



SAP BusinessObjects Analysis, edition for OLAP User Guide

- SAP BusinessObjects 4.0 Feature Pack 3

2012-03-15

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Document History

The following table provides an overview of the most important document changes.

Version	Date	Description
SAP BusinessObjects Analysis, edition for OLAP 4.0	November 2010	Initial release.
SAP BusinessObjects Analysis, edition for OLAP 4.0 Feature Pack 3	March 2012	<p>Added focused analysis. Displaying a subset of data in a sub-analysis</p> <p>Added Pivot With feature. Pivoting hierarchies</p> <p>Added support for display attributes. Display Attributes</p> <p>Added compact axis display. Nesting hierarchies</p> <p>Added display of scaling factor. Scaling factors</p>

Introduction to SAP BusinessObjects Analysis, edition for OLAP

2.1 What is SAP BusinessObjects Analysis, edition for OLAP?

SAP BusinessObjects Analysis, edition for OLAP is a powerful, web-based OLAP analysis tool that can help you to gain insight into business data and make intelligent decisions that impact corporate performance.

OLAP data is displayed in the analysis window with crosstabs and charts. You create a workspace, add crosstab and chart objects to the analysis window, connect those objects to OLAP data sources, and then interactively define analyses to explore your data.

Analysis is intuitive and easy to use, while providing unique analysis capabilities, including the ability to simultaneously view data from different cubes and providers. For example, you can view sales data from a Microsoft Analysis Services cube on the same sheet as finance data from an SAP BW cube.

Analysis, edition for OLAP is accessed from the BI launch pad in a web browser. All you need is a connection to an SAP BusinessObjects Business Intelligence platform system that has Analysis, edition for OLAP installed. You do not need to install Analysis, edition for OLAP on your local machine.

An edition of SAP BusinessObjects Analysis for Microsoft Office is also available, which integrates Analysis with Microsoft Excel and PowerPoint.

2.1.1 Analysis integration with SAP BusinessObjects Business Intelligence platform

Analysis, edition for OLAP is accessed from the BI launch pad of the SAP BusinessObjects Business Intelligence platform, and Analysis workspaces and data source connections are managed in the BI platform Central Management Console.

- Anyone with web access and the appropriate permissions in the BI platform can access Analysis.
- Analysis workspaces can be published to the Web with SAP BusinessObjects Business Intelligence platform.

Publishing Analysis workspaces to the Web

The BI platform has a multi-tier server architecture that enables you to distribute Analysis workspaces to a large number of users, across and beyond your organization, over the Web.

By publishing workspaces to the Web, you can make your analyses accessible to everyone in your organization with the required permissions.

2.2 About this guide

2.2.1 The documentation set

The documentation set comprises these guides and online help information:

SAP BusinessObjects Analysis, edition for OLAP Administrator Guide

This guide contains detailed information that is useful to a system administrator when installing, configuring, and administering Analysis.

SAP BusinessObjects Analysis, edition for OLAP User Guide

This guide contains the conceptual information, procedures, and reference material required to use Analysis.

SAP BusinessObjects Analysis, edition for OLAP Online Help

The online help is optimized to provide quick answers for everyday tasks in Analysis.

Note:

SAP BusinessObjects Analysis, edition for Microsoft Office, although related very closely to SAP BusinessObjects Analysis, edition for OLAP, has its own documentation set, including its own user guide and online help.

2.2.2 Who should read this guide?

The documentation system is tailored to the specific needs of the user. This User Guide is intended for data analysts who will use SAP BusinessObjects Analysis to work with OLAP data.

2.3 Getting started

To start working with Analysis workspaces and analyzing data immediately, see [Getting Started with Analysis](#). If you're not familiar with OLAP concepts and terminology though, you may want to first read a brief overview of OLAP technology: [Understanding OLAP](#).

Getting Started with Analysis

In SAP BusinessObjects Analysis, edition for OLAP, these are some of the tasks you will perform when you work with your OLAP data:

- [Create an Analysis workspace](#)
- [Analyze some data](#)
- [Add charts and more crosstabs](#)
- [Save a workspace](#)

Or, if you want to open and edit an existing workspace, see [Open another Analysis workspace](#).

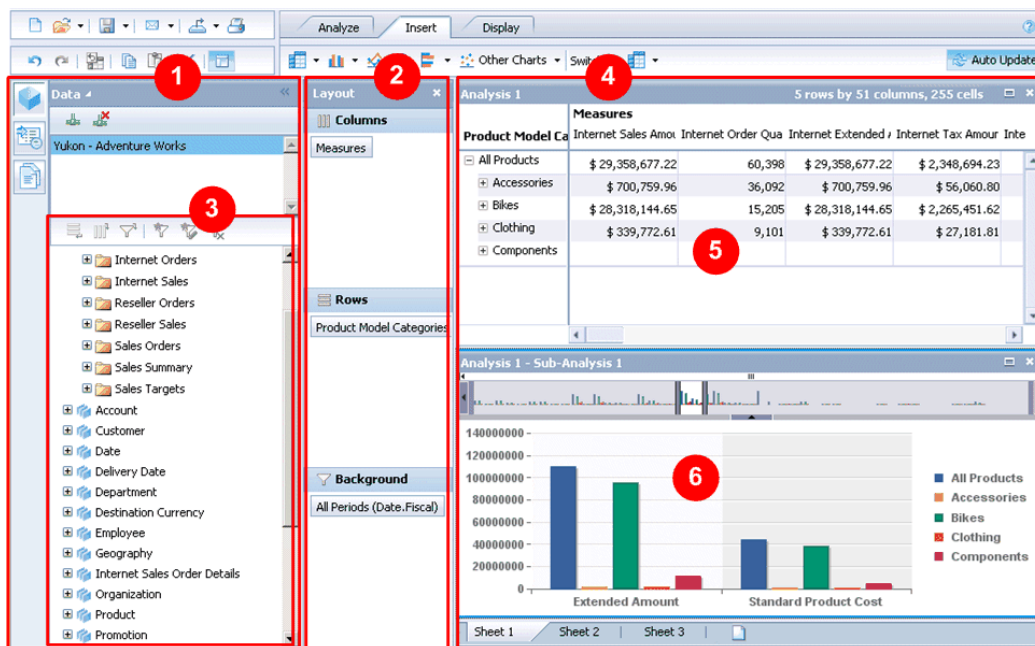
Related Topics

- [Terminology and icons](#)
- [Understanding OLAP](#)

3.1 Terminology and icons

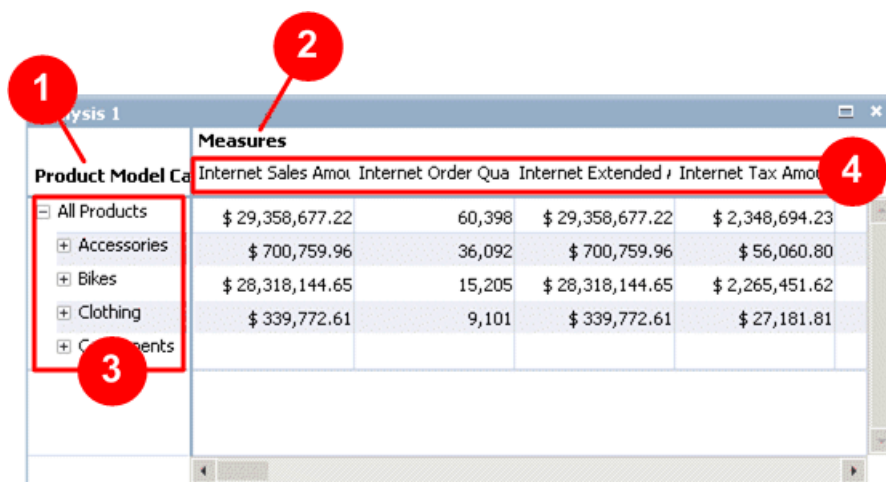
Before you read any further in the documentation, it would be useful to understand some basic OLAP and Analysis terminology.

This diagram illustrates the Analysis, edition for OLAP window and a typical analysis:



1. Task panel
2. Layout panel
3. Metadata explorer
4. Analysis window
5. Crosstab
6. Chart









This diagram illustrates the elements of an Analysis crosstab:



1. Row hierarchy or dimension
2. Column hierarchy or dimension
3. Row members

4. Column members

Icons used in Analysis

	dimension
	measures or key figures dimension
	display attribute group
	favorite filter
	hierarchy (Default hierarchies are shown in bold.)
	hierarchy level
	single measure
	individual display attribute (Default attributes are shown in bold.)

Terms used in Analysis

cube	A multi-dimensional or OLAP database in which data is summarized, consolidated, and stored in dimensions, each representing information such as customer, or product line.
dimension	A collection of hierarchies, or a collection of measures.
hierarchy	A collection of related data members, usually organized in a hierarchical structure. For example, in a Geography hierarchy, countries would comprise one level in the hierarchy, and cities would comprise a lower level.
member	<p>A base unit of data, representing an entity in a multi-dimensional OLAP database. For example, in a Geography hierarchy, some members could be Antarctica, Stockholm, and Tibet.</p> <p>A member in a hierarchy can have parent and child members. Sweden would be the parent member of Stockholm.</p> <p>Members are represented in a crosstab by columns and rows, and in a chart by pie slices, risers, lines, or other visualizations.</p>
measures dimension	A dimension that represents the actual data; that is, the numbers. For example, a measures dimension could contain measures such as Sales, Cost, and Profit.
fact dimension	A dimension that represents a characteristic of the data and not the data itself. For example, Customers or Products could be fact dimensions.

attribute, or display attribute	A property of a member, which provides an alternate way of categorizing the member. For example, attributes for a Product hierarchy might include color, manufacturer name, case size, and country of origin.
workspace	An Analysis data-analysis document.
analysis	A specific subset of OLAP data. May contain hierarchies, measures, and filters, as well as visual highlighting and user-defined calculations. For more information about analyses, see Analyses and visual components explained .
analysis view	A saved navigation state of an analysis. The saved information includes applied filters, hierarchies, and available metadata. An analysis view can be shared among applications such as SAP BusinessObjects Analysis (both the edition for OLAP and the edition for Microsoft Office), SAP Crystal Reports, and SAP BusinessObjects Web Intelligence. For more information about analysis views, see Using Analyses in Other SAP BusinessObjects Applications .
data source	An OLAP cube or query. Typically, data sources are located on remote servers. When you add a data source to your workspace, your workspace can access the data within that cube or query. For more information about data sources, see Connecting to OLAP Data Sources .
analysis window	The main window in Analysis, containing your crosstab and chart components.
crosstab component	A two-dimensional table object that you add to the analysis window to begin analyzing your data.
chart component	A bar, line, or other type of chart object that you add to the analysis window to visualize your data.

task panel	<p>The panel at the left side of the Analysis screen, containing the Data, Properties, and Outline panels.</p> <p>The task panel also displays task-specific panels such as the Calculation, Filter, and Conditional Formatting panels.</p> <p>The task panel can be hidden to maximize the analysis window size, and automatically appears when required; for example, when adding a calculation.</p> <ul style="list-style-type: none"> • The Data panel is used to add or remove data sources from the analysis. It also contains the metadata explorer, which you use to perform navigation functions such as adding a hierarchy to the rows or columns, adding a background filter (sometimes called a “slice”), or adding a favorite grouping. • The Properties panel displays configurable properties for the selected component; for example, column width, or chart style. • The Outline panel provides an overview of the current workspace, which can be useful when the workspace contains many sheets. It can also be used to quickly switch to another analysis in the workspace, and to remove any superfluous analyses.
metadata explorer	<p>The area within the Data panel that displays the metadata (measures, dimensions, and hierarchies) contained in a data source.</p>
Layout panel	<p>The panel to the left of the analysis window, containing the definition of the selected analysis. You can drag hierarchies and measures into the Layout panel. You can also perform navigational operations on the hierarchies and measures in the Layout panel, including filtering, re-ordering, and swapping objects.</p> <p>The Layout panel duplicates functionality that is available on the crosstab or chart, but the Layout panel also indicates the members that are part of the background filter.</p> <p>The Layout panel can be hidden to maximize the analysis window size.</p>
background filter	<p>A computer monitor can display only two spatial dimensions, but in Analysis, you can work with many data dimensions simultaneously. You place the dimensions and hierarchies that you want to actively analyze on the rows and columns of a crosstab, but you can also narrow the scope of your analysis by selecting members of other hierarchies to filter the crosstab data. These unseen hierarchies represent background filters.</p> <p>For example, if your data cube contains the three hierarchies Product, Market, and Year, and you want to analyze how your products performed in all markets, but only in the year 2010, you could use the Year hierarchy as a background filter, selecting only the 2010 member from the Year hierarchy. Then only the Product and Market hierarchies would be shown on the crosstab's view axes for analysis.</p>

header, or member header	The first cell of a member row or column in a crosstab. The member header contains the member text or key.
axis	Any of the spatial axes on an Analysis crosstab or chart component. For example, a crosstab appears as a two-dimensional table, similar to an Excel spreadsheet. The crosstab has two "view" axes, similar to Excel's vertical and horizontal axes. The two view axes are called the row axis and column axis.
sheet	<p>Any of the screen pages of an Analysis workspace.</p> <p>New workspaces contain three sheets, but a workspace can contain any number of sheets. An analysis can be added to any sheet, and an existing analysis can be moved from one sheet to another. New sheets can be added, and sheets can be renamed or deleted.</p> <p>Sheets are useful for categorizing analyses. For example, the first sheet could contain four summary charts, with other sheets containing details of each analysis.</p>

Related Topics

- [Understanding OLAP](#)
- [Create an Analysis workspace](#)
- [Analyze some data](#)
- [Add charts and more crosstabs](#)
- [Save a workspace](#)
- [Open another Analysis workspace](#)

3.2 Create an Analysis workspace

Analysis workspaces provide an intuitive interface for viewing and studying data cubes.

An Analysis workspace is an interactive document, similar to an Excel workbook, that allows you to connect to and analyze OLAP data. The data is visualized in crosstab and chart components that you add to the sheets in the workspace. You can add up to four components per sheet, and there is no limit to the number of sheets.

Related Topics

- [Workspace reference](#)

3.2.1 To create an Analysis workspace from the BI launch pad

1. Start the BI launch pad and log on.

For information about logging on to the BI launch pad, see the *BI Launch Pad User Guide*.

- 2.






In the "My Applications" area, click the **Analysis, edition for OLAP** icon.

The "Open Data Source" dialog box appears, showing all data sources that are available for you to access data from. Analysis also creates an empty workspace, containing an undefined analysis.

Note:

If no data sources have been defined, you will not be able to add any data to the workspace. Your system administrator must define data sources before you can analyze data with Analysis.

3. Select a data source from the list.

-  If you selected a cube, click **OK** to add it to your workspace.
-  If you selected a query, click **OK** to add it to your workspace.
-  If you selected a system, click **Next** to see the cubes and queries available from that system. Select a cube or query, or click the **Find** tab to find a cube or query, and then click **OK** to add the data source to your workspace.

4. If the data source requires authentication, type your credentials in the logon dialog box and click **OK**.

5. If you selected an SAP BW data source that contains variables, the "Prompts" dialog box opens. Select values for the variables.

For more information about SAP BW prompts and variables, see [Prompts for variable values](#).

If authentication succeeds, the data source appears in the list at the top of the Data panel, and the metadata explorer displays the data objects (metadata) contained in the data source.

If authentication fails, first verify that you entered your credentials correctly. If authentication continues to fail, see your system administrator. Your credentials may not be set up properly in the Central Management Console, or the OLAP server may be offline.

Related Topics

- [To create a new Analysis workspace from within Analysis](#)
- [Terminology and icons](#)
- [Analyze some data](#)
- [Add charts and more crosstabs](#)
- [Save a workspace](#)
- [Open another Analysis workspace](#)
- [Connecting to OLAP Data Sources](#)

3.3 Analyze some data

Once you have created a workspace and connected a data source, your next step is to define an analysis and begin working with your data in the analysis window.

An analysis is a specific subset of data from the OLAP cube. You create an analysis by adding OLAP data to the crosstab, and then manipulating the data; for example, by sorting and filtering.

- [Add data to the crosstab](#)

The following tasks introduce some of the analysis features available in Analysis. You can choose to perform or omit each task, perform the tasks in any order, and experiment with the different options available in each task:


- [Remove unwanted members](#)
- [Sort the data](#)
- [Filter the data](#)
- [Apply conditional formatting \(exception highlighting\)](#)
- [Add a calculation](#)

Related Topics

- [Analyses](#)
- [Terminology and icons](#)
- [Create an Analysis workspace](#)
- [Add charts and more crosstabs](#)
- [Save a workspace](#)
- [Open another Analysis workspace](#)

3.3.1 Add data to the crosstab

The first step in defining an analysis is to add data to the crosstab. Because data is represented by dimensions and hierarchies, you populate a crosstab with data by adding hierarchies.

1. Click a hierarchy on the "Data" panel to select it.
If necessary, expand a dimension to reveal its hierarchies.
2.  Click the **Add to Columns** button to add the selected hierarchy to the columns on the crosstab.
Alternatively, you can drag the hierarchy to the "Columns" area in the "Layout" panel, or to the "Drop Columns" area on the crosstab.
3. Repeat those steps to add more hierarchies to the crosstab.



In addition to the columns, you can add hierarchies to the rows or to the background filter, using the **Add to Rows** and **Add to Background Filter** buttons.

Note:

The crosstab displays numbers only after you add measures.

4. Explore the members within the hierarchies by expanding the hierarchies.

3.3.2 Remove unwanted members

You can remove or filter members so that you can focus on the data that most interests you.

1. On the crosstab, right-click a member and select **Remove** to remove that member from your analysis. If you later want to add the member back to the crosstab, you can add it by using the "Filter" panel.
2. On the "Layout" panel, double-click one of the hierarchies. The "Filter" panel opens. The panel displays the contents of the hierarchy you chose, with all members initially selected.
3. Select only the members that you want to include in your analysis.
4. Click **OK** to update the crosstab.

Related Topics

- [Filtering Data](#)

3.3.3 Sort the data

- Right-click a member header, point to **Sort**, and select **Ascending** or **Descending**.

Related Topics

- [Sorting](#)

3.3.4 Filter the data

Filtering is one of the central workflows in Analysis. Filtering is the action of selecting only the data that is important to you. For example, if you were interested in the poorest-performing sales regions for your company's ice hockey equipment, you might select countries such as Kenya and Indonesia.

1. Right-click a hierarchy on the "Layout" panel, point to **Filter**, and then select **By measure**.

Note:

Filtering by measure is available only with SAP BW data sources.

For example, if your data source contains ice hockey equipment sales figures, you might want to select the Geography hierarchy to choose Kenya and Indonesia.

On the "Filter" panel, you define the conditions for your filter. You can define a filter with a single condition, such as Less than 1000, or a complex filter containing multiple conditions.

2. If the hierarchy you selected contains multiple levels, choose a hierarchy level to filter.
A hierarchy can have several levels of members, but a filter is applied to a single level within the hierarchy. For example, if the Geography hierarchy contains countries at level 1, states at level 2, and cities at level 3, you would choose the countries level to select Kenya and Indonesia.
3. Choose a measure to filter on.
For example, if you want to include countries with low sales numbers, you could select a measure such as Sales Orders.
4. Define the condition by adding an operator and operand.
For example, you can define a condition to be Bottom 10 by selecting the **Bottom N** operator and typing 10 as the operand. Then, only those ten countries with the lowest numbers of sales orders will be included in the analysis.
5. Click **Add** to add the condition to your filter.
6. Add more filter conditions until you have finished defining your filter.
7. If you created multiple conditions, select **AND** or **OR**, depending on how you want your conditions to affect the filtered data.
8. Click **OK**.
The crosstab display is updated to show you the filtered data.

Note:

Filtering by defining filter conditions is called "filtering by measure". Filtering by selecting and removing individual members from a list is called "filtering by member", as described in the section [Remove unwanted members](#). You can filter by member by double-clicking a hierarchy in the "Layout" panel.

Related Topics

- [Filtering Data](#)

3.3.5 Apply conditional formatting (exception highlighting)

You may want to highlight data that matches some specified criteria. For example, you could highlight negative numbers by applying a red background color to the cells. To do this, you apply conditional formatting.

1. Select a member header, click the **Analyze** toolbar tab, and then click **Conditional Formatting**.

Alternatively, you can right-click a member header, point to **Conditional Formatting**, and click **New**.

2. On the "Conditional Formatting" panel, type a name to identify the formatting that you are applying, or accept the default name.
3. Choose a measure to base the formatting on.
For example, if you want to highlight any negative numbers in your inventory, you would select the Inventory measure.
4. Choose a formatting type.
You can add a background color to the highlighted cells, or change the text color in those cells, or add a symbol to those cells.
5. Choose a color or symbol.
6. Select the conditional operator and the threshold value.
For example, to highlight any negative numbers, you would select the **Less Than** operator and type 0 (zero) for the value.
7. Click **Add** and then **OK** to add the formatting.

Related Topics

- [Conditional Formatting \(Highlighting Exceptions\)](#)

3.3.6 Add a calculation

1. Select two member headers from a measures dimension.
To select multiple member headers, hold down the **Ctrl** key as you click member headers.

Note:

Members of a measures dimension are called "measure members" or simply "measures".

2. Click the arrow beside the **Calculations** button.
3. Choose one of the simple calculations: **Add**, **Subtract**, **Multiply**, or **Divide**.

The calculation is added to the crosstab.

Note:

When you use the **Subtract** and **Divide** calculations, the calculation is defined based on the order in which you selected the members.

Tip:

The calculation equation appears in a tooltip when you point to the calculation header.

4. Select any measure member header.
5. On the **Analyze** tab, click **Calculations**.
6. On the "Calculation" panel, type a name to identify the calculation that you are adding.
7. Select a hierarchy to base the calculation on.

For example, select **Measures**.

8. Choose where you want to insert your calculation.
9. Define the calculation using the **Function** and **Add Member** buttons.
For example, you could add a simple division calculation like this:
 - a. Click **Function** to add an operator.
 - b. Choose the **DIVISION** operator.
 - c. Select the operand1 text, including the quotation marks.
 - d. Click **Add Member** to select the first operand for the division calculation.
 - e. Select the operand2 text.
 - f. Click **Add Member** again to select the second operand.
10. Click **Validate** to verify that you have defined your calculation correctly.
If validation fails, the "Status" field explains why it failed. Correct any errors in your calculation, and click **Validate** again.
11. If the validation is successful, click **OK** to add the calculation to the crosstab.

Related Topics

- [Calculations](#)

3.4 Add charts and more crosstabs

In Analysis, you'll typically create a workspace and then begin analyzing data in a crosstab. However, you may soon discover that using a crosstab, while vital to your analysis, can be a rather abstract way of looking at business performance, and can lack visual impact. Adding one or more charts to your analysis can greatly enhance the impact of your analysis, making it more interesting and easier to understand.

You can also add more crosstab components to the analysis, to compare different arrangements of the same data. (If you want to compare different data, see [Adding analyses](#).)

You can place up to four components on a sheet, and you can add more sheets to your workspace as required.

Related Topics

- [Overview of Analysis charts](#)
- [Charts reference](#)
- [Crosstabs](#)
- [Crosstab component reference](#)

3.4.1 Adding a chart or crosstab to the sheet

Once you've created a workspace and defined an analysis on the crosstab, you can add a chart to the sheet simply by clicking any chart button on the "Insert" tab. If there are multiple analyses on the sheet, the added chart is linked to the selected analysis. Typically, the chart is linked to an analysis defined in a crosstab, and therefore displays the same data as the crosstab.

The original component, in this case a crosstab, represents the main analysis, while the added chart represents a sub-analysis, linked to the main analysis. Changes that you make to the main analysis are reflected in the sub-analysis, but changes that you make directly to the sub-analysis are not reflected in the main analysis.

You can add another crosstab to a sheet as a sub-analysis, if you want to explore an alternate arrangement of your data. Or, you can add a crosstab to a sheet as a new analysis, if you want to analyze multiple sets of data.

You can also copy an existing component and make changes to the copy.

Focused analysis

You can set an analysis to "focused analysis" mode, so that if you select members in the main analysis, the sub-analysis components display only the selected members. This feature allows you to temporarily focus on different parts of your analysis without having to redefine the analysis many times.

For example, if you are analyzing worldwide sales figures for snowboard equipment, you might find an interesting anomaly in the figures from Saudi Arabia. You can then add a chart, turn on focused analysis mode, and select just the data for Saudi Arabia in your analysis. The chart will then show just the Saudi Arabia data, while your crosstab still shows worldwide data.

If you don't want the added chart or crosstab component to be linked with the main analysis, you can unlink the component from the main analysis to create a new analysis. Using the preceding example, you might decide that the Saudi Arabia situation deserves special attention. You could then unlink the chart from the main analysis, and continue analyzing both worldwide snowboard sales (in the original crosstab), as well as sales within Saudi Arabia.

Related Topics

- [Terminology and icons](#)
- [Create an Analysis workspace](#)
- [Analyze some data](#)
- [Save a workspace](#)
- [Open another Analysis workspace](#)
- [Resizing and moving components](#)
- [Sub-analyses](#)
- [Unlinking a sub-analysis](#)
- [Adding analyses](#)
- [Copying a component](#)






3.4.1.1 To add a chart to a sheet

1. In the analysis window, select the component that you want the chart to be linked to.
2. Click one of the chart buttons on the "Insert" tab.

The chart is added as a sub-analysis, linked to the component that you selected. The added chart is placed below or to the right of existing components on the sheet.

Note:


Some of the chart buttons represent families of charts. You can click the button to add the default chart type from that family to the sheet, or click the arrow beside the button to select from the available chart types within that family.

-  Column chart family
-  Multi line chart
-  Multi pie chart
-  Bar chart family
-  Other charts

Alternatively, you can drag a chart from the "Insert" tab into the analysis window, to the position you select.

Note:

If you drag a chart family button to the analysis window, the default type from that chart family is added to the analysis window. You can change the chart type later if you wish.

 To enlarge the view of a component when there are multiple components on a sheet, you can maximize and restore the component using the Maximize/Restore button in the component's title bar.

Related Topics

- [Resizing and moving components](#)

3.4.1.2 To add a crosstab to a sheet as a sub-analysis


This procedure describes how to add a crosstab as a sub-analysis. To add a crosstab as a new analysis, see [Adding analyses](#).

1. In the analysis window, select the component that you want the crosstab to be linked to.



2.  On the "Insert" tab, click the arrow beside the **Crosstab** button and select **Insert a sub-analysis**.

The crosstab is added as a sub-analysis, linked to the component that you selected. The added crosstab is placed below or to the right of existing components on the sheet.

Alternatively, you can drag a crosstab from the "Insert" tab into the analysis window, to the position you select.

