Object
	Folder, used to organize data items. You cannot import a folder into your report.

Save a Report

Save your report to preserve any changes.

What you save in IBM Cognos 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.

Procedure

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.

Procedure

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. An IBM Cognos 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.

Note: When you run a report in an export format such as PDF, delimited text (CSV), MicrosoftExcel (XLS), the IBM Cognos report name is used as the exported file name.

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

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" on page 52.

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.

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

Procedure

1. Open a report 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**.

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 IBM Cognos Query Studio. For information about creating filters in Framework Manager, see the *IBM Cognos 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

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 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**

Set Default Run Commands

You can set the default behavior for how data is displayed in new reports.

Note: You may not have the option to set the default run commands. For more information, contact your administrator.

Procedure

1. Open a report in IBM Cognos Query Studio.
2. From the **Manage File** menu, click **My Preferences**.
3. From the **Default data display** menu, choose how the data is displayed when you run the report:
   - To set the default run option to run the report using all data, click **Run with All Data**.
   - To set the default run option to run the report using limited data, click **Preview with Limited Data**.
   - To set the default run option to run the report using no data, click **Preview with No Data**.
4. Click **OK**.

View a Report in PDF Format

To save a snapshot of your report data, you can create a PDF version of your report.

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

Before you begin

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

Procedure

1. Open a report in IBM Cognos Query Studio.
2. From the **Run Report** menu, click **View in PDF Format** .

Results

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 you have 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.

Procedure

1. Open a report in IBM Cognos Query Studio.
2. From the **Run Report** menu, click **View in CSV Format**.
   The report opens in a 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 reports in XML format.

Procedure

1. Open a report in IBM Cognos 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 Microsoft Excel Format

You can export your report output to several different Microsoft Excel spreadsheet software formats.

Excel 2007 and **Excel 2007 Data** formats render report output in native Excel XML format, also known as XLSX. This format provides a fast way to deliver native Excel spreadsheets to Microsoft Excel 2002, Microsoft Excel 2003, and Microsoft Excel 2007. Users of Microsoft Excel 2002 and Microsoft Excel 2003 must install the Microsoft Office Compatibility Pack, which provides file open and save capabilities for the new format.

Excel 2007 provides fully formatted reports for use in Microsoft Excel version 2007.

The output is similar to other Excel formats, with the following exceptions:

- Charts are rendered as static images.
- Row height can change in the rendered report to achieve greater fidelity.
- Column widths that are explicitly specified in reports are ignored in Microsoft Excel 2007.
- Merged cells are used to improve the appearance of reports.
- The default size of worksheets is 65 536 rows by 256 columns.

  Your IBM Cognos administrator can enable larger worksheets and change the maximum number of rows in a worksheet, up to a maximum of 16,384 columns by 1,048,576 rows, by using advanced server properties. For more information, see the *IBM Cognos Business Intelligence Administration and Security Guide.*

Excel 2007 Data provides data for use in Microsoft Excel version 2007. These reports only contain minimal formatting. Default data formatting is applied to the data based on data type and assumes that each column has a single data type.

The output is similar to other Excel formats, with the following exceptions:

- The generated output includes only the first list query in the report. If a report contains multiple queries and the first query is a multi-dimensional query for a crosstab or for a chart, an error message is displayed when the report runs.
- Nested frames and master-detail links are not supported.
- Cells in the Microsoft Excel file have a default width and height. You must adjust the column width and height if the data is larger than the default size.
- Style specifications are not rendered, including color, background color, and fonts.
- Borders are not rendered.
- User-specified data formatting in the report specification are not applied, including exception highlighting and color rules for negative numbers.

Excel 2002 provides fully formatted reports for use in Microsoft Excel versions earlier than 2007. Excel 2002 format also offers the following benefits:

- Spreadsheets are contained in a single file for reliable spreadsheet navigation.
- The maximum size of worksheets is 65,536 rows by 256 columns.

Procedure

From the **Run Report** menu, click **View in Excel 2007 Format**, **View in Excel 2007 Data Format**, or **View in Excel 2002 Format**.
The report opens in a new window.

Related concepts:

Appendix D, “Limitations When Producing Reports in Microsoft Excel Format,” on page 101
There are limitations when producing reports in Microsoft Excel format.

Open a Report in IBM Cognos Report Studio

You can open an IBM Cognos Query Studio report in IBM Cognos 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.

You cannot reopen the report in Query Studio after you save it in Report Studio.

Procedure

From the **Manage File** menu, click **Open in Report Studio**.

Print a Report

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

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

Procedure

1. Open a report in IBM Cognos 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**.

Get the Report Definition

The report definition describes the report items in each report and gives users, administrators, and customer support an important troubleshooting tool.

Procedure

1. Open a report in IBM Cognos Query Studio.
2. From the **Manage File** menu, click **Report Definition**. The **Report Definition** dialog box appears. It contains a table that lists every filter, report item, and corresponding expression in the report.

   Note: You cannot change the report properties.
3. To display a text box containing information about the query that you can send to customer support for troubleshooting if needed, click **Query Information**.

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 IBM Cognos 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 *IBM Cognos Business Intelligence 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 *IBM Cognos Business Intelligence 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 *IBM Cognos Framework Manager User Guide*.
- Create multilingual maps.

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

  For more information, see the *IBM Cognos Map Manager Installation and User Guide*.
- Create a multilingual report.

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

  For more information, see the *IBM Cognos Report Studio User Guide*.
- Specify the language in which a report is viewed.

  You can use IBM 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 *IBM 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 IBM Cognos Connection preferences

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

Report Types

In IBM Cognos Query Studio, you can create list reports, crosstab reports, or charts.

Use 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 or region. You can create a chart to present data graphically.

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, IBM Cognos Query Studio automatically suppresses duplicates, summarizes detail values, and generates footer summaries for measures. You can change these defaults.

By default, Query Studio builds list reports when you create a report from scratch.

Related tasks:

"Turn Off Automatic Summarization" on page 57
IBM Cognos Query Studio automatically suppresses duplicates.

Example - Create a List Report for Quantity

You are a report author at the Sample 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 or regions. 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 IBM Cognos Business Intelligence. For more information, see the *IBM Cognos Business Intelligence Administration and Security Guide*.

Procedure

1. In the IBM Cognos Connection home page, click the **Public Folders** tab.

   All available packages appear.
2. Click the **GO Data Warehouse (query)** package.
3. From the **Launch** menu in the top right corner, click the **Query Studio** link .

   Query Studio opens, and the **GO Data Warehouse (query)** query items appear in the left pane.
4. Expand **Sales and Marketing (query)**.
5. Expand **Sales (query)**.
6. Expand **Product**.
7. Double-click the **Product line** item.
8. Expand **Sales fact**.
9. 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.
10. At the top of the report, click the **Title** link.
11. In the **Title** box, type

    Units Sold
12. Click **OK**.

    You now have a titled report listing the units sold for every product line.
13. Click the save button on the toolbar.
14. In the **Name** box, type

    Units Sold
15. Leave the default destination folder as **Public Folders**, and click **OK**.

Units Sold

Product line	Quantity
Camping Equipment	27,301,149
Golf Equipment	5,113,701
Mountaineering Equipment	9,900,091
Outdoor Protection	12,014,445
Personal Accessories	34,907,705
Summary	**89,237,091**

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 or Region, and Quantity. Each product line is sold in more than one country or region, 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 “Group Identical Values” on page 56.

Example - Create a Grouped List Report for Units Sold

You are a report author at the Sample 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 or regions. 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 or regions. You apply a filter to the Country or Region 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 IBM Cognos Business Intelligence. For more information, see the *IBM Cognos Business Intelligence Administration and Security Guide*.

You must also have created the example list report in “Example - Create a List Report for Quantity” on page 22.

Procedure

1. Open the **Units Sold** report.
2. Click the heading of the **Quantity** column.
3. Click the **Insert Data** menu command.
4. Expand **Sales and Marketing (query)**.
5. Expand **Sales (query)**.
6. Expand **Retailer site**.
7. Double-click the **Retailer country or region** 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 or regions. However, you are interested only in the quantity of units sold in three specific countries or regions. Apply a filter to include only the countries or regions you want.

8. Click the heading of the **Retailer country or region** column.
9. Click the filter button on the toolbar.
10. 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.
11. Click the heading of the **Product line** column.
12. Click the group button on the toolbar.

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

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

Units Sold

Retailer country: Germany, Japan, United States

Product line	Retailer country	Quantity
Camping Equipment	Germany	1,547,097
	Japan	2,031,007
	United States	4,460,492
Camping Equipment		**8,038,596**
Golf Equipment	Germany	281,703
	Japan	369,778
	United States	858,351
Golf Equipment		**1,509,832**
Mountaineering Equipment	Germany	539,671
	Japan	685,229
	United States	1,591,904
Mountaineering Equipment		**2,816,804**
Outdoor Protection	Germany	773,127
	Japan	902,891
	United States	2,033,754

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 or Region 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 or region.

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**

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 or region.

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.

When working with a dimensional data source, and inserting members into a crosstab, ensure that you insert members from the same hierarchy only on one of the crosstab edges. If you insert members from the same hierarchy on both edges of the crosstab, you may encounter unexpected results. For example, a report that uses members from years in the rows and quarters in the columns is very difficult to read because the useful numbers are distributed over a large area of mostly blank cells.

Procedure

1. Open a report 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 Sample 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 or regions. You reuse the grouped report that already contains the necessary data, and change the layout for improved analysis.

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

You must also have created the example grouped list report in "Example - Create a Grouped List Report for Units Sold" on page 25.

Procedure

1. Open the **Grouped Units Sold** report.
2. Click the heading of the **Retailer country or region** column.
3. Click the pivot button on the toolbar.

   The values of the Country or Region 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

Retailer country: Germany, Japan, United States

Quantity	Germany	Japan	United States	Summary
Camping Equipment	1,547,097	2,031,007	4,460,492	**8,038,596**
Golf Equipment	281,703	369,778	858,351	**1,509,832**
Mountaineering Equipment	539,671	685,229	1,591,904	**2,816,804**
Outdoor Protection	773,127	902,891	2,033,754	**3,709,772**
Personal Accessories	1,943,013	2,798,222	6,777,576	**11,518,811**
Summary	**5,084,611**	**6,787,127**	**15,722,077**	**27,593,815**

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 or regions.

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.

IBM Cognos 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 Appendix C, “Chart Types,” on page 91.

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.

Procedure

1. Open a report 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 Sample 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 IBM Cognos Business Intelligence. For more information, see the *IBM Cognos Business Intelligence Administration and Security Guide*.

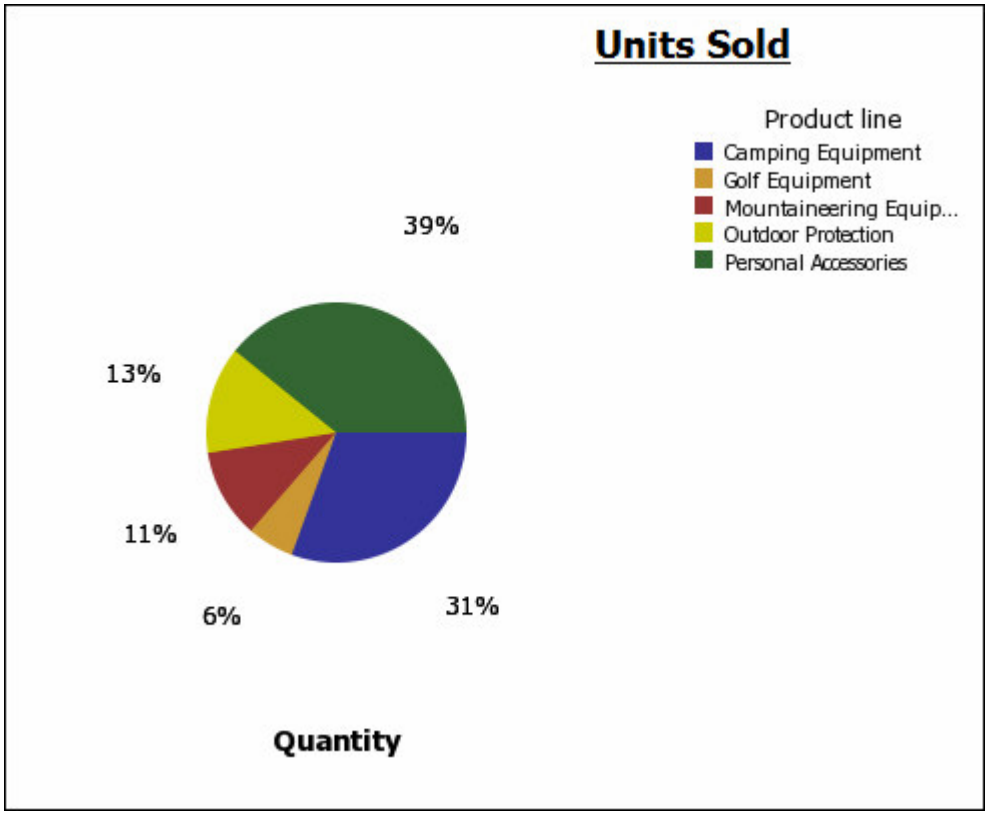
You must already have created the example report in “Example - Create a List Report for Quantity” on page 22.

Procedure

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.

Procedure

1. In IBM 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 IBM 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.

Results

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

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 an IBM Cognos 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 *IBM Cognos Business Intelligence Administration and Security Guide*.

Before you begin

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

Procedure

1. Open a report 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**.

Results

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**.

Set a Default Template

You can set a default template to use for new reports.

Procedure

1. Open a report in IBM Cognos Query Studio.
2. From the **Manage File** menu, click **My Preferences**.
3. Click **Apply a template** and then click **Select a template**.
4. Click the template that you want to apply.
5. Click **OK**.

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 IBM Cognos Connection. For information about changing the report name, see the *IBM Cognos Connection User Guide*.

Tip: To remove a title, delete all text in the **Title** box.

Procedure

1. Open a report in IBM Cognos Query Studio.
2. From the **Change Layout** menu, click **Edit Title Area**.

   Tip: To change the title without going through the menu, click the **Title** link.
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. If you want suppression defined in the report to appear in the title area, select the **Show suppression** check box.
7. Click **OK**.

Change the Subtitle

You can create your own descriptive report subtitles.

Procedure

1. Open a report in IBM Cognos Query Studio.
2. From the **Change Layout** menu, click **Edit Title Area**.
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.

For information about changing the data itself, see Chapter 4, “Working with Data,” on page 41.

Procedure

1. Open a report in IBM Cognos 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, 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 Web safe 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 , 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 Web safe 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**.

Results

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.

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.

Procedure

1. Open a report in IBM Cognos 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 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 Web safe 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**.

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.

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.

Procedure

1. Open a report in IBM Cognos 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.

Procedure

1. Open a report in IBM Cognos 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 or region.

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

Note: The heading name is locale-aware. If you change a heading name and then run the report in a different locale, you see the original heading name. For more information about the locale, see the glossary.

