

Performance Analytics



User Guide

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1. Introduction

This user-friendly software provides a powerful tool to access information and analyze data. As soon as Serviceware Performance Analytics (Performance Analytics) is installed on your computer, you will be able to understand data in new ways. You will view information from different perspectives, as often as you like, with the latest up-to-date figures. You can analyze information in many ways and focus on key result areas of your own choice. With growing familiarity you will be able to customize your own reports or have Performance Analytics do dynamic analyses of results important to your decision-making.

Data is made available in views that are organized in a folder structure. Depending on the security set by your system administrator, it is possible to create new folders and views. You can keep folders and views to yourself or make these available to others. It is possible to create exception reports and customize these with colors to focus attention and trigger action. You can quickly generate calculations using timely, up-to-the-minute data, make charts, drill up or down to investigate your financial or operational information or drill through to your relational data. You can then save or discard these as you wish.

Performance Analytics client is available as an ActiveX edition and an HTML edition and contains the Performance Analytics client to display views. A view item is displayed in Performance Analytics client, showing the data stored in the OLAP database. The AL Anywhere version does not use the ActiveX control but has a reduced functionality.

This document is intended for use with Performance Analytics. Performance Analytics provides you with a powerful tool to improve business results. Your systems administrator or supervisor will give you access to one or more sources of your data residing in the database of your organization.

Audience

Performance Analytics is meant for users who are familiar with the Microsoft Windows environment, but not interested in programming or working up detailed spreadsheet calculations.

Forward-looking statements

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

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2. System overview

Performance Analytics is an intuitive and powerful tool that gives access to information from analyzed data. Performance Analytics allows you to understand data in new ways and from different perspectives using the most recent data. Performance Analytics can receive information in many ways in order to focus on key result areas of your choice. You can customize reports or have Performance Analytics do dynamic analyses of results important to the decision-making process.

System introduction

Performance Analytics has the following components or items to display information in either graphical or tabular formats:

- Views display the requested data that is stored in the OLAP database.
- Canvases contain panels. The panels contain views that can communicate with each other, enabling you to create dashboard applications.
- Dimensions group related data together in a View.
- Members are single types of data. Members are grouped together in a Dimension.

Canvases

Canvases contain panels. The panels contain views that can communicate with each other, enabling you to create dashboard applications.

Views

The view is the work space that is defined by the user. The view is the primary place that data is made available and resolved into purposeful information. A view is a collection of dimensions. Many related views share common dimensions, for example, time intervals, is the unique dimension that gives purpose to the view.

The OLAP database is represented by a cube. The cube is a subset of the data in the OLAP database.

The view shows the data from the cube that is stored in the OLAP database. A view connects to a database. A database connects to a data source.

Views can be organized in folders and stored in the repository where the data source items and database items are stored, as well as locally on your own system. It is also possible to export views to a workbook in Microsoft Excel. There are various printing and formatting options for views.

Warnings

A warning is shown in a view when Performance Analytics encounters a problem or when important items have changed. For example when the connection to the server is lost or when dimensions have been added to or removed from the database.

Warnings can be saved and displayed later.

Notes

The OLAP administrator can add database notes to the OLAP database. When a view is on-screen, any information that is relevant to the view can be displayed as a note. A note can be used to provide information about the status of the database and the contents.

There are various printing and formatting options for notes.

Dimensions

A dimension contains the related items that describe either the context of a fact or a measure of a fact. Context dimensions can include time, product, person, and location. Measure dimensions can include quantity and value. Dimensions can form a hierarchical structure, for example, the dimension location can include country or region, city, building, and floor.

The maximum number of dimensions and hierarchies is 512. If dimensions contain more than 8.000.000 members, then the maximum number of dimensions is decreased with one for each of these dimensions.

Attribute dimensions (Essbase only)

Attributes are characteristics of your data such as size, and are added as separate dimensions. The purpose of attributes is that you can view the details of an attribute from the perspective of the connected dimensions.

You can view available attribute dimensions in the Member Select dialog.

Members

A dimension is subdivided into members. A list of members in the same hierarchy form a dimension. For example, the months January, February, March are members that belong to the member "Quarter 1". Quarters 1, 2, 3 and 4 are aggregated into the member "Year". All are part of the time dimension. Members are divided into inspread members and offspread members.

The maximum number of members is 16.000.000.

Inspread members

The inspread members are the members that show directly in the visible table. For example, if the members for time and product show, the inspread members can be month plotted against product type.

Offspread members

The offspread members are those members to be evaluated. If month and product type show directly in the table as inspread members, the offspread member can be a location. For example, if "Germany" is the offspread member, the table will show time against product sales for the member "Germany". If the offspread member is changed to "Italy", the table shows time against product sales for "Italy".

Substitution members (Essbase only)

For substitution members you can set a substitution variable that will allow you to change

the name of the substitution member directly from the database. For example, the substitution member "CurrentMonth" can be populated with the name "August". Next month, if the value of the substitution variable is changed in Essbase, the same substitution member will then be populated with the name "September".

Member properties (SSAS only)

In Microsoft Analysis Services it is possible to define one or more properties for a member in a dimension. Properties may include information such as market type, geographical region etc. It is possible to search on properties.

Alias tables

The Performance Analytics server can use unique member names for the members of an OLAP database. The member names shown in Performance Analytics do not have to be the same as these unique member names. An alias table tells the Performance Analytics server how to match the member names in the database to the member names shown in Performance Analytics.

Folders

Folders are used to organize items in a structure, for example views. Folders can be stored in the repository where the data source items and database items are stored, as well as locally on your own system. A folder can contain child items of all defined item types to organize views and other items in the repository.

System requirements Serviceware Performance Analytics client

To install the Performance Analytics Client the system requirements should be met.

For more information see "*Performance Analytics Client requirements*" in the *Serviceware Performance Analytics Server Installation and Administration Guide*.

3. Getting started

This section describes how to get started with Performance Analytics. Performance Analytics is used to analyze data from an OLAP data source.

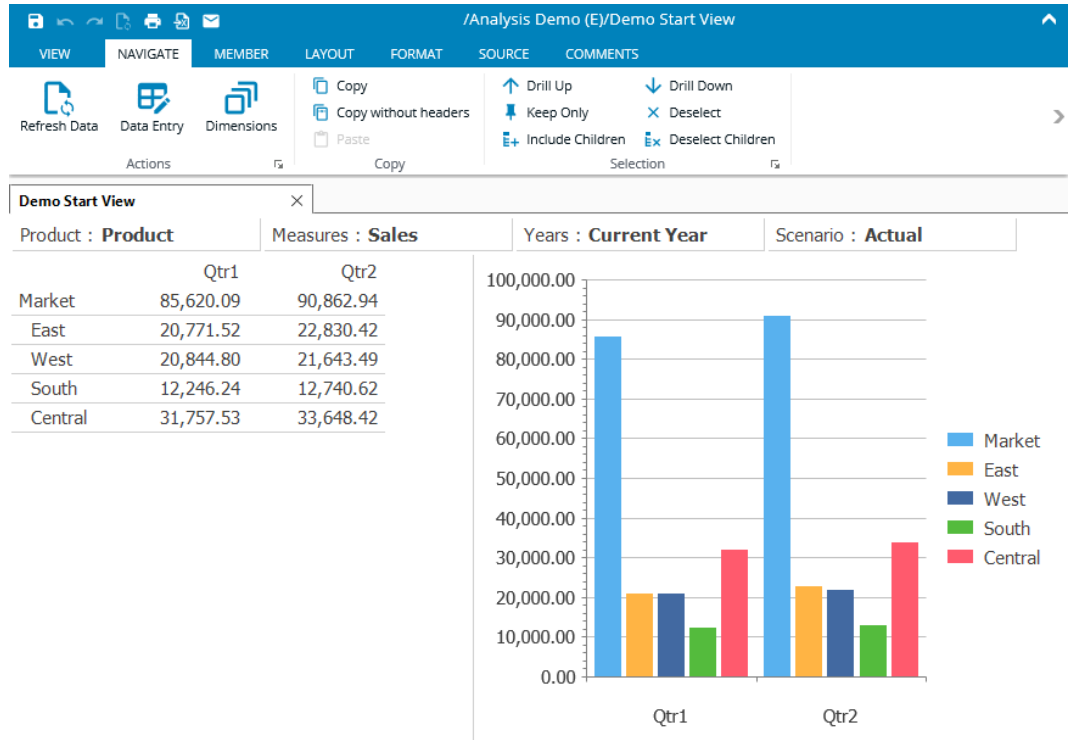


Figure 1 : Ribbon User Interface

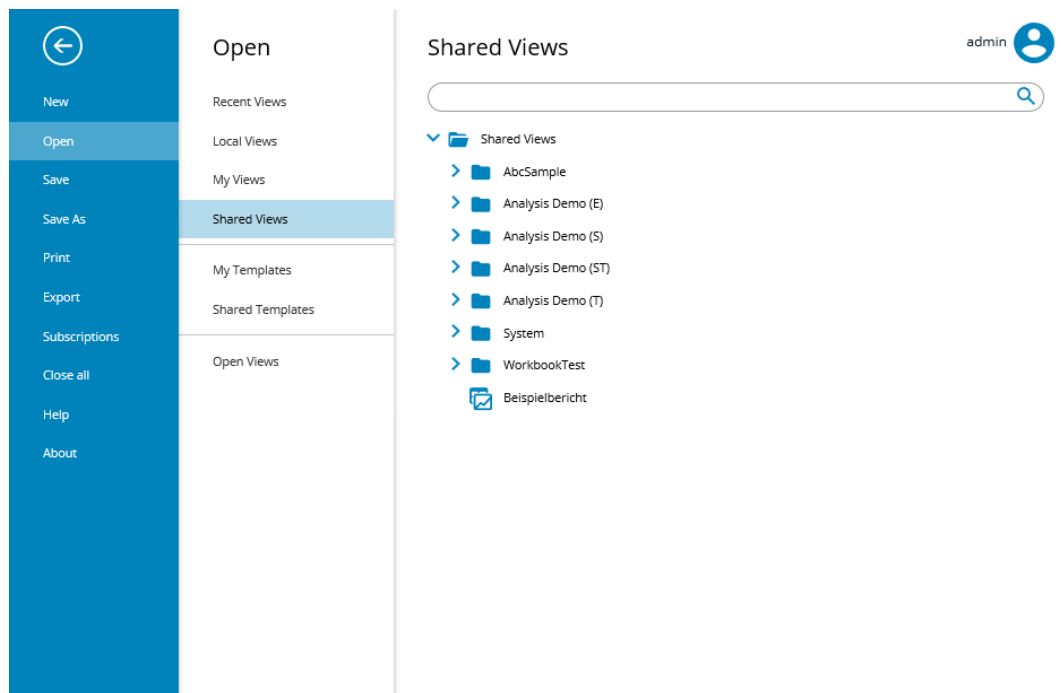


Figure 2 : Backstage of Ribbon Style User Interface

The Ribbon contains the set of commands for working **in** a view or canvas while the Backstage part is the set of commands you use to do things **to** a view or canvas.

Start the Performance Analytics client to see the Backstage. The Backstage is where the views and canvases are managed, for example, create, save, export, print views and more.

The following chapters describe the functionality of Performance Analytics.

Working with connections in Performance Analytics client

Each view must be connected to a data source before it can be used.

Starting the Performance Analytics client

Performance Analytics client can be installed in several ways.

For more information, see the *Serviceware Performance Analytics Server Installation and Administration Guide*.

After an express installation, you can start Performance Analytics from the start menu.

Note: When you run Performance Analytics on Microsoft Windows Server 2012, then you can get the following message:

"An add-on for this website failed to run. Check the security settings in Internet Options for potential conflicts."

To solve this, you have to add the Performance Analytics Server URL to the trusted sites in your internet browser.

Procedure AL Client

Click **Start > All Programs > Serviceware Performance Analytics > AL Client**.

Procedure AL Desktop

Click **Start > All Programs > Serviceware Performance Analytics > AL Desktop**.

Making a new view

You have the possibility, to make a new view.

Procedure

1. Click the **New** command.
2. Select the **Shared Templates** section.
3. Select the **View** template to create an empty view.
4. In the **Connection Information** dialog box, select a **Server**.
5. In the **Connection Information** dialog box, select a **Database**.
If there is more than one cube in the selection list, select the cube you want.
Click **OK**.
6. Save the view either by selecting **Save** in the Backstage or the **Save** in the mini ribbon toolbar in the upper left area of the screen.

Changing connections of a view

After you have made a new view, you need to make a connection to a valid cube.

Procedure

1. In the backstage click the **Open** command.
2. Select a view or folder from one of the locations *Local Views*, *My Views* or *Shared Views* and select the view by clicking on it. If you move the mouse over a folder than click on **Open all views** or do a double click, all views in the folder are opened.
3. Select the **SOURCE** tab from the ribbon.
4. Select the **Connection** button.
5. Select a database from the **Database** list on the **Connection Information** window and click **OK**.
6. In the **Credentials** window, enter your security credentials to access the server and click **OK**.

Opening more connections

You can connect to a different cube from the Performance Analytics client.

Procedure

1. Select the **SOURCE** tab from the ribbon.
2. Select the **Connection** button to connect to a different cube
3. On the toolbar click the **Connection** button to connect to a different cube.
4. On the **Connection Information** window, select the cube to change the connection to the server.
5. To clear the credentials, including passwords, for the server, click **Forget Credentials**.

Connecting to an MS.cub file (SSAS only)

A cub file is an extract from a Microsoft Analysis Services database in the format of a portable, multi-dimensional database. This feature facilitates the use of Microsoft cubes without the need for a full installation of Microsoft Analysis Services.

When connecting to a cub file that is not located in the Default Location directory, include the path of the cub file in the Connection Information dialog.

Note: Only one connection at a time can be made to a cub file. This is a restriction of the cub files. Only local views can connect to a cub file.

Procedure

1. Open or create a new view.
2. Select the **SOURCE** tab from the ribbon.
3. Select the **Connection** button to connect to a different cube. In the **Connection Information** window, type <cube file name>.cub.

- Click on **Login**.
4. The available database shows in the Database section.
 5. Select a database and click **OK**.

Working with views, folders, and canvases

Views, folders, and canvases can be stored either on your own computer, or in the Performance Analytics repository.

For information about canvases see [Dashboards](#). You can create, rename, and delete views, folders, and canvases in the backstage or on the Views dialog box.

The **Open** section in the **Backstage** contains the following locations:

- **Recent Views**
Contains a list of views and canvases that have been opened recently or pinned as favorites.
- **Local Views**
Contains a list of views and canvases stored locally on your client system. Local views are not supported in Recent Views and Favorites.
- **My Views**
Contains a list of views and canvases stored in the private folder of the server.
- **Shared Views**
Contains a list of shared views and canvases stored in the server repository.
- **My Templates**
Contains a list of predefined templates only available for the logged in user.
- **Shared Templates**
Contains a list of predefined templates available for all users.
- **Open Views**
Contains a list of all the views and canvases that are currently open.




Note:

The folders "Recent Views", "My Views" and "My Templates" are only visible, if the permission is set for the user role. For more information see "*Available Permissions*" in the *Serviceware Performance Analytics Server Installation and Administration Guide*.

The **Open Views** dialog box contains three tabs:

- **Local Views**
Contains a list of views and canvases stored locally on your client system.
- **Shared Views**
Contains a list of shared views and canvases stored in the server repository.
- **Open Views**
Contains a list of all the views and canvases that are currently open.

The **Views** dialog box shows the following icons:

Icon	Description
	Folder icon
	Closed view icon
	Canvas icon

Setting the local views location

To change the address of the default folder for Local Views, follow these steps.

Procedure

1. Select the **Open** section in the backstage.
2. Select the location **Local Views**.
3. Select the **Location** button in the upper right corner of the screen.
4. The location is the directory on your PC or on your network where your Folders and Views are stored.
5. Change the location as required.
6. Click **OK**.

Creating a new view, folder, or canvas

You can create new views, folders, or canvases.

Procedure

Create a view or canvas

1. Select the **New** section in the backstage.
2. Select the template location either *My Templates* or *Shared Templates*.
3. Select one of the existing templates to create a view or canvas.

Create a view from within an opened view

1. On an already opened view rightclick the title bar of the view
2. Click on **Insert New**
3. A new view will be created in the current folder with the name **New View**.

Create a folder

1. Select the **Open** section in the backstage.
2. Select the location where you want to create the folder.
3. Select the **Create new folder** icon to create a new folder.
4. Type the name for the folder.
5. Click on **OK**.

Create a custom view or canvas template

1. Follow the steps defined in **Create a view or canvas out of a template**.
2. Define some formats in the **FORMAT** ribbon. For instance background colors, font styles, borders, etc.
 - a. All the settings that are made in the **FORMAT** ribbon (e.g. in the sections **Format**, **Default Styles**, **Scaling**, **Headers**, etc.) will be stored in the template. Other settings of the view (like **Chart Options** or **Suppress Rows**) will not be stored in the template.
3. Click on **VIEW > Save As**
4. In the **Save View / Canvas As** dialog activate the checkbox **Save as template**
5. Define a name and click **OK**.

Renaming a view, folder, or canvas

You have the possibility to rename views, folders, or canvases.

Procedure

1. Select the **Open** section in the backstage.
2. Select the location where you want to rename the view, canvas or folder.
3. Move the mouse pointer over the view, canvas or folder you want to rename and select the **Rename item** icon.
4. Type the new name for the item.
5. Press **Ok**.

Deleting a view, folder, or canvas

You have the possibility to delete views, folders, or canvases.

Procedure

1. Select the **Open** section in the backstage.
2. Select the location where you want to delete the view, canvas or folder.
3. Move the mouse pointer over the view, canvas or folder you want to delete and select the **Delete item** icon.
4. Confirm the deletion by pressing **Ok**.

Saving a view or canvas with a different name

You have the possibility to save a view or canvas with a different name.

Procedure

1. Select the **Open** section in the backstage.
2. Select the view or canvas.
3. Click the **Save As** command in the backstage.
4. Type the new name of the view or canvas and define the location
5. Click **OK**.

Copying a view, folder, or canvas

You have the possibility to copy views, folders or canvases.

Procedure

1. Select the **Open** section in the backstage.
2. Select the source location where you want to make a copy of a view or canvas.
3. Move the mouse pointer over the view or canvas you want to copy and select the **Copy item** icon.
4. Move the mouse pointer over the destination folder where you want to save the view or canvas and select the **Paste item here** icon.

Procedure (View context menu)

1. On an already opened view rightclick the title bar of the view.
2. Click on **Insert Copy**.
3. A copy of that view will be created in the current folder with the name prefix **Copy of**.

Note: Views that are created via **Insert Copy** are not temporary, but will remain in the folder structure, even if they are not saved.

Go back to the last saved view

You can always return to the view as it appeared when it was last saved.

Procedure

1. Using the **Reload** function. This function is available via the **Views** dialog, by clicking the Views button.
2. Select the view you want to reload and click **Reload**.
3. After clicking **Reload**, the view is reloaded.

Working with Subscriptions

The **Subscriptions** section in the Backstage enables users to configure reports which will be generated and sent by Email at the scheduled times. This functionality is only available when a mail server was configured. Detailed information about configuring a mail server can be found in the *Serviceware Performance Analytics - Setup, Installation and Administration Guide*.

The configuration of a subscription is divided into three tabs, which will be explained in the next chapters.

The following buttons are available above those tabs:

- **Save**
Saves the newly created or updated subscription.

- **Delete**
Deletes the currently selected subscription.
- **Open all views**
Opens all Views that are part of the currently selected subscription.
- **Execute**
Executes the currently selected subscription immediately (independent from the defined schedule). Only saved subscriptions can be executed.

Document Options

General

- **Subscription Name**
Name of the subscription
- **Document Name**
Name of the file that will be attached to the mail. If document format is PDF, also the title of the front page.
- **Username**
User for authenticating against the database(s) accessed by the configured views.
All views of a subscription will be opened with the user defined here. If you want to include views from different databases, make sure the same user is configured for all databases.
- **Password**
Password of the database user.

Options

- **Document Format**
Format of the file that will be attached to the mail. Choose between PDF (*.pdf) and Excel (*.xlsx).
- **Table of Content**
Adds a table of content to the beginning of the document.
- **Front Page** (PDF only)
Adds a front page to the beginning of the document.
- **Headers & Footers** (PDF only)
Adds headers and footers to the document.
- **Paper Size** (PDF only)
Defines the paper size of the document.
- **Orientation** (PDF only)
Defines the page orientation of the document (Portrait or Landscape).

Schedule & E-mail

E-mail

- **To**
Addressee(s) for the subscription mail. Multiple mail addresses can be separated by

comma or semicolon.

- **From**
Sender address of the subscription mail.
- **Subject**
Subject of the mail.
- **Body**
Message, that will be sent with the mail.

Schedule

- **Enabled**
Defines whether the subscription shall currently be executed at the defined times or not.
- **Start At**
Defines the time for the execution of the subscription on the days defined.
- **Scheduling**
Defines on which days the subscription shall be executed (a subscription mail shall be sent). Schedules can be on a daily, weekly, monthly or yearly basis. Depending on the chosen option, more detailed settings can be configured (e.g. weekly, every 2 weeks, on Monday and Friday).

Views & Print Range

Views

One or multiple views can be selected for the generation of the report that will be attached to the subscription mail. Views can be selected in the following areas:

- Shared Views
- My Views
- Open Views

Note: Local Views cannot be attached to subscription mails.

Print Range

The print range can be configured in one of the following ways:

- Use as stored in view
- Use view print range
- Use subscription based print range

4. Using Serviceware Performance Analytics

The language of the client is determined by the browser language.

Non-supported languages will default to English.

The language can be overwritten with the URL parameter *culture*.

Example: <https://<SERVERNAME>/EVServer?ToolBar=true&TabBar=True&culture=en>

Supported languages are:

Language	Parameter
Danish	da
German	de
English	en
French	fr
Dutch	nl
Spanish	es

User interface and appearance

Ribbon

The ribbon style contains the ribbon and backstage instead of the toolbar. All other sections are identical.

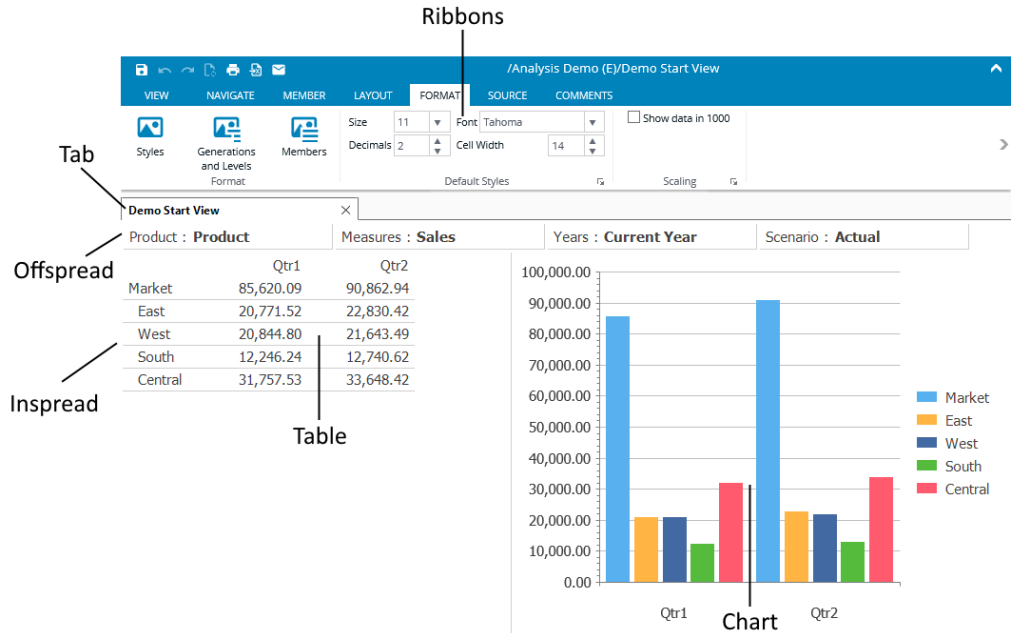


Figure 3 : Ribbon Style User Interface

Ribbon

The ribbon consists of the following tabs:

- NAVIGATE

- MEMBER
- LAYOUT
- FORMAT
- SOURCE
- COMMENTS (if user authorized)
- CANVAS (if canvas selected)



All buttons, list boxes, check boxes and menus provide tooltips describing their functionality.

View Context Menu

When right clicking the view tab, a context menu will show up, that provides a fast access to several actions that are also provided by the ribbon.

- Database
 - [Database Connection...](#)
 - [Choose Alias Tables...](#)
 - [Refresh Data](#)
 - [Execute...](#)
 - [Database Notes...](#)
 - [Audit Report...](#)
 - [Warnings...](#)
- [Save](#)
- [Save As...](#)
- [Insert New](#)
- [Insert Copy](#)
- [Delete](#)
- [Rename...](#)
- [Close](#)
- [Move View to new Panel](#)
- [Print...](#)
- [Export to Excel Workbook...](#)
- [Copy](#)
- [Copy without headers](#)
- [Paste](#)
- [View Comments](#)
- [About Serviceware Performance Analytics...](#)

Theme settings

You can change the way a view looks by either manually changing the individual items, for example colors and fonts, that are used or by specifying a theme.

A theme offers a predefined set visual settings. There are several themes from which to choose from.

Changing the theme

For the *Ribbon* style you can choose from the following themes:

- Cubus

- Classic
- Ocean
- Desert
- Forest
- Olive
- Silver
- Sky

The theme can be set with:

- The theme property of the Performance Analytics Client API. For more information see the *ServiceWare Performance Analytics Client Integration Guide*.
- A specified URL: Add `&Theme=<ThemeName>` to your URL, e.g. `$Theme=Forest`.

Setting the data window

The number of rows and columns that appear in the table depend on the selected members of the inspread dimensions.

In order to enhance the performance of a view, the number of rows and columns can be set to a maximum. The default values are 1000 rows and 250 columns. If there are more rows or columns to be shown than the specified rows and columns, arrows that indicate there are still more rows and columns.

47,513.48	50,935.52	49,431.89	»
25,518.46	25,219.68	25,611.56	»
55.49	56.06	54.37	»

Changing the data window

You can change the data window by using the arrows on screen.

Procedure

1. Click the arrows to expand the rows or columns by the specified amount.
2. Shift-click the arrows to show all rows or columns. The number of rows and columns now depends on the selected members of the inspread dimensions.

Note: When printing or exporting to Microsoft Excel the data window setting is ignored. All rows and columns are processed.

Setting the number of rows and columns for the data window

You can specify the number of rows and columns that are displayed.

Procedure

1. Open the **Options** dialog box.

2. Click the **Data** tab.
3. In the **Data Window** section of the tab, enter the number of rows and columns that you want visible in the Data Window table.
If you want to display all available rows and columns in the data Window table, enter 0 for both **Rows** and **Columns**.

Choosing Alias Tables

You can choose between available alias tables in a view. You do this via the Choose Alias Tables dialog box.

Procedure

1. To open the **Choose Alias Tables** dialog box either:
 - Right-click the view tab and choose **Database > Choose Alias Tables** or
 - Right-click a cell in the view and choose **Extra > Choose Alias Tables**
2. In the **Choose Alias Tables** dialog box move the alias tables from the **Available Alias Tables** list to the **Selected Alias Tables** list.

Changing the order of stacked alias tables

If there are multiple alias tables available in the database, you can change the order in which the alias tables are used.

The following rules apply for the assignment of aliases to member names:

- The order in which the tables in the **Selected Alias Tables** list are used, is from top to bottom.
- If an alias table has no alias defined for a member, the next alias table in the **Selected Alias Table** list will be used.
- The member name is used if there is no alias for that member in any of the selected alias tables.

Procedure

1. Open the **Choose Alias Tables** dialog box.
2. Use the up and down buttons to change the order in which the alias tables are used.
This enables you to use combinations of alias tables to assign aliases to member names.
3. Click **OK** to confirm the settings for alias tables.

Note:

- If you want to display the Essbase server member names (not the aliases), move all alias tables to the **Available Alias Tables** list.
- When connecting to other OLAP Servers, Performance Analytics uses unique member names. The (unique) member names are displayed when all Alias Tables are moved to the **Available Alias Tables** list.

Changing the backgrounds of headers and cells

You can use gradient backgrounds to change the appearance in headers and cells.

The headers are the areas in the view that show the names of the dimensions and members. The cells show the actual data.

Procedure

1. Open the **Options** dialog box.
2. Click the **Format** tab.
3. In the **Background** section, you can choose whether you want the cells and headers to use gradient colors.

Changing the zoom percentage

In order to enlarge the view, you can set the zoom percentage.

Only data in the cells can be zoomed into. Charts are not affected by changing the zoom percentage.

The zoom factor is independent of the formatting applied (for example the font size).

Procedure

1. Open the **Options** dialog box.
2. Click the **Layout** tab.
3. Set the **Zoom Percentage**. You can use values from 10 to 400%. The default value is 100%.
4. Set the **Chart Zoom Percentage**. The Chart Zoom Percentage is used to set the zoom percentage of the chart only. You can use values from 10 to 400%. The default value is 100%.

Displaying database notes

Database notes can be used to display information about the status of the database and its contents. The OLAP administrator or supervisor can add database notes to the OLAP Database.

Procedure

1. Right-click in a view and choose **Extra > Database Notes**.

The database notes and description will be displayed.

Adding a title to a view

A title describing the content of a view can be added.

The title consists of two lines: a main title and a sub title.

Every title line has individual formatting properties (e.g. font size, text color).

Printing codes can be used to make the title dynamic (e.g. name of the current member of an offspread dimension with the code #o()). The list of codes can be found in [Defining](#)

[Headers and Footers.](#)

Note: Not all codes from the printing can be used. Valid codes are displayed in the dialog menu next to the lines.

Procedure

1. To add or change the title on your view select the **LAYOUT** ribbon and click on the expander to open the Options dialog with the layout settings.
2. Click the **Show Title** check box to enable the title in the view.

Rowset action on cells

With the actions feature in Microsoft Analysis Services you can attach an action to a cube or a portion of a cube can be attached.

Performing a rowset action on cells

If rowset actions are created in Microsoft Analysis Manager and drill through is enabled in Microsoft Analysis Services, you can run the rowset action in a view.

When creating an action in the Microsoft Analysis Manager, the type for this action can be selected. Rowset actions, attached to cells in a cube, are supported in a view. A rowset action is an action that returns a set of data rows that a view shows in the drill through pane. An MDX statement defines which rows are returned.

Procedure

Right-click a cell in a view and choose **Actions > Drill Through <rowset action name>**. Where **<rowset action name>** is the action name that is defined in MS Analysis Manager.

You have now drilled through to the relational data source.

It is also possible to select the available rowset actions from the Script drop-down menu in the **Drill Through** pane.

Enabling audit reports

You can keep an audit report in a view in order to see a description of the actions performed to achieve the current member selection.

The audit report gives an explanation of the current view. It is not meant to be a log file of the actions performed in a view. It allows you to verify the interpretation of the report.

Initially the following information is shown:

- Database, Server and User, including date and time
- Inspread and offspread selections as well as hidden dimensions
- Date and time of data retrieval
- Relevant options, such as group size, decimal separator and Thousand separator.

All information that is necessary to understand the way the current view was created is added to the audit report.

Procedure

1. On the **Data** tab of the **Options** window, select Audit Report.
2. To view the audit report, right-click the table and click **Extra > Audit Report**. The **Audit Report** dialog box is displayed.
3. To reset the audit report, click the **Reset** button on the **Audit Report** dialog box. The list of Undo actions are also reset.

Named sets (SSAS only)

The Find Members, dialog box lets you locate and select members based on specific criteria.

When connected to Microsoft Analysis Services, you can also use the dialog box to search on Named Sets.

Note: Performance Analytics only searches Named Sets that contain members from a single dimension.

Procedure

1. Open the **Find Members** dialog box.
2. Select **Named Sets** from the list of **Match** options.
Note: **Named Sets** is available only when Named Sets are defined for the current dimension.
3. Choose a Named Set from the pull-down menu.
4. Click **Find** to locate the first member in the selected Named Set. You can then click **Find Next** to find subsequent members
5. Click **Find All** to find all members in the Named Set at once

Opening the About Dialog

The **about dialog** provides the currently installed Performance Analytics Client version and copyright notice.

Procedure

1. To open the **About Dialog** perform the following actions:
 - Click on **VIEW** in the ribbon.
 - Click on **About** in the backstage menu, which is on left hand side of the screen to open the **About Dialog**.

Members

The selected members determine the data that is displayed. The charts also are dependent on the selected members.

Initial member selection

When a database is initially opened, one dimension is placed on the columns and one dimension is placed on the rows.

This is referred to as the inspread selection. All other dimensions are placed in the *offspread* area. In the following image, the members *Measures* and *Year* are part of the inspread selection. The dimensions *Product*, *Market* and *Scenario* are part of the offspread area.

Product : Product		Measures : Sales	
Years : Current Year		Scenario : Actual	
	Qtr1	Qtr2	
Market	85,620.09	90,862.94	

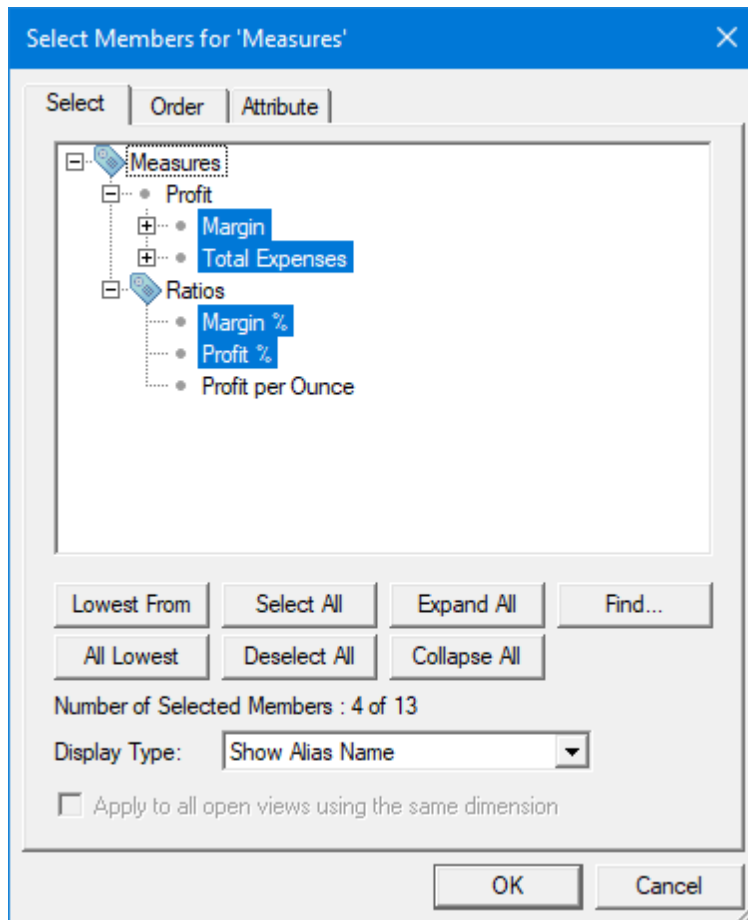
When a database is opened, Performance Analytics checks if a time and a measures (or account) dimension are available. If these dimensions are available, the time dimension is placed on the columns and the measures (or account) dimension is placed on the rows. The first level of children of these dimensions is selected.