 To enlarge the view of a component when there are multiple components on a sheet, you can maximize and restore the component using the Maximize/Restore button in the component's title bar.


3.4.1.3 To copy an existing crosstab or chart

1. In the analysis window, select the crosstab or chart that you want to copy by clicking anywhere within the component.
2.  On the toolbar, click the **Copy** button.
3.  If you want to add the copied component to the same sheet, click the **Paste** button.

Or, if you want to add the copied component to a different sheet, first select the other sheet tab, and then click the **Paste** button.

The copy is added to the sheet, below or to the right of existing components.

3.4.1.4 To delete a component from the sheet

-  Click the **Delete** button on the right side of the component's title bar.

3.5 Save a workspace

Analysis saves its workspaces to the BI platform repository. From the repository, you can open your workspaces via the web, from any machine that has an internet connection.

You can choose to save your changes to the existing workspace, or to save the modified workspace as a new workspace in the repository.

Note:

To save a workspace to the BI platform repository, you must have sufficient rights. See your system administrator if you are not sure whether you have such rights.

If you leave your workspace idle, the workspace is automatically saved to your Favorites folder as an “autosave” file, before your session terminates. Typically, a session is terminated after approximately 20 minutes of inactivity, unless your system administrator has set the timeout duration to a different value.

Note:


Because the autosave workspace is overwritten every time a workspace is automatically saved, you should manually save workspaces that you want to keep, with unique filenames.

In addition to saving workspaces, you can also export data from workspaces to Microsoft Excel or to a comma-separated-values file.


Related Topics

- [Terminology and icons](#)
- [Create an Analysis workspace](#)
- [Analyze some data](#)
- [Add charts and more crosstabs](#)
- [Open another Analysis workspace](#)
- [Exporting Data](#)

3.5.1 To save a newly created workspace

1.  On the toolbar, click **Save**.
2. In the folder tree, browse to the folder where you want to save your workspace.
3. Type a filename for your workspace.
4. Click **Save**.


3.5.2 To save changes to your existing workspace

-  On the toolbar, click **Save**.

Related Topics

- [Sending an Analysis workspace to another user](#)

3.5.3 To save your changes as a new workspace

1.  On the toolbar, click the arrow beside the Save button, and choose **Save As**.
2. In the folder tree, browse to the folder where you want to save your workspace.
3. Type a filename for your workspace.
4. Click **Save**.

3.5.4 Automatically saved workspaces

When your workspace has been idle for several minutes, a copy of the workspace is automatically saved to your Favorites folder before your session terminates.

If you then return to your session before the session is terminated, the auto-save cycle is reset, and your workspace is auto-saved again the next time your workspace becomes idle for several minutes.

3.6 Open another Analysis workspace


When you've finished with your current workspace, you can start a new workspace without returning to the BI launch pad.

Or, if you've already saved workspaces to the BI platform repository, you can open any of these workspaces for further editing. If other analysts have saved workspaces to public folders in the repository, you can open these workspaces as well.

Related Topics

- [Terminology and icons](#)
- [Create an Analysis workspace](#)
- [Analyze some data](#)
- [Add charts and more crosstabs](#)
- [Save a workspace](#)

3.6.1 To create a new Analysis workspace from within Analysis


1.  On the toolbar, click the **New Workspace** button.
2. Confirm that you want to create a new workspace, losing any unsaved changes in your current workspace.

Just as when you create a new workspace from the BI launch pad, the "Open Data Source" dialog box is displayed, showing all data sources that are available for you to access data from.

Related Topics

- [To create an Analysis workspace from the BI launch pad](#)

3.6.2 To open an existing Analysis workspace

1.  On the toolbar, click the **Open** button.
2. Select a workspace from the folder list, and click **Open**.

You can also open an existing workspace from the "Documents" tab in the BI launch pad.

If none of the data sources used on the current sheet of the workspace require you to enter your authentication credentials, the workspace opens at the current sheet.

If any of the data sources used on the current sheet require your authentication credentials, you are prompted for your logon credentials. Type your credentials and click OK to log on to each data source. Or, if you have more than one data source and you want to log on with the same credentials for all data sources on the current sheet, select "Apply these credentials to all data sources on the same sheet" before you click OK.

If authentication fails, see [Disabled data source connections](#), or see your system administrator. Your credentials may not be set up properly in the Central Management Console, or the OLAP server may be offline.

Note:

When you navigate to other sheets in the workspace, you may be prompted for your credentials again if components on those sheets are linked to other data sources that require authentication.

3. If the workspace contains SAP BW data sources that contain variables, the "Prompts" dialog box opens. Select values for the variables.

For more information about SAP BW prompts and variables, see [Prompts for variable values](#).

Analyses

In Analysis, you connect to a data source, and then use the available analysis features to obtain useful information from your data.

You define an analysis by populating a crosstab with data. Start by choosing hierarchies to add to the row and column axes of the crosstab, and to the background filter. Then you can expand and refine the analysis using the many tools that Analysis provides.

You can also define an analysis using a chart component if you prefer.

Related Topics

- [Adding data to a chart](#)
- [Crosstab component reference](#)
- [Charts reference](#)

4.1 Analyses and visual components explained

Analyses

An analysis defines a specific subset of data from the OLAP cube that you want to analyze. This subset of data is often referred to as a "slice" because it represents a two-dimensional "slice" of a multi-dimensional cube. For example, if you want to analyze data in a Sales cube, you could define an analysis for Store Costs by Year. For an illustrated example, see [Multi-dimensional data cubes](#).

To define an analysis, you specify the measures and hierarchies that you want to include. You do this by adding the hierarchies or members that you want to analyze to the crosstab or chart component. In the preceding example, Store Costs and Year are the two hierarchies that you would use when defining this analysis.

Although Analysis workspaces can contain multiple sheets, an analysis is valid only on a single sheet. Therefore, an analysis on sheet 1 does not affect the contents of sheet 2.

It is important to understand that the analysis stores the structure and values of the data but the crosstab and chart visual components display the data.

Visual components

You can display an analysis in different types of visual components: for example a crosstab or a horizontal bar chart.

A crosstab and chart belonging to the same analysis can be thought of as linked because they display the same set of cube data. If you modify the analysis in any way on one visual component, the equivalent action is performed on any of the linked components. For example, if you expand a country member to display data for its provinces on the crosstab component, any linked charts also update to display data for the provinces.

When you add a new crosstab or chart component to a sheet as a sub-analysis, the added component is linked to the active analysis. You can also add a crosstab as a new analysis.

Once hierarchies or members have been added to a component, the analysis and visual components are fixed to the data source. You cannot add members from a different data source into this component.




Related Topics

- [Sub-analyses](#)
- [Understanding OLAP](#)

4.2 To define a new analysis

1. On the "Data" panel, select the hierarchy that you want to add to the first axis in your crosstab. You can also select just one or more hierarchy levels, instead of the entire hierarchy.
2. Drag the hierarchy from the Data panel to the "Layout" panel:
 - To add the selected hierarchy to the crosstab's rows, drag it to the "Rows" area.
 - To add the selected hierarchy to the crosstab's columns, drag it to the "Columns" area.
 - To add the hierarchy to the crosstab's background filter, drag it to the "Background" filter area.
 - If you are placing members of a measures dimension onto a crosstab, you can also drag them to the main grid of the crosstab component.

You can also use the buttons above the metadata explorer on the Data panel to populate your crosstab. First, select a component in the analysis window, and then click one of these buttons to add the hierarchies to the crosstab:

-  Click **Add to Rows** to add the selected hierarchy to the rows on the crosstab.
-  Click **Add to Columns** to add the selected hierarchy to the columns on the crosstab.
-  Click **Add to Background Filter** to add the selected hierarchy to the background filter.

3. Repeat step 2 for the other crosstab axes.

Tip:

You may want to turn off automatic layout updating while you define your analysis. When automatic updating is turned on, the crosstab and chart components update as you add each hierarchy to the "Layout" panel, causing short delays. To turn off automatic updating, click **Auto Update** on the toolbar.

Note:

- You cannot add members from the same hierarchy to two axes.
- When you place a hierarchy on an axis, the default member is automatically selected.
- With SAP BW data sources, hierarchies that belong to the same dimension are mutually exclusive. For example, consider a cube that contains a dimension Customer that contains two hierarchies: Country_1 and Country_2. You cannot specify Country_1 on the row axis and Country_2 in the background filter in the same analysis.

4.3 Modifying analyses

You can modify an analysis in several ways:

- Apply or modify filtering on the hierarchies.
- Apply sorting, conditional formatting, and other functions from the toolbar.
- Add new hierarchies from the same data source to the "Layout" panel, or move hierarchies between axes, or remove hierarchies from the "Layout" panel.

Related Topics

- [Filtering by member](#)
- [Toolbar reference](#)
- [Expanding and collapsing parent members](#)

4.3.1 To modify an analysis using the "Layout" panel

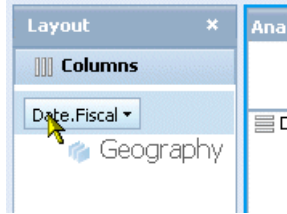
1. On the "Data" panel, select the hierarchy that you want to add to the first axis in your crosstab or chart.

You can also select just one or more hierarchy levels, instead of the entire hierarchy.

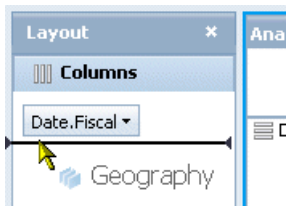
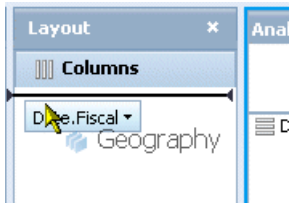
2. Drag the hierarchy from the Data panel to the appropriate axis in the "Layout" panel.

You can choose to replace the existing hierarchy, or nest the new hierarchy with the existing one.




To replace the hierarchy, drag the selected hierarchy to the existing hierarchy; the existing hierarchy is highlighted. When you release the mouse button, the selected hierarchy replaces the existing hierarchy in the crosstab or chart.



To nest the selected hierarchy with the existing hierarchy in the crosstab, drag the selected hierarchy above or below the existing hierarchy. This technique is used to create complex analyses. For more information, see [Nesting hierarchies to create complex analyses](#).



You can also use the buttons above the metadata explorer area on the Data panel to populate your crosstab. First, select a component in the analysis window, and then click one of these buttons to add the hierarchy to the crosstab:

-  **Add to Rows**
-  **Add to Columns**
-  **Add to Background Filter**

3. Repeat step 2 for the other crosstab or chart axes.

Note:

- You cannot add members from the same hierarchy to two axes.
- When you place a hierarchy on a row or column axis, or in the background filter, the default member is automatically selected. With Microsoft Analysis Services, the default member can be set on the OLAP server. For other OLAP providers, the default member is the first member on the top level of the hierarchy.
- If you add a hierarchy to an analysis that already contains that same hierarchy, any sorts, filters, and conditional formats that were previously applied to the hierarchy are removed.

4.4 Adding analyses

When you create a workspace and connect a data source, one analysis is created, linked to that data source. For some analysis purposes, one analysis is all you'll need, but in some cases, you may need to add analyses; for example, if you want to compare two different sets of data on one sheet.

Analyses can be added in a few ways:

- Add a crosstab to the sheet. By default, adding a new crosstab creates a new analysis. The new analysis is connected to the data source that is currently selected on the "Data" panel.
- Add a new data source to the workspace, and then add a crosstab to the sheet. The new analysis is connected to the new data source.
- Add another crosstab or chart component to the sheet as a sub-analysis. The sub-analysis is linked to the original analysis, but you can unlink the new component from the original analysis, creating a separate analysis.

After adding analyses, you define those analyses by adding hierarchies and members to crosstabs or charts.

Related Topics

- [Sub-analyses](#)
- [Unlinking a sub-analysis](#)

4.4.1 To add an analysis to a sheet

-  On the toolbar, select "Insert", and then click the **Insert Crosstab** button to add an analysis to the current sheet.

The new analysis is connected to the currently selected data source, and is added to the "Outline" panel with an automatically assigned name.

Note:

You can also add the crosstab as a sub-analysis, by clicking the arrow beside the **Insert Crosstab** button.

4.5 Nesting hierarchies to create complex analyses

OLAP cubes can contain many hierarchies. When you want to include data from multiple hierarchies in your analyses, you nest them.

“Nesting hierarchies” means placing two or more hierarchies on the same axis. For example, you may want to view sales figures over different fiscal years, from different geographical locations. You could nest the Date.Fiscal and Geography hierarchies on one axis.


Related Topics

- [To nest hierarchies](#)

4.6 Deleting analyses

You can delete a disused analysis and all of its associated chart and crosstab components.

4.6.1 To delete an analysis

1. Select the analysis on the "Outline" panel.
2.  On the "Outline" panel, click **Delete**.

4.7 Automatic layout updating

By default, all crosstab and chart components associated with an analysis automatically update whenever you make changes to the layout. For example, if you add a hierarchy to the rows, or apply a filter, a crosstab associated with that analysis automatically updates to show the added hierarchy and the applied filter.

Automatic updating can cause momentary delays, however, as data is retrieved from the data source. If you are defining a complex analysis involving many hierarchies and filters, you may want to temporarily disable the automatic layout updating. Then when your analysis definition is complete, you can enable the automatic updating as you begin to analyze the data.

4.7.1 To toggle automatic layout updating

1. Select a crosstab or chart component.
2. On the toolbar, click **Auto Update**.

All crosstab and chart components associated with the analysis are temporarily disabled.

Crosstabs

5.1 Overview of Analysis crosstabs

The crosstab component is a grid, similar to a spreadsheet, that displays data from a cube. You will usually perform most of your data-analysis tasks using crosstabs. For example, you can sort data in a crosstab, add calculations, add conditional formatting, and filter out data that is irrelevant to your analysis.

The crosstab comprises three axes, although only two can be displayed on the screen.

- Row axis: the vertical axis that displays rows of data.
- Column axis: the horizontal axis that displays columns of data.
- Background filter axis, or slice axis: the axis that is perpendicular to the two-dimensional crosstab display.

Hierarchies that are placed on the row axis are called row hierarchies. Similarly, you also use column hierarchies and background filter hierarchies in your analyses.

With row and column hierarchies, you can see several members simultaneously on the crosstab. With the background filter hierarchy however, you fix a slice of the data in the crosstab at any one time. The member you select in the background filter hierarchy is called the background filter member or slice member. For example, if Week is a background filter hierarchy, you can select any week as the background filter member.

With some OLAP providers, for example SAP BW and Microsoft Analysis Services, you can select multiple members of a hierarchy as a background filter. However, you cannot select multiple members of a measures dimension as a background filter.

For all hierarchies in the cube that are not used on the row, column, or background filter axes, the default member is used to generate data in the crosstab. Therefore, you can generate a valid analysis by placing hierarchies on only the row and column axes because the default member is used for all other hierarchies. If you place a hierarchy in the background filter and leave the default member unchanged, the data in the crosstab is also unchanged.

You can also display more than one dimension or hierarchy on a row or column axis; for example, you can place both a Measures dimension and a Years hierarchy on the same axis to show data from the Measures dimension over several years. This is called “nesting hierarchies”.

Related Topics

- [Adding a crosstab](#)
- [Adding data to a crosstab](#)

- [Analyses](#)
- [Understanding OLAP](#)
- [Custom aggregates and multiple members in a background filter](#)
- [Nesting hierarchies](#)

5.2 Adding a crosstab

Visual components, such as a crosstab or any of the chart types, are added to the analysis window by using the toolbar. You can add a crosstab by clicking the crosstab button, or by dragging the crosstab button to the analysis window.

Related Topics

- [Adding data to a crosstab](#)
- [Analyses](#)

5.2.1 To add a crosstab to the analysis window

-  Click the **Crosstab** button on the toolbar.

The component is added to the sheet, below or to the right of existing components. You can later reposition or resize the component if you wish.

Alternatively, you can place a crosstab at a specific location in the analysis window by dragging the crosstab button from the toolbar.

Note:

Before your crosstab will show any data, you must add a data source to the sheet, and add data to the crosstab.

Related Topics

- [Connecting to OLAP Data Sources](#)
- [Adding data to a crosstab](#)
- [Resizing and moving components](#)

5.3 Adding data to a crosstab

When you create a new Analysis workspace, it contains an empty crosstab. To add some data, you add dimensions and hierarchies from the metadata explorer to the crosstab.

Once you've placed at least one measure on the crosstab, the crosstab is populated with data. You can then proceed to perform your analysis.

Related Topics

- [Add data to the crosstab](#)
- [Adding a crosstab](#)
- [Analyses](#)

Charts

6.1 Overview of Analysis charts

You can add charts to your workspaces to present your data graphically. Charts can often emphasize irregularities or trends in your data, and help you focus your business analysis on those areas.

Several chart types are available to help you visualize data:

- [Clustered bar and column charts](#)
- [Stacked bar and column charts](#)
- [100% stacked bar and column charts](#)
- [3D column charts](#)
- [Multi line charts](#)
- [Multi pie charts](#)
- [Scatter charts](#)
- [Box plot charts](#)
- [Bubble charts](#)
- [Radar charts](#)

Chart and crosstab components are linked to analyses. A common analysis scenario is to first create a crosstab component, and then add a chart component as a sub-analysis, linked to the main analysis. Both components display the same data, and both components update simultaneously whenever you make changes to either component. This interaction allows you to repeatedly define and refine your analyses, and see the graphical results of your changes in real time.

Or, if you turn on focused analysis, the sub-analysis displays only a subset of the data in the main analysis. For example, you can use a crosstab for your main analysis, and use a chart for the focused sub-analysis. As a result, when you select data in the crosstab, the chart displays only the selected subset of data.

You can also unlink, or disconnect, a chart sub-analysis from its current analysis, converting it to a new, separate analysis.

Charts can be easily customized. You can change the chart type, or change the appearance of the chart to increase clarity. You can also expand data in the chart to examine the data in more detail. Swapping the chart axes can sometimes improve the presentation as well.

This section describes each of the chart types, how to add a chart to a sheet, how to add data to a chart, and how to customize a chart's appearance.

Related Topics

- [Analyses](#)
- [Sub-analyses](#)
- [Adding a chart](#)
- [Adding data to a chart](#)
- [Chart types](#)
- [Scrolling through charts](#)
- [Customizing charts](#)

6.2 Adding a chart

Visual components, such as a crosstab or any of the chart types, are added to the analysis window by using the toolbar. You can add a chart by clicking a chart button, or in some cases by dragging a chart button to the analysis window. Some chart buttons represent families of individual chart types. For example, the column chart family includes charts such as stacked column and 3D column.

Related Topics

- [Adding data to a chart](#)
- [Chart types](#)
- [Scrolling through charts](#)
- [Customizing charts](#)

6.2.1 To add a chart to the analysis window

- Click one of the chart buttons on the toolbar.

Note:

Some of the chart buttons represent families of charts. You can click the button to add the default chart type from that family to the sheet, or click the arrow beside the button to select from the available chart types within that family.



For example, click the arrow beside the **Bar charts** button to see the list of available bar chart types, and then select one of the types to add it to the analysis window.

The component is added to the sheet, below or to the right of existing components. You can later reposition or resize the component if you wish.

Alternatively, you can place a chart at a specific location in the analysis window by dragging a chart button from the toolbar. The cursor indicates whether or not you can place the chart component at

the position of the mouse pointer. When the mouse pointer is inside a valid drop zone, the drop zone is highlighted.

Note:

- If you drag a chart family button to the analysis window, the default type from that chart family is added to the analysis window. You can change the chart type later if you wish.
- Before your chart will show any data, you must add a data source to the sheet, and add data to the chart.

Related Topics

- [Connecting to OLAP Data Sources](#)
- [Adding data to a chart](#)
- [To change the chart type](#)
- [Resizing and moving components](#)

6.3 Adding data to a chart

When you add a chart to a sheet, the chart is added as a sub-analysis, linked to the selected analysis. Therefore, the chart is automatically populated with data if the analysis has been previously defined.

For example, if a sheet contains only a single crosstab, and if that crosstab has been used to define an analysis (data has been added to the crosstab), then when you add a new chart to the sheet, the chart is populated with the same data that is in the crosstab.

If you add a chart to a new sheet that contains only an empty crosstab and an undefined analysis, you will need to define the analysis to add data to the chart.

You can also use the chart component to define an analysis.

Related Topics

- [Adding a chart](#)
- [Analyses](#)
- [Sub-analyses](#)
- [Chart types](#)
- [Scrolling through charts](#)
- [Customizing charts](#)

6.3.1 Defining an analysis using an empty chart component

If you want to create a sheet that contains only a chart component, you can use an empty chart component to create an analysis, without first having to define the analysis in a crosstab component.

6.3.1.1 To create an analysis using a chart component

1. Ensure that the workspace has at least one data source added to it.
2. In a new sheet or existing sheet, delete all crosstab and chart components.
3. Place a chart component on the empty sheet.
4. In the metadata explorer, select a dimension or hierarchy that you want to add to your chart.
5. Drag the hierarchy into the appropriate area in the "Layout" panel.
6. Repeat steps 4 and 5 until you have placed all the hierarchies you want to analyze into the "Layout" panel.










If the generated analysis is valid, the chart displays the data returned from the analysis.







Related Topics

- [Analyses](#)

6.4 Chart types

Several chart types are available to help you visualize your data.

 Column charts		Clustered column chart	Clustered bar and column charts
		Stacked column chart	Stacked bar and column charts
		100% stacked column chart	100% stacked bar and column charts
		3D column chart	3D column charts
 Bar charts		Clustered bar chart	Clustered bar and column charts
		Stacked bar chart	Stacked bar and column charts
		100% stacked bar chart	100% stacked bar and column charts

Line charts		Multi line chart	Multi line charts
Pie charts		Multi pie chart	Multi pie charts
Other charts		Scatter chart	Scatter charts
		Bubble chart	Bubble charts
		Box plot chart	Box plot charts
		Radar chart	Radar charts

Related Topics

- [Charts reference](#)
- [Adding a chart](#)
- [Adding data to a chart](#)
- [Scrolling through charts](#)
- [Customizing charts](#)

6.4.1 Bar and column charts

6.4.1.1 Clustered bar and column charts

Clustered bar and column charts show values compared across categories or over time; for example, sales for each region by month. Several values (a "cluster") are shown grouped together in each category or time period.

6.4.1.2 Stacked bar and column charts

Stacked bar and column charts show how related sets of values compare to each other and contribute to a total. Stacked charts are similar to 100% stacked charts except that stacked charts show the

absolute contributions of members to a total while 100% stacked charts show the relative contributions of members to a total.

For example, if you create a column chart that illustrates sales per product, you can use a stacked column chart to show data from several years, one year on top of another.

6.4.1.3 100% stacked bar and column charts

100% stacked bar and column charts show visually what percentage a member contributes to a total. 100% stacked charts are similar to stacked charts except that all bars or columns are the same length and represent 100% of a total. 100% stacked charts show the relative contributions of members to a total, while stacked charts show the absolute contributions of members to a total. The size of each segment of a 100% stacked bar represents the percentage that a member contributes to the total.

6.4.1.4 3D column charts

3D column charts are used to compare data visually in three dimensions. Typically, a 3D chart would show a series of data across categories and over time.

6.4.2 Multi line charts

Line charts are used to show trends in data over time or categories. Markers are shown at each point in the line where a data value exists.

6.4.3 Multi pie charts

Pie charts display the sizes of items that compose a data series, proportional to the sum of the items. A pie chart is used to show the relative contributions of values, and is useful when you want to emphasize a significant element in the data.

To make your pie charts more legible, you can suppress the labels for small pie slices. You can also set the pie slice labels to display either percentages or actual values.

Related Topics

- [Configuring pie chart labels](#)

6.4.4 Other charts**6.4.4.1 Scatter charts**

Scatter charts may be used to show possible correlations between two variables or measures. Data is displayed as a set of points, with their x-y coordinates in the chart specified by the values of the two measures. For example, if a scatter chart shows data points grouped roughly in a straight line from the lower-left corner to the upper-right corner of the chart, a positive correlation is indicated.

While line charts treat one set of values as non-numeric labels, scatter charts treat both sets of values as numeric data. Therefore, scatter charts require two measures (and only two). If the analysis subsequently changes so that the chart contains fewer than two measures, the scatter chart cannot display any data.

You can specify on the Properties panel which of the available measures are to be plotted on the X and Y axes.

6.4.4.2 Bubble charts

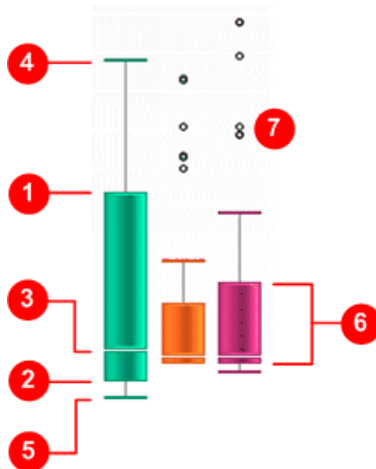
Bubble charts compare three variables or measures. They are similar to scatter charts, with the bubble sizes representing the third measure. For example, a bubble chart would be very effective for illustrating the number of products sold in a certain region; the larger the bubble, the greater the number of products sold in that region.

While line charts treat only one set of values as numeric data, and scatter charts treat two sets of values as numeric data, bubble charts treat three sets of values as numeric data. Therefore, bubble charts require at least three measures. If the analysis subsequently changes so that the chart contains fewer than three measures, the bubble chart cannot display any data.

You can specify on the Properties panel which of the available measures are to be plotted on the X and Y axes, and which measure is to be represented by the bubble sizes.

6.4.4.3 Box plot charts

Box plots are useful for analyzing small data sets that do not suit histograms or column charts. Because of the small size of a box plot, it is easy to compare several box plots in a chart. A box plot is a good alternative or complement to a histogram and is usually better for showing several simultaneous comparisons.



1. upper (3rd) quartile
2. lower (1st) quartile
3. median value
4. largest value, or largest non-outlier value
5. smallest value, or smallest non-outlier value
6. interquartile range (IQR)
7. outliers

The interquartile range (IQR) is equal to the 3rd quartile minus the 1st quartile. Any value that is more than $1.5 \times \text{IQR}$ lower than the first quartile or more than $1.5 \times \text{IQR}$ higher than the third quartile is considered an “outlier”.

Outliers are displayed as small circles on the box plot. If your data set contains no outliers, the lower vertical line corresponds to the smallest value and the upper vertical line corresponds to the largest value. If your data set does contain outliers, the lower vertical line corresponds to the smallest non-outlier value, and the upper vertical line corresponds to the largest non-outlier value.

By default, parent members are not plotted if their child members are included in the analysis.

