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Introduction

This document is intended for use with IBM® Cognos® Analysis for Microsoft® Excel®. IBM Cognos Analysis for Microsoft Excel is a Microsoft Excel-based tool that professional report authors use to build sophisticated, multiple-sheet, multiple-query reports against multiple databases.

Audience
This guide assumes that you are familiar with IBM Cognos products, such as IBM Cognos Business Intelligence, IBM Cognos BI for Microsoft Office, and PowerPlay. You should also be familiar with Microsoft Office applications, such as Microsoft Excel.

Finding information
To find IBM® Cognos® product documentation on the web, including all translated documentation, access one of the IBM Cognos Information Centers at http://publib.boulder.ibm.com/infocenter/cogic/v1r0m0/index.jsp. Updates to Release Notes are published directly to Information Centers. You can also read PDF versions of the product release notes and installation guides directly from IBM Cognos product disks.

Accessibility features
Accessibility features help users who have a physical disability, such as restricted mobility or limited vision, to use information technology products. This product has accessibility features. For information on these features, see the accessibility section in this document.

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

Samples disclaimer
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Introduction
Chapter 1: What’s new?

This section contains a list of new and changed features for this release. It also contains a cumulative list of similar information for previous releases. 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® Analysis for Microsoft® Excel® Installation Guide.

For changes to previous versions, see:

- What’s New in Version 8.4
- What’s New in Version 8.3

To review an up-to-date list of environments supported by IBM Cognos products, including operating systems, patches, browsers, Web servers, directory servers, database servers, and application servers, visit the IBM Cognos Resource Center Web site www.ibm.com/software/data/cognos/customercenter/.

New features in version 10.1.0

Listed below are new features since the last release. Links to directly-related topics are included.

- Calculations are now supported for explorations and lists. This enables you to create and maintain reports using advanced functions in an easy-to-use environment with drop zones (p. 54).

- The application and documentation comply with standards of access for people with different physical abilities (p. 137).

- For cell-based analysis, you can limit the number of cells retrieved during a query. You can also limit the processing time (p. 34). By limiting the number of cells you retrieve, you can increase report performance, especially for large worksheets.

- You can now publish explorations (p. 60) and lists (p. 71) directly to IBM Cognos Connection. You can save an exploration as a Web report, which enables Microsoft Excel users to author reports in Excel and distribute them as secured Web reports without the additional step of using a studio package, such as Analysis Studio.

- Additional custom styles are available for formatting cells. You can gain access to new IBM Cognos Analysis styles, such as IBM Cognos - Calculated Row Name or IBM Cognos - Measure Summary through the Microsoft Excel function by clicking Style from the Format menu. The IBM Cognos styles are listed along with default Excel styles. You can modify attributes, such as font and alignment, and then save the changes to a template for re-use.

- Add user-defined rows and columns in the middle of explorations and lists to add calculations. You can create Microsoft Excel calculations for the entire row, column, or block (p. 58).
Chapter 1: What’s new?

- Add blank rows and columns in the middle of explorations or lists to enhance readability (p. 58).
- Enhanced search capabilities enable you to search metadata by level inside the source tree (p. 47).
- After items have been placed in the cells of a worksheet, you can rename column and row headings and reorder items (p. 57).
- You can set the starting cell for a list (p. 69) or exploration (p. 59).
- When working with lists and explorations, there are multiple grouping options (p. 69). You can leave cells ungrouped when you need to use Excel lookup functions or you can group cells to provide for greater readability (p. 34).
- A new feature in cell-based analysis enables you to resolve COGVAL and COGNAME errors (p. 75).
- You can change the format of data received from the IBM Cognos Business Intelligence server to CSV. Because the data is received as unformatted it speeds processing time (p. 37).
- In addition to running reports in IBM Cognos Report Studio and IBM Cognos Analysis Studio, you can run reports using IBM Cognos Business Insight Advanced (p. 60).

**Changed features in version 10.1.0**

Listed below are changes to features since the last release. Links to directly-related topics are included.

- User comments, report titles and values typed outside the exploration area are retained in the worksheet, even after data is refreshed.
- Enhanced support of row and cell formatting.
- When running an exploration in Report Studio, the context filter is now included.
- You can choose a custom logging level based on the severity of the event (p. 20).
- To speed processing time, the zero-suppression feature uses server-side zero-suppression for IBM Cognos Business Intelligence servers that are configured with that feature (p. 53).
- To speed processing time and avoid server delays, IBM Cognos Analysis for Microsoft Excel groups (p. 38) and compresses (p. 38) the data it receives from its queries to the BI data server.
- A Clear Cache on save check box "Clear Cache" (p. 21) was added to the Options dialog box to reduce the size of workbooks, which is achieved by clearing saved metadata and data related to exploration and formulas each time the workbook is saved.
- Filter queries have changed to conform to the Cognos BI query server best practices and to be more consistent with queries created by Report Studio and Business Insight Advanced. Reports more clearly distinguish between relational and dimensional query styles. Lists support detail filters and do not support set-based queries. Explorations use dimensional queries and do not
support detail filters. For most reports there will be no change in results, but there are some circumstances where results will change, for example, if you had previously used a set-based query for a list report, you must update the filter to make use of the detail filter (p. 51).

### New features in version 8.4

Listed below are new features since the last release. Links to directly-related topics are included.

- Relational data sources are now supported for import. You can create explorations and list reports. For more information, see "Creating a list and understanding lists" (p. 63).

- Exploration, for OLAP and DMR data sources, supports the creation and re-use of custom sets. For more information, see "Create a custom set" (p. 55).

- Custom styles are available for formatting cells. You can gain access to IBM Cognos Analysis styles, such as **Cognos - Column Name** or **Cognos - Measure** through the Microsoft Excel function by clicking **Style** from the **Format** menu. The IBM Cognos styles are listed along with default Excel styles. You can modify attributes, such as font and alignment and then save the changes to a template for re-use.

- Explorations and lists support the use of filters. You can limit the amount of data that you display so that you focus on the most important information. For more information, see "Create custom filters" (p. 51).

- A Test Connection button has been added to the Options dialog box. Use it to test data connections either as part of your troubleshooting procedures or when you add a new connection. For more information, see "Add or modify the address for the IBM Cognos BI gateway" (p. 18).

- Both a **Clear Cache** button "Clear Cache" (p. 21) and a clearcache API function, "ClearCache" (p. 109), have been added to reduce the size of workbooks by clearing saved metadata and data related to exploration and formulas.

- There are two enhancements that speed processing time. You can defer execution of report data. This enables you to design an exploration without immediately contacting the server to populate data. For more information, see "Best practices for working with explorations" (p. 61). There is also a server-side zero suppression that limits data transfer from the server. This feature is automatically activated with servers that have zero-suppression available.

- The Publish method has been reintroduced to the IBM Cognos Office API. Use Publish to publish IBM Cognos Office documents to IBM Cognos Connection. For more information, see "Publish" (p. 107).

### Changed features in version 8.4

Listed below are changes to features since the last release. Links to directly-related topics are included.

- IBM Cognos Analysis for Microsoft Excel follows the Microsoft Excel shortcut of copying a worksheet by Ctrl-clicking a worksheet tab.
Chapter 1: What's new?

- Additional languages are supported for both the software product and the documentation.

**New features in version 8.3**

Listed below are new features since the last release. Links to directly-related topics are included.

- The Exploration bar contains new buttons that control how node items are added to an exploration, either with or without dependent items. For more information, see "Exploration bar" (p. 30).

- In Exploration mode, to add an item to a drop zone without replacing items already there, while holding down the Ctrl key drop the new item onto the existing items.

- In Exploration mode, when the number of rows to display is greater that the Data display row limit set in the Options window, new controls appear in the cells just below the last displayed row giving you the option to display more or all of the remaining items, to the limit of the workbook. To use this feature, double-click **More** or **All**.

**Changed features in version 8.3**

Listed below are changes to features since the last release. Links to directly-related topics are included.

- In Exploration mode a new context menu, which you can access by right-clicking an item, enables you to drill up, drill down, expand, collapse, or delete an item.

- In Exploration mode to drill an item, you used to double-click the item. Double-click now expands or compresses the item, which is consistent with the default behavior in cell-based mode. To drill, right-click the item and select **Drill up** or **Drill down**. For more information, see "Drill down and drill up" (p. 50).
Chapter 2: IBM Cognos Office

IBM® Cognos® Office provides the framework that leverages the business intelligence architecture, including security, metadata, and content storage. This infrastructure helps you manage your Microsoft® Office documents and monitor the financial performance of your organization.

Use the applications of IBM Cognos Office to create, view, and consume reports, analyses, and other business intelligence content using familiar Microsoft Office applications, such as Excel, PowerPoint, and Word.

IBM Cognos Office integrates the following applications.

<table>
<thead>
<tr>
<th>Applications</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>IBM Cognos for Microsoft Office</td>
<td>Importing IBM Cognos Business Intelligence report content, including data, metadata, headers, footers, and charts, into a familiar Microsoft Office application. IBM Cognos for Microsoft Office uses the functionality in the Microsoft Office application to work with pre-authored reports or create new reports in the Business Intelligence studios. It is especially useful for creating briefing books and presentations.</td>
</tr>
<tr>
<td>Sales managers or project managers may use this application to retrieve and report on that information.</td>
<td></td>
</tr>
<tr>
<td>IBM Cognos Analysis for Microsoft Excel®</td>
<td>Building sophisticated multiple-sheet, multiple-query reports in Excel using different kinds of data sources, and analyzing and exploring IBM Cognos dimensionally modeled data. The application provides formula-based data access so that users can solve business problems and present key results in a format that is most convenient to them.</td>
</tr>
<tr>
<td>Data modelers, business analysts, and financial analysts who analyze enterprise data may use this application to identify trends, opportunities, problems, or project characteristics.</td>
<td></td>
</tr>
</tbody>
</table>

The IBM Cognos Office window

Descriptions of the toolbar buttons and key screen elements will help you get started with IBM® Cognos® Office.

The following illustrates the different areas of the IBM Cognos Office window.
IBM Cognos toolbar

IBM Cognos Office adds a custom toolbar to each of the supported Microsoft® Office applications. When you click the IBM Cognos button on the toolbar, the IBM Cognos Office commands become available as buttons on the toolbar at the top of your Microsoft Office application.

The toolbar (ribbon in a Microsoft Office 2007 environment) provides the following options to help you design reports or perform your exploration.

<table>
<thead>
<tr>
<th>Button</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="IBM Cognos" /></td>
<td>Start IBM Cognos Office by showing the IBM Cognos pane and the IBM Cognos toolbar. Based on the set preferences, the IBM Cognos pane shows either the IBM Cognos Office page or the tools and commands for the default application. Use to also hide the IBM Cognos pane.</td>
</tr>
<tr>
<td><img src="image" alt="Log on to IBM Cognos BI system" /></td>
<td>Log on to a specific IBM Cognos BI system that contains the reports or package information that satisfy your reporting requirements. Logging on requires authentication information, such as user ID and password.</td>
</tr>
<tr>
<td><img src="image" alt="Log off IBM Cognos systems" /></td>
<td>Log off all IBM Cognos Business Intelligence systems. Log off all namespaces.</td>
</tr>
<tr>
<td><img src="image" alt="Set options" /></td>
<td>Set options, such as startup application, system gateway URI, and display limits to customize IBM Cognos Office and applications for the way you work.</td>
</tr>
<tr>
<td><img src="image" alt="Open saved IBM Cognos Office document" /></td>
<td>Open a saved IBM Cognos Office document from IBM Cognos Connection so that you can work with the report in the Microsoft application used to create it, and then save the report locally.</td>
</tr>
<tr>
<td>Button</td>
<td>Description</td>
</tr>
<tr>
<td>--------</td>
<td>-------------</td>
</tr>
<tr>
<td><img src="image" alt="Publish" /></td>
<td>Publish the saved workbook to IBM Cognos Connection. Publish your IBM Cognos Office documents to IBM Cognos Connection to share them with other users in a secure and centrally managed way.</td>
</tr>
<tr>
<td><img src="image" alt="Clear" /></td>
<td>Clear all data from the document. You can clear cells in Excel to remove the contents. The cleared cells remain as blank cells on the worksheet. Formats, such as number formats, conditional formats, and borders are retained. In exploration mode, each box in the Rows and Columns drop zones continues to reflect the metadata in the package. You can then publish and distribute the document so that users can open and refresh the data to see an updated version of the exploration.</td>
</tr>
<tr>
<td><img src="image" alt="Refresh" /></td>
<td>Refresh data to see the most recent version of the information in the package or data source that a report uses.</td>
</tr>
<tr>
<td><img src="image" alt="Convert" /></td>
<td>Convert data items to static text by disconnecting from the content store. In this format, you can distribute the document to anyone for review.</td>
</tr>
</tbody>
</table>

**IBM Cognos pane icons**

The IBM Cognos pane contains icons that help you to switch easily between the various applications and the IBM Cognos Office page.

<table>
<thead>
<tr>
<th>Icons</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Welcome" /></td>
<td>Shows the IBM Cognos Welcome page in the IBM Cognos pane or the pane for the default application that starts for each session.</td>
</tr>
<tr>
<td><img src="image" alt="Import" /></td>
<td>Opens the IBM Cognos for Microsoft Office pane that contains commands related to importing and refreshing pre-authored reports and report content.</td>
</tr>
<tr>
<td><img src="image" alt="Analysis" /></td>
<td>Opens the IBM Cognos Analysis for Microsoft Excel pane that contains package information required for exploration, analysis, and design of custom reports.</td>
</tr>
</tbody>
</table>

**Getting started with IBM Cognos Office**

To use IBM Cognos Office with the Microsoft Office applications, you must customize your IBM Cognos Office environment. Regardless of the IBM Cognos Office application that you are using, you can perform the following common tasks from the IBM Cognos Office interface or the IBM Cognos Connection portal:
Start IBM Cognos Office

When you first open one of the supported Microsoft Office applications, an IBM Cognos Office toolbar appears. To view the commands and icons that you need to work in the IBM Cognos Office environment, you must make the IBM Cognos pane and the IBM Cognos Office toolbar available.

When the IBM Cognos Office toolbar is available, you can set your preferences (p. 17), define the IBM Cognos BI gateway addresses of the data sources, and log on to the IBM Cognos BI servers (p. 21).

After starting IBM Cognos Office, you may decide to resume work on non-IBM Cognos Office workbooks or documents, and want to show only the commands and buttons that you use. You can hide the IBM Cognos toolbar or the IBM Cognos action pane in your work area.

Steps

1. On the IBM Cognos Office toolbar, click the IBM Cognos button.
2. From the Tools menu, click Customize.
3. On the Toolbars tab, choose whether to show or hide the IBM Cognos pane or the IBM Cognos toolbar:
   - To show or hide the IBM Cognos pane, select or clear the IBM Cognos check box.
   - To show or hide the IBM Cognos toolbar, select or clear the IBM Cognos for Microsoft Office check box.

The IBM Cognos pane appears in the application work area, and buttons are made available from the IBM Cognos toolbar. You can now set your preferences for IBM Cognos Office and installed applications.
Customizing IBM Cognos Office

You can customize the IBM Cognos Office environment so that it meets your reporting and analysis needs.

You can specify the following preferences for IBM Cognos Office:

- the application, such as IBM Cognos for Microsoft Office or IBM Cognos Analysis for Microsoft Excel, to start up when you first open IBM Cognos Office (p. 17).
- the datasource connection to the database (p. 18).
- the location of IBM Cognos BI gateways (p. 18).
- whether to enable single signon for authentication (p. 19).
- whether to enable forms-based authentication (p. 19).
- whether to enable logging and at what level of detail (p. 20).

Each time that you start the IBM Cognos Office application, these settings apply to your session.

Customize how IBM Cognos Office starts

When you first start IBM Cognos Office, you can choose to show either the IBM Cognos pane or a specific application. If you choose the IBM Cognos pane, by default it appears on the right side of your work area and shows all the installed IBM Cognos for Office applications that you can use. You can move the pane or undock it. Click the application icon that best meets your needs.

After specifying your preference, IBM Cognos opens in the chosen mode in subsequent sessions.

Steps

1. On the IBM Cognos toolbar, click the Options button.
2. In the left navigation pane, click IBM Cognos.
3. Choose whether to show the IBM Cognos Welcome pane in your work area or start a specific application, such as IBM Cognos for Microsoft Office or IBM Cognos Analysis for Microsoft Excel:
   - To show the IBM Cognos Welcome pane each time that you start IBM Cognos Office, under Start Application, select the Show IBM Cognos welcome page check box.
     You can change this option later by clearing the Show this page in the future check box located at the bottom of the IBM Cognos pane.
   - To start a specific application when opening IBM Cognos Office, in the Startup application box, click the application that you want.
4. Click OK.
Specify the data source used to connect to the database

A data source defines the physical connection information necessary for accessing the database that was used to create the models and packages published using Framework Manager, the IBM Cognos BI modeling tool.

Data sources are stored in the Cognos namespace and have unique names. You are not required to enter database authentication information each time the connection is used because the authentication information is encrypted and stored on the server.

IBM Cognos BI supports several types of data sources, such as DB2 or Oracle. You can select the data source to which you want to connect for your analysis.

Steps
1. On the IBM Cognos toolbar, click the Options button.
2. In the left navigation pane, click IBM Cognos.
3. Under IBM Cognos Datasource, in the Datasource box, click the data source to which you want to connect, and then click OK.

Add or modify the address for the IBM Cognos BI gateway

Before you can access IBM Cognos BI content, you must specify the location of the IBM Cognos BI gateway. The IBM Cognos BI application server runs requests, such as reports, analyses, and queries that are forwarded by a gateway. The IBM Cognos BI server then connects to the underlying data sources to obtain data.

You can specify more than one IBM Cognos BI gateway.

If you do not specify a gateway, you cannot open a report from IBM Cognos Connection (p. 25), publish a Microsoft Office document to IBM Cognos Connection (p. 24), or open a package. All these commands require that you specify the IBM Cognos BI server that contains the necessary data source. A message will prompt you to add the gateway location.

Steps to add an address
1. On the IBM Cognos toolbar, click the Options button.
2. In the left navigation pane, click IBM Cognos.
3. Under IBM Cognos Systems, in the System gateway URI box, type the URI that identifies the location of the IBM Cognos BI gateway.
   An example is the following, where server name is either the IP address of the computer or the computer name:
   
   http://server name/ibmcognos/cgi-bin/cognos.cgi

4. If you want to assign an abbreviated or more meaningful name to the URI, in the Friendly name box, type a name.
   If a name is not specified, the default name is server name:port.

5. Click Add.
The gateway location and friendly name appear in the **Systems** box.

**Tip:** To delete an existing address, in the **Systems** box, select the address that you want to delete, and click **Delete**.

6. To ensure that you have added the address properly, click the connection that you want to test, and the click **Test Connection**.

   If you receive the `Connection failed, server is unavailable` message, for help with troubleshooting, see the Configuration Issues in the Troubleshooting section.

7. Click **OK**.

In IBM Cognos for Microsoft Office, the friendly name appears in the IBM Cognos pane as the top or root node in the tree hierarchy.

In IBM Cognos Analysis for Microsoft Excel, the friendly name appears in a list in the **Select Package** dialog box. After the gateway is chosen, you can select the package or data structure that will provide items for a report.

After specifying the location of the IBM Cognos BI servers, you can enable single signon for seamless integration between IBM Cognos Office and IBM Cognos client applications, such as IBM Cognos Planning or IBM Cognos Controller, or between IBM Cognos Office applications.

**Steps to modify an address or friendly name**

1. On the IBM Cognos Office toolbar, click the **Options** button.

2. In the left navigation pane, click **IBM Cognos**.

3. In the **Systems** box, click the URI that you want to change.

4. Choose whether to change the address or the friendly name:
   - To change the address, in the **System gateway URI** box, make the necessary changes to the URI that identifies the correct location of the IBM Cognos BI gateway.
     
     An example is the following, where `server name` is the name of the IBM Cognos BI server computer:
     
     `http://server name/ibmcognos/cgi-bin/cognos.cgi`
   - To change the friendly name, in the **Friendly name** box, make the necessary changes.

5. Click **Replace**, and click **OK**.

After specifying the location of the IBM Cognos BI servers, you can enable single signon for seamless integration between IBM Cognos Office and IBM Cognos client applications, such as IBM Cognos Planning Controller, or between IBM Cognos Office applications.

**Set up user authentication**

Your administrator has already configured an authentication provider for IBM Cognos BI components. To enable security between IBM Cognos Office and IBM Cognos client applications, you can enable single signon. Single signon ensures that users who are logged on to one IBM Cognos client application, such as IBM Cognos Planning or IBM Cognos Controller, are not prompted for
authentication when they run another IBM Cognos client application, such as IBM Cognos Analysis for Microsoft Excel.

For single signon to work properly, it must also be established on the IBM Cognos BI servers. The IBM Cognos BI administrator must set a parameter in IBM Cognos Configuration that specifies that a client application can share session information with another client on the same computer. Users can then access reports without subsequent signons because the system automatically identifies users and provides security information.

If your company uses other Web-based access management software, such as SiteMinder, to provide single signon in your security infrastructure, you must enable forms-based authentication. The forms-based authentication service allows users to enter their credentials, such as the user name and password, through a form on a Web page. If the credentials are valid, users are logged on to the site. The credentials persist until the user explicitly logs off.

**Steps**

1. On the IBM Cognos Office toolbar, click the **Options** button.
2. In the left navigation pane, click **IBM Cognos**.
3. Under **IBM Cognos Systems**, choose whether to use single signon or forms-based authentication:
   - To enable single signon, select the **Enable single signon** check box.
     After logging on for the first time, each time that a secure report is accessed, no signon is required because the system automatically provides the security information.
   - To enable forms-based authentication, select the **Enable forms based authentication** check box.

**Enable logging as a diagnostic tool**

A log file is an important diagnostic tool for investigating the behavior of IBM Cognos Office. It can help you troubleshoot problems by recording the activities that take place when you work with IBM Cognos Office. These activities include information about the environment, exceptions, and entry and exit functions.

You can specify whether information about IBM Cognos Office is logged and at what level of detail. By default, log activities are saved to the `user_root_directory`.

Enable logging if you are attempting to troubleshoot unexpected behavior. In this situation, the support staff will want a copy of the entries in the log file.

Writing to log files may result in performance degradation.

**Steps**

1. On the IBM Cognos toolbar, click the **Options** button.
2. In the left navigation pane, click **IBM Cognos**.
3. Under **Logging**, select the **Log Level**.
   - To turn logging off completely, click **None**.
● To record only critical issues and events in the log, click Critical.

● To record errors as well as critical issues and events, click Error.

● To record warnings as well as errors and critical issues and events, click Warning.

● To record information as well as warnings, errors and critical issues and events, click Information.

● To record all events and issues, even routine items, click All.

4. Click OK.

By default, the log file, Log_yymmdd_hhmmss.txt, captures the activities and is located in drive:\Documents and Settings\user name\Local Settings\Application Data\Cognos\Office Connection\Logs.

The next time that you start IBM Cognos Office, activities and information about the environment are logged in the file.

Log on to an IBM Cognos Business Intelligence server

IBM Cognos BI supports authenticated and anonymous user access. To use IBM Cognos Office as an authenticated user, you must log on to the IBM Cognos BI server that contains the data source or package for the reports that you want to import.

When you access a package, you are automatically prompted to log on.

The procedures for logging on may vary depending on your credential system. You may have several logon screens that require credentials, such as user ID and password, or no logon screens are shown. Anonymous users do not log on.

You can be logged on to multiple data source servers at one time.

Steps

1. On the IBM Cognos toolbar, click the Logon button, and select the server that contains the data source or package for the desired reports.

2. If there is more than one namespace, in the Namespace box, click the desired namespace and click OK.

3. Type your User ID and Password, and click OK.

4. Repeat steps 1 to 3 for each additional server.

After logging on and showing the IBM Cognos pane, you can use IBM Cognos Office.

Clear Cache

For each workbook that you open or create during or after logging on to IBM Cognos Office or its components, a cache worksheet is created. This worksheet holds information about the data that needs to be rendered. You can clear the cache of packages used in workbooks that use IBM Cognos Analysis for Microsoft Excel. Clearing the package cache reduces the size of the workbooks
by deleting unused data and metadata associated with exploration and formulas. The Clear Cache button works for all the data sources and packages defined in IBM Cognos Analysis for Microsoft Excel. After you clear the cache, you must save workbooks to see a reduction in file size.

Clear the cache when workbook size matters. If the size of your workbook is too large due to extensive data, the clear cache function reduces the size of the workbook. However, there is a trade-off: the processing time for populating the workbook with data increases because the data must be retrieved from the IBM Cognos BI data server instead of relying on the data that is saved in the cache.

Alternatively, you can specify to clear the local cache of retrieved data each time that you save the workbook or save the workbook with a new file name. You can do this by selecting the Clear Cache on save check box.

**Steps**

1. Start IBM Cognos Analysis for Microsoft Excel.
2. Open a workbook.
3. From the IBM Cognos toolbar, click Options.
4. Under Cache Management, choose how you want to clear cache:
   - To clear the local cache for the active workbook, click Clear Cache.
     The cache is cleared and the size of the workbook is reduced. You can now open and save additional workbooks. To avoid creating a cache worksheet for non-IBM Cognos workbooks, you must exit Microsoft Excel.
   - To clear the local cache each time you save a workbook, or save a workbook with a new file name, select the Clear Cache on save check box.
     Data displayed on the workbook is cleared only when using the Clear All Data button from the IBM Cognos toolbar.
5. Click OK, and then save the workbook.