If no time and no measures (or account) dimensions are available, the first dimensions in the OLAP database outline order on the rows and the columns are displayed. The other dimensions are placed in the offspread area. The members selected in these dimensions are the default members.

Depending on the database, a default member can be set for a dimension. Otherwise, the default member is the top-level member, unless this member is a label. In that case, the first child member that is not a label will be displayed in the view.

Selecting individual members

You can use the Select Member dialog box to select new dimension members, which allows you to change or expand your view of data in the data window.



Procedure

1. Click a member (either inspread or offspread) in the data window.
The Select Members dialog box displays, showing the parent dimension of the member that you clicked. Selected members are highlighted.
2. To select a member, click its name.
When you click a member that has children then click the + symbol next to the member name, all children of the member are automatically selected.
Click the - icon to collapse children of the member under the - icon.
Click **Expand All** to expand the children of all members.
Click **Collapse All** to collapse the children of all members.
3. Click **Select All** to select all members of the dimension.
Click **Deselect All** to clear all selections.
4. Click **All Lowest** to select all the lowest (leaf) members of the dimension.
5. To select all the lowest members below a specific parent member, click the desired parent member, then click **Lowest From**.
6. To apply the member selection to all open views containing the same dimension, select the option **Apply to all open views using the same dimension**.

Note: Using one of the following options, only one instance of a shared member will be selected:

- **Select All** (button)
- **All Lowest** (button)
- **Lowest From** (button)
- **Select Lowest** (context menu)

Note: Use the Display Type drop down list to switch between showing the member name, alias name or both.

Note: The option **Apply to all open views using the same dimension** is only available for offspread dimensions.

Selecting members by group

If you want to select all members, that have similarities, you can select those members by group.

Procedure

1. Click a member in the Data Window
The **Select Members** dialog box displays, showing the parent dimension of the member that you clicked.
2. Right-click a member in the **Select Members** dialog box.
3. Select a group by clicking one of the selection options, as described in the following table.

Note: When selecting a group of members, shared members are selected as well.

Selection Option	Description
Select Level <Level Name> or Select Generation (option name varies according to the OLAP server you are using)	Selects all members of the same generation/level as the current member.
Select Children	Selects members one level below the current member.
Select Descendants	Selects all members, without regard to level, below the current member.
Select Lowest	Selects the lowest members below the current member.
Select Ancestors	Selects all members above the current member.
Select Siblings	Selects members of generation/level of the current member that share the same parent as the current member.


Selecting multiple offspread members (SSAS and TM1 only)

By default you cannot select multiple offspread members.

If you want to select multiple offspread members, you have to enable the **Select Multiple Members** option in the **Select Member** dialog box.

Note: Select multiple members in the offspread is only available if you use SSAS or TM1 as a data source.

When you select multiple offspread members, the values of the selected members are aggregated. The member name displays as **Aggregate**, and a calculator icon is inserted next to the associated dimension name, indicating that the values displayed in the data window are aggregates of multiple offspread members.

 DimMarket : **Aggregate**

Note: The **Select Multiple Members** option is only available if you use SSAS or TM1 as a data source. The option is not available when working with a measures dimension.

Procedure

1. Click an offspread member.
The **Member Select** dialog box displays.
2. Click the **Select Multiple Members** option.
3. Using the features available on the **Member Select** dialog box, select the desired multiple members.
4. Click **OK**.

You immediately see the aggregate value of the selected members in your view.

Finding named sets (SSAS only)

You can use the "Find Members" dialog box to locate and select members based on certain criteria. If connected to Microsoft Analysis Services, it is possible to search on named sets.

Procedure

1. In the **Find Members** dialog box, click **Named Sets**.
2. Click the pull-down menu and select the named set you want to search.
3. Click **Find** to locate the first member in the selected named set.
4. Click **Find** again to locate the next member in the selected named set.
You can also click **Find All** to find all members in the Named Set at once.

Note: Only named sets that contain members from a single dimension are searched for.

Showing member names and aliases

Both OLAP server member names and alias names can be displayed in a row or column at the same time.

Procedure

1. Right click inside the grid and select **Options...** from the context menu.
2. Click the **Headers** tab on the **Options** dialog box.
3. Select either or both of the following options:
 - **Member Names and Aliases in Rows** to display both member names and aliases in rows
 - **Member Names and Aliases in Columns** to display both member names and aliases in columns
4. Click **OK**.

The row and/or column headers now display the member names as well as member aliases.

Subsets (IBM Cognos TM1)

A subset is a definition of members for a specific dimension. Subsets are used to narrow the number of rows and columns.

Selecting by subset

If subsets are available for a dimension, the Subsets tab is enabled in the Member Select dialog box. You can use this tab to select one of the available subsets.

Note: When you open the Select Member dialog box to select an offspread member, the Subsets tab is not available.

Procedure

1. Open the **Select Member** dialog box.
2. Click the subset you want to use in the data window.
To view the members of given subset, double-click the subset.
3. Click **Set**.
4. Click **OK**.

Note: If you apply a subset that has the same name as a member in the dimension, an error message warns you that it is not possible to apply the selected subset. A subset cannot use the same name as a member or attribute in the current dimension.

Finding subsets

You can use the Find Members dialog box to locate and select members based on certain criteria.

Procedure

1. In the **Find Members** dialog box, click Subsets.
If subsets are available for a dimension, the **Subsets** option is enabled.

2. Click the pull-down menu and select the subset you want to search.
3. Click **Find** to locate the first member in the selected subset.
4. Click **Find** again to locate the next member in the selected subset.
You can also click **Find All** to find all members in the subset at once.

Note: Only subsets that contain members from a single dimension are searched for.

Selecting chart members

It is possible to select and deselect which members will be visible in a chart.

Procedure

1. Open the **Select Member** dialog box.
2. Click on the 'Chart' tab to show a list of valid chart members.
3. To select and deselect a member, click on it.
4. Click **OK**.

Note: At least one member needs to be selected in the chart.

Only members that appear in the table can be selected and deselected for the chart.

If chart members are required to be shown that do not exist in the table, it is recommended to use a canvas item to create a dashboard.

Default members SSAS only)



When using Microsoft Analysis Services, you can define a default member for a dimension. When a default member is defined, it displays as the selected member when initially opening the database in Performance Analytics.

Attribute Dimensions (Essbase Only)

Attribute dimensions are dimensions that represent the possible attribute values of members of a certain dimension in the outline. For instance, if a product in the product dimension has five attributes, it means that the dimension has five associated attribute dimensions.

Using and ignoring attribute dimensions

By default all attribute dimensions are ignored in a view. By ignoring the attribute dimensions, the offspread is populated with only the dimensions and not with the attribute dimensions.

In the **Dimensions** dialog box dimensions that have attribute dimensions are indicated by the  icon. The attribute dimensions are indicated with the  icon. A red cross indicates that the attribute dimension is ignored.

If a dimension *Products* is available it is by default not ignored. The attribute dimensions of the dimension *Product* are by default ignored.

Procedure




1. Open the **Dimensions** dialog box.
2. On the **Dimensions** tab you can click an attribute dimension and select either **Use** or **Ignore**.

Switching between attribute dimensions

If a dimension is an attribute dimension or has attribute dimensions you can switch between these attribute dimensions using a drop-down list that is added to the Select Member dialog box.

To be able to switch between attribute dimensions, the attribute dimensions must be ignored. See Using and ignoring attribute dimensions.

Procedure

1. In a view, click a member that has attribute dimensions.
The **Select Member** dialog box is displayed.
2. Click the menu button  to see the available attributes and select the desired attribute dimension.
An attribute dimension that is used, is indicated by the  icon. A used attribute dimension cannot be chosen.
An attribute dimension that is ignored, is indicated by the  icon. An ignored attribute dimension can be chosen.
If an attribute dimension is shown on screen or hidden (not ignored), this dimension is disabled in the drop-down list and cannot be chosen from the drop-down list in the **Select Member** dialog.

Drill up and down

Members can consist of parents, children, ancestors or siblings. In order to analyze the data in a view you can choose to display less or more members of the inspread members. This is called drill up or drill down.

In a view you can use the Easy Drilling arrows to drill up and down on members. This increases the speed of changing the displayed members.

Drilling down

Drill down on a member to display the children of an inspread member.

Procedure

1. Right-click the inspread member.
2. Click Drill Down.

Drilling up

Drill up on a member to display the parent of an inspread member.

Procedure

1. Right-click the inspread member.
2. Click Drill Up.

Easy drilling

Easy drilling allows you to drill up or drill down on an inspread member with a single mouse click.

Enabling easy drilling

In order to use easy drilling you have to enable it in the Options dialog box

Procedure

1. Open the **Options** dialog box.
2. Click the **Headers** tab.
3. Click one of these Easy Drilling options:
 - **No Drill Buttons** removes the drill buttons from the inspread members. Easy drilling is disabled.
 - **Hover Drill Buttons** displays drill buttons on members only when you move the pointer over a member name. This is the default setting.
 - **Permanent Drill Buttons** permanently displays drill buttons on inspread members.
4. Click **OK**

Options for easy drilling

You can specify whether easy drilling expands up or to parents only.

You can set the following additional options for easy drilling:

- **Expand Up**


By default, when you right-click a hover drill button to drill down, the children of the member are inserted after the parent member. With the option Expand Up selected, the children of the parent will be inserted before the parent member instead of after when you right-click on the hover drill button to drill down.
- **Drill Up To Parent Only**

By default, when drilling up on a member, the selection one level higher than the level that is selected is displayed. With the option Drill Up To Parent Only checked, you can drill up to the single parent member of a selection on screen when clicking the hover drill button to drill up.

Using easy drilling

When Easy Drilling is enabled, an up and or down arrow displays next to inspread members, indicating that you can drill up or down.

Procedure

If you have enabled hover drill buttons, move over an inspread member and click an up arrow  to drill up, or a down arrow to drill down.

If you have enabled permanent drill buttons, just click a visible arrow on an inspread member.

The following right-click options are also available when easy drilling is enabled:

- If you right-click a hover drill down button, the member and the children of a member are included.
- If you right-click a hover drill up button, the children of a member disappear.
- If you right-click a hover drill up button on a member with no children, the parent member is selected.
- When right-clicking on a level 0 member, the member and its siblings will disappear

Member information

The Member Information dialog box displays the properties or attributes of the member, formula (from both the database and the view), a comment, and additional information about the member.

Additional information can include:

- Generation and Level names
- Consolidation types
- Original member name
- Share information
- Expense tags
- Time Balance information
- Number of children and descendants

Showing member information

You can show information for each member.

Procedure

Right-click a member name, then click **Member Information** on the shortcut menu.

The Member Information dialog box displays, showing detailed member information.

Alternatively, you can move the pointer over a member name to view a tooltip containing member information.



The order of members

The default order by which the members are displayed are determined by the outline. In a view you can change the order of members.

Changing the order of members by dragging and dropping

You change the order of members by moving the members from the initial location to a new location.



Procedure

1. Click and hold a member.
2. Drag the member to the place where you want it to go. The following options are available:
 - Move the member between two other members. For moving a member your mouse cursor should look like this: .
 - Replace the member with another member. You have to press either the Ctrl key or the Shift key while dragging the member. For replacing a member your mouse cursor should look like this: .

Changing the order of members by using the Select Members dialog box

You can change the order of members by using the Select Members dialog box.

Procedure

1. Click a member.
The **Select Members** dialog box displays.
2. Click the **Order** tab.
3. Click the member that you want to move.
4. Click the up or down arrow buttons   to move the selected member to its new position.
You can select multiple members and change their order.

Note: Changing the order of members is not possible in combination with a DynaSelect.

There are also some predefined order algorithms:

- Outline Order
- Reverse Outline Order
- Sort
- Reverse Sort
- Sort within Hierarchy
- Reverse Sort within Hierarchy

Sorting the order of members

There are several ways to sort the order of members.

All sorting options are available in the **Select Members** dialog box.

Procedure

1. Click a member in the data window.
The **Select Members** dialog box displays.
2. Click the **Order** tab.
3. To sort members alphabetically, click the **Sort** button.
4. To apply a different sort order, click the down arrow on the **Sort** button and select one of the available options.
5. Click **OK**.

Option	Description
Outline Order	Sorts members according to the outline order in the OLAP database.
Reverse Outline Order	Sorts members in a reverse way according to the outline order in the OLAP database.
Sort	Sorts members alphabetically.
Reverse Sort	Sorts members in reverse alphabetic order.
Sort within Hierarchy	Sort members in ascending or descending order, while respecting the dimension hierarchy.
Reverse Sort within Hierarchy	Members are sorted in reverse alphabetical order within their hierarchies.

Sorting members within a hierarchy

Sort within hierarchy means it is possible to sort a dimension in ascending or descending order, while respecting the dimension hierarchy.

The **Sort within hierarchy** option is only available while sorting in ascending or descending order.

Procedure

1. Click the **Sort Select** button in the ribbon **MEMBER**.
The **Sort & Select** dialog box displays.
2. Click **Sort within Hierarchy** when performing a sort action.
3. Click **OK**.
If the dimension is sorted, the children are sorted underneath their parents. In the result, the dimension hierarchy is still intact.

Sorting members by value

Members can be sorted in ascending or descending order according to the values in rows or columns.

Procedure

1. To sort row members according to values in a specific column, right-click the column, then click **Sort Ascending** or **Sort Descending**.
2. To sort column members according to values in a specific row, right-click the row, then click **Sort Ascending** or **Sort Descending**.


Dynamic Time Series (Essbase Only)

Dynamic Time Series (DTS) can be added to an Essbase database outline to dynamically calculate period to date values, for example Year to Date and Quarter to Date.

There are several standard periods to date functions available in Essbase. The result of the calculations is called Dynamic Time Series.

DTS members are calculated based on the value of the lowest level members from the periods dimension. Essbase does not calculate DTS values for period members on a higher level.


In Performance Analytics Dynamic Times Series are treated as a separate dimension. This allows you to quickly set up views where you can review single period values next to period-to-date values in columns or in rows.

In a view Dynamic Times Series are indicated by the following icon: .

Substitution Members (Essbase Only)

Substitution variables are treated as members of the dimension for which they are defined. This means you can perform the same actions on these substitution members that you can perform on other members, such as selecting these members in a table or a chart, making calculations, performing data entry and so on.

In the **Member Select** dialog the Substitution Variables are added as substitution members to the dimension.

The Substitution Member names are the names of the Substitution Variables. The value of the Substitution Variables are added in the default Alias names. The Substitution Members are indicated by an arrow icon .

When the value of the Substitution Variables is changed in Essbase, the default Alias Names of the substitution members will change accordingly.

When changing the alias table to **No Alias Table** in the **Connection Information** dialog, only the names of the Substitution Variables are shown.

The **Member Information** dialog box displays the member information of the Substitution Member.

Note: It is possible to enable or disable the option **Add Substitution Members** in Performance Analytics Explorer. See the *Serviceaware Performance Analytics Server Installation and Configuration Guide* for more details.

Navigation

There are many ways in which you can navigate through your data in a view. You can switch between dimensions and change the order of dimensions.

You can modify a view by dragging and dropping dimensions from one location to another in a view.

Swapping dimensions


You can drag a dimension from the inspread area and drop it on the offspread area. The member that you move remains selected.

Similarly, you can drag a dimension from the offspread area and drop it on the inspread area. When dragging a dimension to the inspread area, the previous member selection in that dimension displays. You can move dimensions without losing member selections.

When you drag a dimension from one location in a view and drop it directly on top of another dimension, the two dimensions switch positions in the view.

You can also drag and drop dimensions in a chart.

Procedure

1. Click the dimension that you want to move.
2. Drag and drop the dimension to a different location in the view.
3. The swap icon  appears next to your mouse pointer.

Stacking dimensions

In a view you can display multiple dimensions on either the rows or columns. This is called stacking dimensions.

Stacking dimensions allows you to see greater detail in a view, as each stacked dimension can display multiple members.

Note: For asymmetric selections see *Asymmetric selection*.

Follow these steps to stack multiple dimensions in a view.


Procedure

1. Click the dimension that you want to stack.
2. As you move your pointer over the current dimension, the mouse cursor changes and a line appears showing where the dimension will be inserted. You can move the cursor until the line appears in the desired position.
3. Release the mouse button to drop and stack the dimension.

Renaming dimensions

If you want to change the display name of a dimension you can rename it. You can change only the display name and not the actual name of the dimension.

Procedure

1. Open the Dimensions dialog box by clicking the **Dimensions** button  in the **NAVIGATE** ribbon.
2. Identify the dimension you want to rename and click **Rename**.
The **Change Dimension Display Name** dialog box opens.
3. Change the dimension name and click **OK**.

In the **Dimensions** dialog box the new display name precedes the actual name of the dimension:

renamed display name [actual dimension name]

If you want to remove the display name and thus only show the actual name of the dimension, click remove while the **Change Dimension Display Name** dialog box is open.

Using multiple hierarchy dimensions (SSAS only)




Multiple hierarchy dimensions are dimensions that provide similar yet alternative views of cube data.

For example, a *Time* dimension with two hierarchies can have a regular calendar hierarchy and a fiscal calendar hierarchy, or a *Market* dimension can have a market and a region hierarchy.

In Performance Analytics, all hierarchies of a multiple hierarchy dimension are added as dimensions to the outline structure of the database shown in Performance Analytics. The hierarchy dimensions that are not the default will be ignored when the database is initially opened.

When using a multiple hierarchy dimension, you can switch between the available hierarchies.

Procedure

1. Open the dimension in the Member Select dialog box.
If the dimension is a multiple hierarchy dimension, an arrow button is added to the top right of the Member Select dialog box.
2. Click the arrow button  to see the available hierarchies and select another hierarchy. You can choose between:
 - Custom hierarchies 
 - Attribute hierarchies 

Ignoring multiple hierarchy dimensions (SSAS only)

To be able to switch between hierarchies, the hierarchies must be ignored. If a hierarchy is shown on screen or hidden (not ignored), this dimension is disabled in the drop-down list and cannot be chosen.

Procedure

1. Open the **Dimension** dialog box.
2. Click a dimension and in the **Usage** section select **Use** or **Ignore**.

Alias tables

Alias tables allow you to show alternative names for members. You can use alias tables to show for example the full names or the translations of members. Alias tables are only available in a view if the database, to which the view connects, contains alias tables.

The following rules apply for the assignment of aliases to member names:

- Alias tables are applied in the order (top to bottom) that is set in the **Selected Alias Tables** list.
- If an alias table has no alias defined for a member, the next alias table in the **Selected Alias Table** list will be used.
- The member name is used if there is no alias for that member in any of the selected alias tables.

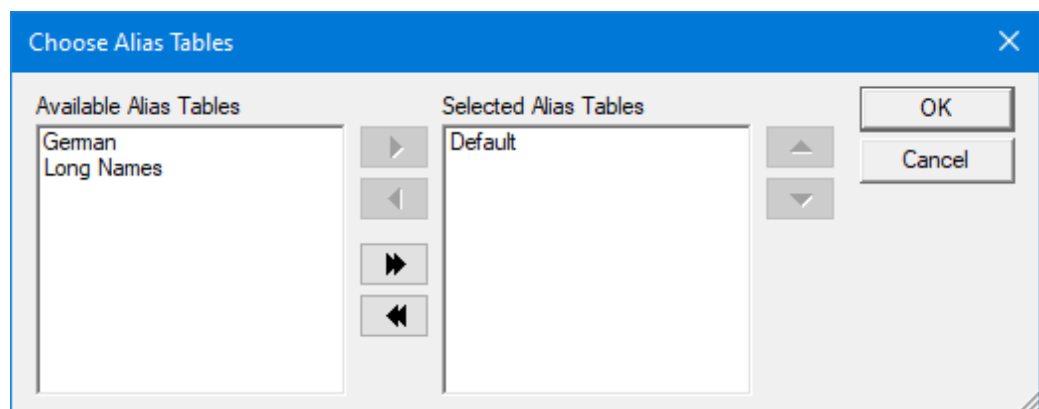
This way you can use combinations of alias tables to assign aliases to member names.


Choosing alias tables


This section explains how to choose alias tables.

Procedure

1. Open the **Choose Alias Tables** dialog box using either of the following procedures.
 - Right-click the View tab, then click **Database > Choose Alias Tables**.
 - Right-click a cell in the current View, then click **Extra > Choose Alias Tables**. The **Choose Alias Tables** dialog is displayed



2. Select an Alias Table in the **Available Alias Tables** list.
3. Click  to move the Alias Table to the **Selected Alias Tables** list.
4. Repeat steps 3 and 4 for all Alias Tables you want to use.

Alternatively, you can click  to move all Alias Tables from the **Available Alias Tables** list to the **Selected Alias Tables** list.

5. If there is more than one Alias Table in the **Selected Alias Tables** list, select a table name and then use the **Up** and **Down** arrow buttons to change the ordering of the Alias Tables.
6. Click **OK** to confirm your selection and set the order of Alias Tables

Note: If you want to display the Essbase server member names (not the aliases), move all alias tables to the **Available Alias Tables** list. When connecting to other OLAP Servers, Performance Analytics uses unique member names. The (unique) member names are displayed when all Alias Tables are moved to the **Available Alias Tables** list.

Showing and hiding dimensions

You can use the Dimensions dialog box to determine which dimensions are visible on your screen.

Opening the dimensions dialog box

Procedure

Right-click the table, then click **Dimensions**.

The **Dimensions** dialog box displays. This dialog box contains three tabs:

- **Dimensions** shows all used and ignored dimensions
- **Offspread** shows all offspread dimensions
- **Print Range** is used to configure printing. See *Printing Views*.

Setting used and ignored dimensions

Follow these steps to set used and ignored dimensions for a table.



Procedure

1. Right-click the table, then click **Dimensions**.
The **Dimensions** dialog box displays.
2. Click the **Dimensions** tab.
For each dimension that you want to use, select the dimension name then click **Use**. Alternatively, you can click **Use All** to use all dimensions shown in the list.
3. For each dimension that you want to ignore, select the dimension name then click **Ignore**.
4. If you want to remove your selections and restore the original used/ignore status for each dimension to what it was when you opened the database, click **Reset All**.
5. Click **Apply** to immediately apply your changes to the table.

Setting offspread dimensions

Follow these steps to set offspread dimensions for a table.

Procedure

1. Right-click the table, then click **Dimensions**.
The **Dimensions** dialog box displays.
2. Click the **Offspread** tab.
This tab displays a list of shown and hidden offspread dimensions. The shown dimensions  appear at the top of the list in the order specified by the user, followed by the hidden dimensions  in alphabetical order.

3. For each dimension that you want to show in the Offspread area, select the dimension name then click **Show**.
4. Alternatively, you can click **Show All** to show all dimensions in the list.
5. For each dimension that you want to hide, select the dimension name then click **Hide**.
6. To change the position of a shown dimension in the list, select the dimension name then click the **Up** or **Down** arrow.
7. To change the selected member for any Offspread dimension, click the dimension name, then click **Select**.
The **Select Offspread Member** dialog box appears.
8. Choose the member you want, then click **OK** to set the member and close the **Select Offspread Member** dialog box.
9. If you want to discard your selections and restore the original show/hide status for each dimension to what it was when you opened the database, click **Reset All**.
Note: **Reset All** does not reset the order of dimensions.
10. Click **Apply** to immediately apply your changes to the table.

Undoing previous actions



You can undo and redo actions in a view.

You should be aware of the following limitations when using the Undo and Redo features:

- The **Undo** and **Redo** buttons do not apply to changes made in a dialog box, such as creating a calculation or changing options on the **Options** dialog.
- **Undo** and **Redo** operations are lost when reconnecting to a different database.

To undo or redo more steps in one action, use the pull down arrows next to the Undo and Redo buttons.

Procedure

1. To undo the most recent action, Click **Undo** .
2. To reapply an undone action, click **Redo** .

Asymmetric selection

When dimensions have been stacked, it is possible to make an asymmetric selection.

See [Stacking dimensions](#) for an explanation of stacked dimensions. An asymmetric selection allows you to show only those members in which you are interested.

For example, if you want to change the products that are shown only for a region you create an asymmetric selection.

		Total Year
Americas	Cooking Gear	16,836.86
	Lanterns	26,674.93
	Packs	315,134.37
	Sleeping Bags	99,676.82
	Tents	4,152,853.17
Asia Pacific	Cooking Gear	1,769,062.91
	Lanterns	1,409,562.19
	Packs	14,941,735.62
	Sleeping Bags	3,336,851.71
	Tents	68,700,106.68

Figure 1 - Symmetrical selection

		Total Year
Americas	Cooking Gear	16,836.86
	Sleeping Bags	99,676.82
	Tents	4,152,853.17
Asia Pacific	Cooking Gear	1,769,062.91
	Lanterns	1,409,562.19
	Packs	14,941,735.62
	Sleeping Bags	3,336,851.71
	Tents	68,700,106.68

Figure 2 - Asymmetrical selection

There are several ways to create asymmetric selections:

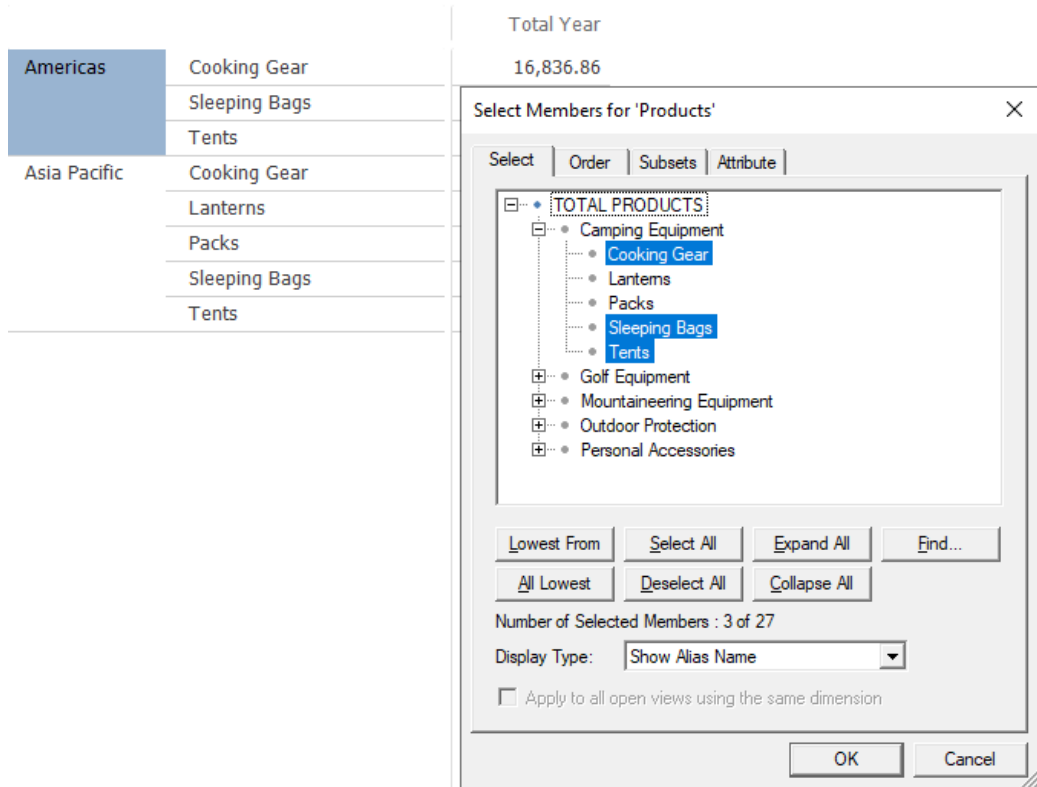
- Using the **Select Members** dialog box.
- Drilling up and down on members while holding the Alt key.

Using the Select Members dialog box to create an asymmetric selection

You can create an asymmetric selection by using the Select Members dialog box.

Procedure

1. Click the stacked dimension for which you want to create an asymmetric selection. The **Select Members** dialog box is displayed. Double clicking, or pressing the Alt key when clicking on any of the members behind the stacked member will open the **Select Members** dialog box.




2. You can change the member for which you want to create the asymmetric selection by clicking on that member. The member that will have an asymmetric selection is indicated by a different color. See the image above.
3. In the **Select Members** dialog box change the selected members to create the asymmetric selection.
4. Click **OK**.
The asymmetric selection is displayed.

Creating an asymmetric selection by drilling up and down on members while holding the Alt key

You can create an asymmetric selection by drilling up and down on members while holding the Alt key.

Procedure

1. Identify the stacked dimension for which you want to create an asymmetric selection.
2. Hold the Alt key and click either the up or the down arrow  to the right of the member names.
The asymmetric selection is displayed.

Creating an symmetric selection

If you want the selection to be asymmetric, no group should be selected.



Procedure

1. Click the asymmetric group. The **Select Members** dialog box is displayed. Only the asymmetric group is selected.
2. Click the asymmetric group. In the **Select Members** dialog box the members for the original symmetric selection are selected. If you now change the member selection, a symmetric selection for all combinations will be made.

Changing the order of members in an asymmetric selection

If you want members in an asymmetric selection to be in a different order than the symmetric selection, you can change their order.

Procedure

1. Press and hold the Alt key and click the member you want to move in the asymmetric selection.
2. Drag the member to the place where you want it to go. The following options are available:
 - Move the member between two other members. For moving the member your mouse cursor should look like this: .
 - Replace the member with another member. You have to press both the Alt and the Shift key while dragging the member. For replacing the member your mouse cursor should look like this: .

Drill through

Drill through allows you to drill through to the relational data sources, which are used to populate the multidimensional database.

Setting drill through options

Follow these steps to enable drill through and set several options that determine the appearance and behavior of a drill through.

Procedure

1. Right click inside the grid and select **Options...** from the context menu.
2. Click the **Layout** tab on the Options dialog box.
3. Select the **Show Drill Through** option.
4. Using the adjacent pull down menu, select the location where you want the Drill Through table to appear on the screen.
5. Click the **Actions** tab.
6. Set the Drill Through options, as described below.
7. Click **OK**.

Option	Description
Highlight Active Cell	Highlights the active cell (the cell for which the drill

	through data is shown) in the main table.
Color Alternating Rows	Applies a background color to alternating rows in the drill through table to improve readability. When you select this option, you must also specify the number of adjacent rows to which background coloring should be applied.
Limit Rows	Limits the number of rows to display in the drill through table. When you select this option, you must also set a maximum row value.
Print All Combinations	If this option is selected, all combinations of the data for every cell in the table will be printed.
Limit Rows Printed	Limits the number of drill through table rows that can be printed. When you select this option, you must also specify the maximum number of rows that can be printed.
Currency Settings	<p>Displays a currency symbol for values in the drill through section.</p> <p>The following values are possible:</p> <p>None No currency symbol is shown.</p> <p>Auto If you select the value Auto, then the regional settings of the system, on which the client software runs, are applied.</p> <p>The name of a region If you specify a region, then the currency of that region is displayed for values in the drill through section.</p>

Using drill through (TM1 only)

This feature allows you to drill through to relational data.

Procedure

Right-click a cell in the data table,

then click **Cell Actions > Drill Through**. A drill through pane appears showing the table of this relational data.


A drill through script can be selected.


Only Relational scripts will work when using Drill Through. View scrips will not work.

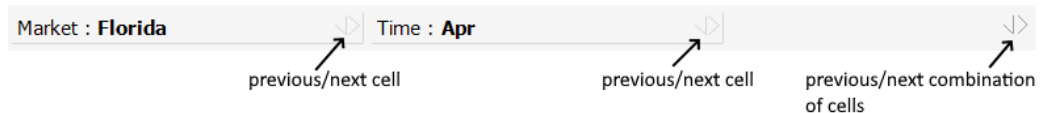
Drilling through relational data

Drilling through relational data allows you to display a drill through pane that shows the table of the relational data. The drill through pane gives you information about how values in the view are derived from the relational data.

Procedure

1. Right-click a cell, then click **Actions > Drill Through**.
2. Click any cell in the data table to view the associated relational data in the Drill Through table.
3. To view the next or previous cell for a particular member, click the arrow buttons .

To view the next or previous cell for all members, click the arrow buttons  on the bottom right of the drill through table.



Formatting the drill through table

You can change the way the drill through table is displayed by changing its format.

Procedure

1. Right-click the Drill Through table, then click **Formatting > Styles**.
2. Click **Drill Through**.
3. Set formatting options for font type, background color, borders, and so on.

Modifying columns in the drill through table

You can change the position of columns in the drill through table, and set display properties for columns.

Procedure

1. To change the position of a column in the drill through table, click the column heading, then drag and drop the heading to a new position.
2. To set display properties for columns, click the **Columns** button on the drill through table.
The **Drill Through Columns** dialog box displays.
3. Use the options on the dialog box to:
 - Rename a column
 - Change the alignment
 - Change the order of the columns
 - Show all columns
 - Hide all columns
 - Reset all columns
4. Click **OK**.

Copying data from the Drill Through table

You can copy the rows with relational data to the clipboard.

Procedure

1. To copy all rows of relational data to the clipboard, click the **Copy** button *without* selecting any rows in the table.
2. To copy specific rows to the clipboard, press and hold the Ctrl key and click each row you want to copy, then click the **Copy** button

Using drill through (SSAS only)

This feature allows you to drill through to relational data. To use this feature, Drill Through should be enabled and allowed.

Procedure

Right-click a cell in the data table, then click **Cell Actions > Drill Through**. A drill through pane appears showing the table of this relational data.

Using drill through, row set actions (SSAS only)

With the actions feature in Microsoft Analysis Services, you can attach an action to a cube or a portion of a cube can be attached.

When creating an action in Microsoft Analysis Manager, the type for this action can be selected.

Rowset actions, attached to cells in a cube, are supported in a view.

A rowset action is an action that returns a set of data rows that Performance Analytics shows in the Drill Through pane. An MDX statement defines which rows are returned.

When Drill Through is enabled in MS Analysis Services, the option **drill through** allows you to drill through to the relational data sources.

Procedure

1. Right- click a cell, then click **Cell Actions > Drill Through <Rowset action name>**.
2. You can also select the available **Rowset** actions from the Script drop-down menu in the **Drill Through** pane.

Actions (SSAS only)

Actions is a feature from Microsoft Analysis Services that allows you to link an object to a cell. Actions allow you to link an action type to a target. A target can be, for instance, some or all members of a dimension or a database.

This can be (for example):

- A Screenshot
- A URL to a website
- A spreadsheet file
- A text document

A blue triangle in the cell indicates the presence of a linked reporting object. You can choose to show this indicator on the **Actions** tab of the **Options** dialog.

Actions can also be used from the offspread bar, the chart bar, charts and the drill through

bar.

The available actions depend on the area clicked:

- Cell and cube actions are available when clicking on a cell
- Member and cube actions are available when clicking on a member

Note: Actions of the type rowset on members or on a database are not supported.