6.4.4.4 Radar charts

Radar charts are useful for comparing the values of several data series and presenting a visual overview of those data sets. For example, if you plot annual rainfall amounts in various cities on a radar chart, the data series that produce the larger shapes on the chart represent cities that have more annual rainfall. Also, the actual shape of the plot for each city gives an overall comparative view.

6.4.5 To change the chart type

1. Select the chart component.
2. On the toolbar, select **Insert**, and then click **Switch To**.
3. Select the chart type that you want to switch to.

Alternatively, you can right-click the chart graphic and select the chart type that you want to switch to.

Related Topics

- [Chart types](#)
- [Adding data to a chart](#)
- [Scrolling through charts](#)
- [Customizing charts](#)

6.5 Scrolling through charts

When you work with large data sets, displaying all of the data on a chart can make it difficult or impossible to distinguish between individual risers or lines on the chart. With most chart types, Analysis adds a range slider to the chart component when the data set is too large to be displayed legibly.



1. Overview scroll bar
2. Selected range

3. Range slider bars
4. Hide/restore button
5. Paging buttons

The chart range slider lets you select a portion of the data set to be expanded and displayed in the main chart graphic, so that you can see the individual bars or markers. You can also use the range slider to scroll through the chart.

Note:

You can hide the range slider by clicking the hide/restore button at the edge of the range slider. To restore the range slider, click the button again.

Defining the size of the selected range

First, define the size of the selected range by dragging the range slider bars in the range slider.

The selected range is shown with a white background in the range slider when using the Default or Shadow chart styles, or with a black background when using the Presentation styles.

Moving the selected range within the range slider

Drag the selected range within the range slider to view different subsets of the data that are currently represented in the range slider. Alternatively, you can use the paging buttons at the ends of the range slider to move the selected range.

Scrolling the range slider within the full data set

When the data set is very large, the range slider may not show the entire data set. In that case, use the overview scroll bar to scroll the range slider within the full data set.

Related Topics

- [Chart range slider](#)
- [Adding a chart](#)
- [Adding data to a chart](#)
- [Chart types](#)
- [Customizing charts](#)

6.6 Customizing charts

Several options are available for customizing the appearance of your charts. All these options are available from the Properties panel.

Related Topics

- [Adding a chart](#)
- [Adding data to a chart](#)
- [Chart types](#)

- [Scrolling through charts](#)
- [Customizing charts](#)

6.6.1 Sub-analysis name and description

The name of the sub-analysis appears on the title bar of the chart component and can be included in print output. The description can also be included in print output.

Related Topics

- [Chart display options](#)

6.6.1.1 To set name and description properties for a chart

1. On the task panel, click the **Properties** button to display the "Properties" panel.
2. Click the chart to select it.
3. On the "Properties" panel, type a name for your chart in the **Sub Analysis Name** field.
The name that you type here appears on the chart's title bar, and is used to identify the chart on the "Outline" panel.
4. If you want any text to be included when you print the chart, type your comments in the **Description** field.
5. Click **Apply**.

6.6.2 Chart styles

You can choose from several predefined styles for displaying your charts.

Related Topics

- [Chart display options](#)

6.6.2.1 To change the style of your chart

1. On the task panel, click the **Properties** button to display the "Properties" panel.
2. Click the chart to select it.
3. On the "Properties" panel, choose a value for the **Style** property, and then click **Apply**.

6.6.3 Chart color palettes

You can choose from several predefined color palettes for displaying your charts.

Related Topics

- [Chart display options](#)

6.6.3.1 To change the color palette of your chart

1. On the task panel, click the **Properties** button to display the "Properties" panel.
2. Click the chart to select it.
3. On the "Properties" panel, choose a value for the **Palette** property, and then click **Apply**.

6.6.4 Display font

You can set the character font used in your charts.

Related Topics

- [Descriptions of chart display options](#)

6.6.4.1 To change the font used on your chart

1. On the task panel, click the **Properties** button to display the "Properties" panel.
2. Click the chart to select it.
3. On the "Properties" panel, choose a font for the **Font** property, and then click **Apply**.

6.6.5 Displaying totals in charts

If you have totals displayed on the crosstab, you can choose to show those totals in charts that are linked to the same analysis.

Related Topics

- [Totals, Parents, and Aggregations](#)

6.6.5.1 To display totals on the chart

1. On the task panel, click the **Properties** button to display the "Properties" panel.
2. Click the chart to select it.
3. On the "Properties" panel, select the **Show Totals** check box, and then click **Apply**.

6.6.6 Displaying hierarchical chart labels

Hierarchical chart labels show you the parent-child relationships between members on the chart.

6.6.6.1 To display hierarchical labels on the chart

1. On the task panel, click the **Properties** button to display the "Properties" panel.

2. Click the chart to select it.
3. On the "Properties" panel, select the **Show Hierarchical Labeling** check box, and then click **Apply**.

6.6.7 Hiding the chart legend

You can control whether the chart legend is visible.

6.6.7.1 To hide the chart legend

1. On the task panel, click the **Properties** button to display the "Properties" panel.
2. Click the chart to select it.
3. On the "Properties" panel, clear the **Show Legend** check box, and then click **Apply**.

6.6.8 Chart axis labels

You can add labels to the chart axes.

Related Topics

- [Descriptions of chart display options](#)

6.6.8.1 To add labels to the chart axes

1. On the task panel, click the **Properties** button to display the "Properties" panel.
2. Click the chart to select it.
3. On the "Properties" panel, type labels in any of these fields:
 - X Axis Label
 - Y Axis Label
 - Z Axis Label
4. Click **Apply**.

6.6.9 Y axis scale and symbol

You can change the scale of the Y axis.

Related Topics

- [Descriptions of chart display options](#)

6.6.9.1 To set the Y axis scale and symbol

1. On the task panel, click the **Properties** button to display the "Properties" panel.
2. Click the chart to select it.
3. On the "Properties" panel, choose a value for the **Y Axis Scale** property, and then click **Apply**.
You can also type a symbol to use for the **Y Axis Scale Symbol** property.

6.6.10 Scatter chart and bubble chart measures

A scatter chart needs sets of values for the X and Y axes for data to be displayed. A bubble chart needs a third set of values, represented by the sizes of the bubbles. You can select which of the available measures in the analysis are to be plotted on the X and Y axes, and which measure is to be used for the bubble sizes.

6.6.10.1 To define the measures for scatter charts and bubble charts

1. On the task panel, click the **Properties** button to display the "Properties" panel.
2. Click the chart to select it.
3. On the "Properties" panel, select the measures that you want to apply to the X and Y axes.
4. For bubble charts, you can also select the measure that will be represented by the sizes of the bubbles.
5. Click **Apply**.

6.6.11 Configuring pie chart labels

When a pie chart contains several small slices, you may want to suppress the labeling of the smallest slices.

Pie chart labels display percentage values by default. You can change the labels to display actual values.

6.6.11.1 To configure pie slice labels

1. On the task panel, click the **Properties** button to display the "Properties" panel.
2. Click the chart to select it.
3. If you want to hide labels for small pie slices, select the **Manually Hide Chart Labels** check box on the "Properties" panel.
The **Hide Labels Less Than** property is enabled.
4. Type a percentage value between 0 and 100 into the **Hide Labels Less Than** field.
Pie slices smaller than this percentage have their labels hidden.
5. If you want pie slice labels to display actual values instead of percentages, select **Show actual values** on the "Properties" panel.
6. Click **Apply**.

Sub-analyses

When you analyze data, typically a crosstab component is the main focus of your analysis. Other components, for example a chart, support your analysis, helping to visualize the data in a different form. Additional crosstab components can also support your analysis, allowing you to focus on specific areas of your analysis while your original crosstab presents a broad view of the data.

These supporting components represent “sub-analyses”. When you add sub-analyses, they are linked to a main analysis. For example, if you add a chart sub-analysis, the chart represents the same data as the main analysis. Changes that you make to the main analysis are reflected in the chart. Therefore, if you remove members from an analysis, those same members are automatically removed from the chart sub-analysis.

Changes that you make to the sub-analysis though, are not reflected in the main analysis. For example, if you swap the rows and columns in a sub-analysis, the rows and columns in the main analysis do not change.


Focused analysis

Instead of the sub-analysis showing the same data as the main analysis, you might want the sub-analysis to show just a subset of the data. For example, if you are analyzing worldwide sales, and you find something interesting in the data from one country, you can turn on “focused analysis” mode to explore just the data from that country in a sub-analysis.

Pausing or freezing a sub-analysis

As you perform your analysis, you might find some data that you wish to explore further, so you add a sub-analysis to accomplish that task. But during your exploration of the sub-analysis, you might want to return to the main analysis briefly, while maintaining the sub-analysis in its current state. To accomplish this, you can freeze or pause the sub-analysis.

7.1 To create a sub-analysis

1. Select an analysis in your workspace by clicking anywhere in a crosstab or chart.
2. On the toolbar, select the **Insert** tab.
3.  To insert a crosstab sub-analysis, click the arrow beside the **Insert Crosstab** button, and select **Insert a sub-analysis**. To insert a chart sub-analysis, click one of the chart buttons.

The sub-analysis is created, and is linked to the selected analysis.

7.2 Displaying a subset of data in a sub-analysis

You can turn on focused analysis mode if you want to explore just a subset of data in a sub-analysis.

In focused analysis mode, when you select members or a range of cells in an analysis, the linked sub-analyses update to display only the selected members or cells. This feature allows you to temporarily focus on different parts of your analysis without having to redefine the analysis many times. For example, if your analysis involves all countries in Europe, you could select the Switzerland member in the analysis, to explore only Switzerland's data in the sub-analysis.

Or, you may have a crosstab that contains sales figures, and you want to add a chart that depicts those figures graphically, but only for the fourth quarter of the year. To accomplish that goal, you could create a new analysis and select only the fourth-quarter member for that analysis. Or, you could accomplish the same goal more quickly by adding a chart sub-analysis, linked to the crosstab. Then in the crosstab, you would select the members or range of cells that represent the fourth quarter of the year, and the sub-analysis chart would automatically update to display only the fourth quarter data.

Related Topics

- [Unlinking a sub-analysis](#)

7.2.1 To focus your analysis on a subset of data

1. Click a crosstab or chart that represents an analysis, or select an analysis in the "Outline" panel.
2. On the toolbar, select **Display**, and then click **Focused Analysis**.
Linked sub-analyses now display only the selected data in the main analysis.
3. In the main analysis, select the range of members that you want to display in the sub-analysis.
You can click and drag to select a range, or use **SHIFT + CLICK** to select a range. Also, if the members you want to view with focused analysis are not adjacent to each other, you can reorder the members to place them together.

7.3 To pause sub-analysis updating

1. Click a crosstab or chart that represents an analysis, or select an analysis in the "Outline" panel.
2. On the toolbar, select **Display**, and then click **Update Sub-Analysis**.

Linked sub-analyses no longer update automatically. Click **Update Sub-Analysis** again to resume automatic updating.

7.4 Unlinking a sub-analysis

When you add a crosstab or chart sub-analysis to a sheet that contains an analysis, the new component is linked to the main analysis. Changes that you make to the main analysis (usually a crosstab) are reflected in all sub-analyses.

During your analysis though, you may encounter data in the sub-analysis that warrants further exploration. You can pause the sub-analysis, so that it is temporarily frozen in its current state while you continue working with the main analysis, or you can sever the link with the main analysis, converting the sub-analysis to a separate analysis.

If you turn on focused analysis mode, the sub-analysis displays only a subset of the data in the main analysis. If you then unlink the sub-analysis, the sub-analysis is converted to a separate analysis that contains only the focused analysis. A common workflow is to begin working with an analysis, find something interesting in the data, add a sub-analysis, use focused analysis to concentrate on the interesting data, and then unlink the sub-analysis. You can then return to the focused analysis at any time, or copy it to another sheet, for further investigation.

Related Topics

- [Displaying a subset of data in a sub-analysis](#)
- [To pause sub-analysis updating](#)

7.4.1 To unlink a sub-analysis

1. Select a sub-analysis component in the analysis window.
2. On the toolbar, select **Display**, and then click **Unlink Sub-Analysis**.

Filtering Data

In Analysis, you will often want to narrow the scope of your analysis to focus on important data, by including in your crosstabs and charts only those members that are relevant to your analysis. This action is called filtering.

You can filter members by manually selecting and deselecting them from a list. This is called “filtering by member”. Or, you can filter members by specifying filter conditions; for example by specifying a condition such as “Greater than 1000”. This is called “filtering by measure”.

8.1 Filtering by measure

If you want to dynamically select members for your analysis, based on rules you define, you can filter a hierarchy by measure.

For example, if you are analyzing worldwide bicycle sales, and you want your analysis to include only those Country members whose bicycle sales are above a certain threshold, then you could define a filter on the Country hierarchy to include members whose bicycle sales exceed 100,000.

Unlike filtering by member, filtering by measure is dynamic; that is, whenever you change the view of your data, the filter is reapplied. For example, if you add a “Top 5” filter on a hierarchy, five members are shown. If you then add some members that you had previously removed from the analysis, some of those added members could displace some of the five previously shown members.

You define a filter by creating one or more filter conditions, or “rules”. For example, if you wanted to increase your advertising in large countries where bicycle sales are not as high as expected, you could define a filter that comprises these rules:

- Bottom 5
- Greater than 100,000

Applying such a filter to a Country hierarchy would result in the crosstab displaying only the five countries with the lowest bicycle sales greater than 100,000.

Note:

- Filtering by measure is available only with SAP BW data sources.
- Filtering is performed on the original, unformatted values of cells. Adding formatting to cell data can lead to apparent small discrepancies in excluding or including cells. For example, a value displayed as 100.00 would be excluded after a filter has been applied excluding only numbers greater than 100, if its original value were 100.005.

Target level

When you define a filter on a hierarchy, you select which level in the hierarchy the filter is applied to. For example, if you apply a filter to a Geography hierarchy, you could select the Country, State, or City level. Selecting the City level would result in some cities being included in your analysis, but states and countries would not be affected.

The default target level is the highest level in the hierarchy.

Note:

For SAP BW data sources, and for dimensions that comprise a flat list of members, the level-selection field is not available when you define the filter.

Example: Filtering out poor performers

You want to analyze your company's worldwide bicycle sales, and you want to focus your analysis on the cities where bicycles sell well. You could apply a filter to include in your analysis those cities that represent the top 50% of bicycle sales. To apply such a filter, you could follow this sequence of steps:

1. Place the Products hierarchy on the row axis.
 2. Filter the Products hierarchy so that only the Bicycles member appears in the crosstab.
 3. Nest the Countries hierarchy within the Products hierarchy.
 4. Place the Sales measure on the column axis.
 5. Filter the Countries hierarchy by measure.
 6. Set the target level to be the Cities level.
 7. Set the measure that the filter is based on to Sales.
 8. Set the filter condition to include the top 50% of cities.
-

Multiple filter rules

You can create filters with multiple rules. For example, you could create a filter that combines **Top 30%** and **Bottom 5** rules to determine the five poorest-selling products amongst the products in the top 30% of your sales.

When you add two or more rules to your filter, you need to choose either the **AND** or **OR** operator to define how the filter rules work together.

- When you use the AND operator, only the data that matches all filter rules is displayed in the crosstab.
- When you use the OR operator, data that matches any of the filter rules is displayed in the crosstab.

Filters on nested hierarchies

You can apply filters to multiple hierarchies on an axis. For example, if you place two hierarchies on the row axis, and add a filter to each hierarchy, the two result sets are cross-joined.

8.1.1 Filter types

The following condition types can be used to define a filter:

Condition type	Description
Top N	Displays the top N members for the selected level, per parent. (Available for SAP BW flat lists, but not for SAP BW hierarchies.)
Top %	Displays the top contributors to N percent of the parent for the selected level. (Available for SAP BW flat lists, but not for SAP BW hierarchies.)
Top Sum N	Displays the top members whose cumulative sum is greater than or equal to N. (Available for SAP BW flat lists, but not for SAP BW hierarchies.)
Bottom N	Displays the bottom N members for the selected level, per parent. (Available for SAP BW flat lists, but not for SAP BW hierarchies.)
Bottom %	Displays the bottom contributors to N percent of the parent for the selected level. (Available for SAP BW flat lists, but not for SAP BW hierarchies.)
Bottom Sum N	Displays the bottom members whose cumulative sum is greater than or equal to N. (Available for SAP BW flat lists, but not for SAP BW hierarchies.)
Greater than	<ul style="list-style-type: none"> • SAP BW: Displays members that are greater than a specified numeric value. • MSAS: Displays members that are greater than a specified numeric value for the selected level.
Greater than or equal to	<ul style="list-style-type: none"> • SAP BW: Displays members that are greater than or equal to a specified numeric value. • MSAS: Displays members that are greater than or equal to a specified numeric value for the selected level.
Less than	<ul style="list-style-type: none"> • SAP BW: Displays members that are less than a specified numeric value. • MSAS: Displays members that are less than a specified numeric value for the selected level.
Less than or equal to	<ul style="list-style-type: none"> • SAP BW: Displays members that are less than or equal to a specified numeric value. • MSAS: Displays members that are less than or equal to a specified numeric value for the selected level.
Equal to	<ul style="list-style-type: none"> • SAP BW: Displays members that are equal to a specified numeric value. • MSAS: Displays members that are equal to a specified numeric value for the selected level.

Condition type	Description
Not equal to	<ul style="list-style-type: none"> SAP BW: Displays members that are not equal to a specified numeric value. MSAS: Displays members that are not equal to a specified numeric value for the selected level.
Outside	<ul style="list-style-type: none"> SAP BW: Displays members that are not within the range specified by two numeric values. Members that are equal to either of the numeric values are not displayed. MSAS: Displays members that are not within the range specified by two numeric values for the selected level. Members that are equal to either of the numeric values are not displayed.
Between	<ul style="list-style-type: none"> SAP BW: Displays members that are between two specified numeric values, including members that are equal to either of the numeric values. MSAS: Displays members that are between two specified numeric values for the selected level, including members that are equal to either of the numeric values.

8.1.2 To filter by measure

- In the "Layout" panel, right-click the hierarchy that you want to filter, point to **Filter**, and select **By measure**.
- In the "Settings" area on the "Filter" panel, select the target level for this filter.
- In the "Definition" area, select a measure from the "Based on" list.
For example, if you want to filter the Product hierarchy based on sales figures, you would select the Sales measure from the "Based on" list.
- Next, define a rule for your filter by selecting a condition type and entering an operand.
For example, if you want to add a **Top 5** rule to the filter, select the **Top N** condition type, and type 5 into the operand field. For details on the types of conditions you can apply, see [Filter types](#).
- Click **Add**.
- If you want to define a filter with multiple rules, repeat the preceding steps to add more rules to your filter, and then select either **AND** or **OR** to determine how the multiple rules will be evaluated.
For information about the **AND** and **OR** operators, see "Multiple filter rules" in [Filtering by measure](#).
- Click **OK** to apply the filter.
The target hierarchy is filtered, and a Filter icon appears beside the hierarchy name in the "Layout" panel.

8.1.3 To modify an existing filter

You can modify an existing filter by adding and deleting rules.

1. In the "Layout" panel, right-click the hierarchy whose filter you want to modify, and select **Filter > By measure > Edit**.

The existing filter rules are displayed in the "Filter" panel.

2. Add and delete rules to define your modified filter.
You cannot directly edit an existing rule; to change a rule, delete it and then add the modified rule.
3. Click **OK** to apply the modified filter to the hierarchy.

8.1.4 Removing a filter

You can manually remove a filter, or Analysis can remove filters automatically. Whenever you replace hierarchies on the row or column axes, filters are automatically removed from the analysis. However, filters are not automatically removed if you nest hierarchies or perform a "swap axes" operation.

Related Topics

- [Automatically removed sorts and filters](#)

8.1.4.1 To manually remove a filter

- In the "Layout" panel, right-click the hierarchy whose filter you want to remove, and select **Filter > By measure > Delete**.

8.1.5 Automatically removed sorts and filters

When any of the following actions is performed, sorts and filters that are applied to that axis (the "target" axis) may be removed:

- Swapping hierarchies, removing a hierarchy, or adding a hierarchy: sorts and filters are removed.
- Nesting hierarchies: value sorts are removed, but member name sorts remain. Filters are not affected.

Swapping the positions of the row and column hierarchies with the **Swap Axes** button does not remove sorts or filters from the analysis.

8.2 Filtering by member

If you want to include members in your analysis by selecting them from a list, you can filter a hierarchy by member.

For example, if you are analyzing worldwide ski equipment sales, and you want to remove African countries from your analysis, you could open the "Filter" panel and deselect African country members. Or, if you want to analyze only European countries, you would first deselect the **Select Everything** check box, and then select the Europe member.

On the "Filter" panel, you can select individual members, or find members by using a search string. With SAP BW flat list data, you can also select ranges of members.

Unlike filtering by measure, filtering by member is static; that is, once you've included or removed members from your analysis, they remain included or removed unless you use the "Filter" panel again to manually remove or include them.

You can also quickly remove members that are currently displayed in a crosstab or chart, by using the right-click menu.

Note:

In the "Filter" panel, the same member may be displayed in different places. For example, a measure member might appear in multiple measure groups in SQL Server Analysis Services. In Analysis, selecting or deselecting any of these members selects or deselects the first visual instance, which may not be the same instance that you selected or deselected. This behavior does not cause any analysis issues because all linked members refer to the same member.

Related Topics

- [Filtering with display attributes](#)

8.2.1 To remove or add individual members

If you want to remove or add a small number of members, not according to any pattern or parameters, you can accomplish that using the "Filter" panel.

1. In the "Layout" panel, double-click the hierarchy whose members you want to remove or add.
Alternatively, you can right-click the hierarchy, and select **Filter > By member**. The "Filter" panel opens, in Hierarchy view.
2. Select or clear the member check boxes as desired.

- Click individual members to select and deselect them.
 - Hold down the **Shift** key as you click members, to select or deselect ranges of members.
3. Click **OK** to apply your changes to the crosstab or chart.

Note:


If you deselect all members, the **OK** button is disabled because you must select at least one member for each hierarchy on the crosstab.

Related Topics

- [Showing only selected members](#)
- [To change the display of member keys and text](#)
- [Displaying parent names](#)
- [Hierarchy view and leaf members view](#)

8.2.2 Finding members

Because hierarchies can contain thousands of members, you may want to find members by using a search string instead of trying to locate them in a long hierarchical list. To find members, you initiate a “filter by member”, and enter a search string.

 Use the **Return to Member List** button to clear the search results and return to the full member list. Any members that you selected from the search results remain selected.

Analysis uses search techniques similar to popular internet search engines:

Search String	Search Result
book	Selects all members that contain the word book, such as book, book store, and booklet.
"glass bowls"	Selects only members that contain the exact text inside the quotation marks. In this example, the search would find glass bowls but not glass soup bowls.
glass bowls	Multiple terms include an implicit AND, so in this example, the search would select all members that contain both the words glass and bowls: <ul style="list-style-type: none"> • glass bowls • glass soup bowls

Search String	Search Result
glass OR bowls	<p>Selects members which contain either the word glass or the word bowls.</p> <p>The OR must be capitalized.</p> <p>In this example, the search would find members with these names:</p> <ul style="list-style-type: none"> • glass bowls • glass soup bowls • soup bowls • glass <p>Note: If OR is one of the words you want to search for, you must enclose the OR in quotation marks: "OR" OR CA (to find the states Oregon and California).</p>

Note:

Search terms are not case-sensitive. Searching for book is the same as searching for Book or BOOK or boOk.

Using wildcards in your search

You can use the asterisk wildcard character in your search string. For example, if you search for book, you could get this search result:

- book
- book store
- library book
- booklet
- textbook
- textbooks

Or, if you search for book*, you could get this search result:

- book
- book store
- booklet
- textbooks
- library book
- textbook


Or, if you search for *book, you could get this search result:

- book
- library book
- textbook
- textbooks
- book store
- booklet

Related Topics

- [To change the display of member keys and text](#)

8.2.2.1 To find members

1. In the "Layout" panel, double-click the hierarchy whose members you want to find.
2. Type a search string in the text box at the top of the "Filter" panel.
3.  Click the **Find Members** button, or press **Enter**.


With SAP BW data, you can search by either member text or member key, regardless of the current display mode in the Filter panel. For example, if the display mode is set to **Key**, the search is performed on the keys by default, but you can still search by member text. To search member text, click the arrow beside the **Find Members** button, select **Text**, and then click the **Find Members** button.

Note:

If the display mode is set to **Key : Text**, the search is performed on the keys by default, and if the display mode is set to **Text : Key**, the search is performed on the text by default.

4. Select or clear the member check boxes as desired.
 - Click individual members to select and deselect them.
 - Hold down the **Shift** key as you click members, to select or deselect ranges of members.

Note:

 Clicking the **Return to Member List** button returns you to the complete member list. All selected members remain selected.

5. Click **OK** to apply your changes to the crosstab or chart.


Note:

If you deselect all members, the **OK** button is disabled because you must select at least one member for each hierarchy on the crosstab.

8.2.3 To select a range of members

With SAP BW flat hierarchies, you can select a range of members in the "Filter" panel.

1. In the "Layout" panel, double-click the hierarchy whose members you want to remove or add.
2. Select **Range Selection**.
3. Choose an operator such as **Between** or **Greater Than**, and then select members to define the range.

If you know the key numbers for the members, type the key numbers into the member fields. If you do not know the key numbers, you can open a table of member keys and the corresponding member text by clicking the **Select Member** button. 

4. Click **Add Range** to add the range to the selection.
5. Repeat steps 3 and 4 to add more ranges to the selection.
6. Click **OK** to apply your changes to the crosstab or chart.

Note:

If you deselect all members, the OK button is disabled because you must select at least one member for each hierarchy on the crosstab.

8.2.4 Showing only selected members

The "Filter" panel can either show the entire list of members within a hierarchy, or show only the members that have been selected for display in the crosstab or chart.

8.2.4.1 To display only the members that have been selected

- Click **Show Selected** to see only those members that are currently selected. Click **Show All** to toggle the display back to the entire list of members.

8.2.5 To change the display of member keys and text

With SAP BW data, the "Filter" panel can display member text, keys, descriptions, or a combination of text, keys, and descriptions.

- Click **Display**, and select one of the available display modes.

8.2.6 Displaying parent names

The "Filter" panel does not initially display the member parent information, but you can choose to have the panel append parent names to the members.

For example, if the member text is “Wednesday”, and its parents are “2002”, “Qtr 2”, “June”, and “Wk 1”, the member is displayed like this:

```
Wednesday (2002 > Qtr 2 > June > Wk 1)
```

8.2.6.1 To toggle the display of member parent names

- On the "Filter" panel, click **Display > Show Parent Information**.