You can also automate the process for clearing the cache. For more information, see "ClearCache" (p. 109).
You can make changes to your reports or explorations by retrieving data and overriding any previous changes, removing data, or converting dynamic data to static data to prevent future updates from the IBM® Cognos® Business Intelligence server.

Regardless of the IBM Cognos Office application that you are using, you can perform the following actions on reports, explorations, or analyses:

- refresh data (p. 23)
- clear cells of contents (p. 23)
- convert dynamic data to static data (p. 24)

### Refreshing data

If the package or source data that a report is using changes, you can refresh it to ensure that you are working with the latest version.

In Microsoft® Excel, all worksheets in the workbook are updated with the most recent data. These include any imported reports or explorations, regardless of the application used. In Microsoft Word, IBM Cognos content on all pages of a document are updated. In Microsoft PowerPoint, IBM Cognos content on all slides of a presentation are updated.

**Tip:** On the IBM Cognos Office toolbar, click the Refresh All Data button.

In IBM Cognos for Microsoft Office, the results of the Refresh command differ based on whether you are running a report or viewing a report output version.

For more information, see the IBM Cognos for Microsoft Office User Guide.

Any modifications made to an exploration, such as adding or removing columns and rows, formatting, and manipulating data, are lost. Changes to cell-based analysis remain in effect. Any report or exploration whose data was converted to static text or numeric data remains unchanged.

### Clearing cells of content

You can clear cells in Excel to remove the contents, such as formulas or data. The cleared cells remain as blank cells on the worksheet. Formats, such as number formats, conditional formats, and borders are retained.

You may want to clear cells before saving a report so that

- report consumers are required to refresh data to obtain the latest changes from the data source
- report consumers are authenticated before they are able to view report content
Tip: On the IBM® Cognos® Office toolbar, click the Clear All Data button 🕹️.

Clearing the contents does not break the link to the data sources.

You can continue with your exploration or analysis, and then refresh your content with current data from the content store.

For information about reports or content cleared in IBM Cognos for Microsoft Office, see the IBM Cognos for Microsoft® Office User Guide.

Converting dynamic data to static data

If you modify a report, an analysis, or an exploration that you do not want to update with changes from the content store, you can convert the dynamic data items to static by disconnecting from the content store.

Tip: On the IBM® Cognos® Office toolbar, click the Convert to Static button 🕹️.

When you convert dynamic data to static data in Excel, any query-related information, such as calculations and filters, is removed from the Microsoft Office document but the data values are preserved.

Publish a Microsoft Office document to IBM Cognos Connection

Publish your IBM® Cognos® Office documents to IBM Cognos Connection to share them with other users in a secure and centrally managed way. Users can refresh the data based on their user authentication privileges in IBM Cognos Business Intelligence.

You can also automate this task by using the Publish method. For more information, see "Publish" (p. 107).

If IBM Cognos BI users do not have IBM Cognos Office installed, they can view the document and its contents, but they cannot refresh the data or update the contents.

For Microsoft® Word documents, you must first save the document before publishing the document to IBM Cognos Connection. Word must have a file to which to save the document before it can be published. For Excel and PowerPoint, the worksheet or slide is saved to a temporary file before it is published.

Steps

1. Open the document.

2. Choose whether you want to save your document with recent data:
   - To save the document with the most up-to-date data, on the IBM Cognos toolbar, click the Refresh All Data button 🕹️.
   - To save the document as a template without data, on the IBM Cognos Office toolbar, click the Clear All Data button 🕹️.

3. On the IBM Cognos Office toolbar, click the Publish button 🕹️.
4. If prompted, click your namespace and type your user name and password.

5. In the Look in box, click the IBM Cognos BI server where you want to publish the document.

6. Choose the type of folder in which you want to save the document:
   - To save the document in public folders, click Public Folders.
   - To save the document to your content, click My Folders.

7. In the Name box, type the name of your document.

8. If you want, in the Description box, type a description for the document.

9. Click Publish.

The active document is published to IBM Cognos Connection.

Opening, saving, and downloading existing Microsoft documents

You may have existing workbooks or presentations that you want to update with IBM® Cognos® Business Intelligence content. Your business situation may have changed and you now want to apply various business scenarios. To refresh your data or make enhancements, you can download published Microsoft® Office documents or open local documents. You can then use the Microsoft Office application of your choice to make changes.

Settings for custom properties that were specified in earlier versions of IBM Cognos for Office documents or workbooks become the new settings in the Options dialog box. For example, when an earlier version of an IBM Cognos Office-enabled document is opened, the address for the IBM Cognos BI gateway appears in the list of addresses under IBM Cognos Systems, if one was not already defined in custom properties.

Open and save a report locally from IBM Cognos Connection

You can store the reports that you create or modify on the IBM Cognos BI server. You can also open and save those reports on your computer. This is useful if you want to send a report to a report author who is working in a different environment, or you want to save the report to a source code controlled directory on a local network or drive.

Folders in IBM Cognos Connection are logically labeled and organized to help you locate reports. Entries in Public Folders are of interest to and can be viewed by many users. Entries in My Folders are accessible by you only when you are logged on.

If you are working from IBM Cognos Connection, you can also download a Microsoft document and open it in the application that was used to create it (p. 26).

You must have write access to a folder to create entries.

Steps
1. On the IBM Cognos Office toolbar, click the Open button.

2. In the Look in box, select the IBM Cognos BI server that contains the report that you want.
3. Choose the type of folder in which the report is saved:
   - To view content in public folders, click Public Folders.
   - To view only your content, click My Folders.

4. Click the report that you want, and click Open.

The report appears in your workbook, slide, or document. You can make changes and manipulate data, and publish it to IBM Cognos Connection for sharing (p. 24).

**Download a Microsoft Office document from IBM Cognos Connection**

You can download a Microsoft Office document from IBM Cognos Connection if it was published in one of the IBM Cognos Office applications, such as IBM Cognos for Microsoft Office.

You can download documents created in Excel, PowerPoint, and Word. The default action for any Microsoft Office document is to download it.

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

You must have read and traverse permissions to access Microsoft Office documents in IBM Cognos Connection.

**Steps**

1. In IBM Cognos Connection, locate the document that you want to open.

2. Click more on the actions toolbar to the right of the document that you want to download.

   The IBM Cognos Connection Actions page opens.

3. Choose to download the Microsoft Office document that you want:
   - For a Microsoft Office workbook, click the View most recent document in Excel button.
   - For a Microsoft Office presentation document, click the View most recent document in PowerPoint button.
   - For a Microsoft Office word document, click the View most recent document in Word button.

   The File Download dialog box appears.

4. Click Save and follow the prompts that appear.

   You must save the document before using it with any of the IBM Cognos Office applications. When you open the document, it opens in the application that was used to create it.

   You can now perform the same actions that you would perform for any Microsoft Office document of the selected type.
IBM® Cognos® Analysis for Microsoft® Excel® enables Microsoft Excel users to directly access centrally controlled and secured IBM Cognos information for improved decision-making. IBM Cognos Analysis for Microsoft Excel is a Microsoft Excel-based tool that professional report authors use to build sophisticated, multiple-sheet, multiple-query reports against multiple databases. With IBM Cognos Analysis for Microsoft Excel, you can use IBM Cognos data inside Excel to explore and analyze data and create reports, such as invoices, statements, and weekly sales and inventory reports.

Use the interactive drag-and-drop environment in IBM Cognos Analysis for Microsoft Excel to explore and analyze data to find answers to business questions.

Using IBM Cognos Analysis for Microsoft Excel, you can

- find and focus on items that are important to your business
- understand trends and anomalies
- compare data, such as details to summaries, or actual results to budgeted results
- assess performance by focusing on the best or worst results
- share your findings with others

IBM Cognos Analysis for Microsoft Excel is the component of IBM Cognos that you can use for multidimensional analysis and exploration of large data sources within the familiar Excel environment.

You can also open your custom reports in IBM Cognos Report Studio or explorations in IBM Cognos Analysis Studio to help you validate or understand the results of your report.

IBM Cognos Business Intelligence is designed to help you report, monitor, and analyze your company’s performance quickly and easily.

Who uses IBM Cognos Analysis for Microsoft Excel?

IBM Cognos Analysis for Microsoft Excel is not only for people with the word analyst in their job title, but for any business user who must understand and discover answers to business questions in company data and who use Excel as their primary analytical tool. For example, people who can use IBM Cognos Analysis for Microsoft Excel to support their decisions include, as an example

- regional managers who must assess performance
- manufacturing managers who must conduct defect analysis
- customer representatives who must understand their customer relationships

With IBM Cognos Analysis for Microsoft Excel, you can perform the following activities:
• slice and dice to easily change context and view details
• nest information from multiple dimensions
• drill up or drill down to change the focus of your analysis by moving between levels of information
• use one or more items to quickly focus on a particular view of the data, known as filtering using context
• remove sparse data by suppressing empty cells that contain null or zero value
• swap rows and columns to analyze your data differently

Sharing the results
An exploration created by IBM Cognos Analysis for Microsoft Excel can be shared with other users if you publish your workbooks to IBM Cognos Connection. For more information, see "Publish a Microsoft Office document to IBM Cognos Connection" (p. 24).

The user interface
The IBM Cognos Analysis for Microsoft Excel user interface has a document actions pane, which contains a source tree and several commands, an Exploration or List bar, an overview area, a work area, and a toolbar or ribbon to help you create reports.

You can drag-and-drop data items from IBM Cognos Business Intelligence packages into the cells of a worksheet.
IBM Cognos Analysis pane

The IBM Cognos Analysis pane is a document actions pane that contains the source tree that lists hierarchical data that you can add to a report. You add objects to a report by dragging them to the work area.

The IBM Cognos Analysis pane contains these controls.

<table>
<thead>
<tr>
<th>Icon</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1.png" alt="Open another package" /></td>
<td>Open another package for the data source.</td>
</tr>
<tr>
<td><img src="image2.png" alt="Search metadata" /></td>
<td>Search the metadata for specific words in a selected hierarchical object.</td>
</tr>
<tr>
<td><img src="image3.png" alt="Add worksheet" /></td>
<td>Add a numbered worksheet in front of the current worksheet with a form and List bar where you can drop objects from IBM Cognos data sources.</td>
</tr>
<tr>
<td><img src="image4.png" alt="Add crosstab" /></td>
<td>Add a numbered worksheet in front of the current worksheet with a crosstab exploration form and exploration bar where you can drop objects and measures from IBM Cognos data sources.</td>
</tr>
<tr>
<td><img src="image5.png" alt="Access help" /></td>
<td>Access the help. Read information about the product, such as product version and copyright statement.</td>
</tr>
</tbody>
</table>

The source tree

The source tree is for the package that you selected. For DMR and OLAP packages, it presents a dimensional view of your data and the tree is organized into dimensions, hierarchies, levels, and measures. For relational packages, it presents query subjects organized into lists of data items.

The names of the levels and members in a dimension come from the model. It is the responsibility of the modeler to provide meaningful names that you can use when authoring your report.

The following is an example of a source tree from a dimensionally modeled data source.

![Source Tree Example](image6.png)
Exploration bar

Use the following buttons on the Exploration bar to work with different areas of the report or open the report in either IBM Cognos Report Studio, IBM Cognos Business Insight Advanced, or IBM Cognos Analysis Studio.

<table>
<thead>
<tr>
<th>Icon</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>![Icon]</td>
<td>Back. Undo the most-recent action that you made in the active exploration.</td>
</tr>
<tr>
<td>![Icon]</td>
<td>Forward. Redo the most-recent action that you undid in the active exploration.</td>
</tr>
<tr>
<td>![Icon]</td>
<td>Clear all metadata and data in rows, columns, and measures and create a new exploration. Each time that you create a new exploration, it is assigned a new worksheet. Create a blank crosstab or exploration in the active worksheet.</td>
</tr>
<tr>
<td>![Icon]</td>
<td>Run with All Data. Retrieve data from the data source to the active exploration while you work on the exploration.</td>
</tr>
<tr>
<td>![Icon]</td>
<td>Preview with No Data. Defer the retrieval of data from the data source to the active exploration while you work on designing the exploration. To retrieve data while in this mode, you must click the button. The exploration populates with the data, but stays in design mode.</td>
</tr>
<tr>
<td>![Icon]</td>
<td>Convert each cell to a COGVAL or COGNAME formula, which links each cell to its corresponding item in the database and place the results on the active worksheet. Preserve the data in the Excel workbook as a formula rather than static values. Formulas are generated from the relative position of dimension items.</td>
</tr>
<tr>
<td>![Icon]</td>
<td>Convert each cell to a COGVAL or COGNAME formula, which links each cell to its corresponding item in the database and place the results on a new worksheet. Preserve the data in the Excel workbook as a formula rather than static values. Formulas are generated from the relative position of dimension items.</td>
</tr>
<tr>
<td>![Icon]</td>
<td>Convert each cell to a COGVAL or COGNAME formula, which links each cell to its corresponding item in the database and place the results at a specified location. Preserve the data in the Excel workbook as a formula rather than static values. Formulas are generated from the relative position of dimension items.</td>
</tr>
<tr>
<td>![Icon]</td>
<td>Run the current exploration in the active worksheet in IBM Cognos Report Studio where you can continue with your report and model prototyping.</td>
</tr>
<tr>
<td>![Icon]</td>
<td>Run the current exploration in the active worksheet in IBM Cognos Analysis Studio where you can perform sophisticated analysis and discovery.</td>
</tr>
</tbody>
</table>
Open the current exploration in IBM Cognos Business Insight Advanced where you can continue working with your report.

Publish to IBM Cognos Connection by saving the current exploration as a web report.

Remove sparse data in an exploration by suppressing empty cells that contain null or zero values. For details about the commands, see "Suppress empty cells in a crosstab" (p. 53).

Exchange data objects between rows and columns. Use the button to look at information from a different perspective. You can swap columns and rows only in a crosstab.

For an exploration from a relational data source, create a filter for the entire exploration. Note: For OLAP and DMR data sources, this button is not available but you can filter individual items by selecting the filter control from the drop-down box in the overview area.

Insert Single Member. When you drag and drop an item, you are setting an option to insert a node item as a single entry on a row or column. Selecting this option does not add additional items that are components of the node item.

Insert Member With Children. When you drag and drop an item, you are setting an option to insert a node item along with the component items on subsequent rows and columns.

Insert Calculation. Insert a calculation to make your exploration or list more meaningful by deriving additional information from the data source.

Insert blank or user-defined row or column.

### List bar

Use the following buttons on the List bar to work with different areas of the report or open the report in IBM Cognos Report Studio or IBM Cognos Business Insight Advanced.

<table>
<thead>
<tr>
<th>Icon</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Back. Undo the most-recent action that you made in the active list.</td>
</tr>
<tr>
<td></td>
<td>Forward. Redo the most-recent actions that you undid in the active list.</td>
</tr>
<tr>
<td>Icon</td>
<td>Description</td>
</tr>
<tr>
<td>------</td>
<td>-------------</td>
</tr>
<tr>
<td><img src="image" alt="Icon" /></td>
<td>Clear all metadata and data in columns and create a new list. By default, each time that you create a new list, it is assigned a new worksheet. Create a blank list in the active worksheet.</td>
</tr>
<tr>
<td><img src="image" alt="Icon" /></td>
<td>Run with All Data. Retrieve data from the data source to the active list while you work on the list.</td>
</tr>
<tr>
<td><img src="image" alt="Icon" /></td>
<td>Preview with No Data. Defer the retrieval of data from the data source to the active list while you work on designing the list. To retrieve data while in this mode, you must click the button. The list populates with the data, but stays in design mode.</td>
</tr>
<tr>
<td><img src="image" alt="Icon" /></td>
<td>Run the current list in the active worksheet in IBM Cognos Report Studio where you can continue with your report and model prototyping.</td>
</tr>
<tr>
<td><img src="image" alt="Icon" /></td>
<td>Open the current list in IBM Cognos Business Insight Advanced where you can continue working with your report.</td>
</tr>
<tr>
<td><img src="image" alt="Icon" /></td>
<td>Publish to IBM Cognos Connection by saving the current list as a web report.</td>
</tr>
<tr>
<td><img src="image" alt="Icon" /></td>
<td>Remove sparse data in a list by suppressing empty cells that contain null or zero values. For more information about the commands, see &quot;Suppress empty rows in a list&quot; (p. 66):</td>
</tr>
<tr>
<td><img src="image" alt="Icon" /></td>
<td>Group repeating list items.</td>
</tr>
<tr>
<td><img src="image" alt="Icon" /></td>
<td>Create a filter for the list.</td>
</tr>
<tr>
<td><img src="image" alt="Icon" /></td>
<td>Insert blank or user-defined row or column.</td>
</tr>
</tbody>
</table>

**The overview area**

The overview area is shown only if you are viewing a worksheet with an exploration or a list. You can use the overview area as a convenient place to quickly explore and change the contents of the Excel worksheet.

The overview area shows any applied filters. In an exploration, you can rearrange rows and columns, drill up or down, and provide context for the worksheet. In a list, you can rearrange columns.

You can select a set in either the Excel workspace or in the overview area.

Each box in the **Rows** and **Columns** areas represents one or more sets in the crosstab. You can use the objects to drill up or down. The context that you specify in the **Context** box is used to filter the values. The crosstab shows the results only for the selected item.

The overview area caches the state of the last exploration or list that you created. This means that when you open a saved workbook, the overview area does not reflect the context of the saved
exploration or list. To synchronize the overview area with the active exploration or list, you must clear the cache of the overview area. You can do this by either closing the workbook and opening a new worksheet or restarting Microsoft Excel.

**Work area**

The work area, which appears when using the exploration or list mode, is a Microsoft Excel workspace where you place data items for the crosstab or list reports that you design. After placing items in the **Rows, Columns, Measure**, and, optionally, **Context** of the exploration, or **Columns** of the list, the data appears in the cells of the worksheet. The Exploration version of the work area is pictured here.

You can change, limit, or expand the items that you see in the crosstab, using techniques such as filtering and drilling, to quickly focus on the most significant items on your worksheet.

You can also drag and drop DMR and OLAP items directly into the cells of a worksheet. This is referred to as cell-based analysis or cell-based mode.

When using the exploration mode, there are distinct drop zones where you can insert a new data item. The drop zones that you choose define the relationship between the data item and the column. When using the list mode, there is a single column drop zone where you can insert and nest data items.

**Customizing IBM Cognos Analysis for Microsoft Excel**

You can set options that apply to IBM Cognos Analysis for Microsoft Excel or specifically to your explorations.
Options for the application (p. 34) apply to workbooks created in IBM Cognos Analysis for Microsoft Excel that may include explorations, analyses, and consumed reports from IBM Cognos data sources. The data structures are retrieved from the packages in the content store.

Options for explorations (p. 34) apply to worksheets that contain explorations. You can use these options to quickly change how you view performance indicators, such as revenue or production costs. OLAP exploration refers to the term slicing and dicing to describe the ease with which you can change context and view details.

Set options for IBM Cognos Analysis for Microsoft Excel

Some actions in IBM Cognos Analysis for Microsoft Excel can affect performance. For example, each time you select a package whose data will be used in the report, the application must make a request to the IBM Cognos server. You can load the most recently used system and package each time you start the IBM Cognos Analysis for Microsoft Excel session.

When working with dimensionally modeled relational data, you can use member functions to manipulate members by getting the child members for the parent member. You can limit the number of members shown in the Source tree.

Steps

1. On the IBM Cognos Office toolbar, click the Options button.
2. In the left navigation pane, click IBM Cognos Analysis.
3. If you want to load the most recent system and package each time that you start your IBM Cognos Analysis for Microsoft Excel session, under Application Settings, select the Load most recently used system and package check box.

   This is most useful when you use the data source regularly and you want an easy way to access it so that you can quickly begin or resume work. If the most recently used package is inaccessible or missing, no source tree is shown. You must select another package to replace the missing one.

4. If you want to limit the number of members shown in the source tree, under Application Settings, in the Member display count limit box, type the maximum number of members that can appear in the source tree before showing the Search option.

   The number of members is reflected in each box in the Rows, Columns, and Context areas of your exploration. This setting applies to dimensionally modeled data. It does not apply to relational packages. This setting also limits the number of items that you can select and place in any of the drop zones, even from the result of a search.

5. Click OK.

Set options for explorations and lists

In IBM Cognos Analysis for Microsoft Excel, each exploration that you create is assigned to a single worksheet. You can select a different server and package for each exploration. The packages that you use to create the reports are based on models that are created in the modeling tool, Framework Manager.
To help you identify the source of data for each worksheet, you can choose to show the server name and package from which the data is retrieved. When this preference is set, the server name and package are shown in the first two rows of an exploration worksheet. Similarly, when a package is opened, the Information dimension includes objects, such as System Name and Package Name, that you can change by dragging and dropping into the worksheet in a cell-based analysis.

Rows directly below the source information show filtering using context from the **Rows**, **Columns**, and **Context** areas of the exploration.

You can also improve the performance of your session by limiting the rows that are rendered in a Microsoft Excel exploration.

### Steps

1. On the IBM Cognos Office toolbar, click the **Options** button.
2. In the left navigation pane, click **IBM Cognos Analysis**.
3. If you want to show the server and package information, under **Exploration and List Settings**, click the **Show system and package information in exploration and list sheet** check box.
   The first row of the worksheet shows the server name, which is the URI location of the IBM Cognos gateway. The second row shows the package name (the fully qualified location) in the content store. The **Row**, **Columns**, and **Context** rows show the dimension or level hierarchy that contains the items used for filtering.
4. If you manually want to set the starting cell location for an exploration or list, under **Exploration and List Settings**, click the **Assign exploration or list starting cell** check box.
   By default the starting cell is A1 in the worksheet. If you set this option, when you create an exploration or list, the application prompts you to click a cell in the worksheet or enter a cell location.
5. If you want to restrict the number of rows in the current crosstab exploration, under **Exploration and List Settings**, in the **Data display row limit** box, type the number of rows that can be shown.
   By reducing the number of records rendered in an exploration, you can reduce the time required to retrieve the metadata. This setting does not apply under the following conditions:
   - when creating list explorations
   - when in cell-based analysis
   - when **Preview with No Data** option is selected
6. To control the number of items appearing in explorations and lists when expanding or drilling the metadata, under **Exploration and List Settings**, set the **Expand member limit** option.
   This setting controls only the number of items that are being dragged from the source tree. It is in effect only when **Insert Member With Children** is set on the IBM Cognos toolbar. It does not apply to cell-based analysis.
   For more information, see "Setting limits on expanding items" (p. 38).
7. To control how labels appear in nested cells, set the **Grouping option**.
The **Grouping option** controls how the Group / Ungroup feature works. For crosstab explorations, this is the automatic setting for presentation of metadata in nested rows and columns. For lists, this determines how the Group / Ungroup menu items and buttons work. These settings affect the entire workbook.

Choose whether to **Merge Cells**, **Repeat Labels**, or **Label Top Cell**.

- To merge metadata into cells that span nested items and allow for full grouping, click **Merge Cells**.
- To repeat metadata in individual cells that span nested items, click **Repeat Labels**.
  
  Use this option when you want to use other Excel functions on the data.
- To limit cell metadata and merging to minimize labels, click **Label Top Cell**.

8. To show the members of a report data item by double-clicking a cell, under **Formula Settings**, select the **Expand with double click** check box.

IBM Cognos Office features associated with double-clicking a cell are not supported in Office XP.

The setting is applied only if you are doing cell-based analyses. If you are doing a cell-based analysis and no metadata is available on rows or columns, double-clicking a cell places the contents in edit mode.

9. To limit the number of cells that are returned when you add data items to a cell-based analysis, type a number in the **Data Object Cell Limit** box.

The default is 200. You must decide what is optimal for your system, based on the processor speed, cache, and RAM or VRAM. Lowering the number gives you a faster processing time when you are retrieving large amounts of data.

10. To set the time limit for retrieving data and populating cells during cell-based analysis, type the number of seconds in the **Processing time limit (milliseconds)** box.

The default is 1,000 milliseconds. For large requests, the processing time limit must be increased. For example, to increase the value to 100 seconds, type 100000 in the **Processing time limit (milliseconds)** box.

11. Click OK.

12. If you have a workbook open and you want your changes to take effect, on the IBM Cognos Office toolbar, click the **Refresh All Data** button.

**Using application settings to optimize your system performance**

To optimize performance, use the settings on the **Options** dialog box to set the **Member display count limit**, the **Data object cell limit**, and the **Processing time limit**. By modifying these values you can increase the efficiency of data retrieval.

The **Member display count limit** defaults to 200. It limits the number of items that appear in the source tree. In some cases, this may be too large and should be decreased. Although the overall data retrieval time may not be affected by lowering this value, the time to populate the initial group of
items decreases. Setting this value to zero (0) turns this feature off. Because of the way this feature works with the Data object cell limit, in cases of complex data requests represented in a workbook with nested rows and columns, you may need to turn this feature off to view complete data in the workbook. You must determine what an appropriate value for your environment is.

Request large data sets in CSV format to optimize your system

For list reports, IBM Cognos Analysis for Microsoft Excel can retrieve large data sets in CSV format. This enables IBM Cognos Analysis for Microsoft Excel to retrieve these data sets much faster than the standard fully formatted XML results. Turning this feature on means that data formatting is stripped from the model.

We recommend that CSV be turned on for large data sets. Use the following procedures to set CSV as the default.

It is possible to set the request format for individual worksheets. For more information, see "Set list options for a worksheet" (p. 69).