Procedure

1. Right-click a cell, then click **Actions**.

The available objects are displayed, and will open with the application that is registered in Microsoft Windows as the default application for the type of file the object contains.

Linking reporting objects (Essbase only)

Linked reporting objects is a feature from Essbase that lets you to link an object to a cell.

This can be (for example):

- A screenshot
- A URL to a website
- An Excel file
- A text document

A blue triangle in the cell indicates the presence of a linked reporting object. You can choose to show this indicator on the Actions tab of the **Options** dialog.

Procedure

1. Right-click a cell, then click **Actions**.

The available objects are displayed, and will open with the application that is registered in Microsoft Windows as the default application for the type of file the object contains.

Canceling long running processes to an IBM Cognos TM1 database

A cancellation of process is made available for Performance Analytics when used with IBM Cognos TM1.

About this task

IBM Cognos TM1 has a cancel feature that can cancel long running processes. During a process in Performance Analytics, the following notice can appear:

Please wait while the operation is in process. To cancel the operation, press the Escape key.

Procedure

To cancel the operation, press the **Escape** key.

Create view link

A view link can be generated by either clicking the **Create Link** button in the **Navigation** ribbon tab or by using the context menu and selecting **Extra** and then **Create Link**. The link is automatically copied to the clipboard.

In addition, a link can be generated by clicking on the **Send Mail** button in the ribbon area.

It can be used to generate an URL which represents the current view with all selections and formatting settings but no data. This link can be shared with other users, who are able to see the exact same view as the creator.

View links are read-only and can not be modified.

Tables

After you make the preliminary selection of members and dimensions, you can refine the data selection and formatting for the table.

Finding members within a table

A member can belong to an extensive list of members.

The **Search for or Compare** with features can help locate an exact member or group of members from such a list.

A member search can be used as a filter to select discrete members from a large list of members. You can search for an exact member name or part of a member name.

A member search can be made by using a comparison table. You can compare values against values that are greater or less than the search criteria.

Members can be set with either a property or an attribute as meta data. The meta data can be used to find the members.

You can conduct multiple searches simultaneously. For example you could first find all members whose alias name starts with New, and then within that group locate all members with the named set Major_Markets, by selecting one of the following buttons in the **Members** section of the **Find Members** window:

- **All**
- **Selected**
- **Last Found**

Finding members by using search

You can find members by searching.

Procedure

1. Click a member tag in the Table View.
2. In the **Select Members for** dialog box, click **Find**.
3. In the **Find Members** window, select **Search** for from the drop down menu.
4. Type the word or part of the word for which you want to search.
5. Select the first criteria of the search from the Match list:
 - Member name
 - Alias name
 - Attributes

- Levels
 - Subsets
6. Select the second criteria of the search from the **How** list:
 - Containing
 - Exact match
 - Starting with
 - Ending with
 7. Click **Find Next** or **Find All**.
 8. Click **Keep Found** to clear any members that are not part of the search criteria.
 9. Click **Select** to keep the selection.
 10. Click **Close**.
 11. Click **OK**.

Results

The members that meet the search criteria are shown in the table.

Finding members by using compare with

You can find members by using compare with.

Procedure

1. Click a member tag in the **Table View**.
2. In the **Select Members** for window, click **Find**.
3. In the **Find Members** window, click **Compare with**.
4. Type the word or part of the word for which you want to search.
5. Select the first criteria of the search from the **Match** list:
 - **Member name**
 - **Alias name**
 - **Attributes**
 - **Levels**
 - **Subsets**
6. Select the second criteria of the search from the **How** list:
 - < All member names less than the search criteria.
 - <= All member names less than or equal to the search criteria.
 - >= All member names greater than or equal to the search criteria.
 - > All member names greater than the search criteria.
7. Click **Find Next** or **Find All**.
8. Click **Keep Found** to clear any members that are not part of the search criteria.
9. Click **Select** to keep the selection.
10. Click **Close**.
11. Click **OK**.

Finding members by using attributes or properties

You can find members by using attributes or properties.

Procedure

1. Click **Select Members > Find**.
2. In the **Find Members** window, select **Search for**.
This option is disabled if there are no properties for the dimension.
3. Select **Attributes** or **Properties**.
The options are disabled if there are no attributes or properties for this dimension.
4. Click **Find**, **Find Next**, or **Find All**.

Finding members by using generation or level

You can find members by using generation or level.

Procedure

1. To find members by Generation or Level or just by Level, in the member select window, click **Find**.
Note: The availability of Levels and Generations depends on the data source type to which you are connected.
2. For generations or levels, click **Search for**.
3. Click **Find**, **Find Next** or **Find All**.
4. Select or deselect the found members.

Finding members by using multiple search

You can find members by using multiple search.

Procedure

1. Create your first search.
2. Select the found members for which you want to search.
3. Click **Find All**.

Sorting dimensions

You can sort a dimension in ascending or descending order, while respecting the hierarchy of the dimensions.

Procedure

1. Click **Sort Select** from the toolbar.
2. Click **Sort within Hierarchy**.
If the dimension is sorted, the children are sorted underneath their parents.
3. To sort within a hierarchy:
 - Click a member to open the **Select Members** window.

- Select the **Order** tab and click the **Sort** button.
- Click **Sort** and select an option.

When sorting the members in reverse alphabetical order while respecting the hierarchy, choose **Reverse Sort within Hierarchy** from the pop-up menu.

Note: Reverse Sort within Hierarchy does not create the exact reverse order of **Sort within Hierarchy** but sorts the members in reverse order within their parent members.

Missing data

Often data is missing from a table.

There can be various reasons for this and, depending on the reason, you can choose to either ignore the missing data or include the missing data as a zero value.

Ignoring dimensions

When ignoring a dimension, the influence of this ignored dimension depends on the type of dimension.

In the case of Multiple Hierarchy dimensions (Microsoft Analysis Services) and Attribute dimensions (Essbase), the dimensions do not influence the values displayed in the table when these dimensions are ignored. In the case of dimensions needed to make up the value in the table, the default member is used (for example if the Time dimension is ignored). When hiding a dimension, that dimension is not visible on screen. The member selection in the hidden dimension still makes up the values in the table together with the visible dimensions.

Procedure

1. To ignore a dimension, select **NAVIGATE** ribbon and click the **Dimension** button or click the **Dimensions** button on the toolbar.
2. Click the dimension you want to ignore and click **Ignore**.

On the **Offspread** tab, the ignored dimension is no longer listed.

When initially opening the database, all Attributes (Essbase) are ignored. In the case of Multiple Hierarchy dimensions (Microsoft Analysis Services) the hierarchies that are not the default are ignored.

3. To show or hide a dimension, select the dimension and select either **Show** or **Hide**.
4. Click **Apply**.

Tip: The **Reset** button resets the selection for the dimensions and resets the visibility status (**Show**, **Hide**, or **Ignore**) to the status the dimensions had when the database was initially opened. The order of dimensions is not reset.

Suppressing missing rows and columns

When all values in a row or a column are missing, you can automatically suppress these rows and columns from your display. The cells containing grid comments or member attributes will not be considered when using **Suppress missing rows** or **Suppress missing columns**.

Procedure

1. Right click inside the grid and select **Options...** from the context menu.
2. Click the **Data** tab.
3. Select the option **Missing below Suppress Rows Containing** and/or **Suppress Columns Containing**.

Removing missing values

You can choose to remove cells with missing values.

Procedure

1. To display only the members with data, right-click the table and select **Remove Missing Rows from Selection** or **Remove Missing Columns from Selection**.
2. The missing rows or columns are removed from the selection.

When using the options **Remove Missing Rows from Selection** or **Remove Missing Columns from Selection**, the members you originally selected are changed and members with missing values are forgotten.

Suppressing no access rows and columns

When you do not have access to certain members you can automatically suppress these members from your display.

When this option is enabled, columns and/or rows with no access will always be suppressed automatically. The originally selected members are retained.

In some cases, enabling this option can decrease performance. In the case of stacked dimensions, this option can result in an asymmetric view.

If you want to suppress columns and/or rows with no access, you can also personalize the database in combination with Essbase filters. When connecting to Microsoft Analysis Services, the outline will be limited according to the user rights in Microsoft Analysis Services.

The cells containing grid comments or member attributes will not be considered when using either **Suppress no access rows** or **Suppress no access columns**.

Procedure

1. Right click inside the grid and select **Options...** from the context menu.
2. Click the **Data** tab.
3. Select the option **No Access** below **Suppress Rows Containing** and **Suppress Columns Containing**.

Suppressing rows and columns with zero values

When all values in a row or a column have the value zero, you can automatically suppress these rows or columns from your display. The cells containing grid comments or member attributes will not be considered when using either **Suppress rows** or **Suppress columns** with zero values.

Procedure

1. Right click inside the grid and select **Options...** from the context menu.
2. Click the **Data** tab.
3. Select the option **Zero** below **Suppress Rows Containing** and **Suppress Columns Containing**.

Including zero values

This feature is used to display a list of members that have zero values in the database. For example, it can be used in your search to include customers who did not buy products or products that did not sell in a given period.

Procedure

1. Click the **Sort & Select** button in the ribbon **MEMBER**.
2. Click the inspread member you want to sort.
3. Select either **Ascending** or **Descending** from the **Sort** field.
4. Select the **Include Missing Values** from the **Options** field.
5. Select the option from the **Retrieve Data From** field.
6. Click **OK**.

Table formatting

Data can be formatted and displayed in many ways.

Formatting is set in layers that are processed in a specific order from low level general format rules to high level specific rules. Every rule in a higher layer concatenates and appends with the rules in lower layers.

Formatting can be done at the following levels:

- **Themes** - lowest level
A theme is a setting with several pre-defined colors that changes the look of the client system.
- **Backgrounds**
Backgrounds are the colors of different areas. By default Microsoft Windows background colors are used, as set in the Display settings in the Control Panel.
- **Generations and Levels**
Generation and Level formatting definitions are concatenated with the formatting defined in Styles.
- **Styles**
Styles define the look of the different areas of a table or chart.
- **Member Formatting**
Generation and Level formatting definitions are concatenated with the formatting defined in Styles.
- **Traffic Lights / Data Bars** - highest level

The next layer is Member formatting where you can specifically point to one or more members and change their formatting options. Multiple formats do not overwrite previous formats set in styles, generation and levels, but appends the format style. For example, in the styles format, an area of cell can have a negative format defined as -#s. If you format a member as a percentage with #s %, the result is -10 %.

Traffic Lights allow you to set the color of cells based on their value. For example: Negative cells can be set to red and positive cells to green. Colors defined here overwrite all the colors defined in previous layers.

Data Bars allow you to visualize the value of a cell as a bar.

Assigning a Template to the view

It is possible to define a previously defined and saved set of formats to the view or canvas by assigning a template to the view or canvas.

Procedure

1. Click the **FORMAT** ribbon
2. In the Section Designs choose a predefined template
3. The template will be applied immediately to the view or canvas

Note: In the chapter [Creating a new view, folder or canvas](#) there is a description how to define templates.

Disabling format options

You can disable the formatting options.

Procedure

1. Right click inside the grid and select **Options...** from the context menu.
2. Click the **Format** tab.
3. Choose to enable or disable the **Cell Formatting, Offspread Formatting, Header Formatting** and **Level or Generation Formatting for Cells**.

Note: While formatting is turned off, you can still assign or change formatting to members, however the effects will not be visible.

Formatting header options

You can set several options to control the display of row headers and column headers. These options are in addition to the Styles and Member formatting options.

Procedure

1. In the **Options** window, click the **Headers** tab.
2. Set the following options.

The options are:

- **Member Names and Aliases in Rows**
Displays the member name followed by its alias in the row headers.
- **Member Names and Aliases in Columns**
Displays the member name followed by its alias in the column headers.
- **Display Type Mask**
Sets the mask for displaying members and aliases in the row and column headers. This mask is also used for the member selection dialog. E.g. #m #a, where #m is the member name and #a is the alias name.
- **Indent Row Headers**
Displays the outline structure in the row headers. By default a full stop and a space is used for this option. You can replace the defaults with a symbol of your choice.
- **Show Icons in Headers**
Displays the Label, Calculator, Attribute Dimensions, Dynamic Time Series, and Virtual Dimensions symbols in the headers.
- **Indent Headers for Icons**
Indents the headers to allow the display of icons.
- **Auto Size Headers**
Automatically resizes the headers to create an exact fit. If this option is selected, the splitter is disabled.
- **Show Splitter**
Displays or hides the splitter.

Formatting header width and height

You can set the header width and height to resize automatically.

The width and height are set for the specific dimension. If you move the dimension to the Offspread area and back to the Inspread area, the width and height are set to the values you have specified for that dimension.

Tip: The header height and width can manually be set by dragging the width and height indicators.

Procedure

1. In the **Options** window, click the **Headers** tab.
2. Select **Auto Size Headers**.

Formatting backgrounds

You can change the formatting of background areas.

You can change the color of background areas such as:

- Offspread
- Columns
- Rows
- Table
- Chart
- Drill Through

Procedure

1. Right-click the screen area that you want and click **Background** from the **Formatting** menu.
2. Select the color that you want.

Note: This color becomes the default for the Styles or Member formats.

Formatting styles

Styles are organized in a hierarchy.

The **Default** style is the highest level. All other styles use the setting from the **Default** style. Settings in a lower level style overwrites higher level styles.

Auto style uses the setting from the higher-level style as the default

The available styles are:

Level 2	Level 3	Level 4	Level 5	Affects
Cell				All table cells.
	Zero			Cells with zero values
	Positive			Cells with positive values
	Negative			Cells with negative values
	Text			Cells with text
	Missing			Cells with missing values
	No access			Cells the user has no access to due to security settings in the OLAP database server.
	Error			Cells displaying an error code from the OLAP database server.
	Label			Cells with members marked as labels

Level 2	Level 3	Level 4	Level 5	Affects
				in the database outline.
Data entry				All cells on screen when in data entry mode.
	Read Only			Cells the user has read-only access to due to security settings in the OLAP database server.
	Atomic			Cells at the lowest level. No other cells are used to create the value in this cell
	Aggregate			Cells that are an aggregation of Atomic cells. Values from Atomic cells make up the value in this cell
	Changed Value			Cells for which the user can change the value during data entry.
	Hold			Cells that are put on hold.
Header				The inspread row and column header areas.
	Row			The row header area (Inspread).
	Column			The column header area (Inspread).
Offspread				The area above the header in the chart. The dimensions that define the basis of the inspread members are not directly part of the table or chart.
Chart				Graphic display of data. Charts available are: Bar, Line, Area, Pie, Radar, Bubble, Scatter, Range, and Map.
	Chart Area			Space on screen to place a chart.
		Plot Area		Space in a chart specifically showing data values
			Axis	Related to a category (X-axis) or value (Y-axis).
			Grid	Lines within a plot area showing the relation and intersection of data values.

Level 2	Level 3	Level 4	Level 5	Affects
	Maps			Geographic representation of location data.
		Shapes		Parts that make up maps (for example countries or regions).
		Lines		Lines can be available in a shape file, representing rivers, roads, or railroads.
		Points		Points can be available in a shape file, representing cities or other points of interest (offices, customers, etc.).
	Labels			Feature names for charts and maps or, dimension values related to a chart or charts.
	Title			Name for chart.
	Legend			Identifies the members displayed in a chart or map.
Drill Through				Space on screen to place the Drill Through table.
Notes				Space on screen to place the notes.
Title				Background color for the title area.
	Main Title			The main title of the view.
	Sub Title			The sub title of the view.
Audit Report				The Audit Report on a printed page.
Printed Fonts				The page header and footer area on printed pages.
	Page Footer			The page footer area on printed pages.
	Page Header			The page header area on printed pages.

Procedure

1. Select the **FORMAT** ribbon and click on the **Styles** button or right-click in the table and select **Formatting > Styles**.

2. Select the format options that you want.

Tip: Click **Reset All** to reset all style formatting options.

Formatting generations and levels (Essbase only)

When formatting is defined for Generations as well as Levels, the formatting of Generations will overwrite the Level formatting.

Procedure

1. Select the **FORMAT** ribbon and click on the **Generations & Levels** button or right-click in the table and select **Formatting > Generations and Levels**.
Level and Generation formatting overwrites Background and Style formatting.
2. Change the format options as desired.

Note: If you move a member with specific Generation or Level formats to the Offspread area, you can control how these settings are applied to the Inspread area.

Formatting levels (SSAS only)

When you use Microsoft Analysis Services as a data source, then you can format levels.

Procedure

1. Right-click in the table and select **Levels**.
2. Change the format options as desired.

Formatting fonts

You can change the font type and style. The formatting options are applied to the display and to the printed view. It is possible to change the text and background colors.

Procedure

1. Right-click and select one of the following:
 - for a generation or level, **Formatting > Generation and Levels > Style**
 - for a member, **Formatting > Members > Style**
2. Change the Font type, size or style.

Note: The display of Auto in the entry boxes means that the setting is derived from the Style for this member. A filled background in the Font Style check box means the font style is derived from the Style for this member.

3. To change color, click **Text color** and **Back color**.

Formatting members

An individual member can be formatted.

You can also right-click in the table and select **Formatting > Members**. Then select the members you want to format.

Member formatting overwrites Background, Style, or Generation and Level formatting. The default values for member formatting are derived from the **Default** style.

Procedure

1. Right-click the member you want to format, and select **Formatting**.
2. Select the formatting options that you want.

Formatting a cell

An individual cell can be formatted.

Procedure

1. Right-click the member you want to format, and select **Formatting > Members**.
2. Select the formatting options that you want.

Formatting prefix and display codes

You can determine how cell values are displayed.

The **Prefix** is left aligned and can be used for such things as currency symbols etc. The **Display Code** can be used to display negative values between brackets or to add a percent sign to the cell values.

Procedure

1. Right-click a member and select **Formatting > Members**.

Note: The **Display Code** can be changed for a style, level or generation or a member. The **Prefix** is only available for member formatting.

2. Type the codes that you want.

The default **Prefix** is empty **Auto()** and the default **Display Code** is **Auto (#s)**.

To display a percent sign next to the cell value, enter the **Display Code:** #s %.

To display negative values between brackets enter the **Display Code:** (#s).

To add a dollar currency symbol in the prefix, enter \$ in the Prefix field.

Date Time

It is possible to display values in date time format. This is achieved by converting the value of a cell to an appropriate date time value.

The value is the number of days since 01.01.1900. Therefore the value 1 would be 01.01.1900.

It is also possible to define the output and input values of the date. This allows numbers in the following format to be supported 19000101 (01.01.1900).

Examples

The following table contains some example display codes and describes their functionality.

Display Code	Description	Output
#s	The default display code to display a value	123
#s %	The value is displayed as a percentage	123 %
#s \$	The value is displayed as a currency	123 \$
+#s;-#s;#s	Positive, negative and zero based number formatting. Each format is separated by semi-colon ";"	Positive: +123 Negative: -123 Zero: 0
+#s %;-#s %;#s %	Positive, negative and zero based number formatting for percentages. Each format is separated by semi-colon ";"	Positive: +10 % Negative: -10 % Zero: 0 %
+#s \$;-#s \$;#s \$	Positive, negative and zero based number formatting for currency. Each format is separated by semi-colon ";"	Positive: +123 \$ Negative: -123 \$ Zero: 0 \$
#d	The value is displayed using short date format. This value is taken from the culture settings of the operating system. The possible displayed dates are from 01/01/1601 to 31/12/9999.	21/08/1984
#D	The value is displayed using long date format. This value is taken from the culture settings of the operating system. The possible displayed dates are from 01/01/1601 to 31/12/9999.	21 August 1984
#d(DD-MM-YYYY)	The value can be defined in a custom short date format	21-08-1984
#d(DD.MM.YYYY;YYYYMMDD)	This format accepts two parameters:	Date displayed as: 21.08.1984

Display Code	Description	Output
	<p>Output format: This is the format to be displayed in the table</p> <p>Input format (optional): This is the format in which the number is stored</p> <p>Note: If no input date format is defined, the date is calculated by adding the value to 01.01.1900</p>	<p>Date stored as: 19840821</p>

Only the following input date format is supported YYYYMMDD.

Only dates from 01/01/1000 are supported when using the input date format.

Only English notations are supported when using date formatting.

Results

The formatting options are applied to the displayed view and the printed view.

Formatting decimal numbers

The number of decimal places can be set with formatting options.

Procedure

1. For a style, right-click and select one of the following:
 - for a generation or level, **Formatting > Styles**.
 - for a member, **Formatting > Styles**.
2. Change the number of decimals in the **Decimals** entry field.

Note: You can also type a negative value. The values in the cell will be rounded off before the comma.

Formatting scaling factor

To improve readability, a value can be displayed with a scaling factor. For example, to display the actual values in units of 1,000 set the scaling factor to 0.001.

Values in the database are not changed by the scaling factor. The scaling factor only controls the way values are displayed.

You can also set a scaling factor for each member from the Member Format dialog box.

Procedure

1. Select **Options**.

2. Enter the scaling factor value.

Forcing read-only

When a cell is read-only, the cell will be grayed out and cannot be edited when starting data entry. The OLAP database security determines if a cell is protected from editing. It is also possible to make a member Read Only using formatting.

Procedure

1. Select one of the following:
 - For a style, **Formatting > Styles**.
 - For a Level or Generation, **Generation and Levels**.
 - For a member, **Formatting > Members**.
2. Select **Force Read Only**.

Note: A filled background in the check box means the Force Read Only style is derived from the style for this member.

Formatting cell alignment

You can change the cell alignment with formatting options.

Procedure

1. Select one of the following:
 - For a style, **Formatting > Styles**.
 - For a Level or Generation, **Generation and Levels**.
 - For a member, **Formatting > Members**.
2. Set the horizontal cell alignment to **Left**, **Center**, **Right**, **Left and Right** or **Center and Right**.
3. Set the vertical cell alignment to **Top**, **Center**, or **Bottom**.

When changing the vertical alignment for individual cells, the option **Quick Row Formatting** on the **Format** tab of the **Options** dialog box should not be checked.

Left and Right specifies that the column headers closest to the data cells will be aligned to the right, all other column headers will be aligned to the left.

Center and Right specifies that the column headers closest to the data cells will be aligned to the right, all other column headers will be aligned in the center.

Note: **Left and Right** or **Center and Right** is only supported for the column header style.

Formatting column and row size

You can change the cell size by column or by row size with the formatting options.

Procedure

1. Select one of the following
 - For a style, **Formatting > Styles**.
 - For a Level or Generation, **Generation and Levels**.
 - For a member, **Formatting > Members**.
2. Change cell width or height to adjust the column or row.
The unit of measure can be changed to characters, inches, or centimeters.

Note: The height of a row must always be high enough to display one line of all the different fonts and sizes in that row.

Using characters will ensure that columns are sized proportionally when the font or font size is changed.

Displaying names

You can change the member name, as it is displayed on screen, without changing the actual member or alias name in the outline of the OLAP database.

Procedure

1. Right-click a member and choose **Change Display Name**.
2. Type the new display name.

Note: To remove the display name and show the member or alias name again, right-click the member with your secondary mouse button and choose **Change Display Name** from the pop-up menu. Click **Remove** to remove the display name.

To reset all display names to the original OLAP database outline names, right-click the window and choose **Display Names > Remove All**.

Quick formatting of rows

This is an option that controls how the row heights are calculated. Be aware though, with large tables, performance may be inhibited without using this option.

Procedure

1. Right-click and choose **Options**.
2. On the **Format** tab, de-select **Quick Row Formatting**.

Note: The height of the entire row is adjusted to accommodate a single, changed cell. When changing the vertical alignment for individual cells, this option should be unchecked.

Formatting borders and lines

Borders can be added to rows, columns and cells. Borders can be set to all areas in your View.

The orientation of borders stays the same when you move members on your screen. Horizontal borders stay horizontal, vertical borders stay vertical.

Lines and white spaces can also be added. To add lines and white space, right-click a member and select Formatting.

Procedure

1. Right-click and click **Formatting**.
2. For a level or generation, select **Generation and Levels**.
For a member, select **Members**.
3. Do one of the following:
 - On the **Borders** tab select the border options that you want.
 - On the **Lines** tab select the line and white space options that you want.

Formatting precedence

You can control what takes precedence when both rows and columns are formatted. The default setting is that columns take precedence over rows.

Procedure

1. Right click inside the grid and select **Options...** from the context menu.
2. Select the **Format** tab.
3. Select **Apply Rows before Columns** for rows to take precedence over columns.
Select **Apply Columns before Rows**. for columns to take precedence over rows

Formatting white space

You can improve the readability in the row or column area by adding white space before or after dimension members.

Tip: You can format the space around a member by selecting **Color Cell Spacing** on the **Format** tab of the **Options** window.

Procedure

1. Select the **Headers** tab in the **Options** window.
2. Under **Automatic Group Spacing**, type a value and select a unit of measure.

Formatting number separators

You can change the characters used to display the decimal separator and the thousands separator.

The default setting is derived from your Microsoft Windows setting.

Procedure

1. Select the **Numbers** tab in the **Options** window.
2. Type the characters that you want to use for the **Decimal Separator** and **Thousand Separator**.

Formatting numbers

With the Group Size value you can control where to display the thousand separator.

Procedure

1. Click **Options > Numbers**.
2. From the **Group Size** menu, select where you want the thousand separator to be placed.

Traffic lights

You can apply traffic lights to all members, both offspread members and inspread members, including members that you created with the calculator. You can specify how the traffic light displays when the value is lower, in between, or higher than a specified value.

Procedure

1. Select the **MEMBER** ribbon and click on the **Traffic Light** button or right-click the member > **Traffic Lights**.
2. From the **Based on** menu select how the traffic light is calculated. You can choose from
 - **Value**
Specify values that are in the range of the values for the member.
 - **Percentage**
Specify values between 0 and 100. See [Based on Percentage](#)
 - **Standard Deviation**
Specify values that are based on normally distributed data. For example -1 and 1. See [Standard Deviation](#)
3. In the **Less than** and **More than** fields enter the lower and upper value limits that you want to use.
4. Select how to display the traffic light. You can choose any combination of the following options:

- **Text Color**
- **Back Color**
- **Symbols**

You can use the available color and symbol templates or set your own combinations.

The next example shows a traffic light with colored text and symbols.

		Year 2011 
Region South	Product 1	880,676.21 
	Product 2	1,032,909.95 
	Product 3	315,007.45 
	Product 4	129,249.78 
	Product 5	1,307,065.90 

Swapping members that contain traffic lights

You can set traffic lights for offspread members just as you do for inspread members. Traffic lights that are set for offspread members apply to the entire table.

Procedure

1. Swap a member that has the traffic light condition with an offspread member.
2. If you do not want the traffic light condition for offspread members to apply to the entire table, then on the **Options** tab of the Traffic Light dialog box select **Exclude when in Offspread**.

Changing traffic light settings

You can change the traffic light settings and values.

Procedure

Right-click a member name and select **Traffic Lights**.

Setting traffic light options

You can set several options that change the look and feel of traffic lights.

Procedure

1. In the **Traffic Light** dialog box, click the **Options** tab.
2. Select the options that you want:
 - **Traffic Light Enabled**
Select this option to enable the selected traffic light condition. When traffic light conditions are set, clearing this option only removes the traffic light display.
 - **Exclude when in Offspread**

Select this option to not apply traffic light conditions to the inspread area when you drag the member with the traffic light condition to the offspread area.

- **Exclude Calculations**

Select this option to exclude from traffic light conditions any values that you computed using the calculator.

- **Treat Missing As Zero**

Select this option if missing values should equal zero.

- **Create Color Ranges**

Select this option to use colors to indicate the distance of the cell value between the upper and lower value the cell value is.

- **Skip Groups for Ranges**

When you have stacked dimensions, the members of the outer dimensions group the cells in your view. In either option, the traffic lights affected are based on percentage or standard deviation and data bars.

If **Skip Groups for Ranges** is cleared, then the range of values that are found within each individual group of cell derive the traffic lights.

If **Skip Groups for Ranges** is selected, then the range of values found across all groups of cells derive the traffic lights.

- **Symbol Position**

Set the position of the symbol to the left or right of the value in the cell. You can also choose to only show a symbol instead of the value.

- **Use Text Color for**

Use this option to specify whether the text color also applies to the symbol.

Example skip groups

The next examples show how the option Skip Groups for Ranges affects the traffic lights.

Skip Groups for Ranges is cleared

		2018
Market	Colas	30,747.46
	Root Beer	19,982.86
	Cream Soda	21,849.73
	Diet Drinks	26,690.40
East	Colas	13,115.42
	Root Beer	-782.07
	Cream Soda	2,655.90
	Diet Drinks	2,434.49
West	Colas	2,578.05
	Root Beer	4,899.31
	Cream Soda	6,615.98
	Diet Drinks	5,723.27
South	Colas	5,230.80
	Root Beer	6,182.27
	Cream Soda	2,375.85
	Diet Drinks	4,966.03
Central	Colas	9,823.19
	Root Beer	9,683.36
	Cream Soda	10,202.00
	Diet Drinks	13,566.61

Skip Groups for Ranges is selected

		2018
Market	Colas	30,747.46
	Root Beer	19,982.86
	Cream Soda	21,849.73
	Diet Drinks	26,690.40
East	Colas	13,115.42
	Root Beer	-782.07
	Cream Soda	2,655.90
	Diet Drinks	2,434.49
West	Colas	2,578.05
	Root Beer	4,899.31
	Cream Soda	6,615.98
	Diet Drinks	5,723.27
South	Colas	5,230.80
	Root Beer	6,182.27
	Cream Soda	2,375.85
	Diet Drinks	4,966.03
Central	Colas	9,823.19
	Root Beer	9,683.36
	Cream Soda	10,202.00
	Diet Drinks	13,566.61

Based on Percentage

The option **Based on Percentage** allows to calculate dynamic bounds based on the minimum and maximum value within the given range. It determines if a specific value is within the lowest/topmost x percent of the range between minimum and maximum.

First, we calculate the difference between minimum and maximum:

$$\text{Delta} = \text{Maximum} - \text{Minimum}$$

Then we calculate the bounds as 'x percent away from the minimum':

$$\text{Bound} = \text{Minimum} + \text{Delta} * X / 100$$

Now we can check if a specific value is above or below that calculated boundary.

An Example:

Looking at the values 50, 70, 80, 150. We get the

$$\text{Delta} = 150 - 50 = 100.$$

Now setting a lower bound of 25%, we get:

$$\text{lower bound} = 50 + 100 * 25 / 100 = 75$$

Thus, the value of 70 is below the bound, whereas the value of 80 is above the bound.

Standard Deviation

The option **Standard Deviation** allows to calculate dynamic bounds based on the standard deviation within the set of values. It determines if a given value is far off the average of the values by comparing if it is below/above a certain factor of the standard deviation.

First, we calculate the average value:

$$\text{Average} = \text{Sum of all values} / \text{Number of values}$$

Then we calculate for given values x_i the standard deviation:

$$\text{Standard Deviation} = \text{SQRT}(\text{SUM}((\text{Average} - x_i)^2 / \text{Number of values}))$$

The bound b_{\min}/b_{\max} defined in the traffic light now work as follows:

$$\text{Lower bound} = \text{Average} + b_{\min} * \text{Standard Deviation}$$

$$\text{Upper bound} = \text{Average} + b_{\max} * \text{Standard Deviation}$$

An Example:

Looking at the values 5, 10, 15, 20, 50. We get the

$$\text{Average} = (5 + 10 + 15 + 20 + 50) / 5 = 20.$$

$$\text{Standard Deviation} = \text{SQRT}(\text{SUM}((\text{Average} - x_i)^2) / \text{Number of values}) = \text{SQRT}(((20 - 5)^2 + (20 - 10)^2 + (20 - 15)^2 + (20 - 20)^2 + (20 - 50)^2) / 5) = \text{SQRT}(371) \approx 19.26$$

Now lets say we define an upper bound of $b_{\text{max}} = 1$, then

$$\text{Upper bound} = \text{Average} + b_{\text{max}} * \text{Standard Deviation} = 20 + 1 * 19.26 = 39.26$$

Thus, the value of 50 is above the bound (as it is far away from the other values), whereas all other values are below the bound.

Removing traffic lights

If you no longer need a traffic light, then you can remove it.

Procedure

1. Right-click the member and select **Traffic Lights**.
2. On the **Traffic Light** dialog box, click **Remove**.

Data Bars

You can apply Data Bars to all members, both offspread members and inspread members, including members that you created with the calculator. You can specify how the data bars displays depending on the data bar type.

Procedure

1. Select the **MEMBER** ribbon and click on the **Data Bars** button or right-click the member > **Data Bars**.
2. In the **Data Bar** section of the dialog select the data bar type.
 - **Data Bar**
Bars are displayed within the cell from left to right depending on their value. The number is not displayed as text.
 - **Variance Bar**
Bars are displayed within the cell using two different colors. One color (default: red) for negative numbers and one color (default: green) for positive numbers. The number is not displayed as text.
3. In the **Bar Height %** you can define the height of the bars in relation to the cell height. Valid values are from 5 to 100.
4. In the **Axis** section select the way the axis is calculated. The following values are

available:

- **Automatic**
The position of the axis is calculated based on the values.
- **Center in Cell**
The axis is always in the middle of the cell. Negative numbers are drawn on the left-hand side of the axis. Positive numbers are drawn on the right-hand side.
- **None**
This option draws for the maximum value a bar using 100% of the cell. The minimum value does not display a bar.

5. In the **General** section the following options are available

- **Data Bar Enabled**
Select this option to enable the selected data bar condition. When data bar conditions are set, clearing this option only removes the traffic light display.
- **Exclude when in Offspread**
Select this option to not apply data bar conditions to the inspread area when you drag the member with the data bar condition to the offspread area.
- **Exclude Calculations**
Select this option to exclude from data bar conditions any values that you computed using the calculator.
- **Skip Groups for Data Bars**
When you have stacked dimensions, the members of the outer dimensions group the cells in your view. In either option, the data bars affected are based on percentage or standard deviation.
If **Skip Groups for Ranges** is cleared, then the range of values that are found within each individual group of cell derive the data bars.
If **Skip Groups for Ranges** is selected, then the range of values found across all groups of cells derive the data bars.

The following picture displays a sample view using databars:

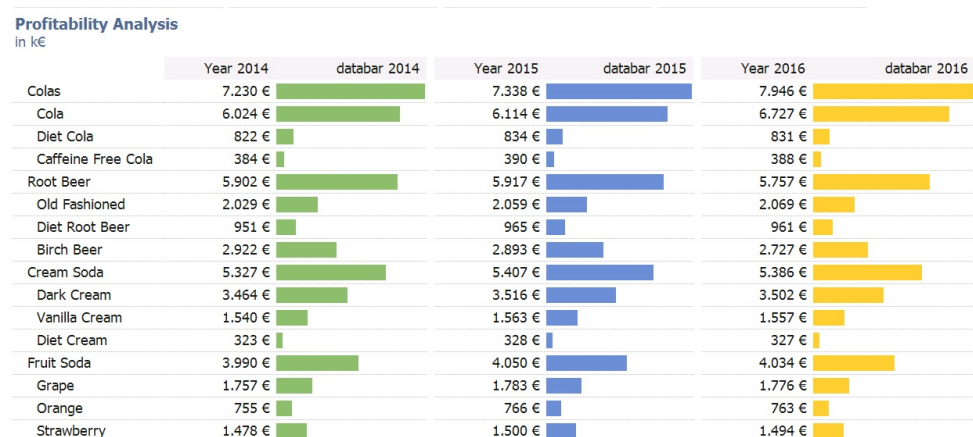


Figure 4 : Databar sample

Sparklines

You can create sparklines for all dimensions. A sparkline displays a line or bar chart inside a single table cell. The sparkline is typically drawn without axis or coordinates and presents the general shape of the variation of a member. The variation is typically the change of a value over time.