Procedure

1. Open a report in IBM Cognos 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.

Procedure

1. Open a report in IBM Cognos 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, IBM Cognos 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.

Procedure

1. Open a report 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.

Procedure

1. Open a report in IBM Cognos 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.

  You can modify the predefined styles. For more information, see the *IBM Cognos Business Intelligence 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 Sample 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 or regions. 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 IBM Cognos Business Intelligence. For more information, see the *IBM Cognos Business Intelligence Administration and Security Guide*.

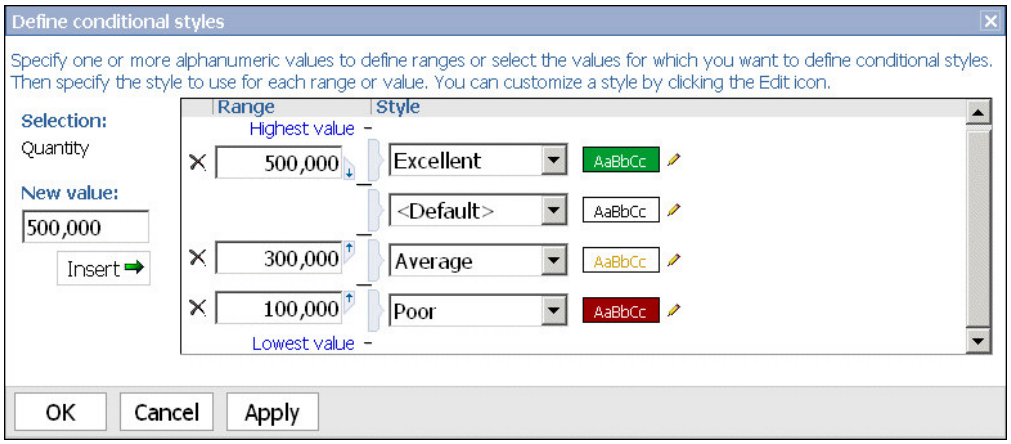
You must also have created the example list report in "Example - Create a List Report for Quantity" on page 22.

Procedure

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**.

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

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.

Before you begin

You must have a grouped column or you must create sections before you can set page breaks. For more information, see "Group Identical Values" on page 56.

Procedure

1. Open a report in IBM Cognos 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**.

Results

After you have set page breaks, view the report in PDF or Microsoft Excel 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 *IBM Cognos Business Intelligence Administration and Security Guide*.

Chapter 4. Working with Data

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

In IBM Cognos 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
- view lineage information of a data item
- suppress empty cells

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.

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	20,006

detail rows

footer

© Copyright IBM Corp. 2005, 2014

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 or regions. 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.

Multiple-fact Queries

You must understand the result of a query on more than one fact table to achieve the results that you want. The result of a multiple-fact query varies depending on whether you are working with conformed or non-conformed dimensions, on the level of granularity, and on the additive nature of the data.

The GO Data Warehouse (analysis) package has characteristics that affect the results if you use a multiple-fact query with the Inventory and Sales namespaces. Granularity for time differs in that inventory levels are recorded monthly and sales are recorded daily. Also, Sales includes a non-conformed dimension, Order method.

The following examples will help you interpret the results of a multiple-fact query and understand the options for changing a query to obtain the results that you want.

Conformed Dimensions

Individual queries on Inventory and Sales by Quarter and Product yield the following results.

Quarter	Product	Opening inventory	Closing inventory	Quantity
Q1 2011	Husky Rope 50	0	4,853	9,259
	Aloe Relief	10,614	6,513	8,805
	Course Pro Umbrella	34,907	37,327	70,256
Q1 2011 - Average		**15,174**	**16,231**	
Q1 2011 - Total				**88,320**
Q2 2011	Husky Rope 50	4,853	5,728	8,725
	Aloe Relief	6,513	7,379	8,266
	Course Pro Umbrella	37,327	39,870	57,964
Q2 2011 - Average		**16,231**	**17,659**	
Q2 2011 - Total				**74,955**

A query on multiple facts and conformed dimensions respects the cardinality between each fact table and its dimensions and returns all the rows from each fact table. The fact tables are matched on their common keys, Product and Time.

Product and Time apply to both Inventory and Sales. However, inventory levels are recorded monthly and sales are recorded daily. In this example, results are automatically aggregated to the lowest common level of granularity. Quantity, which comes from Sales, is rolled up to months.

Nulls are often returned for this type of query because a combination of dimensional elements in one fact table may not exist in the other. For example, if Husky Rope 50 was available in inventory in Q1 2011, but there were no sales of this product in the same time period, Quantity would show a null in the Husky Rope 50 row.

IBM Cognos Business Intelligence does not support conformed dimensions generated by IBM Cognos Framework Manager for SAP BW data sources.

Non-conformed Dimensions

If a non-conformed dimension is added to the query, the nature of the results returned by the query is changed.

Quarter	Product	Order method type	Opening inventory	Closing inventory	Quantity
Q1 2011	Husky Rope 50	Fax	0	4,853	388
	Husky Rope 50	Telephone	0	4,853	1,015
	Husky Rope 50	Mail	0	4,853	240
	Husky Rope 50	E-mail	0	4,853	210
	Husky Rope 50	Web	0	4,853	5,031
	Husky Rope 50	Sales visit	0	4,853	1,961
	Husky Rope 50	Special	0	4,853	414
	Aloe Relief	Fax	10,614	6,513	411
	Aloe Relief	Telephone	10,614	6,513	1,513
	Aloe Relief	Mail	10,614	6,513	433
	Aloe Relief	E-mail	10,614	6,513	839
	Aloe Relief	Web	10,614	6,513	4,740
	Aloe Relief	Sales visit	10,614	6,513	732
	Aloe Relief	Special	10,614	6,513	137
	Course Pro Umbrella	Fax	34,907	37,327	1,568
	Course Pro Umbrella	Telephone	34,907	37,327	17,120
	Course Pro Umbrella	Mail	34,907	37,327	2,885
	Course Pro Umbrella	E-mail	34,907	37,327	7,213
	Course Pro Umbrella	Web	34,907	37,327	37,123
	Course Pro Umbrella	Sales visit	34,907	37,327	2,793
	Course Pro Umbrella	Special	34,907	37,327	1,554
Q1 2011 - Average			**15,174**	**16,231**	
Q1 2011 - Total					**88,320**

Order method type exists only in Sales. Therefore, it is no longer possible to aggregate records to a lowest common level of granularity because one side of the query has dimensionality that is not common to the other side of the query. Opening inventory and Closing inventory results are repeated because it is no longer possible to relate a single value from these columns to one value from Quantity.

Grouping on the Quarter key demonstrates that the result in this example is based on the same data set as the query on conformed dimensions. Summary values are the same. For example, the total quantity for Q1 2011 is 88,320 in both examples.

Filters on Non-conformed Dimensions

By default, to improve performance, filters are applied at the database level. The default behavior can result in unexpected nulls when you add a filter to a multiple-fact query. If you create a filter on the Order method dimension to show only the fax order method and apply the filter at the data source, the report includes nulls.

Quarter	Product	Order method type	Opening inventory	Closing inventory	Quantity
Q1 2011	Husky Rope 50	Fax	0	4,853	388
	Aloe Relief	Fax	10,614	6,513	411
	Course Pro Umbrella	Fax	34,907	37,327	1,568
Q1 2011 - Average			**15,174**	**16,231**	
Q1 2011 - Total					**2,367**
Q2 2011	Husky Rope 50	Fax	4,853	5,728	419
	Aloe Relief	Fax	6,513	7,379	103
	Course Pro Umbrella		37,327	39,870	
Q2 2011 - Average			**16,231**	**17,659**	
Q2 2011 - Total					**522**
Q1 2012	Husky Rope 50	Fax	5,188	9,199	327
	Aloe Relief	Fax	7,093	6,395	277
	Course Pro Umbrella	Fax	39,911	38,343	4,040
Q1 2012 - Average			**17,397**	**17,979**	
Q1 2012 - Total					**4,644**
Q2 2012	Husky Rope 50	Fax	9,199	7,038	424
	Aloe Relief	Fax	6,395	5,085	86
	Course Pro Umbrella		38,343	31,799	
Q2 2012 - Average			**17,979**	**14,641**	
Q2 2012 - Total					**510**
Overall - Average			**16,695**	**16,627**	
Overall - Total					**8,043**

The filter is applied only to one subject area, Sales. Because Order method type does not exist in Inventory, all products still appear in the report. For example, Course Pro Umbrella was in inventory in Q2 2012. Because there were no sales using the fax order method for this product in Q2 2012, Order method type and Quantity are null.

To remove the nulls, change the filter so that it is applied to the result set instead of the data source. By applying the filter to the result set, you get the same results that you would get if you were working with conformed dimensions. Only the products that were ordered using the fax order method appear in the report.

Quarter	Product	Order method type	Opening inventory	Closing inventory	Quantity
Q1 2011	Husky Rope 50	Fax	0	4,853	388
	Aloe Relief	Fax	10,614	6,513	411
	Course Pro Umbrella	Fax	34,907	37,327	1,568
Q1 2011 - Average			**15,174**	**16,231**	
Q1 2011 - Total					**2,367**
Q2 2011	Husky Rope 50	Fax	4,853	5,728	419
	Aloe Relief	Fax	6,513	7,379	103
Q2 2011 - Average			**5,683**	**6,554**	
Q2 2011 - Total					**522**
Q1 2012	Husky Rope 50	Fax	5,188	9,199	327
	Aloe Relief	Fax	7,093	6,395	277
	Course Pro Umbrella	Fax	39,911	38,343	4,040
Q1 2012 - Average			**17,397**	**17,979**	
Q1 2012 - Total					**4,644**
Q2 2012	Husky Rope 50	Fax	9,199	7,038	424
	Aloe Relief	Fax	6,395	5,085	86
Q2 2012 - Average			**7,797**	**6,062**	
Q2 2012 - Total					**510**
Overall - Average			**12,467**	**12,786**	
Overall - Total					**8,043**

The overall summary for Quantity is 8,043 using either filter method, which shows that the results are based on the same data set.

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.

If data rows that you want to exclude are included in your filtered result, clear the **Apply the filter to individual values in the data source** check box when you specify the filter. This removes rows with nulls that are included because of a join between two non-conforming fact tables in the underlying data. Clearing this option can have an impact on query performance.

Procedure

1. Open a report in IBM Cognos Query Studio.
2. Click the heading of the item you want to filter.

   Tip: You can also add filters to relational and dimensionally modeled relational data sources directly from the data tree without first adding the data item to the report. To do so, right-click the data item and click **Filter for report**.

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 from a list or specify the range of values to include.

   If you specify a range, you can specify whether to include or exclude the **From** and **To** values.

   If you are filtering text or alphanumeric values, click **Search for values** or **Type in values**.

   Note that these options will not appear unless the data source you are using supports 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.
7. If you are filtering on relational or dimensionally modeled relational data sources, choose the **Type in values** option and click the type of operation you want to perform in the **Operation** box:
   - To filter on specific values, click **Exactly Matches**.
   - To filter on values that start with specific letters or numbers, click **Starts With**.
   - To filter on values that end with specific letters or numbers, click **Ends With**.
   - To filter on values that contain a specific word or number, click **Contains**.
   - To filter on SQL patterns, click **Matches SQL Pattern**.

     When matching SQL patterns, you can use these symbols as placeholders: % (percent) to substitute for zero or more characters, or _ (underscore) to substitute for one single character.
   - To filter on a range of values, click **Is In Range**.
8. If you filter a date range on relational or dimensionally modeled relational data sources, click the type of operation you want to perform in the **Operation** box:
   - To filter on a range between two dates, click **Range**.
   - To filter on a number of days before today, click **Last number of days**, then type a number in the **Number of days before today** box.
9. 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**.
10. 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.

11. 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.
12. Click **OK**.

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

    Tip: To remove the filter values subtitle, from the **Change Layout** menu, click **Edit Title Area** and then clear the **Show filters** check box.

Results

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. For more information about sorting, see "Sort Data" on page 55.

Set a Default Filter Dialog Type

Use a default filter dialog when you have a preferred method for selecting values in filters.

If you set a default filter dialog type, and the data source you are using supports the value selection method you choose, then your preferred method for selecting values is displayed each time you create a filter.

Procedure

1. Open a report in IBM Cognos Query Studio.
2. From the **Manage File** menu, click **My Preferences**.
3. From the **Default filter dialog for value selection** menu, choose how this dialog type is displayed when you create a filter:
    - To display the default filter dialog set in the advanced server settings, click **Default**.
    - To display a dialog where you select the values from a list, click **Pick values from a list**.
    - To display a dialog where you search for values, click **Search for values**.
    - To display a dialog where you type in the values, click **Type in values**.
4. Click **OK**.

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 or Region 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.

Before you begin

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

Procedure

1. Open a report in IBM Cognos 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**.

Results

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 associated with the column. For more information about sorting, see "Sort Data" on page 55.

Example - Create a Complex Filter for Units Sold

You are a report author at the Sample 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 begin this example, you must set up the sample packages that come with IBM Cognos Business Intelligence. For more information, see the *IBM Cognos Business Intelligence Administration and Security Guide*.

You must also have created the example list report in "Example - Create a List Report for Quantity" on page 22.

Procedure

1. Open the **Units Sold** report.
2. Click the **Insert Data** menu command.
3. Expand **Sales and Marketing (query)**.

4. Expand **Sales (query)**.
5. Expand **Retailer site**.
6. Drag the **Retailer country or region** 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 or regions. However, you are interested in the quantity of units sold only for two specific product lines in two specific countries or regions.
7. Click the heading of the **Product line** column.
8. Click the filter button on the toolbar.
9. In the **Show only the following** box, select the **Camping Equipment** and **Golf Equipment** check boxes, and then click **OK**.
10. Repeat steps 7 to 9 for the **Retailer country or region** column, selecting **Austria** and **China** as the countries or regions you want.

    The **Combine filters** dialog box appears.
11. Press Shift+click to select the select line icon for both filters, click **Group**, click **Apply**, and then click **OK**.

    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.
12. Click the **Product line: Camping Equipment, Golf Equipment** filter, clear the **Golf Equipment** check box, and then click **OK**.
13. Click the **Retailer country or region: Austria, China** filter, clear the **China** check box, and then click **OK**.
14. In the report, click the **Product line** column.
15. Click the filter button above the report.
16. On the **Detail** tab of the **Combine filters** dialog box, click **Add a filter line**.
17. Select the **Golf Equipment** check box and click **OK**.
18. In the report, click the **Retailer country or region** column.

    On the **Detail** tab of the **Combine filters** dialog box, click **Add a filter line**.
19. Select the **China** check box and click **OK**.
20. In the **Combine filters** dialog box, press Shift+click to select the select line icon for the **Product line: Golf Equipment** and **Retailer country or region: China** filter lines and click **Group**.