Steps to turn CSV format on

1. On your workstation, locate and open with an XML or text editor the CognosOfficeReportingSettings.xml file.
   
   In a typical installation, the CognosOfficeReportingSettings.xml file is located in the following directory:
   
   C:\Documents and Settings\user name\Local Settings\Application Data\Cognos\Office Connection

2. To set the request format for all workbooks to CSV type the following entry:
   
   `<setting name="RequestFormat">CSV</setting>`


   The default request format is set to CSV.

Steps to turn CSV format off

1. On your workstation, locate and open with an XML or text editor the CognosOfficeReportingSettings.xml file.
   
   In a typical installation, the CognosOfficeReportingSettings.xml file is located in the following directory:
   
   C:\Documents and Settings\user name\Local Settings\Application Data\Cognos\Office Connection

2. To set the request format for all workbooks to raw XML, replace the request format with the following entry:
   
   `<setting name="RequestFormat">rawXML</setting>`


   The default request format is set to raw XML.
Controlling data compression

Automatic data compression is one way that IBM Cognos Analysis for Microsoft Excel decreases processing time for large data transfers from the BI server. Data compression should be turned on under normal circumstances. Although compression is turned on by default, it can be turned off by setting the UseGzipCompression property to false in the CommManagerSettings.xml file, which, by default, is located in the following directory:

C:\Documents and Settings\user name\Local Settings\Application Data\Cognos\Office Connection

Turn compression off if you need to run tests or perform troubleshooting.

To turn gzip compression on set the following attribute:

<setting name="UseGzipCompression">True</setting>

GZip and CSV formats automatically activated for lists

GZip compression is turned on automatically when you change from RawXML format to CSV formats for lists. The global property is not changed, which means that if you turned compression off, that setting is retained for other types of data transfers.

For example, if you have compression turned off and you were to create a new exploration after making a CSV list request then your exploration data would still be uncompressed.

Chunking

Chunking enables IBM Cognos Analysis for Microsoft Excel to query for large data sets in chunks or subsets of rows. We recommend that chunking be turned on and that the row setting be set initially to 200. If server out of memory errors still occur, set the chunk size smaller.

Chunk size is set in the CognosOfficeReportingSettings.xml file, which, by default, is located in the following directory:

C:\Documents and Settings\user name\Local Settings\Application Data\Cognos\Office Connection

To turn on chunking, set the following attribute:

<setting name="ChunkSize">2000</setting>

Setting limits on expanding items

The Expand member limit setting in the Options dialog box controls how much data to retrieve from the source tree. It is complimentary to other limits, such as chunk size and GZip compression.

Specifically, the Expand member limit setting applies to a member that is being dragged and dropped onto a report. This setting takes effect only when Insert Member With Children is set and controls only the number of items that are being dragged from the source tree.

For example, if Expand member limit is set to 200 (200 is the default value) and you drag Products that contains five items, then all five items appear on the report. If you drag a node item with 400 items, then only 200 of its 400 sub-items appear on the report. You can also observe interaction with the Data display row limit, which controls how many items to display in the rows and columns of the worksheet. If the data row limit is set to 3, and Expand member limit is set to 200, only 3 items appear on the report. You must click More or All to see the additional items controlled by this setting.
The **Expand member limit** setting applies only to cubes and DMR packages and does not apply to relational packages.

## Working with dimensionally modeled relational and OLAP data

For IBM Cognos Analysis for Microsoft Excel, data items are organized hierarchically. Dimensional data sources include OLAP data sources and dimensionally modeled relational (DMR) data sources. The source tree, shown below, provides a hierarchical-based view of the data.

![Source Tree Diagram](image)

**Note:** The names of levels and members in a dimension come from the model. It is the responsibility of the modeler to provide meaningful names.

1. **Package**
   Packages are subsets of a model, containing items that you can insert in a report.

2. **Dimension**
   Dimensions are broad groupings of descriptive data about a major aspect of a business, such as products, dates, or markets. The Information dimension includes additional objects, such as System Name and Package Name that you can also drag and drop into the worksheet.

3. **Level hierarchy**
   Level hierarchies are more specific groupings within a dimension. For example, for the **Years** dimension, data can be organized into smaller groups, such as **Years**, **Current Month**, and **All Dates**.

4. **Members folder**
   Members folders contain the available members for a hierarchy or level. For example, the **Members** folder for the **Years** level hierarchy contains everything found in the **Year**, **Quarter**, and **Month** levels.

5. **Level**
Levels are positions within the dimensional hierarchy that contain information at the same order of detail and have attributes in common. Multiple levels can exist within a level hierarchy, beginning with a root level. For example, the *Years* level hierarchy has the following related levels.

<table>
<thead>
<tr>
<th>Level</th>
<th>Level name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Root</td>
<td>Years</td>
<td>The root level.</td>
</tr>
<tr>
<td>First</td>
<td>Year</td>
<td>Years in the <em>Years</em> root level. For example, 2004, 2005, and 2006.</td>
</tr>
<tr>
<td>Second</td>
<td>Quarter</td>
<td>Quarters for each year in the <em>Year</em> level. For example, 2004 Q1, 2004 Q2, and 2004 Q3.</td>
</tr>
<tr>
<td>Third</td>
<td>Month</td>
<td>Months for each quarter in the <em>Quarter</em> level. For example, Jan, Feb, and Mar.</td>
</tr>
</tbody>
</table>

The *Measures* dimension, which is not shown in the above table, contains the measures available in the data source.

**Understanding the differences between exploration, list, and cell-based analysis**

Using IBM Cognos Analysis for Microsoft Excel, you can work in three different methods: exploration, list, or cell-based analysis. When you create an exploration, you use drop zones to add objects from the source tree to the rows, columns, measures, and context area of an IBM Cognos Office workbook. When you create a list, you use a single drop zone, columns, to create a list of items. You can add additional columns to populate the list with additional information. In a list, each column shows all the values for a data item in the database. When you use cell-based mode, you drag and drop objects directly onto the cells of a workbook. You can move between the modes. Each of these methods has its own benefits and limitations.

**Exploration**

Some of the strengths associated with exploration include its drag and drop capabilities and visual cues that it provides through the use of drop zones in the overview area. When using IBM Cognos Analysis for Microsoft Excel in exploration mode, you can launch explorations in IBM Cognos Analysis Studio and IBM Cognos Report Studio. Exploration mode provides its own formatting based on the underlying data. You can create a cell-based analysis from an exploration.

For more information on exploration, see "Creating an exploration and understanding exploration" (p. 43).
**List**

Some of the strengths associated with lists include its drag and drop capabilities and visual cues that it provides through the use of a drop zone in the overview area. You can very easily and quickly view all the items in the tables of your database. When using IBM Cognos Analysis for Microsoft Excel in list mode, you can launch list reports in IBM Cognos Report Studio.

For more information on lists, see "Creating a list and understanding lists" (p. 63).

**Cell-based analysis**

Some of the strengths associated with cell-based analysis include the ability to use multiple packages in the same worksheet, the ability to move cells, rows, and columns, and add Excel calculations, charts, and formatting. Using cell-based analysis enables you to move beyond simple crosstab layouts. From a single cell it is easy to create a detailed exploration.

For more information on cell-based analysis, see "Using cell-based analysis" (p. 73).

**Recommendations for when to use exploration, list, or cell-based analysis**

This section outlines some of the recommended practices for working with data using IBM Cognos Analysis for Microsoft Excel.

Because this environment is entirely within Microsoft Excel, there are special considerations when rendering IBM Cognos data into the cells of a worksheet. Each method (exploration, lists, or cell-based analysis) has its own set of design guidelines.

**Explorations**

The following are some design considerations for creating your exploration. Use an exploration

- to find answers to simple questions that can be found in your data source, such as the revenue for Tents in the Americas for 2006
- to build interactive crosstabs that you or another user can drill up and down in
- when you are not concerned with formatting
- to build a data set that you will convert and use in a more complex cell-based analysis

**Lists**

The following are some design considerations for creating your list. Use a list

- to create a comprehensive group of items in a query subject or table of the database
- to enumerate the members of an OLAP dimension

**Cell-based analysis**

The following are some considerations for creating a cell-based analysis. Use cell-based analysis

- to add data and calculations that are not in the original data source
• to work with data from multiple data sources, packages, and servers
• to create layouts with complex layouts, rather than a simple crosstab
• when formatting is important
• when you are presenting a final view that does not require interactive exploration
Create an exploration to help you make more effective business decisions by exploring significant company data. Data sources can be relational, OLAP, or dimensionally modeled relational (DMR).

**What is exploration?**
You can use IBM® Cognos® Analysis for Microsoft® Excel® to quickly change how you view performance measures, such as revenue or production costs.

OLAP (online analytical processing) exploration uses the term slicing and dicing to describe the ease with which you can change context and view details. For example, you look at revenue for the years 2006 to 2008 by sales region. You notice a dip in the revenue for 2007. By clicking 2007, you can drill down to show revenue results by quarter for 2007. You can easily change the view from quarters for 2007 to sales personnel by replacing quarters with sales personnel.

You can use IBM Cognos Analysis for Microsoft Excel to compare and manipulate data so that you can better understand relationships between data and the relative importance of individual data items. Whether you want to assess revenue growth or to identify top performers, IBM Cognos Analysis for Microsoft Excel provides the filtering and sorting support you need for exploration.

To extend the example of reviewing revenue by sales region and sales personnel, you can add sales targets and then calculate the percentage difference between the sales target and actual revenue for each salesperson. The result indicates who achieved their sales quota as well as who is eligible for a bonus.

For an example about creating a basic exploration, see "Example - create a crosstab for an exploration of order method revenue" (p. 85).

If you are already comfortable with exploration fundamentals, you may want to refine your exploration by using tasks such as manipulating the rows and columns (p. 59), filtering data (p. 53), and sharing the results.

**Creating a new exploration**
To explore data using IBM Cognos Analysis for Microsoft Excel, select a package and choose items from that package to place in the rows and columns of the Excel worksheet.

Before you can create an exploration, the administrator must create a package in Framework Manager and published it to a location in the IBM Cognos Connection portal to which you have access. For full access to IBM Cognos Analysis, you should be a member of the Express Authors or Report Administrators role in IBM Cognos Business Intelligence. An administrator must configure these privileges using IBM Cognos Administration.

Creating a new exploration involves
- specifying the package (p. 44)
Chapter 5: Creating an exploration and understanding exploration

- adding data items to rows and columns (p. 45)
- selecting measures (p. 45)
- optionally, nesting (p. 56) and filtering data (p. 51)

To format cells in your exploration, you can use the IBM Cognos custom styles, such as **IBM Cognos - Measure** or **IBM Cognos - Calculated Column**, in addition to the pre-built Microsoft Excel styles.

You can access the IBM Cognos styles from the Excel Style command on the Format menu. In Microsoft Excel 2007, access the IBM Cognos styles from the Cell Styles icon in the Styles section on the Home tab ribbon. The IBM Cognos styles are listed along with the pre-built Excel styles. You can modify attributes, such as font and alignment, and then save the changes to a template for re-use.

In Microsoft Excel 2003 and 2007, a background color that is set using the Format Cells command overrides the background color that is set for the cell styles.

**Specify the package for your crosstab**

Specify the package that will provide items for the exploration. To select a package and view data, you must have security rights to that package.

The packages that you use to generate your exploration are based on models that are created in the modeling tool, Framework Manager. A model is a set of related objects, such as query subjects, dimensions, filters, and calculations.

The package must be previously created and published to the IBM Cognos Connection portal. For more information, see the Framework Manager User Guide.

**Steps**

1. Start Microsoft Excel
2. On the IBM Cognos toolbar, click **IBM Cognos**.
3. In the IBM Cognos pane, click the IBM Cognos Analysis button.
4. In the IBM Cognos Analysis pane, click **Open Package**.
   
The Select Package dialog box appears.
5. If more than one system has been configured, click **System** and select a data source.
6. If more than one package exists, click the one you want to use and then click **OK**.

Objects from the selected package, such as data items appear in the source tree.

**Tip:** If the package that a report is using has changed, load it to ensure that you are working with the latest version. In the Select Package dialog box, in the System box click a server, and then click Load Packages. To change a server and package, in the information area of the worksheet, double-click the server name and click the server and package from the Select Package dialog box.
Add objects to rows and columns

Select the data items that you want to appear in the crosstab. When selecting multiple items, the selected items are placed in the crosstab in the order that you click them. To avoid rearranging items after you drag and drop them into the crosstab, click the items in the desired order of placement. To add an item to a multiple set, hold down the Ctrl key while dragging the item. This appends the new item to the items already in the crosstab exploration.

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

Steps

1. In the IBM Cognos Analysis pane, click Create a new exploration.

2. If the Select Start Location dialog box appears, type a cell address, such as $L$20 and click OK.

   By default, the starting cell is A1 in the worksheet. If you set the Always start exploration or list at default location check box in the Select Start Location dialog box, when you create an exploration or list, the application no longer prompts you for a starting location and uses the default location each time you create a new exploration.

   Tip: To select a cell, you can also click a cell to populate the Start Address box and then click OK. For example, to accommodate graphs or other user-inserted cells at the top of a worksheet, you can move the exploration down.

   A new worksheet with a work area is added to the open workbook.

3. In the source tree, in the IBM Cognos Analysis pane, drag each data item to the location in the work area where you want it to appear.

   You can drag objects to Rows or Columns. Use the Context area to further refine or filter your report.

   Tips:
   - To drag more than one item, you can use Shift+click or Ctrl+click.
   - To add an item to items that are already on Rows, Columns, or Measure, hold down the Ctrl key and drop the item onto the existing items.

4. Save your workbook.

   Selected items appear in the rows and columns of the report.

   After you edit your workbook, you can publish it to IBM Cognos Connection. For more information, see "Publish a Microsoft Office document to IBM Cognos Connection" (p. 24).

Select measures

Each exploration based on DMR or OLAP packages must contain at least one measure. Only one measure can be dragged to the measure drop zone. If you select more than one measure by placing
a measure in a row or column, the measure that is in the measure drop zone becomes the default measure.

**Tip:** To drag more than one measure to a row or column, you can use Shift+click or Ctrl+click.

Sometimes, when you add measures to columns or rows, you may notice that other items get re-ordered. This is a query framework behavior. Unlike an OLAP data source, DMR data is not returned in a specified order. If a specified order is required, you must edit the specifications in Framework Manager.

**Steps**
1. In the source tree, select and drag a measure to the measure drop zone.
   
   The selected measure appears.
2. Save your workbook.

After you save your workbook, you can publish it to IBM Cognos Connection. For more information, see "Publish a Microsoft Office document to IBM Cognos Connection" (p. 24).

**Remove measures from an exploration**

To remove measures from an exploration you must have an active worksheet. After removing a measure from the measure drop zone, you are able to add back a measure. In addition to the measure drop zone, which can only contain a single measure, you can add multiple measures to other drop zones.

To replace a measure, you can drag a new measure to any of the drop zones where the measure has been placed. This includes the measure drop zone.

**Step using the toolbar**

- To remove a measure from the measure drop zone in an exploration, on the Exploration bar, Ctrl+click the **Reset to blank exploration** button.

**Step using the context menu**

- Right-click the cell that displays the measure name, click **IBM Cognos Analysis**, and then click **Delete**.

The measures are removed from the measure drop zone in the exploration. You can now add one or more measures to the exploration.

**Insert a hierarchy in an exploration**

You can insert a hierarchy in an exploration based on the structure of the metadata tree. You do this by selecting **Insert member With Children** and then dragging a node item to either the Rows or Columns drop zone.

If you move an item from the Context drop zone into either Rows or Columns, it follows the current setting, either **Insert Member with Children** or **Insert Single Member**, when moving the item.
Alternate hierarchies of the same dimension can only be stacked in the same exploration. They cannot be nested or used on opposite axes. Alternate hierarchies of the same dimension, for example, Retailers by Geography and Retailers by Type, do not produce logical results when combined on the same exploration as nested items or on opposite dimensions. To combine two alternate views of the same hierarchy, you must model them as separate dimensions. If they are available as separate dimensions, they can be combined on the same exploration. For example, it would be possible to place Retailers by Type on rows with Retailers by Geography on columns, and Retailers by Type on rows with Retailers by Geography nested on rows.

**Steps**

1. On the Exploration bar, click Insert Member With Children.

2. In the source tree, drag the hierarchy that you want to insert to the Rows or Columns drop zone.

**Note:** If by using one of the multiple selection techniques, you dragged an item and one of its children to Rows or Columns, you may notice that it appears twice. If this was accidental, you can delete the repeated item. To remove an item, in the work area, right-click the item and then click Delete. The items appear in the exploration in their expanded format.

**Finding the items that you need**

The source tree for the package that you select may contain large amounts of data. To find the items that you need in the source tree, you can

- expand a dimension to see successive levels and details
- specify a greater or lesser number of items to show in the source tree
- search for more items

By default, the source tree shows 50 items for any one dimension at a time. You can change this value to increase or decrease the number of items displayed. Depending on the size of the data source, you may want to set a smaller value to improve performance.

If there are more than the specified number of items in the dimension, a search button appears at the bottom of the list. If you click this icon, you can enter your search criteria to find the items that interest you.

**Search for items in the source tree**

By default, the maximum number of items shown in any single dimension in the source tree is 50. You can set a lower value to improve performance.

Searching is limited to the immediate details of the selected item. In DMR packages, you can only search one level down. For example, if searching for Star Dome Tent, you must select Tents and not Products to perform your search.

**Steps**

1. In the source tree, click a dimension, hierarchy, or level, and click Search metadata.
2. In the **Words** box, type the words or characters for which you want to search.

3. In the **Options** box, click the search parameter you want to use.

4. If you want to perform a case-insensitive search, select the **Case insensitive** check box.
   If the database does not support this feature, it may be disabled.

5. In the **Search In** box, click the level in which you want to search.

6. Click **Search**.

7. After you finish your search, click **Close**.

The search items appear in the **Results** box. You can drag and drop items directly from the **Results** box to the work area. If you do not see the results box, you may need to resize the dialog box so that all the fields are visible.

**Tip:** To make it easier to find items, you can specify the number of items to show in the source tree for the current session. For more information, see "Set options for IBM Cognos Analysis for Microsoft Excel" (p. 34).

### Insert items

You insert items from the source tree as rows and columns in a crosstab to create sets for exploration. A set is a collection of like data. For example, you can have a set of data named years that includes quarters as details. You can control how items are inserted by setting options on the Exploration bar to either **Insert Single Member** or **Insert Member With Children**.

An exploration must have at least one set of items and at least one measure. The default measure specifies the measure to use for a crosstab if the measure is not set by one of the existing axes. For example, you create a crosstab with **Products** in the rows and **Quantity Sold** in the columns. You add **Revenue** to the **Measure** drop zone to make it the default measure, but the values in the rows do not change because they refer to the measure **Quantity Sold** in the column axis. However, if you replace the measure **Quantity Sold** with the non-measure **Order Method**, the values now refer to **Revenue** as the default measure.

In addition to items from the source tree, you can insert items retrieved in a search into the crosstab. You can also simultaneously insert all the items of a level (p. 50), insert some items from a level, or insert items from different levels of the same dimension (p. 49).

For information about different crosstab layouts that you can use, see "Crosstab layouts" (p. 82). You cannot drag folders from the source tree.

### Steps

1. In the source tree, click the item that you want to insert.

   **Tip:** When selecting multiple items, the selected items are placed in the crosstab in the order that you click them. To avoid rearranging items after you drag and drop them into the crosstab, click the items in the desired order of placement.
Note: Sometimes, when you add measures to columns or rows, you may notice that other items get re-ordered. This is a query framework behavior. Unlike an OLAP data source, DMR data is not returned in a specified order. If a specified order is required, you must edit the specifications in Framework Manager.

2. Drag the item to the desired location in the crosstab.
A highlighted bar indicates where you can drop the item.
A detail-based set appears in the crosstab.
You can insert items as a selection-based set by pressing Shift+click or Ctrl+click to select multiple items in a dimension and then dragging them to the crosstab.
To add an item to items that already exist in the exploration, hold down the Ctrl key when dropping items into the drop zones.

Insert items from multiple levels of a dimension
For a mixed comparison, use selection-based sets to position items adjacent to each other in the crosstab.
For example, you can select items from a single dimension in the source tree, as shown in the following image.
You can drag these items to the crosstab.

**Steps**

1. In the source tree, expand the dimension to locate the items that you want to insert.
2. Press Shift+click or Ctrl+click to select multiple items in a dimension and then drag them to the crosstab.
   
   **Tip:** When selecting multiple items, the selected items are placed in the crosstab in the order that you click them. To avoid rearranging items after you drag and drop them into the crosstab, click the items in the desired order of placement.

A selection-based set appears in the crosstab.

**Insert and display all the items of a level**

You can simultaneously insert all the items of a level. Levels define the way data is grouped in dimensions.

For example, a geographical dimension in a source tree might contain levels for region, country, and city. You can click a single region and instantly insert every country that belongs to that region into the crosstab. By expanding the region item, you can display all of the countries within that region. Use this technique to insert members of a single node item.

You can also choose to display all of the countries across regions by inserting a special Level item. Use this technique to insert members at the same level from multiple node items.

**Steps to insert members from a single node item**

1. In the source tree, click a single item that contains the detail that you want in the crosstab.
2. Drag the item to the drop zone in the overview area, such as the Rows drop zone.
3. Expand the item.
   
   **Tip:** To expand or collapse items, right-click the item, click **IBM Cognos Analysis**, and then click **Expand / Collapse** or **Expand Level / Collapse Level**. **Expand Level** expands items from the highest level member.

**Steps to insert members at the same level from multiple node items**

1. In the source tree, click a single item that contains the detail that you want in the crosstab.
2. From the command area just below the source tree, drag the Level item to the drop zone or work area.

All the items of the same level appear in the crosstab.

**Drill down and drill up**

You can drill down and drill up to change the focus of your exploration by moving between levels of information.
Drill down to see more detail. For example, you can drill down to the lowest-level item to examine the impact of a single aspect of your business.

Drill up to compare results. For example, you can examine revenue for a single product and then drill up to see revenue for the entire product line for comparison.

**Step**

- Right-click the cell you want to drill, click IBM Cognos Analysis, and then click the drill option, either **Drill Up** or **Drill Down**.

The results appear on the cells of the current worksheet. To return to the version of the exploration that existed before drilling, click the **Back** button.

**Note:** To cancel drilling, click **Cancel** on the drilling progress dialog box. If you cancel drilling, you must refresh the data in this exploration before attempting to drill again.

### Limiting the items in your exploration

To find meaningful details while keeping summaries in view to maintain a clear overview of your data we recommend that you

- use **Search** in the source tree to find only the items you need
- keep crosstabs small by using filters
- limit the number of visible items in the source tree

You can filter out unnecessary items using a variety of techniques, depending on your business question, how you want to compare your data, and how many items you must include in your exploration. You can

- create custom filters (p. 51)
- use the context drop zone to filter values to show only the items you want to view (p. 53)
- use zero-suppression to hide rows or columns containing only missing values (p. 53)

### Create custom filters

You can filter out data so that only the data you require appears in the analysis. Add a filter expression to focus a report and minimize processing time by excluding unwanted data. For example, you can filter data to show customers who placed purchase orders that were valued at over one thousand dollars during the past year. When you run the report, you see only the filtered data. You can specify a filter by using

- measures, such as revenue
- labels, such as "Asia"

When you define a filter rule by using a label or an attribute, the text is case sensitive. Detail filters are applied to the data source. They are boolean expressions used to exclude items based on values.
If you are working with a dimensional data source, you can also use context filters. For more information, see "Filter values using context" (p. 53).

If you create a filter for a particular data type, such as a numeric data type, but enter criteria for another data type, such as a string, you receive an error. You must enter values that are consistent with the data type of the item for which you are creating criteria. For example, if you create a filter for a monetary amount, which is numeric, but enter a string value, such as "Yen" you receive the following error:

Error 901: QE-DEF-0260 Parsing error before or near position: position of: "filter(MUN)"

For OLAP and DRM data sources in a list report, criteria are limited to the items that you add to the list itself. To enhance filter capabilities, use lists for relational data sources and explorations (crosstabs) for dimensional sources. Be cautious when mixing context dimensions with filters because they may not yield the result you expect.

In nested explorations using OLAP or DMR data sources, you must apply the filter to the dimension on rows or columns that defined the measure value (the right most item in the overview area) in the crosstab. For example, if you have an exploration with products and order method on rows, years on columns and quantity sold on measures. Because order method is the inside edge of the nested rows (it appears to the right of products in the Rows drop zone), you must create the filter using order method.

When you promote an exploration or a list to a studio, such as Report Studio or Analysis Studio, the custom filter that used a dimensional data source is recognized as a set expression. Set expressions are calculated sets of members. For example, children ([2004]) is a set expression that displays the child members of 2004. To edit the custom filter in a studio, you must edit it as a set expression using the Query Calculation editor. For more information about set expressions, see the specific user guide for the studio.

**Steps**

1. In the drop zone, click the drop-down box of the item you want to filter, click **Filter**, and then click **Edit/Add Filter**.

   The Filter dialog box appears. Based on your selection you are able to select or enter items for **Item**, **Operator**, or **Value**.

2. Edit the filter expression and click **OK**.

3. To add another criterion to the filter, click **Add a Filter Line**, edit the expression and click **OK**.

4. To change the default boolean expression that combines your criteria, click the drop-down box that displays **AND**, and then click **OR**.

5. To group criteria, Ctrl+click the items you want to group, and then click **Group Selected Filter Lines**.

6. To delete a criterion, click the line, and then click **Delete Selected Filter Line**.

   This deletes the highlighted line or group.

7. To ungroup criteria, click the grouped items, and then click **Remove the Group Containing Selected Filter Lines**.
8. After you have created all the criteria for the custom filter, click OK.