Procedure

1. Select the **MEMBER** ribbon and click on the **Sparklines** button or right-click on a member or on the table and select **Sparkline...**
2. To add a new sparkline click the **Add** button and enter the name for the sparkline in the field **Member**.
3. Click on the button ... at the right hand side of the field **Data Range**. The member selection dialog is displayed and allows you to define the members for the sparkline. The dimension displayed is always the innermost column dimension of the table.
4. In the **Sparkline** section of the dialog select the chart type.
 - **Bar**
Bars are displayed within the cell from left to right depending on the member list.
 - **Line**
A line is displayed within the cell
5. In the **Colors** section the color for the bars or the line can be defined. For sparklines of type bar a border can be drawn for each individual bar.
6. In the **Points** section special points (members) in the sparkline can be highlighted. The following values are available. The precedence of the colors is from top to bottom.
 - **High Point**
 - **Low Point**
 - **Negative Point**
 - **First Point**
 - **Last Point**
 - **Markers (line chart only)**
7. In the **Axis** section select the way the axis is calculated. The following values are available:
 - **Automatic**
The minimum and maximum values define the scaling of the values within the cell.
 - **Value**
An individual value defines the minimum/maximum value for the axis.
 - **Draw axis**
Draws the axis as a single line from the left to the right border of the cell.

The following picture displays a sample view using a sparkline:

Profitability Analysis

in k€








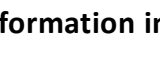
	Actual	Actual	Budget	Variance	Variance %
Sales		36.676 €	34.463	2.213	6,4 % ●
COGS		16.451 €	14.816	-1.635	-11,0 %
Margin		20.225 €	19.646	579	2,9 % ●
Marketing		6.113 €	4.810	-1.303	-27,1 %
Payroll		4.101 €	3.077	-1.023	-33,3 %
Misc		90 €		-90	
Total Expenses		10.303 €	7.887	-2.416	-30,6 %
Profit		9.922 €	11.759	-1.837	-15,6 %

Figure 5 : Sparkline sample

Additional Member Information in Table Cells

The data table can display additional member information in a cell. This functionality is available for Essbase and SSAS databases. The name of the attribute dimension member or attribute hierarchy member will be displayed respectively.

The member information can be added as a new member to the table by clicking on the innermost column dimension or row dimension. The member selection dialog has a new tab named "Attribute". In this tab all attribute dimensions (Essbase) or attribute hierarchies (SSAS) are displayed. For every selected attribute member a new "member-information member" is created.

The position of this new "member-information member" depends on the inspread position of this dimension. If the selection is done in the innermost row dimension, the innermost column dimension will get a new member. If the selection is done in the innermost column dimension, the innermost row dimension will get a new member.

These new members have the same formatting possibilities than database or calculation members.

The main difference of a "member-information member" compared to a "calculated member" is, that a calculated member is directly connected to its dimension. If the dimension is moved or swapped, the "calculated member" is moved as well.

A "member-information member" will stay in the column or row until its base dimension is moved or swapped and the base dimension will not be the innermost row or column dimension.

The following picture displays a sample view showing the attribute **Pkg Type**.

Years : Year 2015		Measures : Profit		Market : West		Scenario : Actual	
Sales History							
	Pkg Type	Qtr1	Qtr2	Qtr3	Qtr4	History	
Colas		1,058	862	912	3		
Cola	Can	1,063	1,207	1,359	266		Small
Diet Cola	Can	-68	-180	-156	-138		Small
Caffeine Free Cola	Bottle	63	-165	-290	-125		Medium
Root Beer		2,360	2,459	2,578	2,476		
Old Fashioned	Bottle	343	370	454	514		Small
Diet Root Beer	Bottle	1,220	1,260	1,335	1,274		Medium
Sasparilla	Bottle	797	829	790	688		Small
Birch Beer	Bottle						Medium
Cream Soda		2,398	2,780	2,981	2,732		
Dark Cream	Bottle	1,106	1,339	1,551	1,438		Large
Vanilla Cream	Bottle	389	517	477	413		Large
Diet Cream	Can	903	925	953	881		Small
Fruit Soda		1,428	1,527	1,586	1,401		
Grape	Bottle	1,160	1,185	1,290	1,237		XLarge
Orange	Bottle	1,017	1,137	1,210	954		XLarge
Strawberry	Bottle	-749	-795	-914	-791		XLarge

Figure 6 : Additional Member Information sample

Automation

The retrieval and selection of data can be automated.

Retrieving data manually

Use this option when navigating through very large outlines or when there is low network performance. Under normal conditions automatic data retrieval (the default setting) is able to retrieve data as quickly as you can navigate through the outline. However, when the server or network performance causes some delays in the retrieval process, switch to manual retrieval and retrieve the data at the end of the navigation process.

Procedure

1. Right click inside the grid and select **Options...** from the context menu.
2. Click the **Data** tab.
3. The default setting is **Automatically Retrieve Data**. De-select this option to manually retrieve data
4. Click **Get Data**.

Dynamic selection

A DynaSelect is designed to automate tasks. With a dynamic view (a View with a DynaSelect) tasks can be performed automatically.

Dynamic views can be used to do such tasks as:

- Checking sales persons who are behind budget (alerts monitoring)
- Selecting markets with sales values over a certain value (value-based filters)
- Displaying values from the current time period using substitution variables or UDA (Essbase)
- Printing views listing only products behind budget for each region (exception

monitoring)

- Setting up a view that displays the correct data entry cells in the case of forecast or budget entry
- Setting up advanced member selections for example all cities with a population of more than 1 million

All available functions can be incorporated into a dynamic view. Calculations in a dynamic view can be created (and deleted again if needed), members can be selected through Properties (Microsoft Analysis Services only) or Substitution Variables (Essbase only) or members can be selected by value. Members can be moved from the Offspread area and back.

Limitation: It is not possible to record changing the order of two members. But it is possible to go into the [Member Select Dialog](#).

There one of the predefined order algorithms can be used, which can be recorded by the DynaSelect.

Setting DynaSelect

There is no programming involved in setting up a dynamic view. You can teach views to perform tasks by recording your actions.

When you have taught your view everything it needs to do, you can perform these tasks at the following times:

- On demand (F5)
- When opening a view
- When printing a view with a Print Range
- When selecting another offspread member

Procedure

1. Right-click the table and click **DynaSelect > Teach DynaSelect**.
A red DynaSelect icon indicates that the DynaSelect is recording.
2. To stop recording, right-click **Dynaselect > Stop Teaching**.
3. To remove a DynaSelect, right-click **Dynaselect > Forget DynaSelect**. A DynaSelect can be removed while it is recording or after.

Viewing DynaSelect

Dynamic views are automatically documented for you.

The actions of a DynaSelect can be viewed by using the View DynaSelect option.

Procedure

1. Right-click **Dynaselect > View DynaSelect**.
2. The **View DynaSelect** window displays all tasks that the view will perform.
Tip: If you pause your pointer over the DynaSelect icon, you will also see all tasks happen when the DynaSelect is applied.

Applying Dynaselect

You can run a DynaSelect at several occasions.

A DynaSelect can be run when:

- Opening a view
- Changing an Offspread member
- Printing the View with a Print Range
- On demand (by pressing F5)

Procedure

1. Right click inside the grid and select **Options...** from the context menu.
2. On the **Data** tab, click **Apply DynaSelect on Load** and/or **Apply DynaSelect on Offspread Changes**.
3. To apply a DynaSelect on demand, press **F5**.

Results

When a DynaSelect is recorded, the complete table and/or chart layout (including the calculations) is stored. When applying a DynaSelect, this initial layout is restored first. After that, the recorded actions are re-played.

The only change to the initial layout can be in the offspread area. When the option **Apply DynaSelect on Offspread Changed** is enabled, the new offspread layout is applied to the initial layout.

Charts

Charts are a graphical way of presenting information. Use charts to reveal trends and relationships that are not evident in tabular reports. For example, you can create a chart to visualize how actual sales compare to projected sales, or to discover whether sales are falling or rising over quarterly periods.

Use maps to display chart data geographically. For example, create a map to show sales data for regional sales offices by city.

Use performance maps to visualize the behavior of two members of a dimension relative to members of another dimension.

This chapter uses two elements: data series and category. The chart below describes these two elements.

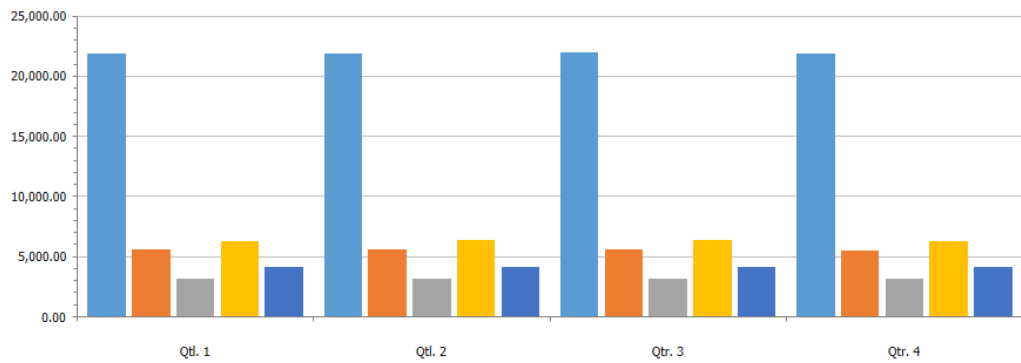


Figure 7 : Charts

1. **Data Series** - A group of related data points plotted in a chart. Each series has a unique color or pattern and is described in the legend.
2. **Category** - Groups of related data from the data series, plotted on the x-axis. Categories of multiple data series are shown together using clustered and stacked data markers

Chart types

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

Chart Type	Icon
Bar chart	
Line chart	
Area chart	
Pie chart	
Radar chart	
Bubble chart	
Scatter chart	
Range chart	
Dial chart	
Maps	
Performance map	

Bar chart

Bar charts are useful to show the relative performance of different data series between categories, or to show trends over time. Bar charts can be either vertical or horizontal. The vertical bar chart can be called a column chart.

The example shows the relative performance of eight sales outlets over four quarters.

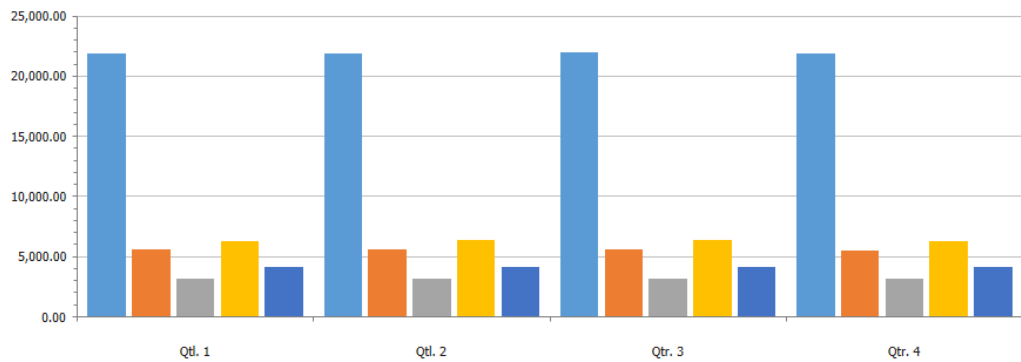


Figure 8 : Bar Chart

Line chart

Line charts show the trend between different data series over a period of time. The example shows the sales trend for three different sales outlets over one year.

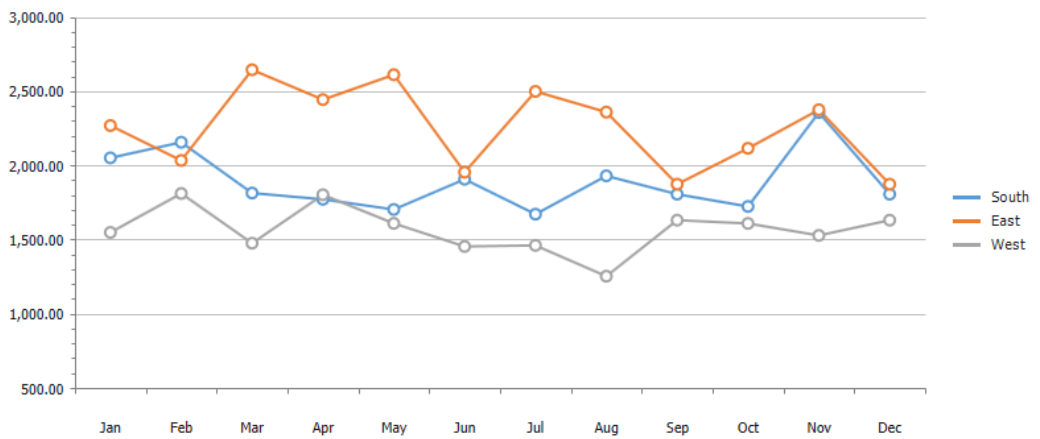


Figure 9 : Line Chart

Area chart

Area charts are useful for emphasizing the magnitude of change over time. The area chart is based on the line graph.

The example shows the relative sales volume for three different sales outlets over one year.

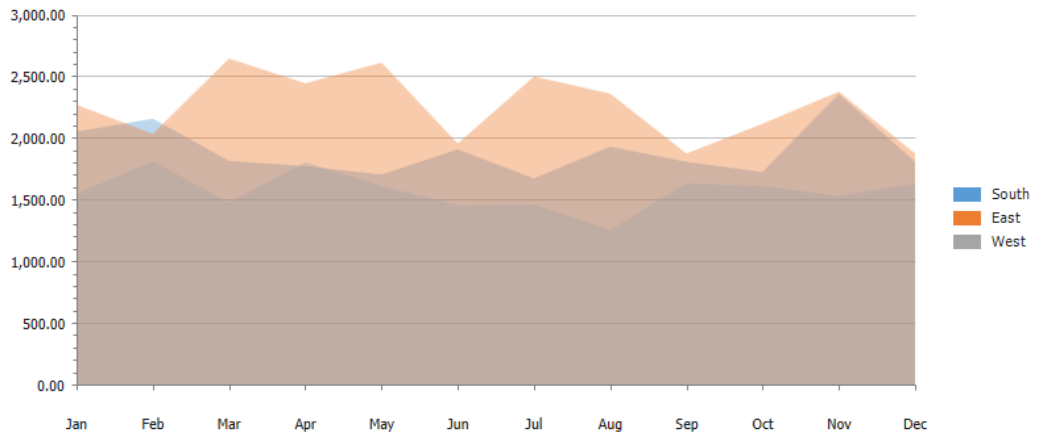


Figure 10 : Area Chart

Pie chart

Pie charts show the total for the data series in proportion to each other. Pie charts use segments of a circle to show the relationship of parts to the whole. To highlight actual values, use another chart type, such as a stacked area chart. Pie charts plot a single data series. To avoid multiple charts when plotting multiple data series, use a 100 percent stacked chart.

The example shows the relative sales of three different product outlets for one year.

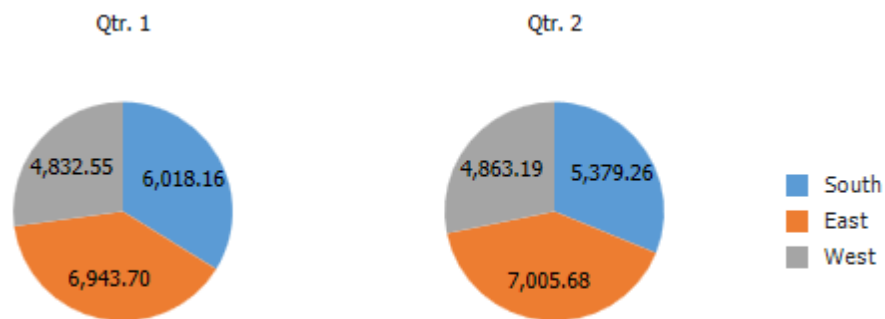


Figure 11 : Area Chart

Radar chart

Radar charts are useful as a comparative tool for charts that only have a few data series. Radar charts integrate multiple axes into a single radial figure. Data is plotted on each axis and joined to adjacent axes by connecting lines.

The example shows the sales for six product outlets over one year.

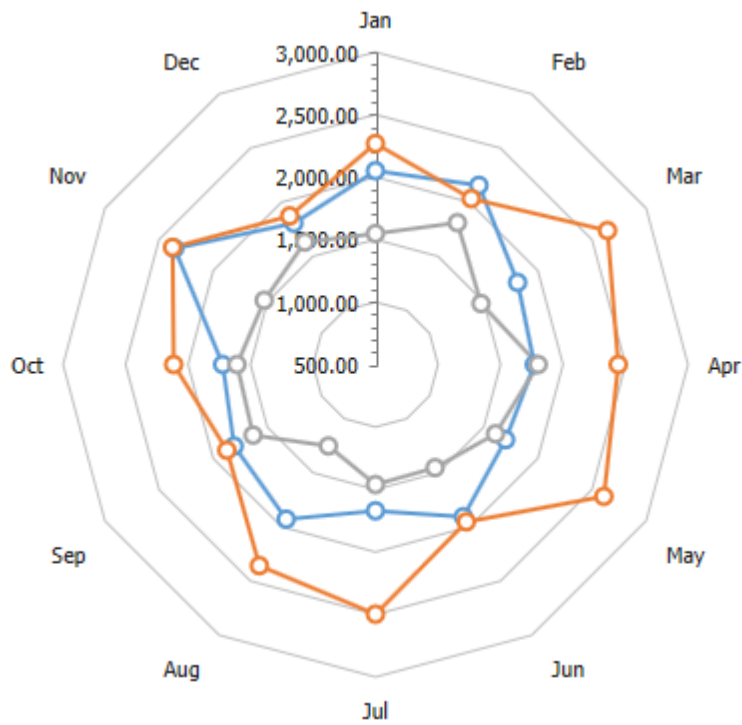


Figure 12 : Radar Chart

Bubble chart

Bubble charts, like scatter charts, use data points and bubbles to plot measures along a scale. The size of the bubble represents a third measure.

The example shows the relative sales of three outlets over four quarters. The X axis represents one outlet, the Y axis a second, and the size of the bubble represent the third.

The symbols in a bubble chart can be changed, for more information see [Formatting members in a chart.](#)



Figure 13 : Bubble Chart

Scatter chart

In a scatter chart, the data is displayed as a collection of points, each having the value of one variable determining the position on the horizontal axis and the value of the other variable determining the position on the vertical axis. In the example the sales of two different products are compared for each month. The Y axis represent one product, and X axis the other. Each dot represent a store outlet for a particular month.

The symbols in a scatter chart can be changed, for more information see [Formatting members in a chart.](#)

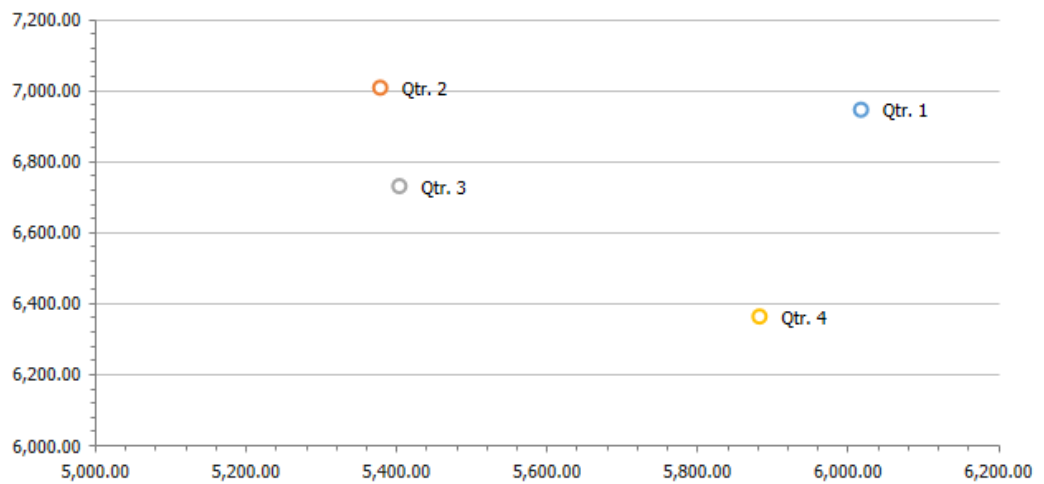


Figure 14 : Scatter Chart

Range chart

A range chart shows how an initial value increases by a series of intermediate values, culminating in a final value. An invisible column keeps the increases and decreases linked to the heights of the values of previous columns. The example shows how the sales value differs according to the outlet type.

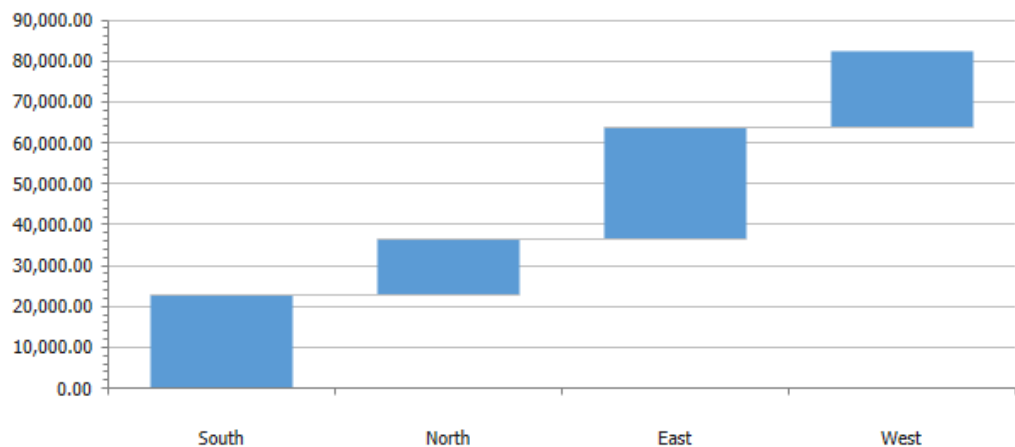


Figure 15 : Range Chart

Format using Deltas option only works with non-composite bars. This option allows AL to use Zero Positive and Negative styles to define the color of the bars in the range chart.

The color of the bar is painted related to the value of the previous bar. For example, if the value of a single bar is less than the previous bar then the color of the bar will be as defined in the Negative style.

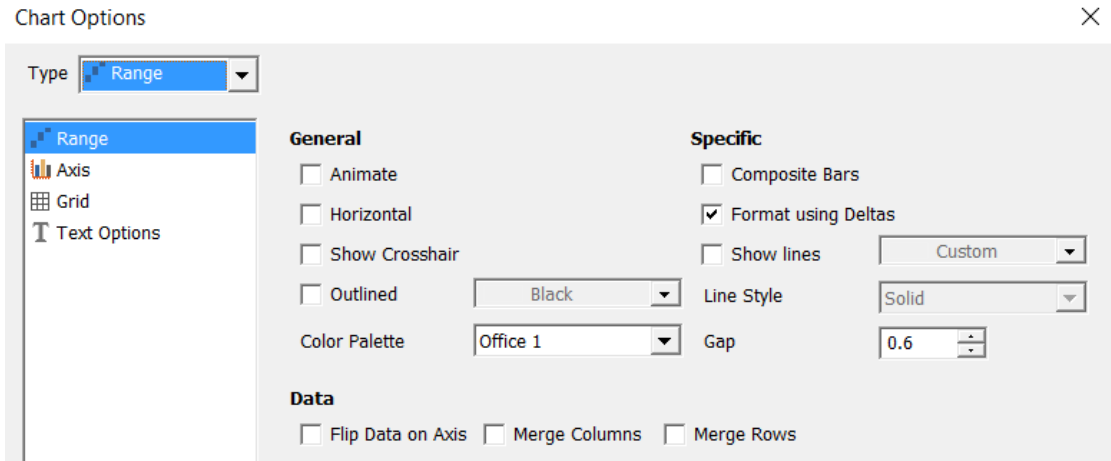


Figure 16 : Range Chart Options

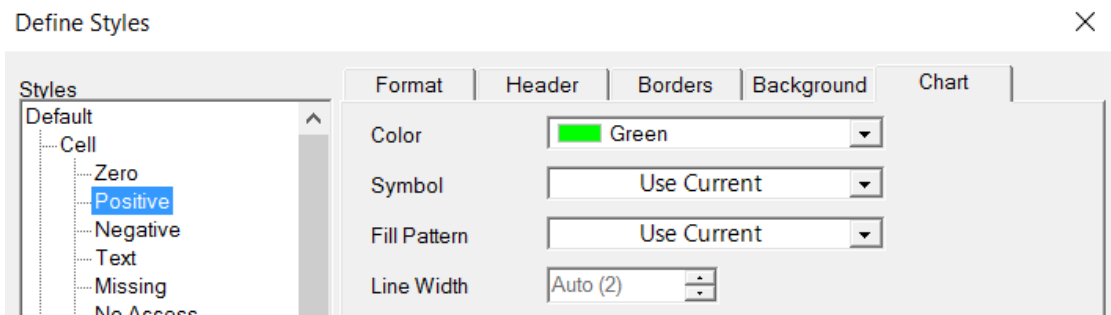


Figure 17 : Range Chart Styles

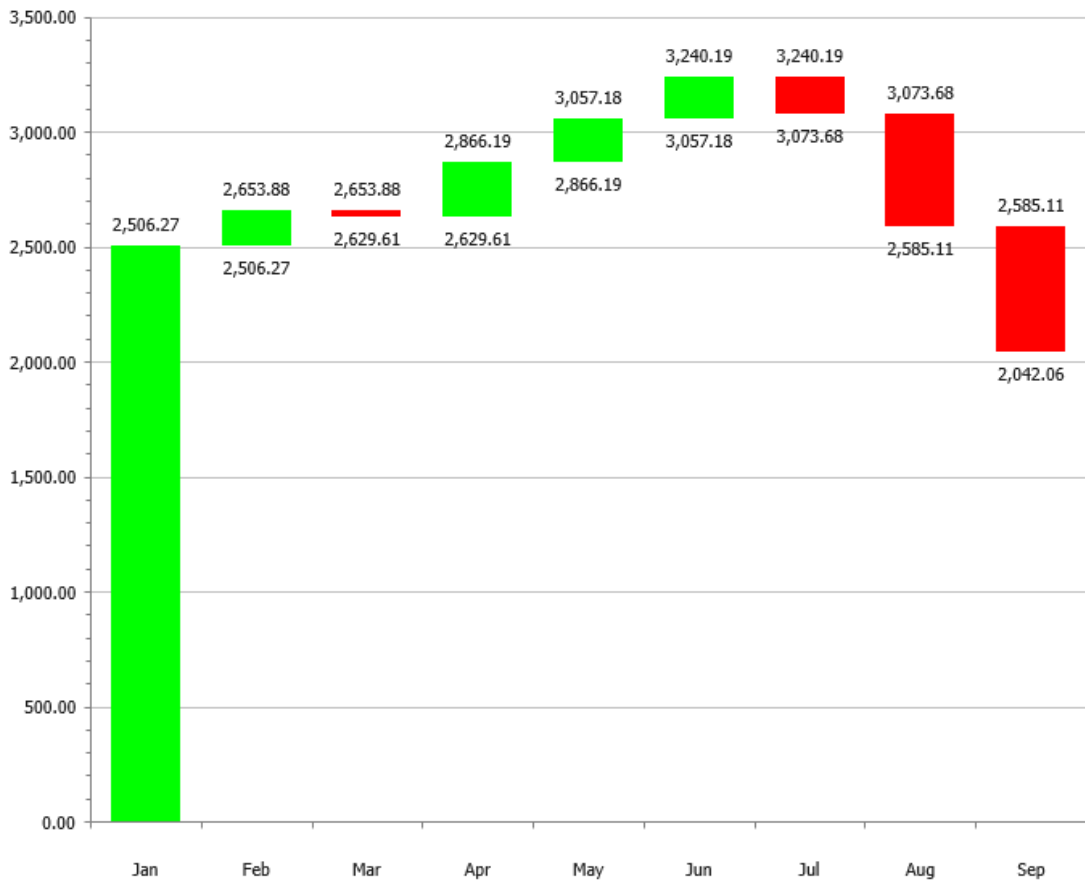


Figure 18 : Format Using Deltas

Dial chart

A dial chart shows one or more values as needles on a circular scale. Dial charts are especially suitable for creating visually appealing dashboards.

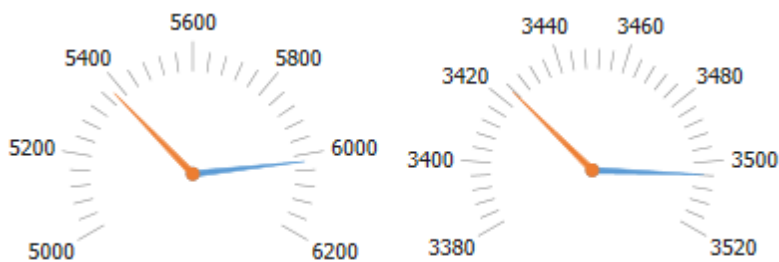


Figure 19 : Dial Chart

Maps

Maps show statistical information over a topological or geographical representation of an area.

Performance map

In performance maps the data is shown by the area of the data type. Performance Maps help to visualize the behavior of two members of a dimension relative to members of another dimension. The size of the Performance Map areas indicates the relative values of cells in the first column of the table view to the total value of the first column, while the coloring mode takes the properties of cells from the second column to color the areas.

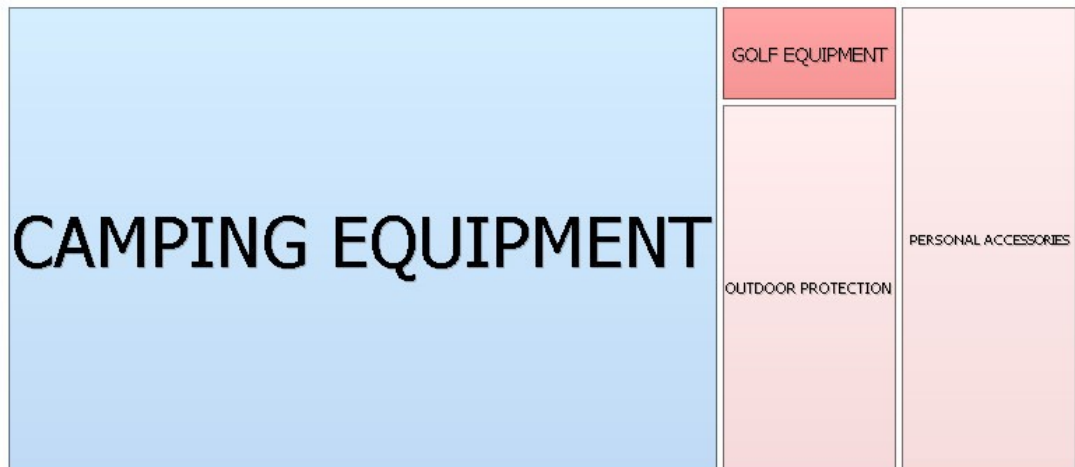


Figure 20 : Performance Chart

Working with charts

Creating a chart

A chart is made from the members that are in the view of a table representation.

These members are selected using the table view **Sort & Select** dialog box.

When the table has stacked dimensions in rows or in columns, the chart is based on the most inner dimensions. The outer dimensions are moved to the bottom of the chart pane with the selected members retained. If you have multiple rows in a table, the chart is based on inner rows. You can use the outer rows as additional selection criteria.

Selecting a chart

When you select a chart, then you need to make sure that the members in the table view are what you need to display as a chart.

Procedure

1. Select **LAYOUT** ribbon or click the **Chart View** icon on the tool bar.
2. Select the chart type.
3. To change a member selection, click in the chart over the member.

Hint: Place the cursor over the member you want to change. If the member details show, you can change the member selection.

4. In the **Select Member** dialog box, change the member selection.

Results

The table changes when selecting new members for the chart.

Note: You can select other members in the offspread dimensions when you have a chart on screen. The same chart can be used for different member combinations.

Changing a chart type

You can change the type of chart by right-clicking the chart and choosing a style that better suits the data.

The chart type can be changed on the Chart Type tab on the Options dialog box.

Procedure

1. Right-click the chart and click **Options**.
2. From the **Chart Type** tab, click the required chart type.
3. Click **OK**.

Changing member properties for charts

You can change settings for the symbol, color shape and fill pattern for members depending on the chart type.

The chart symbols can be changed on the **Chart** tab on the **Member Formatting** dialog box.

Procedure

1. Right-click the member on the chart or table and click **Formatting**.
2. From the **Chart** tab, click the required color, symbol or fill pattern.
3. Click **OK**.

Selecting members in a chart

You can select or change members in a chart by clicking the members and making selections in the Member Select dialog box.

Procedure

1. In the chart, click a member.
The **Select Members** dialog box appears.
2. Make the selection of members, select items in the hierarchical list, and then click **OK**.

You can also go back to the table view by using the Table button under the **LAYOUT** ribbon to select other members.

Results

The new members appear in the chart.

Changing the order of members in a chart

You can reorder members.

To reorder members, click a member and use the up and down arrows on the **Member Select** dialog box to change the position of the member relative to other members.

When color formats are not set from members, the color remains with the order of placement. If the first member is blue, when you move the first member to the third position, the new first member is also blue.

Note: You can determine the individual color of a chart member. For more information see [Formatting members in a chart](#).

It is not possible to change the order of members in combination with DynaSelect.

Procedure

1. In the chart, click a member.
The **Select Members** dialog box appears.
2. Click the **Order** tab.
3. Click the member whose position you want to change, and then click the up or down arrows to move the item relative to the other members.
4. Click **OK**.

Note: The order of members can also be changed by moving them in the legend. Click the member you want to move and drag it to its new position.

Formatting members in a chart

You can customize the formatting options for a member.

The following formatting options are available:

- **Color.**
- **Symbol** for Line and Radar charts.
- **Fill Pattern** for bar, area, pie and map charts.
- **Line Width** for line and radar charts.
- **Symbol Size** for Line, Scatter and Radar charts. The option Symbol on Lines must be checked in the **Chart Type** tab of the Options dialog box.
- **Label Text.** The option Display Values must be checked in the **Chart Type** tab of the **Options** dialog box.
- **Label Back.**
- **Display Label** sets or suppresses a label to one or more points in the chart. A solid background in this check box means the setting is derived from a formatted row, columns or from the level or generation formatting.

Procedure

1. Right-click the symbol in the chart and click **Formatting**.

2. Click the **Chart** tab.
3. Select formatting options and click **OK**.

Note: You can select the option **Same As Table** from the drop-down menu to apply the table formatting to the chart member.