    You combined two filters by an AND operator.
21. Click the **AND** operator beside the select line icon , 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.
22. Click the save as button on the toolbar.
23. In the **Name** box, type

Filtered Units Sold

24. Leave the destination folder as **Public Folders**, and click **OK**.

Product line	Retailer country	Quantity
Camping Equipment	Austria	724,260
Golf Equipment	China	351,060
Summary		**1,075,320**

Add a Model Filter

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

Procedure

1. Open a report in IBM Cognos 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, 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 or region.

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 IBM Cognos 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

Procedure

1. Open a report in IBM Cognos 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 *IBM Cognos 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 an IBM Cognos 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. Custom groups are not available if you are working with a dimensional data source.

Procedure

1. Open a report in IBM Cognos 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 **New 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 Sample 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 IBM Cognos Business Intelligence. For more information, see the *IBM Cognos Business Intelligence Administration and Security Guide*.

You must also have created the example grouped list report in "Example - Create a Grouped List Report for Units Sold" on page 25.

Procedure

1. Open the **Grouped Units Sold** report.
2. Click the heading of the **Retailer country or region** 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. Click **All remaining values (including future values)**.
10. Click **New range name**.
11. In the **New range name** box, type

    Others

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

12. Click **OK**.

    A new column **Retailer country or region (Custom)** appears, containing the value North America.

13. Click the save as button on the toolbar.
14. In the **Name** box, type

    Custom Group Example

15. Leave the destination folder as **Public Folders**, and click **OK**.

Product line	Retailer country	Retailer country (Custom)	Quantity
Camping Equipment	Germany	Others	1,547,097
	Japan	Others	2,031,007
	United States	North America	4,460,492
Camping Equipment			**8,038,596**
Golf Equipment	Germany	Others	281,703
	Japan	Others	369,778
	United States	North America	858,351
Golf Equipment			**1,509,832**
Mountaineering Equipment	Germany	Others	539,671
	Japan	Others	685,229
	United States	North America	1,591,904
Mountaineering Equipment			**2,816,804**
Outdoor Protection	Germany	Others	773,127
	Japan	Others	902,891
	United States	North America	2,033,754

Sort Data

You can organize the data in a report by specifying a sort order. Data can be organized in ascending or descending sort order based on the values in any data item. You can sort the data in many different report elements. For a complete list of these elements, see `sortList`.

For information on sorting data that comes from a dimensional data source, see the Report Studio *User Guide*.

Procedure

1. Add the `sortList` element to the `list` element.
2. Add a `sortItem` element to the `sortList` element. Use the `refDataItem` element to specify the data item to sort. Use the `sortOrder` attribute to specify whether to sort the data in ascending or descending order.

   Sample XML

```
<list name="List1" refQuery="Query1">
 ...
  <listColumns>
  ...
  </listColumns>
```

```
 <sortList>
  <sortItem refDataItem="Revenue" sortOrder="descending"/>
 </sortList>
</list>
```

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.

When working with dimensional data sources, you cannot group two levels or hierarchies from different dimensions in the same list. For example, a list contains the Product Line and Region levels. You group on both these level. Doing so produces the following error:

OP-ERR-0199: The query is not supported. The dimensions on the edge are inconsistent.

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 enabled.

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 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.

Procedure

1. Open a report in IBM Cognos Query Studio.
2. Click the heading of the report item by which you want to group.
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.
4. To ungroup or to remove sections, click the original item heading or section heading and then click the ungroup button on the toolbar.
5. 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**.
6. 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

IBM Cognos Query Studio automatically suppresses duplicates.

For example, if you add the report items Product Line and Country or region to a report, Query Studio will only show each unique combination of Product Line and Country or region 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

Procedure

1. From the **Manage File** menu, click **My Preferences**.
2. Click **Advanced Run-time Options**.
3. 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.
4. Click **OK**.

   Note: When you specify a setting in **My Preferences**, Query Studio stores that information in a browser cookie that refers to the browser on the computer, not to the logon information of the user. For example, you disable autosum in **My Preferences** and then log off. If another user logs on using the same browser and computer, Query Studio retains the preferences set in **My Preferences** until the preferences are changed or until you clear the browser cache.

   My Preferences sets the default for creating new reports. To overwrite the settings for an individual report, from the **Run Report** menu, click **Advanced Options**, and specify the query options.

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 spell out the day and month in long format.

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 IBM Cognos Business Intelligence and appears in IBM Cognos Query Studio.

Note that an asterisk character (*) designates 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 an IBM Cognos cube or SAP BW as a data source.

Data Format	Description
Default	The default format removes any report item formatting.
Number	Use the number format to • change the number of decimal places • specify whether to use a thousands separator • choose different symbols to represent negative numbers • 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 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.

Procedure

1. Open a report 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 IBM Cognos 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.

Note that summary calculations in list page footers only summarize the data that is visible on that page of the list report.

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 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.

IBM Cognos 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, 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. For more information, see "Count and Count Distinct Functions" on page 63.
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 populates 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. For more information, see "Count and Count Distinct Functions" on page 63
Variance	Returns the variance of the selected data item.
None	Removes footers. This applies only to footer values, not details.

Procedure

1. Open a report 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**.

Count and Count Distinct Functions

The default behavior when you use the Count function differs depending on the type of data that you are counting.

Data type	Default and Options
Query item (relational)	Default: Count Distinct. Options: Choose between Count and Count Distinct.
Set of members (levels, hierarchy)	Default: Count Distinct. Options: Only Count Distinct is possible.
Attributes - OLAP and Dimensionally Modeled Relational (DMR) data sources	Default: None. Summaries are not possible.
Measures - OLAP and DMR	Default: Count. Options: Only Count is possible.
Measure - relational fact query item	Default: Count. Options: Choose between Count and Count Distinct.

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.

Limitations When Summarizing Measures in DMR Data Sources

There are limitations when summarizing dimensionally-modeled relational (DMR) measures and semi-additive measures in crosstabs using the aggregation function `count distinct`, `median`, `standard-deviation`, or `variance`.

The following limitations can produce empty or error cells when the report is run:

- The aggregation function must apply to all members of a level or all children of a member.
- Error cells are produced when drilling down on a crosstab that has two nested levels.

If you do not consider these limitations in a calculation, the report may return inaccurate results.

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

For relational data sources, 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. For information about creating filters in the package, see the *IBM Cognos Framework Manager User Guide*.

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.

Arithmetic operations	Description
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.
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.

Procedure

1. Open a report 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.

Results

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 Appendix E, "Format Rules for Calculations Returning Number Data Types," on page 105.

Concatenating Strings

When IBM Cognos Business Intelligence 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 IBM Cognos BI 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.

Units of Measures

When creating calculations in IBM Cognos Report Studio and IBM Cognos Query Studio, you may encounter problems with the units of measure.

For example, the calculation Cost*Cost returns the unit of measure * instead of a currency unit of measure. To avoid this problem, change the format of the corresponding column to obtain the desired unit of measure.

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

You are a report author at the Sample 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 or regions 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 30 percent of the total units sold for these three countries or regions.

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

You must also have created the example grouped list report in “Example - Create a Grouped List Report for Units Sold” on page 25.

Procedure

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.

Product line	Retailer country	Quantity	% of total (Quantity)
Camping Equipment	Germany	1,547,097	5.61%
	Japan	2,031,007	7.36%
	United States	4,460,492	16.16%
Camping Equipment		**8,038,596**	**29.13%**
Golf Equipment	Germany	281,703	1.02%
	Japan	369,778	1.34%
	United States	858,351	3.11%
Golf Equipment		**1,509,832**	**5.47%**
Mountaineering Equipment	Germany	539,671	1.96%

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**.

Drill Up or Down to View Related Data

You can drill up or drill down within the same report so that you can view related data. You can perform drill operations in lists, crosstabs, and charts.

In lists and crosstabs, hyperlinks identify drillable items. In charts, the pointer changes to a hand when you pause it 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 a product line or a year. Additionally, you can 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 IBM Cognos Connection. Reports run from IBM Cognos Connection appear in IBM Cognos Viewer. After you drill up or drill down, you can save the report in report view for viewing later on. For more information, see the *IBM 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 only drill on members in a level. For more information about members, levels, and other dimensional objects, see “Add Data to a Report” on page 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.

Procedure

1. Open a report in IBM Cognos 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.

Go to Another Target Report

You can navigate from an IBM Cognos Query Studio report to another target report so that you can view related data. You can go to the following targets:

- a Query Studio report
- an IBM Cognos Report Studio report
- an IBM Cognos Analysis Studio analysis
- an IBM Cognos Series 7 cube action
- a Microsoft Analysis action

Before you can go 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.

Procedure

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

   If there is only one possible target for the column, it appears in IBM Cognos Viewer.

   If there is more than one possible target for the column, the **Go To** page appears, showing the available targets.
3. Click the target you want to navigate to.

Results

The target appears in IBM Cognos Viewer.

View Lineage Information for a Data Item

View lineage information of a data item to see what the item represents before you add it to a report. Lineage information traces the metadata of an item back through the package and the data sources used by the package. Lineage also displays any data item filters that were added by the report author or that were defined in the data model. Viewing lineage information ensures that you add the correct data items to a report. For example, you can view the lineage information of a model calculation to see how it was created.

You can use the lineage tool that comes with IBM Cognos Business Intelligence, or you can use another lineage tool by specifying the URL to the tool in IBM Cognos Administration. Note that if the URL source is secured, the source must be able to prompt users for a password because IBM Cognos BI does not pass security information. IBM Cognos BI also supports the IBM Metadata Workbench as a lineage tool. For more information about configuring other lineage tools, see the *IBM Cognos Business Intelligence Administration and Security Guide*.

You cannot use lineage information to troubleshoot queries. For example, lineage information will not explain why a data item is double counted. Also, you cannot view lineage information when running a report from a mobile device.

Lineage is not supported in reports that are not linked to packages.

Before you begin

Before you can access lineage information for a report, your administrator must configure lineage in IBM Cognos Administration. Also, the administrator must enable the lineage capability and grant read permission for you on the report. For more information, see the *IBM Cognos Business Intelligence Administration and Security Guide*.

The IBM Cognos BI lineage tool shows lineage on a report at its highest level. The lineage does not change after you drill down on a report. Because the selection context used to launch lineage can be affected by drill-down operations, we recommend that you always launch lineage at the highest report level before drilling down on the report. Otherwise, the lineage may not start properly.

Procedure

1. Click the **Insert Data** menu command.
2. In the left pane, right-click the data item for which you want to see lineage information, and click **Lineage**.

Results

The lineage tool opens showing the lineage information of the selected data item.

The IBM Cognos Business Intelligence lineage tool

The IBM Cognos Business Intelligence lineage tool includes two views: the business view and the technical view.

The business view displays high-level textual information that describes the data item and the package from which it comes. This information is taken from IBM Cognos Connection and the IBM Cognos Framework Manager model.

The technical view is a graphical representation of the lineage of the selected data item. The lineage traces the data item from the package to the data sources used by the package.

When you click an item, its properties appear below it. If you click an item in the **Package** area, you see the model properties of the item. If you click an item in the **Data Sources** area, you see the data source properties of the item.

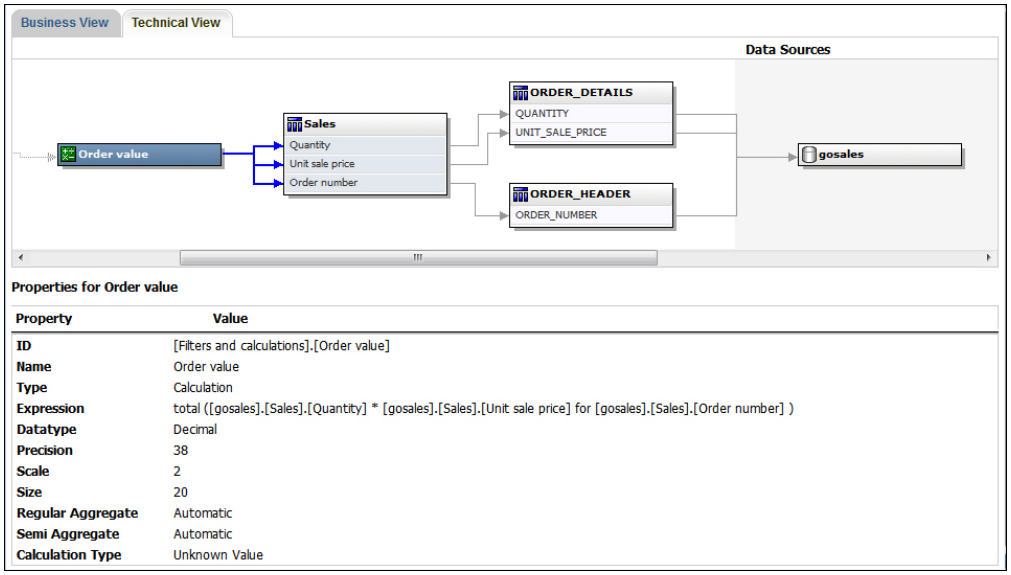


Figure 1. The technical view in the IBM Cognos Business Intelligence lineage tool

You can also view lineage information in IBM Cognos Viewer after you run a report. For example, you can click a cell in a crosstab to see how the cell value was calculated. To view lineage information in IBM Cognos Viewer, right-click an item in the report and then click **Lineage**. If you or an administrator runs a saved report with the IBM Cognos BI lineage tool, both the business view and the technical view are visible. Report consumers can see only the business view. In addition to the **Package** and **Data Sources** areas, a **Report** area exists when looking at the technical view.

Suppress Empty Cells

Sparse data can result in crosstabs showing empty cells. For example, a crosstab that matches employees with products may result in many rows of empty values for the revenue measure if the employee does not sell those products.

You can suppress rows, columns, or rows and columns based on zero, null, divide by zero, and overflow values. Suppressing rows and columns with no data gives you a more concise view of your report.

Calculations are performed before suppression is applied. If you have multiple crosstabs or charts, you must select one in order to access suppression options. With detail and summary filters, if you have more than one query defined in the report, you must click an object linked to a query.

Access to the suppression feature depends on the settings in your modeling component, IBM Cognos Transformer, IBM Cognos Framework Manager, and IBM Cognos Administration.

For information about publishing a PowerCube and changing default suppression settings, see the *IBM Cognos Transformer User Guide*.

For information about setting a governor to suppress null values for SAP BW data sources, see the *IBM Cognos Framework Manager User Guide*.

Appendix A. Troubleshooting

You can use the **Report Definition** command in 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 *IBM Cognos Business Intelligence Troubleshooting Guide*.

Tooltips Show Unexpected Label Values

A report that is authored in IBM Cognos Report Studio may have <dataSource> set as the source for label text in tooltips. If you open the same report in IBM Cognos Query Studio, the information shown in the tooltip is rendered as <dataItemValue>, that is, the value of the measure for the specified category. This results in a tooltip that shows, for example, 358441 = 358441 when you expect to see Camping Equipment = 358441.

Report authors that create reports for Query Studio users should be aware of this when labeling their data items. The value that works best for tooltips is <memberCaption>. If your report shows the tooltip as value = value, change the original report in Report Studio to specify <memberCaption> for label values.