The filter is applied to the applicable item. If you are working with the Preview with No Data option selected, the effects of the filter show when you run the data. The filter tag is displayed next to the item. In the drop-down box, on the Filter menu, Custom filter applied is checked.

Tip: To delete a filter, click the drop-down box of the filtered item, click Filter, and then click No filter applied.

Filter values using context

You can use one or more items to quickly focus your exploration on a particular view of the data. This technique is known as filtering using context.

For example, you have a crosstab showing products in the rows and revenue for different quarters in the columns. To change the context to Asia, you drag Asia from the source tree to the Context section of the overview area. The crosstab then shows only the values for Asia.

Changing context changes the values that appear. It does not limit or change the items in the rows or columns.

You can filter using multiple values in the context area, however, multiple filters are lost when you convert the exploration to formulas and start to use cell-based methods. Some context filters cannot be converted to formulas, such as multiple filters from the same dimension and filters from dimensions that are already displayed in the exploration.

Steps

1. In the source tree, select or search for one or more items to filter on.

2. Drag the item that you want to filter on into the Context section of the overview area.

   A drop-down list box appears under Context.

3. Click the item that you want.

   The crosstab shows the results only for the selected item.

   Tip: To change context, select a new item from the drop-down list under Context.

4. If you want to use a custom set as a filter, drag the custom set from the Source Tree to the Context section of the overview area.

Suppress empty cells in a crosstab

Sparse data may result in crosstabs showing empty cells. For example, a crosstab that matches employees with products, results in many rows of empty values for the revenue measure if the employee does not sell those products. To remove sparse data in an exploration, you can suppress empty cells that contain a null or zero value.
Totals-based suppression removes rows or columns where the total results in a null or zero value throughout the exploration. You cannot remove sparse data from individual rows or columns.

Steps
1. On the Exploration bar, click Apply Zero Suppression.
2. Choose where to apply the suppression:
   - Apply to Rows Only
   - Apply to Columns Only
   - Apply to Rows and Columns

Suppressed items are hidden and the Zero Suppression icon is visible in the Rows or Columns drop zone in the Overview Area.

Tip: To remove suppression, repeat step 1 and click No Suppression or click the zero suppression icon in the Rows or Columns drop zone.

Create a calculation
Insert a calculation to make your exploration or list more meaningful by deriving additional information from the data source. For example, you create an invoice, and you want to see the total sales amount for each product ordered. Create a calculated column that multiplies the product price by the quantity ordered.

In addition to simple arithmetic calculations, you can perform the following calculations.

<table>
<thead>
<tr>
<th>Calculation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>%Of</td>
<td>Calculates the value of a selected item as a percentage of another item, for example, fourth quarter as a percentage of the whole year or actual as a percentage of target.</td>
</tr>
<tr>
<td>%Change</td>
<td>Calculates the change in value of a selected item as a percentage, for example, growth from year to year or variance from target.</td>
</tr>
<tr>
<td>%Of Base</td>
<td>This calculation is only available if you select two members from different hierarchies, each from a different edge, for example, each region’s contribution (on rows) to a yearly total (on columns). This calculation is only available if you select two members from different hierarchies: one on rows and the other on columns.</td>
</tr>
</tbody>
</table>
After you insert a calculation into an exploration, the rows or columns are separated into two distinct blocks of items above and below the inserted row, or to the left or right of the inserted column. If you want to use the Expand level / Collapse level feature, you must do so for each block separately.

**Steps**
1. Select the items in the columns or rows that you want to calculate.
2. Click the insert calculation button and select the calculation that you want to perform.

   **Tip:** Calculations that are not applicable to the items you selected are greyed out.

The calculated item appears in the worksheet. You can rename the calculated column or row. For more information, see "Rename a column or row" (p. 57). You can also move the calculated column or row. For more information, see "Reorder columns or rows" (p. 58).

**Note:** When calculations in the rows and columns of an exploration or columns of a list intersect, calculations are performed in the following order:

- addition or subtraction
- multiplication or division

For an exploration, if both calculations have the same precedence, for example, if they are both business functions, then the row calculation takes precedence.

**Note:** To delete a calculation, right-click the calculated row or column, click **IBM Cognos Analysis**, and then click Delete.

**Tip:** While working with calculations, to revert to a previous state, on the Exploration or List bar, click Back.

---

**Create a custom set**

You can specify a name and description for a custom set of data that you may want to reuse later. Multiple custom sets may be available in a single saved exploration.

Use custom sets to select, group, order, and save members from a single hierarchical or node item in the source tree. If you select the members of a node item, the custom set retains only the members that you selected at the time the set was created. You must update the custom set as members change in the node item.

You can save custom sets. IBM Cognos Analysis for Microsoft Excel creates a folder in your personal folder, My Folders, in the IBM Cognos Business Intelligence portal with the same name as the package and saves the custom set information in that folder. The custom set information is not shared among different users, even when they are using the same package. You only have access to your own custom sets.
Custom sets can be used in an exploration using dimensionally modeled relational packages or OLAP data sources. They are not available for relational packages. Levels cannot be saved as a custom set.

**Steps using items in a drop zone**

1. When creating a new exploration, select items from a dimension or node in the source tree.
   
   **Note:** Order of selection is the order in which the items appear in the drop zone and in the custom set.

2. Drag the items to a drop zone.
   
   For a crosstab exploration, the drop zones are **Columns**, **Rows**, or **Context**. For a list exploration, the drop zone is **Columns**.

3. From the drop zone, click the item drop-down box and then click **Save as Custom Set**.
   
   The **Edit Custom Set** dialog box appears.

4. In the **Name** box, type a name for the custom set and click **OK**.
   
   You can edit custom sets using the dialog box by dragging items to or from the Available Members pane to the Selected Members pane. You can also reorder items in the Selected Members pane by dragging them before or after other items in the pane.

**Steps using items in the source tree**

1. When creating a new exploration or list, Ctrl+click items from a dimension or node in the source tree.
   
   **Note:** Order of selection is the order that the items appear in the drop zone and in the custom set.

2. Right-click a selected item and then click **New Custom Set**.
   
   The **Edit Custom Set** dialog box appears.

3. In the **Name** box, type a name for the custom set and click **OK**.
   
   You can edit custom sets using the dialog box by dragging items to or from the Available Members pane to the Selected Members pane. You can also reorder items in the Selected Members pane by dragging them before or after other items in the pane.

   The custom set is saved and appears in the source tree in the **Custom Sets** node item. It is saved as part of a user’s own workspace and is not available to other users.

**Nest rows or columns**

You can nest items in a crosstab to compare information by using more than one item in a column or row. For example, a crosstab shows the sales by product line for the past fiscal year. You can add an item to further break down the sales by order method.

In the overview area (p. 32), you can drag the boxes that represent the nested items to quickly change the nesting order.
If you nest a row or column, the context menu for Expand, Drill, and Explore does not appear for the outer item when you convert to formulas and use cell-based methods.

Steps
1. In the source tree, click the item that you want to insert.
   
   Tip: When selecting multiple items, the selected items are placed in the crosstab in the order that you click them. To avoid rearranging items after you drag and drop them into the crosstab, click the items in the desired order of placement.

2. Drag the item to the location that you want in the rows or columns.
   
   A highlight bar indicates where you can drop the item.

Nest items
You can nest items by dragging one item next to another item in the drop zone.

Steps
1. Drag the first item to the drop zone.
2. Drag the second item next to the first item in the drop zone.
3. If you are creating a list, to merge cells with the same data click an item in the column you want to group, and then from the List toolbar click Group.

Nested items appear next to each other with nested items replicated for each of the preceding items.

Rename a column or row
You can rename columns or rows, including calculated columns or rows. The item in the underlying database does not change, however, for presentation purposes you can change the name of the column or row heading of an exploration or list.

For relational data sources, only measures and summary items can be renamed.

Steps
1. Right-click the item you want to rename, click IBM Cognos Analysis, and then click Reorder/Rename.
2. In the list, if it is not already highlighted, click the item that you want to rename.
3. Press F2, type the new name, and then press Enter.
4. Click Apply and then click OK.

The displayed name of the row or column heading is changed.

Note: To reset all renamed items, click Reset.
Reorder columns or rows

You can move columns or rows, including calculated columns or rows.

For relational data sources, only measures and summary items can be reordered.

Steps
1. Right-click the row or column heading of the row or column that you want to move, click IBM Cognos Analysis, and then click Reorder/Rename.
2. In the ordered list, click the row or column that you want to move.
3. Use the arrows to move the row or column up or down relative to the other items in the list, and then click OK.

The row or column is moved in relation to the other rows or columns in the worksheet.

Insert blank or user-defined columns or rows

Insert a blank column or row into an exploration or list to create white space or add cell-based calculations. You can insert any Microsoft Excel calculation, such as AVG, MIN, or MAX and you can reference cells both inside and outside the exploration.

Depending on the type of report, such as an exploration or list and the type of data, such as relational or asymmetric you experience very different results. We recommend that you experiment with different approaches to see what makes sense in your environment.

After you insert a row or column into an exploration, the rows or columns are separated into two distinct blocks of items above and below the inserted row, or to the left or right of the inserted column. If you want to use the Expand level / Collapse level feature, you must do so for each block separately.

Steps
1. Click a column or row in the active exploration where you want to insert a column or row.
   Choose a start location that enables you to add titles or charts above or to the left of the exploration. If the exploration data expands, it does not overwrite items either above or to the left of the starting cell.
2. Click the insert column or row button.
   A blank column or row appears next to or under the selected column or row.
3. To add a cell-based calculation to the inserted column, row or block, create the calculation in the first cell that applies to the inserted column.
   You must create the formula for the calculation in the cell closest to cell 1A (the upper left most cell) of the inserted group.
4. After you have created the calculation for a single cell, from the toolbar, click Run with All Data
   The calculation is propagated to all the inserted cells.
Swap rows and columns in a crosstab exploration

You can swap rows and columns for a different view of your data. For example, the rows contain quarters of the fiscal year and the columns contain products. To track trends over time more easily, you can swap them so that the rows contain products and the columns contain quarters.

**Step**

- Click the swap rows and columns button on the toolbar.

  **Tip:** You can also use the overview area to swap individual items on rows and columns by dragging the items from one area to the other.

Set exploration options for a worksheet

You can set options for an exploration that are specific to a worksheet. By updating the row and column settings, you can change the starting location of your exploration in the cells of the worksheet. For example, to accommodate graphs or other user-inserted cells at the top of a worksheet, you can move the exploration down.

In addition to changing settings, the Custom sheet properties dialog box enables you to view information about the worksheet including the sheet type, server and package information and the date the worksheet was created.

You can also set the request format default by updating the settings file. For more information, see "Request large data sets in CSV format to optimize your system" (p. 37).

**Steps**

1. On the Exploration bar, click the Exploration button.

   The Custom sheet properties dialog box appears.

2. To change the starting location of your exploration, type a new row number in the Row start box and a new column number in the Column start box.

3. To control how labels appear in nested cells, set the Grouping option.

   The Grouping option controls how the Group / Ungroup feature works. For crosstab explorations, this is the automatic setting for presentation of metadata in nested rows and columns. These settings override the settings on the Options dialog box and affect only the current worksheet. You can leave cells ungrouped when you need to use Excel lookup functions or you can group cells to provide for greater readability.

Choose whether to Merge Cells, Repeat Labels, or Label Top Cell.

- To merge metadata into cells that span nested items and allow for full grouping, click Merge Cells.

- To repeat metadata in individual cells that span nested items, click Repeat Labels. Use this option when you want to use other Microsoft Excel functions on the data.

- To limit cell metadata and merging to minimize labels, click Label Top Cell.
4. After you are done setting options, click OK.

**Run an exploration in Report Studio, Analysis Studio, or Business Insight Advanced**

Run your exploration in Report Studio, Analysis Studio, or Business Insight Advanced to create sophisticated reports and detailed analyses.

Both lists and explorations are available for viewing in Report Studio or Business Insight Advanced. Only explorations are available for viewing in Analysis Studio.

If the exploration or list contains custom filters that were defined in IBM Cognos for Microsoft Excel® by , using a dimensional data source, those filters are recognized as set expressions when opened in Report Studio or Analysis Studio. If you need to edit the filters in a studio, you must edit them as set expressions. This is accomplished using the expression editor in the appropriate studio. For more information about set expressions, see the specific user guide for the studio.

Your system administrator must first give you the capability to run reports in Report Studio, Analysis Studio, or Business Insight Advanced.

**Steps**

1. Create and save your exploration.

2. Choose whether to run the report in Report Studio, Analysis Studio, or Business Insight Advanced.
   - To view your exploration in Report Studio, on the list or exploration bar, click **Open Report in Report Studio**.
     The exploration appears in Report Studio.
   - To view your exploration in Analysis Studio, on the exploration bar, click **Open Report in Analysis Studio**.
     The exploration, including context filters, appears in Analysis Studio.
   - To view your exploration in Business Insight Advanced, on the exploration bar, click **Open Report in Business Insight Advanced**.
     The exploration, including context filters, appears in Business Insight Advanced.

The exploration appears in the selected application.

**Publish an exploration to IBM Cognos Connection**

Publish your exploration to IBM Cognos Connection to make it available to other users.

Only the crosstab in the currently active worksheet is published to IBM Cognos Connection.
Your system administrator must first give you the capability to publish reports to IBM Cognos Connection.

**Steps**

1. Create and save your exploration.

2. On the **Exploration** bar, click **Publish to Cognos Connection**. 
   The **Publish** dialog box appears.

3. In the **Name** box, type a name.
   The default is the name of the saved workbook.

4. In **Description** box, type a description for this report and click **Publish**.
   The exploration is saved to IBM Cognos Connection.

**Best practices for working with explorations**

IBM Cognos Analysis for Microsoft Excel in exploration mode provides many automatic features so that you can focus on your main purpose, which is to analyze and explore your company data.

Any charts, cells, or cell-formatting that you introduce onto the exploration worksheet may be overwritten when refreshed data changes size or the content of the exploration changes. You may want to create headings and charts at the top and to the left of the exploration where expanding data in the cells of the worksheet does not overwrite items.

In general, use explorations (crosstabs) for dimensional data sources. For more information, see “**Working with items in a crosstab**” (p. 81).

If you are pulling large quantities of data while you are working on the layout of your worksheet, you may find that there is a delay. Two techniques help you to eliminate or at least mitigate performance delays. We recommend that you select **Preview Members Only**, and refresh data after you have finished designing your worksheet. If you work with dimensional data, in a crosstab, you should select a measure first. This limits the amount of data and will give you much faster results.

Another technique to use if you are designing either crosstabs or lists is to lower the maximum number of rows or columns to pull into a worksheet. When you finish the layout, you can set the row or column number higher or double-click **More** or **All** to see the remaining rows or columns of data.
Chapter 5: Creating an exploration and understanding exploration
Chapter 6: Creating a list and understanding lists

Use list reports to show detailed information from your database, such as customer lists or product lists. Data sources can be relational, OLAP, or dimensionally modeled relational (DMR).

A list report is a report that shows data in rows and columns. Each column shows all the values for a data item in the database or a calculation based on data items in the database.

Creating a list

To explore data using IBM® Cognos® Analysis for Microsoft® Excel®, select a package and choose items from that package to place in the columns of the Excel worksheet.

Before you can create a list, the administrator must have created a package in Framework Manager and published it to a location in the IBM Cognos Connection portal to which you have access. For full access to IBM Cognos Analysis, you should be a member of the Express Authors or Report Administrators role in IBM Cognos BI. An administrator must configure these privileges using IBM Cognos Administration.

Creating a new list involves

- specifying the package (p. 63)
- adding data items to columns (p. 64)
- optionally, nesting (p. 69), filtering data (p. 65), and creating calculations (p. 67)

To format cells in your list, you can use the IBM Cognos custom styles, such as IBM Cognos - Column Name or IBM Cognos - Row Template, in addition to the pre-built Microsoft Excel styles.

You can access these styles from the Excel Style command on the Format menu. In Microsoft Excel 2007, access the IBM Cognos styles from the Cell Styles icon in the Styles section on the Home tab ribbon. The IBM Cognos styles are listed along with pre-built Excel styles. You can modify attributes, such as font and alignment, and then save the changes to a template for re-use.

In Microsoft Excel 2003 and 2007, a background color that is set using the Format Cells command overrides the background color that is set for the cell styles.

Specify the package for your list

Specify the package that will provide items for the list. To select a package and view data, you must have security rights to that package.

The packages that you use to generate your list can be either relational or dimensionally modeled data sources. Dimensionally modeled data sources can be rendered using either lists or explorations.
Chapter 6: Creating a list and understanding lists

The package must be previously created and published to the IBM Cognos Connection portal. For more information, see the IBM Cognos Framework Manager User Guide.

Steps
1. Start Microsoft Excel

2. On the IBM Cognos toolbar, click IBM Cognos.

3. In the IBM Cognos pane, click the IBM Cognos Analysis button.

4. In the IBM Cognos pane, click Open Package.

   The Select Package dialog box appears.

5. If more than one system has been configured, click System and select a data source.

6. If more than one package exists, click the one you want to use and then click OK.

Objects from the selected package, such as data items appear in the source tree.

Tip: If the package that a report is using has changed, load it to ensure that you are working with the latest version. In the Select Package dialog box, in the System box click a server, and then click Load Packages. To change a server and package, in the information area of the worksheet, double-click the server name and click the server and package from the Select Package dialog box.

Add objects to columns

Select the data items that you want to appear in the list. When selecting multiple items, the selected items are placed in the list in the order that you click them. To avoid rearranging items after you drag and drop them into the crosstab, click the items in the desired order of placement. To add an item to a multiple set, hold down the Ctrl key while dragging the item. This appends the new item to the items already in the list exploration.

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

Steps
1. In the IBM Cognos pane, click Create a new list.

2. If the Select Start Location dialog box appears, type a cell address, such as SLS20 and click OK.

   By default the starting cell is A1 in the worksheet. If you set the Always start exploration or list at default location check box in the Select Start Location dialog box, when you create an exploration or list, the application no longer prompts you for a starting location and uses the default location each time you create a new exploration.
Tip: To select a cell, you can also click a cell to populate the Start Address box and then click OK. For example, to accommodate graphs or other user-inserted cells at the top of a worksheet, you can move the list down.

A new worksheet with a work area is added to the open workbook.

3. In the source tree, in the IBM Cognos pane, drag each data item to the location in the work area where you want it to appear.

You can drag objects to Columns or you can drag items into the work area directly. Use filters to further refine your list report. You cannot drag query subjects to a column.

Tips:

- To drag more than one item, you can use Shift+click or Ctrl+click.
- To add an item to items that are already on Columns, hold down the Ctrl key and drop the item onto the existing items.

4. Save your workbook.

Selected items appear in the columns of the report.

After you have edited your workbook, you can publish it to IBM Cognos Connection. For more information, see "Publish a Microsoft Office document to IBM Cognos Connection" (p. 24).

Limiting the items in your list

To find meaningful details while keeping summaries in view to maintain a clear overview of your data we recommend that you keep lists small by using filters. You can filter out unnecessary items using a variety of techniques, depending on your business question, how you want to compare your data, and how many items you must include in your exploration. You can

- create custom filters (p. 65)
- use zero-suppression to hide rows or columns containing only missing values (p. 66)

Create custom filters

You can filter out data so that only the data you require appears in the analysis. Add a filter expression to focus a report and minimize processing time by excluding unwanted data. For example, you can filter data to show customers who placed purchase orders that were valued at over one thousand dollars during the past year. When you run the report, you see only the filtered data. You can specify a filter by using

- measures, such as revenue
- labels, such as Asia
When you define a filter rule by using a label or an attribute, the text is case sensitive. Detail filters are applied to the data source. They are boolean expressions used to exclude items based on values.

**Steps**

1. From the **List** bar, click **Filter**.
   
   The **Filter** dialog box appears. Based on your selection you are able to select or enter items for **Item**, **Operator**, or **Value**.

2. Edit the filter expression and click **OK**.

3. To add another criterion to the filter, click **Add a filter line**, edit the expression and click **OK**.

4. To change the default boolean expression that combines your criteria, click the drop-down box that displays **AND**, and then click **OR**.

5. To group criteria, Ctrl+click the items you want to group, and then click **Group Selected Filter Lines**.

6. To ungroup criteria, click the grouped items, and then click **Remove the Group Containing Selected Filter Lines**.

7. To delete criteria, click the line or group, and then click **Delete Selected Filter Line or All**.
   
   This deletes the highlighted line or group.

8. After you have created all the criteria for the custom filter, click **OK**.

The filter is applied to the applicable item. If you are working with the **Preview with No Data** option selected, the effects of the filter show when you run the data. The filter tag is displayed next to the item. In the drop-down box, on the **Filter** menu, **Custom filter applied** is checked.

**Tip**: To delete a filter, click the drop-down box of the filtered item, click **Filter**, and then click **No filter applied**.

### Suppress empty rows in a list

Sparse data may result in lists showing empty cells. For example, a list that matches employees with products results in many rows of empty values if the employee does not sell those products. To remove sparse data in a list, you can suppress empty cells that contain a null or zero value.

Totals-based suppression removes columns where the total results in a null or zero value throughout the list. You cannot remove sparse data from individual rows or cells.

**Step**

- On the **List Bar**, click **Apply Zero Suppression**, and then click **Suppress Rows**.

Suppressed items are hidden and the Zero Suppression icon is visible in the Rows or Columns drop zone in the Overview Area.

**Tip**: To remove suppression, repeat the step and click **No Suppression** or click the zero suppression icon in the Columns drop zone.
Create a calculation

Insert a calculation to make your exploration or list more meaningful by deriving additional information from the data source. For example, you create an invoice, and you want to see the total sales amount for each product ordered. Create a calculated column that multiplies the product price by the quantity ordered.

In addition to simple arithmetic calculations, you can perform the following calculations.

<table>
<thead>
<tr>
<th>Calculation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>%Of</td>
<td>Calculates the value of a selected item as a percentage of another item, for example, fourth quarter as a percentage of the whole year or actual as a percentage of target.</td>
</tr>
<tr>
<td>%Of Base</td>
<td>This calculation is only available if you select two members from different hierarchies, each from a different edge, for example, each region’s contribution (on rows) to a yearly total (on columns).</td>
</tr>
<tr>
<td>%Change</td>
<td>Calculates the change in value of a selected item as a percentage, for example, growth from year to year or variance from target.</td>
</tr>
</tbody>
</table>

This calculation is only available if you select two members from different hierarchies: one on rows and the other on columns.

Steps

1. Select the items in the columns or rows that you want to calculate.
2. Click the insert calculation button and select the calculation that you want to perform.
   
   **Tip:** Calculations that are not applicable to the items you selected are greyed out.

The calculated item appears in the worksheet. You can rename the calculated column or row. For more information, see "Rename a column or row" (p. 57). You can also move the calculated column or row. For more information, see "Reorder columns or rows" (p. 58).

**Note:** When calculations in the rows and columns of an exploration or columns of a list intersect, calculations are performed in the following order:

- addition or subtraction
- multiplication or division

For an exploration, if both calculations have the same precedence, for example, if they are both business functions, then the row calculation takes precedence.

**Note:** To delete a calculation, right-click the calculated row or column, click **IBM Cognos Analysis**, and then click **Delete**.

**Tip:** While working with calculations, to revert to a previous state, on the **Exploration** or **List** bar, click **Back**.
Renaming a Column

You can rename columns, including calculated columns. The item in the underlying database does not change, however, for presentation purposes you can change the name of the column heading of a list.

**Steps**

1. Right-click the item you want to rename, click **IBM Cognos Analysis**, and then click **Rename**.
2. In the **Rename** box, type the new name, and then click **OK**.

The displayed name of the row or column heading is changed.

Inserting Blank or User-Defined Columns or Rows

Insert a blank column or row into an exploration or list to create white space or add cell-based calculations. You can insert any Microsoft Excel calculation, such as AVG, MIN, or MAX and you can reference cells both inside and outside the exploration.

Depending on the type of report, such as an exploration or list and the type of data, such as relational or asymmetric you experience very different results. We recommend that you experiment with different approaches to see what makes sense in your environment.

After you insert a row or column into an exploration, the rows or columns are separated into two distinct blocks of items above and below the inserted row, or to the left or right of the inserted column. If you want to use the **Expand level / Collapse level** feature, you must do so for each block separately.

**Steps**

1. Click a column or row in the active exploration where you want to insert a column or row.
   - Choose a start location that enables you to add titles or charts above or to the left of the exploration. If the exploration data expands, it does not overwrite items either above or to the left of the starting cell.

2. Click the insert column or row button.
   - A blank column or row appears next to or under the selected column or row.

3. To add a cell-based calculation to the inserted column, row or block, create the calculation in the first cell that applies to the inserted column.
   - You must create the formula for the calculation in the cell closest to cell 1A (the upper left most cell) of the inserted group.

4. After you have created the calculation for a single cell, from the toolbar, click **Run with All Data**

   The calculation is propagated to all the inserted cells.
Nest items in columns

You can nest items in a list to compare information by using more than one item in a column. For example, a list shows the external hires for each organization for the past fiscal year.

You can nest items by dragging one item next to another item in the drop zone.

In the Columns drop zone, you can drag the boxes that represent the nested items to quickly change the nesting order.

Steps
1. In the source tree, click the item that you want to insert.
   Tip: When selecting multiple items, the selected items are placed in the list in the order that you click them. To avoid rearranging items after you drag and drop them into the Columns drop zone, click the items in the desired order of placement.
2. Drag the item to the location that you want in the columns drop zone.
   A highlight bar indicates where you can drop the item.
3. Drag the second item next to the first item in the drop zone.
4. If you are creating a list, to merge cells with the same data, click an item in the column you want to group, and then from the List toolbar click Group.