8.2.7 Hierarchy view and leaf members view

When you open the "Filter" panel, the member list is shown initially in hierarchy view: all hierarchy levels are shown in the member list.

You can also choose the **Leaf Members** option in the list box, to show all leaf members, independent of their levels in the hierarchy. Leaf members are members that do not have any child members.

Note:

The leaf members view is available only with SAP BW data sources.

8.2.8 Favorite filters

You may find that you use the same members of a hierarchy repeatedly. Instead of manually selecting those members every time you use that hierarchy in an analysis, you can define a “favorite filter” for the hierarchy.

You select the members for the filter, and save the filter with an appropriate name. The filter is saved as a relationship between a user and a data source. Therefore, the same user can apply the same favorite filter to any analysis that uses the same data source.

The favorite filter is shown in the metadata explorer, within the hierarchy that it filters.

Example:



You are analyzing boat sales at your Italian and Swiss locations. You save the Italy and Switzerland members as a favorite filter. Later, you are analyzing your boat inventories, and you want to again compare your Italian and Swiss locations. Instead of adding the Country hierarchy to the analysis and selecting the Italy and Switzerland members, you simply add your saved favorite filter to the analysis.

You can add multiple favorite filters to a hierarchy, and add favorite filters to multiple hierarchies in a cube. You can also apply the same favorite filter to multiple analyses if they use the same cube.


If you delete a favorite filter, the crosstabs and charts retain the members that were defined in the favorite filter.

8.2.8.1 To create a favorite filter


You can create a favorite filter on the "Filter" panel or in the metadata explorer on the "Data" panel.

1. Open the member list:
 - To open the member list on the "Filter" panel, double-click a hierarchy or dimension in the "Layout" panel.
 -  Or, to use the metadata explorer, select a hierarchy or dimension, and click the **Create Favorite Filter** button.
2. Select the members that you want to save as a favorite filter.
You can find members by entering a search string.
3. Save the favorite filter:
 - On the "Filter" panel, click **Save Filter**, type a name for your favorite filter, and click **OK**.
 - Or in the "Favorite Filter" dialog box, type a name for your favorite filter and click **OK**.The favorite filter is added to the hierarchy or dimension, and marked with a special icon in the metadata explorer. 

8.2.8.2 To edit a favorite filter

1. Select the favorite filter in the metadata explorer on the "Data" panel.
Favorite filters are shown in the "Favorite Filters" node under the hierarchy or dimension name.
2.  Click the **Edit Favorite Filter** button above the metadata explorer.
3. Select and deselect members to redefine the favorite filter.
You can find members by entering a search string.
4. Click **OK** to save the updated favorite filter.

8.2.8.3 To remove a favorite filter

1. Select the favorite filter in the metadata explorer on the "Data" panel.
Favorite filters are shown in the "Favorite Filters" node under the hierarchy or dimension name.
2.  Click the **Remove Favorite Filter** button above the metadata explorer.

8.2.9 Removing displayed members

Usually, you open the "Filter" panel to remove members from or add members to your analysis. However, when you want to remove a few members that are currently displayed in your analysis, you can remove them directly from the analysis window:

1. Select one or more members in the crosstab or chart, right-click one of the selected members, and click **Remove**.

To select multiple individual members, hold down the **Ctrl** key while selecting members. To select a range of members, select one end point of the range, hold down the **Shift** key, and then select the second end point.

Note:

Removing members in a chart is possible only if the chart represents an analysis, and not a sub-analysis.

If you want to restore the removed members, use the Filter panel to select the removed members.

8.3 Background filters

A computer monitor can display only two spatial dimensions, but in Analysis, you can work with many data dimensions simultaneously. You place the dimensions and hierarchies that you want to actively analyze on the rows and columns of a crosstab, but you can also narrow the scope of your analysis by selecting members of other hierarchies to filter the crosstab data. These unseen hierarchies represent background filters.

For example, if your data cube contains the three hierarchies Product, Market, and Year, and you want to analyze how your products performed in all markets, but only in the year 2010, you could use the Year hierarchy as a background filter, selecting only the 2010 member from the Year hierarchy. Then only the Product and Market hierarchies would be shown on the crosstab's view axes for analysis.

You can specify either a single member or multiple members for your background filter hierarchies, depending on which data source you're using, and which type of hierarchy you are using as a background filter:

- If your data source is from a cube provider that supports custom aggregation, you can specify multiple members for a background filter. Microsoft Analysis Services and SAP BW support custom aggregates.
- You can specify only a single member from a measures dimension for a background filter.


Note:

A background filter is sometimes referred to as a “slice”, because the view you see in the crosstab is a two-dimensional “slice” of a multi-dimensional cube.

Related Topics

- [Custom aggregates and multiple members in a background filter](#)

8.3.1 To add a background filter

1. Place a hierarchy or dimension into the "Background" filter area in the "Layout" panel, by dragging it from the metadata explorer, or by using the **Add to Background Filter** button at the top of the metadata explorer. 
If you want to use the default member of the hierarchy as the background filter member, you can omit steps 2 and 3.
2. Double-click the hierarchy or dimension in the "Background" filter area to open the "Filter" panel.
3. On the "Filter" panel, select one or more members, and click **OK**.

8.4 Removing null and zero values

Null values are database entries that have not been initialized with any real data values. For example, if a database record for a house contains a field for the number of rooms in the house, but no number has been entered in that field for that house, the value of that cell is null.

Zero values are database entries that have been initialized with data, but the data values are equal to zero.

You can optimize the visual display of your crosstabs and charts by filtering out rows and columns that contain only null and zero values. A row or column is removed if it contains all nulls, all zeros, or all nulls or zeros.

The null & zero suppression applies to the entire analysis; therefore, all crosstab and chart components linked to that analysis are affected by the suppression.

You can suppress entire rows, columns, or both rows and columns.

Note:

The default behavior is to display null values as empty cells, but you can change that setting on the "Properties" panel.

Related Topics

- [Properties panel](#)

8.4.1 To filter out null & zero rows and columns

1. On the toolbar, select **Display > Nulls & Zeros**.
2. Choose one of these options:

Option	Description
Hide in row	Remove rows containing only nulls and zeros.
Hide in column	Remove columns containing only nulls and zeros.
Hide all	Remove both rows and columns containing only nulls and zeros.

To restore the removed rows and columns, select **Display > Nulls & Zeros > Show All**.

Sorting

You can sort crosstab values in ascending or descending order. You can also sort member names.

9.1 Sorting values

These sorting options are available:

- Ascending
- Descending

You can place one value sort on each axis. An ascending sort arranges your data with the smaller values at the top or to the left. A descending sort arranges your data with larger values at the top or to the left. Cells that are uninitialized (null) or invalid are ranked in value below any other cells; they appear last in a descending and first in an ascending sort.

By default, data is sorted in descending order, and within hierarchy levels; parent members are sorted in order, and child members below the parents are sorted in their own order.

Note:

- A value sort can be added only to an innermost column or row hierarchy.
- Value sorts take precedence over member sorts. If you add a value sort to a hierarchy that already has a member sort, the member sort is replaced by the value sort. If a hierarchy with a member sort is dragged to the innermost row or column hierarchy, such that it would negate an existing value sort, the member sort is removed.
- Measure dimensions cannot be sorted, because measures can be different quantities specified in different units, such as dollars and percentages.
- Replacing a hierarchy or adding a nested hierarchy to an axis that already has a sort applied causes the sort to be removed.

Related Topics

- [Sorting member names](#)

9.1.1 To sort values

1. In the crosstab, select the row or column member header that you want to sort.
2. On the toolbar, select **Analyze**, and then click the arrow beside the **Sort** button.
3. Choose a sort option:

Option	Description
Ascending	Arranges your data with the smaller values at the top or to the left.
Descending	Arranges your data with the larger values at the top or to the left.

An icon appears beside the member, indicating the direction of the sort.

9.1.2 To reverse the sort direction

-  In the crosstab, click the Sort icon beside the member name.

The icon changes to indicate the new sort direction. 

9.2 Sorting member names

In addition to being able to sort crosstab data by values, you can sort crosstab member names alphanumerically. With SAP BW data sources, you can also sort by display attributes.

Although you can place only one value sort on an axis, you can place multiple member name or attribute sorts on an axis.

Note:

Alphanumeric sorting is always performed within hierarchical levels.

Related Topics

- [Sorting values](#)
- [Display Attributes](#)

9.2.1 To sort members alphanumerically

1. Right-click a dimension or hierarchy in the "Columns" or "Rows" areas of the "Layout" panel.

2. Point to **Sort**, and then choose either **A - Z** or **Z - A**.
3. If the dimension or hierarchy contains both member text and keys, you can sort by either text or key by repeating the preceding steps and selecting **Text** or **Key**.

9.3 Removing a sort

You can manually remove a sort, or Analysis can remove sorts automatically. Whenever you replace or nest hierarchies on the row or column axes, value sorts (but not member name sorts) are automatically removed from the analysis. However, sorts are not automatically removed if you perform a "swap axes" operation.

Related Topics

- [Automatically removed sorts and filters](#)

9.3.1 To remove a value sort

1. In the crosstab, select the row or column member header that you want to remove a sort from.
2. On the toolbar, select **Analyze**, then click the arrow beside the **Sort** button, and then click **Delete**.

Alternatively, you can right-click the member header, point to **Sort**, and then click **Remove sort**, or right-click the **Sort** icon beside the sorted member's name and click **Remove sort**.

Note:

If the crosstab contains a sort on the other axis, that sort remains in effect.

9.3.2 To remove a member sort

- On the "Layout" panel or "Analysis" window, right-click the dimension or hierarchy that you want to remove a member sort from and click **Sort > Remove sort**.

Tip:

Alternatively, you can right-click the sort icon and click **Remove sort**.

9.3.3 Automatically removed sorts and filters

When any of the following actions is performed, sorts and filters that are applied to that axis (the "target" axis) may be removed:

- Swapping hierarchies, removing a hierarchy, or adding a hierarchy: sorts and filters are removed.
- Nesting hierarchies: value sorts are removed, but member name sorts remain. Filters are not affected.

Swapping the positions of the row and column hierarchies with the **Swap Axes** button does not remove sorts or filters from the analysis.

Conditional Formatting (Highlighting Exceptions)

Conditional formatting is used to highlight important differences or unexpected results in your data, by distinguishing values that are inside or outside given ranges. For example, if you were analyzing sales figures and wanted to know which regions had sales lower than a certain value, you could apply conditional formatting to find those poorly performing regions.

This section describes how to apply conditional formatting. For information about applying static formatting to your data, see [Formatting Data](#).

10.1 Applying conditional formatting

You can apply formatting to the cells in a crosstab to highlight important differences or unexpected results. For example, you might want to add background colors to cells that are greater than or less than a particular value.

\$ 322,057.80	221 ST	58,624.360
\$ 6,378,538.43	10,379 ST	2,717,240.830
\$ 18,805,461.35	21,479 ST	5,676,310.180
\$ 609,484.25	225 ST	75,691.100
\$ 3,762.90	227 ST	55,804.210
\$ 3,268,579.82	3,386 ST	873,601.100

To create a conditional format, you define one or more conditions, or rules, such as “Less Than 1000”. You can combine several rules to create a more complex conditional format, such as “Less Than 1000” (red), “Between 1000 and 2000” (yellow), and “Greater Than 2000” (green).

Conditional formatting can be added to columns or rows, or to a selection of cells. After you have created a conditional format, you can edit it, delete it, or toggle it on and off.

Colors and symbols

These styles of formatting are available:

- Background cell color: the background color of the cells is changed.
- Value color: the color of the values is changed.
- Symbols: symbols are added to the cells, beside the values.

Background cell colors and value colors are arranged in color sets. The default color set ranges from red to blue. You can select other color sets though; for example, a color set comprising shades of green. You can also customize the color set, or invert the order of a color set.

Symbols are also arranged in sets. The default symbol set comprises colored circles, but you can change to a different symbol set; for example arrows, or colored shapes.

Rule priority

If you apply multiple conditional formats to the same cells, or if you apply multiple rules to the same values within one conditional format, the priority levels assigned to the rules determine which conditional formatting is displayed. For example, you can apply these rules within one conditional format:

- Between 500 and 2500
- Greater Than 2000

If a cell contains the value 2200, then both rules apply, but the rule with the higher priority controls how the cell is displayed.

If two conditional formats are applied to the same cells, and both conditional formats contain rules with the same priority, then the conditional format that was added first takes precedence.

“Outside” and “Between” operators

If you use the “Outside” or “Between” operators, the conditional format includes the threshold values that you specify. For example, if you create the rule “Between 1000 and 2000”, the conditional formatting is applied to the values 1000 and 2000, and all values in between. If you create the rule “Outside 1000 and 2000”, the conditional formatting is applied to all values less than or equal to 1000, and all values greater than or equal to 2000.

Toggling conditional formats

You can define a conditional format, then disable it without deleting it, and re-enable it at a later date. For example, in fiscal quarter 1, you might define a conditional format to find unusual data, and then disable the format when you no longer need that data highlighted. In fiscal quarter 2, you could enable the conditional format again because the data in the cube has changed, and you want to apply the same conditional formatting to the new data.

Inactive conditional formats

If you apply a conditional format, and later change the analysis in such a way that the condition rules become invalid, the conditional format is deactivated. If the analysis is subsequently changed so that the condition rules become valid again, the conditional format is reactivated.

10.1.1 To apply conditional formatting

1. Select the members in the crosstab that you want to apply conditional formatting to.
You can select a row or column, or a group of cells.
2. On the toolbar, select **Analyze**, and then click **Conditional Formatting**.
Alternatively, you can right-click the selected cells and choose **Conditional Formatting > New**.
3. On the "Conditional Formatting" panel, type a name for the conditional format.


Specifying a unique name, instead of accepting the default name, helps you to identify the conditional formats in a list, if you add several formats to an analysis.

4. In the "Based on" field, select a measure.

The conditions are evaluated using the measure you select. In step 1, if you selected cells belonging to a measure, the "Based on" field is already populated, but you can select any other measure in the analysis.

5. Choose a style from the "Format" field.

6. Select the settings for your first condition rule.

-  Click the **Priority** button to choose a priority and color for this rule. If you apply multiple conditional formats to the same cells, or define multiple overlapping rules within a conditional format, select priority levels for the rules so that you achieve the desired results. Priority level 1 is the highest priority. You can use the default color set, or invert the color set, or click **Edit** to choose custom colors for the priority levels.
- Choose an operator and enter a threshold value. The "Outside" and "Between" operators require two values.

7. Click **Add** to add the rule to the conditional format.

To see the formatting applied to the selected cells, select the **Preview** check box. You can clear all formatting rules by clicking **Reset**.

8. Repeat the preceding steps if you want to add more rules to the conditional format, and click **OK** when finished.

10.2 Editing conditional formatting

After you create a conditional format, you may want to change some of its settings. You can edit a conditional format by deleting individual rules and adding new ones.

Related Topics

- [Removing conditional formatting](#)

10.2.1 To edit conditional formatting

1. Click the arrow beside the **Conditional Formatting** button, point to the conditional format that you want to edit, and click **Edit**.
2. On the "Conditional Formatting" panel, add new rules, and delete any rules that you no longer want to include in the conditional format.

10.3 Removing conditional formatting

You can remove conditional formatting to restore your original view of the data. You can also temporarily disable conditional formats if you need to reuse them in the future.

10.3.1 To remove conditional formatting

1. Click the arrow beside the **Conditional Formatting** button.
2. Point to the conditional format that you want to remove, and click **Delete**.

10.3.2 To toggle conditional formatting

1. Click the arrow beside the **Conditional Formatting** button.
2. Click the conditional format that you want to toggle on or off.

Calculations

11.1 Overview of calculations

Crosstabs that contain raw multidimensional data are not always easy to read or understand. The data may hide trends, which can be revealed only when new information is derived from it. Calculations provide a way to reveal these trends.

You can add multiple calculations, to enhance your analysis further or to highlight different aspects of the data.

When you add a calculation to your analysis, the calculation is added as an additional member. The calculation also behaves like a member; for example, you can filter or apply conditional formatting to all types of calculated members, except for dynamic calculations.

The following calculation types are available:

Simple calculations

Simple calculations are calculations involving two or more members and one of the basic arithmetical or percentage operators. Simple calculations can involve just two members and an operator; for example Product Price - Product Cost, but you can also add multiple members; for example Price * Sales Tax * Quantity. If you select more than two members or measures, only the addition and multiplication calculations are enabled.

For subtraction, division, and percentage calculations, the calculation is defined in the order in which you select the members. That is, if you click the Food member first, and then the Drink member, the resulting subtraction calculation would be Food - Drink.

If you want to create more complex arithmetic calculations, create a custom calculation instead.

You can access these simple calculations quickly from the **Calculations** toolbar button, without using the "Calculation" panel.

Custom calculations

Custom calculations are calculations that you define, by creating formulas in the "Calculation" panel. Custom calculations can be as simple as an addition of two members, or can be a complex combination of functions and members. For example, you could create this custom calculation:

```
TRUNC (ABS ("Member1") + ABS ("Member2"))
```

You can compose a custom calculation by typing a formula into the "Calculation" panel, or by selecting members and functions from lists.

Dynamic calculations

Dynamic calculations are a special type of calculation that recalculates when the data changes in its associated members. For example, if you add a "Rank Number" calculation, members are assigned a numerical rank. If you then remove the member ranked 3rd, the member that was previously ranked 4th is now ranked 3rd.

Unlike the other calculation types, dynamic calculations cannot be used as operands in other calculations and cannot have filters applied to them.

Note:

Dynamic calculations can be initially applied only to visible measures on an axis. However, removing the measure from the axis does not remove the dynamic calculation.

Related Topics

- [Creating calculations](#)
- [Calculation descriptions](#)
- [Totals, Parents, and Aggregations](#)

11.2 Creating calculations

There are several ways to create a calculation:

- You can click the **Calculations** button on the toolbar to create a custom calculation with the "Calculation" panel.
- You can click the arrow beside the **Calculations** button to access simple arithmetic calculations, dynamic calculations, and the "Calculation" panel.
- You can right-click a member on the crosstab to access dynamic calculations and the "Calculation" panel.

Note:

- Dynamic calculations are available only when you right-click a measure.
- When working with SAP BW data sources, calculations can be applied only to measure dimensions and to dimensions that are defined in a characteristic structure.

Related Topics

- [Calculation descriptions](#)
- [Understanding aggregations](#)
- [Totals, Parents, and Aggregations](#)

11.2.1 To add a simple calculation

1. Select two or more members on the crosstab.

For subtraction, division, and percentage calculations, the calculation is defined in the order in which you select the members. That is, if you click the Food member first, and then the Drink member, the resulting subtraction calculation would be Food - Drink.

Note:

- With SAP BW data, calculations are based on measures, so you will need to select two or more measures.
 - If you select more than two members or measures, only the addition and multiplication calculations are enabled.
2. On the toolbar, select **Analyze**, and then click the arrow beside the **Calculations** button.
 3. Select one of the operators from the list.


The calculation is added as a new column or row member to the right of or beneath the selected members. A default name is applied, but you can change the name in the "Properties" panel.

11.2.2 To add a custom calculation

1. On the toolbar, select **Analyze** and then click **Calculations** to open the "Calculation" panel.
2. In the "Name" field, type a name for your custom calculation.
3. From the "Based on" list, select the hierarchy or dimension to apply the calculation to.

Note:

With SAP BW data, you can apply calculations only to measure dimensions.

4.  Click the **Member Selector** icon beside the "Place After" field, and choose where you want the calculated member to be added.
If you selected member headers prior to opening the "Calculation" panel, this field is already populated.
5. Enter your calculation formula.
 - To insert a function, click **Function**.
 - To insert members, click **Add Member**.

If you are familiar with the required syntax, you can also manually type in your calculation formula, or adjust a formula that you created using the **Function** and **Add Member** buttons.

As you create your formula, you can check for errors by clicking **Validate**.

6. When finished, click **OK**.

The formula is validated, and if error-free, the calculation is added to the crosstab. If the validation fails, the calculation is not added to the crosstab. A default name is applied, but you can change the name in the "Properties" panel.

11.2.3 To add a dynamic calculation

1. Select a measure on the crosstab.
2. On the toolbar, select **Analyze**, click the arrow beside the **Calculations** button, and then point to **Dynamic Calculation**.
3. Select one of the dynamic calculations from the list.

The calculation is added as a new column or row member to the right of or beneath the selected measure. A default name is applied, but you can change the name in the "Properties" panel.

11.2.4 To edit a calculation

1. On the toolbar, select **Analyze**, and then click the arrow beside the **Calculations** button.
2. From the menu, choose the calculation that you want to edit, and then click **Edit**.
Alternatively, you can click the **Calculation** icon in the header of the calculated member.
3. In the "Calculation" panel, make changes to the calculation.

Note:

For dynamic calculations, you can edit only the "Name", "Based on", and "Place After" fields.

11.2.5 To delete a calculation

1. On the toolbar, select **Analyze**, and then click the arrow beside the **Calculations** button.
2. From the menu, choose the calculation that you want to edit, and then click **Delete**.
Alternatively, you can right-click the **Calculation** icon in the header of the calculated member, and select **Delete calculation**.

11.3 Calculations with sorts

When you add a calculation, you can specify whether the calculation is to be placed after a particular member. If you add a calculation to a set of sorted members, one of two behaviors is possible:

- If you add the calculation by right-clicking a member, or by clicking the **Calculations** button on the toolbar with a member already selected in the crosstab, then the "Place After" field in the "Calculation" panel is automatically populated with the name of the selected member. The calculation is added to the crosstab immediately following the selected member, and the sort is removed.
- If you add the calculation by clicking the **Calculations** button on the toolbar, without selecting a member first, then the "Place After" field in the "Calculation" panel is empty. The calculation is added to the crosstab, and is sorted along with the other members.

Note:

When working with SAP BW data sources, calculations can be applied only to measure dimensions and to dimensions that are defined in a characteristic structure. You cannot sort across measure dimensions because measures can be different quantities specified in different units, such as dollars and percentages.

11.4 Calculation descriptions

The following calculations are available:

Simple calculations

Simple calculations	Description
Add	Adds the values in two or more rows or columns.
Subtract	Subtracts the values in one row or column from the values in another row or column.
Multiply	Multiplies the values in two or more rows or columns.
Divide	Divides the values in one row or column by the values in another row or column.

Simple calculations	Description
Percentage Difference (same as the custom calculation function PERCENT)	Returns the percentage deviation of operand1 from operand2. If operand1 is less than operand2, then the result is negative. Examples: <ul style="list-style-type: none"> • 1 % 2 is -50% (1 is 50% less than 2) • 2 % 1 is 100% (2 is 100% more than 1) • 3 % 1 is 200% (3 is 200% more than 1)
Percentage Share (same as the custom calculation function PERCENT_A)	Returns the percentage of operand1 to operand2. Examples: <ul style="list-style-type: none"> • 1 %_A 2 is 50% (1 is 50% of 2) • 2 %_A 1 is 200% (2 is 200% of 1) • 3 %_A 1 is 300% (3 is 300% of 1)

Dynamic calculations

Dynamic calculations	Description
Moving Minimum Value	Returns the current minimum value, within a hierarchy level, compared to the previous values.
Moving Maximum Value	Returns the current maximum value, within a hierarchy level, compared to the previous values.
Accumulative Sum	Returns the accumulative sum, within a hierarchy level, of all the previous values. This is based on the server-formatted value.
Accumulative Sum of Rounded Values	Returns the accumulative sum, within a hierarchy level, of all the previous values. This is based on the displayed value.
Accumulative Count of All Detailed Values	Returns the accumulative count, within a hierarchy, of all previous values.
Accumulative Count of All Detailed Values that are Not Zero, Null, or Error	Returns the accumulative count, within a hierarchy, of all previous values that are not 0, null, or error values.
Moving Average	Returns the moving average, within a hierarchy, of the previous values.
Moving Average of All Detailed Values that are Not Zero, Null, or Error	Returns the moving average, within a hierarchy, of the previous values that are not 0, null, or error values.
Rank Number	Returns the rank order for each value, with the largest value having a rank of 1. Items with the same value will have the same rank.

Dynamic calculations	Description
Olympic Rank Number	Returns the rank order for each value, with the largest value having a rank of 1. Items with the same value will have the same rank, but the rank of the following item will assume the previous values were different. For example, 100 = Rank 1, 90 = Rank 2, 90 = Rank 2, 80 = Rank 4.
Percentage Contribution to Parent	Returns the percentage contribution of each value to its parent value.
Percentage Contribution to Overall Result	Returns the percentage contribution of each value to the overall result value.

Custom calculation functions

Percentage calculations	Syntax	Description
PERCENT (same as the simple calculation Percentage Difference)	"operand1" % "operand2"	Returns the percentage deviation of operand1 from operand2. If operand1 is less than operand2, then the result is negative. Examples: <ul style="list-style-type: none"> • 1 % 2 is -50% (1 is 50% less than 2) • 2 % 1 is 100% (2 is 100% more than 1) • 3 % 1 is 200% (3 is 200% more than 1)
PERCENT_A (same as the simple calculation Percentage Share)	"operand1" %_A "operand2"	Returns the percentage of operand1 to operand2. Examples: <ul style="list-style-type: none"> • 1 %_A 2 is 50% (1 is 50% of 2) • 2 %_A 1 is 200% (2 is 200% of 1) • 3 %_A 1 is 300% (3 is 300% of 1)

Data calculations	Syntax	Description
NODIM	NODIM(<expression>)	Returns purely numerical values for <expression>, and suppresses units and currencies.
DATE	DATE ("operand1")	The value is seen as the number of days from 01.01.0000 onwards, and is output as a date. The value can be between 0 and one million, which results in a date between 01.01.0000 and 27.11.2738.

Data calculations	Syntax	Description
TIME	TIME ("operand1")	The TIME operator takes any measure and creates a measure of type TIME. This function is designed for offset calculations. For example, if you have time measures and want to deduct 4 hours, you can use the TIME operator.
NOERR	NOERR (<expression>)	Returns 0 if the calculation of <expression> leads to an arithmetical error. Otherwise, the result is the value of the expression. This is used to avoid error messages so that you can continue to calculate with a defined result.
NDIV0	NDIV0 (<expression>)	Returns 0 if the calculation of <expression> causes a division by 0. Otherwise, the result is the value of the expression. This is used to avoid error messages so that you can continue to calculate with a defined result.