QE-DEF-0260 Parsing Error

This error occurs if you pick a list of IBM Cognos Query Studio filters that is too large or when the size of the string values for the keys is large.

One solution is to use predefined filters from IBM Cognos Framework Manager instead of using the Query Studio interface. Also, we recommend that you pick columns and filter where the distinct list of values is relatively small.

Chart Labels Overwrite One Another

In Report Studio and Query Studio, if you define a chart and render it in HTML or PDF format using the default sizes, the axis labels of the chart may overwrite each other.

To avoid this problem, make the chart wider or taller by modifying the height and width properties of the chart or enable the **Allow Skip** property.

Background Color in Template Does not Appear

When creating a Query Studio template in Report Studio, if you add a list object and change its background color, the color change does not appear when you apply the template to a Query Studio report.

To work around this issue, do one of the following:

© Copyright IBM Corp. 2005, 2014

- Edit the style sheet (CSS) classes for lists in Report Studio.
- Do not add any objects to the page body when you are creating a Query Studio template.
- Leave the page body blank.

Subtotals in Grouped Lists

When using an IBM Cognos PowerCube that contains a ragged hierarchy, if you group on the first level in the hierarchy, subtotals may appear in the wrong place or show wrong values.

To resolve the issue, group on the second level.

HRESULT= DB_E_CANTCONVERTVALUE Error When Filtering on a _make_timestamp Column

You cannot filter on a _make_timestamp column, and the following error messages appear:

UDA-SQL-0114 The cursor supplied to the operation "sqlOpenResult" is inactive

UDA-SQL-0206 The OLEDB driver returned the following value: HRESULT= DB_E_CANTCONVERTVALUE

RSV-SRV-0025 Unable to execute this request

The solution is to apply the filter after aggregation and not before.

RQP-DEF-0177 An error occurred while performing operation 'sqlPrepareWithOptions' status='-69' UDA-SQL-0043 Error

You cannot run a report in IBM Cognos Report Studio or IBM Cognos Query Studio, and the following error messages appear.

RQP-DEF-0177 An error occurred while performing operation 'sqlPrepareWithOptions' status='-69' UDA-SQL-0043 The underlying database detected an error during processing the SQL request.[NCR][ODBC Teradata Driver][Teradata Database] Partial string matching requires character operands

These error messages do not indicate an IBM Cognos Application Firewall problem.

There is a problem with your data source not converting numeric data items. Ask your administrator to consult the topic *Enable Conversion of Numeric Search Keys to Strings in Queries* in the *IBM Cognos Business Intelligence Administration and Security Guide*.

Cannot Find the Database in the Content Store (Error QE-DEF-0288)

You cannot retrieve data from the selected database when running a report from IBM Cognos Query Studio, IBM Cognos Connection, or Report Studio.

The following error message appears:

QE-DEF-0288 Unable to find the database...

If this error does not occur when you are logged on as an administrator, then to solve the problem, ensure that the user has permissions to the signon embedded. If this error always occurs, the data source has not been created. Create the data source with the name mentioned in the error message.

Parse Errors When Opening or Running an Upgraded Report

Earlier versions of ReportNet and IBM Cognos Business Intelligence included the `cast_Date` function for reports that run on an Oracle database. This function does not exist for Oracle in IBM Cognos 8.1.2 MR1 and later versions. If a report that uses an Oracle database includes the `cast_Date` function, parse errors will be received when you try to open or run the report.

Overflow Error Occurs When a Value in a Crosstab Is More Than 19 Characters

In a crosstab report, values support a maximum of 19 characters, including the decimal point. If a value exceeds 19 digits, an overflow error occurs. By default, the decimal precision is set to 7 digits, which restricts the number of integers to 11 digits.

To use more than 11 integers, you must edit the qfs_config.xml file in the *c10_location*\configuration directory. For more information, see the section about reducing decimal precision in the *IBM Cognos Business Intelligence Administration and Security Guide*.

A Report or Analysis Does Not Run Because of Missing Items

You attempt to run a report or analysis and a message indicates that one or more items are missing or changed. Each missing item is listed by its MUN (member unique name). The MUN includes the complete path within the hierarchy for the item. When you place your cursor on an item in the **Source** tab , the MUN for that item is displayed in a tooltip. This situation may occur if members have been removed from or changed in the data source. It may also occur when you attempt to run a report that uses items to which you do not have access. For example, an administrator may create an analysis that includes items that you do not have the correct permission to access.

The solution is to find a suitable replacement in the **Source** tab, and drag it to the **New Item** column. The report or analysis will then run.

Report Output Takes a Long Time to Run

In IBM Cognos Connection, you click **Run with Options** and select the **Save the report** delivery option. This action returns all data, renders the report, and stores it in the content store, which can take a long time.

It is quicker to run the report manually, using the **Run** command, which generates the report a page at a time.

Drill-through Links are Not Active in the Safari Browser

When viewing a PDF report in the Macintosh Safari browser, you cannot open hyperlinks. This is because the Macintosh Safari browser does not have the necessary Adobe Acrobat plug-in.

To avoid this problem, use the HTML format when creating drill-through reports that may be viewed in Safari.

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.

Procedure

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.

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 IBM Cognos 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.

Metadata Change in Oracle Essbase Not Reflected in Reports and in the Studios

When there is a metadata change on the Oracle Essbase server, the change is not immediately reflected in the metadata tree in the studios. In addition, when a report is run, the report does not pick up the republished changes.

To view the new structure, you must restart the IBM Cognos Content Manager server.

Relationships Not Maintained in a Report With Overlapping Set Levels

In a report, the relationship between nested or parallel member sets at overlapping levels in the same dimension may not always be maintained.

For example, a named set in the data source that contains members from both a Year and Month member is nested under Year, but is not properly grouped by year.

In another example, an error message such as this appears:

OP-ERR-0201 Values cannot be computed correctly in the presence of multiple hierarchies ([Product].[B1], [Product].[Product]) that each have a level based on the same attribute (Product).

This problem occurs in the following scenarios involving non-measure data items X and Y, which overlap in the same dimension:

- X and Y together as ungrouped report details
- Y nested under X
- Y appended as an attribute of a group based on X

When using named sets, or sets that cover more than one level of a hierarchy, do not use sets from the same dimension in more than one place in the same report. They should appear on only one level of one edge.

Limited Support for Relational Functions When Used with OLAP Data Sources

When working with an OLAP data source, we recommend that you not use relational functions, such as `substring` and concatenation functions, in a report that also contains a measure with the **Aggregate Function** property set to **Calculated** or **Automatic** in the model. If you do so, you may encounter unexpected results. For example, some summaries are calculated using the **Minimum** function instead of the aggregate function derived from the individual query items.

In the expression editor, an exclamation mark (!) that precedes a function indicates that the function is not naturally supported for that data source. IBM Cognos Business Intelligence uses a local approximation for that function. Because an approximation is used, performance can be degraded and the results may not be what you expect.

For example, you create an IBM Cognos Query Studio report that contains the data items Product line and Retailer site count. The footer summary is set to **Calculated**. You then insert a calculated column that returns the first three characters of the Product line item, which uses the relational concatenation function. The footer summary now shows the lowest gross margin value.

Product line	First Three Characters	Retailer Site Count
Camping Equipment	Cam	632
Mountaineering Equipment	Mou	265
Personal Accessories	Per	810
Outdoor Protection	Out	639
Golf Equipment	Gol	367
Summary		**265**

Figure 2. A report that contains a calculated footer summary

Tips for Working with Ragged or Unbalanced Hierarchies

In ragged or unbalanced hierarchies, some members that are not at the lowest level of the hierarchy may have no descendants at one or more lower levels. Support for these hierarchy gaps in relational data sources is limited. More complete support is provided for OLAP data sources, but some reports may still result in unexpected behavior.

For example, the following may occur:

- Groups corresponding to missing members may appear or disappear when grouped list reports are pivoted to a crosstab. This happens with set expressions using the `filter` function, and detail filters on members.
- Ragged and unbalanced sections of the hierarchy are suppressed when set expressions in that hierarchy are used on an edge.
- When a crosstab is sectioned or is split into a master detail report, sections corresponding to missing members become empty.
- Cells that were suppressed may still appear in the report output for reports with ragged or unbalanced hierarchies.

Some of these behaviors may be corrected in a future release, while others may be codified as supported behavior. To avoid these behaviors, do not use levels from ragged or unbalanced hierarchies. Instead of using levels, use the descendants, children, or ancestors.

We consider the following scenarios to be safe:

- One or more nested level references on an edge with no modifying expression.
- A hierarchy reference on only one level of one edge.
- One or more explicit members or sets of explicit members as siblings on only one level of one edge.
- Summaries of the previous three scenarios.

In all cases, you should test reports based on ragged and unbalanced hierarchies to confirm that hierarchy gaps are handled correctly.

For more information about ragged or unbalanced hierarchies, see the IBM Cognos Framework Manager *User Guide*.

Columns, Rows, or Data Disappear With SSAS 2005 Cubes

Microsoft SQL Server 2005 Analysis Services (SSAS) has a feature called AutoExists that removes tuples that have no facts at the intersection of two hierarchies of the same dimension.

Columns, rows, or data can disappear if you set the default member of a hierarchy to a member that does not exist with every other member in the dimension. To avoid this problem, change the default member that caused the disappearance to a member that exists with all other members in the dimension.

Columns, rows, or data can also disappear if members are specified that result in one or more non-existent tuples. There is currently no workaround for this scenario. For more information, see Microsoft Knowledge Base article #944527 at http://support.microsoft.com.

You may also encounter unexpected results if the default member of a hierarchy is a member that doesn't also exist in all other hierarchies in the dimension, and if you query members from different hierarchies in the same dimension.

For example a crosstab includes the following (using the Adventure Works cube):

- Rows: Generate([Adventure_Works].[Account].[Accounts],set([Balance Sheet],[Units])) nested with

  children([Adventure_Works].[Department].[Departments]->:[YK].[[Department]].[Departments]].&[1]]])
- Column: [Adventure_Works].[Account].[Account Number].[Account Number]
- Measure: [Adventure_Works].[Measures].[Amount]

You run the report and notice that the query renders with some blanks cells. You then apply the simple detail filter [Amount]>1 and run the report. Only row labels are displayed and all data and columns are missing.

In the Adventure Works cube, the [Account].[Accounts] attribute has a default member set to [Net Income]. When evaluating the GENERATE set expression, SSAS looks in the entire cube space and looks at all coordinates for the [Account] dimension. These coordinates include both [Account][Account Type].&[] and

[Account].[Accounts].[Net Income]. Because these two coordinates don't exist within the same hierarchy, SSAS returns an empty set.

To avoid this problem the SSAS administrator must set the default member in the cube to a member that exists in all other hierarchies.

Unexpected Cell Formatting in Reports

When using data sources other than OLAP and you run a report, cell formatting may not appear as expected. For example, some cells may appear very small. This could be caused by null values returned from the query.

To specify what appears for a data container when there are null values in a query, refer to the *IBM Cognos Report Studio User Guide*.

You may also see an Invalid Dates message in some cells. This issue is specific to Transformer and occurs when cubes are constructed with unknown date values. For more information, see the *IBM Cognos Transformer User Guide*.

Report Differences Between TM1 Executive Viewer and IBM Cognos Business Intelligence with TM1 Data Sources

When using an IBM Cognos TM1® data source, comparable reports created in an IBM Cognos Business Intelligence studio and in TM1 Executive Viewer may contain different cell values. This occurs because the TM1 Executive Viewer product uses an algorithm for selecting default members for non-projected dimensions that differs slightly from traditional OLAP clients.

To avoid this problem, when filtering your reports in the IBM Cognos Business Intelligence studios, use context filters that match the default selections shown in the Executive Viewer user interface. This ensures that the cell values in IBM Cognos Business Intelligence match the values in Executive Viewer.

Order of Metadata Tree Differs for TM1 Data Sources

When using a an IBM Cognos TM1 data source, the order of members in the metadata tree of the **Source** tab of an IBM Cognos Business Intelligence studio may differ from the order shown in TM1 Architect.

By default, TM1 Architect renders members of hierarchies using a slightly different algorithm than does IBM Cognos BI. IBM Cognos BI automatically renders member metadata from TM1 data sources in hierarchical order.

From within TM1 Architect, if you want to see how an IBM Cognos BI studio will render a hierarchy, click the **Hierarchy Sort** button.

Measure Format Disappears in SSAS 2005

Microsoft SQL Server 2005 Analysis Services (SSAS) does not propagate formatting through calculations. IBM Cognos compensates for this whenever possible, but cannot guarantee to do so in all cases. As a result, if you are working with a Microsoft SSAS cube, any calculation (other than a non-count summary) that is based on or intersects with a formatted measure, such as a currency, may lose the measure format. This may also happen if you use a detail filter or context filter (slicer).

For example, a crosstab includes members on one edge and a measure with formatting, such as a currency symbol and decimal places, applied on the other edge. When you run the report, you see the formatting for each cell. However, if you add a detail filter, such as measure > 1 and run the report, all the formatting disappears.

Additionally, the fine details of the MDX generated by IBM Cognos Business Intelligence can change from release to release. As the SSAS behavior depends on the MDX generated, the loss of formatting in reports might not occur in a future release.

To avoid this problem, specify explicit formatting for the affected row, column, or cell.

Appendix B. Samples

IBM Cognos Business Intelligence includes sample reports.

When installed, you can find them in the **Public Folders** tab in IBM Cognos Connection.

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

The Sample Outdoors Company

The Sample Outdoors Company samples illustrate product features and technical and business best practices.

You can also use them for experimenting with and sharing report design techniques and for troubleshooting. As you use the samples, you can connect to features in the product.

For examples related to different kinds of businesses, see the product blueprints in IBM Knowledge Center (http://www.ibm.com/support/knowledgecenter).

The Sample Outdoors Company, or GO Sales, or any variation of the Sample Outdoors name, is the name of a fictitious business operation whose sample data is used to develop sample applications for IBM and IBM customers. Its fictitious records include sample data for sales transactions, product distribution, finance, and human resources. Any resemblance to actual names, addresses, contact numbers, or transaction values, is coincidental. Unauthorized duplication is prohibited.

Samples outline

The samples consist of the following:

- Two databases that contain all corporate data, and the related sample models for query and analysis
- Sample cubes and the related models
- A metrics data source including associated metrics and a strategy map for the consolidated company, and a model for Metric extracts.
- Reports, queries, query templates, and workspaces

  To run interactive reports, scripts are required. To see all the reports included in the samples packages, copy the files from the samples content installation into deployment folder and then import the deployments into the IBM Cognos Business Intelligence product.

Security

Samples are available to all users.

To implement security, see the IBM Cognos Business Intelligence *Administration and Security Guide*.

© Copyright IBM Corp. 2005, 2014

The Sample Outdoors Group of Companies

To make designing examples faster, especially financial examples, some general information about The Sample Outdoors Company is useful.

To look for samples that use particular product features, see the individual sample descriptions in this section.