Nested items appear next to each other with nested items replicated for each of the preceding items. If no data exists for a particular combination, cells appear blank.

Set list options for a worksheet

You can set options for a list that are specific to a worksheet. By updating the row and column settings, you can change the starting location of your list in the cells of the worksheet. For example, to accommodate graphs or other user-inserted cells at the top of a worksheet, you can move the list down.

Depending on your data source, you can also change the request format of the worksheet from Formatted Values (raw XML) to Unformatted Values (CSV). Do this when you need to decrease processing time. The number formatting assigned in the model is stripped from the data.

In addition to changing settings, the Custom sheet properties dialog box enables you to view information about the worksheet including the sheet type, server and package information and the date the worksheet was created.

You can also set the request format default by updating the settings file. For more information, see "Request large data sets in CSV format to optimize your system" (p. 37).

Steps
1. On the List bar, click the List button.
   The Custom sheet properties dialog box appears.
Chapter 6: Creating a list and understanding lists

2. To change the starting location of your list, type a new row number in the Row start box and a new column number in the Column start box.

3. Choose whether to process data in either CSV or raw XML formats.
   - To choose CSV format, in the Request format drop-down box, click Unformatted Values.
   - To choose raw XML format, in the Request format drop-down box, click Formatted Values.

4. To control how labels appear in nested cells, set the Grouping option.
   - The Grouping option controls how the Group / Ungroup feature works. For lists, this determines how the Group / Ungroup menu items and buttons work. These settings override the settings on the Options dialog box and affect only the current worksheet. You can leave cells ungrouped when you need to use Excel lookup functions or you can group cells to provide for greater readability.
   - Choose whether to Merge Cells, Repeat Labels, or Label Top Cell.
     - To merge metadata into cells that span nested items and allow for full grouping, click Merge Cells.
     - To repeat metadata in individual cells that span nested items, click Repeat Labels.
       Use this option when you want to use other Microsoft Excel functions on the data.
     - To limit cell metadata and merging to minimize labels, click Label Top Cell.
     - To turn grouping off, click None.

5. After you are done setting options, click OK.

Run a list in IBM Cognos Report Studio or Business Insight Advanced

Run your list report in IBM Cognos Report Studio or Business Insight Advanced to create sophisticated reports and detailed analyses.

Both lists and explorations are available for viewing in IBM Cognos Report Studio or Business Insight Advanced. Only explorations are available for viewing in IBM Cognos Analysis Studio.

Your system administrator must give you the capability to run reports in IBM Cognos Report Studio or Business Insight Advanced to use this feature.

Steps
1. Create and save your list or exploration.

2. Choose whether to run the report in Report Studio or Business Insight Advanced.
   - To view your list in Report Studio, on the list or exploration bar, click Open Report in Report Studio.
     The list appears in Report Studio.
To view your list in Business Insight Advanced, on the exploration bar, click **Open Report in Business Insight Advanced**.

The list, including context filters, appears in Business Insight Advanced.

The exploration appears in the selected application.

---

**Publish a list to IBM Cognos Connection**

Publish your list to IBM Cognos Connection to make it available to other users.

Only the list in the currently active worksheet is published to IBM Cognos Connection.

Your system administrator must first give you the capability to publish reports to IBM Cognos Connection.

**Steps**

1. Create and save your list.

2. On the **List** bar, click **Publish to Cognos Connection**.
   
   The **Publish** dialog box appears.

3. In the **Name** box, type a name.
   
   The default is the name of the saved workbook.

4. In **Description** box, type a description for this report and click **Publish**.

   The list is saved to IBM Cognos Connection.

---

**Best practices for working with lists**

IBM Cognos Analysis for Microsoft Excel in list mode provides many automatic features so that you can focus on your main purpose, which is to analyze and explore your company data.

Any charts, cells, or cell-formatting that you introduce onto the exploration worksheet are moved when refreshed data takes more columns or rows than before (to the limit of Microsoft Excel).

In general, use lists for relational data sources. For more information, see "Working with items in a list" (p. 86).

For optimal performance, do not add charts, cells such as calculations, or cell formatting when using exploration mode.
Chapter 6: Creating a list and understanding lists
Chapter 7: Using cell-based analysis

To take full advantage of the features that Microsoft® Excel offers, you can create your crosstab in an entirely cell-based rendition. When you use the cells of the worksheet to create a new analysis, you drag labels and items to adjoining cells, either in rows or columns to create a crosstab. Like exploration, the intersecting cells are used for measures, which will be populated with the actual data.

Note: Cell-based analysis is available for dimensionally modeled relational (DMR) and OLAP data sources only. It does not work with relational data sources and cannot be generated from a list even when using DMR or OLAP packages.

You can also convert an exploration to a cell-based analysis. You can create an exploration by using the Exploration toolbar and the drop zones and then convert it to formulas. For an example using both methods, see "Example - create a crosstab for an exploration of order method revenue" (p. 85).

Understanding cell-based analysis

When you drag items from the source tree directly to the cells of a worksheet you are creating a COGNAME or COGVAL formula that references the item in the database. Because IBM® Cognos® Analysis for Microsoft Excel® uses COGNAME and COGVAL as part of its internal processing, do not use either of these strings to name any part of a worksheet or in any part of a cell formula.

COGNAME formulas

COGNAME formulas are used to supply the server, package, and member names to the cells of a worksheet. The COGNAME formula takes three objects: server, package, and member unique name (MUN).

Depending on your server version and type of cube, in addition to the system name and package name, you may have other information, such as the date of the last cube update available to you.

The syntax for the COGNAME formula is as follows:

=COGNAME("server", "package", "MUN")

The following is a sample COGNAME formula from the IBM Cognos sample database

=COGNAME("http://sampleserver/ibmcognos/cgi-bin/cognos.cgi", "/content/package[@name='Great Outdoors Company’]", "[great_outdoors_company].[Years].[Years].[@MEMBER].[Years]")
The server object can reference a cell, such as B4, use a named range, or use a literal value with the full path to a gateway, such as http://sampleserver/ibmcognos/cgi-bin/cognos.cgi. It can also reference a COGNAME formula that contains the server information.

The package object is derived from the package search path, which you can find in IBM Cognos Connection. Because this argument is a literal string, you can embed this information. Or, you can put this information in a cell and reference that cell in the argument. This enables you to switch over from a test system to a production system or to change your package easily. It can also reference a COGNAME formula that contains the package information you want to use.

The member unique name supplies information about a particular name you want to display in your workbook, such as Years. You can obtain this information from IBM Cognos Report Studio by right-clicking an object and recording the string, which includes schema.

**COGVAL formulas**

COGVAL formulas are used to supply data to the cells of a worksheet. The COGVAL formula takes three objects: server, package, and member unique names of members or measures (MUNs(X)).

The syntax for the COGVAL formula is as follows:

=COGNAME("server", "package", MUN1,MUN2,MUN3,MUNx)

The following is a sample COGVAL formula from the IBM Cognos sample database

=COGVAL("http://sampleserver/ibmcognos/cgi-bin/cognos.cgi", "/content/package[@name='Great Outdoors Company']", $A2,C$1,$A$1 )

In this example, the cell references supply Products, Revenue, and 2004.
<table>
<thead>
<tr>
<th>Argument</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>MUNs(X)</td>
<td>The member unique names supply information about a particular data item you want to display in your workbook, such as total revenue. You must supply the MUN for one measure and, at most, one member from each of the dimensions. It can also reference a COGNAME formula that contains the MUN that you want to use. MUNs can be referenced in any order.</td>
</tr>
</tbody>
</table>

The COGVAL formula does not allow members from the same dimension to be supplied more than once.

**Troubleshooting cell-based analysis**

A problem with cell-based reports occurs when you have one or more COGVALs or COGNAMEs that do not return a result (usually because of a bad reference to a COGNAME with a MUN that does not exist). This can cause not only the incorrect item to fail, but also items that were retrieved in the same batch.

When working in cell-based analysis to resolve COGVAL and COGNAME errors, from the IBM Cognos toolbar, click **Refresh All Data**. The MUN that is causing any errors becomes a text cell and any cells that use that NUM in a calculation display #ERROR. Use the Microsoft Excel trace feature to locate the bad MUN. Then you can correct the MUN by dragging a new item from the source tree to the cell.

**Convert an exploration to cell-based**

Convert your exploration to a cell-based version when you want to manipulate individual cells or place columns or rows in between the imported data. When you convert your exploration, you have the option of converting data on the current worksheet, copying and moving the data to a new worksheet, or specifying the location for the converted data.

You can also create a crosstab completely from scratch using the cell-based method.

You cannot convert data from relational sources to a cell-based analysis.

**Steps**

1. Open the workbook with the exploration you want to convert.
2. Click the specific worksheet with the exploration you want to convert.
3. Choose where to place the converted data:
   - To convert the current exploration to formulas and place the result on the current worksheet, from the Exploration toolbar, click the **Convert to formulas on this sheet** button.
   - To convert the current exploration to formulas and place the result on a new worksheet, from the Exploration toolbar, click the **Convert to formulas on a new sheet** button. By placing the results on a new worksheet, you preserve the original exploration used to create the analysis and can use it again to change parameters for another analysis.
• To convert the current exploration to formulas and specify the location, which is a cell in an existing spreadsheet, from the Exploration toolbar, click the **Convert to formulas at a specified location** button.

The Exploration toolbar and drop zones disappear. The formatting remains the same, but the cells of the exploration contain cogval formulas, which link the individual cells to data items in the database.

**Note:** It is also possible to convert your cell-based analysis to an exploration. Depending on how your columns and rows are set up and how many items are in each, you may notice that certain objects are added to the context drop zone instead of being placed in a row or column.

If the default measure is also on columns, you cannot convert an exploration to formulas. You must first remove the default measure. For more information, see "Remove measures from an exploration" (p. 46).

### Creating a cell-based analysis without using exploration

You can create an exploration entirely on the cells of a Microsoft Excel worksheet without using the exploration work area as a guide. This advanced technique is referred to as cell-based mode. In cell-based mode you drag names and other objects from the source tree to the cells of the worksheet.

Because there are no drop zones, you must drag objects in such a way that they appear horizontally or vertically to form the rows and columns of the worksheet. In general you must start by building the rows and columns by dragging and dropping headings and then individual or groups of items along the vertical (for example, in the diagram below, cells numbered 1.1, 1.2, 1.3, and 1.4) or horizontal (in the diagram below, cells numbered 2.1 and 2.2) axis. After you have created this framework, you can drag a measure to the area just above the upper-most row heading and just to the left of the left-most column heading (in the diagram, the cell numbered 3).
Some of the techniques that you need to remember when working in cell-based mode include the following:

- Leaving blank rows or columns when you create a cell-based analysis disconnects one part of the exploration from another. This leaves cells without data. Only insert a blank row or column after you have created your analysis and initially populated the cells with data. You are then able to insert a single blank row or column for calculations or formatting purposes. Inserting more than one blank row or column disconnects cells when expanding items.

- To change the orientation of items, from vertical to horizontal, while dragging the items, hold down the Ctrl button while dropping items into cells.

Before you can create a cell-based analysis, the administrator must have 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. For full access to IBM Cognos Analysis for Microsoft Excel, you should be a member of the Express Authors or Report Administrators role in IBM Cognos Business Intelligence. An administrator must configure these privileges using IBM Cognos Administration.

To understand the difference between cell-based mode and an exploration using the work area, you can create a crosstab of an order method revenue report. For more information on creating an exploration, see "Example - create a crosstab for an exploration of order method revenue" (p. 85). For more information on using cell-based mode, see "Example - using cell-based analysis to create a crosstab of an order method revenue" (p. 78).
Example - using cell-based analysis to create a crosstab of an order method revenue

You are a business analyst at the Great Outdoors Company, which sells sporting equipment. You are asked to analyze the consequences of discontinuing the fax and mail order methods, which are expensive to process.

First you get the items you need and insert them into a crosstab for further exploration.

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

Steps
1. Start Microsoft Excel.
2. On the IBM Cognos Office toolbar, click the IBM Cognos button.
3. In the IBM Cognos pane, click IBM Cognos Analysis.
   IBM Cognos Analysis for Microsoft Excel opens.
4. In the IBM Cognos pane, click Open Package.
5. Select the Great Outdoors Company package and click OK.
   Data from the Great Outdoors Company package appears in the source tree.
6. Expand the Retailer level.
7. At the top of the list of retailers, click Department Store and then Shift+click Warehouse Store at the bottom of the list of retailers.
8. In a new worksheet, drag the highlighted items to cell D5.
   **Tip:** While dragging the items hold down the Ctrl key to reorient the list of items horizontally.
10. Right-click cell C6, click IBM Cognos Analysis, Expand, Expand up.
    The Order Method total item shifts down to cell C13. The cells above Order Method fill in with the components that make up Order Method in the hierarchy.
11. Drag Revenue from the Measures folder to cell C5.
    The worksheet is populated with the revenue data.
12. Apply Excel formats to the cells to reflect column and row headings, total fields and revenue numbers.
13. Click the Save button on the Microsoft Excel toolbar.
14. In the Name box, type
    Order Methods Revenue
15. Save the workbook.
**Expand items**

Expand items to add component members to the cell-based analysis from hierarchical items that have been placed in the cells of the worksheet. For an example of using this feature, see "Example - using cell-based analysis to create a crosstab of an order method revenue" (p. 78).

**Steps**

1. Right-click the heading cell that contains the item you want to expand, from the menu click IBM Cognos Analysis, and then click **Expand**.

2. Choose whether to expand up, down, left or right.
   - To expand up, which puts the node item at the bottom of the expanded items, click **Expand Up**.
   - To expand down, which puts the node item at the top of the expanded items, click **Expand Down**.
   - To expand left, which puts the node item to the right of the expanded items, click **Expand Left**.
   - To expand right, which puts the node item to the left of the expanded items, click **Expand Right**.

Expanded items appear in the rows or columns of the worksheet. Cells are automatically shifted to accommodate the component values.

**Drill items**

Use the drill down feature to analyze details in a separate drill window.

**Step**

- Right-click a data cell, from the menu click IBM Cognos Analysis, and then click **Drill**.

  The result of the drill appears in a separate drill down window.

  **Tip:** To add the drill results to a new worksheet, right-click a data cell, from the menu click IBM Cognos Analysis, and then click **Explore**.

**Displaying the source package**

When working in cell-based mode, if you use more than one package to create a workbook, you must synchronize the source tree when moving from cells of one package to another. Synchronizing the source tree enables you to see accurately the dimensional data used to populate the cells.

**Step**

- Right-click a cell containing a COGNAME or COGVAL, click IBM Cognos Analysis, and then click **Display Package**.
The source tree is updated to the package that was used to create the selected data item.

### Changing the server and package

Update the server and package designation in a workbook to switch from a test to a production environment or to access information from a different set of financial data, such as a submission.

#### Steps to update information in cell references

1. From the worksheet you want to update, open the new server and package.
2. From the Information folder, drag the updated server and package metadata to the server or package cell.

#### Step to Update Information in Embedded Text

- Use the Microsoft Excel search and replace function to update embedded references in the text of cell formulas.

### Best practices for working with Microsoft Excel features in cell-based analysis

The main benefit of working in IBM Cognos Analysis for Microsoft Excel in cell-based mode is that the features of Microsoft Excel become more readily available to you during your analysis. You are able to use features, such as formatting, sorting, and creating formulas using individual cells. This section describes some of the ways that IBM Cognos Analysis for Microsoft Excel interacts with frequently-used Microsoft Excel features and functions.

#### Creating a chart

Charts update with new data as long as the data is after the current first cell and before the current last cell.

#### Cutting and pasting

Copy and paste from the cell, so that other cells that refer to it are updated to point to the new location.

#### Copying

To copy the exact formula without changing its cell references, copy from the formula bar, not the cell.

#### Creating formulas

Consider labeling measure and dimension cells so that you can refer to them by name rather than cell location.

If you are building a multisheet report with shared filters, such as date, consider creating a single page with the filters and referring to those shared filters from each sheet.
Chapter 8: Examples and use cases

Using IBM® Cognos® Analysis for Microsoft® Excel® you can create a crosstab exploration. Use crosstab exploration to show information in a more compact form than in a grouped list. For example, create a crosstab exploration to show total sales by product line generated by each sales representative.

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

Using IBM Cognos Analysis for Microsoft Excel you can also create list reports from relational data sources.

Working with items in a crosstab

You can manipulate the way rows and columns appear in a crosstab for more effective comparison by

- nesting rows or columns (p. 56)
- swapping rows and columns (p. 59)
- showing or hiding rows or columns (p. 51)

Exploration is a process in which you explore the relationships between items to help understand your business. The crosstab helps you discover whether the value of one item is associated with that of another.

Comparisons are key elements of nearly every exploration. The following are examples of different types of comparisons.

<table>
<thead>
<tr>
<th>Comparison</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Simple comparison</td>
<td>Tents versus sleeping bags</td>
</tr>
<tr>
<td>Multiple comparison</td>
<td>Tents versus golf clubs, tees, and golf balls</td>
</tr>
<tr>
<td>Multidimensional comparison</td>
<td>Products versus territories, this year-to-date versus last year-to-date</td>
</tr>
<tr>
<td>Mixed comparison</td>
<td>Tents versus similar camping products, this year versus last year</td>
</tr>
<tr>
<td>Summaries of measures at different levels</td>
<td>Tents as a share of camping products, as a share of European sales</td>
</tr>
</tbody>
</table>
**Explorations and relational sources**

Explorations can be used to transform relational sources into a crosstab that allows dimensional style layout. Filters for relational explorations are, however, detail filters as opposed to dimensional. If dimensional style layout and filtering are common requirements, we recommend that you create a DMR model for this data source to simplify report creation.

**Explorations and dimensional sources**

We recommend that you use explorations for dimensional sources. Even if the report has a simple layout with no nesting and measures as columns, the query supports precise filtering if created as an exploration.

**Working with relational crosstabs**

Relational data in crosstabs has limitations and differences from dimensional data. One such instance is replacing measures on columns. Measures derived from relational data are stacked blocks. Replacement of the entire stacked block on the grid is not permitted. You would need to do this on the summary bar. This behavior is consistent with query items that are not measures. You may also notice that expand, collapse and totals do not work with relational data sources.

**Sets**

Sets are the basic building blocks of IBM Cognos Analysis for Microsoft Excel. A set identifies a group of items from a single hierarchy. In IBM Cognos Analysis for Microsoft Excel, you can manipulate the individual sets in the crosstab.

Sets may be

- nested or stacked in the crosstab
- used as filters

The following are the different kinds of sets you can use.

<table>
<thead>
<tr>
<th>Set</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Simple</td>
<td>A single member and its direct dependents one level down.</td>
</tr>
<tr>
<td>Selection-based set</td>
<td>A collection of individual items that you have explicitly selected. The items or members may be selected from one or more levels from the same hierarchy and are not aggregated.</td>
</tr>
<tr>
<td>Combination set</td>
<td>A set consisting of more that one simple or selection-based set.</td>
</tr>
</tbody>
</table>

**Crosstab layouts**

You can choose the most practical layout for your exploration. The following layouts are available.

**Basic**

This layout contains one set of rows and one set of columns.
Nested
This layout contains sets nested either along the rows, the columns, or both.

Stacked
This layout contains two or more sets arranged one above another on the rows, side-by-side on the columns, or both.

Asymmetric
This layout contains both nested and stacked sets. Many combinations are possible.

Replace data
You can replace one set with another for comparison.

For example, you drag Customers from the source tree to the crosstab to replace Products to see which customers purchased these products. Customers is shown in the crosstab.

Step
- In the source tree, drag an item or group of items to the set that you want to replace.
Create a nested crosstab report in an exploration

Nest data in a crosstab report to compare information by using more than one data item in a column or row. For example, a report shows the number of sales by product line for the past fiscal year. You decide to add a data item to further break down the number of sales by quarter.

When nesting columns in a crosstab report, there are four distinct drop zones where you can insert a new data item. The drop zone you choose defines the relationship between the data item and the column.

**Rows**
The following relationships are created when you insert a data item as a row:

- Inserting a data item to the left or right of a column creates a parent-child relationship between the data items.
  - When you insert a data item to the left of a column, the data item becomes a parent to the row.
  - When you insert a data item to the right of a column, the data item becomes a child of the row.
- Inserting a data item above or below a column creates a union relationship between the data items.

**Columns**
The following relationships are created when you insert a data item as a column:

- Inserting a data item to the left or to the right of a column creates a union relationship between the data item and the column.
- Inserting a data item above or below a column creates a parent-child relationship between the data items.

When you insert a data item above a column, the data item becomes a parent to the column. When you insert a data item below a column, the data item becomes a child of the column.

For example, you have a crosstab with Product line as rows and Quantity and Revenue as nested rows. For columns, you have Order method with Country as a nested column.

- Product line is a parent to Quantity and Revenue.
- Quantity and Revenue are peers.
- Order method is a parent to Country.

**Steps**
1. In the source tree, click the data item you want to add to the report.
2. Drag the data item to the location where you want it to appear as a nested column or nested row.
   - A highlight bar indicates where you can drop the data item.
3. Repeat step 2 to add other nested columns or rows.
Tip: If you add more than one measure to a crosstab to the same axis, you must add them as a set. Ctrl+click the items or, to add a measure to another measure already in the crosstab, click Ctrl while dragging the item to the other measure.

Example - create a crosstab for an exploration of order method revenue

You are a business analyst at the Great Outdoors Company, which sells sporting equipment. You are asked to analyze the consequences of discontinuing the fax and mail order methods, which are expensive to process.

First you get the items you need and insert them into a crosstab for further exploration.

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 BI Administration and Security Guide.

Steps using exploration mode

1. Start Microsoft Excel.
2. On the IBM Cognos Office toolbar, click the IBM Cognos button.
3. In the IBM Cognos pane, click IBM Cognos Analysis.
   IBM Cognos Analysis for Microsoft Excel opens.
4. In the IBM Cognos pane, click Open Package.
5. Select the Great Outdoors Company package and click OK.
   Data from the Great Outdoors Company package appears in the source tree.
6. In the IBM Cognos pane, click Create a new exploration.
7. Drag Revenue from the Measures folder to the Measure area in the crosstab.
8. Drag Retailer from the Retailer folder to the Columns area in the crosstab.
9. Drag Order Method to the Rows area in the crosstab.
10. Click the save button on the Microsoft Excel toolbar.
11. In the Name box, type Order Methods Revenue
12. Save the workbook.

You now have data to compare and analyze, as shown below. Next, by adding Years in the crosstab, you can see if revenues for these methods are growing or declining over time.
Working with items in a list

Use list reports to show detailed information from your database, such as customer lists or product lists.

A list report is a report that shows data in rows and columns. Each column shows all the values for a data item in the database or a calculation based on data items in the database. Lists are useful for very large reports that require minimal filtering.

Lists and relational sources
We recommend that you use lists for relational sources.

Lists and dimensional sources
We recommend that you avoid using lists with dimensional sources. It is preferable to use explorations with dimensional sources whenever possible, because it will provide much richer filtering capability. However, lists are useful against dimensional sources if there is no measure in the report. Such a report cannot be created as an exploration and can only be created as a list.

Example - create a list report

In this topic, you will use the GO Data Warehouse model, great_outdoors_data_warehouse.cpf. It is based on the database GOSALESDW. It contains data about human resources, sales and marketing, and finance, grouped into business areas.

You will learn how to
- create a list report
The report shows revenue for each product for the last quarter of the current year.

- Group items in the list report

You group data items in a list report to remove duplicate values. For example, you have a report that shows products purchased. For each product, the product type is also shown. You group the Product type column to show only one instance of each product type in the list.

It should take 15 to 20 minutes to complete this topic, and your report will look like this.

Steps

1. Create a new list report that uses the GO Data Warehouse (query) package.

2. Add the following data items to the report:
   - In Sales and Marketing (query), Sales (query), Products, select Product type
   - In Time Dimension, select Quarter
   - In Sales orders, select Order number
   - In Products, select Product
   - In Sales fact, select Quantity
   - In Sales fact, select Unit cost

3. Create the calculation named Revenue:
   \[
   \text{Unit cost} \times (\text{Sales (query), Sales fact}) \times \text{Quantity}
   \]
4. To propagate the calculation to other cells in the column, from the List bar, click **Run with All Data**.

5. Group the **Product type** column to make the report easier to read. Then group the **Quarter** column.

**Need more help?**
- Creating a list and understanding lists
- Create a custom set
- Create custom filters
- Nest rows or columns
Chapter 9: Try it yourself exercises

If you have some experience with IBM Cognos® Analysis for Microsoft® Excel® and want to improve your skills in creating workbooks, this chapter is for you. Each topic gives you some guidelines on how to create each sample worksheet. If you need help, links to more detailed instructions are available.

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

Create a report that uses an indirect filter to update data and charts

When you are working with a time dimension, you can use a cell reference to control a series of reports for a specific year. In this topic, you learn how to create a dynamic report that retrieves year-to-date revenue for each product line. It should take 15-20 minutes to complete this exercise, and your report will look like this.

Steps to create the report

1. Begin by using Exploration mode to create a crosstab report that uses the sample package named Great Outdoor Sales (cube).
2. Add the following data items to the report:
   - **Products** level (in **Products**) to the **Rows** drop zone
   - **Revenue**, **Gross Profit**, **Quantity sold**, **Unit cost**, and **Profit margin%** (in **Measures**) to the **Columns** drop zone
   - **Americas** (in **Sales Regions**) and **2006** (in **Years**) to the **Context** drop zone

3. From the **Exploration** bar, click **Convert to formulas on a new sheet**.

4. From the original exploration, change the retailer by dropping a different retailer in the **Context** drop zone and then convert it to formulas on a new sheet.
   Complete this step for each retailer.