Mathematical calculations	Syntax	Description
SUMMATION	"operand1" + "operand2"	Sum the values of operand1 and operand2.
DIVISION	"operand1" / "operand2"	Divide the value of operand1 by the value of operand2.
MULTIPLICATION	"operand1" * "operand2"	Multiply the value of operand1 with the value of operand2.
SUBTRACTION	"operand1" - "operand2"	Subtract the value of operand2 from the value of operand1.
EXP	EXP ("operand1")	Exponential function. It equates to e^{**} operand1, where $e = 2.7182818284590452$.
LOG	LOG ("operand1")	Natural logarithm is the logarithm to the base e, where $e = 2.7182818284590452$. LOG is the inverse of EXP.
MOD	"operand1" MOD "operand2"	Returns the remainder of the division of operand1 by operand2.
SQRT	SQRT ("operand1")	Returns the square root of operand1.
LOG10	LOG10 ("operand1")	Returns the logarithm, to base 10, of operand1.
ABS	ABS ("operand1")	Returns the absolute numerical value of operand1 without regard to its sign. For example ABS(-1) will return 1 and ABS(1) will also return 1.

Mathematical calculations	Syntax	Description
CEIL	CEIL ("operand1")	Returns the smallest whole value that is not smaller than operand1. For example CEIL(-2.7) will return -2, but CEIL(2.7) will return 3.
DIV	DIV ("operand1", "operand2")	Returns the whole number of operand1 divided by operand2 and ignores the remainder.
FLOOR	FLOOR ("operand1")	Returns the largest whole value that is not larger than operand1. For example FLOOR(-2.7) will return -3, but FLOOR(2.7) will return 2.
FRAC	FRAC ("operand1")	Returns the decimal part of operand1. For example FRAC(2.7) will return 0.7.
MAX	MAX ("operand1", "operand2")	Compares operand1 and operand2 and returns the maximum value.
MAX0	MAX0 ("operand1")	Returns the maximum of 0 and operand1. This means all negative values will be treated as 0.
MIN	MIN ("operand1", "operand2")	Compares operand1 and operand2 and returns the minimum value.
MIN0	MIN0 ("operand1")	Returns the minimum of 0 and operand1. This means all positive values will be treated as 0.
TRUNC	TRUNC ("operand1")	Returns the whole number part of operand1. For example TRUNC(2.7) will return 2.
POWER	"operand1" ** "operand2"	Raise operand1 to the power of operand2.

Other calculations	Syntax	Description
SIN	SIN ("operand1")	Returns the sine of an angle, represented by operand1, specified in radians.
COS	COS ("operand1")	Returns the cosine of an angle, represented by operand1, specified in radians.
TAN	TAN ("operand1")	Returns the tangent of an angle, represented by operand1, specified in radians.
ASIN	ASIN ("operand1")	Returns the arcsine of operand1 (between $-\pi/2$ and $\pi/2$), when the value of operand1 is between -1, and 1.

Other calculations	Syntax	Description
ACOS	ACOS ("operand1")	Returns the arccosine of operand1 (between 0 and pi), when the value of operand1 is between -1, and 1.
ATAN	ATAN ("operand1")	Returns the arctangent of operand1 (between -pi/2 and pi/2).
SINH	SINH ("operand1")	Returns the hyperbolic sine of an angle, represented by operand1, specified in radians.
COSH	COSH ("operand1")	Returns the hyperbolic cosine of an angle, represented by operand1, specified in radians.
TANH	TANH ("operand1")	Returns the hyperbolic tangent of an angle, represented by operand1, specified in radians.
AND	<expression1> AND <expression2>	Returns 1 if both <expression1> and <expression2> do not equal 0. Otherwise the result is 0. Only the numerical values of <expression1> and <expression2> are considered, without taking units into account.
OR	<expression1> OR <expression2>	Returns 1 if either <expression1> or <expression2> does not equal 0. Otherwise the result is 0. Only the numerical values of <expression1> and <expression2> are considered, without taking units into account.
XOR	<expression1> XOR <expression2>	Returns 1 if either <expression1> or <expression2> (but not both) does not equal 0. Otherwise the result is 0. Only the numerical values of <expression1> and <expression2> are considered, without taking units into account.
NOT	NOT (<expression>)	Returns 1 if <expression> is 0, otherwise the result is 0. Only the numerical value of <expression> is considered, without taking units into account.

Totals, Parents, and Aggregations

You can toggle the display of grand totals and subtotals in rows and columns of the crosstab. Subtotals are “aggregations” of member values within an inner hierarchy, while grand totals are aggregations of member values of the outermost hierarchy. The default aggregation type is Sum, but you can change the aggregation type; for example, to Minimum or Average.

Subtotals and grand totals are added as additional rows or columns in the crosstab, named “Result” and “Overall Result”, respectively.

Parent members also display aggregated values. For example, the value of the parent member Europe could be the sum of the values of its child members France, Germany, and Italy. Parent members can also display aggregation types other than sums, however.

Parent members are normally displayed above or to the left of child members, and totals below or to the right of child members. Thus, the parent member Europe would be shown above child members France, Germany, and Italy. You can change the positions of totals and parents though.

For example, if you are analyzing sales figures for European countries, and if the Europe member represents the sum of the country members France, Germany, and Italy, you may want the Europe member to be displayed below the country members.

You can also choose to show parents and totals differently on the columns and rows.

12.1 Understanding aggregations

Aggregations are summaries of members. In a hierarchy, parent member values represent summaries of child member values. For example, if you have a parent member Africa, and three child members Egypt, Morocco, and South Africa, the value of the Africa member represents a summary of the values of the child members Egypt, Morocco, and South Africa. Often, the parent member value is the sum of the child member values. However, the parent member value can be a different summary, such as the average of the child member values, or the count of the number of child members. These summary values are called “aggregations”.

With flat lists, there are no parent members. Therefore, to display an aggregation, you would turn on the display of totals. When you set the aggregation type for a measure, the selected type is applied to both totals and parent members, if there are parent members in the hierarchy.

Each measure member can have one aggregation; if there are multiple measures in the analysis, each member can have a different aggregation. For example, you can choose a Sum aggregation for quantity

measures, an Average aggregation for percentage measures, and a Minimum or Maximum aggregation for cost measures.

The following aggregations are supported:

Aggregation	Description
Default	The aggregation value is set to the default aggregation defined on the query.
Minimum	The aggregation value is the minimum of the member values.
Maximum	The aggregation value is the maximum of the member values.
Sum	The aggregation value is the sum of the member values.
Count of All Detailed Values	The aggregation value is the count of the members.
Count of All Detailed Values that are Not Zero, Null, or Error	The aggregation value is the count of the members, excluding members whose values are zero, null, or error.
Average	The aggregation value is the average of the member values.
Average of All Detailed Values that are Not Zero, Null, or Error	The aggregation value is the average of the member values, excluding members whose values are zero, null, or error.
Standard Deviation	The aggregation value is the calculated standard deviation of the member values.
Median	The aggregation value is the median of the member values.
Median of All Detailed Values that are Not Zero, Null, or Error	The aggregation value is the median of the member values, excluding members whose values are zero, null, or error.
Variance	The aggregation value is the calculated variance of the member values.
Hide	Do not display any aggregation value.

12.2 To toggle grand totals and subtotals

1. Select a crosstab that represents an analysis (not a sub-analysis).
2. On the toolbar, select **Display**, and then click **Totals & Parents**.
3. Select **Display Grand Totals** or **Display Sub-totals**, or both.
4. Click **Totals & Parents** again, select **Totals Settings**, and then choose whether you want totals to be shown for rows only, columns only, or both rows and columns.

Grand totals and subtotals are highlighted with a unique color. You can turn off the highlighting on the "Properties" panel.

12.3 To set the positions of totals and parents

You can set the positions of totals and parents independently.

1. Select a crosstab that represents an analysis (not a sub-analysis).
2. On the toolbar, select **Display**, and then click **Totals & Parents**.
3. Select **Totals Settings** or **Parent Settings**, and then choose **After** or **Before**.

12.4 To change the aggregation type

1. Right-click a measure member header.
2. Click **Totals & Sub-totals > Calculate Totals As**, and select an aggregation type.

Note:

- The aggregation type is applied to both totals and parent members.
- If you are working with a flat list hierarchy (and therefore, there are no parent members), and if totals are not turned on, you cannot change the aggregation type, because aggregations are shown in parent members and totals.
- To see the aggregation type applied to a measure, right-click the measure member header, and click **Totals & Sub-totals > Calculate Totals As**. The selected aggregation type is shown in the list.

Exploring Your Analysis

After you've defined an analysis and added calculations and filters, you may need to make adjustments to suit your analysis needs. This section explains some techniques for changing the presentation of your business data, such as swapping and nesting hierarchies, and changing the background filters.

This section also describes how you can compare different arrangements of the same data; for example, if you want to compare an exploratory view with a baseline view.

13.1 Expanding and collapsing parent members

When analyzing data, you will often want to explore data at lower levels within a hierarchy. In a crosstab or chart, you can expand a member to show its constituent child members, or collapse the member structure to show only the parent member.

⊕ A plus sign next to a member in the crosstab indicates that the member can be expanded; a minus sign indicates that the member has been expanded, and can be collapsed.

13.1.1 To expand a parent member in a crosstab

- ⊕ Click the plus sign next to the member name to display its child members.

13.1.2 To collapse a parent member in a crosstab

- Click the minus sign next to the member name.

13.1.3 To expand a parent member in a chart

1. Right-click a member in the chart.

Note:

Expanding and collapsing members in a chart is possible only if the chart represents an analysis, and not a sub-analysis.

Depending on the type of chart, the member could be represented by a marker such as a pie slice or column chart riser, or by a name in the chart legend, or by a caption.

2. Select **Expand** to display the child members.

13.1.4 To collapse a parent member in a chart

1. Right-click a member in the chart.

Note:

Expanding and collapsing members in a chart is possible only if the chart represents an analysis, and not a sub-analysis.

Depending on the type of chart, the member could be represented by a marker such as a pie slice or column chart riser, or by a name in the chart legend, or by a caption.

2. Select **Collapse** to display the parent member.

13.2 Swapping hierarchies

You can swap hierarchies with others to reorient the data in the crosstab or chart.

You can swap a row or column hierarchy with one of the background filter hierarchies, or with another row or column hierarchy.

You can also swap all rows with all columns, both in an analysis and in a sub-analysis.

13.2.1 To swap two hierarchies

1. Drag a hierarchy toward the hierarchy that you want to swap it with.
2. When the existing hierarchy is highlighted, release the mouse button to swap the two hierarchies.

13.2.2 To swap all rows with all columns

1. Select a crosstab that represents either an analysis or a sub-analysis.
2. On the toolbar, select **Display**, and then click **Swap Axes**.

13.2.3 Swapping hierarchies containing sorts and filters

When you swap hierarchies, or add a new hierarchy to a row or column axis, all existing sorts and filters are removed from the analysis. However, if you swap the positions of the row and column hierarchies using the Swap Axes button, the sorts and filters are preserved.

Related Topics

- [Sorting](#)
- [Filtering by measure](#)

13.3 Pivoting hierarchies

You can pivot hierarchies, to move an item of interest to the background filter and bring another hierarchy into the crosstab. Pivoting is useful when you want to quickly explore another aspect of your data in detail.

Example:

To analyze the performance of your supermarket chain, you define an analysis showing products and a few measures; for example, Margin and Revenue. You see that the total revenue for Peaches is lower than expected, so you decide to investigate the revenue for Peaches over time, by pivoting Peaches with the Time hierarchy. The Products hierarchy moves to the background filter with the Peaches member selected, and the Time hierarchy moves to the crosstab. Now the crosstab shows the history of revenue for Peaches only, so you can determine when the revenue falls below expectations.

13.3.1 To pivot hierarchies

1. On the crosstab, right-click a member, and point to **Pivot With**.
2. Select the hierarchy you want to pivot into the crosstab.

Note:

If all hierarchies are already present in the crosstab, the **Pivot With** option is disabled.

13.4 Removing hierarchies

You can remove hierarchies from the crosstab or chart to simplify your analysis.

13.4.1 To remove a hierarchy from a chart or crosstab

1. Select the crosstab or chart component.
2. Drag the hierarchy out of the "Layout" panel.
Alternatively, you can right-click the hierarchy, and select **Remove**.

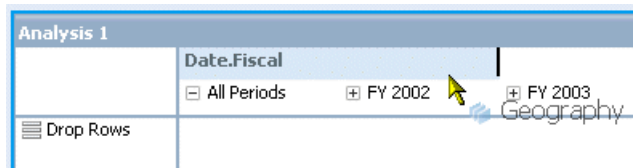
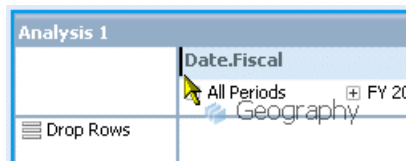
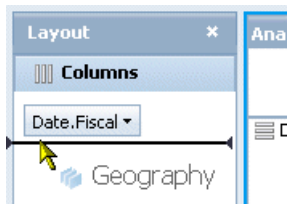
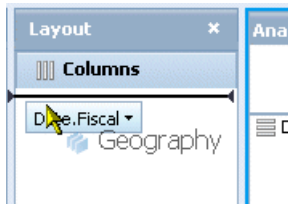
13.5 Nesting hierarchies

Displaying two or more hierarchies on a crosstab axis is called “nesting”. When you nest hierarchies, the one nearest the cells is called the inner hierarchy, and any others are called the outer hierarchies.

With SAP BW data only, you can also combine the display of nested hierarchies on an axis so that they are easier to navigate.

13.5.1 To nest hierarchies

1. In the metadata explorer, select the hierarchy that you want to nest with an existing hierarchy on the crosstab.
2. Drag the hierarchy to the existing hierarchy in the "Layout" panel or in the crosstab. An insertion indicator shows you where the selected hierarchy will be placed.



The hierarchies are nested:

Analysis 1					
Measures	Geography		Date.Fiscal		
		<input type="checkbox"/> All Geographies	<input type="checkbox"/> Australia	<input type="checkbox"/> Canada	<input type="checkbox"/> France
	<input type="checkbox"/> All Periods	<input type="checkbox"/> All Periods	<input type="checkbox"/> All Periods	<input type="checkbox"/> All Periods	<input type="checkbox"/> All Periods
Reseller Sales Arr	\$ 80,450,596.98	\$ 1,594,335.38	\$ 14,377,925.60	\$ 4,607,537.94	\$ 1,983,

3. Repeat these steps to nest hierarchies on another axis.

Note:

- When you place a hierarchy on a row or column axis, or in the background filter, the default member of the hierarchy is automatically selected. With Microsoft Analysis Services, the default member can be set on the OLAP server. For other OLAP providers, the default member is the first member on the top level of the hierarchy.

- When you nest several hierarchies horizontally, some data or metadata may not be visible in the analysis window. You can reposition the metadata and data panes by dragging the separator between the panes, and you can also use the scrollbars at the bottom of the panes.

With SAP BW data only, you can compact the display of nested hierarchies so that you can navigate them as one combined hierarchy.

Related Topics

- [To compact the display of nested hierarchies](#)

13.5.2 To compact the display of nested hierarchies

With SAP BW data only, you can compact the display of nested hierarchies.

1. On the toolbar, select **Display**, and then click **Hierarchy**.
2. Choose whether you want to compact the row axis or the column axis.

13.5.3 Changing the order of nested hierarchies

You can change the order of nested hierarchies by swapping the hierarchies.

Related Topics

- [Swapping hierarchies](#)

13.6 Changing the background filter (changing the slice)

When you place dimensions or hierarchies into the background filter, the default member is automatically selected to filter your analysis. However, you can change the selected member if you want to filter different data. This action is sometimes called “changing the slice”, because you are changing to a different two-dimensional “slice” of a multi-dimensional cube.

Selecting a background filter member is done in the same way as selecting members for the row and column hierarchies, except that you can select only one background filter member at a time. Some data sources however, for example SAP BW and Microsoft Analysis Services, allow you to select multiple background filter members.

13.6.1 To select a background filter member

1. In the **Background** filter area in the "Layout" panel, double-click a dimension or hierarchy.
2. Select one or more members, depending on your data source provider.
3. Click **OK**.

13.7 Hiding hierarchy levels

When working with hierarchies, you may wish to hide hierarchy levels that are not relevant to your analysis. For example, if you are analyzing annual sales, and your Date hierarchy contains years at the top level, quarters at the second level, and months at the third level, you might want to remove the quarters level and concentrate on the months.

13.7.1 To toggle a hierarchy level

1. In the analysis window, select the crosstab that contains the hierarchy.
2. In the "Layout" panel, right-click the hierarchy.
3. Click **Show levels**.

You can now toggle on and off the display of the levels within the hierarchy.

13.8 Reordering members

You can reorder members to help you compare data. For example, you may have a Country hierarchy that comprises these members:

- Antarctica
- Canada
- France
- India
- Mexico
- Switzerland

If you wanted to compare the populations of different penguin species in Antarctica and Switzerland, you could move Switzerland directly beside Antarctica.

Note:

- You can reorder members only within the same parent, but in a ragged hierarchy, the members can be at different levels.
- If the moved members have child members, the child members are moved along with the parent members.

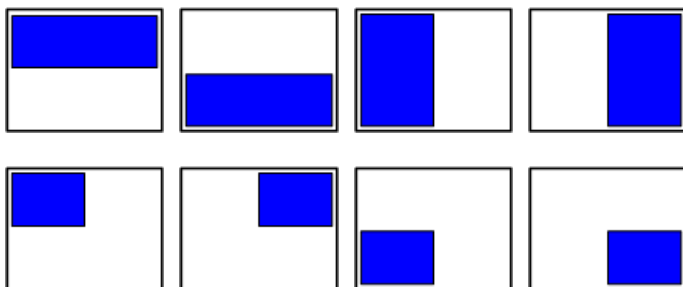
13.8.1 To reorder members

1. In the crosstab, select the members that you want to move.
2. Right-click one of the selected members, and click **Reorder Members > Move**.
3. Right-click the member above or below the position where you want to insert the selected members, and click **Reorder Members > Insert Before** or **Reorder Members > Insert After**.
Alternatively, you can drag the selected members to their new position.

13.9 Resizing and moving components

You can drag any chart or crosstab component from its current position to any other valid position.

These are the valid positions:



Note:

- ☐ You can also maximize a component to fill the analysis window, by clicking the **Maximize** button in the component's title bar.

13.9.1 To move or resize a chart or crosstab

- Click the title bar of the component you want to move or resize, and drag the component to one of the valid positions.



The drop location is highlighted as you move the mouse cursor in the analysis window. You can drag a component that occupies a single quadrant of the screen to a new position that occupies half of the screen, or vice versa. The component automatically resizes to the new position when you release the mouse button. Other components are also automatically resized if necessary.

13.10 Copying a component

You can copy a component to compare variations in data. For example, if you have a set of data displayed in a crosstab and chart, but you want to make small adjustments to your analysis and compare the changes with your baseline analysis, you can copy the components.

You can copy a component to the same sheet or to a different sheet. When you copy components, the analyses associated with the original components are also copied.

13.10.1 To copy a component

1. Click anywhere inside the component that you want to copy.
2.  On the toolbar, click **Copy**.
Alternatively, you can press **CTRL+C** to copy the component.
3.  On the toolbar, click **Paste** to paste a copy of your component onto the current sheet.
Alternatively, you can press **CTRL+V** to paste the component.

If you want to paste the copied component onto another sheet, change to a different sheet before you paste the component.


The copied component is added below or to the right of existing components on the sheet.

13.11 Undo and Redo



Analysis includes multiple levels of undo. With multiple levels of undo, you can undo changes to a workspace, in reverse order, until you have your workspace in the condition you want it.

You can also undo all of your changes in one step, to restore the original state of the workspace when you opened it, even if you've saved the workspace after opening it.

The redo feature reverses an undo. If you move or resize a component, for example, and do not like its new position, you can click **Undo** to move it back to its original position. If you then change your mind, you can click **Redo** to restore the latest change. **Redo** does not reverse a **Discard Changes** action.

-  To undo an action, click **Undo** on the toolbar.

The first time the button is clicked, it reverses the most recent change made to the workspace. Each additional time the button is clicked, it reverses the next most recent change.

-  To undo all changes and revert to the original workspace, click the **Discard Changes** button on the toolbar.
-  To redo a change after you have undone it, click **Redo** on the toolbar.

The Undo and Redo buttons are disabled whenever there is nothing to undo/redo, or when you have made a change that cannot be reversed.

Note:

- You can only undo or redo actions in order from the most recent backward. You cannot undo an action without undoing more recent actions.
- Deleting a data source or a sheet clears the Undo/Redo history.

Related Topics

- [Undo button](#)

Display Attributes

Display attributes are properties of members, which provide an alternate way of categorizing the members. For example, attributes for a Product hierarchy might include color, manufacturer name, case size, and country of origin.

Note:

Display attributes are available only with SAP BW data sources.

You can add display attributes to your analysis to provide additional information about the members in the crosstab. You can also sort by display attribute.

Example:

Anne works for a film distributor, and has expanded her Product hierarchy to view the many films available from her company. Anne has also added display attributes associated with that hierarchy to her view. To help her identify the movies that would be suitable for resale by a supermarket chain, Anne applies an alphanumeric sort on the Movie Classification display attribute.

Default display attributes appear in bold in the metadata explorer.

Note:

- If you add a display attribute to the "Layout" panel, but no hierarchy from its associated dimension is present in the "Layout" panel, the default hierarchy for that dimension is added along with the display attribute.
- The first time you add a hierarchy or display attribute to the row or column axis, the default display attributes are also added.

14.1 To add or remove display attributes

- To add display attributes, drag them from the metadata explorer to the "Layout" panel or to the row or column axis on the crosstab.

To remove attributes, drag them out of the "Layout" panel or crosstab.

Alternatively, you can right-click a hierarchy in the "Layout" panel or in the crosstab, point to **Attributes**, and select or deselect display attributes.

Note:

When you add several display attributes to the row axis, some data or metadata may not be visible in the analysis window. You can reposition the metadata and data panes by dragging the separator between the panes, and you can also use the scrollbars at the bottom of the panes.

14.2 Filtering with display attributes

The first time you filter a hierarchy by member, the display attributes that appear in the crosstab with that hierarchy also appear in the "Filter" panel. Using the **Display** button in the "Filter" panel, you can add other display attributes to the "Filter" panel, or remove currently displayed attributes. These display attributes can help when filtering members.

Note:

- Each subsequent time that you filter that same hierarchy by member, the previous display attribute settings in the "Filter" panel are remembered.
- The display attributes that you add to the "Filter" panel are not automatically added to the crosstab. To add display attributes to the crosstab, drag them from the metadata explorer to the crosstab.

Example:

Your crosstab contains the Products hierarchy, and is also showing the "Country of Origin" display attribute associated with that hierarchy. You open the "Filter" panel to filter the Products hierarchy by member, and the "Country of Origin" display attribute also appears in the "Filter" panel. For your analysis, you are interested in only those products that are colored red, so you add the "Color" display attribute to the "Filter" panel. Now you can select all red members in the "Filter" panel.

Related Topics

- [Filtering by member](#)

Formatting Data

This section describes how to change the appearance of your data by adding static formatting and by resizing rows and columns. For information about conditional formatting, see [Conditional Formatting \(Highlighting Exceptions\)](#).

15.1 Formatting data in the crosstab

You can format your data to suit your analysis or presentation requirements. Formatting options include the following:

- Decimal places
- Thousands separator
- Appearance of negative values
- Scale

Note on formatting

Formatting alters only the appearance of the data, not the value of the data itself. For example, displayed data may be rounded off. To see the real values of the data, clear the **Show formatted cell values** check box on the "Properties" panel.

Thousands separator

You can display or suppress the thousands separator. For example, a value of 1000 can be displayed as 1,000.

Negative values

You can configure how negative values are displayed. For example, you can display a negative value of 1000 as -1000 or (1000).

Decimal places

Although the default number of decimal places is 2, you can set this number to be anything from 0 (show numbers as integers) to 99. Remember that changing the number of displayed decimal places does not affect the value of the data.

Scale

You can scale the displayed values to make them easier to read in the crosstab. For example, if a column contains several values between 5,000,000 and 20,000,000, you can select the Millions scale to display those values as 5M to 20M.

Note:

If you are analyzing SAP BW data that includes scaling factors, the scaling factors are automatically displayed in the crosstab.

15.1.1 To set the format of displayed data

1. On the toolbar, select **Display**, and then click **Measure Format**.

Note:

Data must be present on the row and column axes before the **Measure Format** button is enabled.

2. On the "Measures" list, select all measures that you want to apply formatting to.
3. On the "Type" list, click the number format that you want to use.

The formatting options depend on the type that you selected:

Server	Analysis uses the display format defined on the server.
Number	You can set the number of decimal places, include a thousands separator, choose how negative values are displayed, or scale values.
Percentage	You can show values as percentages and set the number of decimal places.
Scientific	You can show values in scientific notation and set the number of decimal places.

4. Set the options and then click **OK** to apply the formatting to the data.

15.1.2 To remove data formatting

1. On the toolbar, select **Display**, and then click **Measure Format**.
2. On the "Measures" list, select all measures that you want to remove formatting from.
3. On the "Type" list, select **Server**.
4. Click **OK**.

The data is shown without formatting.

15.2 Resizing columns

Crosstab column widths are defined by the Column Width property on the Properties panel. If the default width obscures member headers or restricts the number of cells displayed in the crosstab, you may want to resize the columns.

15.2.1 To resize a column

1. Point to a column header separator; the resize symbol appears:



2. Drag the separator to the column width you require.

You can also set the column width on the Properties panel. Changing this setting applies the new column width to all columns, and overrides any resizing previously applied to individual columns.

15.3 Resizing rows

Cell data may span multiple lines. You can resize rows to show all the data within a cell.

15.3.1 To resize a row

1. Point to a row header separator; the resize symbol appears:



2. Drag the separator to the row height you require.

You can also set the row height on the Properties panel. Changing this setting applies the new row height to all rows, and overrides any resizing previously applied to individual rows.

Sheets

A workspace can contain multiple sheets. Sheets are useful for grouping related analyses together in one workspace. For example, a workspace might represent the solution to a particular problem, with each sheet representing a step in the solution.

When you create a new workspace, three sheets are included, but you can add or remove sheets to suit your analysis. You navigate between sheets by using the sheet tabs at the bottom of the analysis window.

The "Outline" panel, in the task panel to the left of the analysis window, displays the high-level structure of your workspace. Each sheet is shown along with the crosstab and chart components it contains.

Note:

Each sheet has its own set of analyses and components, which are not shared and which cannot be linked across sheets. Analyses and components on one sheet can therefore have the same names as analyses and components on other sheets.

Related Topics

- [Outline panel](#)

16.1 Inserting, deleting, and renaming sheets

Although a workspace always contains at least one sheet, you can add as many sheets as you want, and delete any sheets that you no longer want.

Sheet captions appear in the sheet tabs at the bottom of the analysis window. When you create a new workspace or add new sheets to a workspace, the sheets are assigned default names, but you can change the names.