Combining a chart with a table

Both a table and chart can be visible on screen at the same time.

4.5.2.8.1 Adding a chart to the current table view

You can add a chart to the current table view.

Procedure

1. In the **LAYOUT** ribbon, click **Both**.
2. To resize the chart, drag the splitter in the middle of the window.

4.5.2.8.2 Adding a table to the current chart view

You can add a table to the current chart view.

By default, the chart is shown on the right side of your screen. You can change this in the Options dialog box, Layout tab. Select the place where you want the chart to be placed on screen. You can choose to see the chart on the top, left, right, or bottom side of the screen.

Procedure

1. Right-click the chart, and then click **View As Table and Chart**
2. To resize the table, drag the splitter in the middle of the window.

Changing the legend in a chart

By default, a legend is displayed in the chart. You can hide or reposition the legend. You can also add a title to the legend.

Tip: To hide the legend, right-click the chart and deselect the **Legend** option, or from the pop-up menu, click **Options** and on the **Chart Type** tab, deselect **Legend**.

Procedure

1. Right-click the chart and then click **Options**.
2. On the **Chart Options** tab, in the **Legend Position** drop-down box, click the position of the legend.
3. To add a title, in the **Legend** box type a title.
4. Click **OK** to close the dialog box.

To change the appearance of the legend, right-click the legend and select the

Format Styles tab.

5. Change the legend styles, such as font type, size and style, text and background color, and borders.
6. After you have finished updating the legend options, click **OK**. The legend appears with a title.

Drilling up or drilling down in a chart

You can drill up and drill down to change the focus of your analysis by moving between levels of information.

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

Drill down to see more detail. For example, you can drill down to the lowest-level item to examine the impact of a single aspect of your business.

4.5.2.10.1 Drilling up

This section describes how to drill up.

Procedure

1. Right-click the member on which to drill.
2. From the pop-up menu, click **Drill up**.

4.5.2.10.2 Drilling down

This section describes how to drill down.

Procedure

1. Right-click the member on which to drill.
2. From the pop-up menu, click **Drill down**.
To include the parent in your chart, click **Include Children Here** instead of **Drill down**.

Note: You can also **Drill up** and **Drill down** by right-clicking the legend.

Adding a background image to a chart

You can add an image, that is stored in the Performance Analytics server repository, as a background image to a chart.

Note: For information about adding images to the Performance Analytics Server repository, consult the *Serviceware Performance Analytics Server Installation and Administration Guide*.

Procedure

1. Right-click the chart and then click **Format Styles**.
2. Click the **Background** tab.
3. From the **Image** menu select an image.
4. Choose an **Image Mode**:
 - To display the image in its original size, select **Normal**.
 - To display the image in its original size and repeat it so that it fills the available space in the window, select **Tile**.
 - To stretch the image to fill the window size, select **Stretch**.
 - To stretch the image while maintaining the aspect ratio, select **Stretch Ratio**.
5. To move the image, set the **Image Alignment** using the **Horizontal** and **Vertical** boxes and corresponding offsets.
6. To move the chart, set the **Chart Margins**.
Tip: To position the image next to the chart, set the top and left margin of the chart to higher values.
7. Click **OK**.

Results

The chart appears with a background image.

Customizing the axes of a chart

For a bar, line, area, or radar chart you can set the amount of ticks and labels on the x-axis to improve the readability of the x-axis.

For a bubble or a scatter chart, you can set the y-axis as well as the x-axis.

For a dial chart you can set the amount of ticks on the axis to improve the readability.

There are two scaling options, Automatic and Custom. The Automatic option sets the y-axis to the lowest and highest integer value in the chart.

The **Custom** options are:

- **Number of Labels**
- **Number of Gridlines**
- **Maximum Value**
- **Minimum Value**

Note: For the **Number of Gridlines** option to be active, **Vertical Grid** or **Horizontal Grid** must be enabled on the **Chart Type** tab of the **Options** dialog box.

Procedure

1. Click the **Options** icon on the tool bar.
2. Select the **Chart Type** tag.
3. To change the orientation of labels from horizontal to vertical, set the **Vertical**

Labels check box.

4. To reduce the number of labels on the chart increase the value of the **Label every** box.
5. To reduce the amount of ticks on the chart, increase the value of the **Tick every** box.
6. Select **Scaling** options:
 - Click **Automatic** to set the y-axis to the nearest integer value in the chart.
 - Click **Custom** to manually select the options.
7. Click **OK**.

Results

The chart displays with the options you set for label orientation and scaling.

Setting the origin of a chart to zero

For a line, dial, radar, or bubble chart, you can set the origin of the scale to zero.

Note: When setting the primary scale to **Zero Origin** and the secondary scale to **Same as Primary**, the secondary scale will have a zero origin as well.

Procedure

1. Right-click a table or chart and click **Options**.
2. On the **Chart Type** tab, set the **Scale Type** to **Zero Origin**.

Generating a chart with two scales

If you need to plot two members with different scales, such as absolute figures and a percentage, a chart with two scales (two y-axes) can be created.

Procedure

1. To enable the second scale, right-click the chart and select **Options**.
2. On the **Chart Type** tab, under **Secondary Chart**, set the **Enable** check box.

The settings of the second scale as well as the settings for the primary chart can be adjusted.

Tip: If you use the pull-down list with the second scale, you can also choose to make the second scale identical to the primary scale, or for both scales to have the same origin.
3. When you have a second scale and you want more members beyond the last member on the second scale, adjust the Last rows used option on the **Chart Type** tab.

Tip: When the values of the second scale are very different from the values of the primary scale, it might give a better overview to use the option **Same Origin**.
4. Click **OK**.

Results

The chart appears with both scales.

Generating a chart with stacked dimensions

If you have stacked dimensions you can create a chart using these stacked dimensions. Two stacked dimensions can be merged into one.

For example, if your table contains the dimensions Scenario, with members **Actual** and **Prior**, and a dimension **Year** with 3 months, you can create a chart over all 6 months. By merging columns, the chart displays the data over two stacked dimensions (with 2 times 3 months) as if it were one dimension with 6 months.

Procedure

1. Right-click the chart and select **Options**.
2. On the **Chart Options** tab, set the **Merge Columns** check box and click **OK**.

Note: On the **Options** dialog box, on the **Chart Type** tab, you can check the option **Vertical Labels**.

Small Multiples

It is possible to create small multiples also known as a Trellis chart. A small multiple can be used to display each data series in its own chart. This functionality is available for bar, line and area charts.

Note: Each chart will always use the same axis scaling. This is to enable easy comparison of the charts.

Multi-dimensional small multiples can be created by stacking rows in the table and activating the merge rows option. The small multiple option can be activated using the ribbon user interface or directly in the chart option dialog.

There are a number of options that can be configured for small multiples. If the selected chart type supports small multiples, a panel will be displayed in the option dialog containing all the available options.

The following options are available:

- **Show as a Small Multiple**
Enables or disables the Small Multiple chart.
- **Height**
Sets the height in pixels of each chart.
- **Width**
Sets the width in pixels of each chart.
- **Number of charts per row**
Defines how many charts are visible on each row. 0 means that all charts will be on the same row. This option is ignored when creating multi-dimensional small multiples.
- **Show Axis**

Controls the axis visibility. The possible values are.

- Outside
The axis is only displayed on the outside of the small multiple, no axis will be shown for the inner charts.
- Always
The axis is always visible for each chart.
- None
No axis will be displayed.
- **Series Color**
Sets the color of the data series for each chart.

If a valid matrix can not be created due to values being suppressed or asymmetrical selections, then the header for each chart will be displayed.

Swapping the axes for a table or a chart

You can swap the x-axis and y-axis of both the table and the chart, either together or separately. To swap the x-axis with the y-axis, drag the members and drop them on the other axis. Swapping the axes will change the chart from horizontal to vertical.

If only the chart should change, and not the table, use **Chart Options** to set the **Flip Data on Axis** check box. Only the axes in the chart will change, not the table.

Changing the axes for the table and chart

This section describes how to change the axes for the table and the chart.

Procedure

1. In the Table view, drag and drop members from one axis to the other.
The x-axes and y-axes have changed position. The data on the axes can also be flipped.
2. To exchange data on an axis with the legend, in the Chart view, drag the members from the axis to the legend.
The table and chart are now changed.

Changing the axes for the chart only

This section describes how to change the axes for the chart.

Procedure

1. To swap only the chart, and not the table, right-click the chart.
2. Click Options and then click the Chart Options tab.
3. Set the **Flip Data on Axis** check box and click **OK**. The selected axes are exchanged.

Maps

One of the most important features of Maps is that a map can be associated with members in your database. Your data can overlay either a geographical map or a physical structure. An office, an aeroplane, or a ship are examples of structures.

The association of a database to a map is done during the installation process in a mapping file.

Associating data to a map

Maps are installed during the setup process. To link a table to a map do these steps:

Procedure

1. Select the members you want to display as a map.
For example, in the rows, select market cities and in the columns select the dimension that contains the data, such as products that you want to analyze.
2. Click the **Chart** button, and then click **Map**.
To deselect members from the map, right-click an item and click **Deselect**.

Results

A map is now shown, focused on the members that were selected in rows of the table. The column members are shown as a pie chart.

Placing a chart on a map

A map can display data either as a label, a chart (Pie or Bar), or as a Traffic Light condition.

Procedure

1. Click the **Options** button.
2. To display data as a chart, select the overlay type from the **Options** dialog box, **Chart Type** tab.
When initially viewing a Map, the data is displayed as a Pie chart.
3. Click the **Options** button in the tool bar, or right-click the map and click **Options**.
4. On the **Chart Type** tab, select **Bar Chart** as the overlay.
You can also control additional settings for the chart, such as **Display Total**, **3D-Look**, **Legend** and **Outlined**.
5. Set other chart options and click **OK**.

Results

Every shape that has a corresponding member in the table now shows a bar chart with the data in the columns displayed as Bar charts.

Tip: When choosing **None** as the overlay type on the **Chart Type** tab of the **Options** dialog box, the data will be displayed as a label when you check the option **Display Total**.

Viewing traffic light conditions on a map

Traffic Light conditions in a table can be viewed in a map. The shapes in the map are colored either using the text color or the background color of the Traffic Light condition.

Procedure

1. In the **Options** dialog box, select the **Chart Type** tab and set **Traffic Light** as the overlay type.
2. Make sure **Use Background Color** is selected in the **Traffic Light** options.
3. Click **OK**.

Performance maps

A performance map is a chart that presents data by using different sizes and colors for performance map areas. Performance maps visualize the behavior of two members of a dimension relative to members of another dimension.

A performance map is defined by the rows and the first two columns in a view. Each row identifies a performance map area. The first column defines the size of the performance map area. The second column defines the color of the performance map area.

The size of the performance map areas indicates to what extent the values of cells in the first column contribute to the total value of the cells in the first column.

If the performance map option Fixed Text Size is not enabled, the size of the text in the performance map areas corresponds to the size of the performance map areas.

The colors of performance map areas are used to identify values of cells. This identification can be defined in two ways:

- By using the **Cell Text Color** or **Cell Background Color** via either: **Traffic Lights** or **Formatting**.
- By specifying the **Lower Bound** and **Upper Bound** via either **Fixed Values** or **Standard Deviation**.

Creating a performance map

Create performance maps to visualize the behavior of two members of a dimension relative to the members of another dimension. Performance maps enable you to present data by using different sizes and colors.

The layout of performance maps can be customized to your needs. There are several options available. All options are available on the Chart Type tab on the Options dialog box. Some commonly used options can also be selected by right-clicking the performance map.

Procedure

1. Place two members of a dimension in the first two columns of a table.
The member in the first column determines the size of the areas of the performance map. The member in the second column determines the color of the areas on the performance map.
2. Place a dimension in the rows.
Note: Only the first two columns are taken into account when you create a performance map.
3. After you have set up the table, click **Chart > Performance Map**.
You can now set options for the performance map, including options that are specific to performance maps, such as **Display Caption**, **Fixed Text Size**, **Ordered**, and **Add Hierarchy**.
4. To display captions for member node items, set the **Display Captions** check box.
5. To display uniform text size for all items, set the **Fixed Text Size** check box.
6. To display members in the same order as they appear in the rows of the table, set the **Ordered** check box.
7. To group items according to the hierarchical structure, set the **Add Hierarchy** check box.
8. After you have finished setting options, including coloring options, click **OK**.

Results

The performance map appears.

Setting the performance map options

The layout of Performance Maps can be customized to your needs.

There are several options available. All options are available on the **Chart Type** tab on the **Options** dialog box. Some commonly used options can also be selected by right-clicking on the Performance Map.

The options that are specific to Performance Maps are:

- **Display Captions**
The Display Captions option determines whether captions are displayed when Parents or Ancestors of the members are selected.
- **Fixed Text Size**
The Fixed Text Size option changes the size of the text that is shown in the Performance Maps areas to one size. With this option turned on, the text size is no longer dependent on the size of the areas in the Performance Map. For optimal clarity, display the captions when you choose Fixed Text Size.
- **Ordered**
The Ordered option determines in what order the areas in a performance map are displayed. By default the chart areas are displayed using an algorithm that makes the areas as square as possible. If you select the option Ordered the areas are displayed in the same order as the members in the rows, starting at the top-left and ending at the bottom-right.

- **Add Hierarchy**

The Add Hierarchy option adds areas around child members if a child member and its ancestor are selected, and, if the parent of that same child is not selected.

Procedure

1. Right-click the chart and click **Options**.
2. On the **Chart Options** tab, set the performance map options and click **OK**.

Results

The performance map options appear.

Setting coloring for performance maps

You can change the color options for a Performance Map with the Coloring Mode.

The Lower Bound and Upper Bound values allow you to specify an interval by using fixed values. The Create Color Range option lets you choose to create a blended color range.

Procedure

1. Click the **Options** button.
2. Select the **Chart Type** tab.
3. Check the **Fixed Values** option.
4. Use the side scroll bar to access the color options.
5. Change the color options for the **Lower Bound Color**, **Mean Color**, and **Upper Bound Color**.
6. Click **OK**.

Data entry

Data entry gives you the ability to do data modeling and forward planning based on actual data. Data entry is subject to the security set for the database. You can enter data to the cells allowed by the OLAP server. All other cells are grayed out and cannot be edited.

Entering data in SSAS and Essbase

Data entry is available when the required members are selected and Data Entry mode is active.

Microsoft Analysis Services and Essbase require the user to explicitly send the data. IBM Cognos TM1 values are directly updated as they are entered.

To enter data directly into the OLAP database, do the next procedure.

Procedure

1. Select the **NAVIGATE** ribbon and click **Data Entry** or right-click the table and select

Start Data Entry.

This action puts you in Data Entry mode. You can still change the selections in the table and navigate through your data.

2. Type either a new value directly in any editable cells, or press F2 or Enter to make the cursor active in a cell and type the new value.

Or, press **F2** or **Enter** when the cursor is on an editable cell.

3. After you have entered new values, press **Send Data** to send the changes to the OLAP Server. Or right-click the table and select **Send Entered Data**.

A confirmation screen that asks *Are you sure you want to send entered data to your Database?* is shown to verify that you are ready to make these changes:

- Select **Yes** to send the data to the server.
- Select **No** to ignore all changes and restore the old values.

Note: You can also right-click and select **Cancel Data Entry** or press the **Esc** button to ignore changes.

If you cancel the data entry, another confirmation screen displays to give you one more chance to discard your changes or to make them take effect. It asks *Are you sure you want to cancel the entered data?*

- Select **Yes** to cancel the newly entered data and restore old values.
- Select **No** to prevent the discarding of your changes. You have another chance to send the new data or restore the old values.

Note: When the cursor is on a cell, press the **Delete** button on the keyboard to set the value of the cell to **Missing**. Cells with a new value are highlighted.

Note: See [Spreading](#) for more information about entering large amounts of data automatically.

4. To stop the data entry, click **Stop Data Entry** or right-click the screen and select **Stop Data Entry**.

Entering data in IBM Cognos TM1

Data entry is available when the required members are selected and Data Entry mode is active.

- IBM Cognos TM1 with sand boxing enabled requires the user to explicitly send the data.
- Data entry in IBM Cognos TM1 is subject to IBM Cognos TM1 security.
- When the cell is greyed out editing is not allowed in a cell or a cell is not a stored value, the cell is grayed out. A grayed-out cell cannot be edited. White cells can be edited.
- Cells that have changed values because of data entry, are indicated with a color.
- In data entry mode, you can still change the selections in the table and navigate through your data.

Procedure

1. Right-click the table.
2. Select **Start Data Entry** from the shortcut menu.
This action puts you in **Data Entry** mode.
3. Type either a new value directly in any editable cells, or press **F2** or **Enter** to make the cursor active in a cell and type the new value.
4. Click **Send Data**.

Spreading

Spreading is a process that distributes entered values across a range of selected cells. This distribution occurs according to the spreading option that is set. Spreading is performed while in Data Entry mode and provides a quick and clear view of how new data affects the values in cells.

The following spreading options are available:

- **No Spreading**
Data can only be entered at the lowest level. Spreading can not be applied to the cells of a consolidated cell.
- **Equal Spread**
 - A specified input value to one consolidation cell is distributed to the leaves of the consolidation cell. The distributed values are in proportion to the initial value of the leaves.
 - A specified input value for a range of cells is distributed equally across the range.
 - A specified input value for a range of consolidation cells is distributed equally across the range. The values of the leaves of the consolidation cell are changed in proportion to their initial value.
- **Equal Leaves Spread**
 - A specified input value for one consolidation cell is distributed equally to the leaves of the consolidation cell. The distributed values are spread equally across the leaves.
 - A specified input value for a range of consolidation cells is repeated across the range. The distributed values are spread equally across the leaves for each consolidation cell.
- **Repeat**
 - A specified input value for a range of cells is copied to all cells across the range.
 - A specified input value for a range of consolidation cells is copied to all cells across the range. The values of the leaves of the consolidation cell are changed in proportion to their initial value.
- **Repeat Leaves**
A specified input value for a consolidation cell is copied to all leaves of the consolidation cell. The specified value can be either copied to all leaves of the consolidation cell or to only those leaves that contain values by using the All Leaves spreading action.

- **Percentage Change**

The initial cell value is multiplied by the specified percentage. The product of that multiplication can then replace, be added to, or be subtracted from the existing cell value.

- **Straight Line**

A range of cells is populated by a linear interpolation between a start value and an end value. If applied to a range of consolidation cells then the interpolation happens on the consolidation cells. The leaf cells are changed in proportion to their initial value.

- **Growth Percentage**

A range of cells is populated by a percentage change interpolation. The initial value is sequentially increased to all cells by the specified growth percentage.

- **Relative Proportional Spread**

A specified input value for a consolidation cell is distributed across the leaves of the consolidation cell. The distributed values are in proportion to the leaves of a referenced consolidation cell.

- **Relative Growth Percentage**

Populates the leaves of a consolidation cell from a percentage change input value for the consolidation cell. The change to the values of the leaves is in proportion to the leaves of a referenced consolidation cell.

The second part of the **Spreading Options** menu lists the **Spreading Actions** you can take when applying spreading:

- **Replace**

The entered data replaces the existing data.

- **Add**

The entered data is added to the existing data.

- **Subtract**

The entered data is subtracted from the existing data.

- **All Leaves**

Only available for Types Equal Leaves Spread and Repeat Leaves.

The value is distributed to all leaves of the consolidation instead of only to those that contain values.

General spreading procedure

The general procedure for spreading data is the same for each spreading type.

Note: Spreading type can also be set using the IBM Cognos TM1 spreading shortcut codes entered directly into a cell. See [Data spreading codes](#) for more information.

Procedure

1. Open the view in table mode.
2. Enter **Data Entry** mode.


3. Select the consolidation cell or range of cells on which you want to perform the data spreading.
4. Select one option from the **Spreading type** menu and one from the **Spreading action** menu.
5. Enter the new data to be spread.
6. Exit **Data Entry** mode.

Pick lists

If you want to perform data entry with predefined values, then use pick lists. Pick lists are not available by default.

You have to set up the TM1 cube to support pick lists. For more information, see the *IBM Cognos TM1 Developer Guide*.

Procedure

1. Create a view and select dimensions and inspread and offspread members in such a way that you have cells in your view that support pick lists.
2. Right-click on a cell > **Data Entry**.
3. Click the pick list menu button  and select a predefined value from the list.

Spreading options

There are two methods you can use to spread data across cells and leaves:

- Type the spreading control codes (also called data spreading syntax expressions or shortcuts) directly into a cell.
- Use the **Spreading Types** and **Spreading Action** menus from the **Spreading Options** menu.

Data spreading codes

Each data spreading control code consists of the following components: a method code, a data action (optional), direction indicators, and method parameter.

The letters are abbreviations and indicate the spreading types. The signs are optional and indicate the spreading action.

Consider the following when using spreading control codes:

- If the data you entered does not start with one of the spreading control codes, the **Spreading Options** menu determines the way in which data is updated. When two numbers are needed separate the numbers using a colon (:).
- If the entered data starts with a valid spreading control code, all options set in the Spreading Options menu are overruled

Spreading Code	Control	Spreading Menu Option	Example
S+,~<n>		Equal Spread	S+100

Spreading Code	Control	Spreading Menu Option	Example
LS+,~*<n>		Equal Leaves Spread	LS~*100
P+,~<n>		Proportional Spread	P100
R+,~<n>		Repeat	R100
LR+,~*<n>		Repeat Leaves	LR*100
P%+,~<n>		Percentage Change	P%+10
Keep <n>		Percentage of original value	keep 90
Increase, Inc <n>		Increase by n percentage change	Inc 10
Decrease, Dec <n>		Decrease by n percentage change	Dec 10
SL+,~<n1:n2>		Straight Line	SL100:200
GR+,~<n1:n2>		Growth Percentage	GR20:80
RP+,~<n>		Relative Proportional Spread	RP100
R%+,~<n>		Relative Growth Percentage	R%+5

Operands	Equivalent spreading action
None	Replaces original value with specified value
<n>k	Multiplies specified value by 1000
<n>m	Multiplies specified value by 1,000,000
Add, +<n>	Adds a specified value n to the original value
Subtract, Sub, ~<n>	Subtracts a specified value n from the original value
asterisk (*)	All Leaves. Valid only when using Equal Leaves Spread or Repeat Leaves.

Examples of data spreading

The following examples of spreading will help you formulate the appropriate spreading measures for your data.

Using No spreading

The No spreading type disables spreading. Spreading is not applied to the leaves of a consolidation cell.

Using Equal spread

The Equal Spread type distributes a specified value equally across selected cells. The values in the leaves of consolidation cells are changed in proportion to their initial value.

This example replaces the highlighted cells with a value of 1000 spread equally across the cells.

	Q1	M01	M02	M03
	1,716,873.00	441,851.00	320,968.00	954,054.00
	29,343.00	7,648.00	3,893.00	17,802.00
	206,746.00	31,005.00	42,614.00	133,127.00
	92,668.00	30,102.00		62,566.00
	249,293.00	105,527.00	54,714.00	89,052.00

The result is as follows

	Q1	M01	M02	M03
	1,716,873.00	441,851.00	320,968.00	954,054.00
	29,343.00	7,648.00	3,893.00	17,802.00
	333.33	49.99	68.71	214.64
	333.33	108.28		225.05
	333.33	141.10	73.16	119.07

Procedure

1. Enter **Data Entry** mode.
2. Select **Equal Spread** from the **Spreading type** menu.
3. Select **Replace** from the **Spreading action** menu.
4. Select the cell or range of cells to which you want to apply equal spread.
5. Type the value to spread, for example **1000**.
6. Press **Enter** or click outside the cell.
The value 1000 is divided equally over the selected cells and the values in the leaves also change.
7. Select **Stop Data Entry Mode** to exit data entry mode.

Spreading code: S1000

Using Equal Leaves Spread

The Equal Leaves Spread option distributes a specified value equally across all leaves of a consolidation cell.

This example replaces the highlighted cells with a value of 1000 and spreads the value

equally to the leaves of each cell.

	Q1	M01	M02	M03
	1,716,873.00	441,851.00	320,968.00	954,054.00
	29,343.00	7,648.00	3,893.00	17,802.00
	206,746.00	31,005.00	42,614.00	133,127.00
	92,668.00	30,102.00		62,566.00
	249,293.00	105,527.00	54,714.00	89,052.00

The result is as follows:

	Q1	M01	M02	M03
	1,171,166.00	276,217.00	224,640.00	670,309.00
	29,343.00	7,648.00	3,893.00	17,802.00
	1,000.00	333.33	333.33	333.33
	1,000.00	333.33	333.33	333.33
	1,000.00	333.33	333.33	333.33

Procedure

1. Enter **Data Entry** mode.
2. Select **Equal Leaves Spread** from the **Spreading type** menu.
3. Select **Replace** from the **Spreading action** menu.
4. Select the **All Leaves** option from the **Spreading Action** menu.
5. Select the cell or range of cells to which you want to apply an equal leaves spread.
6. Enter the value to spread, for example **1000**, in the consolidation cells.
7. Press **Enter** or click outside the cell.
8. The value 1000 is entered into the selected cells and divided equally to all leaves of that cell.
9. Select **Stop Data Entry Mode** to exit data entry mode.

Spreading code: LS+*1000

Using Proportional Spread

The Proportional Spread option distributes a specified value across selected cells in proportion to the original value.

This example replaces the highlighted cells with a value of 1000 spread proportionally across the cells and to the leaves of the cells.

	Q1	M01	M02	M03
	1,716,873.00	441,851.00	320,968.00	954,054.00
	29,343.00	7,648.00	3,893.00	17,802.00
	206,746.00	31,005.00	42,614.00	133,127.00
	92,668.00	30,102.00		62,566.00
	249,293.00	105,527.00	54,714.00	89,052.00

The result is as follows:

	Q1	M01	M02	M03
	1,169,166.00	275,520.68	223,817.38	669,827.94
	29,343.00	7,648.00	3,893.00	17,802.00
	376.79	56.51	77.66	242.62
	168.88	54.86		114.02
	454.33	192.32	99.71	162.29

Procedure

1. Enter **Data Entry** mode.
2. Select **Proportional Spread** from the **Spreading type** menu.
3. Select **Replace** from the **Spreading action** menu.
4. Select the range of cells to which you want to apply a proportional spread.
5. Enter the value to spread, for example **1000**, in the cell.
6. Press **Enter** or click outside the cell.
7. The 1000 value is spread to the selected cells in proportion to the original values.
8. Select **Stop Data Entry Mode** to exit data entry mode.

Spreading code: P1000

Using Repeat

The Repeat option copies the value you type and pastes it to all the selected cells. The values in the leaves of consolidation cells are changed in proportion to their initial value.

This example replaces the highlighted cells with a value of 1000. The value is also spread proportionally across the leaves of each cell.

	Q1	M01	M02	M03
	1,716,873.00	441,851.00	320,968.00	954,054.00
	29,343.00	7,648.00	3,893.00	17,802.00
	206,746.00	31,005.00	42,614.00	133,127.00
	92,668.00	30,102.00		62,566.00
	249,293.00	105,527.00	54,714.00	89,052.00

The result is as follows:

	Q1	M01	M02	M03
	1,171,166.00	276,115.11	224,065.59	670,985.30
	29,343.00	7,648.00	3,893.00	17,802.00
	1,000.00	149.97	206.12	643.92
	1,000.00	324.84		675.16
	1,000.00	423.31	219.48	357.22

Procedure

1. Enter **Data Entry** mode.
2. Select **Repeat** from the **Spreading type** menu.
3. Select **Replace** from the **Spreading action** menu.
4. Select the cell or range of cells for which you want the same value repeated.
5. Enter the value to repeat, for example **1000**, in the cell.
6. Press **Enter** or click outside the cell.
7. The 1000 value is written to all the selected cells.
8. Select **Stop Data Entry Mode** to exit data entry mode.

Spreading code: R1000

Using Repeat Leaves

The **Repeat Leaves** option copies a specified value to all the leaves of a consolidation cell.

If the All Leaves spreading type is left unchecked, **Repeat Leaves** updates only those leaves that initially contain a value. To force the values into all leaves of a consolidation regardless of their initial value, use the **All Leaves** option.

The **Repeat Leaves** option populates all leaves, including all members of the offspread.

This example enters a value to all leaves of a consolidation cell, even if the leaf is not visible.

Note: In the example the consolidation cells have 21 offspread members that do not show. The value of 1000 populates all 21 members, and therefore the value 21,000, shows in the leaves of the consolidation cell.

	Q1	M01	M02	M03
	1,716,873.00	441,851.00	320,968.00	954,054.00
	29,343.00	7,648.00	3,893.00	17,802.00
	206,746.00	31,005.00	42,614.00	133,127.00
	92,668.00	30,102.00		62,566.00
	249,293.00	105,527.00	54,714.00	89,052.00

The result is as follows:

	Q1	M01	M02	M03
	1,357,166.00	338,217.00	286,640.00	732,309.00
	29,343.00	7,648.00	3,893.00	17,802.00
	63,000.00	21,000.00	21,000.00	21,000.00
	63,000.00	21,000.00	21,000.00	21,000.00
	63,000.00	21,000.00	21,000.00	21,000.00

Procedure

1. Enter **Data Entry** mode.
2. Select **Repeat Leaves** from the **Spreading type** menu.
3. Select **Replace** from the Spreading action menu.
4. To enter the value to all leaves of a consolidation cell, select the **All Leaves** option from the **Spreading Action** menu.
5. To enter the value to only those leaves that originally contained a value, leave **All Leaves** deselected.
6. Select the consolidation cell or range of consolidation cells to which you want to repeat the same value.
7. Enter the value to repeat, for example **1000**, in the cell.
8. Press **Enter** or click outside the cell.
9. The value 1000 is written to all leaves in the offspread of the selected cells.
10. Select **Stop Data Entry Mode** to exit data entry mode.

Spreading code: LR*1000

Using Straight Line

The Straight Line option populates selected cells by linear interpolation between a start value and an end value.

This example replaces the highlighted cells with a straight line range of values.

	Q1	M01	M02	M03
	1,716,873.00	441,851.00	320,968.00	954,054.00
	29,343.00	7,648.00	3,893.00	17,802.00
	206,746.00	31,005.00	42,614.00	133,127.00
	92,668.00	30,102.00		62,566.00
	249,293.00	105,527.00	54,714.00	89,052.00

The result is as follows:

	Q1	M01	M02	M03
	1,511,327.00	411,146.00	278,754.00	821,427.00
	29,343.00	7,648.00	3,893.00	17,802.00
	1,200.00	300.00	400.00	500.00
	92,668.00	30,102.00		62,566.00
	249,293.00	105,527.00	54,714.00	89,052.00

Procedure

1. Enter **Data Entry** mode.
2. Select **Straight Line** from the **Spreading type** menu.
3. Select **Replace** from the **Spreading action** menu.
4. Select the range of cells to which you want the spread to apply.
5. Type the start and end values separated by a colon. For example, to enter a spread that starts at 300 and ends with 500, type **300:500**.
6. Press **Enter** or click outside the cell.
7. The values from the start to the end values are spread over the leaves of the selected cells. The consolidated cell is updated.
8. Select **Stop Data Entry Mode** to exit data entry mode.

Spreading code: SL300:500

Using Percentage Change

The Percentage Change option changes the current cell values by a specified percentage. The product of that multiplication can then replace, be added to, or be subtracted from the existing cell values.

This example increases the value of the highlighted cell and all leaves of the consolidation cell by 10%.

	Q1	M01	M02	M03
	1,716,873.00	441,851.00	320,968.00	954,054.00
	29,343.00	7,648.00	3,893.00	17,802.00
	206,746.00	31,005.00	42,614.00	133,127.00
	92,668.00	30,102.00		62,566.00
	249,293.00	105,527.00	54,714.00	89,052.00

The result is as follows:

	Q1	M01	M02	M03
	1,888,560.30	486,036.10	353,064.80	1,049,459.40
	32,277.30	8,412.80	4,282.30	19,582.20
	227,420.60	34,105.50	46,875.40	146,439.70
	101,934.80	33,112.20		68,822.60
	274,222.30	116,079.70	60,185.40	97,957.20

Procedure

1. Enter **Data Entry** mode.
2. Select **Percentage Change** from the **Spreading type** menu.
3. Select **Add** from the **Spreading action** menu.
4. Select the consolidation cell for which you want the increase to occur.
5. Type the percentage to use when spreading, for example, to increase the values by 10%, enter **10**.
6. Press **Enter** or click outside the cell.
7. The value is increased by the percent value for the consolidation cell and for all leaves of the cell.
8. Select **Stop Data Entry Mode** to exit data entry mode.

Spreading code: P%+10

Using Growth Percentage

The Growth Percentage spreading type uses an initial value and a growth percentage value to sequentially increment the initial value over a range of cells.

This example adds a growth value of 10% to the initial value of 41,362 and increments this value in the highlighted cells.

	Q1	M01	M02	M03
	1,716,873.00	441,851.00	320,968.00	954,054.00
	29,343.00	7,648.00	3,893.00	17,802.00
	206,746.00	31,005.00	42,614.00	133,127.00
	92,668.00	30,102.00		62,566.00
	249,293.00	105,527.00	54,714.00	89,052.00
	917,975.00	226,207.00	195,211.00	496,557.00
	694.00			694.00
	220,154.00	41,362.00	24,536.00	154,256.00

The result is as follows:

	Q1	M01	M02	M03
	1,888,560.30	486,036.10	353,064.80	1,049,459.40
	32,277.30	8,412.80	4,282.30	19,582.20
	227,420.60	34,105.50	46,875.40	146,439.70
	101,934.80	33,112.20		68,822.60
	274,222.30	116,079.70	60,185.40	97,957.20
	10,009,772.50	248,827.70	214,732.10	546,212.70
	763.40			763.40
	242,169.40	41,362.00	45,498.20	50,048.02

Procedure

1. Enter **Data Entry mode**.
2. Select **Growth Percentage** from the **Spreading type** menu.
3. Select **Replace** from the **Spreading action** menu.
4. Select the range of cells to which you want the spread to apply.
5. Enter the initial value and the percentage change to use when spreading, separated by a colon. For example, to start the range of values at 41,362 and to change by 10%, enter **41362:10**.
6. Press **Enter** or click outside the cell.
7. The values begin at the initial value, and are changed by the percent amount and spread over the specified cells, based on the action you chose.
8. Select **Stop Data Entry Mode** to exit data entry mode.

Spreading code: GR41362:10

Using Relative Proportional

The value of a target consolidation cell together with its leaves can be changed in proportion to the values of a source consolidation cell and the leaves of that cell.

The Relative Proportional Spread type populates values into the leaves of a consolidation cell in proportion to the values of a source or reference cell.

The source cells can be in another part of the cube but must have the same consolidation of members as the target cells to which you want the new values to be populated.

This example changes the value of sales for M02 to 500,000, but keeps the same proportions as the M01 sales figures.