5. Using your knowledge of Microsoft Excel, chart **Revenue**, **Gross profit**, and **Quantity** for each of the newly created worksheets.

### Steps to create an indirect filter

1. On a separate worksheet, drag **2006** (in **Years**) to a cell.
   **Tip:** In an adjacent cell, label the cell with **Select the Date Here**.

2. For each of the worksheets you created, change the year in the **Context** cell to reference the filter cell you created in step 1.
   For example, for a worksheet name Filters and cell C3, type =Filters!C3.

3. From the source tree, drag **2007** (in **Years**) to the cell where you placed 2006.
   Notice that the cell references are updated throughout the workbook and the charts reflect the 2007 data.

### Need more help?
- **Using cell-based analysis**

### Analyze data in an exploration

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

In this topic, you learn how to create an exploration and use Excel’s Moving Average analysis tool for charting and reviewing the IBM Cognos data to help you spot trends and patterns that may warrant further attention. To use this feature, you must have the Excel Analysis Toolpak installed on your computer.

For this exercise, you are a business analyst for the Great Outdoors Company. You want to further analyze the historical return levels to predict future demand for the eye wear product line, enabling you to better plan quality controls.

It should take 10 to 15 minutes to complete this topic, and your report will look like this.
Steps to create the report
1. Create a new exploration that uses the Sales and Marketing (cube) package.

2. Insert data in the crosstab:
   - In Measures, drag Returns to the Measure drop zone.
   - In Products, Personal Accessories, drag Eyewear to the Rows drop zone.
   - In Time, drag Time to the Columns drop zone.

Steps to create the analysis
1. From the Tools menu, click Data Analysis.
2. In the Data Analysis dialog box, click Moving Average, and then click OK.
3. In the Input Range box, enter the single row for the Inferno brand eyewear.
4. In the Interval box, enter 2 as the number of data points used to calculate the moving average.
   The smaller the interval, the more the moving average is affected by individual data point fluctuations.
5. In the Output Range box, enter the cell address so that the results start at the right of the exploration.
6. Select the Chart Output check box to see a graph comparing the actual and forecasted return levels, and then click OK.
7. Set the chart options as follows:
   - Add text to the y-axis to show Returns.
Chapter 9: Try it yourself exercises

- Add text to the x-axis to show Years.
- Change the chart title to indicate that this is a moving average for the Inferno line in eyewear.
- Ensure that the legend keys are shown to the right of the chart.
- Add value labels to the chart.

8. Set the value for the Z-axis scale to 25 as the major unit.

The chart now shows your forecasted return levels and identifies each year’s ending returns.

Need more help?
- Creating a new exploration

Create a balance sheet report

In this topic, you will create a Balance Sheet report that shows assets, liabilities, and equity for the Great Outdoors Company in 2007.

To create this report, you will use a package that was published from MSAS cubes containing financial data. Use the GO Finance Fact cube derived from the GOSALES DW database. This cube contains year-to-date and monthly financial data for all accounts. The data is in actual US dollars submissions for 2004, 2005, 2006, or 2007 (7 months actual data only).

You will use a Microsoft Office accounting template, available for download from the Microsoft Web site, to create the balance sheet. For this exercise, the Balance Sheet with Ratios and Working Capital template is used.

You will also apply cell-based analysis to populate your balance sheet with IBM Cognos data for Current Assets, Other Assets, Current Liabilities, and Other Liabilities. In Excel, you will leverage the power of formatting by applying background color, font styles and characteristics, and cell formatting for a professional presentation of your report.

It should take 20 to 30 minutes to complete this exercise, and your balance sheet looks like this.
Steps to create the balance sheet

1. Download the Balance Sheet with Ratios and Working Capital template from the Microsoft Web site:


2. Clear the content in the template, except for the calculated cells and balance sheet categories, such as Current Assets and Other Liabilities.

3. Insert a line under each balance sheet category.

   The line is used to build the rows and columns necessary for dragging and dropping headings and groups of items along the vertical or horizontal axis.

Steps to populate current assets

1. Open the GOFinanceFact_EN_MSAS2005 package.

2. From the source tree, expand Accounts, Balance sheet (total), Assets (total).
3. Drag **Current assets (total)** to the cell below the **Current assets** category.

4. Right-click **Current assets (total)**, click **IBM Cognos Analysis, Expand, Expand up**.
   The cells above **Current Assets (total)** fill in with the components that make up **Current assets (total)** in the hierarchy.

5. From the source tree, expand **Time**, and then drag **2007** to the column area of the cell-based framework.

6. From the source tree, expand **Measures**, and then drag **Stmt Year** to the area just above the upper-most row heading and just to the left of the left-most column heading.

7. Convert the dynamic data to static data.

**Steps to populate other assets**

1. From the Source tree, expand **Accounts, Balance sheet (total), Assets (total)**.

2. Drag **Other assets (total)** to the cell below the **Other assets** category.

3. Right-click **Other assets (total)**, click **IBM Cognos Analysis, Expand, Expand up**.
   The cells above **Other assets (total)** fill in with the components that make up **Other assets (total)** in the hierarchy.

4. From the source tree, expand **Time**, and then drag **2007** to the column area within your cell-based framework.

5. From the source tree, expand **Measures**, and then drag **Stmt Year** to the area just above the upper-most row heading and just to the left of the left-most column heading.

6. Convert the dynamic data to static data.

**Steps to populate current liabilities**

1. From the Source tree, expand **Accounts, Balance sheet (total), Liabilities & equities (total), Liabilities (total)**.

2. Drag **Current Liabilities (total)** to the cell below the **Current liabilities** category.

3. Right-click **Current liabilities (total)**, click **IBM Cognos Analysis, Expand, Expand up**.
   The cells above **Current liabilities (total)** fill in with the components that make up **Current liabilities (total)** in the hierarchy.

4. From the source tree, expand **Time**, and then drag **2007** to the column area within your cell-based framework.

5. From the source tree, expand **Measures**, and then drag **Stmt Year** to the area just above the upper-most row heading and just to the left of the left-most column heading.
6. Convert the dynamic data to static data.

**Steps to populate other liabilities**

1. From the Source tree, expand Accounts, Balance sheet (total), Liabilities & equities (total), Liabilities (total).

2. Drag Long-term and other liabilities (total) to the cell below the Other liabilities category.

3. Right-click Long-term and other liabilities (total), click IBM Cognos Analysis, Expand, Expand up.

   The cells above Long-term and other liabilities (total) fill in with the components that make up Long-term and other liabilities (total) in the hierarchy.

4. From the source tree, expand Time, and then drag 2007 to the column area within your cell-based framework.

5. From the source tree, expand Measures, and then drag Stmt Year to the area just above the upper-most row heading and just to the left of the left-most column heading.

6. Convert the dynamic data to static data.

**Steps to clean up the balance sheet**

1. Under each balance sheet category, remove the row that contains the labels for the dimensions that were used in the cell-based analysis.

2. Ensure that empty rows are deleted so that the balance sheet maintains its form.

3. After converting the data to static data, the IBM Cognos BI summary items, such as Other assets (total) and Current liabilities (total), are static values. Remove these rows so that the balance sheet template formulas calculate the data accurately.


   You have used your Excel knowledge to augment IBM Cognos data.

**Need more help?**

- Creating a cell-based analysis without using exploration
- Converting dynamic data to static data

**Create an exploration using a custom filter**

When working with dimensional data, you can use context filters, or slicer filters, to quickly focus your report on a particular view of the data. You can also use custom filters to refine your view.

In this topic, you will learn how to

- create slicer filters by dropping members or sets in the context filter area
• create a custom filter by creating an expression that you use to retrieve a specific subset of records

It should take 10-25 minutes to complete this exercise, and your report will look like this.

The exploration contains product lines in the rows, years in the columns, and returns as the measure. The values are filtered to show returns for only Web orders from the Americas. We use a custom filter to narrow the focus of this report to show only those product lines that have generated over 5000 returns in 2007.

**Steps to create the report**

1. Create a new exploration that uses the *Sales and Marketing (cube)* package.
2. Insert data in the crosstab:
   - In *Measures*, drag *Returns* to the *Measure* drop zone.
   - Drag *Products* to the *Rows* drop zone.
   - In *Time*, drag *Time* to the *Columns* drop zone.
3. Change the label in the *Time* column to *Total*.
4. Show all the members in the levels.
5. In *Retailers*, drag *Americas* to the *Context* drop zone.

The exploration contains product lines in the rows, years in the columns, and returns as the measure. The values are filtered to show returns for only Web orders from the Americas. We use a custom filter to narrow the focus of this report to show only those product lines that have generated over 5000 returns in 2007.
6. In Order method, drag Web to the Context drop zone.

You see the returns only for the Web in the Americas territory for all the product brands over a four-year span. The total number of returns is visible in the Total column.

Steps to create the custom filter
1. In the Rows drop zone, for Products, click the drop-down menu to select the Filter, Edit/Add filter option.

2. In the Filter dialog box, create an expression that will show only the product lines that generated more than 5000 returns in 2007.

Need more help?
- Creating a new exploration
- Insert and display all the items of a level
- Filter values using context
- Create a custom set

Create an exploration using a custom set of members

In this topic, you learn how to create an exploration that is built using custom sets that you design.
Custom sets are used to group members that are logically related for various actions, such as formatting, nesting, and sorting. Creating sets is also useful when members may be dynamic over time. For example, the child accounts of a total assets account may change from year to year. By creating a set, you do not have to modify the report each time accounts are added or removed.

It should take 15 to 20 minutes to complete this topic, and your report will look like this.

Steps

1. Begin by using Exploration mode to create a crosstab report that uses the sample package named Sales and Marketing (cube).
2. Ensure that the Insert Member with Children option is enabled.
3. Add the following data items to the report:
   - Products to the Rows drop zone
   - Time to the Columns drop zone
   - Revenue to the Measures drop zone
4. Group products by retailers in Asia Pacific.
5. Expand Order Method, and then drag Sales Visit to the Context area.

Your report looks like this.
6. Create a custom set from the Asia Pacific dimension in the Rows area.
   Select Japan, Korea, China, and Singapore as members of the set, and save the set as East Asia.

7. Remove Asia Pacific from the Rows area.

8. Ensure that the Insert Single Member option is enabled.

9. From Custom Sets, drag East Asia to the Rows area after Products.
   Note that the exploration reflects only the retailers in East Asia. That means Australia, which was an original member of the Asia Pacific dimension, is not a member of the new custom set labeled East Asia.

**Need more help?**
- Creating a new exploration
- Create a custom set
Chapter 9: Try it yourself exercises
Using an application programming interface (API), you can automate the refreshing or publishing of workbook, document, and presentation content. You can use a scheduling tool, such as Scheduled Task, and can process one or more workbooks, documents, or presentations.

You can use the API to create a scheduled batch program to refresh all the IBM® Cognos® Office workbooks, documents, or presentations on a daily, weekly, or monthly basis so that, as your period data changes, the affected files are kept up-to-date.

You can call the API within Microsoft® Excel workbooks, Microsoft Word documents, or Microsoft PowerPoint presentations using VBA or using VBS and a command line interface. For these types of automation to work, you must register one or more macros within the workbook, document, or presentation.

When using sample macros and script files as part of your own processing functions, remember that the API is accessible only as user defined functions (UDFs) in the Microsoft Office products: Excel, Word, or PowerPoint. UDFs are functions created in Visual Basic for Applications (VBA). In this case, however, the UDFs are created within the IBM Cognos Office solution and are called from VBA.

To help you understand what is possible using this API, several samples are provided. You can use them to help you create your own solutions by

- creating VBA macros within Excel, Word, or PowerPoint
- passing parameters, leveraging VBS and the command line interface

In addition to these capabilities, you can schedule scripts, either ones that you create or the samples, to run as a batch process at a set time.

You must ask your administrator to make the sample files available to you in a location that you can access.

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

- Refresh the IBM Cognos Office data (p. 101).
- Import the CognosOfficeAutomationExample.bas file (p. 102).
- Use the IBM Cognos Office API functions (p. 103).
- Refer to the IBM Cognos Office Visual Basic (VBA and VBS) sample script files to enhance your solution (p. 111).

**Example - refreshing data in your Microsoft Office document**

When you use automation to refresh a workbook, document, or presentation content, you must set your macro security to an appropriate level. You can set the macro security level using one of the following options depending on your version of Microsoft® Office:
• Change the security level of your Microsoft Office application to medium or low.

• Change the trusted publishers setting of your Microsoft Office application so that installed add-ins or templates are trusted.

The following code shows the most basic techniques for using the IBM® Cognos® Office CognosOfficeAutomationObject property.

In the following example, you must log on to the IBM Cognos Business Intelligence Web server, ibmcognos/cgi-bin/cognos.cgi, to refresh the data contained in your Microsoft Office document.

Sub Logon()
Dim UserName As String
Dim Password As String
Dim Namespace As String
Dim URL As String
Dim LogonResult As Boolean
UserName = "Admin"
Password = "Admin"\nNamespace = "Production"
URL = "http://localhost/ibmcognos/cgi-bin/cognos.cgi"
' Check that the automation object returned by CognosOfficeAutomationObject is valid before using it.
If Not CognosOfficeAutomationObject is Nothing Then
    LogonResult = CognosOfficeAutomationObject.Logon(URL, UserName, Password, Namespace)
If LogonResult = True Then
    MsgBox "Logon succeeded."
End If
End Sub

After logging on, you can refresh your data. For more information, see "RefreshAllData " (p. 106).

Set up the Microsoft Office applications for automation

The quickest way to set up Microsoft® Excel, Microsoft Word, or Microsoft PowerPoint for automation is to import the CognosOfficeAutomationExample.bas file into the Microsoft Excel workbook, the Microsoft PowerPoint presentation, or the Microsoft Word document. It contains all the necessary macros, including the CognosOfficeAutomationObject macro. Alternatively, you can create templates that already contain this imported .bas file that supply the code for logging on to IBM® Cognos® Office, refreshing the content of specified workbooks, documents, or presentations, and logging off.
To use the IBM Cognos Office AutomationExample.bas file, you must import the CognosOfficeMessageSuppressor.cls file. The .cls file contains the SuppressMessages function that allows you to disable the standard alerts and messages.

**Steps**

1. Open a new Office document, workbook, or presentation.

2. From the **Tools** menu, click **Macro**, and then click **Visual Basic Editor**.

3. Do the following based on the Microsoft Office application:
   - For Microsoft Excel and Microsoft PowerPoint, right-click **VBAProject** and click **Import File**.
   - For Microsoft Word, right-click **Project** and click **Import File**.

   The **Import File** dialog box appears.

4. Browse to the location where the IBM Cognos Office Automation macro files are installed. The default location is `client_installation_directory\Automation`.

5. Click the CognosOfficeAutomationExample.bas file and import it into the VBA project.
   Do not edit this code module.

6. Repeat steps 3 to 5 to import the CognosOfficeMessageSuppressor.cls file.

7. Close the **Visual Basic Editor** and return to IBM Cognos Office.

8. Save and close as a template, and then reopen the template.

You can now call the macros contained in the CognosOfficeAutomationExample.bas file from the VBA code that you write in Excel, Word, or PowerPoint.

**Logging automation activities and errors**

Use the automation log to track automation activities and troubleshoot problems with automation tools and scripts. The automation log is automatically generated when you run an automation script. The automation log is returned using a call to the Automation API function TraceLog. For information about the TraceLog function, see "TraceLog " (p. 108).

**IBM Cognos Office API functions**

After the reference to IBM® Cognos® Office Automation is established, any macro in VBA can call the functions exposed in the IBM Cognos Office Automation API.

Use API functions to process Microsoft® Office documents, such as workbooks, documents, and presentations. If Microsoft Office is open when a command is executing, the command executes in interactive mode. If Microsoft Office is closed when the command is executing, the command executes in batch mode. Executing in batch mode means that all display alerts are turned off.

The functions that are exposed through the IBM Cognos Office automation objects are
• HttpLogonCredentials, which authenticates a user to a Web site that requires new authentication credentials (p. 104).

• Logon, which authenticates users to the IBM Cognos Business Intelligence Web server (p. 105).

• ClearAllData, which clears all the IBM Cognos Business Intelligence data values in the document, workbook, or presentation (p. 106).

• RefreshAllData, which refreshes all the current IBM Cognos Business Intelligence data values that are in the document, workbook, or presentation (p. 106).

• UnlinkAllData, which converts the linked IBM Cognos Business Intelligence data values into static values that are no longer updated when functions such as RefreshAllData are called (p. 106).

• Publish, which publishes IBM Cognos Office documents to IBM Cognos Connection (p. 107).

• LogOff, which logs off all the IBM Cognos Web servers that are currently logged on (p. 108).

• TraceLog, which returns all the automation activities and errors (p. 108).

• SuppressMessages, which suppresses the alerts and messages shown during normal operations of IBM Cognos Office (p. 108).

• ClearCache, which reduces the size of an IBM Cognos Analysis for Microsoft Excel workbook by deleting metadata and data from the workbook (p. 109).

To learn about the properties and methods of an object, consult the online help for more information. Because the object is obtained at run time and there is no type library installed on the client’s machine, the user cannot use IntelliSense to determine what properties and methods are available on the object.

**HttpLogonCredentials**

The HttpLogonCredentials authenticates a user to a Web site that requires new authentication credentials, such as Basic, Kerberos, and SiteMinder. HttpLogonCredentials takes the URL, user name, and password that are used for authentication on the Web site.

IBM Cognos Office does not support SiteMinder form-based authentication. You must use the IBM Cognos Office menu commands and options instead of the API to automate the refreshing and publishing of workbook, document, and presentation content.

**Syntax**

HttpLogonCredentials *(url, user name, password)*

<table>
<thead>
<tr>
<th>Argument</th>
<th>Description</th>
<th>Data type</th>
</tr>
</thead>
<tbody>
<tr>
<td>url</td>
<td>The URL for the Web site against which you want to authenticate</td>
<td>String</td>
</tr>
<tr>
<td>user name</td>
<td>The user name for authentication</td>
<td>String</td>
</tr>
</tbody>
</table>
The Logon

The Logon takes the URL of the IBM Cognos Business Intelligence Web server and the credential elements required by IBM Cognos to perform a logon: user ID, password, and namespace. The namespace parameter is case-sensitive; therefore, you must match the namespace exactly.

The IBM Cognos Office API supports the IBM Cognos Office strategy of storing user credentials only in memory. For this reason, users are responsible for storing their credentials in a secured area and passing them to the logon methods at run time.

If you use the Logon function with incorrect credentials, the system raises a CAMException error, however, no exception is written to the log file indicating a failure. To avoid this situation, remember that strings are case-sensitive and ensure that you use valid IDs, passwords, and namespaces.

Logon does not appear in the macro list (Tools menu, Macro, Macros, or ALT+F8) in any of the Office applications because it receives an argument. Any macro with parameters is by definition private and private macros are not shown in the macro options by default.

Syntax

Logon (url, user name, password, namespace)

<table>
<thead>
<tr>
<th>Argument</th>
<th>Description</th>
<th>Data type</th>
</tr>
</thead>
<tbody>
<tr>
<td>url</td>
<td>The URL for the IBM Cognos Web server to which you want to log on</td>
<td>String</td>
</tr>
<tr>
<td>user name</td>
<td>The user name for authentication</td>
<td>String</td>
</tr>
<tr>
<td>password</td>
<td>The password for authentication</td>
<td>String</td>
</tr>
<tr>
<td>namespace</td>
<td>The specific namespace for authentication</td>
<td>String</td>
</tr>
<tr>
<td>Return</td>
<td>The Boolean value that is true if successful</td>
<td>Boolean</td>
</tr>
</tbody>
</table>

Example

Here is an example of this syntax:

Dim bResult As Boolean

ClearAllData

ClearAll Data clears all the IBM Cognos data values in the current Microsoft Office document, workbook or presentation.

Syntax
ClearAllData()

Example
The following is an example of this syntax:
CognosOfficeAutomationObject.ClearAllData

RefreshAllData

RefreshAllData fetches the most current data values from the IBM Cognos Web server and updates those values in the current Microsoft Office document, workbook, or presentation.

The system must be successfully logged on to the IBM Cognos Web server.

Syntax
RefreshAllData()

Example
The following is an example of this syntax:
Dim bResult as Boolean
'Refresh the data if we successfully logged on to the IBM Cognos server.
If bResult Then
    CognosOfficeAutomationObject.RefreshAllData
End If

UnlinkAllData

UnlinkAllData disconnects all the IBM Cognos data values in the current Microsoft Office document, workbook, or presentation. These values are no longer updated with subsequent calls to RefreshAllData. They become static values.

Any IBM Cognos data values that are imported into the current Microsoft Office document, workbook, or presentation after UnlinkAllData is called will continue to be linked to the IBM Cognos data source on the Web server. They are updated with new server data using the RefreshAllData call.

Syntax
UnlinkAllData()
**Example**

The following is an example of the syntax:

```
CognosOfficeAutomationObject.UnlinkAllData
```

**Publish**

Use Publish to publish IBM CognosOffice documents to IBM Cognos Connection.

The arguments mirror the entry boxes in the dialog box that is used in the user interface.

Publish does not appear in the macro list (Tools menu, Macro, Macros, or ALT+F8) in any of the Office applications because it receives an argument. Any macro with parameters is by definition private and private macros are not shown in the macro options by default.

**Syntax**

```
IResult Publish (URL, document path, server path, name, description, screenTip)
```

<table>
<thead>
<tr>
<th>Argument</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>URL</strong></td>
<td>Indicates the server to which you are publishing.</td>
</tr>
<tr>
<td><strong>document path</strong></td>
<td>Indicates the location of the Office document to be published. It is the local path of the file that you want to publish. The folder path is a search path in IBM Cognos Business Intelligence. For more information, see the IBM Cognos BI User Guide. If the path of your folder is not correct when you publish using IBM Cognos Office Automation, you are again prompted to log on. This is because IBM Cognos does not distinguish between non-existing folders and folders for which the user does not have permissions. This security feature helps to prevent the discovery of the folder path by trial and error.</td>
</tr>
<tr>
<td><strong>server path</strong></td>
<td>Indicates the path in the content store where the document is saved.</td>
</tr>
<tr>
<td><strong>name</strong></td>
<td>Indicates the name of the document as it appears in IBM Cognos BI.</td>
</tr>
<tr>
<td><strong>description</strong></td>
<td>Describes the Office document as it should appear in IBM Cognos BI.</td>
</tr>
</tbody>
</table>

Data type: string
### Argument Description

| **screenTip** | Fills the screen tip text that users see when they point to the Office document in the list of published items in IBM Cognos BI.  
| Data type: string |

Following is an example of this syntax:

```vba
Dim resultObject As Object
Set resultObject = Publish("CAMID('::Anonymous')/folder[@name='My Folders']", "Description of 'My Folders'", "")
```

---

### Logoff

Logoff logs off all the IBM Cognos Web servers to which users are currently logged on.

**Syntax**

Logoff ()

**Example**

The following is an example of the syntax:

```vba
CognosOfficeAutomationObject.Logoff
```

---

### TraceLog

TraceLog returns all the IBM Cognos Office automation activities and errors.

**Syntax**

String TraceLog()

**Example**

The following is an example of the syntax:

```vba
Dim strTraceLog as String
strTraceLog = CognosOfficeAutomationObject.TraceLog
MsgBox strTraceLog
```

---

### SuppressMessages

SuppressMessages suppresses the standard alerts and messages that are shown during the normal operations of IBM Cognos Office.

**Syntax**

SuppressMessages()

**Example**

The following is an example of the syntax:
Private Sub Class_Initialize()
    CognosOfficeAutomationObject.SuppressMessages True
End Sub

Private Sub Class_Terminate()
    CognosOfficeAutomationObject.SuppressMessages False
End Sub

ClearCache

ClearCache, which can only be used with IBM Cognos Analysis for Microsoft Excel® workbooks, reduces the size of a workbook by clearing metadata and data from explorations and formulas.

Syntax
ClearCache()

Example
The following is an example of the syntax:
CognosOfficeAutomationObject.ClearCache()

Example - code for processing within VBA

The following example demonstrates how to call the Logon method within VBA:

Dim bResult as Boolean
bResult = CognosOfficeAutomationObject.Logon("http://localhost/ibmcognos/cgi-bin/cognos.cgi","Administrator", "CognosAdmin", "Production")
If bResult Then
    CognosOfficeAutomationObject.ClearAllData()
    CognosOfficeAutomationObject.RefreshAllData()
    CognosOfficeAutomationObject.Logoff()
    Dim sTraceLog as String
    sTraceLog = CognosOfficeAutomationObject.TraceLog
    'Here is where you could write the trace log to file.
    MsgBox sTraceLog
End If

Example - code for processing outside VBA

You may want to use IBM® Cognos® Office Automation outside VBA. You cannot call the APIs directly.

You must create wrapper macros in the Microsoft® Office document for every API. You can then call these macros from your code. The module CognosOfficeAutomationExample.bas is an example of a wrapper macro that you can call from outside VBA.