Revenue for The Sample Outdoors Company comes from corporate stores and from franchise operations. The revenues are consolidated from the wholly-owned subsidiaries. There are six distinct organizations, each with its own departments and sales branches. Five of these are regionally-based companies.

The sixth company, GO Accessories:

- Has its own collection of products, differentiated from the other GO companies by brand, name, price, color and size.
- Sells from a single branch to all regions and retailers.
- Functions both as an operating company based in Geneva, and as a part owner of the three GO subsidiaries in Europe.

The diagram illustrates the consolidated corporate structure, including the percentage changes in ownership for GO Central Europe, and shows the reporting currency and GL prefix for each subsidiary.

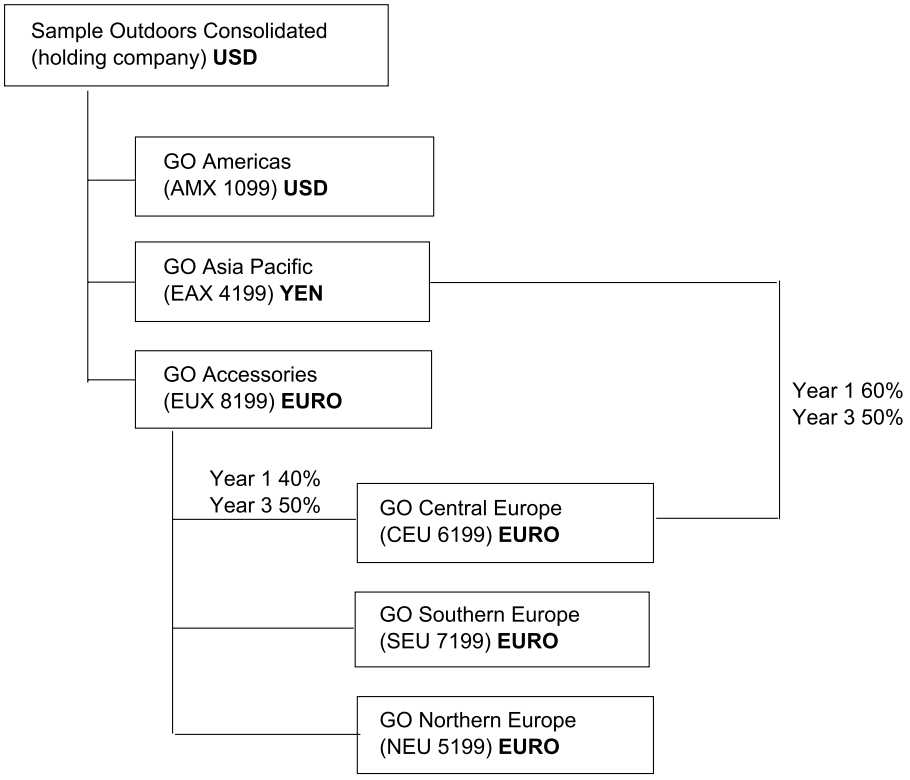


Figure 3. Consolidated corporate structure

Each corporation has the same departmental structure and the same GL structure, shown in the table. Divisions may not report in the same currencies. For example,

the Americas subsidiary reports in US dollars, but the Corporate division local currency is Canadian dollars, and the Operations division local currency is pesos.

Table 1. Departmental structure

Division (GL)	Department (GL)
Corporate (1700)	Sales (1720) Marketing (1750) IS&T (1760) Human Resources (1730) Finance (1740) Procurement (1710)
Operations (1800)	Production and Distribution (1820) Customer Service (1820)

Each corporation has a complete chart of accounts. Most of the accounts, such as those under non-personnel expenses, are at the department level, and contain only summary amounts. For example, although each marketing department has expenses, the cost is unspecified at the transaction level where marketing promotions occur.

Employees

The Sample Outdoors data contains a full list of employees in all divisions, departments, and locations.

Data is available for reports about bonuses (Global Bonus report) and sales commissions (Sales Commissions for Central Europe report), training (Employee Training by Year report), and performance reviews and employee satisfaction surveys (Employee Satisfaction 2012). If you use Metric Studio, sample metrics for human resources are also available.

In the GO Data Warehouse (analysis) package, groups of measures and the related dimensions are organized into folders. The employees are organized in hierarchies for region and manager, to make different kinds of aggregation easy to report on. Aggregation has been defined for the Employee Position Summary measures, so that Position count and Planned position count aggregate correctly at each level of time: monthly, quarterly, or yearly. For example, see the Planned Headcount report.

The employees are also listed in a sample LDIF file which could be used for any LDAP IBM product authentication including Tivoli®. This authentication directory is necessary for IBM Cognos Planning samples. No other samples depend on security profiles.

Sales and marketing

Data about sales and marketing is available for all of the companies in the Sample Outdoors group.

GO Accessories has richer details to support analysis examples. For example, see the Revenue vs % Profit Margin by Product Brand analysis, based on the Sales and Marketing cube. Marketing and sales campaigns are tied to the Sample Outdoors regional companies.

Overall, the GO companies have experienced solid growth across most product lines (Sales Growth Year Over Year), in all regions (Revenue by GO Subsidiary 2011), because of factors like an increase in repeat business and new or improved products, such as the high margin sunglasses product line. In the product lines sold by the five regional companies (all but GO Accessories) promotions have had mixed success (Promotion Success by Campaign, Bundle and Quarter). If you use Metric Studio, this can also be seen in the sample metrics.

Customer surveys

The data also contains information from customer surveys. For example, the product line that includes bug spray, sun screen, and so on has not been successful (Product Satisfaction - Outdoor Protection 2011) and a source of retailer dissatisfaction may be the level of customer service rather than the returns (Customer Returns and Satisfaction). If you use Metric Studio, this information can also be monitored in metrics.

Sales outlets

Revenue from the corporate outlets is available at the transaction level. Revenue from the franchise outlets is available at the consolidated level only (Sales and Marketing cube). Metrics about retailers show that the number of new retail outlets has dropped over the time period covered by this data.

GO Accessories sells worldwide, and sells only accessories. Transaction data for GO Accessories is the primary source for analysis of product by brand, color and size. The other five subsidiaries in the group of companies are regional and sell all product lines for retailers in their region. For example, the report Top 10 Retailers in 2011 uses sparklines and list data to review revenues at the retailer level.

Sample Outdoors database, models, and packages

The Sample Outdoors Framework Manager models illustrate modeling techniques and support the samples.

The models are based on the GO data warehouse and the GO sales transactional database and are the basis for the sample reports and queries. Each model contains two packages for publishing analysis (dimensional) and query views of the data.

You must have access to Framework Manager, the modeling tool in IBM Cognos Business Intelligence, to look at the sample models. You may also need to set up the sample databases and connections.

GO Data Warehouse

The GO Data Warehouse model, `great_outdoors_data_warehouse.cpf`, is based on the database GOSALESDW. It contains data about human resources, sales and marketing, and finance, grouped into business areas. In the Database view, the three business areas are grouped into separate namespaces. The Database view contains a fourth namespace (GO Data) for the common information.

The Database view is very similar to the structure of the underlying database. All tables (database query subjects) are unchanged. This enables IBM Cognos BI to retrieve metadata directly from the package in most cases, instead of using a metadata call to the database. The following changes and additions have been made in the Database view:

- Joins have been added as necessary.
- To allow for aggregation at different levels of granularity, some model query subjects have been created. For example, see the relationships between Time and Sales or Sales fact.
- To allow single joins to be made between the lookup tables and each level in a dimension, lookup tables have been copied. For example, see the Products look up tables.

The Business view contains only model query subjects, with no joins. The following changes and additions have been made in the Business view:

- Calculations were added to the model query subjects. For example, the time dimension contains language calculations.
- Where the database has multiple hierarchies, new dimensions have been created to organize each hierarchy. For example, the employee hierarchies are organized into several categories, such as manager and region.

The GO Sales transactional database

The GO Sales model, `great_outdoors_sales.cpf`, is based on the GOSALES database, which is structured as a transactional database. It contains principally sales data.

The Database view is very similar to the underlying database structure. The following changes and additions have been made in the Database view:

- To make it possible to join the fact tables to the time dimension, model query subjects and multipart joins have been used.
- Other joins have been added as necessary.

The Business view contains only model query subjects, with no joins. The following changes and additions have been made in the Business view:

- Calculations were added to the model query subjects.
- Model query subjects that were created in the Database view to enable joins on the time dimension have been linked as reference shortcuts.
- Where the database has multiple hierarchies, new dimensions have been created to organize each hierarchy.
- Sales Staff is a subset of the slowly changing Employee dimension. There is no unique Employee key in GO Sales, so a filter retrieves the current record only. This model does not use historical data.

The samples PowerCubes

The following cubes are delivered with the Sample Outdoors samples in English, French, German, Japanese and Chinese:

- `sales_and_marketing.mdc`
- `employee_expenses.mdc`
- `go_accessories.mdc`
- `go_americas.mdc`

- go_asia_pacific.mdc
- great_outdoors_sales_en.mdc
- great_outdoors_7.mdc

The samples packages

The Sample Outdoors samples include six packages. A brief description of each available package is provided.

Go Data Warehouse (analysis) is a dimensionally modeled view of the GOSALESDW database. This package can be used in all studios, including IBM Cognos Analysis Studio. Using this package you can drill up and down.

Go Sales (analysis) is a dimensionally modeled view of the GOSALES database. This package can be used in all studios, including Analysis Studio. Using this package you can drill up and down.

Go Data Warehouse (query) is a non-dimensional view of the GOSALESDW database. This package can be used in all studios except Analysis Studio, and is useful for reporting when there is no need for drilling up and down.

Go Sales (query) is a non-dimension view of the GOSALES database. This package can be used in all studios except Analysis Studio, and is useful for reporting when there is no need for drilling up and down.

Sales and Marketing (cube) is an OLAP package, based on the sales_and_marketing.mdc cube.

Great Outdoor Sales (cube) is an OLAP package, based on the great_outdoors_sales_en.mdc cube.

Note: The OLAP packages, Great Outdoor Sales (cube) and Sales and Marketing (cube), are not multilingual. The IBM_Cognos_PowerCube.zip archive contains five versions of each package; one in English, French, German, Japanese and Chinese.

Samples in the Go Data Warehouse (analysis) Package

The following reports are some of the reports found in the GO Data Warehouse (analysis) package.

Return Quantity by Product Line

This crosstab report shows return quantities of product lines for all subsidiaries.

Return Quantity by Product Line Chart

This pie chart report shows return quantities of product lines for all subsidiaries.

Returns by Product Type

This report shows product type return quantities and lost revenue as a result of returns for all subsidiaries.

Sample in the Go Sales (query) Package

The following report is found in the GO Sales (query) package.

Gross Profit for Bella Eyewear Brand

This report shows the gross profit for the Bella eyewear brand. It uses a text filter to retrieve the brand, and a concatenation to get the unique combination of product name and color.

Appendix C. Chart Types

IBM Cognos Query Studio provides many types of charts for presenting your data in a way that is meaningful for your users.

You can select from a variety of chart types (such as pie, bar, line, gauge, scatter, and so on) and you can select from a variety of chart configurations (such as stacked columns, 3-D pies). Combination charts allow you to use more than one chart type within your chart.

Some chart types are not supported for Microsoft Excel output or appear differently in Excel. For more information, see Appendix D, "Limitations When Producing Reports in Microsoft Excel Format," on page 101.

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 percent 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 three-dimensional
Compare different kinds of quantitative information	column-line

Pie Charts

Pie charts are useful for highlighting proportions.

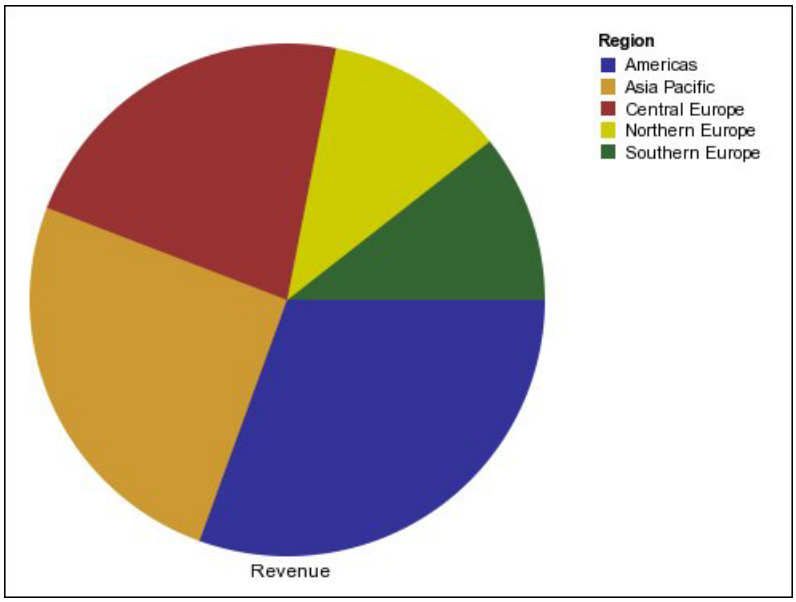
They use segments of a circle to show the relationship of parts to the whole. To highlight actual values, use another chart type, such as a stacked chart.

Pie charts plot a single data series. If you need to plot multiple data series, use a 100 percent stacked chart.

Reports in PDF or HTML format show a maximum of 16 pies or gauges per chart. If you need to see more, run the report in Excel Single Sheet format and they all appear in the report.

© Copyright IBM Corp. 2005, 2014

The following example shows that the largest proportion of revenue comes from the Americas, followed closely by the Asia Pacific region.



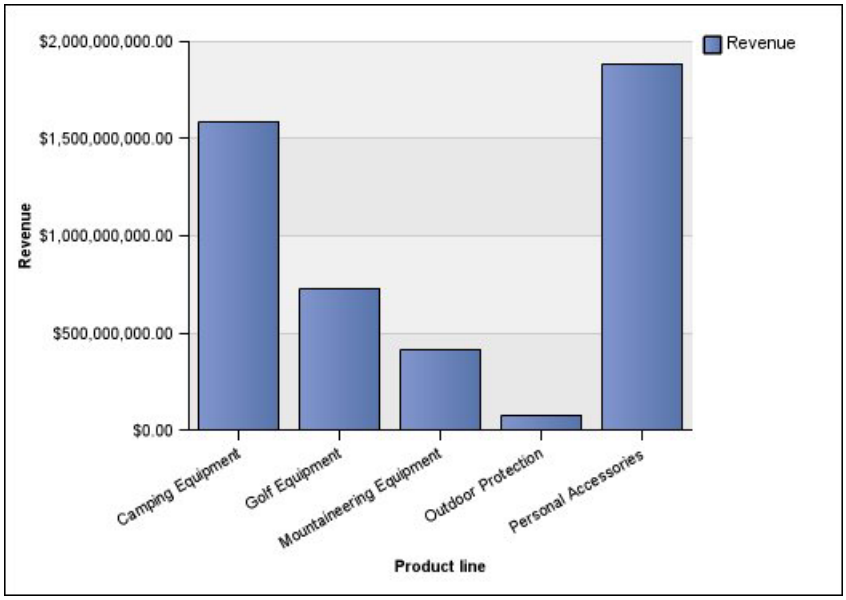
Pie charts can plot data using standard, 100 percent, and three-dimensional configurations.