	Q1	M01	M02	M03
	1,716,873.00	441,851.00	320,968.00	954,054.00
	29,343.00	7,648.00	3,893.00	17,802.00
	206,746.00	31,005.00	42,614.00	133,127.00
	92,668.00	30,102.00		62,566.00
	249,293.00	105,527.00	54,714.00	89,052.00
	917,975.00	226,207.00	195,211.00	496,557.00
	694.00			694.00
	220,154.00	41,362.00	24,536.00	154,256.00

The result is as follows:

	Q1	M01	M02	M03
	1,895,905.00	441,851.00	500,000.00	954,054.00
	34,104.50	7,648.00	8,654.50	17,802.00
	199,217.36	31,005.00	35,085.36	133,127.00
	126,731.52	30,102.00	34,063.52	62,566.00
	313,993.69	105,527.00	119,414.69	89,052.00
	978,740.56	226,207.00	255,976.56	496,557.00
	694.00			694.00
	242,423.37	41,362.00	46,805.37	154,256.00

Procedure

1. Enter **Data Entry mode**.
2. Click the target consolidation cell to which you want the new values to be populated.
3. Select **Relative Proportional Spread** from the **Spreading type** menu.

4. Select **Replace** from the **Spreading action** menu.
5. Select **Months** from the **How to Spread** menu.
Note: Tip: Place the cursor over the header bar of the member you want to change. The name of the member type shows.
6. Select **Displace**.
The Select **Data Entry Displacement Member** selection box shows.
7. Select **January** from the **Select Data Entry Displacement Member** selection box to use for the initial values.
8. Press **OK** or click outside the cell.
9. Type the value **500000** in the target consolidation cell.
The value of the target consolidation cell is updated along with the values of the leaves.
10. Select **Stop Data Entry Mode** to exit data entry mode.

Using Relative Growth Percentage

The value of a target consolidation cell and the its leaves can be changed by a percentage value in relation to the value of a source consolidation cell and the leaves of that cell.

The Relative Growth Percentage type spreads values to the leaves of a target consolidation cell by applying a percentage adjustment to the leaves of a source or reference cell.

Relative Growth Percentage increments the values in the leaves of the reference cell by a user-specified percentage. The resulting values are then spread to the leaves of the consolidation from which you initiated spreading.

This example changes the value of sales for February to that of January plus 10%. The January proportions are also kept.

	Q1	M01	M02	M03
	1,716,873.00	441,851.00	320,968.00	954,054.00
	29,343.00	7,648.00	3,893.00	17,802.00
	206,746.00	31,005.00	42,614.00	133,127.00
	92,668.00	30,102.00		62,566.00
	249,293.00	105,527.00	54,714.00	89,052.00
	917,975.00	226,207.00	195,211.00	496,557.00
	694.00			694.00
	220,154.00	41,362.00	24,536.00	154,256.00

The result is as follows:

	Q1	M01	M02	M03
	1,881,941.10	441,851.00	486,036.10	954,054.00
	33,862.80	7,648.00	8,412.80	17,802.00
	198,237.50	31,005.00	34,105.50	133,127.00
	125,780.20	30,102.00	33,112.20	62,455.00
	310,658.70	105,527.00	116,079.70	89,052.00
	971,591.70	226,207.00	248,827.70	496,557.00
	694.00			694.00
	24,116.20	41,362.00	45,498.20	154,256.00

Procedure

1. Enter **Data Entry mode**.
2. Click the target consolidation cell to which you want the new values to be populated.
3. Select **Relative Growth Percentage** from the **Spreading type** menu.
4. Select one option from the **Spreading action** menu: **Replace**, **Add** or **Subtract**.
5. Select the same member type as the target consolidation cell from the **How to Spread** menu.
Note: Place the cursor over the header bar of the member you want to change. The name of the member type shows.
6. Select **Displace**.
The **Select Data Entry Displacement Member** selection box shows.
7. Select the source member to use for the initial values.
8. Press **OK** or click outside the cell.
9. Type the percentage value to use for the target consolidation cell.
10. Press **Enter** or click outside the cell.
11. Select **Stop Data Entry Mode** to exit data entry mode.

Protecting cells from change

Cells can be protected from being edited when in data entry mode. The color of the cell changes to indicate a protected cell. The value of the cell does not change if it is in the selection of cells during Data Spreading.

A single cell without any leaves can be set to **Hold**, a consolidation cell can be set to **Hold Leaves**.

Note: The Hold Leaves option protects the leaf cells at the lowest level (leaf level cells). Only the leaf level cells change color to indicate that the values will not change during data entry. To see leaf level cells, ensure that the lowest members for all Dimensions are selected in both the offspread and inspread.

A consolidation cell cannot be set with the **Hold** command. Any data change results in a data entry warning that indicates that data entry failed.

The highlighted cell has been set with the **Hold Leaves** command. A change to the value of the higher consolidation cell has no effect of the value of the held cell.

	Q1	M01	M02	M03
	1,716,873.00	441,851.00	320,968.00	954,054.00
	29,343.00	7,648.00	3,893.00	17,802.00
	206,746.00	31,005.00	42,614.00	133,127.00
	92,668.00	30,102.00		62,566.00
	249,293.00	105,527.00	54,714.00	89,052.00
	917,975.00	226,207.00	195,211.00	496,557.00
	694.00			694.00
	220,154.00	41,362.00	24,536.00	154,256.00

The result is as follows:

	Q1	M01	M02	M03
	2,000,000.00	531,470.24	320,968.00	1,147,561.76
	34,504.94	9,199.22	3,893.00	21,412.72
	240,036.37	37,293.65	42,614.00	160,128.73
	111,462.56	36,207.49		75,256.06
	288,758.84	126,930.71	54,714.00	107,114.14
	1,064,570.94	272,087.85	195,211.00	597,272.09
	834.76			834.76
	259,830.58	49,751.32	24,536.00	185,543.26

Releasing a hold on a cell

After protection has been placed on a cell, you can release it from protection.

Procedure

1. Right-click the cell with the hold on it.
2. Select the level of release you want to use:
 - **Release Hold** to remove the hold from the current cell only.
 - **Release Leaf Holds** to release the holds on the leaf level cells in the View.
 - **Release All Holds** to release all holds in the View regardless of their levels.

A confirmation displays to verify that you really want to release all the holds in this view.
3. The color of the cell changes to indicate that the value in the cell may now be changed as a result of spreading.

Entering data in SSAS

When you use data sources that are based on Microsoft Analysis Services you have several options for spreading data.

When using Microsoft Analysis Services, the **Spreading Options** menu displays on the right side of the screen during Data Entry. You can indicate what to spread and for each member, if the spreading is weighted or equal.

To set a spreading option in Microsoft Analysis Services:

Procedure

1. Select the type of spreading:
 - To spread the entire value over the members, select **Entire Value**.
 - To distribute the value over the members using the difference between the previous value and the entered value, select **Difference**.
2. For each dimension, you can indicate if the spreading is distributed equally among the members or spread over the existing members based on their original value:
 - To spread the data equally over the existing members, select **Equal**.
 - To spread the data based on the original values in the cells, select **Weighted**.

Spreading examples

The following table shows how the different spreading options work in Microsoft Analysis Services:

Setting	Original Value Q1	Entered Value Q1	Value to spread	Jan Original Value = 600	Feb Original Value = 300	Mar Original Value = 100
Difference / Equal	1000	1100	100	+33=633	+33=333	+33=133
The value 1100 is entered in Quarter 1. 100 is spread equally over the three months						
Difference / Weighted	1000	1100	100	+60%=660	+30%=330	+10%=110
The value 1100 is entered in Quarter 1. 100 is spread weighted over the three months						
Entire Value / Equal	1000	1100	1100	1100/3=366	1100/3=366	1100/3=366
The value 1100 is entered in Quarter 1. 1100 is spread equally over the three months.						
Entire Value /	1000	1100	1100	600+60%=660	300+30%=330	100+10%=110

Weighted						
The value 100 is entered in Quarter 1. 1100 is spread weighted over the three months						

Displace spreading value

To spread the data based on another member from the dimension, use the Displace option.

Refreshing data

To reduce network traffic and improve performance, Data Entry mode does not immediately refresh calculations when you enter new values.

When **Refresh Data in Entry Mode** is on and a value of a cell is changed, calculations depending on this value are also updated.

Example: a calculation column called Variance% is based on the values in the column Actual. When the values of Actual changes, the result in the Variance% column also changes.

Force refresh data

You can enforce to refresh the data while you are in Data Entry mode.

Procedure

1. Click the **Options** icon.
2. Click the **Data** tab.
3. Select the **Refresh Data in Entry Mode** checkbox.

Refreshing data with Essbase

When you use data sources that are based on Essbase, after changing data in Data Entry mode, you may need to recalculate to ensure that all Essbase calculations and consolidations are updated and that your database is consistent again.

To recalculate a database from within the application:

Procedure

1. Right-click the **View** tab.
2. Select **Database > Execute**.

The **Execute** menu offers the default calculation script and any other calculation scripts available based on the Essbase security and the user authorized access.

3. Select a script and click **Execute**.

Essbase recalculates the database using the selected script. Recalculation may take some time.

Executing TI processes with TM1

When you use data sources that are based on TM1, you may want to execute TI processes defined in your TM1 database server.

To execute TI processes from within the application:

Procedure

1. Right-click the **View** tab.
2. Select **Database > Execute**.

The **Execute** menu offers a list of TI processes available in the TM1 server based on the TM1 security and the user authorized access.

3. **Select** a process

When defined, the process-specific parameters are displayed on the right hand side and their values can be set there prior to the execution.

Note: The equal character (=) and the semicolon (;) can neither be used as the parameter name, nor for its value and will be removed automatically.

4. Click **Execute**.

TM1 executes the selected process. This may take some time.

Note: TI processes are supported only for TM1 servers connected via the REST API.

Pasting data from the clipboard

Data that is copied to the clipboard from another application can be pasted to a view when in Data Entry mode.

You have the following possibilities:

- Data on the clipboard can come from the same application or another application.
- Clipboard data pastes starting from the data entry cursor position. If the clipboard data contains more rows or columns of data, it is pasted to the right or bottom of the cursor.
- The values on the clipboard are inserted and the selection rectangle shows the portion of the table affected.

Enhanced Input Functionalities

A number of functions are provided to enhance the data entry. These include functions for incremental data entry as well as input accelerators (hotkeys) for entering specific values to the entry cells.

Note: These input accelerators are currently not available for TM1 databases. This is due to the existing logic within the TM1 database for spreading. The existing data spreading codes should be used instead.

Incremental Data Change

To enter a value like 10000 the user can just enter this value into the cell. If the cell already contains a value (e.g. 9800), an incremental value can be entered (e.g. 200+) to get the new value (10000).

AL allows the following incremental functions:

"<number>+"
"<number>-"
"<number>*"
"<number>/"

By entering a "<number>", the existing value is overwritten.

This number may be any digit or sequence digits from 0 to 9 as well as the decimal and thousands separator (like comma (,) or period (.)).

Input Accelerators

Numbers can be entered by using input accelerators (similar to hotkeys).

The syntax is

"<number><Accelerator>"

The following accelerators are supported:

K or k Example: Type 3K to obtain 3.000

T or t Example: Type 3T to obtain 3.000

M or m Example: Type 3M to obtain 3.000.000

m

B or b Example: Type 3B to obtain 3.000.000.000

% When a percentage character is entered without an operator, the value typed in is applied as a percentage to the current value.

%+ ... When the operators ("+", "-", "*", "/") are used, the percentage figure is added, subtracted, multiplied, or divided.

Gantt Charts

You can create a Gantt chart to analyze the progress of projects.



Figure 21 : Sample Gantt chart

Database prerequisites

For creating a Gantt chart, the structure of the underlying OLAP database needs to have a dimension that fulfills the following criteria:

- It contains two members for the start date and end date of projects.
- It can also contain any number of members for milestone dates and milestone statuses, e.g. you could define the members MS1, MS2 and MS3 for the dates and the members MS1_Status, MS2_Status and MS3_Status for the corresponding statuses.
- It may also contain additional members that are not relevant for the Gantt chart.

(The names of the required members are not important, they can be mapped in the Gantt options dialog.)

Creating a Gantt chart

For creating a Gantt chart, start off with a view where your Gantt dimension is in the column headers and the members for Start Date and End Date are currently selected.

Now right click on the member for the start date and choose the context menu entry "Gantt...". The Gantt options dialog will appear with the start date automatically selected. Next click on the member for the end date in the grid to also map this member.

You can also choose the context menu entry "Gantt..." anywhere else in the view or use the "Gantt" button in the ribbon and then select the members for start date and end date.

Set all other options as required and then save your settings. The next chapter will explain the available options.

Note: Only one Gantt chart is possible per view.

Gantt options

The Gantt options dialog consists of the sections "Dates and milestones", "Time period" and "Layout".

Dates and milestones

This section allows to map the Gantt Start Date and End Date fields to the correct members of the database. Click in the field of the dialog and then on the member in the grid to change a mapping.

You can also use the Selection buttons next to the two milestone fields to select the members for the milestone dates and statuses. A member selection dialog will open for selecting these members. Make sure to apply the same order in both fields. (i.e. if for dates MS1, MS3 and MS4 are selected, make sure that the statuses are selected in the same order as the second status will apply to the second date.)

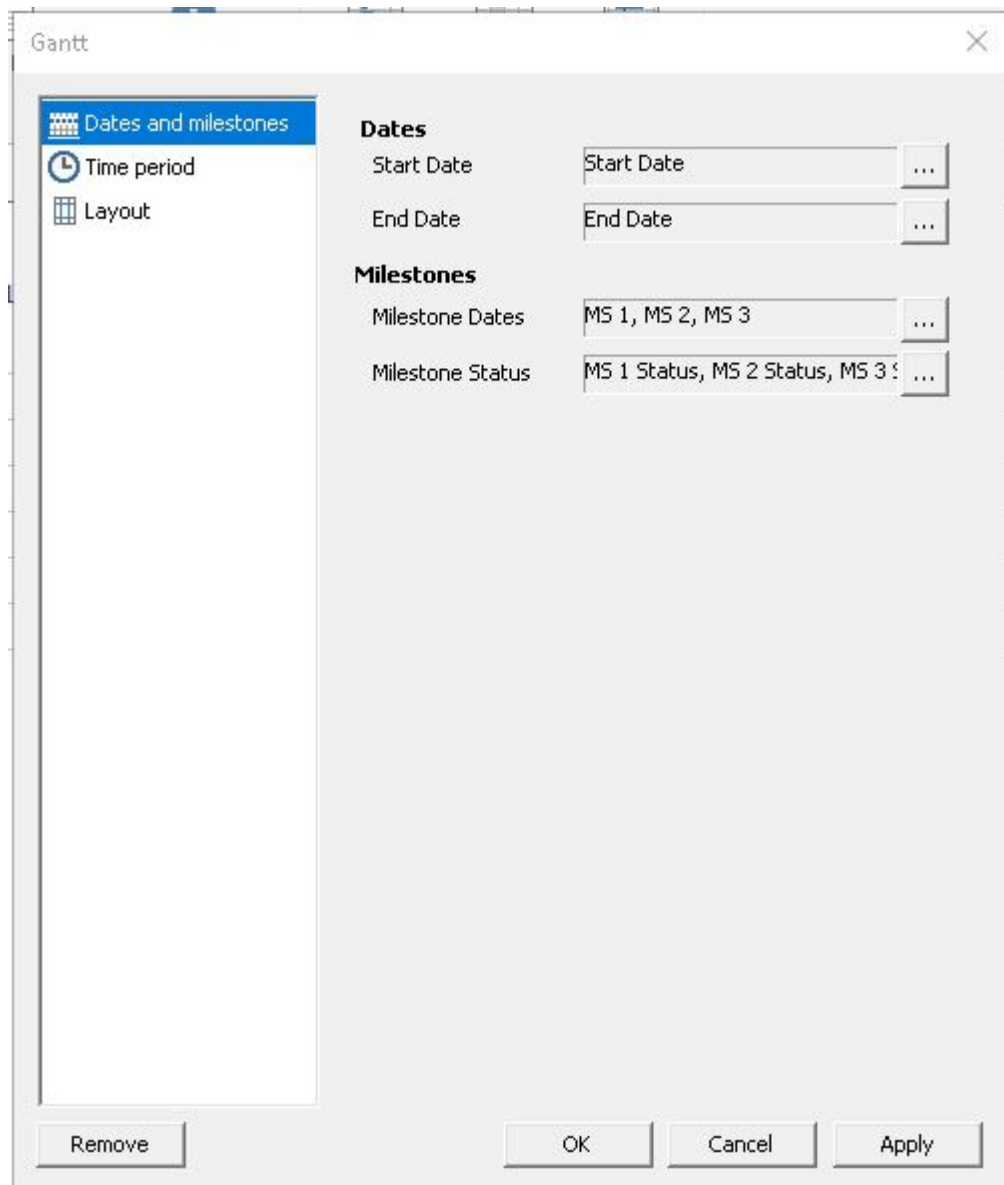


Figure 22 : Gantt dialog - Dates and milestones

Time period

In this section you can decide between three different options for the calculation of the displayed time period:

- **Automatic**
The time period will be set by taking the earliest start date and the latest end date.
- **Manual**
The start date and end date can be set manually.
- **Dependent on Actual Date**
The start date and end date can be set by giving the amount of months that shall be subtracted and added to the current date.

Layout

In this section you can define the layout of the Gantt chart.

- **Grid**

The grid options let you define the date format of the headers as well as the frequency, color and style of vertical grid lines.

- **Current date**

By checking this option you can enable a vertical grid line that represents the current date. The color and line style can be customized.

- **Milestones**

You can choose between different milestone symbols, define the color of the symbol and decide if milestone labels should be displayed in the Gantt chart.

The option "Use member format" will use the color defined in the Chart tab of the Formatting dialog (for the milestone status member).

The option "Use traffic light color" will use the color that is defined for the traffic light of each milestone status.

- **Bars**

The bar options let you define the color, height and border of the Gantt bars.

The option "Use chart formatting" will use the color defined in the Chart tab of the Formatting dialog (for the project member).

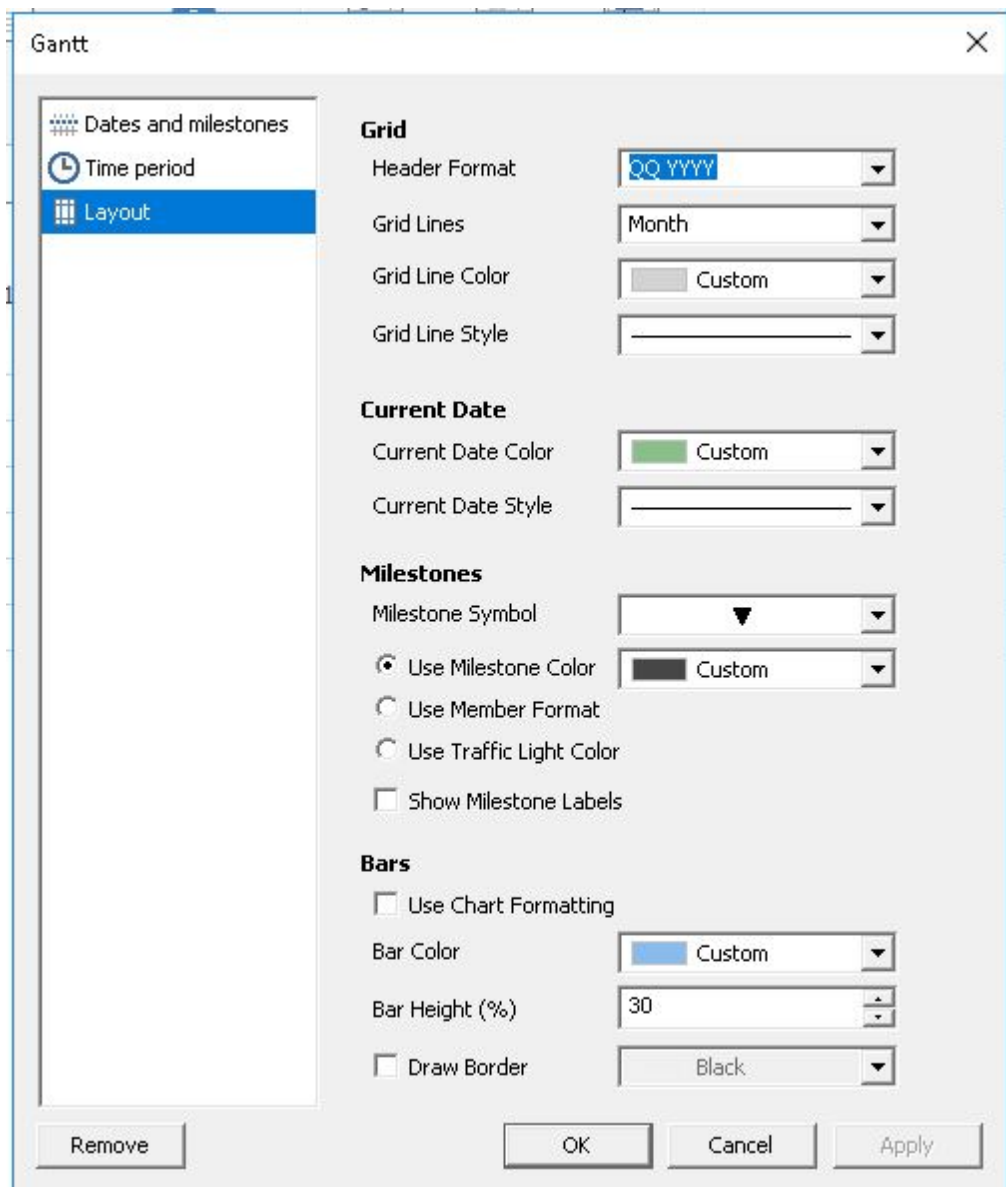


Figure 23 : Gantt dialog - Layout

Editing a Gantt chart

For editing a Gantt chart, use the "Gantt..." option in the context menu or the "Gantt" ribbon button. The Gantt options dialog will appear and let you change the settings.

Removing a Gantt chart

For removing a Gantt chart, open the Gantt options dialog for the chart that shall be deleted and use the button "Remove" in the lower left corner.

Dashboards

A dashboard is built on a canvas that contains panels. The panels contain views that can communicate with each other, enabling you to create dashboard applications.

The following illustrations show a dashboard with four panels that contain views.

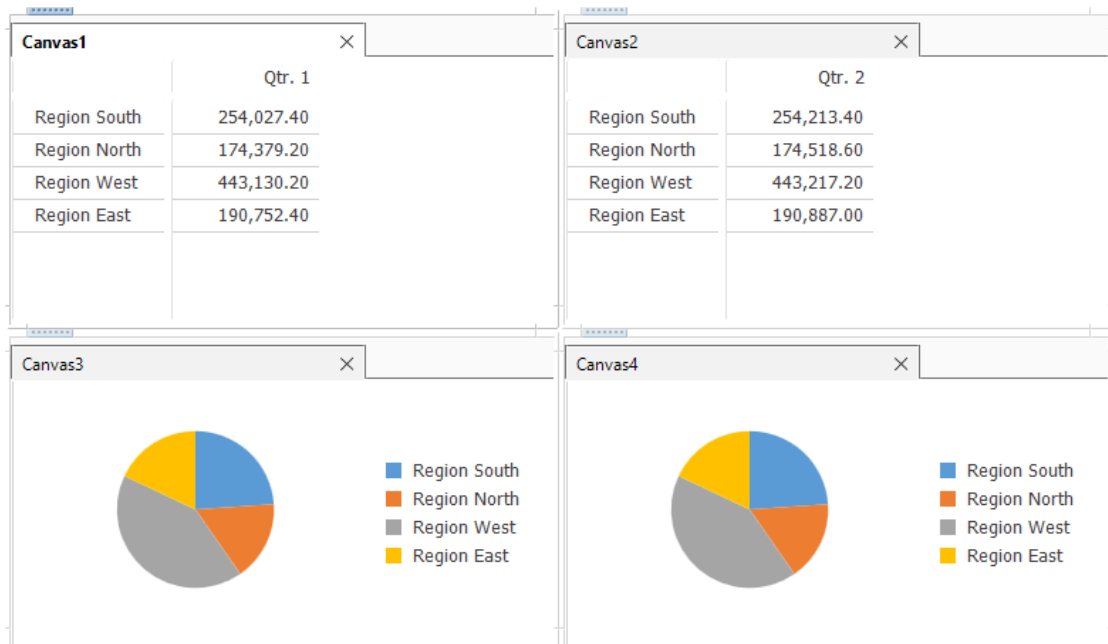



Figure 24 : Dashboard

Creating a canvas

This section explains you how to create a canvas.

Procedure

1. Select the **New** section in the backstage.
2. Select the template location either *My Templates* or *Shared Templates*.
3. Select one of the templates to create a canvas.
4. The new canvas contains one panel. For information on how to add more panels to the canvas, see *Adding panels*.
5. You can do the following:

- To prevent the panel from changing size or position, click the **Views** arrow button on the toolbar and then click **Lock Panels**.
- To change the position of the panel, click and drag the handle  of the panel.
- To change the size of the panel, click and drag the borders of the panel.
- To automatically arrange the panels, click the **Views** arrow button on the toolbar and then click **Auto Arrange Panels**.

Saving a canvas

Use the following instructions to save the canvas.

Procedure

You can either

- Save the canvas with its current name by clicking the Save icon in the mini toolbar or by clicking the ribbon **VIEW** and select **Save**.
- Save the canvas with a different name by clicking the **VIEW** ribbon and then clicking **Save Canvas As**.

Adding panels

To add more panels to the canvas, you must create or open views.

Procedure

1. Create or open a view on the canvas. For more information, see [Working with connections in Performance Analytics client](#).
2. Right-click on the view tab, and then click **Move View to New Panel**.

Closing a panel on the canvas

You can close an unwanted panel.

Procedure

In the unwanted panel, click on the **Close Panel** button in the **Panel** Ribbon.



Synchronization between panels


You can synchronize views in different panels. For example, you can synchronize between a table and charts that are based on the same data on different panels.

Note: To synchronize views between panels, the panel views must connect to the same data source.

You can specify synchronization between panels after changes in the offspread, the inspread, or in both.

You can select the panels that synchronize with each other by specifying a channel. The default channel is called Default. If you have more than two panels and you want to prevent the synchronization from always using the same channel, then you must specify another channel.

Procedure

1. In a panel, click the **Show all open Views** arrow button  and then click **Panel Options**.
2. On the **Selections** tab, select the trigger to synchronize:
 - Synchronize Offspread Selections
 - Synchronize Inspread Selections
3. In the **Using Channel** box, specify the channel for the communication between the panels.

Note: You must specify the same synchronization options in all panels that you want to synchronize.

Display options

You can change the look and feel of both the canvas and the panels.

For example,

- You can specify whether you want the offspread or tab bar to display in the panels.
- You can specify that the panels inherit the display options.
- You can specify the color of the background or a background image for the canvas.

Display Components

Use this option to select or clear the respective display component. The following components are available:

- Offspread
- Table
- Row Headers
- Column Headers
- Splitters
- Data Entry Panel
- Chart Bar
- Drill Through Bar
- Notes
- Tab Bar

Border

Use this option to specify the size and style of the border panel. The following border options are available:

- Padding

- Adornment

Background

Use the background options to specify the background color, or an image for the canvas. The following background options are available:

- Color
- Image
- Image Mode

Image Alignment

Use the image alignment options to set the position of the image. The following image alignment options are available:

- Horizontal
- Vertical
- Offset

Setting the display options for the canvas

The display options that you set for the canvas is applied to all panels on the canvas.

Except for the image and background color because these only apply to the canvas. You can change the display options of each panel individually.


Procedure

1. On the **CANVAS** ribbon in the Section **Canvas** click on the small options button.
2. On the **Display** tab, set the display options for the canvas.

Setting the display options for the panels

The display options that you set for the canvas are applied to all panels on the canvas. You can change the display options of each panel individually.

Procedure

1. In a panel click the **Show all open Views** arrow button  ▾, and then click **Panel Options**.
2. On the **Display** tab, set the display options for the panel.

Adding a background image to a canvas

You can add an image, that is stored in the Performance Analytics Server repository, as a background image to a canvas.

Note: For information about adding images to the Performance Analytics Server repository, consult the *Serviceware Performance Analytics Server Installation and Administration Guide*.

Procedure

1. On the **CANVAS** ribbon in the Section **Canvas** click on the small options button.
2. Click the **Display** tab.
3. From the **Image** menu select an image.
4. Choose an **Image Mode**:
 - To display the image in its original size, select **Normal**.
 - To display the image in its original size and repeat it so that it fills the available space in the window, select **Tile**.
 - To stretch the image to fill the window size, select **Stretch**.
 - To stretch the image while maintaining the aspect ratio, select **Stretch Ratio**.
5. To move the image, set the **Image Alignment** using the **Horizontal** and **Vertical** boxes and corresponding offsets.

Results

The canvas appears with a background image.

Open view in a new window

If a view is embedded in a canvas and contains a view title, the view can be opened in a separate browser window or browser tab.

This can be achieved by a double click on the view title.

Sort and select members

To display the data in a view you want to analyze, you can select the members.

If you only want to sort members in an ascending or descending way please see Sorting members by value.

In addition to sorting members in ascending or descending order you can use the sort and select functionality in a view. Sorting and selecting data is done in the **Sort & Select** dialog

Sorting and selecting members

If you want to sort and select members, then you must display the Sort & Select dialog box.

Procedure

There are the following ways of displaying the **Sort & Select** dialog box:

- Click on the **Sort & Select button** in the ribbon **MEMBER**.
- Select the **MEMBER** tab in the ribbon and the **Sort & Select Button**.
- Right-click in a view and choose **Sort and Select**.

If you right-click an inspread member the **Sort & Select** dialog box will be displayed with the member you right-clicked on selected in the **Member** field.

Otherwise the **Member** field will display *<No Selection>*.

If the **Member** field displays *<No Selection>*, you can click an inspread member to select a member

Sort and select options

The Sort & Select dialog box offers several options to sort and select the members you want to analyze in a view.

The following options are available:

- Sort
- Options
- Retrieve Data from
- Top / Bottom
- Range

Setting the way to sort members

The Sort section in the Sort & Select dialog box allows you to specify how the members are sorted.

Procedure

1. To open the **Sort & Select** dialog box, select the **MEMBER** tab in the ribbon and select the **Sort & Select** button or click on the **Sort & Select button** in the ribbon **MEMBER**.
2. In the Sort section specify how you want the selected members to be sorted.
The options are:
 - None
 - Ascending
 - Descending

Setting sort options

The Options section on the Sort & Select dialog box allows you to set certain options.

Procedure

1. Open the **Sort & Select** dialog box.
2. In the **Options** section specify how you want the selected members to be sorted. The options are:

- **Include Missing Values**

Use this option to display a list of members that have missing values in the database. For example, it can be used in your search to include customers who did not buy products or products that did not sell in a given period.

- **Retain Current Selection**

This option allows you to sort on a member and keep your current selection at the same time.

- **Sort within Hierarchy**

This option allows you to sort a member in ascending or descending order, while respecting the hierarchy of the dimension.

If the member is sorted, the children are sorted underneath their parents. In the result, the hierarchy of the dimension is not changed.

Note: The **Sort within Hierarchy** option is only available when sorting in **Ascending** or **Descending** order.

- **Add Total at End / Use Dynamic Total**

If you want to display the static total for all members, select this option. Select the **Use Dynamic Total** if you want the total to change when the selected members change. If the selection contains stacked dimensions, the added total has to be dynamic.

Note: When you perform a new sort action, the total at end will be replaced. If you want to keep the calculation, rename it.

Specifying where to retrieve data from

The Retrieve Data from section in the Sort & Select dialog box allows you to specify from what members the data should be used from.

Procedure

1. Open the **Sort & Select** dialog box.
2. In the **Retrieve Data** from section you can specify from what members the data should be used. The options are:

- **Selected Members**

If you select this option, the selected members will only change if other criteria on the Sort & Select dialog box are met.

- **Entire Dimension**

If you select this option, all members in the dimension will be selected.

- **All Lowest Members**

If you select this option, all lowest members in the dimension will be selected.

Selecting the top or bottom members, percentages, or values

The Top / Bottom section in the Sort & Select dialog box allows you to select the members that meet one certain criteria.

The following criteria are available:

- Top or bottom members
- Top or bottom percentages
- Top or bottom values

Procedure

1. Open the **Sort & Select** dialog box.
2. In the **Top / Bottom** section you can specify the following options from the drop-down menu in combination with the value field:
 - **Top n Members**

This option allows you to specify a number of members with the highest values. N in the drop-down menus is the variable that represents the number of members.
 - **Bottom n Members**

This option allows you to specify a number of members with the lowest values. N in the drop-down menus is the variable that represents the number of members.
 - **Top n %**

This option allows you to specify the top members that together make up the specified percentage of the total value of all members. N in the drop-down menus is the variable that represents the percentage
 - **Bottom n %**

This option allows you to specify the bottom members that together make up the specified percentage of the total value of all members. N in the drop-down menus is the variable that represents the percentage.
 - **Top n Value**

This option allows you to specify the top members that together make up at least the specified value. N in the drop-down menus is the variable that represents the value.
 - **Bottom n Value**

This option allows you to specify the bottom members that together make up at least the specified value. N in the drop-down menus is the variable that represents the value.

Specifying the range of values for selecting members

The Range section on the Sort & Select dialog box allows you to specify the range of values for the members to be selected.

Procedure

1. Open the **Sort & Select** dialog box.

2. Enable the **Range** option and specify the range using the **from** and **to** fields.

Example sorting and selecting

The purpose of this example is to explain how you can use sorting and selecting. The following screen capture defines the starting situation in a view.

Products : Colas	Accounts : Profit
Scenario : Actual	View : Periodic
Measure Sample Basic : Value	

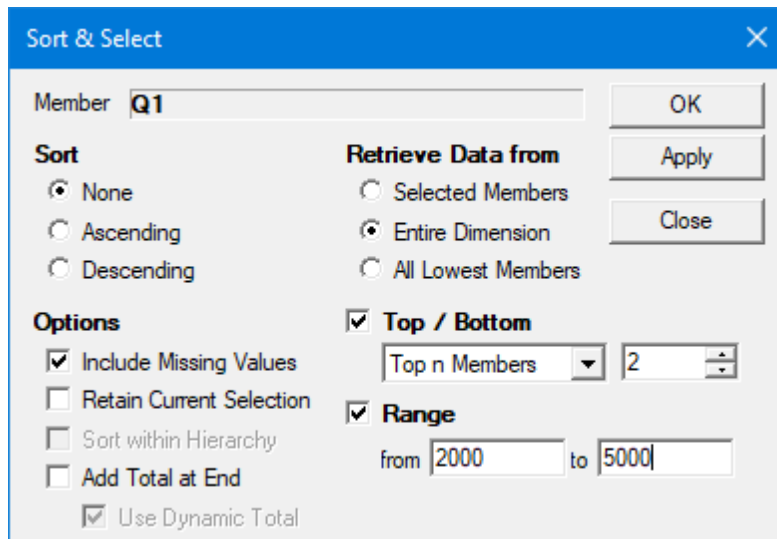
	Q1
Central	2,208.00
East	2,747.00
Internet	
South	1,051.00
West	1,042.00

In this example we want to include the top two regions for the product "Colas" in the first quarter from the months dimension. We are interested only in those regions that sell between 2000 and 5000 dollars. In addition we would like to show missing values.