The following Visual Basic Script opens Microsoft Office Excel, logs on to IBM Cognos Office, refreshes the content, and logs off.
Chapter 10: Automating IBM Cognos Office

' Start Excel in batch mode
Set objExcel = CreateObject("Excel.Application")
objExcel.Visible = False
objExcel.ScreenUpdating = False
objExcel.DisplayAlerts = False
'Open a workbook that has IBM Cognos data in it.
Set objWorkbook = objExcel.Workbooks.Open("C:\workbook1.xls")
' Call the wrapper macros
objExcel.Run "Logon", "http://localhost/ibmcognos/cgi-bin/congnos.cgi", "Administrator", ",", "Production"
objExcel.Run "RefreshAllData"
objExcel.Run "Logoff"
objExcel.Run "WriteTraceLog", "C:\AutomationLog.log"
objWorkbook.Save
objWorkbook.Close
objExcel.Quit

Macro files

The macro files are written in Visual Basic for Applications (VBA). They are installed with IBM® Cognos® Office in the Automation folder. The default location is client_installation_directory\Automation.

Microsoft® Excel and Microsoft Word share the same CognosOfficeAutomationExample.bas file. Microsoft PowerPoint has its own file named CognosOfficeAutomationPPExample.bas.

The following macro files are installed.

<table>
<thead>
<tr>
<th>File</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CognosOfficeAutomationExample.bas</td>
<td>Because it is a BASIC file created using VBA, this file has the extension .bas. It contains the CognosOfficeAutomationObject property that enables IBM Cognos Office automation in the current Office document. It also contains wrapper functions that call the API exposed by IBM Cognos Office.</td>
</tr>
<tr>
<td>CognosOfficeAutomationPPExample.bas</td>
<td>This file is the same as the CognosOfficeAutomationExample.bas file, except that it is tailored to suit Microsoft PowerPoint.</td>
</tr>
<tr>
<td>CognosOfficeMessageSuppressor.cls</td>
<td>This file shows how to use the SuppressMessages API function.</td>
</tr>
</tbody>
</table>
Script files

Use the sample script files to help you with more advanced automation functions, such as scheduling the refresh of workbooks, documents, or presentations.

You must modify them to meet your particular needs or use them as a reference to create your own programs. For more information, see the comments in the file.

These Visual Basic Scripts (VBS) are provided as sample programs and are located in `client_installation_directory\Automation`:

- Automate_COI.vbs
- Automate_COI_Excel.vbs
- Automate_COI_Word.vbs
- Automate_COI_PowerPoint.vbs
Chapter 11: Troubleshooting

Use this troubleshooting reference information as a resource to help you solve specific problems you may encounter during or after the installation of IBM® Cognos® Analysis for Microsoft® Excel® components.

Troubleshooting resources

Troubleshooting resources are sources of information that can help you resolve a problem that you are having with a product.

Generally, sources of troubleshooting information include logs, debugging modes, documentation, and technical support. In addition to this document, the following troubleshooting resources are available when you work with IBM Cognos Analysis for Microsoft Excel.

- error messages (p. 113)
- log files (p. 113)
- Windows Event Viewer (p. 114)
- samples (p. 114)
- IBM Cognos Resource Center (p. 114)

Error messages

The first indication of a problem is often an error message. Error messages contain information that can be helpful in determining the cause of a problem. To copy error messages directly to the clipboard, on the error message dialog box, click the Copy button.

Log files

Log files can help you troubleshoot problems by recording the activities that take place when you work with a product. Operations performed in IBM Cognos Analysis for Microsoft Excel are recorded in various log files for tracking purposes.

Before you begin viewing log files, ensure that they contain the information that you need. The number of log files and the information they contain are set by parameters that you control. In most cases, the log files are locked while the application is running. To email the log file, you must exit the application first before copying it.

When troubleshooting, the following files can assist you:

IBM Cognos server log file

This file contains information about the Report Data Service processes.
IBM Cognos Office log file
This file, such as Log_090616_154555.txt contains information about IBM Cognos Analysis for Microsoft Excel processes. You turn this log on or off and select the level of logging by setting the Log Level combobox in the Options dialog box.

Windows event viewer
Windows Event Viewer provides information about program, security, and system events. For example, if a service fails to start, this fact is recorded in the event log.

Windows Event Viewer does not record information that is specific to operations or tasks performed in IBM Cognos Analysis for Excel. Consult the IBM Cognos Office log files for these problems.

For information about how to use Windows Event Viewer, see the Windows help.

Samples
IBM Cognos Analysis for Microsoft Excel uses samples to highlight product features and to help you learn how to use the product. You can also use samples to troubleshoot problems. You can use the samples that come with IBM Cognos Analysis for Microsoft Excel to determine if various components are working together as expected. For example, if you are having a problem running a report, you can try running a sample report to see if the problem persists. You may discover that the problem is related to connecting to a database.

Call IBM Cognos Software Services
If you are unable to resolve a problem using all other troubleshooting resources, call IBM Cognos support to receive immediate help. For information about IBM Cognos support locations and programs, see the IBM Cognos Customer Service Center Web site (www.ibm.com/software/data/cognos/customercenter/).

To contact IBM Cognos Resource Center, you must have a current support agreement with Cognos, an IBM Company.

Before you call, do the following:

- Ensure that the problem is related to IBM Cognos software and results in an IBM Cognos error message.
- Attempt to reproduce the problem to ensure that it is not just a simple error.
- Check obvious things like file locations, directories, paths, and access.
- Review all relevant documentation, including any release notes.
- Check to see if any recent changes in your computing environment may be responsible for the problem.

Steps
1. Have the following information at hand:
   - your customer identification number
• your case reference number, if it is an ongoing case
• the phone number where you can be reached
• the version of the software you use
• the version of the operating environment you use
• a description of what you were doing when the problem occurred
• the exact wording of any error messages that appear
• any steps you took to attempt to solve the problem

2. Contact the IBM Cognos support center nearest you.

3. You are asked whether this is a new or ongoing case. If it is an ongoing case, provide your case reference number or, if appropriate, your customer identification number.

If you don’t have support on the software about which you are calling, you will be directed to a support renewal representative.

Common errors

This section lists the most-common errors that you might encounter with IBM Cognos Analysis for Microsoft Excel. For a complete listing, which includes numbered error messages and warnings, such as COR-ERR-1003, refer to the IBM Cognos Administration and Security Guide.

Configuration issues

The following issues are related to configuration and setup.

Convert to Formulas does not show value

You can create an exploration without experiencing an error, but when you convert that exploration to formulas, cells no longer display values properly. In one of the cells that has no value, you click the cell and it shows the COGVAL formula, such as =COGVAL($C$1, $C$2, $B10,C$8,$B$8). Attempting to do this on another workstation you find that values are displayed correctly. If a user with administrative rights to the workstation attempts to convert to formulas, the values are displayed correctly in the cells of the worksheet.

The user did not use Microsoft Excel before IBM Cognos Analysis for Microsoft Excel was installed and did not get registered properly. There are two ways to resolve this problem. You can give the affected user local administration rights to the workstation or you can run the file Register Cognos UDF.vbs, which will add the proper registry entries for the new user.

For the Register Cognos UDF.vbs file process to work (both during the installation of the software or when run separately to add a new user) the Microsoft Excel registry entries must have been created by Microsoft Excel itself. You must ensure that the user run Microsoft Excel first, before attempting to add registry entries for IBM Cognos Analysis for Microsoft Excel. You can examine the ntuser.dat that the script writes to check whether the user has been properly added.
SERVER_NOT_AVAILABLE: The Cognos gateway is unable to connect to the BI server. The server may be unavailable or the gateway may not be correctly configured.

After changing the gateway alias or switching from a test to a production environment you receive an error message advising you that the server is not available and that the Cognos gateway is unable to connect to the Business Intelligence server. This is probably caused by a change in the gateway URI.

Update the server and package designation in a workbook to switch from a test to a production environment or to access information from a different set of financial data, such as a submission.

Steps to Update Information in Cell References
1. From the worksheet you want to update, open the new server and package.
2. From the Information folder, drag the updated server and package metadata to the server or package cell.

Step to Update Information in Embedded Text
- Use the Microsoft Excel search and replace function to update embedded references in the text of cell formulas.

The IBM Cognos Office Interface Fails to Initialize in Microsoft Office
IBM® Cognos® Office may not initialize when the Microsoft® .NET Framework is not installed or the version is not correct. The required Microsoft .NET Framework version is 2.0 or later. Another possible reason for this condition is that the IBM Cognos Office COM add-in is either not installed or not registered.

If you are running the wrong version of Microsoft .NET Framework, uninstall it and then reinstall Microsoft .NET Framework version 2.0 or later.

To install the IBM Cognos Office COM add-in, run the .msi program that is found on the installation CD. For more information, see the installation guide.

Before you attempt to install Microsoft .NET Programmability Support, you must have installed Microsoft .NET Framework version 2.0 or later.

IBM Cognos Office Fails to Initialize in Microsoft Internet Explorer
If you use Internet Explorer to browse IBM Cognos Business Intelligence and open a workbook, document, or presentation published by IBM Cognos Office, the document launches in Microsoft Office, but without full functionality.

To configure Internet Explorer to open Microsoft Office files in Microsoft Office instead of in Internet Explorer, you must use the Folder Options tool to update browse options. It is also possible to do this in Windows Registry.

Steps to Configure Internet Explorer to Open Microsoft Office Documents in Microsoft Office Applications
1. Open My Computer.
2. From the Tools menu, click Folder Options.
3. On the File Types tab, under Registered file types, click Microsoft Excel Worksheet, and then click Advanced.

   The Edit File Type dialog box appears.

4. Clear the Browse in same window check box and click OK.

5. Complete the same steps for Microsoft Office PowerPoint presentations and Microsoft Office Word documents.

**Microsoft Office Does Not Open a Microsoft Office Document Published from IBM Cognos Office**

If you observe Microsoft Office trying to open a published document twice when you double-click the workbook, document, or presentation from Windows Explorer, the file association is either corrupted or not installed properly.

There are two options to resolve this issue. You can start the Microsoft Office application first, and then open the document using the Open command from the File menu, or you can reregister the file type.

**Steps to Reregister Workbook File Types for Microsoft Office Excel**

1. From the Start menu, click Run.

2. Type the following command and click OK.

   "C:\Program Files\Microsoft Office\Office\Excel.Exe" /regserver

   You can adapt this command to your environment by providing the proper local drive and location.

**Steps to Reregister Presentation File Types for Microsoft Office PowerPoint**

1. From the Start menu, click Run.

2. Type the following command and click OK.

   "C:\Program Files\Microsoft Office\Office\Powerpnt.Exe" /regserver

   You can adapt this command to your environment by providing the proper local drive and location.

**Steps to Reregister Document File Types for Microsoft Office Word**

1. From the Start menu, click Run.

2. Type the following command and click OK.

   "C:\Program Files\Microsoft Office\Office\winword.exe" /regserver

   You can adapt this command to your environment by providing the proper local drive and location.

**Unable to Open Published Microsoft Office Documents from IBM Cognos Connection**

If the browser does not prompt you to open or save the workbook, document, or presentation, it may mean that the option to prompt before opening was cleared. Reset this option.
You must enable the File Download and Automatic prompting for file downloads in Internet Explorer.

**Steps to Confirm Opening of Documents**
1. Start the Windows Control Panel.
2. Double-click Folder Options.
3. From the Folder Types tab, in the Registered file types list, click Microsoft Excel Worksheet, and then click Advanced.
4. Ensure that the Confirm open after download check box is selected and click OK.
5. Repeat steps 3 and 4 for other Microsoft Office documents that are supported in IBM Cognos Office, such as Microsoft Office Excel Template, Microsoft PowerPoint Presentation, Microsoft Office PowerPoint Template, Microsoft Word Document, and Microsoft Office Word Template.
6. Click Close.

**Steps to Reset Internet Security Options**
1. Start Internet Explorer.
2. From the Tools menu, click Internet Options.
3. From the Security tab, click the Web content zone for which you are updating these options, and then click Custom Level.
4. Scroll down to the Downloads section and click Enable for the File download and Automatic prompting for file downloads options.
5. Click OK twice.

**Error Messages, the .NET shortcut, or the .NET Console Are Not in the Language of the .NET Framework 2.0 That Was Installed**

When you install a non-English version of .NET Framework in a non-English operating system, you will notice that the error messages, .NET shortcut and .NET Console are in English.

To solve this issue, you must apply the .NET Framework Language Pack for your language.

The subkey numbers relate to the language as follows: 1033=en-en, 1036=fr-fr, 1031=de-de, and 1041=ja.

If you are missing the language pack subkeys, you must install the .NET language pack, which is available from the Microsoft support Web site.

**Workbook Closes Unexpectedly**

If you install the COM add-in and your Microsoft Excel workbook name contains a square bracket, Excel stops responding or closes unexpectedly after opening.

To resolve this problem, rename the workbook so that it does not contain square brackets.
Reports Unavailable in IBM Cognos Connection Jobs after Using Save As Command in IBM Cognos Report Studio

After opening a report in IBM Cognos Report Studio and saving a copy using the Save As command, you may find that if the report is included in a job, it is not available in the IBM Cognos Connection portal.

Do not use the Save As command in IBM Cognos Report Studio to save changes when a report is included in a job. Instead, make a copy of the report, make changes to the copy, and then copy the updated report to the IBM Cognos Connection portal. Use this method to overwrite the report in the job without breaking the report links.

The Content of the Cell-based Report Shows #NAME?

When building a cell-based report in IBM Cognos Analysis for Microsoft Excel® version 8.4, the content of the cells shows #NAME?

When you drag items from the source tree directly to a cell of a worksheet, you are creating a COGNAME or COGVAL formula that references the item in the database. This functionality is available only when the CognosOfficeUDF.Connect automation add-in is loaded.

If #NAME? appears in the contents of the cell, it means that the add-in was not loaded and the CognosOfficeUDF.Connect check box in the Add-in dialog box (Tools, Add-Ins) is not selected.

To resolve this issue and ensure that the add-in is always properly loaded, you must verify that the value of the OPEN registry key is set to /A "CognosOfficeUDF.Connect".

Steps

1. From the Windows Start menu, click Run.
2. In the Open box, type Regedit, and then click OK.
3. In the Registry Editor, go to the Registry branch:
   HKEY_CURRENT_USER\SOFTWARE\Microsoft\Office\version\Excel\Options
4. In the right pane, under Name, right-click OPEN, and then click Modify.
5. In the Value Data box, type
   /A "CognosOfficeUDF.Connect"
6. Click OK, and then close the Registry Editor.

Processing issues

The following issues are related to processing and rendering reports.

Lists that were created using IBM Cognos Analysis for Microsoft Excel® Version 8.4 return an error

Selecting Run with All Data or Refresh All Data on a workbook created in IBM Cognos Analysis for Microsoft Excel® Version 8.4 may display an error.

Use the Excel Clear All feature to remove all data and formatting from cells before clicking Refresh All Data from the IBM Cognos toolbar.
**RSV-SRV-0067 This report contains upgrade errors and cannot run**

Adding a calculation to a workbook created in IBM Cognos Analysis for Microsoft Excel® Version 8.4 displays an upgrade warning error.

Use the Excel Clear All feature to remove all data and formatting from cells before clicking Refresh All Data from the IBM Cognos toolbar.

**DPR-ERR-2079 Firewall Security Rejection**

If you run a report after your session has expired and then try to navigate away from the first page of the report, you encounter the following error message:

*DPR-ERR-2079 Firewall Security Rejection. Your request was rejected by the security firewall. CAF rejection details are available in the log. Please contact your administrator.*

To resolve this problem, after an expired session, you must log on again.

**Steps to Log On**

1. In the report list, right-click the top node item.
2. Click Log On.
3. Provide your authentication credentials as prompted and click OK.

**Item cannot be expanded**

Microsoft Excel has reached the maximum number of rows or columns for this worksheet. The number of rows and columns is limited in Microsoft Excel. Expanding the current item is not possible because it would shift rows or columns beyond this worksheet limit. Microsoft Office Excel cannot shift nonblank cells off the worksheet.

Manually move items so that the row or column item can expand without reaching the limit, or move your exploration or analysis to another worksheet. Or, you can move the data to a new location and try again.

**Error refreshing exploration saved in earlier version of Microsoft Excel**

This workbook may have been created with an older version of Microsoft Excel that has a set maximum number of rows or columns. For example, an earlier version of Microsoft Excel, such as Office 10 or Office 11, columns that go beyond the 256 maximum limit are truncated.

Although you are no longer using that version, the application is working within the limits of the older version of Excel. You may encounter this situation when you are expanding items or when you are refreshing items that have grown in size since the workbook was created.

To correct the problem, you must save the exploration with the .xlsx extension. Opening the exploration in Office 12 does not convert it to Office 12 format. Saving the exploration with the .xlsx extension converts the workbook to the 2007 format that supports columns exceeding the 256 column limit set in earlier versions of Excel.

**Security Issues**

The following issues are related to security setup.
IBM Cognos Office Unable to Create Trust Relationship

If you are using HTTPS to Report Data Service and you receive an error in IBM® Cognos® Office about being unable to trust the relationship, the Certificate Authority (CA) certificate that was issued by the Web server is not trusted on the client workstation.

To resolve this problem, you must ensure that the Certificate Authority (CA) that issued the Web server certificate is also trusted on the client workstation. If the certificate is not from an authority that is already trusted on the client, such as Verisign, you must install the CA certificate in the trust store on the client.

Steps to Ensure that the CA Certificate is Trusted on the Client Workstation
1. Retrieve the CA certificate from the issuing authority.
   The file has a .cer extension. This is not the same certificate as the one used by the Web server. It is the certificate for the issuing authority itself.
2. Double-click the .cer file, click Install Certificate, and then click Next.
3. Click Place all certificates in the following store.
4. Click Browse, click Trusted Root Certification Authorities, and then click Next.
5. Click Finish.

Unable to View Reports After Clicking View Report

IBM Cognos for Microsoft Office is functioning normally, but you cannot use the View Report option to view reports. The client machine, running IBM Cognos for Microsoft Office, cannot connect to the gateway URL as configured in IBM Cognos Business Intelligence. This may be because it is behind a firewall, the hostname/DNS is not known to this client machine, or the client machine has proxy issues.

To resolve the connectivity issues, work with your system administrator.

IBM Cognos Office Numbered Error Messages

The following error messages may appear in a dialog box and are recorded in the IBM® Cognos® Office log.

COI-ERR-2002 Block type is not valid
An internal processing error occurred. The block object was not able to be processed.
Contact IBM Cognos Resource Center. Be ready to supply all relevant logs and details related to this error.

COI-ERR-2003 Unexpected type: stacked block
An internal processing error occurred. The data object was not of the expected type and could not be processed.
Contact IBM Cognos Resource Center. Be ready to supply all relevant logs and details related to this error.
Chapter 11: Troubleshooting

**COI-ERR-2005 This version of Microsoft Office is not supported**

IBM Cognos Office supports the following Microsoft® Office applications: Microsoft Office Excel 2003 or 2007 (Professional or Standard), Microsoft Office Excel XP, Microsoft Office Word 2003 or 2007 (Professional or Standard), Microsoft Office Word XP, Microsoft Office PowerPoint 2003 to 2007, and Microsoft Office PowerPoint XP. You cannot load IBM Cognos Office content to another Microsoft Office application, such as Microsoft Access even when there is an add-in that enables these applications to interoperate.

Load the report content into one of the supported applications and environments.

**COI-ERR-2006 This Microsoft Office product is not supported**

IBM Cognos Office supports the following Microsoft Office applications: Microsoft Office Excel 2003 or 2007 (Professional or Standard), Microsoft Office Excel XP, Microsoft Office Word 2003 or 2007 (Professional or Standard), Microsoft Office Word XP, Microsoft Office PowerPoint 2003 to 2007, and Microsoft Office PowerPoint XP. You cannot load IBM Cognos Office content to another Microsoft Office application, such as Microsoft Access even when there is an add-in that enables these applications to interoperate.

Load the report content into one of the supported applications and environments.

**COI-ERR-2008 Unable to Retrieve from Resources. Tried '{0}'**

An internal processing error occurred.

Contact IBM Cognos Resource Center. Be ready to supply all relevant logs and details related to this error.

**COI-ERR-2009 Unable to Perform This Operation Because Microsoft Excel is in Edit Mode**

Report content cannot be refreshed while one of the cells of the workbook is being edited.

Click outside the active cell to return it to a non-edit mode and try again.

**COI-ERR-2010 The name {0} is not valid. A name must not contain both a quote (") character and an apostrophe (') character**

When you create a folder, rename a folder, or publish a document, the name can contain an apostrophe or a quote, but not both.

To resolve this problem, rename the folder or document. Exclude the apostrophe or quote character from the name.

**COI-ERR-2011 The server did not return the expected response. Check that the gateway is valid.**

This error message is displayed if the value entered in the System Gateway URI box of the Options dialog box is not a valid IBM Cognos Business Intelligence server.

To resolve this problem, reenter the System Gateway URI with the gateway address for a valid IBM Cognos BI server.

**COI-ERR-2012 Promted metadata is not supported**

Although reports with prompted data are supported by IBM Cognos for Microsoft Office, prompted metadata is not.
Import a report that does not require prompted metadata or create defaults for the prompted metadata.

**COI-ERR-2013 Unable to load metadata**

You may be unable to load metadata because you do not have security rights to all of the items in the worksheet or because the items were removed or changed on the server.

Ensure that you have security rights to all of the items that you are trying to view. If this does not fix the problem, ensure that the server and package information are correct and that any items that have been removed from the source database are also removed from the worksheet.

**COI-ERR-2014 Help file not found**

The help file is missing or corrupted.

To fix the problem, re-install your IBM Cognos Office component, such as IBM Cognos Analysis for Microsoft Excel® or IBM Cognos for Microsoft Office.

To find the most current product documentation, including all translated documentation, access one of the IBM Cognos Information Centers at publib.boulder.ibm.com/infocenter/cogic/v1r0m0/index.jsp.

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

**COI-ERR-2015 There was a problem parsing the MIME encoded server response. Tried to find the boundary [{0}] but found the boundary [{1}] instead**

While using GZip compression, an option for compressing data that is retrieved from the server, an error occurred. The codes to decompress the data are missing or unrecognized by IBM Cognos Office.

Turn compression off. Although compression is turned on by default, it can be turned off by setting the UseGzipCompression property to false in the CommManagerSettings.xml file, which, by default, is located in the following directory:

C:\Documents and Settings\user name\Local Settings\Application Data\Cognos\Office Connection

Turn compression off if you need to run tests or perform troubleshooting.

To turn gzip compression off set the following attribute:

<setting name="UseGzipCompression">False</setting>

**IBM Cognos Analysis for Microsoft Excel numbered error messages**

The following error messages may appear in a dialog box and are recorded in the IBM Cognos Office log.

**COR-ERR-2004 Axis specification is not valid**

The workbook specification is not capable of being generated because of an anomaly.

To fix the problem, you may attempt to do any of the following:

- Click **Undo**.
Chapter 11: Troubleshooting

- Click Clear All Data.
- Close the workbook and open it again.

The workbook should now accept data from the source tree.

**COR-ERR-2007 Error retrieving from resources. Tried '{0}'**
The exploration experienced a bad state.
Contact IBM Cognos Resource Center.

**COR-ERR-2009 Name formula is not valid**
The COGNAME formula did not parse correctly. It may have been altered manually and may have a missing argument.
Check the COGNAME formula in the active cell and ensure that it is in the right format, or optionally, redrag the member from the source tree.

**COR-ERR-2010 Formula is not valid**
If an argument to a COGNAME or COGVAL formula references a cell and that cell does not contain the expected string formula you receive this error.
Check the cell and its dependents. Look for #REF or #VALUE in the cell. The contents of the cell may have accidentally been deleted.

**COR-ERR-2013 Exploration cannot be converted to formula based because at least one context item contains a selection**
With more than one item in the Context drop zone there is no way for the multiple items to be rendered into the cells of the worksheet.
Remove one dimension from the Context drop zone. You must have one item per dimension to convert to a formula-based analysis.

**COR-ERR-2014 Due to Excel worksheet limitations the results may be truncated**
If the data that you receive back has more than 250 columns or more than 65,500 rows and you are not using Microsoft Excel 2007, the result is truncated. You receive this message to make you aware of the truncation.
To avoid this limitation, limit your data selections.

**COR-ERR-2016 Unable to retrieve package Name**
After you selected a package using the Open Package dialog box, an error occurred when trying to download the package from the server.
This is an internal error. You must contact Cognos Software Services.

**COR-ERR-2015 The current exploration cannot be rendered at this location on the worksheet**
The exploration cannot write data outside the limits of the current worksheet. Either the exploration is too large for Microsoft Excel or you have designated a starting location too close to the limit.
Try to move your start location. If that fails to fix the problem, try creating an exploration with fewer rows or columns.

**COR-ERR-2017 The current selection did not return any data**

Your selections in the source tree did not result in any data. The exploration is cleared or returned to the previous state.

To display items in the worksheet, you must select objects from the source tree that intersect on data points.

**COR-ERR-2018 Help file not found**

The help file is missing or corrupted.

To fix the problem, re-install your IBM Cognos Office component, such as IBM Cognos Analysis for Microsoft Excel or IBM Cognos for Microsoft Office. You can also copy the .pdf file from the IBM Cognos Customer Service Center Web site (www.ibm.com/software/data/cognos/customercenter/) to the documentation directory.
Chapter 11: Troubleshooting
Appendix A: Sample reports and packages

The IBM® Cognos® for Microsoft® Office products include sample reports and packages that are based on the fictional retail company, The Great Outdoors. After the samples are set up, you can find these reports in the samples subfolder under Public Folders and other studio reports and packages in the source tree on the IBM Cognos pane:

- GO Data Warehouse (analysis)
- GO Data Warehouse (query)
- Sales and Marketing (cube)

The Great Outdoors Company Samples

The Great 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 at www.ibm.com. For information about specific installation choices and environments, see the IBM® Cognos® Architecture and Deployment Guide, or the Proven Practices and the IBM Cognos Implementation Roadmaps on www.ibm.com. For information about audit samples, see the IBM Cognos Administration and Security Guide. For information about Mobile samples, see the IBM Cognos Mobile Installation and Administration Guide.