16.1.1 To insert a sheet

1. Right-click a sheet tab.
2. Select **Insert New**.

A new sheet is created and a new sheet tab is inserted to the right of the sheet tab that you clicked. The new sheet becomes the active sheet.

16.1.2 To delete a sheet

1. Right-click the sheet tab corresponding to the sheet you want to remove.
2. Select **Delete**.

If the sheet to be deleted contains a crosstab or chart component, a confirmation dialog box appears. Click Yes to confirm the sheet deletion.

16.1.3 To rename a sheet

1. Right-click the sheet tab and select **Rename**.
2. Type a new caption for the sheet.

Note:

The maximum length of a caption is 60 characters.

3. Click outside the sheet tab, or press **Enter** to save the changed caption.

Saving and Sharing Workspaces

17.1 Saving Analysis workspaces for sharing with others

If you want to share your Analysis workspaces over the web with other analysts and end users, you can save your workspaces to a public folder in the BI platform repository.


Note:

To save a workspace to a public folder in the BI platform repository, you must have sufficient rights. See your system administrator if you are not sure whether you have such rights.

Related Topics

- [Save a workspace](#)

17.1.1 To save your workspace in a public folder

1.  On the toolbar, click the arrow beside the Save button, and choose **Save As**.
2. In the folder tree, expand the **Public Folders** folder and browse to the folder where you want to save your workspace.
3. Type a filename for your workspace.
4. Click **Save**.

Related Topics

- [Save a workspace](#)
- [Sending an Analysis workspace to another user](#)

17.2 Sending an Analysis workspace to another user

You can send a workspace to another BI platform user or to an email recipient.

If you have any unsaved changes in your workspace, the workspace is first saved with a unique name in your Favorites folder. That saved workspace is then sent to the BI platform user or email recipient, either as an attachment or as a link.

Related Topics

- [Save a workspace](#)


17.2.1 Sending an Analysis workspace to another BI platform user

You can send a workspace to another BI platform user's Inbox. You can send either a copy of the workspace file itself, or a shortcut to the workspace in the BI platform repository.

Note:

Before you can send a workspace to another user's Inbox, your administrator will need to grant specific rights to you.

17.2.1.1 To send a workspace to a BI platform user

1.  On the toolbar, click the **Send To** button.
2. If you want to send the workspace to the default Inboxes, select the **Use default settings** option, and then skip to step 6.
Or, if you want to specify the Inboxes to send the workspace to, clear the **Use default settings** option.
3. Add recipients to the Selected Recipients list.
4. Select a target name for the workspace.
5. Select the **Shortcut** option to send the workspace as a hyperlink, or select the **Copy** option to send the workspace as a file.
6. Click **Send** to send the workspace.

You can also send workspaces to BI platform users from the BI launch pad. For more information, see the *BI Launch Pad User Guide*.

17.2.2 Sending a workspace to an email recipient

You can send your workspace to an email recipient by including a hyperlink to the workspace in the email.

17.2.2.1 To send a workspace to an email recipient

1.  On the toolbar, click the arrow beside the **Send To** button, and then click **Email**.

Note:

If you receive this error message: "**The destination plugin required for this action is disabled. If you require this functionality, please contact your system administrator**", inform your system administrator that the BI platform Adaptive Job Server has not been configured for email destinations.

2. If you want to send the workspace to the default email addresses, select the **Use default settings** option, and then skip to step 5.
Or, if you want to specify the email addresses to send the workspace to, clear the **Use default settings** option.
3. Enter the From, To, and Cc addresses, and a subject.
4. Add the **Viewer Hyperlink** placeholder to the Message field.
5. Click **Send** to send the email.


You can also send workspaces to email addresses from the BI launch pad. For more information, see the *BI Launch Pad User Guide*.

17.3 Using URLs to share workspaces

In some types of SAP BusinessObjects documents, for example SAP Crystal Reports and SAP BusinessObjects Web Intelligence documents, you can create links to Analysis workspaces so that users of those documents can access Analysis workspaces quickly, without having to start Analysis. To create a link, you embed the URL for an Analysis workspace into a document.

You can also embed the workspace URL into an email or other office document.

17.3.1 To get the URL for a workspace

1.  With a workspace open, click the arrow beside the **Send To** button.
2. Select **Document Link**.

The URL for the current workspace is shown.

3. Copy this URL to your Crystal report, Web Intelligence document, or other office document.

Printing and PDF Files

This section shows you how to export your workspaces to PDF files, which you can print or send to colleagues.

After performing your analysis, you may want to share your findings by exporting your workspace to a PDF file, or by printing your data. Using the printing capability in Analysis, you can do the following:

- [Print a sheet](#)
- [Print data](#)

A PDF representing the data or sheet that you want to print is created, and opened in a new browser window using your default PDF viewer. You can then send the PDF file to colleagues, or print hard copies of the data from the PDF viewer.

Note:

If a sheet contains two or more components, and you want to print only one of the components, you can maximize the component in the analysis window, and then print the sheet.

Crosstab and charts are printed as they appear on screen, with minor exceptions. Also, member headers that do not fit within the column widths may be truncated differently from how they are truncated on screen.

Formatted values or actual values

From the Properties panel, you can control whether formatted values or actual values are displayed in the crosstab. When you print a crosstab, the formatting of the cell values in the print output matches the on-screen display.

If your SAP BW data is displayed in the crosstab with scaling factors, the scaling factors are preserved in the PDF output.

Related Topics

- [Saving and Sharing Workspaces](#)
- [Exporting Data](#)

18.1 Print a sheet


When you print a sheet, all components on the sheet are printed together, as they appear on the screen. Only the data visible on the screen is printed; if instead you want all the data in your analysis printed, use the data printing option instead.

The sheet is sized to fit the paper size and orientation print options that you select, and the aspect ratio is preserved.

18.2 Print data

You can choose to print raw data instead of the crosstab or chart representations of your data. When you choose the data printing option, all the filtered data in an analysis is printed; not just the data visible on the screen. If you choose to print the data from a crosstab, the cell formatting applied to the crosstab is retained. Data is formatted to fit the paper size and orientation print options that you select.

18.3 To export to PDF

1.  On the toolbar, click **Print**.

2. Select **Sheet** or **Data**.

For more information about sheet printing and data printing, see [Print a sheet](#) and [Print data](#).

3. If you chose sheet printing, select one or more sheets to be printed.

To select multiple sheets, hold down the **Ctrl** or **Shift** key as you select sheets.

If you chose data printing, select an analysis to be printed. If you select a crosstab, any cell formatting applied to the crosstab is retained in the print output. You can also apply either of the options **Fit to Page Width** or **Repeat Headings**.

For descriptions of the available print options, see [Print options](#).

4. Select a paper size and print orientation.

5. Choose the information fields you want to display in the header and footer.

If you choose the **Custom Text** field, type your custom text into the text boxes.

6. Click **OK**.

Your data is converted to a PDF and opened in a new browser window using your default PDF viewer. You can then print hard copies of the data from the PDF viewer.

18.4 Print options

These print options are available:

Option	Description
Sheet or Data	Choose Sheet if you want to print one or more sheets of your workspace. Choose Data if you want to print all of the data from an analysis.
Fit to Page Width	Select this option to scale the printed output so that all columns fit within a page. This option is available only when printing data.
Repeat Headings	Select this option if you want row and column headers to be repeated on each printed page. This option is available only when printing data.
Paper Size	Choose from these paper sizes: Letter, Legal, A4, and A3.
Page Orientation	Select Landscape or Portrait orientation.

The following information fields are available for you to add to the headers and footers of the printed pages. Some fields are available only with data printing and some only with sheet printing.

Header and Footer fields	Description
Sheet Name	The name of the workspace sheet, defined on the sheet tabs at the bottom of the analysis window.
Analysis Name	The name of the analysis, as defined on the "Properties" panel.
Component Name	The name of the crosstab or chart component that you select when printing data.
Component Comments	The contents of the Description field for the crosstab or chart component, on the "Properties" panel.
Workspace Name	The name assigned to the workspace when saved.
Page Number	The printed page number.
Today's Date	The current date.
Refresh Date	The date that the data source was last refreshed.
Custom Text	Select this option and then type your own text into the text field.

Exporting Data

This section describes how to export data to Microsoft Excel or to comma-separated values (.csv) files.

19.1 Exporting data to Excel


You can export data from your analyses to Microsoft Excel, to allow Excel users to share your data. The data can either be viewed immediately in Excel, or saved to an .xls file that can be opened with Excel or third-party applications. To view your data immediately in Excel, you must have Excel already installed on your machine.

If the exported analysis has both crosstab and chart components associated with it, the data is exported to an Excel worksheet, and the chart is exported as a static image. If the analysis has only a chart component associated with it, only the static chart image is exported.

When you export multiple components, the data from each component is exported to a separate sheet within the same Excel workbook.

Sorts, filters, scaling factors (for SAP BW data only), and conditional formatting are preserved in the exported data. Conditional formatting also makes use of the native Excel conditional formatting. Calculated data is exported, but the calculation formulas are not preserved.

19.1.1 To export data to Excel

1.  On the toolbar, click **Export**.

Note:

The Export button is disabled until the current sheet contains a valid analysis.

2. In the dialog box, select the crosstab or chart component whose data you want to export.
You can also select the component in the analysis window or on the "Outline" panel before you click the **Export** button. If you select multiple components to export, the data from each component is exported to a separate sheet within the same Excel workbook.
3. If your analysis contains nested hierarchies, and you want to repeat the outer hierarchy member header for each inner hierarchy member, select the **Repeat outer header members** option.

4. If your analysis has multiple linked components, and you want to export data from those linked components as well, select the **Include linked crosstabs and charts** option.
5. Click **OK** to export the data.

If you have Microsoft Excel installed on your machine, you can save the file to disk, or open the file immediately.

If you do not have Excel installed, save the file to disk with an `.xls` extension. You can then install Excel or a 3rd-party application to open the saved file.

19.2 Exporting data to comma-separated-values (.csv) files

You can export data from your analyses to comma-separated-value format, to allow users of other applications to share your data. The comma-separated values can either be viewed immediately in an application such as Excel, or saved to a `.csv` file.

Data is exported in the orientation displayed in the crosstab. If the analysis has only a chart component associated with it, data from that analysis is exported but the chart visualization is not.

Sorts and filters are preserved in the exported data. Calculated data is exported, but the calculation formulas are not preserved.

19.2.1 To export data to a .csv file

1.  On the toolbar, click the arrow beside the **Export** button, and then click **CSV**.

Note:

The Export button is disabled until the current sheet contains a valid analysis.

2. In the dialog box, select the crosstab or chart component whose data you want to export.
You can also select the component in the analysis window or on the "Outline" panel before you click the **Export** button.
3. If your analysis contains nested hierarchies, and you want to repeat the outer hierarchy member header for each inner hierarchy member, select the **Repeat outer header members** option.
4. Click **OK** to export the data.

If you have a `.csv` file viewer such as Microsoft Excel installed on your machine, you can save the file to disk, or open the file immediately.

If you do not have a `.csv` file viewer installed, save the file to disk with a `.csv` extension. You can then install Microsoft Excel or another application to open the saved file.

Connecting to OLAP Data Sources




20.1 OLAP data source objects

Before you can begin working with data in Analysis, you must add a data source to the workspace.

A data source is a repository object, created by your system administrator, that contains all the information that is required for Analysis to connect to an OLAP server.

The administrator creates data source objects for as many different OLAP data providers as you and your fellow analysts require. Analysts then have all of these data sources available to add to their workspaces.

These types of data source objects can be defined by the administrator:

Icon	Data source type	Description
	Cube	The data source object points directly to a single OLAP cube on the OLAP server.
	Query	The data source object points directly to a single OLAP query on the OLAP server.
	System	The data source object points to an OLAP server, which can contain many cubes and queries.

Related Topics

- [Adding data sources](#)
- [Changing data sources](#)
- [Removing a data source](#)
- [Disabled data source connections](#)
- [SAP BW Data Sources](#)

20.2 Adding data sources

After your administrator has created data source objects, you can add data sources to your workspace. You can add a single data source if you need to analyze data from just one database, or you can add several data sources, and use a different data source with each analysis in your workspace. However, once you have begun to design your analysis, the analysis and its crosstab and chart components are fixed to the data source. You cannot add metadata from one data source to an analysis that already contains metadata from another data source.

When adding a data source to your workspace, if you select a cube or query, the data is connected immediately to the workspace. If you select a system, you must first choose a cube or query within that system.

Finding a data source



In the "Open Data Source" dialog box, you can either choose a data source from a list, or find a data source. Finding follows these rules:


- In SAP BW systems, the find is performed on both the keys and text of data source objects. In other systems, the find is performed only on cube names.
- To find only those data sources whose text or key exactly matches your search string, enclose your search string in quotation marks.
- To find data sources whose text or key includes your search string, do not enclose your search string in quotation marks.
- If your search string comprises multiple words separated by spaces, a separate find is executed for each word, and the results are aggregated.
- You can use an asterisk (*) as a wildcard character. To include an asterisk as a regular character within the search string, enclose the search string in quotation marks.
- If exactly one matching data source is found, and either the text or key exactly matches the search string, then the data source is automatically selected.

20.2.1 To add a data source to a workspace

1.  On the "Data" panel, click the **Connect to a data source** button.

The "Open Data Source" dialog box appears, showing all data sources that are available for you to access data from.

2. Select a data source from the list.
 -  If you selected a cube, click **OK** to add it to your workspace.
 -  If you selected a query, click **OK** to add it to your workspace.

-  If you selected a system, click **Next** to see the cubes and queries available from that system. Select a cube or query, or click the **Find** tab to find a cube or query, and then click **OK** to add the data source to your workspace.
- 3. If the data source requires authentication, type your credentials in the logon dialog box and click **OK**.
- 4. If you selected an SAP BW data source that contains variables, the "Prompts" dialog box opens. Select values for the variables.
For more information about SAP BW prompts and variables, see [Prompts for variable values](#).

If authentication succeeds, the data source appears in the list at the top of the Data panel, and the metadata explorer displays the data objects (metadata) contained in the data source.

If authentication fails, first verify that you entered your credentials correctly. If authentication continues to fail, see your system administrator. Your credentials may not be set up properly in the Central Management Console, or the OLAP server may be offline.

20.2.2 Viewing OLAP data in the workspace

Once you have a data source added to your workspace, you can define an analysis and begin working with your data in the analysis window.


Related Topics

- [Analyses](#)
- [OLAP data source objects](#)
- [Changing data sources](#)
- [Removing a data source](#)
- [Disabled data source connections](#)

20.3 Changing data sources


If you are currently working with one data source, but want to work with a different data source, you can change to a different data source on the Data panel. However, you cannot use data from the second data source in a component that already contains data from the first data source. You must add a new analysis, and add the data from the second data source to that new component.

20.3.1 To change to a different data source

1.  If the data source that you want to change to has not yet been added to your workspace, click the **Connect to a data source** button on the Data panel.
Or, if the data source that you want to change to has already been added to your workspace, select the data source from the list on the Data panel. The contents of the metadata explorer change to reflect the new data source. Skip to step 4 of this procedure.
2. In the "Open Data Source" dialog box, select the desired data source and click **OK**.
3. If the data source requires authentication, type your credentials in the logon dialog box and click **OK**.

If authentication succeeds, the data source appears in the list at the top of the Data panel, and the metadata explorer displays the data objects (metadata) contained in the data source.

If authentication fails, first verify that you entered your credentials correctly. If authentication continues to fail, see your system administrator. Your credentials may not be set up properly in the Central Management Console, or the OLAP server may be offline.

4.  On the toolbar, select "Insert", and then click the **Insert Crosstab** button to add a new analysis to the analysis window.

You can now add data from the new data source to the new analysis.

Note:

You cannot add data from the new data source to a component that already contains data from another data source.


Related Topics

- [OLAP data source objects](#)
- [Adding data sources](#)
- [Removing a data source](#)
- [Disabled data source connections](#)

20.4 Removing a data source

On the Data panel, you can remove OLAP data sources from your workspace.

20.4.1 To remove a data source from a workspace

1. In the data source area on the Data panel, select the data source that you want to remove from your workspace.
2.  Click **Remove Data Source**.

If any analyses currently use that data source, a warning message appears.

Related Topics

- [OLAP data source objects](#)
- [Adding data sources](#)
- [Changing data sources](#)
- [Disabled data source connections](#)

20.5 Disabled data source connections

Data source connections in your Analysis workspaces can be disabled for several reasons:

- You cancel the connection logon dialog box deliberately.
- Authentication fails with the credentials you provided. For example, the password you provided does not match the password stored in the Central Management Console.
- Authentication fails for reasons that are beyond your control. For example, the OLAP server has been restarted, disconnected from the database, or shut down for maintenance.

If any of your data source connections are disabled, the analyses that are based on the disabled data sources are not executed. The disabled data sources still appear in the active data source list, but are unavailable. Your system administrator can help you to re-establish the disabled connections.

Linking to Reports

When you analyze OLAP data in Analysis, you may find interesting information that you would like to explore in a related SAP Crystal Reports report. Typically, a power user or report designer creates these Crystal reports, and makes them available to Analysis users. To access a report, you create a jumplink to it within your Analysis workspace.

When you open a linked report, contextual information, such as row and column member text, is passed as parameters to the report. These parameters enable the report to display more information related to those members.

For example, while analyzing your data in Analysis, you discover that many of your loyalty customers have purchased generic coffee beans from the Seattle store in 2010. You decide to run a promotion to encourage those customers to try premium coffee beans instead. A report designer has provided you with a Crystal report that retrieves the names and addresses of your loyalty customers from a database. You create a jumplink from your analysis to the Crystal report, and select the parameters “generic coffee beans”, “Seattle”, and “2010” to send to the linked Crystal report. The report queries the relational database and returns the names and addresses of the loyalty customers who bought generic coffee beans from the Seattle store in 2010.

The report that you link to can contain transactional data related to the OLAP cube's data. When this is the case, linking is similar to drill through. However, the linked report can contain any type of data; it is only necessary that the report accepts at least one parameter from the workspace.

Once defined, the jumplinks are stored in the workspace until manually deleted. You can therefore share the workspace with other users, enabling them to explore the information in the linked report as well.

21.1 To create a jumplink to a report

1. Right-click the row header, column header, or cell that represents the parameter or parameters that you want to pass to the report, and select **Jumplink > New**.

If you right-click a row or column header, that parameter is made available to pass to the report. If you right-click a crosstab cell, then the cell value, the row and column headers, and any background filter members are made available to pass to the report.

2. Click **Change** to select a report from the BI platform repository.
3. Select the parameter or parameters that you would like to pass to the report, and click **OK**.

The jumplink is created, and the report is opened in your browser. The jumplink is saved with the workspace, so that other users of the workspace can follow the jumplink later.

21.2 To view a linked report

1. Right-click a row header, column header, or cell, and select **Jumplink**.
2. Select the linked report name from the list of options.

The linked report is opened in your browser, and the parameters corresponding to the member header or cell that you right-clicked are passed from Analysis to the report.

21.3 To delete a jumplink to a report

1. Right-click a cell, row header, or column header in your crosstab.
2. Select **Jumplink > Clear**.

Because jumplinks are associated with analyses, not with members or crosstab cells, you can right-click any cell or member in the crosstab to access a jumplink. If any jumplink is associated with the current analysis, it appears in the list when you right-click.

Using Analyses in Other SAP BusinessObjects Applications


After you perform an analysis, you may want to use other SAP BusinessObjects applications to communicate your findings and share the analysis. For example, you can use SAP Crystal Reports to create highly formatted reports for broad distribution. Or you can use the edition of SAP BusinessObjects Analysis for use with Microsoft Office to share your analysis with Finance department users.

To use an analysis in other applications, you export it as an “analysis view”. An analysis view is a saved navigation state of an analysis, that includes applied filters, hierarchies, and available metadata.

Analysis views can be shared among applications such as SAP BusinessObjects Analysis (both the edition for OLAP and the edition for Microsoft Office), SAP Crystal Reports, and SAP BusinessObjects Web Intelligence. Both editions of SAP BusinessObjects Analysis can import and export analysis views, but other applications can only import analysis views.


Like workspaces, analysis views are saved to the BI platform repository. While a workspace can encompass several analyses, an analysis view encompasses only one analysis.

22.1 To export an analysis view

1. In the analysis window, select the crosstab or chart component that you want to export as an analysis view.
2.  On the toolbar, click the arrow beside the **Export** button, and click **Analysis View**.
3. Select a location to save your analysis view to.
4. Type a filename for the analysis view.
5. Click **Save**.

The analysis view is exported to the repository.

22.2 To import an analysis view

1. In your Analysis workspace, navigate to the sheet where you want to import the analysis view.
2.  On the toolbar, click the arrow beside the **Open** button, and click **Analysis View**.

3. In the folder list, select an analysis view, and click **OK**.

If the analysis view represents SAP BW data containing variables, you may need to select variable values before the analysis view can be opened. The imported analysis view is added below or to the right of existing components on the sheet.

SAP BW Data Sources

Analysis can connect to SAP BW data sources and take advantage of features such as variables and display attributes.

When working with SAP BW data, note that some Analysis features behave differently than with other data sources:

- When connecting to an SAP BW data source, you may be prompted to enter variable values.
- Calculations can be applied only to measures.
- Members can be displayed with either their keys or text.

23.1 Prompts for variable values

When you connect to an SAP BW query, if there are variables defined in the query, the "Prompts" dialog box opens so that you can select values for the variables.

The "Prompts" dialog box also opens if you perform any of these tasks with an SAP BW data source that contains variables:

- Adding a data source.
- Opening a saved workspace.
- Navigating to a sheet for the first time in an open workspace.
- Manually refreshing data.

The "Prompts" dialog box contains one row for each variable set up by the SAP BW administrator in the SAP BW query. Selecting values for the variables has the effect of filtering the data that is returned and displayed.

If default variables are set up, rows of the "Prompts" dialog box may already contain values. You can accept these values, or you can select different values.

For more information about SAP BW queries and variables, see the documentation for the SAP Business Explorer Query Designer, in the SAP NetWeaver Library, at the SAP Help Portal: <http://help.sap.com>.

23.1.1 Mandatory and optional variables

Variables may be mandatory or optional, depending on how they are configured in the query.

Mandatory variables are variables that you must provide a value for when the "Prompts" dialog box opens. Mandatory variables are denoted with asterisks in the "Prompts" dialog box. If allowed, an initial value, denoted with a number sign ("#") can be selected in the "Prompts" dialog box. This explicitly selects all data records, including those which do not correspond to a member of the hierarchy.

Optional variables are variables which you do not have to select values for when prompted. Queries with optional variables that you do not select values for return data based on default values.

23.1.2 Variable types

Analysis supports many, but not all, of the SAP BW variable types:

Key date variables

Key date variables are single-value variable types where you can indicate a specific date for the data you want to see (provided that data is configured in the cube to be time-dependent). Time-dependent metadata is filtered based on the key date variable.

The value for the key date variable must be specified first, because it limits the data available to other variables.

Characteristic variables

Characteristic variables may be single-value or multiple-value, depending on how they are set up in the SAP BW query. In the "Prompts" dialog box, you select one or more members to be returned from the default flat hierarchy.

Hierarchy variables

Dimensions contain a hierarchy or multiple hierarchies grouped together into a single logical collection.

The hierarchy you select in the "Prompts" dialog box restricts the hierarchies you can use on that dimension to the chosen hierarchy.

Hierarchy variables often come paired with hierarchy node variables, where both variables apply to the same dimension. The hierarchy node variable can dynamically apply to whichever hierarchy has been selected for the hierarchy variable. In these cases, you make a selection for the hierarchy variable before making a selection for the hierarchy node variable.

Hierarchy node variables

Hierarchy node variables may be single-value or multiple-value, depending on how they are set up in the SAP BW query. In the "Prompts" dialog box, you select one or more members to be returned from the hierarchy.

Characteristic interval (range) variables

Characteristic interval variables consist of two members that you select in the "Prompts" dialog box. The two members create a range which is used as a filter for the data returned and displayed in Analysis.

When selecting members, you must ensure that you create a valid range by specifying a second member that occurs after the first selected member in the hierarchy.

Complex characteristic selection variables

Complex characteristic selection variables allow you to select one or more conditions from the "Prompts" dialog box, which are then used to filter the data returned and displayed in Analysis.

Formula variables

Formulas are calculations that may have been defined by an administrator on the key figures (or measures) dimension.

If Analysis requires you to enter a formula variable, you must enter a numerical value only. The value you enter is then used to complete the formula, and the data returned is the result of the formula.

Currency variables

A currency variable is a special type of variable used to convert values based on an exchange rate table. The exchange rates used to perform the conversion are set at the data source, and are not visible from Analysis.

23.1.3 To enter variable values

When you perform a task that requires SAP BW variable values to be set, the "Prompts" dialog box opens. Perform the following steps for each mandatory variable, and any optional variables that you wish to select values for.

1. Select a prompt from the "Prompt Summary" list.
2. Define the variable value:


Variable type	Steps to define the variable value
Key date	Click the date field, and type a date in the format yyyyymmdd, or click the icon beside the date field and select a date from the calendar.
Characteristic	Click the button beside the value field, and choose one or more members from the list.
Hierarchy	Select a hierarchy from the list.
Hierarchy node	Click the button beside the value field, and choose one or more members from the list.
Characteristic interval	Click the buttons beside the value fields, and choose members to define the end points of the interval (range).

Variable type	Steps to define the variable value
Complex characteristic	<ol style="list-style-type: none"> Select either Include or Exclude, and then select an operator. For example, to select members that are outside a specified range, choose Exclude and the Between operator. Specify the threshold value or values. To specify a value, click the button beside the value field, and choose a member from the list. When you have finished defining the rule, click the Add button. If necessary, add more rules to further define the variable value.
Formula	Enter a numerical value.
Currency	Select a currency.

- Click OK.

The query is executed and the filtered metadata is displayed in the crosstab.

23.1.4 To change variable values

- In the data sources area on the "Data" panel, select an SAP BW data source that contains variables.
-  Click the **Edit SAP variable values** button.
- In the "Prompts" dialog box, select new variable values.

Related Topics

- [To enter variable values](#)

23.2 Key figures and formatted values

By default, Analysis retrieves and displays formatted cell values. Key figures (measures dimensions) that have been formatted to display a specific unit on the cube are displayed with the correct unit formatting in Analysis.

23.2.1 Formatting with no key figures

The SAP BW administrator can create an SAP BW query that has no visible key figures (no visible measures dimension). There is no measure formatting for these queries because they contain no measures (or the measures are not visible).

23.3 Hierarchy display settings

Members have several string properties, which are visible in Analysis:

- Key
- Text
- Short description
- Key and Text
- Key and short description
- Text and key

These string properties can be viewed and changed by right-clicking a hierarchy name on the crosstab, and selecting **Display As**.