Procedure

1. Open the **Sort & Select** dialog box.
2. Specify the following in the **Sort & Select** dialog box:
 - Set the **Sort** option to **None**
 - Set the **Options** to Include **Missing Values**.
 - Set the **Retrieve Data** from option to **Entire Dimension**.
 - Set the **Top / Bottom** option to **Top n Members**. Specify a value of 2.
 - Specify a **Range** from 2000 to 5000.

The **Sort & Select** dialog box should look like this:



3. Click **OK**.

The selection of members in the view changes to meet the criteria that we set in the **Sort & Select** dialog box:

- Only the top 2 members which fall in the specified range are displayed.
- Also the member with a missing value is displayed.

Products : Colas	Accounts : Profit
Scenario : Actual	View : Periodic
Measure Sample Basic : Value	
	Q1
Internet	
East	2,747.00
Central	2,208.00

Copying and pasting data

Data copied to the clipboard can be pasted to other applications or from one area on the table to another area. When you copy data, you can choose to include or exclude the header information.

Procedure

1. Right-click the data.
2. Select **Extras** from the shortcut menu.
 - To copy data without headers, select **Copy without Headers**.
 - To copy data and include headers, select **Copy**. The result changes depending on whether you are in Data Entry mode:
 - When you are not in Data Entry mode, the entire table is copied to the clipboard.

For more information on Data Entry, see *Data entry*.

- When you are in Data Entry, the selection rectangle defines which area is copied.

Note: After copying data, you can immediately paste it to another location.

Selecting the copy and paste area

You can create the copy-paste selection in several ways.

Use one of these methods to make the copy-paste selection area:

- Use the shift key + arrow keys
- Use the mouse to highlight the area
- Hold the Shift key, and click the top left cell and then on the bottom right cell

Specifying the scaling factor for copy and paste

A scaling factor specifies how you want a value to change after a paste. For example, if the OLAP value is 678 and a scaling factor of 0.01 is applied, the displayed value is 6.78.

A scaling factor is set in the Member Formatting menu or in the **Options > Number** menu. For more information see *Formatting scaling factor*.

The scaling factor is applied when you copy and paste a value in **Data Entry** mode. The scaling factor is also applied if the cell in which the value gets pasted has a scaling factor format.

When copying and pasting in Microsoft Excel, the value 6.78 is pasted independently of the format used (for example Microsoft Excel 8.0 Format BIFF8, SYLK, Unicode Text). Use **Edit > Paste Special** in Microsoft Excel to display the different format contents of the clipboard.

Using drag and drop to copy and paste

The Fill Handle is a small square at the bottom of the selection rectangle. If you hover over the Fill Handle the cursor changes into a cross. When you drag across a selection using the Fill Handle, you can either copy or extend the numbers using the selection rectangle.

Procedure

1. Select a cell or range of cells.
2. Select the Fill Handle and drag the Fill Handle in one direction.

The selection rectangle expands while you drag.

Note: When one cell is selected, the Fill Handle can be dragged horizontally and vertically, to fill an entire selection at once. When multiple cells are selected, the Fill Handle can be dragged in only one direction.

3. Release the mouse button.

Note:

- If only one cell is selected, the content of that cell is copied into all the cells of the new selection rectangle.
- If more than one cell is selected, the trend in the numbers will continue in the newly selected cells.

For example, start with three values: 100, 110 and 120, you can select these values and use the Fill Handle to drag the selection rectangle so it includes all months.

When the Fill Handle is released, the newly selected area is filled with values that follow the same trend as the initial values. The values selected now run from 100 to 170. The numbers increase by 10.

- If more values are selected and the Fill Handle is dragged while pressing Shift, the old selection of values is repeated.

For example, if three cells with values 100, 110 and 120 were selected, then the new selection is 100, 110, 120, 100, 110, 120, and so on

Transfer data from a view to a Microsoft Excel spreadsheet

You can transfer data from a view to a Microsoft Excel spreadsheet.

You can do this in two ways:

- By exporting to a spreadsheet.
- By copying and pasting to a spreadsheet.

Microsoft Excel data is either stored in *Binary Interchange File Format (BIFF8)*, also known as Microsoft Excel 8.0 Format (XLS) or in Office Open XML format (XLSX). When using the copy functionality, a table in a view is copied in Microsoft Excel 8.0 Format. This means that the formatting of cells, members, and styles is applied when pasting a table from a view in Microsoft Excel. When exporting to a spreadsheet the format is depending on the selected file type (XLS or XLSX).

Please note the following when copying a table from a view to an Microsoft Excel spreadsheet:

- Spacing used in member formatting or in the **Automatic Group Spacing** option on the **Headers** tab of the options dialog box is not applied when pasting in the Microsoft Excel format.
- Microsoft Excel has 32 colors. When colors used in the formatted view are not supported in Microsoft Excel, these colors will be approximated from the Microsoft Excel color palette when pasting in the Microsoft Excel format.
- 3D Borders or 3D lines used in member or style formatting in a view are represented as thin lines when pasting in the Microsoft Excel format.
- Icons used in a view are not supported in the Microsoft Excel format.
- A drill through pane in a view is not supported in the Microsoft Excel format. However, a drill through pane can be copied and pasted separately.

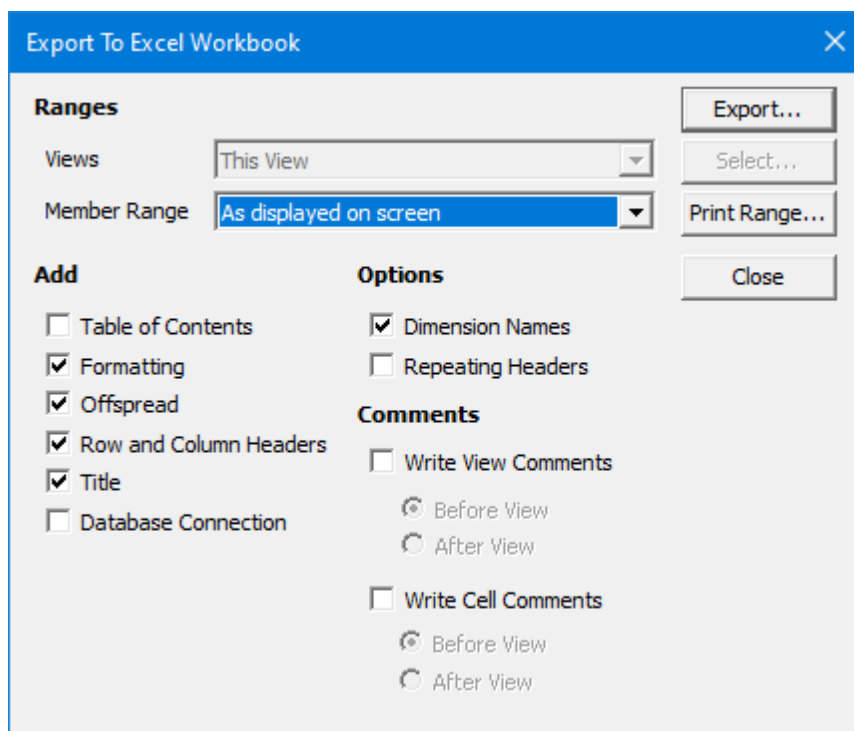
- The default border styles **none** and **dashed** in a view are displayed as default Microsoft Excel borders.
- Members formatted with border style **none** are displayed with default Microsoft Excel borders.
- Members formatted with the border style **dashed** are displayed with dashed borders when pasting in the Microsoft Excel format.
- An Microsoft Excel Workbook sheet contains a maximum of 256 columns and 65536 rows in Microsoft Excel 8.0 Format (XLS) and a maximum of 16384 columns and 1048576 rows in Office Open XML Format (XLSX).
- When a scaling factor is used in a view, the scaled values are applied when pasting in the Microsoft Excel format.
- Changed column width or row height in a view is not supported in the Microsoft Excel format.

Exporting a view to a Microsoft Excel workbook

You can export a view to a Microsoft Excel workbook.

Procedure

1. Right-click in a table and click **Extra > Export to Microsoft Excel Workbook**. The **Export to Microsoft Excel Workbook** dialog box opens.



2. Set the options you prefer.
3. Click **Export**.

By default, the Microsoft Excel spreadsheet is saved in the **My Documents** folder. The name of the Microsoft Excel Workbook is the same as the name of the view.

Options for exporting to a Microsoft Excel workbook

In the Export to Microsoft Excel Workbook dialog box you can set options.

Option	Purpose
Views	<p>The Views menu allows you to export:</p> <p>This View</p> <p>Some Views If you select this option, the Select Views to Print is displayed. Select the views you want to export and click OK.</p> <p>All Views</p>
Member Range	<p>The Member Range menu allows you to export the views:</p> <p>As displayed on screen</p> <p>According to Print Range Set the print range by clicking Print Range.</p> <p>When you have made a DynaSelect and you choose to print According to Print Range, the DynaSelect will apply to all members you select.</p>
Add	<p>The Add section on the Export to Microsoft Excel Workbook dialog box allows you to add the following:</p> <p>Table of Contents Adds a table of contents to the spreadsheet.</p> <p>Formatting The formatting of the view is transferred to the spreadsheet.</p> <p>Offspread The selected offspread dimensions are displayed in the spreadsheet.</p> <p>Row and Column Headers Row and column headers are displayed in the spreadsheet.</p>
Options	<p>You can set the following options for the Microsoft Excel spreadsheet:</p> <p>Dimension Names</p>

	<p>This option allows you to show or hide the dimension names from the offspread area when exporting to a Microsoft Excel spreadsheet.</p> <p>Repeating Headers</p> <p>This option allows you to repeat the member names in the outer inspread dimensions. When dimensions are stacked in the inspread area, the names of the members in the outer dimensions are repeated in every row or column in the exported Excel spreadsheet.</p>
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Copying and pasting data to a spreadsheet

You can copy and paste from a view to Microsoft Excel.

Procedure

1. Right-click a table in a view.
2. Click **Extra > Copy without Headers** if you only want the data to be copied.
If you also want the member names and the names of the set dimensions to be copied, click **Copy**.
3. In Microsoft Excel do one of the following:
 - Click **Edit > Paste** to paste the table in Microsoft Excel 8.0 format while retaining the formatting.
 - Click **Edit > Paste Special**, then select the desired format to paste the table without formatting.

Note: When pasting in Microsoft Excel 8.0 format, only the displayed offspread dimensions are pasted. When pasting in a different format, all dimensions (visible, hidden and ignored) are pasted.

Pasting special formats in Microsoft Excel 8.0 format

You can paste the contents of the clipboard in another format.

For example, if you do not want the Performance Analytics formatting to be applied, select **Edit > Paste Special** and select the **SYLK** format, as seen in this example of the same table pasted in SYLK format with all Offspread dimensions. Note that when pasting in Microsoft Excel 8.0 format, only the displayed Offspread dimensions are pasted. When pasting in a different format, all dimensions (visible, hidden and ignored) are pasted.

Calculations

The calculator enables you to create calculations.

The basic functions include multiplication (*), division (/), addition (+) and subtraction (-).

You can create the following calculations:

- General
- Mathematical
- Statistical

General functions

This section describes the general functions available in the calculator.

General functions can be either static or dynamic. For more information see *Creating dynamic functions*.

Function	Explanation
Variance	<p>This function calculates the difference between members:</p> $(A - B)$ <p>This function verifies whether an expense tag was added. In that case, A and B are switched.</p>
Variance %	<p>This function calculates the difference between members in percentages:</p> $((A - B) / B) * 100$ <p>This function verifies if an expense tag was added. If this is the case, the formula is</p> $((B - A) / \text{abs}(B)) * 100$
Growth	<p>This function calculates the difference between members:</p> $(A - B)$ <p>This function verifies whether an expense tag was added. In that case, A and B are switched.</p>
Growth %	<p>This function calculates the difference between members in percentages:</p> $((A - B) / \text{abs}(B)) * 100$ <p>This function does not verify if an expense tag was added.</p>
Ratio	<p>This function divides members:</p> A / B

Function	Explanation
Round	Rounds the value of a specified member, which is not the same as changing the number of decimal places. When changing the amount of decimals, only the display code changes. Using the Round function, the new value is used. In this example, the value is rounded to 1 decimal place. It is allowed to use a negative number of decimals.
Count	This function counts the number of members entered in the function: Count (10, 20, 30) = 3 Missing values are not counted.
Distinct Count	This function counts the number of distinct values in the function; Count (10, 20, 20) = 2
Percentage of Total (see note below)	This function calculates the percentage by which the selected members contribute to the selected Dimension.
Rank (see Note below)	This function assigns an order within a specified member.
Rank % (see note below)	This function assigns an order from 1-100% within a specified member. The rank is expressed as a percentage of the highest rank.
Cumulative (see note below)	This function counts the cumulative values of a specified member.
Cumulative % (see note below)	This function counts the cumulative values of a specified member, expressed as a percentage of the final total.
Dynamic Total	This function counts the total number of members. If the selection changes, the dynamic total will change as well.
Dynamic Count	This function counts dynamically the number of members entered in the function: Count (10, 20, 30) = 3
Dynamic Distinct Count	This function counts dynamically the number of distinct values in the function: Count (10, 20, 20) = 2

Note: The results of the general functions **Percentage of Total**, **Rank**, **Rank %**, **Cumulative**

and **Cumulative %** are derived from values of the Members on the opposite axis.

Statistical functions

This section describes the statistical functions available in the calculator. Statistical functions can be either static or dynamic.

Note: Statistical functions are based on a population and not on a probability distribution.

Function	Explanation
Average	This function calculates the average value of the specified members.
Median	This function calculates the median of the specified members.
Mode	This function calculates the mode of the specified members.
Min	This function returns the smallest value in a specified range.
Max	This function returns the largest value in a specified range.
Standard Deviation	This function calculates the standard deviation of the specified members.
Statistical Variance	This function calculates the statistical variance of the specified members.
Statistical Z	This function calculates the statistical Z of the specified member.
Dynamic Average	This function calculates the dynamic average value of specified members.
Dynamic Median	This function calculates the dynamic median value of the specified members.
Dynamic Mode	This function calculates the dynamic mode of the specified members.
Dynamic Min	This function dynamically returns the smallest value in a specified range.
Dynamic Max	This function dynamically returns the largest value in a specified range.

Mathematical functions

This section describes the mathematical functions available in the calculator.

Function	Explanation
Abs	This function makes a value of a specified member absolute. This means that negative becomes positive.
Power	This function calculates the result of a specified member raised to a power.
Square Root	This function returns the square root value of a specified member.
Root	This function returns the entered root value of a specified member.
Log	This function determines the logarithm of a specified member.

Adding calculations

You can use the calculator in a view to create calculations that return values that are not strictly defined by your cube and dimension structures.

For example, if a dimension includes the members *Q1* and *Q2*, you can create a calculation that sums the values of these members to return a value for *1st Half Year*.

Calculations that you create can be used like any other member. They can be formatted, moved, used in other calculations, or used in the offspread.

Calculations do not have levels or generations.

Procedure

1. Select the **MEMBER** ribbon and click the **Add** button in the **Calculation** section, or right-click a table and choose **Calculator**.
2. To enter a member name in the calculator, click the member in the data window.
3. To enter a mathematical operator in the calculator, click the corresponding operator button.
4. To enter a number, click the appropriate number button.
5. To enter a function, click **f(x)**, and then click the desired function in the drop-down menu.
6. After entering the entire calculation, click = to save the calculation and calculate the value.

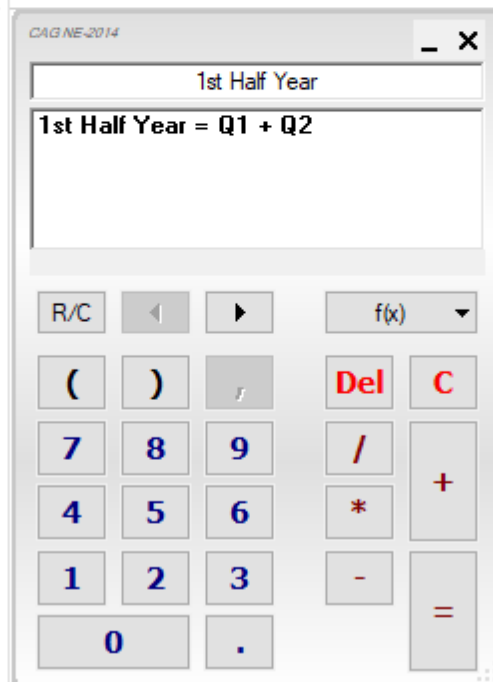
Example: creating a calculation for the 1st Half Year

To illustrate a simple calculation, consider a dimension with the members *Q1* and *Q2*. The following steps allow you to create a calculation for *1st Half Year*, the sum of these members.

Procedure

1. Select the **MEMBER** ribbon and click the **Add** button in the **Calculation** section.
2. Click in the equation box on the calculator.
3. Click member **Q1**.
4. Click the **+** button.
If you do not press the **+** button or any other of the operator buttons between two members or values, a plus sign is added automatically.
5. Click member **Q2**.
6. Change the calculation name to **1st Half Year** in the **Name** field, located immediately above the calculation box on the calculator.
7. Click the **=** button to add the calculation.
The calculation is added to your table. A new member *called 1st Half Year* is added to the columns and shows the sum of *Q1* and *Q2*

	Q1	Q2	1st Half Year
Asia Pacific	272,492,687.13	393,727,201.06	666,219,888.20
Americas	8,102,905.19	8,861,192.95	16,964,098.14
Southern Europe	1,162,940.34	1,199,342.27	2,362,282.60
Northern Europe	377,122.54	616,259.30	993,381.84
Central Europe	707,305.57	669,753.99	1,377,059.56
GO Accessories	80,491.97	83,218.61	163,710.58



The new calculation is stored when you save the view and will be available the next time you open the view.

Calculations are added as members of a dimension, but will only appear in this view. If you look at the dimension in the **Select Members** dialog box, all calculations will be found

at the end.

All buttons respond to the same keys on your keyboard. Pressing the + key will make a plus sign appear in the calculator. If you move your pointer over the member you can see its calculation in the tooltip.

You can also view the calculation by right-clicking the member and choosing **Member Information**.

Nesting operations

In the calculator you can use nested operations. Using brackets, you can nest operations.

Creating a calculation with nested operations

As an example, the percentage share of the combined regions northern Europe and southern Europe compared to the whole of Europe will be calculated.

For this calculation we need a formula that looks like this:

$$100 * (\text{Northern Europe} + \text{Southern Europe}) / \text{All Europe}$$

The function **Ratio %** is available and gives the same result, but is not used for the sake of this example. See the section *General functions*.

In this example, the calculated member was formatted with a '%' sign.

Procedure

1. In a view, open the calculator.
2. Click 1, 0, and 0 to enter 100.
3. Click *.
4. Click (.
5. Click the member Northern Europe.
6. Click +.
7. Click the member Southern Europe.
8. Click).
9. Click /.
10. Click the member All Europe.
11. Change the name to *N+S % of Europe*.
12. Click =.

The calculation is added.

13. Click x, to close the calculator.

Your table and its calculation look like this:

	Q1	Q2
All Europe	2,327,860.42	2,568,574.16
Southern Europe	1,162,940.34	1,199,342.27
Northern Europe	377,122.54	616,259.30
Central Europe	707,305.57	669,753.99
N+S %ofEurope	66.16	70.69



Creating dynamic functions

General and statistical functions can be either static or dynamic. These calculations automatically change if the member selection changes.

The static functions do not change once a function is made.

Dynamic functions are aware of each other. If, for example, a **Dynamic Total** and a **Dynamic Max** are added, the value of the **Dynamic Total** will be ignored when calculating the **Dynamic Max**.

Be aware of the order of calculations when using dynamic functions. It may be necessary to adjust the order in which the calculations are performed. See [Managing the calculation sequence](#).

When making a dynamic calculation, the inspread dimension to which the calculation should be added, has to be chosen.

Procedure

1. Open the calculator.
2. Choose a dynamic function, for example **Dynamic Total**.
3. Click **=**.
4. Select a dimension in the **Select Dimension** dialog box.
5. Click **OK** to confirm the chosen dimension.

Combining dynamic functions

With the dynamic functions, many combinations can be made.

In this section, you see an example of this. A customized **Dynamic Rank** is created using the functions **Dynamic Min**, **Dynamic Max** and **Rank**.

The market for which the Sales values are most unequally spread, will give 'Rank 1' as a result. The market for which the Sales values are most equally spread, will give the highest rank as result.


For this example we assume you have a view open that shows the children of Europe vertically and the Net Sales Revenue of three months horizontally

	Apr	May	Jun
Southern Europe	4,636,909.80	5,104,768.43	3,351,044.06
Northern Europe	2,881,017.27	2,663,785.05	2,546,096.16
Central Europe	2,895,350.19	2,355,992.72	2,848,001.05

Procedure



1. Open the calculator.
2. Click **f(x)**.
3. Choose **Dynamic Max** and subtract **Dynamic Min**.

The calculation is added, showing the difference between the maximum and the minimum value.

	Apr	May	Jun
Southern Europe	4,636,909.80	5,104,768.43	3,351,044.06
Northern Europe	2,881,017.27	2,663,785.05	2,546,096.16
Central Europe	2,895,350.19	2,355,992.72	2,848,001.05
 Difference	1,755,892.53	2,748,775.71	804,947.90

4. In the calculator, click **f(x)**.
5. Choose **Rank** and select the calculation **Difference**.
6. Rename this calculation to **Dynamic Counted Rank**.

The Rank is added to the member selection.

	Apr	May	Jun
Southern Europe	4,636,909.80	5,104,768.43	3,351,044.06
Northern Europe	2,881,017.27	2,663,785.05	2,546,096.16
Central Europe	2,895,350.19	2,355,992.72	2,848,001.05
 Difference	1,755,892.53	2,748,775.71	804,947.90
 Dynamic Counted Rank	2.00	1.00	3.00

When selecting other members, these calculations will change accordingly.

It is possible to make this dynamic rank in one calculation. The formula looks like:
Rank (Dynamic Max-Dynamic Min)

Dynamic calculations can be moved to the offspread. The calculation will remember the selected inspread members.

Using relative and absolute members in functions

The calculator can also work with relative members as opposed to absolute members. This means the calculator will include members based on their position in the rows or columns and not by name.

Before clicking on a member to insert it into the calculation, first switch on the **R/C** button in the calculator. This will enable the row/column mode. Members are inserted relatively until the **R/C** button is clicked again and the row/column mode is turned off.


In the next example, a ratio between two products is made. The two products to be compared are the first two products in the columns. In this example **Cooking Gear and Lanterns**.

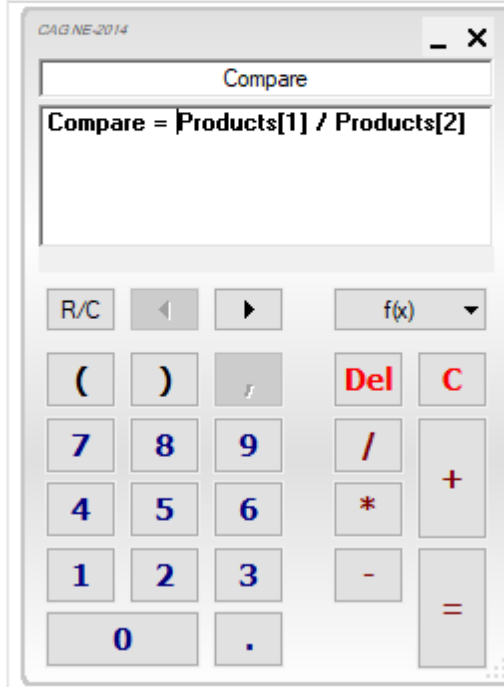
Procedure

1. In the calculator, click **R/C**.
2. Click the column **Cooking Gear**.
3. Click **/**.
4. Click the column **Lanterns**.
5. Change the name to **Compare**.
6. To add the calculation, click **=**.

The added calculation looks like this:

Products[1] / Products[2].

	Cooking Gear	Lanterns 	Compare
Q1	1,542,813.84	93,393.18	16.52
Q2	1,395,657.97	195,251.23	7.15
Q3	1,569,918.16	838,956.69	1.87
Q4	1,881,325.48	3,563,139.07	0.53



Results

The Calculation shows relative members, based on position.

When changing the products in the columns to **Packs** and **Sleeping Bags**, the calculation will automatically show the comparison between **Packs** and **Sleeping Bags**.

The selected members change and the calculation automatically shows new results. The calculation itself does not have to be changed. The view will automatically adapt the calculation to this new selection and display the correct results.

Note:

- **R/C** calculations are able to deal with positions beyond the number of selected members. The positions beyond the number of selected members for that dimension will be taken as missing values.
- If you have created an invalid calculation because the calculation includes itself, the calculation displays **#error**.
- **R/C** calculations can be moved to the offspread. The calculation will remember the selected inspread members.

Creating cross-dimensional calculations

Calculations can also use member combinations rather than single members. This allows cross-dimensional calculations to be made


An example of such a calculation is a percentage of total market calculation. Here you need to divide a certain member by a member for Market.

Procedure

1. In the calculator, click **f(x)**.
2. Select the **Ratio %** function.
3. Click the member **GROSS SALES REVENUE**.
4. Click the member **GROSS SALES REVENUE** again.
5. Click the member **All EUROPE**.
6. Change the name to **% of market**.
7. Click **=**.

The calculation should look like this:

	GROSS SALES REVENUE	% of market
All Europe	41,175,289.95	100.00 %
Southern Europe	16,007,717.64	38.88 %
Northern Europe	9,952,598.11	24.17 %
Central Europe	11,970,779.54	29.07 %
GO Accessories	3,244,194.67	7.88 %



The screenshot shows a calculator window titled "CAG NE-2014" with a display area containing the following formula: **% of market = Ratio % (GROSS SALES REVENUE, GROSS SALES REVENUE ->All Europe)**. The calculator interface includes a numeric keypad, a function key (f(x)), and a dropdown menu.

Results

The result will be a column (or row) with the percentages compared to the total market.

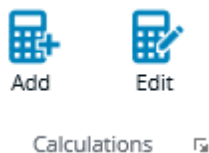
Following the steps above, you can see that if you click a member and immediately after, you click a member of another dimension, you can start specifying a combination.

All members of that combination are shown with an arrow (->) in between.

Alternatively you can click a cell in the table. The calculator will then insert all members in the table that make up the combination of this cell.

Managing the calculation sequence

When multiple calculations have been added to a view, the order in which those calculations are performed may become important. It is possible that a result of a calculation influences another calculation.



Procedure

1. Select the **MEMBER** tab in the ribbon and click the expander symbol in the lower right corner of the **Calculations** section or right-click in a view and select **Calculations**.

The **Calculated Members** dialog box appears.

By default the calculation order is set to the order in which the calculations are added.

2. To change the order, select a calculation and press the up or down arrow buttons



3. Click **Close**.

Viewing calculations

You can view calculations in several ways.

The following ways are available:

- By moving over a calculated member.
- By right-clicking on a calculated member and selecting **Member Information**.
The **Formula** field displays the calculation.
- If the member is not displayed on the screen or if you want an overview of all calculations, use the **Calculated Members** dialog box.

Right-click in a view and select **Calculations**.

The **Calculated Members** dialog box appears.

Select the calculation you want to view and select **Member Info**.
The **Formula** field displays the calculation.

Procedure

Move the mouse cursor over a calculated member. The tooltip displays the calculation.

Editing calculations that are visible

After creating a calculation you can edit it. To change a calculation you will need to open it in the calculator. This section explains editing a calculation of a calculated member that is displayed on screen.

Procedure

1. Right-click the calculated member for which you want to change the calculation.
2. Choose **Calculator**.
The calculation will now appear in the calculator and can be changed.
3. When you are ready with your changes to the calculation you can:
 - Activate the changes by clicking the **=** button.
 - Clear the calculation by clicking the **C** button.
 - Close the calculator by clicking the **X** button.

Note: You can also change the calculations using your keyboard. All buttons of the calculator will respond to the corresponding keys on your keyboard, including the Backspace key.

Editing calculations that are not visible

After creating a calculation you can edit it. To change a calculation you need to open it in the calculator. This section explains editing a calculation of a calculated member that is not displayed on screen. A calculated member can be not visible because it is not selected in the view.

Procedure

1. Right-click the view and choose **Calculations**.
The **Calculated Members** dialog box opens.
2. Select the calculated member for which you want to change the calculation and click **Open**.
The calculation will now appear in the calculator and can be changed.
3. When you are ready with your changes to the calculation you can:
 - Activate the changes by clicking the **=** button.
 - Clear the calculation by clicking the **C** button.
 - Close the calculator by clicking the **X** button.

Note: You can also change the calculations using your keyboard. All buttons of the calculator will respond to the corresponding keys on your keyboard,

including the Backspace key.

Using multiple arguments in the Rank function

The Rank function in the calculator allows you to assign an order within a specified member.

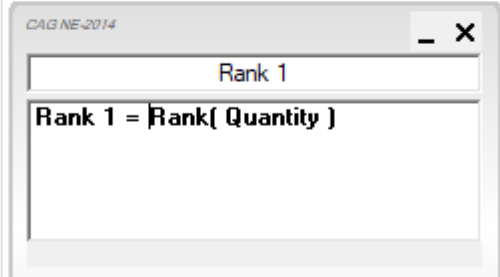
It is possible to use multiple arguments in the **Rank** function. This allows you to rank multiple members at once, in the order that they are specified.

Example: one argument in the Rank calculation

This example shows how to use one argument in the Rank calculation.

The screenshot shows one ranked member **Quantity**.

	Quantity	Returns and Allowances	Rank 1
Cooking Gear	10.00	1.00	4.00
Lanterns	10.00	2.00	4.00
Packs	20.00	4.00	1.00
Sleeping Bags	20.00	3.00	1.00
Tents	20.00	1.00	1.00



The screenshot shows a calculator window titled "CAG NE-2014". The window contains a text box with the formula "Rank 1 = Rank(Quantity)".

Rank 1 is calculated from the cell values of member **Quantity** and the shown camping gear. Because the value 20 appears three times, rank 1 is applied three times.

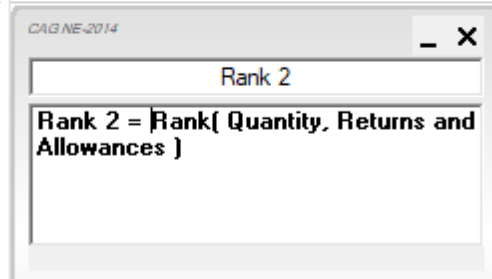
The value 10 appears two times and is therefore applied two times starting at rank 4.

Example: multiple arguments in the Rank calculation

This example shows how to use two arguments in the Rank calculation.

The screenshot shows the situation where two members are ranked: **Quantity** and **Return and Allowances**.

	Quantity	Returns and Allowances	Rank 2
Cooking Gear	10.00	1.00	5.00
Lanterns	10.00	2.00	4.00
Packs	20.00	4.00	1.00
Sleeping Bags	20.00	3.00	2.00
Tents	20.00	1.00	3.00



The values of the calculation **Rank 2** are determined by the following:

1. First the cell values of member **Quantity** are ranked.
2. For the values of member **Quantity** that are equal for the shown camping goods, a second order that uses the member **Return and Allowances** is made.

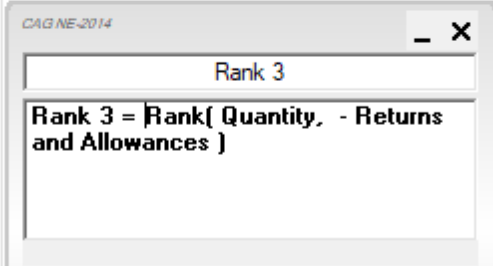
Although the value 10 appears twice for the member **Quantity** and the shown camping goods, these values 10 rank differently. This is because the ranking of the member **Return and Allowances** influences the ranking of the values of the member **Quantity**. This is similar for the value 20.

Example: multiple arguments in the Rank calculation with changed sign

This example shows how to use two arguments in the Rank calculation.

The screenshot show the situation when two members are ranked: **Quantity and Return and Allowances**.

	Quantity	Returns and Allowances	Rank 3
Cooking Gear	10.00	1.00	4.00
Lanterns	10.00	2.00	5.00
Packs	20.00	4.00	3.00
Sleeping Bags	20.00	3.00	2.00
Tents	20.00	1.00	1.00



The values of the member Return and Allowances and the shown camping gear, have changed their signs from positive to negative. The reason for this could be that you want the best-selling camping gear with the lowest number of returns to appear high in the ranking.

Deleting calculations that are visible

You can delete calculations that are visible in a view.

Procedure

1. Right-click the calculated member and choose **Delete**.
2. You will be asked to confirm the deletion of this member.

The calculation will be removed from the selection and also deleted from the dimension. It will no longer be available.

If the calculation is used in other calculations, these will be removed as well. The confirmation will give a list of all those automatically deleted and dependent calculations.

Deleting calculations that are not visible

You can delete calculations that are not visible in a view. A calculated member can be invisible because it is not selected in the view.

Procedure

1. Right-click the view and choose **Calculations**.
The **Calculated Members** dialog box opens.
2. Select the calculated member you want to delete and click **Delete**.
3. You will be asked to confirm the deletion of this member.

The calculation will be removed from the selection and also deleted from the dimension. It will no longer be available.

If the calculation is used in other calculations, these will be removed as well. The confirmation will give a list of all those automatically deleted and dependent calculations.

Printing Views

There are many options for printing your views. In addition to the typical print options you can preview the printing job, work with headers and footers, and define page breaks and a variety of other options.