Column Charts

Column charts are useful for comparing discrete data or showing trends over time.

Column charts use vertical data markers to compare individual values.

The following example shows the revenue for each product line.



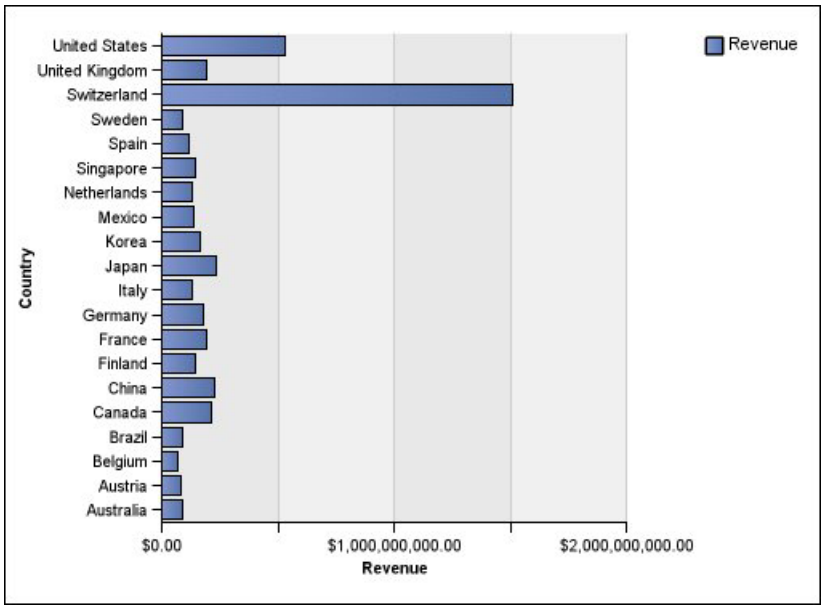
Column charts can plot data using standard, stacked, 100 percent stacked, and three-dimensional configurations.

Bar Charts

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

Bar charts use horizontal data markers to compare individual values.

The following example shows revenue for every country or region.



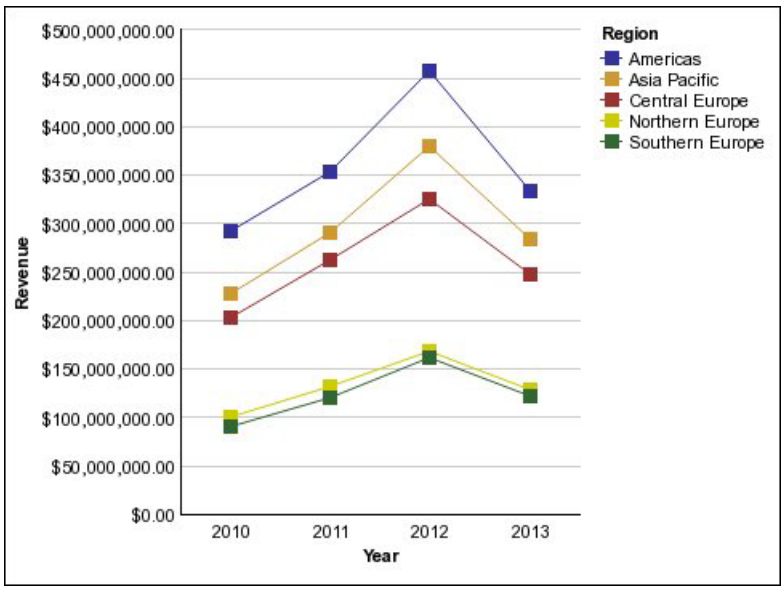
Bar charts can plot data using standard, stacked, and 100 percent stacked configurations.

Line Charts

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

Line charts plot data at regular points connected by lines.

The following example shows a rising revenue trend in every territory.



Line charts can plot data using standard, stacked, 100 percent stacked, and three-dimensional configurations. It is best not to use stacked line charts because they are difficult to distinguish from unstacked line charts with multiple data series.

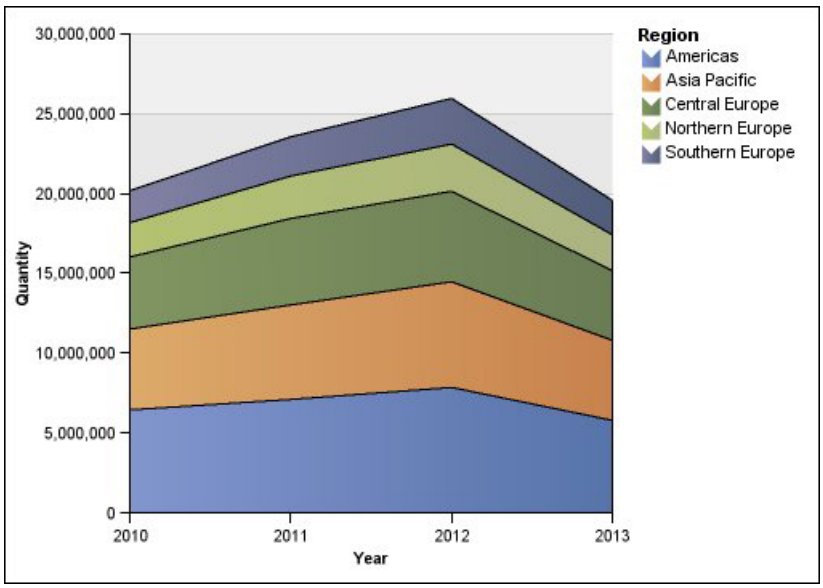
Area Charts

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, but the areas below the lines are filled with colors or patterns.

Do not use standard area charts to show multiple data series because it is possible for areas with lower values to be covered by others. For multiple data series, use a stacked area chart.

The following example is a stacked area chart showing the quantity of products sold over a two-year period in multiple territories.

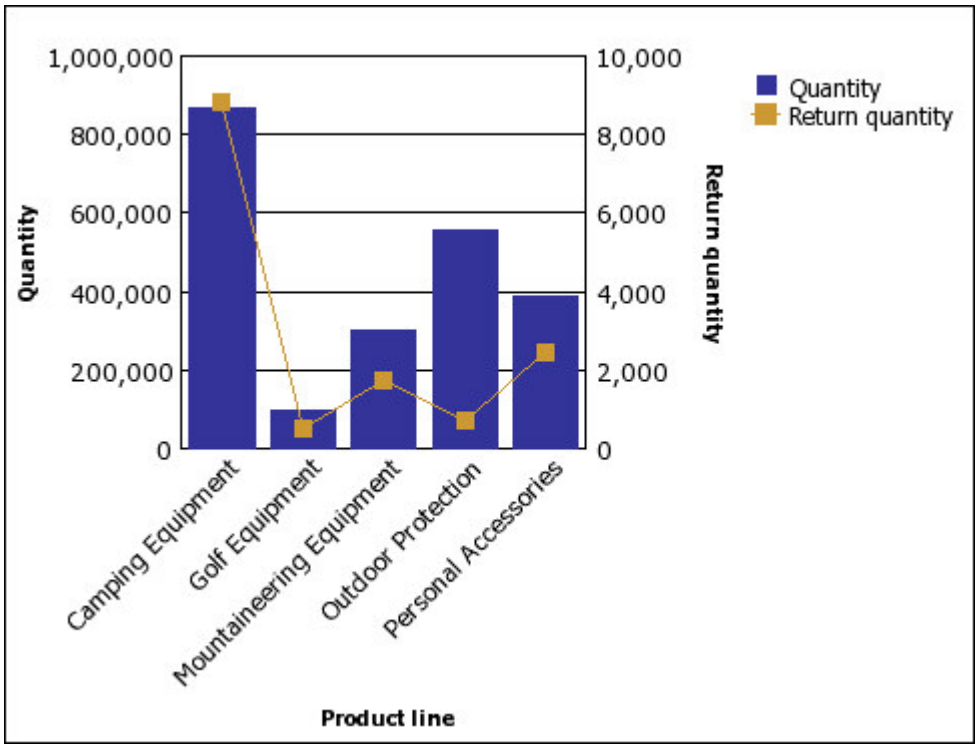


Area charts can plot data using standard, stacked, 100 percent stacked, and three-dimensional configurations.

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 integrate multiple axes into a single radial figure. For each figure, data is plotted along a separate axis that starts at the center of the chart.

The following example shows the revenue from multiple retailer types in multiple territories.

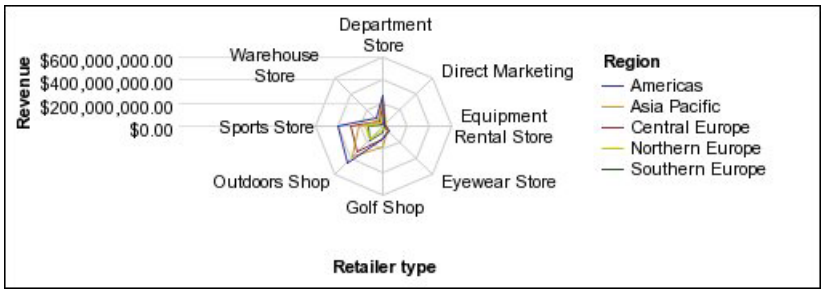


Figure 4. An example radar chart

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 percent stacked charts.

Standard Charts

Standard or absolute charts are useful for comparing specific values and for representing discrete data, such as data for 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 standard area and radar charts that have multiple data series, the colored areas that represent lower values might be covered by the larger colored areas that represent higher values. Use the stacked configuration for area and radar charts with multiple data series.

The following example shows the revenue values for each product line within each territory.

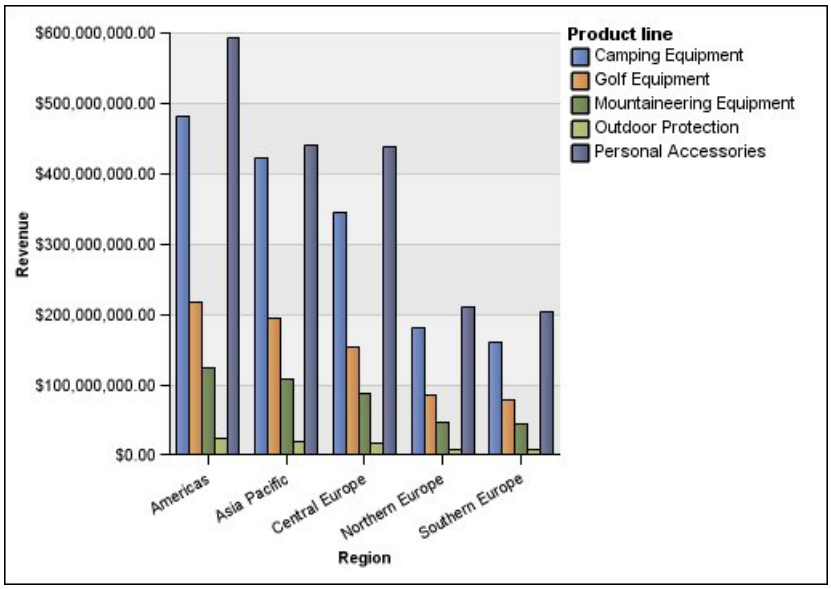


Figure 5. An example standard chart that compares specific values

Stacked Charts

Stacked charts are useful for comparing proportional contributions 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.

Do not use the stacked configuration in line charts that have multiple data series because it is difficult to distinguish between unstacked and stacked configurations, and your chart consumers might misunderstand your data.

The following example shows that camping equipment contributed a large proportion of the actual revenue in most sales territories.

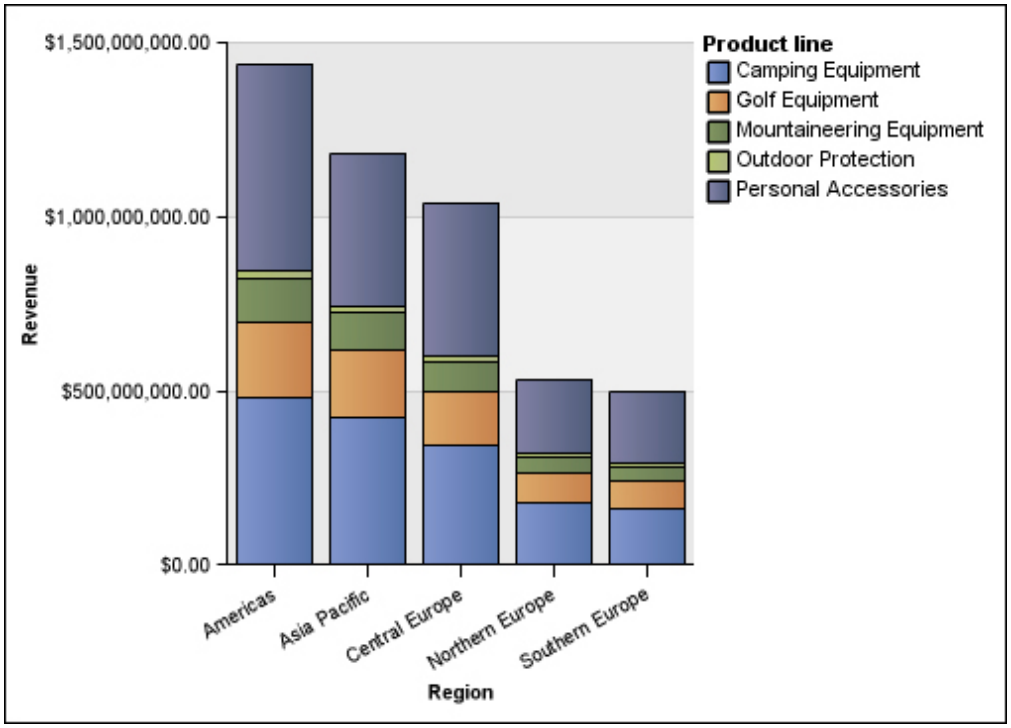


Figure 6. An example stacked chart

100 Percent Stacked Charts

100 percent stacked charts are useful for comparing proportional contributions across all categories. They plot the relative contribution of each data series to the total as a percentage. For example, a 100 percent 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 percent.

100 percent stacked charts highlight proportions. When actual values are important, use another chart configuration.

The following example shows the percentage of sales for each product line in each region.