Note:

When displaying the key and text, or key and description, the properties are concatenated into a single string, and are therefore displayed in a single column or row. They do not appear as separate columns or rows.

23.4 Mutually exclusive hierarchies

In SAP BW data sources, hierarchies that belong to the same dimension are mutually exclusive. For example, consider an SAP BW cube that contains a dimension Customer that contains three hierarchies: Country_1, Country_2, and Country_3. Only one of these hierarchies can be included in a single crosstab or chart analysis. You cannot specify Country_1 on the row axis and Country_3 in the background filter in the same analysis.

23.5 Unbalanced and ragged hierarchies

Analysis supports unbalanced and ragged hierarchies.

23.6 Scaling factors

If your SAP BW query was designed with scaling factors included, those scaling factors are displayed in the crosstab. For example, a value may be displayed as follows:

1234 * 10000

These scaling factors are supported in Analysis:

- 1
- 10
- 100
- k
- 10,000
- 100,000
- M
- 10,000,000
- 100,000,000
- G

Note that common abbreviations are displayed instead of numeric scaling factors for thousands, millions, and billions.

If scaling factors appear in the crosstab, they also appear in data exported to Excel or to PDF files.

Microsoft Analysis Services Data Sources

Analysis can connect to Microsoft SQL Server 2005 and 2008 Analysis Services data sources and can take advantage of features in Analysis Services 2005 and 2008 such as perspectives and display folders. This section describes these features and shows you how to use them in your workspaces. Some definitions are included to help you understand Analysis Services 2005 and 2008 terminology.

Dimensions

Dimensions in Analysis Services 2005 and 2008 are collections of hierarchies.

Hierarchies

Attributes are the building blocks of dimensions, and are used in Analysis Services 2005 and 2008 to organize measures contained in a cube.

In Analysis Services 2005 and 2008, a dimension is a collection of attributes that describe the data that is provided by the tables in a data source view.

A business user cannot see the attributes in a dimension from a client application such as Analysis. The attributes must first be organized into hierarchies before their members can be navigated in a cube.

Two types of hierarchies can be created from attributes: attribute hierarchies and user hierarchies.

- An attribute hierarchy is created for every attribute in a dimension, and has the same name as the attribute. The attribute hierarchy enables users to browse the members of an attribute.

An attribute hierarchy has only one level. Attribute hierarchies ensure that a cube's cells can be referenced without relying on user hierarchies, so that security and calculations are independent of a cube's navigation paths. To the business user, an attribute hierarchy appears no different from hierarchies that you create, and allows business users to browse members of an attribute.

Attribute hierarchies replace the concept of virtual dimensions found in earlier versions of Analysis Services.

- A user hierarchy is any hierarchy other than an attribute hierarchy. A user hierarchy is composed of attributes that are organized into levels that provide navigation paths in a cube. The member structures of user hierarchies can take one of four basic forms, depending on how members are related to each other:
 - Balanced hierarchies
 - Unbalanced hierarchies
 - Ragged hierarchies
 - Parent-child hierarchies

Because user hierarchies, unlike attribute hierarchies, can contain many levels, they are often referred to as multilevel hierarchies.

Fact tables

A fact table is a database table that contains measures or metrics of a business process. For example, a fact table for a grocery store might include measures such as Sales, Inventory, and Profit.

Dimension tables

A dimension table is a database table that contains attributes that describe the business entities of an enterprise. The attributes are used by data analysts to constrain and group database queries. For example, a Store table might include store locations and sizes.

Measure groups

A measure group contains one or more measures from the same fact table. All Analysis Services 2005 and 2008 cubes and perspectives contain at least one measure group.

In Analysis, measure groups are shown on the Data panel, and in the "Filter" panel when you filter by member.

Display folders

Display folders are optional folders that can be configured on the Analysis Services server to organize hierarchies into folder structures. The folder structures make it easier for users to navigate the hierarchies grouped under a single dimension from a client application.

In Analysis, display folders are shown on the Data panel only; they do not appear in the "Filter" panel. Also, you cannot select a display folder; only the hierarchies within the display folders.

Perspectives

Cubes can be very large and thus difficult to navigate in SQL Server Analysis Services. A single cube can represent the contents of an entire data warehouse, with each measure group in a cube representing a single fact table, and each dimension representing a dimension table in the data warehouse. This prospect can be daunting to users, who often need to interact with only a small portion of a cube to satisfy their business intelligence and reporting requirements.

In Analysis Services 2005 and 2008, a perspective can reduce the perceived complexity of a cube by allowing you to define a viewable subset of the cube. The perspective's definition controls which objects in a cube are visible to a business intelligence application.

Analysis treats perspectives as regular cubes. For example, perspectives appear as regular cubes when you create a new data source connection in the Central Management Console.

Accessibility

Accessibility mode

Analysis provides an accessibility mode for users with visual or motor impairments. To enable accessibility mode, perform these steps:

1. Open the "Preferences" page in the SAP BusinessObjects BI launch pad.
2. Click **Analysis, edition for OLAP**.
3. Select the **Accessibility Mode** check box.
4. Log off the BI launch pad, and log back on.

In accessibility mode, tooltips contain more verbose text for screen reader support. Also, the keyboard actions described later in this section are available in accessibility mode.

Color schemes and fonts

To assist users, Analysis provides several color schemes and font choices. These options are available from the Properties panel.

Keyboard shortcuts

Keys	Action
Tab	<p>Move the focus to the next region in the crosstab.</p> <p>These are the regions that you can access by pressing the Tab key:</p> <ul style="list-style-type: none"> • Column members area • Row members area • Cell area
Arrow keys	In the crosstab, move the focus one cell up, down, left, or right. In the metadata explorer, move the focus up or down, or expand and collapse objects.
Spacebar	Select the cell or object that has focus.
Shift + Spacebar	Extend the cell selection from the existing selected cells to the currently selected cell.
Ctrl + Spacebar	Select multiple member headers.
+	Expand a parent member or object.
-	Collapse a parent member or object.

Keys	Action
Shift + arrow keys	Extend the selection to include more cells.
Ctrl + F4	Close a crosstab or chart component.
Shift + F10	Select the cell that has focus, and then display the context (right-click) menu.
Ctrl + F10	Maximize or Restore a crosstab or chart component.
Esc	Perform any of these actions: <ul style="list-style-type: none">• Close the context menu• Close the drop-down list• Close or end other actions

Understanding OLAP

SAP BusinessObjects Analysis is a tool for viewing and analyzing business data, specifically OLAP (Online Analytical Processing) data. This section explains OLAP.

26.1 OLAP Overview

Relational databases store data as individual records. Each record may contain a number of fields, but all these fields relate to just one record. For example, a Product record might have a number of fields containing information about that Product, such as sales transactions to different customers in different regions.

Online Transaction Processing (OLTP) applications are used to query this information and keep it up to date. OLTP is designed to enable a large number of users to update and retrieve comparatively small numbers of individual records quickly.

Although relational databases hold data in a one-dimensional format—one record at a time—business problems are usually multi-dimensional. A typical requirement would be to analyze Sales by Product by Region, for example. If this were to give a clear picture of the business, it would involve summarizing and analyzing a large number of different records. Using traditional OLTP applications for decision support therefore involves retrieving thousands of records and summarizing them on the fly to build database tables. This is not what OLTP applications were designed to do, and operations of this sort on a large database can take hours and even days of processing time to complete.

Online Analytical Processing (OLAP) applications are designed from the start with online data analysis in mind. To reduce processing time, relational data is summarized and pre-consolidated into matrix table format. Because these tables usually have three (or more) dimensions, they are referred to as data "cubes". OLAP data represents the hierarchical aggregations of the individual transactions. Consequently, the aggregated data can be analyzed much faster than relational data.

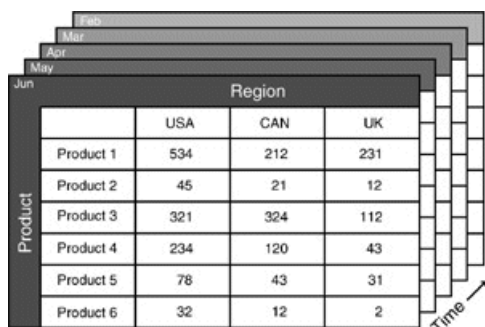
26.2 Multi-dimensional data cubes

To understand multi-dimensional data, first think of a spreadsheet showing how different products are selling in different markets:

		Region		
		USA	CAN	UK
Product	Product 1	534	212	231
	Product 2	45	21	12
	Product 3	321	324	112
	Product 4	234	120	43
	Product 5	78	43	31
	Product 6	32	12	2

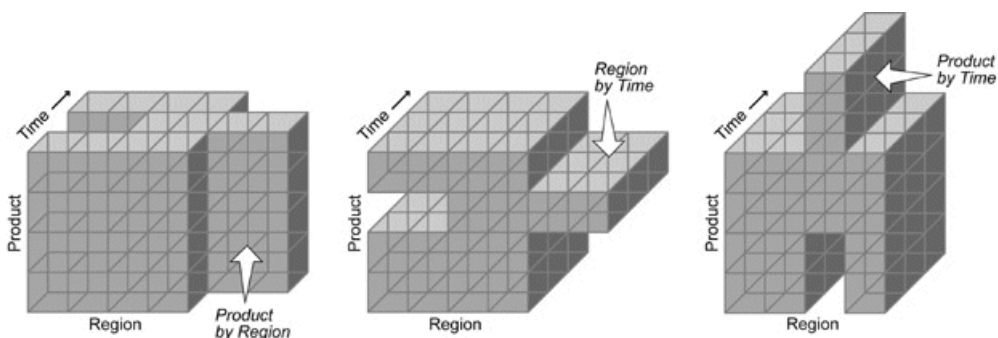
This spreadsheet shows sales for each Product within each Region. This data has two dimensions: Product (shown in the rows), and Region (shown in the columns). Also, each dimension comprises several members; in this example, members of the Region dimension include USA, Canada, and the UK.

A spreadsheet like this is of limited use as it only shows sales performance at one point in time. To track performance for different Time periods, business analysts would need to stack up several spreadsheets, one for each time period, like this:



Together, these spreadsheets show a third dimension, Time, to add to the first two (Product and Region).

Another way of representing these stacked-up data cells is in the form of a cube:



We call this the "data cube".

The data cube allows analysts to slice data in different ways in order to get answers to different business questions, such as:

- How are our products selling in each region (view Product by Region, as before)?
- How do our products sell at different times of the year in each market (Product by Region by Time)?
- How do our products sell at different times of the year (view Product by Time)?

This example has only three dimensions. OLAP applications can handle many more than three.

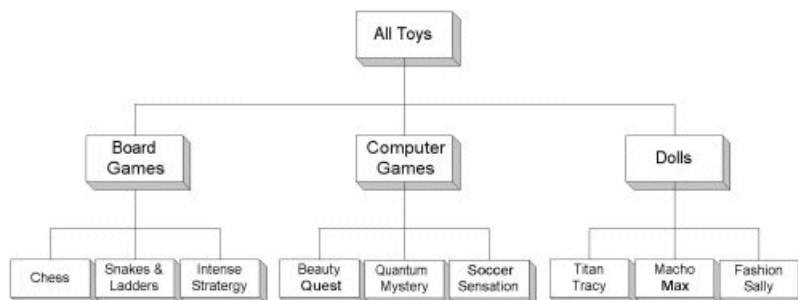
A fourth dimension might allow analysts to slice up the data by Customer, for example.

This is harder to picture than three dimensions, but it works in the same way; with another dimension, there are more possible ways of slicing the cube, to provide answers to questions such as 'Which UK customer buys the most (or least) of a certain product at Christmas?'

26.3 Hierarchical data

OLAP also allows analysts to organize each one of the data dimensions into a hierarchy of sub-groups and totals to reflect the organization of their business.

For example, the staff of a toy shop might want to store figures for groups of products and all products, as well as for individual products, like this:



OLAP allows analysts to view data for All Toys at the top level, then drill-down to lower and lower levels of detail, so that they can discover the precise source of a particular performance variation in their data.

By allowing analysts to use several dimensions in their data cube, with the possibility of a hierarchy in each dimension, OLAP reflects the way they picture their business, and is not constrained by the structure of information storage.

Through OLAP, analysts can gain a better understanding of their business by viewing, comparing and working with information in ways simply not possible before.

User Interface Reference

27.1 Workspace reference

A workspace is an Analysis data-analysis object. You create a workspace in Analysis, analyze your data in it, and save it as a single file in the BI platform repository. You can then re-open the workspace to continue your analysis, or share the workspace with other users.

The screenshot shows the Analysis workspace interface with the following components highlighted by numbered callouts:

- 1. Task panel:** Located at the top left, containing navigation icons.
- 2. Layout panel:** Located in the middle left, showing 'Columns' and 'Rows' sections.
- 3. Metadata explorer:** Located on the left side, displaying a tree view of data sources like 'Internet Orders', 'Internet Sales', etc.
- 4. Analysis window:** The main central area displaying a crosstab table.
- 5. Crosstab:** A table showing sales data for different product categories.
- 6. Chart:** A bar chart titled 'Analysis 1 - Sub-Analysis 1' comparing 'Extended Amount' and 'Standard Product Cost' across product categories.

Product Model Category	Internet Sales Amount	Internet Order Quantity	Internet Extended Amount	Internet Tax Amount	Internet Standard Product Cost
All Products	\$ 29,358,677.22	60,398	\$ 29,358,677.22	\$ 2,348,694.23	
Accessories	\$ 700,759.96	36,092	\$ 700,759.96	\$ 56,060.80	
Bikes	\$ 28,318,144.65	15,205	\$ 28,318,144.65	\$ 2,265,451.62	
Clothing	\$ 339,772.61	9,101	\$ 339,772.61	\$ 27,181.81	
Components					

1. Task panel
2. Layout panel
3. Metadata explorer
4. Analysis window
5. Crosstab
6. Chart

The default workspace contains three sheets, each with an empty crosstab and undefined analysis. You can add crosstab and chart components to the analysis window, or add additional sheets to the workspace, as your analysis increases in scope.

Related Topics

- [Analysis window reference](#)
- [Task panel reference](#)
- [Toolbar reference](#)
- [Crosstab component reference](#)
- [Charts reference](#)

27.2 Analysis window reference

The main work area is called the analysis window. You can add up to four components to each sheet in the analysis window, in any combination of crosstabs and charts.

Crosstab and chart components can occupy any of the four quadrants in the analysis window, or two adjacent quadrants, or all four quadrants if you have a single component on the sheet.


The areas in the analysis window where you can drag components to from the toolbar are called drop zones. The locations of the component drop zones change as you add or reposition components in the analysis window.

Related Topics

- [Workspace reference](#)
- [Task panel reference](#)
- [Toolbar reference](#)
- [Crosstab component reference](#)
- [Charts reference](#)

27.3 Layout panel reference

The "Layout" panel is where you place hierarchies and measures to define your analysis. You can place either a single hierarchy or measure, or a group of selected measures, in the "Rows", "Columns", or "Background" areas in the "Layout" panel. You can also nest hierarchies to help you define more complex analyses.

-  Click this button in the toolbar to toggle the Layout panel on and off.

Related Topics

- [Workspace reference](#)
- [Analyses](#)
- [Nesting hierarchies to create complex analyses](#)

27.3.1 Drop zones in the Layout panel

The "Layout" panel contains drop zones for placing hierarchies when you define an analysis.

You drag a hierarchy or hierarchy level or measures to the center drop zone to add members to an empty axis, or to replace existing members on that axis.

You drag a hierarchy or hierarchy level or measures to the upper or lower drop zone to add members to existing members on that axis. The new members are nested with the existing members.

Related Topics

- [Nesting hierarchies to create complex analyses](#)

27.3.2 Hierarchy functions in the Layout panel

You can right-click a hierarchy in the "Layout" panel to access these functions:

- Filter—filters the hierarchy by member or by measure.
- Sort—selects a sort type.
- Show Levels—selects which hierarchy levels are displayed.
- Display As—selects a format for displaying member names.
- Move To—moves the hierarchy to another axis.
- Move Before—nests the hierarchy before another hierarchy.
- Move After—nests the hierarchy after another hierarchy.
- Swap With—swaps positions with another hierarchy.
- Remove—removes the hierarchy from the crosstab.

Related Topics

- [Filtering Data](#)
- [Sorting](#)
- [Hiding hierarchy levels](#)

- [To change the display of member keys and text](#)

27.3.3 Custom aggregates and multiple members in a background filter

A custom aggregate is a group of members that a user selects, that do not roll up to an existing parent member in a hierarchy.

For example, if you are interested in sales figures by region, then when you select CA, you see the aggregated sales for all cities in the state of California. But if you are interested in only the cities of Los Angeles and Portland, you cannot select one single member in the hierarchy that gives you the aggregated sales for just these two cities. Or if you are interested in only a few cities in the state of California, but not all of them, again there is no single member that gives you the aggregated sales for just those cities.

If you connect to a cube provider that supports custom aggregation, you can specify multiple members for a background filter. Microsoft Analysis Services and SAP BW support custom aggregates.

Note:

You cannot select multiple members from a measures dimension for a background filter.

27.4 Task panel reference

The task panel, the panel at the left side of the workspace, contains the Data, Properties, and Outline panels. These panels are used to define analyses, view dimensions and hierarchies, add and change data sources, view component properties, and view the overall structure of analyses.

 Click this icon in the panel title bar to hide the task panel. Click any panel button to open that panel:

	Data panel
	Properties panel
	Outline panel

Related Topics

- [Workspace reference](#)
- [Analysis window reference](#)

- [Toolbar reference](#)
- [Crosstab component reference](#)
- [Charts reference](#)

27.4.1 Data panel

On the Data panel, you add data sources, and view the dimensions, hierarchies, and hierarchy levels defined in those data sources.

Related Topics

- [Task panel reference](#)
- [Outline panel](#)
- [Properties panel](#)

27.4.1.1 Data panel data source area

At the top of the Data panel is a list of active data sources that have been added to the workspace. When you create a new workspace, you are prompted to add the first data source, but you can later add as many data sources as you want.



Click **Add Data Source** to see a list of data sources that your system administrator has defined.

For more information about data sources, see [OLAP data source objects](#). For information about defining OLAP data source connections, see "Creating OLAP data source connections" in the *Administrator Guide*.

Once you have added at least one data source, you can select the data source to view the metadata in the metadata explorer, and define your analysis in the analysis window.

If any of your data sources are disabled, analyses that are based on the disabled data sources are not executed. The disabled data sources still appear in the active data source list, but are unavailable.

Related Topics

- [Disabled data source connections](#)
- [Data panel data source buttons](#)
- [Data panel metadata explorer](#)
- [Data panel metadata explorer buttons](#)
- [Data panel](#)
- [Outline panel](#)

- [Properties panel](#)

27.4.1.2 Data panel data source buttons

Above the data source area on the Data panel are buttons that you can use to add, remove, and refresh data sources.

For more information about adding and removing data sources, see [Adding data sources](#) and [Removing a data source](#).



Add Data Source button

Click this button to add a data source to the list of active data sources on the Data panel.



Remove Data Source button

Click this button to remove a data source from the list of active data sources on the Data panel. The button is enabled when a data source is selected on the list.



Edit SAP Variable Values button

Click this button to refresh your variables against the SAP BW data source that your analysis is connected to.

Note:

This button is visible only when an SAP BW data source that contains variables is selected in the data source area.

Related Topics









- [Data panel data source area](#)
- [Data panel metadata explorer](#)
- [Data panel metadata explorer buttons](#)
- [Data panel](#)
- [Outline panel](#)
- [Properties panel](#)

27.4.1.3 Data panel metadata explorer

The metadata explorer displays cube dimensions and hierarchies in a tree structure.

When you open a data source, any measures dimensions are automatically expanded in the metadata explorer to show the constituent measure members or measure groups.

Default hierarchies and display attributes are shown in bold.

	dimension
	measures or key figures dimension
	group display attributes
	favorite filter
	hierarchy (Default hierarchies are shown in bold.)
	hierarchy level
	single measure
	individual display attribute (Default attributes are shown in bold.)

You define analyses using the metadata explorer. You select hierarchies and measures, and add them to a crosstab or chart in the analysis window.

For information about how to define an analysis, see [Analyses](#). For more information about using crosstabs and charts, see [Crosstabs](#) and [Charts](#).

Related Topics

- [Data panel data source area](#)
- [Data panel data source buttons](#)
- [Data panel metadata explorer buttons](#)
- [Data panel](#)
- [Outline panel](#)
- [Properties panel](#)

27.4.1.4 Data panel metadata explorer buttons

Above the metadata explorer area on the Data panel are buttons that you can use to add metadata to the analysis, instead of dragging hierarchies and measures into the "Layout" panel or crosstab.

To populate your crosstab or chart component, first select the component, then select a metadata object (dimension, hierarchy, hierarchy level, display attribute, or measure) in the metadata explorer, and then

click one of the buttons to add the selected metadata to the component. If you select a hierarchical dimension, the default hierarchy within that dimension is added to the component. If you select a display attribute, the hierarchy associated with the attribute is also added to the component.

You can select individual metadata objects, or ranges of objects:

- Click individual metadata objects to select and deselect them.
- Hold down the **Shift** key as you click objects, to select or deselect ranges of objects.

Background filters are a special case. See [Overview of Analysis crosstabs](#) and [Custom aggregates and multiple members in a background filter](#) for more information about using background filters.

Add to Rows button

The button is enabled when a visual component is selected, and at least one metadata object is selected in the metadata explorer.

- If the crosstab rows are empty, click this button to add the selected data to the crosstab row axis.
- If the crosstab rows contain data from the same hierarchy as the selected data, click this button to replace the existing data with the selected data.
- If the crosstab rows contain members not from the same hierarchy as the selected members, click this button to nest the existing members inside the selected members in the row axis.

Note:

If members from the source hierarchy are already specified on a crosstab axis other than the row axis, the existing members from the source hierarchy are removed from the crosstab.

Add to Columns button

The button is enabled when a visual component is selected, and at least one metadata object is selected in the metadata explorer.

- If the crosstab columns are empty, click this button to add the selected data to the crosstab column axis.
- If the crosstab columns contain members from the same hierarchy as the selected members, click this button to replace the existing data with the selected data.
- If the crosstab columns contain members not from the same hierarchy as the selected members, click this button to nest the existing members inside the selected members on the column axis.

Note:

If members from the source hierarchy are already specified on a crosstab axis other than the column axis, the existing members from the source hierarchy are removed from the crosstab.

Add to Background Filter button

With Microsoft Analysis Services and SAP BW data sources, you can add multiple members to the background filter.


For information about custom aggregates and using multiple members in a background filter, see [Custom aggregates and multiple members in a background filter](#).

The button is enabled when a visual component is selected, and at least one metadata object is selected in the metadata explorer.

- If the crosstab background filter area is empty, click this button to add the selected data to the crosstab background filter.
- If the crosstab background filter contains members from the same hierarchy as the selected members, click this button to replace the existing data with the selected data.
- If the crosstab background filter contains members not from the same hierarchy as the selected members, click this button to nest the existing members inside the selected members in the background filter.



Create Favorite Filter button

Click this button to create a favorite filter. After you save the filter, the filter is shown with a special icon in the metadata explorer. 



Edit Favorite Filter button

Click this button to change the members defined in a favorite filter.



Remove Favorite Filter button

Click this button to remove a favorite filter.

Related Topics

- [Data panel data source area](#)
- [Data panel data source buttons](#)
- [Data panel metadata explorer](#)
- [Data panel](#)
- [Outline panel](#)
- [Properties panel](#)

27.4.2 Properties panel

The Properties panel displays a set of properties for the selected object. You can select a crosstab or chart, and view the properties for that object on the Properties panel. The properties available to view or modify on the Properties panel depend on the component selected.

These object properties can be modified on the Properties panel:

Object	Properties that can be modified
crosstab	<ul style="list-style-type: none"> • Analysis Name • Description • Column Width • Row Height • Wrap Text • Highlight Totals • Show Formatted Cell Values • Display Null Cells As <p>For information about these properties, see Descriptions of crosstab display options.</p>
chart	<ul style="list-style-type: none"> • Sub-Analysis Name • Description • Style • Palette • Font • Show Visual Totals • Show Hierarchical Labeling • Show Legend • X Axis Label • Y Axis Label • Z Axis Label • Y Axis Scale • Y Axis Scale Symbol • X Axis Measure • Y Axis Measure • Bubble Size Measure • Manually Hide Chart Labels • Hide Labels Less Than • Show actual values <p>For information about these properties, see Descriptions of chart display options.</p>

For descriptions of these properties and how to use them, see [Crosstab display options](#) and [Chart display options](#).

Related Topics

- [Task panel reference](#)
- [Data panel](#)
- [Outline panel](#)

27.4.3 Outline panel

The "Outline" panel shows the relationships between analyses and visual components (crosstabs and charts) on all sheets.

Related Topics

- [Task panel reference](#)
- [Data panel](#)
- [Properties panel](#)

27.5 Toolbar reference

You can perform most of your data-analysis tasks with the toolbar.

Note:

Some of the toolbar buttons may be disabled, depending on the rights that have been assigned to users within the Central Management Console, and depending on which object or component is selected in the analysis window.

For more information on rights in the Central Management Console, see your system administrator or the *SAP BusinessObjects Analysis, edition for OLAP Administrator Guide*.

For details on using the toolbar, see the following topics:

Related Topics

- [Workspace reference](#)
- [Analysis window reference](#)
- [Task panel reference](#)
- [Crosstab component reference](#)
- [Charts reference](#)

27.5.1 Toolbar overview

The toolbar contains buttons for the most commonly used functions, many grouped into tabs.

Several buttons have more than one function associated with them. For example, the Calculation button is used to perform several types of calculations.

Some of these multi-function buttons have a default action associated with them. For example, clicking the arrow beside the Sort button displays the sort operations that can be applied to the selected member, but clicking the Sort button itself applies the default Ascending sort.

A chart button can be clicked to add a chart of that type to the default position in the analysis window, or the button can be dragged to add the chart at a specific location in the analysis window.

Note:

Many of the toolbar functions are also duplicated in context-sensitive right-click menus. For example, if you right-click a hierarchy or a member header, a menu that contains relevant options appears.

27.5.2 Application buttons

27.5.2.1 New Workspace button



Use this button to create a new Analysis workspace.

Related Topics

- [Create an Analysis workspace](#)

27.5.2.2 Open button




Use this button to open an existing workspace from the SAP BusinessObjects repository. Click the Open button to execute the default Open Workspace function, or click the arrow beside the Open button to display options for opening workspaces or analysis views.

Related Topics

- [Open another Analysis workspace](#)

27.5.2.3 Save button

 Use this button to save your workspace to the SAP BusinessObjects repository. Click the Save button to execute the default Save function, or click the arrow beside the Save button to display options for saving your file.