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

Where to Find the Samples

The samples are included with the product and the samples for each studio are described in the related user guide and online help. To use the samples, you must install, set up, and configure them or contact your administrator to find out where they are installed. For instructions on how to install the samples, see the IBM Cognos Installation and Configuration Guide. For instructions on how to set up and configure samples, see the IBM Cognos Administration and Security Guide or the IBM Cognos Installation and Configuration Guide.

Samples Outline

The samples consist of the following:

- Two databases that contain all corporate data, and the related sample models for query and analysis
Appendix A: Sample reports and packages

- Five samples cubes and the related models
- A metrics data source including associated metrics and a strategy map for the consolidated company, and a model for Metric extracts.
- Reports, queries, query templates, and dashboards
  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 everyone. To implement security, see the Installation and Configuration Guide.

The Great Outdoors Group of Companies
To make designing examples faster, especially financial examples, some general information about The Great Outdoors Company is useful. To look for samples that use particular product features, see the individual sample descriptions in this section.

Revenue for The Great 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 below 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.
Each corporation has the same departmental structure and the same GL structure, shown in the table below. 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>
<thead>
<tr>
<th>Division (GL)</th>
<th>Department (GL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corporate (1700)</td>
<td>Sales (1720)</td>
</tr>
<tr>
<td></td>
<td>Marketing (1750)</td>
</tr>
<tr>
<td></td>
<td>IS&amp;T (1760)</td>
</tr>
<tr>
<td></td>
<td>Human Resources (1730)</td>
</tr>
<tr>
<td></td>
<td>Finance (1740)</td>
</tr>
<tr>
<td></td>
<td>Procurement (1710)</td>
</tr>
<tr>
<td>Operations (1800)</td>
<td>Production and Distribution (1820)</td>
</tr>
<tr>
<td></td>
<td>Customer Service (1820)</td>
</tr>
</tbody>
</table>

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 Great 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 2006). 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 (p. 128). This authentication directory is necessary for the Transformer 8 cubes and for IBM® Cognos® Planning samples. No other samples depend on security profiles. For more information, see the Installation and Configuration Guide.

Sales and Marketing

Data about sales and marketing is available for all of the companies in the Great 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 Great 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 2005), 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 2005) 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 2005 uses sparklines and list data to review revenues at the retailer level.

**Great Outdoors Database, Models, and Packages**

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

For a description of each sample report or query, see the user guide for the studio that you open the sample in. For more information about modeling techniques, see the *Guidelines for Modeling Metadata*, or the Framework Manager *User Guide*.

You must have access to Framework Manager, the modeling tool in IBM® Cognos® BI, to look at the sample models. You may also need to set up the sample databases and connections. For instructions, see the *Administration and Security Guide* or the *Installation and Configuration Guide*.

**GO Data Warehouse**

The GO Data Warehouse model, great_outdoors_data_warehouse.cpf, is based on the database GOSALES DW. 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 lookup tables.

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

- Calculations were added to the model query subjects. For example, the time dimension contains language calculations.
- Where the database has multiple hierarchies, new dimensions have been created to organize each hierarchy. For example, see the employee hierarchies, where employees are organized by manager and region.
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 Power Cubes

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

- sales_and_marketing.mdc
- employee_expenses.mdc
- go_accessories.mdc
The Samples Packages
The Great Outdoors samples include six packages. Below is a brief description of each available package.

Go Data Warehouse (analysis) is a dimensionally modeled view of the GOSALESDW database. This package can be used in all studios, including 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.

Budget vs. Actual
This report shows three years of data by retailer and retailer site for the camping equipment product line. Each year includes budget and actual data. This report uses the following features:

- summarizing
- crosstabs
- context filters

Return Quantity by Order Method
This report shows quantity sold, number of returns, and percentage of returns (with those greater than 5% highlighted) by return reason for each product in the Outdoor Protection product line. This report uses the following features:
Appendix A: Sample reports and packages

- filters
- lists
- conditional highlighting
- grouping

Sales Commissions for Central Europe

This report shows an annual summary of sales commissions, revenues, and gross profit for each branch in Central Europe. It also compares actual commission expenses with planned commission expenses. This report uses the following features:

- prompts
- expressions
- bar charts
- lists
- conditional highlighting
- drilling through
- custom headers and footers
- axis titles

Sales Growth Year Over Year

This report shows annual sales growth in both percentage and dollar amounts. This report uses the following features:

- bar charts
- lists
- filters
- sorting
- baselines
- axis titles

Samples in the GO Data Warehouse (query) package

The following reports are some of the reports found in the GO Data Warehouse (query) package.
Bursted Sales Performance Report

This list report shows how to burst a product sales report to a sales manager for Northern Europe sales staff. To successfully burst this report, IBM Cognos BI must be configured to use an email server. This report uses the following features:

- lists
- bursting
- conditional highlighting
- filters
- calculations
- summarizing
- blocks
- custom headers and footers
- sorting
- grouping

Samples in the Sales and Marketing (Cube) package

The following reports are some of the reports found in the Sales and Marketing (Cube) package.

Revenue by Product Brand (2005)

This report shows the revenue and gross profit by product filtered by the product brand. There is always product turnover, so the report conditionally highlights products that are discontinued. This report uses the following features:

- lists
- filters
- prompts
- combination charts
- bar charts
- HTML items
- grouping
- sorting
- axis titles
Samples in the GO Sales (analysis) package

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

2005 Sales Summary

This report summarizes revenue and gross profit for 2005 and shows the top sales representatives by revenue and quantity sold. This report uses the following features:

- lists
- filters
- combination charts
- axis titles
- custom headers and footers
- conditions
Appendix B: Accessibility features for IBM Cognos Analysis for Microsoft Excel

Accessibility features help users who have a disability, such as restricted mobility or limited vision, to use information technology products successfully.

Accessibility features

IBM® Cognos® Analysis for Microsoft® Excel® has accessibility features that help users who have a physical disability, such as restricted mobility or limited vision, to use information technology products successfully.

The following list includes the major accessibility features in IBM Cognos Analysis for Microsoft Excel:

- You can use accelerators and command keys to navigate through IBM Cognos Analysis for Microsoft Excel.
  In Microsoft Windows®, press the Alt key, then the accelerator to trigger an action; for example, Alt+F shows the File menu. If they are enabled, you can use extended accelerators as well.

- IBM Cognos Analysis for Microsoft Excel uses Microsoft Active Accessibility (MSAA). This means that people with limited vision can use screen-reader software, along with a digital speech synthesizer, to listen to what is displayed on the screen.

- IBM Cognos Analysis for Microsoft Excel supports your system’s display settings, such as color scheme, font size, and high-contrast display.

IBM Cognos Analysis for Microsoft Excel has other features that you can customize to fit your individual needs:

- "Increasing font size for future sessions" (p. 141)
- "Viewing lists or explorations in Windows high contrast mode" (p. 142)

Keyboard navigation

You can use keyboard shortcuts to navigate through and perform tasks in IBM Cognos Analysis for Microsoft Excel. If you are using a screen reader, you may want to maximize your window so the keyboard shortcut tables in the following topics are completely expanded and accessible.

This product uses standard Microsoft Windows navigation keys in addition to application-specific keys.

Note: The following keyboard shortcuts are based on U.S. standard keyboards. Some of the content in this topic may not be applicable to some languages.
Keys for IBM Cognos Office

If an action you use often does not have a shortcut key, you can record a macro in Microsoft Excel to create one.

You can use the following keyboard shortcuts when you want to start IBM Cognos Analysis for Microsoft Excel or IBM Cognos for Microsoft Office, or move to a button or menu on the IBM Cognos toolbar.

- "Access and use menus and IBM Cognos toolbar" (p. 138)
- "Access and use IBM Cognos pane" (p. 139)
- "Use dialog boxes" (p. 139)
- "Use tree view " (p. 140)

Access and use menus and IBM Cognos toolbar

<table>
<thead>
<tr>
<th>Goal</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Start IBM Cognos Analysis for Microsoft Excel or IBM Cognos for Microsoft Office.</td>
<td>ALT (to place focus on the menu bar), CTRL+TAB (to move to the IBM Cognos button), ENTER.</td>
</tr>
<tr>
<td>When the IBM Cognos toolbar is selected, select the next or previous button or menu on the toolbar.</td>
<td>Office 12 users: LEFT ARROW or RIGHT ARROW Office 10 and Office 11 users: TAB or SHIFT+TAB.</td>
</tr>
<tr>
<td>When a menu or the IBM Cognos toolbar is active, move to the IBM Cognos Office pane.</td>
<td>Office 12 users: ALT+B to place focus on the IBM Cognos Office pane. Office 10 and Office 11 users: TAB to place focus on the IBM Cognos Office pane.</td>
</tr>
<tr>
<td>Select the first or last command on the menu or submenu.</td>
<td>HOME or END</td>
</tr>
<tr>
<td>Open the selected menu, or perform the action for the selected button or command.</td>
<td>ENTER</td>
</tr>
<tr>
<td>Open the context menu for the selected item or area of focus.</td>
<td>SHIFT+F10</td>
</tr>
<tr>
<td>Close an open context menu</td>
<td>ESC</td>
</tr>
</tbody>
</table>
## Access and use IBM Cognos pane

<table>
<thead>
<tr>
<th>Goal</th>
<th>Action</th>
</tr>
</thead>
</table>
| When a menu or the IBM Cognos toolbar is active, move to the IBM Cognos pane. | Office 12 users:  
ALT +B to place focus on the IBM Cognos pane.  
Office 10 and Office 11 users:  
TAB to place focus on the IBM Cognos pane. |
| When the IBM Cognos Office pane is active, select a component, such as IBM Cognos Analysis for Microsoft Excel or IBM Cognos for Microsoft Office | Office 12 users:  
CTRL+TAB, and then pressing LEFT ARROW or RIGHT ARROW.  
Office 10 and Office 11 users:  
TAB or SHIFT+TAB, and then pressing LEFT ARROW or RIGHT ARROW. |
| When the IBM Cognos Office pane is active, select the next or previous option in the pane. | Office 12 users:  
CTRL+TAB  
Office 10 and Office 11 users:  
TAB or SHIFT+TAB |

## Use dialog boxes

<table>
<thead>
<tr>
<th>Goal</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Move to the next option or option group.</td>
<td>TAB</td>
</tr>
<tr>
<td>Move to the previous option or option group.</td>
<td>SHIFT+TAB</td>
</tr>
<tr>
<td>Move between options in an open drop-down list, or between options in a group of options.</td>
<td>Arrow keys</td>
</tr>
<tr>
<td>Perform the action for the selected button, or select or clear the selected check box.</td>
<td>SPACExBAR</td>
</tr>
<tr>
<td>Open the list, if it is closed, and move to that option in the list.</td>
<td>First letter of an option in a drop-down list</td>
</tr>
</tbody>
</table>
### ActionGoal

<table>
<thead>
<tr>
<th>Goal</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Open the selected drop-down list.</td>
<td><em>Office 12 users:</em> First letter of an option in a drop-down list</td>
</tr>
<tr>
<td></td>
<td><em>Office 10 and Office 11 users:</em> ALT+DOWN ARROW</td>
</tr>
<tr>
<td>Close the selected drop-down list.</td>
<td><em>Office 12 users:</em> First letter of an option in a drop-down list</td>
</tr>
<tr>
<td></td>
<td><em>Office 10 and Office 11 users:</em> ALT+UP ARROW</td>
</tr>
<tr>
<td>Expand or collapse a folder.</td>
<td>ENTER</td>
</tr>
<tr>
<td>Cancel the command and close the dialog box.</td>
<td>ESC</td>
</tr>
<tr>
<td>When the <strong>Open</strong> dialog box is active, open the selected report</td>
<td>ALT+O</td>
</tr>
<tr>
<td>locally from IBM Cognos Connection.</td>
<td></td>
</tr>
<tr>
<td>When the <strong>Publish</strong> dialog box is active and the appropriate</td>
<td>ALT+P</td>
</tr>
<tr>
<td>folder is expanded, publish the selected Microsoft Office document</td>
<td></td>
</tr>
<tr>
<td>to IBM Cognos Connection.</td>
<td></td>
</tr>
</tbody>
</table>

### Use tree view

<table>
<thead>
<tr>
<th>Goal</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Move to the first selectable node below.</td>
<td>DOWN ARROW</td>
</tr>
<tr>
<td>If the node below has children and the child node is expanded,</td>
<td></td>
</tr>
<tr>
<td>move to the first child node.</td>
<td></td>
</tr>
<tr>
<td>Move to the next selectable node above.</td>
<td>UP ARROW</td>
</tr>
</tbody>
</table>
Keys for IBM Cognos Analysis for Microsoft Excel

If an action you use often does not have a shortcut key, you can record a macro in Microsoft Excel to create one.

You can use the following keyboard shortcuts when you want to select packages for your lists or explorations, and create lists or explorations.

<table>
<thead>
<tr>
<th>Goal</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Expand the selected node, or move to the first selectable child node</td>
<td>RIGHT ARROW</td>
</tr>
<tr>
<td>Collapse the selected node, move to the parent node, or move to the first selectable node above.</td>
<td>LEFT ARROW</td>
</tr>
<tr>
<td>Move to the first node in a tree control.</td>
<td>HOME</td>
</tr>
<tr>
<td>Move to the last node in a tree control.</td>
<td>END</td>
</tr>
</tbody>
</table>

Interface information

The following sections describe various ways that you can customize your settings to make IBM Cognos Analysis for Microsoft Excel more accessible.

Increasing font size for future sessions

It is best to change the size of your IBM Cognos for Microsoft Office fonts by changing your display fonts in Windows. Changing your Windows display fonts affects all programs on your computer. For more information, refer to Windows Help.

Note: In Microsoft Windows XP, selecting the Large size option in the DPI setting field will not have the desired effect in IBM Cognos for Microsoft Office. The change in font-size impacts only specific areas and elements of IBM Cognos for Microsoft Office. This is consistent with how Microsoft Office resizes its fonts in general. For example, only menus, window titles, and standard dialog boxes are resized. You must select the Custom setting and then select the percentage to scale to.
Viewing lists or explorations in Windows high contrast mode

Microsoft Windows users with low vision can make IBM Cognos Analysis for Microsoft Excel easier to view by enabling **High Contrast Mode**. For more information, see the documentation for your operating system.

Vendor software

IBM Cognos Analysis for Microsoft Excel includes certain vendor software that is not covered under the IBM license agreement. IBM makes no representation about the accessibility features of these products. Contact the vendor for the accessibility information about its products.

IBM and accessibility

See the IBM Human Ability and Accessibility Center (www.ibm.com/able) for more information about the commitment that IBM has to accessibility.
Appendix C: Rebranding IBM Cognos Office Components

This section is intended for clients and partners who need to rebrand, customize, or localize labels, messages, or other strings in IBM Cognos Office products, such as IBM Cognos Analysis for Microsoft Excel®, IBM Cognos Office, and IBM® Cognos® for Microsoft® Office versions 8.4 and later.

Resource Files

All the customizable strings for IBM® Cognos® Office products are located in XML-based resource (.resx) files.

The .resx resource file format consists of XML entries that specify objects and strings inside XML tags. One advantage of a .resx file is that when opened with a text editor (such as Notepad or Microsoft Word) it can be written to, parsed, and manipulated. When viewing a .resx file, you can see the binary form of an embedded object, such as a picture when this binary information is a part of the resource manifest. Apart from this binary information, a .resx file is completely readable and maintainable.

A .resx file contains a standard set of header information that describes the format of the resource entries, and specifies the versioning information for the XML that parses the data.

These files contain all the strings, labels, captions, and titles for all text in the three IBM Cognos Office components. For each language, there are three files, one for each component. The following table identifies each of the files.

<table>
<thead>
<tr>
<th>Language</th>
<th>IBM Cognos Analysis for Microsoft Excel files (internal name cor)</th>
<th>IBM Cognos for Microsoft Office files (internal name coc)</th>
<th>IBM Cognos Office files (internal name coi)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Language Neutral</td>
<td>cormsgs.resx</td>
<td>cocmsgs.resx</td>
<td>coimsgs.resx</td>
</tr>
<tr>
<td>Chinese (simplified)</td>
<td>cormsgs.zh-cn.resx</td>
<td>cocmsgs.zh-cn.resx</td>
<td>coimsgs.zh-cn.resx</td>
</tr>
<tr>
<td>Chinese (traditional)</td>
<td>cormsgs.zh-tw.resx</td>
<td>cocmsgs.zh-tw.resx</td>
<td>coimsgs.zh-tw.resx</td>
</tr>
<tr>
<td>Czech</td>
<td>cormsgs.cs.resx</td>
<td>cocmsgs.cs.resx</td>
<td>coimsgs.cs.resx</td>
</tr>
<tr>
<td>Dutch</td>
<td>cormsgs.nl.resx</td>
<td>cocmsgs.nl.resx</td>
<td>coimsgs.nl.resx</td>
</tr>
<tr>
<td>English</td>
<td>cormsgs.en.resx</td>
<td>cocmsgs.en.resx</td>
<td>coimsgs.en.resx</td>
</tr>
<tr>
<td>Finnish</td>
<td>cormsgs.fi.resx</td>
<td>cocmsgs.fi.resx</td>
<td>coimsgs.fi.resx</td>
</tr>
</tbody>
</table>
### Language | IBM Cognos Analysis for Microsoft Excel files (internal name cor) | IBM Cognos for Microsoft Office files (internal name coc) | IBM Cognos Office files (internal name coi)
--- | --- | --- | ---
French | cormsgs.fr.resx | cormsgs.fr.resx | coimsgs.fr.resx
German | cormsgs.de.resx | cormsgs.de.resx | coimsgs.de.resx
Hungarian | cormsgs.hu.resx | cormsgs.hu.resx | coimsgs.hu.resx
Italian | cormsgs.it.resx | cormsgs.it.resx | coimsgs.it.resx
Japanese | cormsgs.ja.resx | cormsgs.ja.resx | coimsgs.ja.resx
Korean | cormsgs.ko.resx | cormsgs.ko.resx | coimsgs.ko.resx
Polish | cormsgs.pl.resx | cormsgs.pl.resx | coimsgs.pl.resx
Portuguese | cormsgs.pt.resx | cormsgs.pt.resx | coimsgs.pt.resx
Romanian | cormsgs.ro.resx | cormsgs.ro.resx | coimsgs.ro.resx
Russian | cormsgs.ru.resx | cormsgs.ru.resx | coimsgs.ru.resx
Spanish | cormsgs.es.resx | cormsgs.es.resx | coimsgs.es.resx
Swedish | cormsgs.sv.resx | cormsgs.sv.resx | coimsgs.sv.resx
Turkish | cormsgs.tr.resx | cormsgs.tr.resx | coimsgs.tr.resx

### Rebranding or Localizing IBM Cognos Office Components

If you are setting the IBM® Cognos® component for a multilanguage environment, you must compile both the language-neutral file and the language file for your locale. The program detects the user locale settings in Windows and uses the appropriate language file. For example, suppose you installed IBM Cognos Analysis for Microsoft® Excel and your locale is set to French (France). You must make changes to the language-neutral files: cormsgs.resx and coimsgs.resx, and to the French files: cormsgs.fr.resx and coimsgs.fr.resx.

To customize or localize the component names and text messages, follow these steps:

☐ Edit the language-neutral resource files, and if necessary, the language resource files for your locale (p. 145).

☐ Download and then run the Resource File Generator (Resgen.exe) required for compiling the updated resource files (p. 146).
Edit the Resource (.resx) Files

For each component, there exists a set of files that support the various languages. The country code distinguishes the filenames. With the exception of the language-neutral set of files (cormsgs.resx, cocmsgs.resx, and coimsgs.resx) that serve as the default files, each file follows the following naming convention:

```
componentcodemsgs.languagecode.resx
```

You can change strings, not icon or graphic resources.

When changing text strings, consider the string length. The width of fields were created using the existing strings. Significantly increasing string length may result in some strings getting truncated in some of the dialog boxes.

The resource file contains metadata and comments that can help you determine when and where strings are used in the software.

**Important:** To edit XML resource files, use an XML editor. It is important to preserve the Unicode encoding and format, including white space. Simple text editors will likely corrupt the files. A validating XML editor ensures that the contents of the files are well formed and valid. Modify only string information. Do not change other information in the files.

**Steps**

1. Install the IBM Cognos Office components locally to a workstation.
   
   This gives you access to the resource files.

2. Locate the resource files.
   
   If you install locally and accept all the defaults, they are found in the following location:

   `installation directory:\Program Files\Cognos\Cognos for Microsoft Office\resources`

3. In an XML Editor, open the `componentcodemsgs.languagecode.resx` file.
   
   Use an editor such as Visual Studio or XMLSpy to change the branding details or to translate strings into another language.

   If you are creating new language files, follow the naming convention by inserting the 2 or 5-character language code into the middle of the file name. For example, if you add a Romanian language file for IBM Cognos for Microsoft Office, you would save it as cocmsgs.ro.resx.

4. Save the file.

5. Repeat steps 3 and 4 for each component file associated with the language that you want to translate.

The updated resource files are now ready to be compiled.
Compile the Updated Resource Files

Before you can deploy updated files, you must download the Resource File Generator (Resgen.exe). The Resource File Generator converts .txt files and .resx (XML-based resource format) files to common language runtime binary .resources files that you can embed in a runtime binary executable or compile into satellite assemblies.

The Resource File Generator is a .NET Framework (SDK) program that generates compiled resource files. The resgen executable is shipped with the Microsoft .NET SDK and comes with Microsoft Visual Studio development system. You must choose a version of the Resource File Generator that is compatible with the version of .NET Framework that is used by IBM Cognos Office components.

Resgen.exe performs the following conversions:

- Converts .txt files to .resources or .resx files.
- Converts .resources files to text or .resx files.
- Converts .resx files to text or .resources files.

Steps

1. Download the resgen.exe from the Microsoft .NET developer Web site.
2. After downloading the Resource File Generator, open a command prompt window.
3. Find the location where Resgen was downloaded.
   For example, cd C:\Program Files\Microsoft Visual Studio 8\w2.0\Bin
4. To compile the resource files, from the command prompt, type
   Resgen /compile "C:\.resx file location\file name.resx"
   For example, resgen /compile "c:\ProgramFiles\Cognos\Cafe\resources\cormsgs.resx"
   Resource files are automatically renamed to include the .resource extension in their file name.
5. Copy the resulting files to the \Resources files directory.

Test Your Work

To test your work, run IBM Cognos Office using a variety of locales and start each component (IBM Cognos Office, IBM Cognos for Microsoft Office, and IBM Cognos Analysis for Microsoft Excel®) to ensure that your changes are reflected in each area.

Check the text changes in all the interfaces exposed to your users. Pay particular attention to generic dialog boxes, which are easy to miss.
Glossary

alias
An alternative name used instead of a primary name.

attribute
In dimensional models, a property that provides qualitative information about members of a level in a dimension. For example, the Store level within the Retailer dimension might have properties such as address or retail space. In general, dimensional attributes do not have measure values or rollups associated with them, but are used to locate or filter members.
In relational models, a query item that is not a measure or identifier. When a query item is an attribute, it is not intended to be aggregated, or used for grouping or generating prompt pick lists.
In BI modeling, a characteristic of an entity which is descriptive rather than a unique identifier or an aggregative measure.
In TM1, a property that provides qualitative information about dimensions.

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

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.

Common Gateway Interface
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 yields a Boolean value. Conditions are used in query expressions, query filters, and Boolean report variables that can be used for conditional formatting, styles, data sources, layouts, and blocks.

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

data source
The source of data itself, such as a database or XML file, and the connection information necessary for accessing the data.
In TM1®, the file or data used as the source for the TurboIntegrator import process.
**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.

**dimension**
In Cognos Planning, a list of related items such as Profit and Loss items, months, products, customers, and cost centers, including calculations. The rows, columns, and pages of a cube are created from dimensions.

In Cognos BI, TM1, and Express, 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.

**dimension item**
One value in a dimension.

**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.

In TM1, to access information by starting with a general category and moving through the hierarchy of information. For example, in a database, to move from field to file to record.

**drill up**
To navigate from one level of data to a less detailed level. The levels are set by the structure of the data.

**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.

In Cognos Real-Time Monitoring and Cognos Now!, a row or a series of rows of data.

**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.
**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.

In Data Manager, a particular view of a business dimension. A hierarchy contains the definition of related reference data that is organized into a tree structure of members related as parents and children.

**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.

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

**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 country, region, 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.

**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 unique name**
A path of member names, one from each level in a hierarchy, defining the exact location of the member from either an OLAP data source or a dimensionally modeled relational source. For example, Geography.Europe.France.Paris uniquely identifies Paris, France, distinguishing it from other instances of Paris in the City level.

**model**
In Data Manager, a system, consisting of fact data and metadata, that represents the aspects of a business.
namespace
For authentication and access control, a configured instance of an authentication provider that
allows access to user and group information. In Framework Manager, namespaces uniquely identify
query items, query subjects, and so on. You import different databases into separate namespaces
to avoid duplicate names.

In XML and XQuery, a uniform resource identifier (URI) that provides a unique name to associate
with the element, attribute, and type definitions in an XML schema or with the names of elements,
attributes, types, functions, and errors in XQuery expressions.

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

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

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.

In Cognos Planning, to copy the data from Contributor or Analyst to a data store, typically so that
the data can be used for reporting purposes.

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

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.

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

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