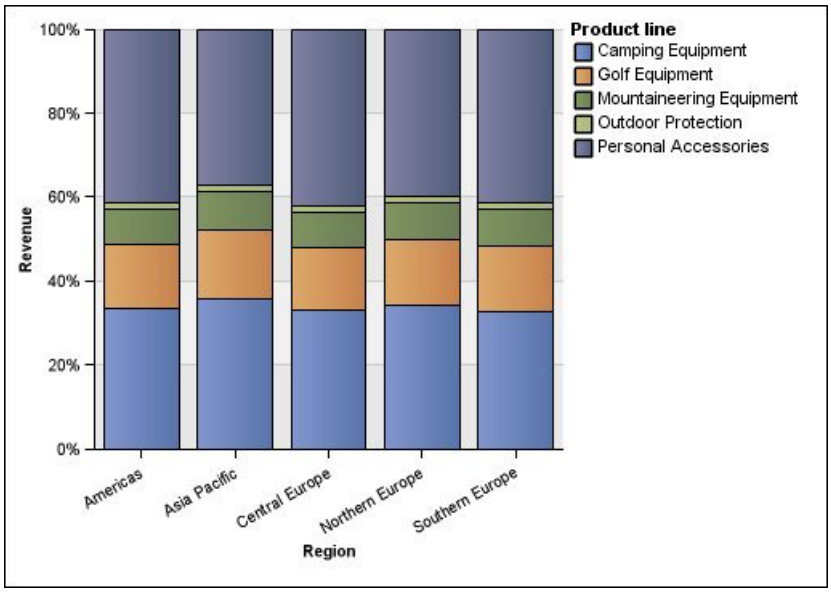


Figure 7. An example 100 percent stacked chart

Three-dimensional Charts

Three-dimensional charts provide a visually effective display that is suitable for presentations.

Three-dimensional column, bar, line, and area charts plot data by using three axes.

Three-dimensional pie charts have a three-dimensional visual effect.

Do not use three-dimensional charts when you need to show exact values, such as for control or monitoring purposes. The distortion in three-dimensional charts can make them difficult to read accurately. For example, the following chart shows actual revenue for each product line in each territory, but some data labels are omitted because there is not enough room to display them all.

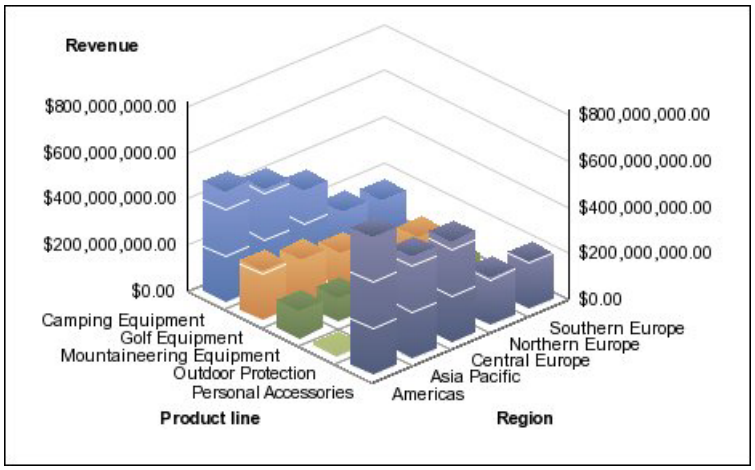


Figure 8. An example three-dimensional chart

Appendix D. Limitations When Producing Reports in Microsoft Excel Format

There are limitations when producing reports in Microsoft Excel format.

Unable to Load Images from the IBM Cognos Business Intelligence Content Store in a Report

If a report contains an image whose URL points to the IBM Cognos Business Intelligence content store, the Microsoft Excel spreadsheet software 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 2002.

Blank Worksheet Appears

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

Warning Message Appears When Excel Opens an IBM Cognos Business Intelligence Report

Each time the Microsoft Excel spreadsheet software opens an IBM Cognos Business Intelligence report, a warning message appears.

The warning message is as follows:

Some of the files in this Web page are not in the expected location. Do you want to download them anyway? If you are 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. IBM Cognos BI 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 an IBM Cognos BI report in Excel. If you see this error message, click **Yes** to open the report.

Spreadsheet Content Not Saved for 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 Web 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 Microsoft Excel reports in Microsoft 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.

© Copyright IBM Corp. 2005, 2014

Unable to Load Excel Report in Netscape 7.01

This version of IBM Cognos Business Intelligence does not support loading Microsoft Excel reports in Netscape 7.01.

Unsupported IBM Cognos BI Formatting

About 30% of the formatting functions available in IBM Cognos Business Intelligence are not supported in the Microsoft Excel spreadsheet software.

In particular, Excel does not allow changing locale-dependent formatting attributes, such as the following:

- Decimal Separator
- Exponential Symbol
- Group Separator
- Monetary Decimal Separator
- AM String
- Day Name
- Day Short Name
- Decimal Delimiter Symbol
- Month Name
- Month Short Name
- PM String

In addition, Excel does not support the following:

- Format Width
- International Currency Symbol
- List Separator
- Percent Symbol (Excel does not support percent symbols for charts)
- Multiplier
- Overline Text Format
- PerMill Symbol
- Plus Sign
- Scale (Excel has a different scaling formula than IBM Cognos BI)
- Calendar (Excel does not allow changing the calendar)
- Era Name
- First Day Of Week
- Show Era

Cells Contain Series of

Cells in the Microsoft Excel spreadsheet software 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 ######.

To resolve this problem, use fewer characters.

Table and Column Widths

The Microsoft Excel spreadsheet software 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 you save the workbook, only a single table is saved per worksheet.

Secure Socket Layer (SSL) Is Not Supported in Some Excel Formats and Versions

SSL is supported for only the Microsoft Excel 2002 format in Microsoft Excel 2002 and Microsoft Excel 2003.

Number Formats Become Currency Formats 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 interprets 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.

Reports Show Data in Wrong Columns

A report contains a large amount of data that is presented using a large number of nested report objects, such as tables and blocks. When the report is produced in Microsoft Excel format, some of the data appears in the wrong columns. This occurs because Excel has a 64K limit on how many nested cell objects can appear in a single spreadsheet.

To solve this problem, you can redesign the report to present the data using non-nested structures.

Unable to Access Reports on Remote Servers

You cannot access a report in Microsoft Excel format on a remote server.

To resolve this problem, 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 IBM Cognos Configuration.

Unsupported Excel Formatting

IBM Cognos Business Intelligence does not support some formatting.

The following formatting functions that are available in the Microsoft Excel spreadsheet software are not supported by IBM Cognos BI:

- 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 Excel limitations.

Hyperlink Buttons Are Not Supported in Excel

The Microsoft Excel spreadsheet software does not support hyperlink buttons.

Unable to View Reports in Excel Format Sent as Email Attachments

IBM Cognos Business Intelligence can send Microsoft Excel reports in HTML and XML format by email. However, you cannot open them directly from the email message.

Save the Excel email attachments to your computer and view them from there.

Many items on axis produces empty chart in Excel

If a chart contains many items on the x-axis, an empty chart is generated when the report output format is Microsoft Excel 2002.

This problem is caused by a limitation in Excel 2002 for chart data strings. To work around the problem, produce the report in Excel 2007 format. Excel 2007 does not have this limitation.

Chart legend titles are not supported in Excel

The Microsoft Excel spreadsheet software does not support chart legend titles.

Cell Height and Width Are Incorrect

The width and height of cells that contain data with curly brackets {} or parentheses () may appear incorrectly.

This is because the Microsoft Excel spreadsheet software uses different word wrapping algorithms than IBM Cognos Business Intelligence.

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 also has a percentage format.
- If all calculation parents are currency formats with the same currency code, the resulting column has the currency format with that currency code.
- For all other cases, the resulting column has 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 also has the number format.
- If the calculation parents are a mix of number and percent formats, the resulting column has the percent format.
- If the calculation parents are a mix of currency and number or percent formats, the resulting column has the currency format if all currency formats have the same currency code. Otherwise, the resulting column has the number format.
- If all calculation parents are percentages, the resulting column also has a percent format.
- If the calculation parents are a mix of more than two format types, or some parents are unformatted, the resulting column has 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.

© Copyright IBM Corp. 2005, 2014

Division, Average

The following applies when the calculation operation is division or average:

- If all calculation parents have the number format, the resulting column also has the number format.
- If the calculation parents are a mix of number and percent formats, the resulting column has the percent format.
- If the calculation parents are a mix of currency and number or percent formats, the resulting column has the currency format if all currency formats have the same currency code. Otherwise, the resulting column has the number format.
- If all calculation parents are percentages, the resulting column also has a percent format.
- If the calculation parents are a mix of more than two format types, or some parents are unformatted, the resulting column has 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 has 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 has 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 has the same format as the parent.

Absolute

The following applies when the calculation operation is absolute:

- The resulting column has the same format as the parent.

Power, Sqrt

The following applies when the calculation operation is power or sqrt:

- The resulting column has the number format.
- The resulting column has the same format as the parent, such as number of decimals, sign, and scale.

Notices

This information was developed for products and services offered worldwide.

This material may be available from IBM in other languages. However, you may be required to own a copy of the product or product version in that language in order to access it.

IBM may not offer the products, services, or features discussed in this document in other countries. Consult your local IBM representative for information on the products and services currently available in your area. Any reference to an IBM product, program, or service is not intended to state or imply that only that IBM product, program, or service may be used. Any functionally equivalent product, program, or service that does not infringe any IBM intellectual property right may be used instead. However, it is the user's responsibility to evaluate and verify the operation of any non-IBM product, program, or service. This document may describe products, services, or features that are not included in the Program or license entitlement that you have purchased.

IBM may have patents or pending patent applications covering subject matter described in this document. The furnishing of this document does not grant you any license to these patents. You can send license inquiries, in writing, to:

IBM Director of Licensing
IBM Corporation
North Castle Drive
Armonk, NY 10504-1785
U.S.A.

For license inquiries regarding double-byte (DBCS) information, contact the IBM Intellectual Property Department in your country or send inquiries, in writing, to:

Intellectual Property Licensing
Legal and Intellectual Property Law
IBM Japan Ltd.
19-21, Nihonbashi-Hakozakicho, Chuo-ku
Tokyo 103-8510, Japan

The following paragraph does not apply to the United Kingdom or any other country where such provisions are inconsistent with local law: INTERNATIONAL BUSINESS MACHINES CORPORATION PROVIDES THIS PUBLICATION "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some states do not allow disclaimer of express or implied warranties in certain transactions, therefore, this statement may not apply to you.

This information could include technical inaccuracies or typographical errors. Changes are periodically made to the information herein; these changes will be incorporated in new editions of the publication. IBM may make improvements and/or changes in the product(s) and/or the program(s) described in this publication at any time without notice.

© Copyright IBM Corp. 2005, 2014

Any references in this information to non-IBM Web sites are provided for convenience only and do not in any manner serve as an endorsement of those Web sites. The materials at those Web sites are not part of the materials for this IBM product and use of those Web sites is at your own risk.

IBM may use or distribute any of the information you supply in any way it believes appropriate without incurring any obligation to you.

Licensees of this program who wish to have information about it for the purpose of enabling: (i) the exchange of information between independently created programs and other programs (including this one) and (ii) the mutual use of the information which has been exchanged, should contact:

IBM Software Group
Attention: Licensing
3755 Riverside Dr.
Ottawa, ON
K1V 1B7
Canada

Such information may be available, subject to appropriate terms and conditions, including in some cases, payment of a fee.

The licensed program described in this document and all licensed material available for it are provided by IBM under terms of the IBM Customer Agreement, IBM International Program License Agreement or any equivalent agreement between us.

Any performance data contained herein was determined in a controlled environment. Therefore, the results obtained in other operating environments may vary significantly. Some measurements may have been made on development-level systems and there is no guarantee that these measurements will be the same on generally available systems. Furthermore, some measurements may have been estimated through extrapolation. Actual results may vary. Users of this document should verify the applicable data for their specific environment.

Information concerning non-IBM products was obtained from the suppliers of those products, their published announcements or other publicly available sources. IBM has not tested those products and cannot confirm the accuracy of performance, compatibility or any other claims related to non-IBM products. Questions on the capabilities of non-IBM products should be addressed to the suppliers of those products.

All statements regarding IBM's future direction or intent are subject to change or withdrawal without notice, and represent goals and objectives only.

This information contains examples of data and reports used in daily business operations. To illustrate them as completely as possible, the examples include the names of individuals, companies, brands, and products. All of these names are fictitious and any similarity to the names and addresses used by an actual business enterprise is entirely coincidental.

If you are viewing this information softcopy, the photographs and color illustrations may not appear.

Depending upon the configurations deployed, this Software Offering may use session and persistent cookies that collect each user's

- name
- user name
- password

for purposes of

- session management
- authentication
- enhanced user usability
- single sign-on configuration
- usage tracking or functional purposes other than session management, authentication, enhanced user usability and single sign-on configuration

These cookies cannot be disabled.

If the configurations deployed for this Software Offering provide you as customer the ability to collect personally identifiable information from end users via cookies and other technologies, you should seek your own legal advice about any laws applicable to such data collection, including any requirements for notice and consent.

For more information about the use of various technologies, including cookies, for these purposes, see IBM's Privacy Policy at http://www.ibm.com/privacy and IBM's Online Privacy Statement at http://www.ibm.com/privacy/details in the section entitled "Cookies, Web Beacons and Other Technologies" and the "IBM Software Products and Software-as-a-Service Privacy Statement" at http://www.ibm.com/software/info/product-privacy.

Trademarks

IBM, the IBM logo and ibm.com are trademarks or registered trademarks of International Business Machines Corp., registered in many jurisdictions worldwide. Other product and service names might be trademarks of IBM or other companies. A current list of IBM trademarks is available on the Web at " Copyright and trademark information " at www.ibm.com/legal/copytrade.shtml.

The following terms are trademarks or registered trademarks of other companies:

- Adobe, the Adobe logo, PostScript, and the PostScript logo are either registered trademarks or trademarks of Adobe Systems Incorporated in the United States, and/or other countries.
- Microsoft, Windows, Windows NT, and the Windows logo are trademarks of Microsoft Corporation in the United States, other countries, or both.

Glossary

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

The following cross-references are used in this glossary:

- See refers you from a term to a preferred synonym, or from an acronym or abbreviation to the defined full form.
- See also refers you to a related or contrasting term.

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

"A" "B" "C" "D" on page 113 "E" on page 113 "F" on page 113 "G" on page 113 "H" on page 114 "I" on page 114 "J" on page 114 "L" on page 114 "M" on page 114 "N" on page 115 "O" on page 115 "P" on page 115 "Q" on page 116 "R" on page 116 "S" on page 117 "T" on page 117 "U" on page 117 "W" on page 118

A

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

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

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

alias An alternative name used instead of a primary name.

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

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

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

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

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

B

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

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

C

CA See certificate authority.

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

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

capability
A group of functions and features that

© Copyright IBM Corp. 2005, 2014

can be hidden or revealed to simplify the user interface. Capabilities can be enabled or disabled by changing preference settings, or they can be controlled through an administration interface.

cardinality

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

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

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

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

CGI See Common Gateway Interface.

cipher suite
The combination of authentication, key exchange algorithm, and the Secure Sockets Layer (SSL) cipher specification used for the secure exchange of data.

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

CM See Content Manager.