These save options are available:

Option	Function
Save	Saves the current workspace. If you have created a new workspace and have not yet saved it, choosing the Save function executes instead the Save As function.
Save As	Saves the current workspace as a new repository object. The workspace can be newly created or a modification of an existing workspace. The Save As function allows you to choose the location and name of your new workspace.

Related Topics

- [Save a workspace](#)

27.5.2.4 Send To button

 Use this button to send a workspace to another BI platform user, or to an email recipient. Click the Send To button to execute the default “SAP BusinessObjects Inbox” function, or click the arrow beside the Send To button to display options for sending your workspace.

These options are available:


Option	Function
SAP BusinessObjects Inbox	Sends the workspace to the Inbox of another BI platform user.

Option	Function
Email	Sends the workspace to an email recipient, as a link within an email. After clicking the link, the recipient must log on to the BI platform to see the workspace.
Document Link	Displays the URL for the workspace.

Related Topics

- [Sending an Analysis workspace to another user](#)

27.5.2.5 Export button

 Use this button to export data from an analysis to any of these destinations:


- Microsoft Excel
- comma-separated-values (.csv) file
- PDF (for distribution or printing)
- analysis view

Click the Export button to export data to Excel, or click the arrow beside the Export button to choose from the export options.

Related Topics

- [Exporting data to Excel](#)
- [Exporting data to comma-separated-values \(.csv\) files](#)
- [Printing and PDF Files](#)
- [Using Analyses in Other SAP BusinessObjects Applications](#)


27.5.2.6 Print button

 Use this button to print your data to a PDF file. When you click this button, the "Export to PDF" dialog box opens. From the dialog box, you can choose to print selected sheets or raw data. Within your PDF file viewer, you can then save your output as a PDF file, or send it to your printer.

Related Topics

- [Printing and PDF Files](#)

27.5.2.7 Undo button

 Use this button to reverse the most recently performed action.


Note:

- Deleting a data source, analysis (on the Outline panel), or sheet clears the undo/redo history.
- A maximum of ten undo levels are saved.

Related Topics

- [Discard Changes button](#)


27.5.2.8 Redo button

 Use this button to re-apply the action that was reversed by the Undo button.

Note:

A maximum of ten redo levels are saved.

27.5.2.9 Discard Changes button

 Use this button to discard all changes made to the workspace since it was opened.

27.5.2.10 Copy button



Use this button to copy the currently selected crosstab or chart component. After copying the component, you can paste the component onto the same sheet or a different sheet.

Note:

The Copy button is disabled until you select a crosstab or chart component.

Related Topics

- [Copying a component](#)

27.5.2.11 Paste button



Use this button to paste the copied crosstab or chart component to the same sheet or a different sheet.

Note:

The Paste button is disabled until you copy a crosstab or chart component.

Related Topics

- [Copying a component](#)

27.5.2.12 Delete button




Use this button to delete the selected crosstab or chart from the sheet.

Note:

The Delete button is disabled until you select a crosstab or chart component.

27.5.2.13 Hide Layout Panel button

-  Use this button to toggle the Layout panel on and off.

27.5.2.14 Help button

-  Use this button to open the Analysis online help.

27.5.2.15 Auto Update button

Use the Auto Update button to toggle automatic layout updating.

Related Topics

- [Automatic layout updating](#)

27.5.3 Analyze tab buttons

27.5.3.1 Filter button

Use the Filter button to filter the data displayed in crosstabs and charts.

Select **By member** to filter the data by selecting members from a list.

Select **By measure** to filter the data by defining filter rules.

Note:

- The Filter button is disabled until you select a row or column in a crosstab.
- Filtering by measure is available only with SAP BW data sources.
- If your crosstab contains nested hierarchies, you can add a filter only to members of the innermost hierarchy.

Related Topics

- [Filtering Data](#)

27.5.3.2 Sort button

Use the Sort button to sort the data in the crosstab.

Click the Sort button to apply the default ascending sort, or click the arrow beside the Sort button to display a list of sorting options that you can select from.



These sorting options are available:

Option	Function
Ascending (default)	Sorts the selected row or column in ascending order. The hierarchical structure of the members is maintained.
Descending	Sorts the selected row or column in descending order. The hierarchical structure of the members is maintained.
Delete	Removes a sort from a row or column.

Note:

- The Sort button is disabled until you select a single row or column in a crosstab.
- The Delete option is disabled until you select a single row or column in a crosstab, that has a sort applied to it.
- If your crosstab contains nested hierarchies, you can add a sort only to a member of the innermost hierarchy.

When a member has a sort applied, an icon appears beside the member name, indicating the direction of the sort.

Icon	Option	Function
	Ascending	Indicates that the row or column is sorted in ascending order.
	Descending	Indicates that the row or column is sorted in descending order.

Clicking the icon reverses the sort direction.

Related Topics

- [Sorting](#)

27.5.3.3 Calculations button

Use the Calculations button to add a calculation (calculated member) to the crosstab.

Click the Calculations button to open the "Calculation" panel if you want to create custom calculations, or click the arrow beside the Calculations button for more calculation options.

Note:

If you select one member before you click the Calculations button, you can access the dynamic calculations. If you select two members before you click the Calculations button, you can access the simple arithmetic calculations.

These calculation options are available:

Calculation	Description
Add	Adds the values in the selected rows or columns.
Subtract	Subtracts the values in the selected rows or columns. The cell values from the second selected row or column are subtracted from the values in the first selected row or column.
Multiply	Multiplies the values in the selected rows or columns.
Divide	Divides the values in the selected rows or columns. The cell values from the first selected member row or column are divided by the values in the second selected row or column.
Dynamic Calculation	Opens a list of dynamic calculations.
Custom Calculation	Opens the Calculation panel so that you can create a calculation by defining a formula.

Related Topics

- [Calculations](#)

27.5.3.4 Conditional Formatting button

Use the Conditional Formatting button to apply color to or add symbols to the cells in a crosstab, highlighting important differences or unexpected results.

For example, you might want to highlight a value that is greater or less than a predetermined value.

Note:

The Conditional Formatting button is disabled until you select a member in a crosstab.

Related Topics

- [Conditional Formatting \(Highlighting Exceptions\)](#)

27.5.4 Insert tab buttons

27.5.4.1 Insert Crosstab button



Use the Insert Crosstab button to place a crosstab onto a sheet. You can place up to four visual components on a sheet, in any combination of crosstabs and charts.

To place a crosstab on a sheet, drag the Crosstab button from the toolbar into the analysis window. Alternatively, you can click the Crosstab button to insert the crosstab on the current sheet. The component is added to the sheet, below or to the right of existing components; however, you can reposition components in the analysis window later.

Click the arrow beside the Insert Crosstab button for other options.

Related Topics

















- [Crosstabs](#)
- [Crosstab component reference](#)

27.5.4.2 Chart buttons

Use the chart buttons to place a chart onto a sheet. You can place up to four visual components on a sheet, in any combination of crosstabs and charts.

To place a chart on a sheet, click a chart button. Or, if the chart that you want to add to the sheet does not have its own button, but instead is a member of one of the chart families, click the arrow beside the button for that chart family, and then select a chart type from the list. The component is added to the sheet, below or to the right of existing components; however, you can reposition components in the analysis window later.

These chart types are available:

Chart Type	
	Column chart family
	 Clustered Column
	 Stacked Column
	 100% Stacked Column
	 3D Clustered Column
	Line
	Pie
	Bar chart family
	 Clustered Bar
	 Stacked Bar
	 100% Stacked Bar
	Other charts
	 Scatter
	 Bubble
	 Box Plot
	 Radar

Related Topics

- [Charts](#)
- [Charts reference](#)

27.5.4.3 Switch To button

Use the Switch To button to change a crosstab to a chart, or to change a chart to a crosstab or a different type of chart.

27.5.5 Display tab buttons

27.5.5.1 Swap Axes button

Use the Swap Axes button to swap the horizontal and vertical axes of the selected component. Any sorts and filters in the analysis are preserved.

Note:

The Swap Axes button is disabled until you select a crosstab or chart.

27.5.5.2 Hierarchy button

Use the Hierarchy button to switch between the normal display of nested hierarchies and the compact axis display.

Note:

The compact axis display is available only with SAP BW data, and therefore the Hierarchy button is available only when using SAP BW data.

27.5.5.3 Measure Format button

Use the Measure Format button to change the appearance of your data by adding formatting.

Some of the types of formatting you can add are:

- The way the numbers in your crosstab are displayed (for example, in scientific notation).
- The number of decimal places displayed (any number from 0 to 99; the default is 2).
- The way negative values are displayed.

Related Topics

- [Formatting Data](#)

27.5.5.4 Totals & Parents button

Use the Totals & Parents button to display totals and parents. Totals and parents can be set to show any of the supported aggregation types.

Related Topics

- [Totals, Parents, and Aggregations](#)

27.5.5.5 Nulls & Zeros button

Use the Nulls & Zeros button to suppress rows and columns that contain only null or zero values from being displayed in the crosstab.

You can also suppress rows only, or columns only.

27.5.5.6 Focused Analysis button

Use the Focused Analysis button to toggle focused analysis mode on and off.

Related Topics

- [Displaying a subset of data in a sub-analysis](#)

27.5.5.7 Update Sub-Analysis button

Use the Update Sub-Analysis button to toggle the updating of a sub-analysis.

Related Topics

- [Sub-analyses](#)

27.5.5.8 Unlink Sub-Analysis button

Use the Unlink Sub-Analysis button to unlink a sub-analysis from the main analysis.

Related Topics

- [Unlinking a sub-analysis](#)

27.6 Crosstab component reference

The diagram below illustrates the elements of the crosstab component:

Product Model Category	Internet Sales Amount	Internet Order Quantity	Internet Extended Sales Amount	Internet Tax Amount
All Products	\$ 29,358,677.22	60,398	\$ 29,358,677.22	\$ 2,348,694.23
Accessories	\$ 700,759.96	36,092	\$ 700,759.96	\$ 56,060.80
Bikes	\$ 28,318,144.65	15,205	\$ 28,318,144.65	\$ 2,265,451.62
Clothing	\$ 339,772.61	9,101	\$ 339,772.61	\$ 27,181.81
Components				

1. Row hierarchy or dimension

2. Column hierarchy or dimension
3. Row members
4. Column members

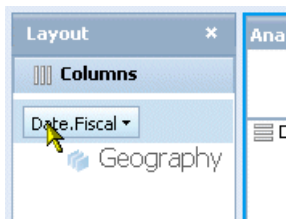
Related Topics

- [Crosstabs](#)
- [Workspace reference](#)
- [Analysis window reference](#)
- [Task panel reference](#)
- [Toolbar reference](#)
- [Charts reference](#)

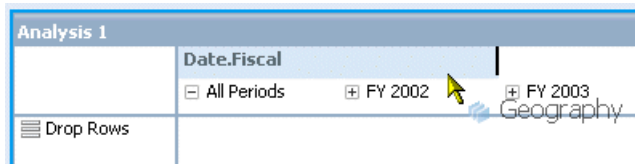
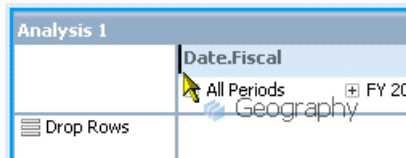
27.6.1 Drop zones in the crosstab

The "Layout" panel is where you place hierarchies and measures when you define an analysis. An additional drop zone, in the crosstab grid, is used to add members of a measures dimension to the crosstab. See [Crosstab grid](#) for more information.

You drag a hierarchy or hierarchy level to the center drop zone to add members to an empty axis, or to replace existing members on that axis.



You drag a hierarchy or hierarchy level to the left or right drop zone to add members to existing members on that axis. The new members are nested with the existing members.



Related Topics

- [Nesting hierarchies to create complex analyses](#)

27.6.2 Hierarchy functions in the crosstab

You can right-click a hierarchy in the crosstab to access these functions:

- Filter—filters the hierarchy by member or by measure.
- Sort—selects a sort type.
- Show Levels—selects which hierarchy levels are displayed.
- Display As—selects a format for displaying member names.
- Move To—moves the hierarchy to another axis.
- Move Before—nests the hierarchy before another hierarchy.
- Move After—nests the hierarchy after another hierarchy.
- Swap With—swaps positions with another hierarchy.
- Remove—removes the hierarchy from the crosstab.

Related Topics

- [Filtering Data](#)
- [Sorting](#)
- [Hiding hierarchy levels](#)
- [To change the display of member keys and text](#)
- [Crosstab component reference](#)
- [Crosstabs](#)
- [Crosstab grid](#)
- [Crosstab display options](#)
- [Crosstab tooltips](#)

27.6.3 Crosstab grid

The crosstab grid is where member headers and data are displayed.

Row and column resizing

You can drag the edges of row and column member headers to resize them.

Icons in member headers

If you have applied any sorting or calculations to a member, icons are displayed in the member header.

Member functions

You can right-click a member header in the crosstab grid to access these functions:

- Expand/Collapse—For information on expanding and collapsing members, see [Expanding and collapsing parent members](#).
- Sort—For information on sorting data, see [Sorting](#).
- Totals & Sub-totals—For information on adding totals and subtotals to the crosstab, see [Totals, Parents, and Aggregations](#).
- Conditional Formatting—For information on adding conditional formatting to data, see [Applying conditional formatting](#).
- Dynamic Calculation—For information on adding and defining calculations, see [Creating calculations](#).
- Custom Calculation—For information on adding and defining calculations, see [Creating calculations](#).
- Reorder Members—For information on reordering members, see [Reordering members](#).
- Jumplink—For information on creating links to other documents, see [Linking to Reports](#).
- Remove—For information on hiding members, see [Removing displayed members](#).

Cell drop zone

To add measures to the crosstab, you can drag measures to the row or column axis, or to the background filter, but you can also drag measures to the main cell area. This drop zone is for the purpose of changing or adding members of a measures dimension only. You cannot drop members of a non-measures dimension on the cell drop zone, and you cannot drop the entire measures dimension on the cell drop zone.

When you drop measures on the cell drop zone, those measures are placed on the column axis.

If you have already placed some members of a measures dimension on the row or column axis, dropping additional measures onto the cell drop zone adds those measures to the other measures on the same axis.

If you have already placed a measure member in the background filter, dropping another member onto the cell drop zone swaps the measures dimension to the column axis and adds the new member to the selection.

Cell selection

If you want to apply conditional formatting to just a selection of cells, you can click and drag in the crosstab to select a range of cells.

Related Topics

- [Crosstab component reference](#)
- [Crosstabs](#)
- [Crosstab display options](#)
- [Crosstab tooltips](#)

27.6.4 Crosstab display options

The following options are available to customize the appearance of the crosstab. You can access these options from the Properties panel. For information about these properties, see [Descriptions of crosstab display options](#).

Option	Values
Analysis Name	Text string up to 50 characters
Description	Text string up to 255 characters
Column Width	Numeric value
Row Height	Numeric value
Wrap Text	Yes, No
Highlight Totals	Yes, No
Show Formatted Cell Values	Yes, No
Display Null Cells As	Text string up to 50 characters

27.6.4.1 Descriptions of crosstab display options

Analysis Name

This option defines the name of the analysis represented by the crosstab component. The name is displayed in the crosstab's title bar, and is also used to identify the crosstab on the "Outline" panel. The default value is the name generated automatically when the crosstab is created.

Description

In addition to the crosstab's name, you can add comments to describe the crosstab, up to a maximum of 255 characters. Descriptions are optional and are not displayed on the crosstab component, but if you print a crosstab to a PDF document, the description can be added in the page header or footer.

Column Width

This option defines the width of crosstab columns, in pixels. The value you enter applies to all columns in the crosstab.

The minimum allowed value is 20.

Row Height

This option defines the height of crosstab rows, in pixels. The value you enter applies to all rows in the crosstab.

The minimum allowed value is 20.

Wrap Text

This option defines whether text in crosstab cells wraps.

The default value is `No`.

Highlight Totals

This option defines whether grand totals and subtotals are highlighted with a unique color in the crosstab.

The default value is `Yes`.

Show Formatted Cell Values

This option defines whether cell values are displayed with or without the formatting defined in the Measure Format dialog box. For more information about formatting measures, see [Formatting Data](#).

The default value is `Yes`.

Display Null Cells As

This option defines how null values are displayed. You can type any text that you want, up to a maximum of 50 characters. The input is always treated as text, even if numeric values are entered.

By default, null values are displayed as empty cells.

Related Topics

- [Properties panel](#)
- [Crosstab component reference](#)
- [Crosstabs](#)
- [Crosstab grid](#)
- [Crosstab tooltips](#)

27.6.5 Crosstab tooltips

The tooltip for a member header displays the member level and text.

Related Topics

- [Crosstab component reference](#)
- [Crosstabs](#)
- [Crosstab grid](#)
- [Crosstab display options](#)

27.7 Charts reference

The chart component comprises the main chart graphic and, with large data sets, a range slider to help you navigate the data in the chart.

Related Topics

- [Charts](#)
- [Chart range slider](#)
- [Chart graphic](#)
- [Chart display options](#)
- [Workspace reference](#)
- [Analysis window reference](#)
- [Task panel reference](#)
- [Toolbar reference](#)
- [Crosstab component reference](#)

27.7.1 Chart range slider



1. Overview scroll bar
2. Selected range
3. Range slider bars
4. Hide/restore button
5. Paging buttons

The chart range slider lets you scroll through charts that contain large data sets. It appears automatically when the data set in the chart is too large to be displayed legibly in the main chart graphic. The range slider is available with these chart types:

- column charts (except 3D clustered column)
- line charts
- pie charts
- bar charts

Range slider bars

The range slider bars let you resize and reposition the selected range within the range slider control. You move the bars to the approximate positions you want, and when you release the mouse button, the bars are adjusted to the nearest logical data points.

Selected range

The area between the range slider bars is the selected range. This range is expanded in the main chart graphic. You can also drag the selected range within the range slider to scroll through the chart.

Overview scroll bar

With very large data sets, the range slider cannot display the full data set legibly. Instead, the overview scroll bar represents the full data set while the range slider represents only a portion of the full data set. The relative size of the scroll box within the overview scroll bar indicates the percentage of the full data set being displayed in the range slider.

Use the overview scroll bar to move the range slider to different subsets of the full data set.

Hide/restore button

To allow the main chart graphic to occupy more space in the chart component, you can hide the range slider by clicking the arrow button at the edge of the range slider. Click the arrow button again to restore the range slider.

Paging buttons

The arrow buttons at the ends of the range slider move the selected range by one "page" of elements within the range slider. A page is defined as the current size of the selected range.

With very large data sets, the range slider represents only a portion of the full data set. In that case, the arrow buttons move the selected range by one page of elements as usual, until the selected range reaches the end of the range slider. Clicking an arrow button again moves the selected range further but also moves the range slider within the full data set.

Autoscaling in the range slider

In the range slider, the values are scaled automatically to fit the slider. For example, in a column or bar chart, if the subset of data currently being displayed in the range slider includes values between 1 and 100, the number 2 is represented by a very short riser. But if you scroll the range slider to a different subset of data that includes values only between 1 and 2, the values are scaled so that the number 2 is represented by a long riser.

Related Topics

- [Scrolling through charts](#)
- [Charts reference](#)
- [Chart graphic](#)
- [Chart display options](#)

27.7.2 Chart graphic

The chart graphic displays the data returned by the defined analysis or sub-analysis.

Member functions

If the chart represents a sub-analysis, you can right-click the chart graphic to change the chart type. If the chart represents an analysis, you can right-click a member in the chart to access these functions:

- Expand, Collapse—For information on expanding and collapsing members, see [Expanding and collapsing parent members](#).
- Remove—For information on removing members, see [Removing displayed members](#).
- Switch to a different chart type, or to a crosstab—For information on chart types, see [Chart types](#).

Related Topics

- [Charts reference](#)
- [Chart range slider](#)
- [Chart display options](#)

27.7.2.1 Charts with large data sets

Elements in charts are automatically sized to fill the available space efficiently, using intelligent display techniques to fit as much legible member text into the chart as possible. However, if a chart has a large data set, the chart may not be able to display all elements, or some member text may be omitted from the chart.

Member text in charts

If your chart includes many members on an axis, member text is staggered and reoriented to display as much text as possible. However, if the number of members is very large, only a subset of the member text is displayed on the chart, so that the remaining text is legible.

Member text that is omitted from the chart can be viewed in tooltips when you rest the mouse pointer over members.

Related Topics

- [Chart range slider](#)

27.7.2.2 Chart colors and style

Several color palettes and styles are available for displaying your charts.

Related Topics

- [Chart display options](#)

27.7.2.3 Data type considerations

The measures defined on a cube might not be based on the same unit of measure or data type. For example, measures such as Unit Sales, Store Cost, and Store Sales use the data type `double`, but the Sales Count measure uses the data type `integer`. When the chart is rendered, all numeric values are converted to the data type `double`.

27.7.3 Chart display options

The following options are available to customize your charts. You can access these options from the "Properties" panel. For information about these properties, see [Descriptions of chart display options](#).

Option	Values
Analysis Name	Text string up to 50 characters
Description	Text string up to 255 characters
Style	Default Shadow Presentation Presentation Shadow

Option	Values
Palette	Default Cool Warm Hot Lavender Rose Desert Forest Ocean Monochrome
Font	Fonts set up by your system administrator
Show Totals	Yes, No
Show Hierarchical Labeling	Yes, No
Show Legend	Yes, No
X Axis Label	Text string up to 50 characters
Y Axis Label	Text string up to 50 characters
Z Axis Label	Text string up to 50 characters
Y Axis Scale	No Scale, Billions, Millions, Thousands, Thousandths, Millionths
Y Axis Scale Symbol	Text string up to 50 characters
X Axis Measure	Measures available in the analysis
Y Axis Measure	Measures available in the analysis
Bubble Size Measure	Measures available in the analysis
Manually Hide Chart Labels	Yes, No
Hide Labels Less Than	Value between 0 and 100
Show actual values	Yes, No

27.7.3.1 Descriptions of chart display options

Analysis Name

This option defines the name of the chart component. The name is displayed in the chart's title bar, and is also used to identify the chart on the "Outline" panel. The default value is the name generated automatically when the chart is created.

Description

In addition to the chart's name, you can add comments to describe the chart, up to a maximum of 255 characters. Descriptions are optional and are not displayed on the chart component, but if you print a chart to a PDF document, the description can be added in the page header or footer.

Palette

Several predefined color palettes are available to help you customize your chart components.

Style

These styles are available for customizing your charts:

Style	Visual effects
Default	none
Shadow	3D effect
Presentation	Black background
Presentation Shadow	Black background, 3D effect

Font

The fonts available in the Print dialog box and in the chart Properties panel are default fonts. Your system administrator can enable additional fonts.

Show Totals

If you have totals displayed on the crosstab, you can choose to show those totals in charts that are linked to the same analysis.

Show Hierarchical Labeling

When hierarchical labeling is on, the chart axis labels show the parent-child relationships of the members. The default value is **No**. Hierarchical labeling is applied only when the Show Parents option is set to **Yes**.

Show Legend

Choose **Yes** if you want the chart legend to be displayed. The default value is **Yes**.

Note:

If there is limited space available in the chart component, the chart legend is automatically removed.

X Axis Label

The X axis is the horizontal axis.

Y Axis Label

The Y axis is the vertical axis.

Y Axis Scale

You can scale the displayed values. For example, if a chart contains several values between 5,000,000 and 20,000,000, you can select the Millions scale to display those values as 5 to 20.

Y Axis Scale Symbol

You can specify the label applied to the Y axis scaling. For example, if you select the **Millions** scale, you can add the label "(in millions of dollars)".

Z Axis Label

The Z axis is the lower-right axis for 3D clustered column charts.

X Axis Measure

For scatter and bubble charts, this option defines which of the measures available in the analysis is plotted on the chart's X axis.

Y Axis Measure

For scatter and bubble charts, this option defines which of the measures available in the analysis is plotted on the chart's Y axis.

Bubble Size Measure

For bubble charts, this option defines which of the measures available in the analysis is represented by the sizes of the bubbles.

Manually Hide Chart Labels

For pie charts, this option allows you to suppress labels for small pie slices. When this option is set to **Yes**, the "Hide Labels Less Than" property is enabled.

Hide Labels Less Than

For pie charts, this option sets the level below which the pie slice labels are suppressed. This option is enabled only if the "Manually Hide Chart Labels" property is set to **Yes**.

Show actual values

Choose **Yes** if you want pie chart labels to reflect actual values instead of percentages. The default value is **No**.

Related Topics

- [Properties panel](#)
- [Charts reference](#)
- [Chart range slider](#)
- [Chart graphic](#)
- [Chart types](#)

More Information

Information Resource	Location
SAP product information	http://www.sap.com
SAP Help Portal	<p>http://help.sap.com/businessobjects</p> <p>Access the most up-to-date English documentation covering all SAP BusinessObjects products at the SAP Help Portal:</p> <ul style="list-style-type: none"> • http://help.sap.com/bobi (Business Intelligence) • http://help.sap.com/boepm (Enterprise Performance Management) • http://help.sap.com/boeim (Enterprise Information Management) <p>Certain guides linked to from the SAP Help Portal are stored on the SAP Service Marketplace. Customers with a maintenance agreement have an authorized user ID to access this site. To obtain an ID, contact your customer support representative.</p> <p>To find a comprehensive list of product documentation in all supported languages, visit: http://help.sap.com/boall.</p>
SAP Support Portal	<p>http://service.sap.com/bosap-support</p> <p>The SAP Support Portal contains information about Customer Support programs and services. It also has links to a wide range of technical information and downloads. Customers with a maintenance agreement have an authorized user ID to access this site. To obtain an ID, contact your customer support representative.</p>
Developer resources	<p>http://www.sdn.sap.com/irj/sdn/bi-sdk-dev</p> <p>https://www.sdn.sap.com/irj/sdn/businessobjects-sdklibrary</p>
SAP BusinessObjects articles on the SAP Community Network	<p>http://www.sdn.sap.com/irj/boc/articles</p> <p>These articles were formerly known as technical papers.</p>

Information Resource	Location
Notes	https://service.sap.com/notes These notes were formerly known as Knowledge Base articles.
Forums on the SAP Community Network	https://www.sdn.sap.com/irj/scn/forums
Training	http://www.sap.com/services/education From traditional classroom learning to targeted e-learning seminars, we can offer a training package to suit your learning needs and preferred learning style.
Consulting	http://www.sap.com/services/bysubject/businessobjectsconsulting Consultants can accompany you from the initial analysis stage to the delivery of your deployment project. Expertise is available in topics such as relational and multidimensional databases, connectivity, database design tools, and customized embedding technology.

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