Common Gateway Interface (CGI)
An Internet standard for defining scripts that pass information from a web server to an application program, through an HTTP request, and vice versa.

condition
An expression that can be evaluated as true, false, or unknown. It can be expressed in natural language text, in mathematically formal notation, or in a machine-readable language.

constraint

1. A security specification that denies one or more users the ability to access a model component or to perform a modeling or authoring task.
2. A restriction on the possible values that users can enter in a field.

contact
A named email address to which reports and agent e-mails can be sent. Contacts are never authenticated.

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

Content Manager (CM)
The service that retrieves information from the content store, and saves information to the content store.

content store
The database that contains the data needed to operate, such as report specifications, published models, and security rights.

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

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

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

D

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

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

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

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

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

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

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

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

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

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

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

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

E

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

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

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

F

fact See measure.

G

gateway
An extension of a web server program that transfers information from the web server to another server. Gateways are

often CGI programs, but may follow other standards such as ISAPI and Apache modules.

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

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

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

H

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

I

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

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

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

item See member.

J

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

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

L

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

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

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

M

MDX See Multidimensional Expression Language.

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

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

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

metric extract
A set of mappings between an existing Cognos data source and a Metric Studio object or value. For example, a cube

measure named Revenue is mapped to a Metric Studio metric named Revenue Actual Value.

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

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

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

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

multidimensional data source
See dimensional data source.

Multidimensional Expression Language (MDX)
The multidimensional equivalent of Structured Query Language (SQL).

N

named set
See predefined set.

namespace
A part of the model in which the names may be defined and used. Within a namespace, each name has a unique meaning.

news item
A single entry in a Really Simple Syndication (RSS) compatible format. It can include a headline, text, and a link to more information. A news item task in an agent can be used to create news items for display in a Cognos Connection portlet.

O

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

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

P

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

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

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

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

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

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

project

1. In Metric Studio, a task or set of tasks undertaken by a team and monitored on a scorecard. A project tracks dates, resources, and status.
2. In Metric Designer, a group of extracts. Each extract contains the metadata that is used to populate the Metric Studio data store or to create applications.

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

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

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

Q

query The simple report specifications created and edited by Query Studio.

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

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

R

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

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

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

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

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

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

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

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

Rich Site Summary (RSS)
An XML-based format for syndicated web content that is based on the RSS 0.91 specification. The RSS XML file formats are used by Internet users to subscribe to websites that have provided RSS feeds. See also Really Simple Syndication.

RSS

1. See Really Simple Syndication.
2. See Rich Site Summary.

S

score A number or ranking that expresses applicability in relation to a standard.

scorecard
A collection of metrics representing the performance of one unit or aspect of an organization.

scorecard structure
The hierarchy of scorecards that reflects how an enterprise organizes its metrics.

security provider
See authentication provider.

selection-based set
A collection of individual items that the user has explicitly selected. The items or members may be selected from one or more levels of the same hierarchy. See also set.

session
The time during which an authenticated user is logged on.

set A collection of related items or members. Members in a set may be specifically chosen, or selected by one or more filter rules. See also custom set, details-based set, page set, predefined set, selection-based set, stacked set.

stacked set
Two or more sets arranged one above another in rows or side-by-side in columns. See also set.

strategy
The overall plan of action (such as for a brand unit, business unit, channel, or company) to achieve a stated goal. Strategies normally cover a period of more than one year.

strategy map
In Metric Studio, a visual representation of the strategy and the objectives of that strategy for an organization. For example, a strategy map may show employees how their jobs are aligned to the overall objectives of the organization.

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

T

task An action performed by an agent if the event status meets the task execution rules. For example, an agent can send an email, publish a news item, or run a report.

task execution rule
A user-specified option within an agent that determines which statuses and values cause a task to be run. It determines which tasks to execute for each event instance.

template
In report authoring, a reusable report layout or style that can be used to set the presentation of a query or report.

thumbnail
An icon-sized rendering of a larger graphic image that permits a user to preview the image without opening a view or graphical editor.

tuple An ordered collection of two or more members from different dimensions. For example, the tuple (2007, Camping Equipment, Japan) returns the value for the intersection of the three members: 2007, Camping Equipment, and Japan. Tuples can be used to filter and sort data, and to create calculations.

U

union set
See stacked set.

user Any individual, organization, process, device, program, protocol, or system that uses the services of a computing system.

user-defined column
In metric management, a column used to represent a value other than the actual or target. It may be an industry benchmark or any other useful additional numerical information for a period, including a calculation based on the other values of the metric. User-defined columns may be different for each metric type.

W

watch list
A list of metrics that each user has chosen to monitor closely. If notification is enabled in Metric Studio, the user will receive email notification of changes to these metrics. Users can also choose to display their watch list as a portlet within Cognos Connection.

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

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

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

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

workspace
See dashboard.

Index

Special characters

! characters 78

Numerics

100% stacked charts 98
3-D charts 99

A

absolute charts 96
access
  enabling drill-through access 68
adding
  calculations 61
  cascading prompts 53
  data 12
  descriptions 14
  filter text 32
  filters 47
  groups 57
  prompts 53
  sections 57
  subtitles 32
  titles 32
addition, 65
administering reports 39
aggregating
  limitations with measures 64
  samples and time dimensions 85
  troubleshooting running totals 77
appearance 7
applying
  templates 31
area charts 94
arithmetic operations, 65
ascending order 55

B

backgrounds
  colors not appearing in templates 73
bar charts 93
borders
  formatting 34
burst reports
  Microsoft Excel format 104

C

calculations 61
  adding 61, 65
  average 65
  creating 65
  custom 61
  editing 65
  format rules 105
cascading prompts
  adding 53
cast_Date functions
  troubleshooting 75
changing
  column names 35
  sectioned reports to crosstab reports 57
  subtitles 32
  titles 32
chart axes
  swapping 36
chart configurations
  100% stacked 98
  3-D 99
  stacked 97
  standard 96
chart types 91
  area charts 94
  bar charts 93
  column charts 92
  line charts 93
  pie charts 91
  radar charts 96
charts
  configurations 91
  creating 29
  downloading onto your computer 30
  examples 29
  legend titles not supported in Excel 104
  many items on axis produces empty chart in Excel 2002 104
  removing 29
  showing values 29
  troubleshooting axis labels 73
collapsing
  reports 34
colors
  not appearing in templates 73
  specifying 33, 34
column
  order 55
column charts 92
columns 13
  changing the order 35
  renaming 35
  reordering 35
  swapping with rows 36
  width limitations in Microsoft Excel 103
combining
  filters 50
combining text, 65
concatenating 65
concatenating strings 66
conditional styles
  defining 36
count distinct function 63
count function 63
creating
  charts 29
  reports 7
  sections 57
crosstab reports
  changing from sectioned reports 57

© Copyright IBM Corp. 2005, 2014

crosstab reports *(continued)*
converting to list reports 27
creating 27
example 28
crosstabs
overflow errors 75
CSV
format 18
currencies
data format limitations in Microsoft Excel output 103
formatting disappearing in SSAS 2005 81
currency
formatting 60
custom groups
creating 53
example 54
cut 35

D

data
adding 12
deleting 12
filtering 41
formatting 33
grouping 57
summarizing 12
data formats
Microsoft Excel limitations 103
data sources
adding data from 12
data types
and count functions 63
databases
adding data from 12
date formats 60
defining
conditional styles 36
deleting, 29
descending order 55
descriptions
adding 14
details 42
difference 61
dimensionally-modeled relational data sources
limitations when aggregating measures 64
dimensions 13
conformed 43
non-conformed 43
overlapping named set levels 77
distributing reports 39
division 61
downloading
charts 30
drill down 68
drill up 68
drilling through
from Query Studio 68
links not active in Safari Web browsers 76

E

error messages
HRESULT 74
missing items 75
OP-ERR-0201 77
error messages *(continued)*
overflow errors in crosstabs 75
QE-DEF-0260 parsing error 73
QE-DEF-0288 75
RSV-SRV-0025 74
UDA-SQL-0114 74
UDA-SQL-0206 74
errors
parse errors with upgraded reports 75
troubleshooting error cells in reports 64
examples
calculations 67
charts 29
crosstab reports 28
custom groups 54
grouped list report 25
list reports 23
Excel 2000 format
deprecation notices 7
Excel 2002
empty chart produced when too many items on axis 104
expanding
reports 34
exponentiation, 65

F

facts 13
filter dialog type
setting a default 49
filtering
data 41
details 41
individual records in databases 42
multiple-fact queries 43
prompts 53
summaries 42
troubleshooting _make_timestamp columns 74
filters
adding 47
combining 50
contains 47
creating directly from the data tree 47
ends with 47
exactly matches 47
is in range 47
keeping or deleting when column is deleted 47, 50
matches SQL pattern 47
model 52
setting default filter dialog type 49
showing in title area 32
starts with 47
using values as subtitles 32
format rules
calculations 105
formats
currency 60
date 60
default 60
number 60
percentage 60
scientific 60
time 60
formatting
borders 34
data 33, 60
disappearing in SSAS 2005 81

formatting *(continued)*
reports show unexpected results 80
text 33
functions
count and count distinct 62, 63
summary 62

G

glossary 111
Go To
drilling through 68
graphs, 29
grouped list reports
example 25
grouping
data 57
removing 57
troubleshooting incorrect running totals 77
troubleshooting subtotals in grouped lists 74
groups
adding 57
custom 53

H

hierarchies 13
highlighting
key information 36
HRESULT errors 74
HTML
printed report unsatisfactory 76
hyperlinks
buttons are not supported for Microsoft Excel 104

I

IBM Cognos Business Insight 7
IBM Cognos Business Insight Advanced 7
IBM Cognos Connection
accessing 10
IBM Cognos Viewer
running reports 11
icons 13
images
Microsoft Excel limitations 101
information
highlighting 36
inserting,
See adding

J

Japanese
Microsoft Excel limitations 103

L

languages
selecting 39
layouts 7
levels 13
limitations
aggregating measures in dimensionally-modeled relational or relational data sources 64
line charts 93
lineage information 69
list reports
converting to crosstab reports 27
example 23
lists
subtotals in grouped lists 74

M

maximum
calculation 65
measures 13
members 13
Microsoft Excel
chart legend titles not supported 104
limitations of nested report objects 103
producing reports in 19
report limitations 101
minimum
calculation 65
minus,
See difference
missing items
troubleshooting 75
model filters 52
models 13
sample models and packages 86
multilingual reports 20
multiplication, 65

N

named sets
nested or parallel sets overlapping 77
nested report objects
Microsoft Excel limitations 103
new features
version 10.1.1 3
version 10.2.1 3
version 10.2.2 3
non-measures 28
number data formats
Microsoft Excel limitations 103
number of rows
reducing 36
specifying 36
numbering rows 36
numbers
formatting 60

O

OLAP data sources
limitations with relational functions 78
OP-ERR-0201 errors 77
opening
portals 10
reports 11
Oracle Essbase
changes 77
order of operations
summaries 63
overflow errors in crosstabs 75

P

packages 10, 13
  versions 11
page breaks
  setting 39
pasting 35
PDF manual printing 76
PDF,
  See portable document format files
percentage 61
percentage difference 61
percentage of total 61
percentiles 65
pie charts 91
portable document format files 18
portals 10
power 65
predefined summaries 61
printing
  PDF manuals 76
  reports 20
printing reports
  unsatisfactory results when printing HTML reports 76
product 61
prompts
  adding 53
  filtering 53

Q

QE-DEF-0260 parsing error 73
QE-DEF-0288 errors 75
quantiles 65
quartiles 65
queries
  multiple-fact 43
Query Studio
  description 7
  exiting 11
  QE-DEF-0260 parsing error 73

R

radar charts 96
ragged hierarchies 78
rank 61
relational functions
  limitations when used with OLAP data sources 78
removing
  charts 29
  grouping 57
  tables 29
  titles 32
renaming
  columns 35
  report items 35
reordering
  columns 35
report details 42
report formats
  Excel 19
report items 12
  renaming 35
report outputs
  Microsoft Excel 2007 3
Report Studio
  opening reports 20
report types
  charts 28
  crosstabs 26
  lists 22
reports
  administration 39
  collapsing 34
  creating 18
  distributing 39
  drilling down 68
  drilling through 68
  drilling up 68
  expanding 34
  multilingual 20
  opening in Report Studio 20
  printing 20
  running 15
  samples 83
  saving 14
  scheduling 39
  updating 11
rounding 65
rounding down 65
rows
  headings 23
  numbering 36
  specifying the number 36
  swapping with columns 36
RQP-DEF-0177 errors 74
RSV-SRV-0025 errors 74
run commands
  setting 17
running reports 15
  cannot find database errors 75
  Query Studio is slow 76
  setting default run commands 17
  using all data 15
running totals
  troubleshooting 77

S

Safari Web browsers
  drill-through links not active 76
Sample Outdoors Company 84
  databases, models, and packages 86
  samples 83
sample reports 83
samples 83
  cubes 87
  database, models, and packages 86
  employees 85
  GO data warehouse 86
  GO Sales transactional database 87
  packages 88
  sales and marketing data 86
  The Sample Outdoors Company 84
SAP BW 15
saving
  reports 14
scheduling reports 39
scientific notation 60
sections
  adding 57
  headings 57

Secure Socket Layer
  Microsoft Excel limitations 103
sets of members
  nested or parallel sets overlapping 77
setting
  page breaks 39
  Web page size 36
setting default filter dialog type 49
setting default run commands 17
showing
  chart only 29
  values on charts 29
size of pages 36
sort data 55
sorting 55
  showing in title area 32
sortItem 55
sortList 55
specifying
  color 33, 34
spider charts 96
square roots 65
SSAS 2005 cubes
  troubleshooting 79
SSAS 2005 data sources
  disappearing data formats 81
stacked charts 97
standard charts 96
star charts 96
strings
  concatenating 66
studios
  Oracle Essbase changes 77
subtitles
  adding 32
  changing 32
subtotals
  troubleshooting in grouped lists 74
subtraction, 65
sum 61
summaries
  adding and removing 62
  advanced 63
  applying to footers 63
  filtering 42
  order of operations 63
  predefined 61
  turning off 59
suppressing
  empty cells 70
swapping
  chart axes 36
  rows and columns 36

T

tables 12
  Microsoft Excel width limitations 103
  removing 29
  showing with charts 29
targets
  drilling through 68
templates
  applying 31
templates *(continued)*
  background colors not appearing 73
  set a default 31
text
  formatting 33
time format 60
titles
  adding 32
  changing 32
  removing 32
TM1 data sources
  order of metadata tree 80
  report differences 80
tooltip values 73
totals
  troubleshooting running totals 77
troubleshooting 73

U

UDA-SQL-0043 errors 74
UDA-SQL-0114 errors 74
UDA-SQL-0206 errors 74
unbalanced hierarchies 78
updating reports 11
upgrading reports
  reports will not open 75

V

values
  absolute 65
  details 41
  showing on charts 29
  summary 42
  suppressing when missing 70
versions, packages 11
viewing reports
  CSV formats 18
  PDF formats 18
  XML formats 18

W

Web page size
  setting 36
widths
  Microsoft Excel limitations 103

X

XLS format
  limitations 101
XML
  viewing reports 18

Z

zeros
  suppressing 70