Using the Print dialog box

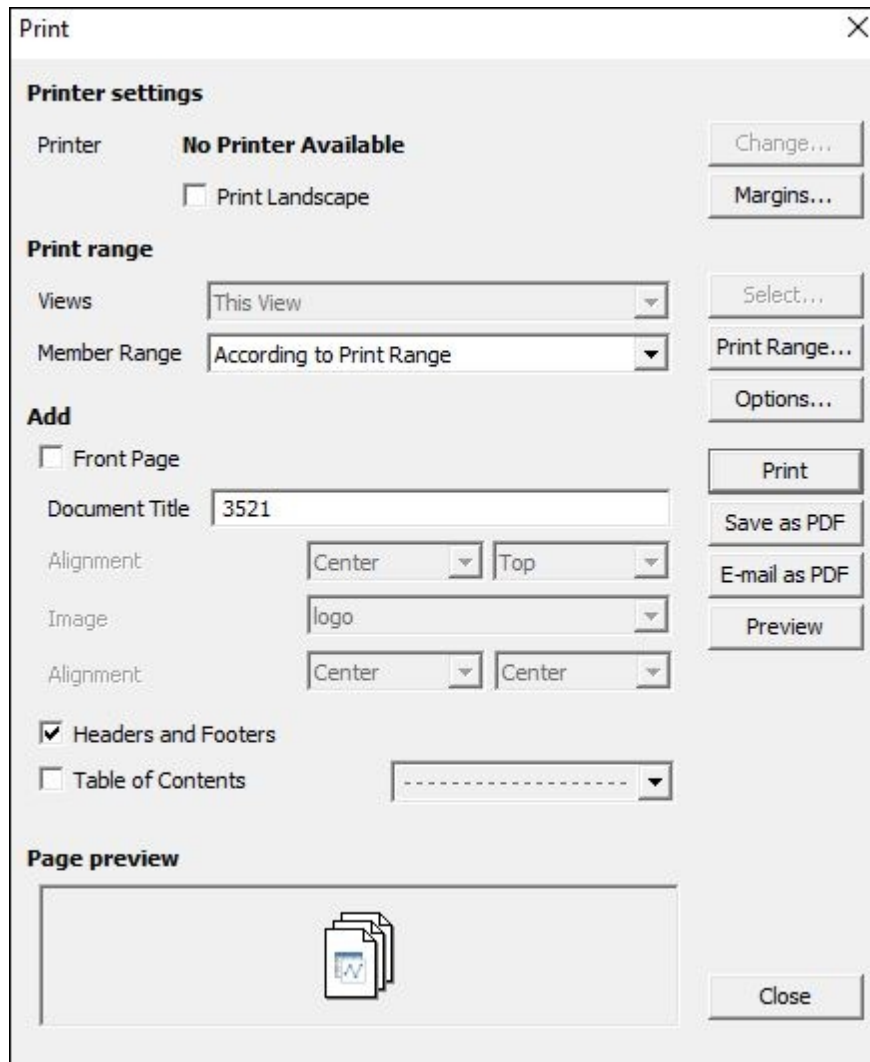
This section explains how to print a view.

Note:

The settings in the Print dialog box are saved on the local machine under the currently logged on Windows user. However, this does not apply to the settings that can be made under "Options". These are saved directly in the view.

Procedure

1. Open the view.
2. In the **Backstage** click on **Print** or from the toolbar, click the print icon  .
The **Print** dialog box displays:



On the **Print** dialog box you can set the following details about your print job:

- **Printer Settings**
To change the default printer setting for the selected printer, click **Change**. The standard print setup menu displays where you can set any of the usual printer options such as paper size, paper source, and other properties of the selected printer.
- **Margins**
To change the margins for the print job, click **Margins**.
The **Paper Margins** dialog box displays where you can set the margins or click **Default** to return to the default margins of .05 inches.
- **Orientation**
The default orientation is portrait. To change the orientation for all views to landscape, select **Print Landscape**.
To define a specific orientation for specific views, see *Printing the same view for multiple members*.
- **Print range**
To specify the amount of material to print, use the **Print Range** options on the

Print menu. You can specify the material to print based on the views or using the members:

- Views

To print the current view, select **This View**.

When **This View** is selected, the **Options** button becomes available so you can set specific print options for this view that are distinct from the rest of the table views.

To specify more than one view, select **Some Views**.

To print all views, select **All Views**.

- Member Range

By default, the members included in the print job are those defined by the Print Range views. When **According to the Print Range** is selected, click **Print Range** to specify the members to use for the print job. See *Printing the same view for multiple members*.

To override the **According to the Print Range** and use the members defined by the preview, select **As displayed on the screen** and click **Preview**. See *Using the Print Preview*.

- **Add**

The Add options specify when a **Front Page**, **Table of Contents**, **Headers** and **Footers**, **Document Title**, or a **Front Page Image** are added to the print job. When these options are selected, they are generated at print time. The alignment of **Document Title** and **Image** can also be defined here. To define their content, see *Using the Print Preview*. To suppress these additional pages, clear these boxes.

- **Print**

When the print options are complete, select Print to initiate the printing.

- **Save as PDF**

To save the print job as a PDF file, indicate the members, print range, and any additional settings such as Table of Contents and Document Title to be included, and click **Save As PDF**.

- **Email as PDF**

To e-mail PDF files click the **Email as PDF** button on the print menu.

- **Page Preview**


The **Page Preview** area on the **Print** menu shows a visual representation of the available views.











- **Preview**

Click the **Preview** button on the **Print** menu to see a sample of how your print job will look. See *Using the Print Preview* for more information.

Using the Print Preview

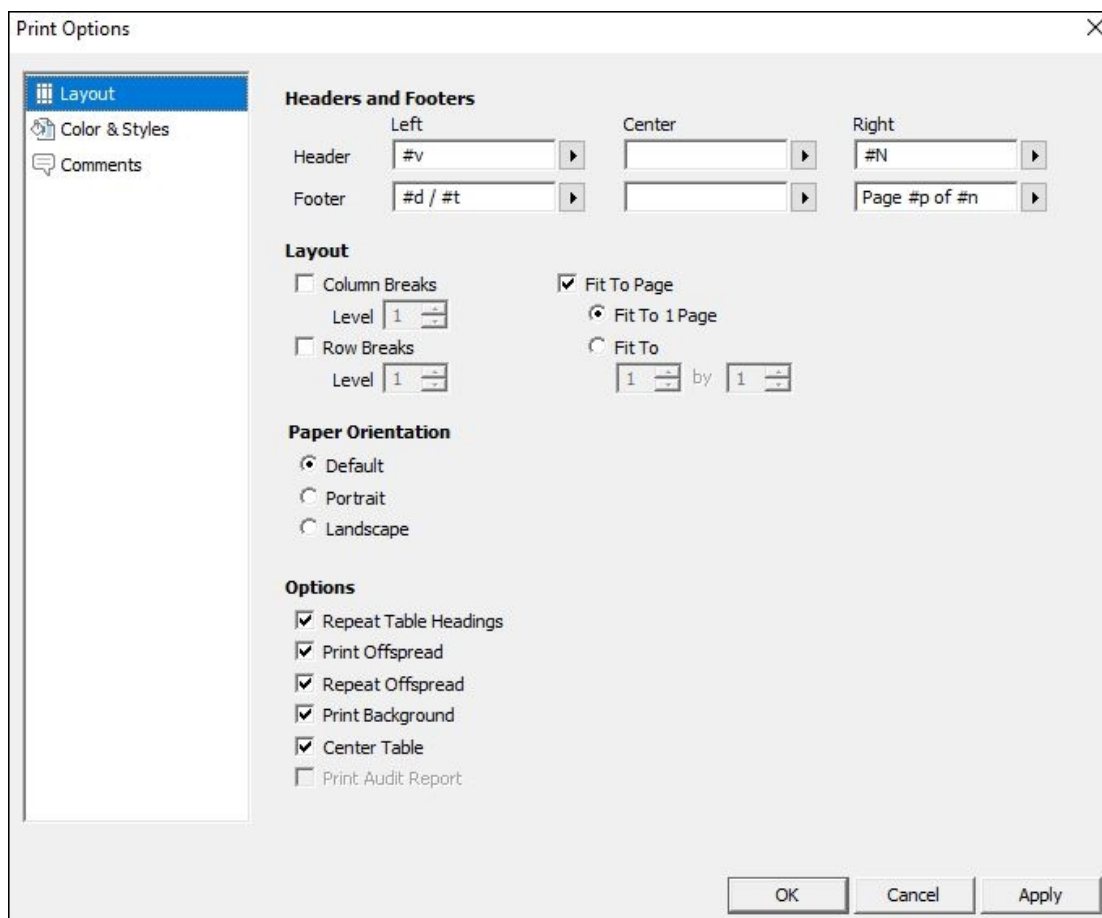
The print preview toolbar has buttons.

Button	Purpose
	Click the Print button to specify the number of pages to print, the number of copies to print, and to initiate printing.

	Click the PDF button to save a view as a PDF or send the PDF as an e-mail.
	To send the print preview to the clipboard in EMF format, click the Copy button.
	To return to the Print dialog box, click the Setup button.
	Click the Full page to display the entire page.
	In print preview, click the magnifying glass to continually zoom in. Right-click the magnifying glass anywhere to zoom out. Use the drop down menu to select a set zoom percentage.
	Go to the First Page in the print preview.
	Go to the Previous Page in the print preview.
	Go to the Next Page in the print preview.
	Go to the Last Page in the print preview.
	Close the print preview.

Using the Print tab on the options dialog box

The Print Options dialog contains 3 panels. Each panel contains a group of settings defining how the view prints.



Defining Headers and Footers

This section explains how to define headers and footers.

You can insert codes that generate variable data, for example Document Name and Page Number.

Code	Meaning
#N	Document Name
#v	View Name
#V	View Name including the path
#P	Path of the View without the view name
#S	Server Name
#B	Database Name
#u	User Name
#o	Offspread
#f	Scaling Factor Value

#p	Page Number
#n	Number of Pages
#d	Short Date
#D	Long Date
#t	Short Time
#T	Long Time
#l	New Line
#L(<Image Name>)	Image

For example: **Company #l Demo Database** will be printed as:

Company

Demo Database

When using the code #o, the following additional codes can be printed:

- #o(n) = only the offspread member of the n-th offspread dimension is printed, where n is a number.
- #o(name) = only the offspread member of dimension name is printed, where name is the name of the dimension.
- #o(Time Series) = the offspread member for Dynamic-Time-Series is printed (Essbase only)

When using the code #L(<Image Name>), specify the image name located in the image directory of the AL Server inside the brackets.

The image's height can be defined in the **Styles > Printed Fonts > Page Header/Footer > Cell Height**. The width of the image will be adjusted according to the original image height & width ratio.

Procedure

1. Click **Print > Options**.
2. For each section of the Header and Footer, enter the text you want to include.
Use the pull-down menu to insert codes that generate variable data, for example Document Name and Page Number.

Breaking Pages Based on Rows and Columns

When you have stacked dimensions in the rows or in the columns, you can print the table per group.

Procedure

1. To specify the level at which column breaks occur in the print job, enter the level to use at the **Print > Options > Layout > Column Breaks Level** option.
The pull-down menu lists the available levels.

2. Select Level 1 to use the first dimension, Level 2 for the second, and so on.
For example, if **Product** is your first dimension and you select Column Breaks Level 1, the pages will be divided in a page per group based on the most outer dimension, that is, each product has its own page.
Follow the same procedure to set the Row breaks for printing using the Row Breaks option on the **Print > Options > Layout**.

Note: When the groups are larger than one page, use the **Fit to Page** option to make each group have its own page.

Fitting a print job to one page

You can force your print job to fit onto a single page.

When you have a table and a chart on screen, the Fit To 1 Page option puts the table and the chart on one page.

Procedure

1. Select the **Print > Options > Layout > Fit To Page** option.
When this option is not selected the view uses the number of pages it needs.
2. This option must be set for each view.
By default, when a table and chart display on a screen, the printed version puts the table and chart on separate pages. To force the table and screen onto the same page, select **Fit To Page**.

Fitting to X by Y pages

You can specify the total number of pages to use.

You do this with the **Fit to X by Y** option. The first value entered is the width in number of pages to use. The second value is the length in number of pages.

Procedure

1. When both the **Fit X by Y** option is selected and **Row** or **Column** Breaks are specified, the **Row** and **Column** breaks are applied first. Then the **Fit to X by Y** number of pages is used.
2. When printing a view as few pages as possible are printed. This means when entering a value of, for example, 3 by 2, and the table fits on one page, the print will consist of only one page. Apart from the table, the print will in this case consist of a maximum of three pages wide and two pages long.

Note:

- It is not necessary to enter a number in both fields. When entering, for example, only 3 in the first field, the report will have a maximum width of three pages. The length is automatically calculated by the number of pages needed.
- The **Fit To X by Y** option does not work for charts.

Printing comments

You can add existing view or cell comments to your printout.

For more information, see [Adding a comment](#).

When comments are printed, the formatting is also printed (background and font formatting).

Print View Comments

Procedure

1. Click **Print > Options > Comments > Print View Comments**.
2. Specify the position where you want the comments to print:
 - **Before View**
 - **After View**
 - **On Same Page**

The option **On Same Page** is available only when **Fit To Page** is also selected, or when the **Fit to option** is set to 1 by 1.

Print Cell Comments

Procedure

1. Click **Print > Options > Comments > Print Cell Comments**.
2. Specify the position where you want the comments to print:
 - **Before View**
 - **After View**

Please note that only the latest comment of a cell will be shown.

Specifying Table Headings, Offspread, Backgrounds, and Alignment in print jobs

You can specify the way table and offspread headings display in your print job.

Procedure

1. Click **Print > Options > Layout**.
2. You can select the following options:
 - **Repeat Table Headings**

By default the row and column headers repeat on all pages of a printed view. To prevent the rows from repeating and having only the first page display column and row headers, clear the **Repeat Table Heading** option.
 - **Repeat Offspread**

By default, offspread members are repeated on larger views. To prevent offspread members from being repeated across all pages, clear the **Repeat Offspread** option.
 - **Print Background**

By default the background of the table is formatted and printed. To prevent the background formatting from being included when you print, clear this option.

- **Center Table**

By default the table is center aligned when printed. To align the table to the left instead, clear this option.

Indicating color

You can select the hue for printing jobs.

Procedure

1. Click **Print > Options > Color & Styles > Color Settings**.
2. You can select the following options:
 - **Print in Color**
 - **Print in Gray Scale**
 - **Print in Black & White**

Specifying the view orientation

By default all views print in Portrait mode.

To change the default orientation for all views, select the Print Landscape option on the Print menu.

Procedure

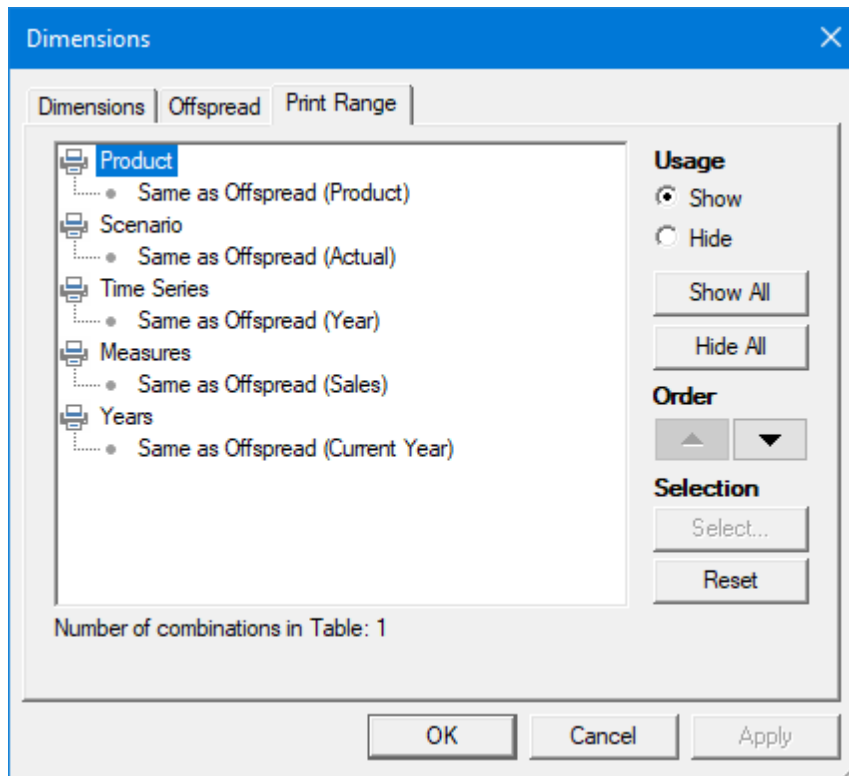
1. To specify a different orientation for a specific view, open the view and set the **Print Range > Views to This View**.
2. Click the **Options** and select the orientation for this view only:
 - **Default**
Use the setting made on the Print menu. If the Print Landscape option is selected, use Landscape for this View. If it is cleared, use Portrait.
 - **Portrait**
Use Portrait for this view only.
 - **Landscape**
Use Landscape for this view only.

Printing the same view for multiple members

You can print the same view for more than one offspread member.

Procedure

1. Click the **Print** button.
2. At the **Member Range** option, select **According to Print Range**.
By default the selected members are the same as the offspread selection. In this way the print range selection changes when a member in the offspread selection is changed.
3. To select the members, click **Print Range**.



Define the dimensions to use and the way to print them using these options.

- To reveal all dimensions, click **Show All**.
- To print a dimension, select it and click **Show**.
- To prevent a dimension from printing, select it and click **Hide**. Please note that members of hidden dimensions selected here will be hidden in Table of Contents.
- To specify the order for printing dimensions, use the up and down arrow buttons
 to arrange dimensions from the top (prints first) to the bottom (prints last).
- To select multiple members as selected in the offspread selection, click the member and click **Select**.
- Use the **Reset** button to set the print range to the selected members in the offspread dimensions.
- To sort the members, click the **Order** tab. See *Sorting the order of members*.

The number of combinations of Print Range members displays at the bottom of the Dimensions dialog.

To print a document with multiple pages per view, use the **Print Range > According to Print Range** option on the individual views to set their individual print options. The Page preview shows that the view will be printed with multiple pages.

Page Numbering in Wide Views

When a view is wider than one page, the page numbering is adjusted first across then down.

If, for example, your view is six pages wide and four pages long, the numbering starts on the top left page and proceeds in a horizontal and successively in a vertical way until the last page is reached, as shown here:

1	2	3	4	5	6
7	8	9	10	11	12
13	14	15	16	17	18
19	20	21	22	23	24

Printing an audit report

If an audit report is available for your view, you can print it. See [Enabling audit reports](#).

Procedure

1. Click the **Print > Options > Layout > Print Audit Report**.

Using Print Ranges with DynaSelect

You can use the DynaSelect automated tasks feature along with the Print options to automatically prepare views for printing.

When you use the **According to the Print Range**, print option, the DynaSelect applies to all the members you select.

Comments

Comments allow you to attach text, images or files to a view or a specific cell. The availability of the comments ribbon or certain options within the ribbon can vary based on authorization and security settings.

Note: It is not possible to add comments to calculated members or attribute dimensions.

Comments Panel

The Comments Panel will appear by choosing one of the four possible options in the **Panel Position** section. The options are:

- Left
- Right

- Top
- Bottom

Clicking the selected position again will make the Comments Panel disappear. Saving also saves the Comments Panel settings. This includes both the position and the visibility.

Display Options

Comments are displayed in ascending order sorted by creation date. Date and User name of the last editor are saved for every comment. Comment content not exceeding a certain length will be fully displayed. Any additional content will be hidden. The option **Read more** at the bottom of the comment will make the complete content visible.

Comments Tab

The **Comments** Tab displays the view or cell comments based on the chosen context. The Cell context displays comments of the cell that is currently selected.

Descendants Tab

The **Descendants** Tab is only visible for the **Cell** context. This tab displays comments for all descendants of the current cell. Please note that only the latest comment of a cell will be shown.

Comments Editor

The comments editor contains a toolbar and a text area

Toolbar

The toolbar offers the following functionality using buttons and dropdown menus:

- Save
This function will save the comment and close the editor.
- Font family / Font size
- Bold / Italic / Underline
- Text color / Background color
- Text alignment
- Clean formatting
This function clears all formatting for the selected text.
- Styles
This function lets you apply predefined style templates to the selected text.
- Merge comments
This function combines the comments of all descendants within one dimension into a new comment that will then be attached to the current cell. The dimension has to be chosen when using this function. The original comments are not deleted. Please note that only the latest comment of a cell will be shown.
- Attachments
This function allows to attach one or multiple files to a comment. When attaching files the maximum file size and allowed file types should be considered. These can be configured in the comment settings in the AL Explorer. If any of these conditions

are not met a warning is displayed and the user is prevented from saving the comment.

Text Area

The text area allows fast and easy editing of comment content. The maximum text length can be limited in the comment settings. When exceeding that limit, a warning showing the current text length and the maximum text length will be displayed. Saving the comment will not be possible while the length exceeds the limit. The text area also allows to paste text or pictures from the clipboard. Using this functionality embeds an image within the text rather than adding an attachment.

Context

Comments can be added for the following context options:

- Cell
- View

Grid Comments

Adding grid comments

Grid comments offer the possibility to display the latest comment of a member in an additional table column or row.

Procedure

1. Click on Add grid comment
2. Click on the column or row header of the member that you want to add a grid comment for.

A new comment column or row will be added.

Removing grid comments

Existing grid comments can be removed. Removing a grid comment only removes the comment column or row from the table, it does not delete the comments.

Procedure

1. Click on Remove grid comment
2. Click on the comment column or row header that you want to remove.

Display logic of grid comments

Grid comments only show the text of the latest comment of each element. Formatting, pictures or attachments are not displayed.

A comment will be displayed until

- a new comment is created for the element.
- the current displayed comment is modified.
- the current displayed comment is deleted.

Note: Should the latest comment of an element not contain any text (e.g. comment only contains a picture), the second latest comment will be displayed instead if containing at least one text character. If no comment containing text exists for an element, the cell in the comment row or column does not display anything.

Settings

Highlight

Activating this option will highlight any cell that either has a comment defined or has descendants with comments. The following symbols will appear:

Cell contains a comment	yellow speech bubble icon
Descendant(s) of the cell contains a comment	white speech bubble icon
Cell and descendant(s) contain a comment	yellow and white speech bubble icon (stacked)

Full Date and Time

Activating this option will display an absolute date and time for each comment (e.g. "18.09.2016 13:37") rather than the time span that has elapsed since the last modification (e.g. "5 minutes ago").

Show context

Activating this option will display the current context (of the cell or view) at the top of the Comments Panel.

Value changed hints

When saving a cell comment the current value of that cell will also be saved. Activating the option **Value changed hints** will display a warning in the Comments Panel that the value has changed since the comment has last been modified. It will also display the original value of the cell.

Adding a comment

Procedure

1. Activate the Comments Panel by selecting an option in the **Panel Position** section.
2. Click into the text box "**New comment...**"
The comments editor will open.
3. Write a comment.
4. Click on the **Save** button.
The comment will be saved and displayed on top of the list.

Adding a View comment

With a **view comment** it is possible to define a view specific description to a view.

Procedure

1. Activate the Comments Panel by selecting the **COMMENTS** tab in the ribbon menu.
2. In the **Context** section click the **View** button.
The comments editor will open.
3. Write a comment.
4. Click on the **Save** button.
The comment will be saved and displayed on top of the list.

Modifying a comment

Procedure

1. Activate the Comments Panel by selecting an option in the **Panel Position** section.
2. Click on the arrow at the top right position of the comment.
3. In the menu that opened click on **Edit**.
The comments editor will open.
4. Edit the comment.
5. Click on the **Save** button.
The comment will be saved and displayed on top of the list.

Deleting a comment

Procedure

1. Activate the Comments Panel by selecting an option in the **Panel Position** section.
2. Click on the arrow at the top right position of the comment.
3. In the menu that opened click on **Delete**.
A confirmation popup will ask if you really want to delete the comment.
4. Click on **Yes**.
The comment will be deleted.

5. Using AL Anywhere

AL Anywhere is a client containing limited functionality that will be enhanced in the future.

It has been designed and implemented to run on multiple devices, such as, desktops, laptops, tablets and smart phones.

The AL Anywhere client can be started by calling the following URL in a supported web browser.

Example: <https://<SERVERNAME>/EVAnywhere>

Devices and Screen Size

The client has been designed and implemented to target different devices, for example, desktops, tablets and smart phones. Depending on the screen size of the device, the layout will change slightly to make optimal use of space.

Examples:

- On a smart phone, the tabs are available through a drop down menu, on a desktop they are always visible.
- The backstage menu is always visible if there is enough space, it is collapsed and has to be expanded on small devices.
- On smaller screens there are only icons displayed in the menu, and no text.

Add To Home Screen

When using tablets and smart phones, for the best possible user experience it is recommended that Anywhere is added to the home screen.

This improves the look and gives the same feel as using a native app.

Gestures and Device Input

There are a number of touch gestures supported to enhance the user experience.

The following inputs are supported on desktops, tablets and smart phones.

Please note, on Windows touch based devices, sometimes **Tablet Mode** may need to be activated for the best possible user experience.

Action	Function (Area)	Description
Tap / Left Click		
	Members in table rows	Opens the member select dialog
	Members in table columns	Opens the member select dialog
	Members in offspread	Opens the member select dialog
	Members in chart	Opens the member select dialog

	Menu items	Performs an action for example, swapping between table and chart, or opens further dialog
	Options in the options dialog	Option settings are changed, such as suppress rows and columns, or drop down menus are opened
	Buttons in dialogs	Dialogs such as the member selection and options dialog contain a number of buttons. For example, OK, Cancel or Apply. These buttons can be tapped
	On views in backstage area	Views can be opened by tapping on them
	Search and text input	Tapping on a text input field, for example the search in the member select dialog will open the device keyboard
Long Tap / Right Click		
	Members in table (while calculator is open)	Opens the member select dialog for the calculator
Swipe (Touch only)		
	Members in the order tab of the member selection dialog	Members can be swiped to the right of the order tab dialog, this will remove them from the selection
Drag Select (Tap and Drag / Left Mouse Down and Drag)		
	Members in the member select dialog	Finger / Mouse can be dragged over members in the member select dialog to select or deselect
Drag and Drop (Tap and Drag / Left Mouse Down and Drag)		
	Members in table rows	Swap members or dimensions
	Members in table columns	Swap members or dimensions
	Members in offspread	Swap members or dimensions
	Members in chart (axis / legend / chart element / chart offspread / small multiple row and column headers)	Swap members or dimensions
Resize areas (Tap and Drag / Left Mouse Down and Drag)		
	Splitter between Table and Chart	Resize Table / Chart area

	Left border of options / member select dialog	Resize dialog
Resize cells (Left Mouse Down and Drag - Mouse only)		
	Members in table rows	Resize cell height or width
	Members in table columns	Resize cell height or width

Views

All member selections and options are stored in an item called a "View".

Opening Views

To open a view, navigate to the view you wish to open and click or tap on the item.

The following view locations are supported:

- Recent Views
Contains a list of recent views that have been opened
- Shared Views
Contains a list of views from the shared repository
- My Views
Contains a list of views for the logged in user
- Shared Templates
Contains a list of view templates from the shared repository
- My Templates
Contains a list of view templates for the logged in user

Please note that local views are not supported.

Searching for Views

It is possible to search for views in **My Views** and **Shared Views**. The search is case insensitive and always searches in the current selected folder and child folders. All elements that contain the value entered into the Search Field will be shown in the results list.

Saving Views

There are two possibilities for saving a view:

- Save
If you are authorized to save a specific view, you may use the "Save" button in the Backstage menu.
- Save As
If you have the generic authorization to save views under a different name (even if

you might not be allowed to change the original view), you will be offered the menu option "Save As" in the Backstage. This menu allows you to choose a folder and a name for the new copy of the view (it will only show folders that you are authorized to save to).

Saving a view inside the "Shared Templates" or "My Templates" location will automatically save it as a view template. Vice versa, saving a view template in any of the non-template locations will save it as a view.

Closing Views

If you want to close a single view, you can do this for the currently displayed view by clicking / tipping on the X next to the name in the open document tabs.

If you want to close all open views, you can use the menu option "Close all" in the backstage.

For both options, you will be asked if you want to save open changes, if applicable.

Applying Templates to Views

The AL Anywhere supports applying a view template to an existing view.

This is done by going to the "Format" tab and clicking on "Templates", which will open a dropdown-menu with all your available templates from both the "Shared Templates" and the "My Templates" location.

The screenshot shows the AL Anywhere interface with the 'Format' tab selected. The 'Templates' dropdown menu is open, showing a list of templates. In the background, a table of financial data is visible, including columns for 'Actual', 'Budget', 'Variance', and 'Variance %'.

	Actual	Budget	Variance	Variance %
	7,946	6,888	1,058	15.4 %
	2,429	2,232	-198	-8.9 %
Margin	5,517	4,657	860	18.5 %
Total Expenses	1,045	1,111	66	5.9 %
Profit	4,472	3,546	926	26.1 %
Profitability in %	56.3 %	51.5 %	87.5 %	170.0 %

Clicking on a template will then automatically apply all the styles defined in the view template to the current view.

Please note that so far only general formatting options are supported for view templates in AL Anywhere. Member-, Generation- and Level-specific formats in view templates will not be applied.

Menu

The menu is visible across the top of the device display.

The menu items are grouped into the following tabs:

- **Navigate**
Contains all the functionality related to view navigation
- **Member**
Contains the calculator

- **Layout**
Contains all the functionality related to view layout
- **Chart**
Contains all the functionality related to the chart
- **Format**
Contains all the functionality related to formatting
- **Quick Menu**
Offers icons to quickly undo, redo, reload the view or switch to fullscreen mode

Navigate

This menu contains all view navigation functionality.

The following items are currently available:

- **Suppress Rows**
Suppress missing rows
- **Suppress Columns**
Suppress missing columns
- **Export Data**
Opens the export data dialog
- **Options**
Opens the navigate options dialog

Member

This menu contains all member functionality.

The following items are currently available:

- **Calculator**
For further information see [Calculator](#)

Layout

This menu contains all view layout functionality.

The following items are currently available:

- **Table**
Shows the table only
- **Chart**
Shows the chart only
- **Both**
Shows the table and chart at the same time
- **Title**

- Shows or hides the title
- Offspread
Shows or hides all offspread selections
- Options
Opens the layout options dialog

Chart

This menu contains all chart functionality.

The following items are currently available:

- Chart Type
Will open a drop down menu to select a different chart type
- Display Values
Shows or hides values in the chart
- Legend
Shows or hides the legend
- Merge Columns
Activates or de-activates the "Merge Columns" functionality
- Merge Rows
Activates or de-activates the "Merge Rows" functionality
- Small Multiple
Activates or de-activates the "Small Multiple" functionality
- Color
Will open a drop down menu to select a different color palette
- Options
Opens the chart options dialog

Format

This menu contains all format functionality.

The following items are currently available:

- Templates
Select one of your available templates to apply it to the current view.
- Decimals
The number of decimals to display for number values.
- Show data in 1000
Toggles the default scaling factor to 0.001 to show data in thousands.
- Indent row headers
Indent the row headers using the string specified in the options.
- Show Icons in Headers
Shows the icons in the headers.

- Options
Opens the format options pane.

Quick Menu

The quick menu contains general options that are needed on a regular basis.

The quick menu contains the following menu items:

- Undo
Performs an undo operation on the last performed action
- Redo
Performs a redo operation on the last performed action
- Reload
Reloads the stored version of the view
- Full Screen
Displays the current view in full screen mode, this is especially useful on smaller devices.
To return, press the icon again.

Members

Members can easily be added, removed or moved within a view.

Selection

To open the member selection dialog, tap or click on a member in the view. This opens the member selection dialog for the dimension that the member belongs to. For example "Products".

To add a new member, click or tap on the member you wish to add to the view. The member will be highlighted, indicating that the member will be added to the view.

To remove a member from the view, click or tap on a selected member (highlighted member). The member will no longer be highlighted indicating that the member will be removed from the view.

It is possible to drag select with the mouse or finger and select more than one member at a time. This is especially useful when adding or removing information quickly, for example adding 3 months of a quarter in one go.

The following buttons are available to manipulate the selection quickly.

- **Lowest From ***
Selects the lowest members from the selected member
- **All Lowest ***
Selects all members on the lowest level
- **Select All**
Selects all the members
- **Deselect All**
Removes all the member from the selection
- **Expand All**

Expands all members to display all descendant members

- **Collapse All**

Collapses the member tree

To apply the changes from the member selection the **OK** button can be used.

To apply the changes and keep the member selection dialog open, the **Apply** button can be used.

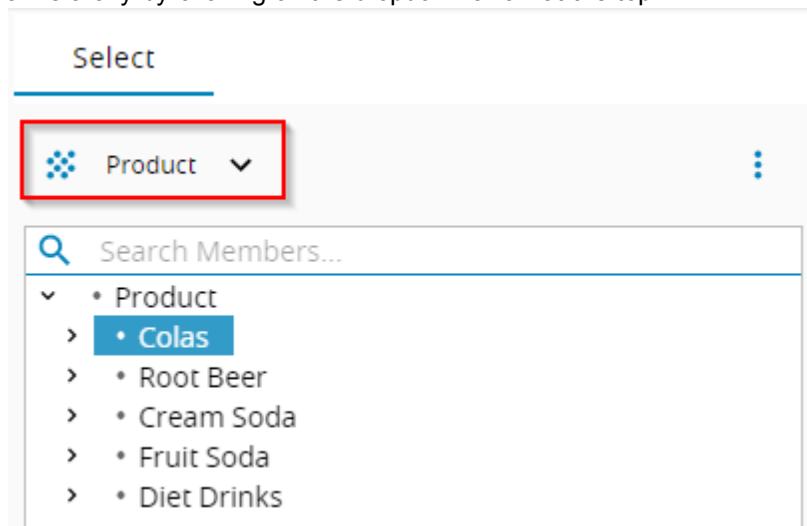
Changes can be canceled by using the **Cancel** button.

** Those buttons are additive - meaning that the selection will be added to the already existing selection.*

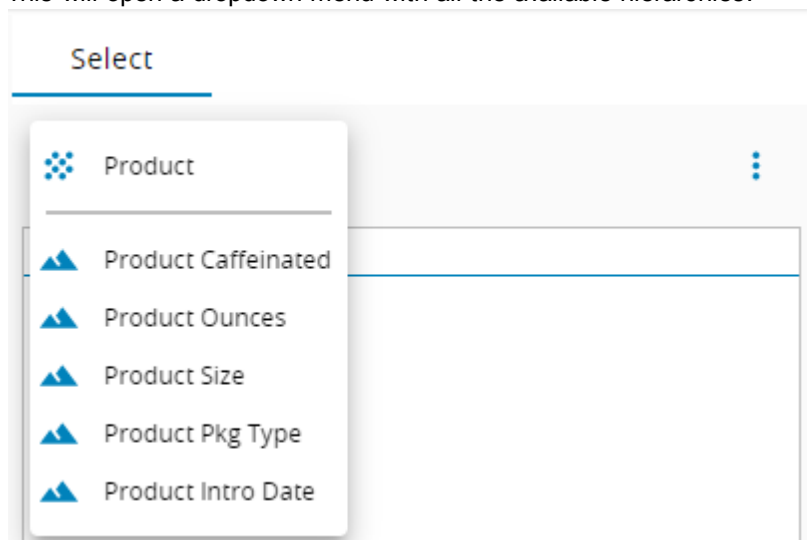
Hierarchies

The AL Anywhere can select alternate hierarchies of dimensions via the Member Select.

When opening the Member Select on a dimension that has multiple hierarchies, you can select a hierarchy by clicking on the dropdown-arrow at the top.



This will open a dropdown-menu with all the available hierarchies.



Search

It is possible to search for members in the member selection dialog. The search results are displayed based on the text that is entered into the search field. Simply select or deselect members within the search result.

It is possible to perform a **Select All** or **Deselect All** on the search results. The action will be additive for this case.

Order

The order of the selected members can be changed using the order tab. To change the order of the members, select the member and click the **Move Up** or **Move Down** buttons. It is possible to select multiple members at the same time and move them with the buttons.

Keep Selection keeps only the selected members in the selection.

Remove Selection removes the selected members from the selection.

Chart

It is possible to have members visible in the table but hidden from the chart. This is especially useful when yearly totals are included in the table but a trend over time comparison is required in the chart.

Clicking on the members in the chart shows the member select dialog. The dialog contains a tab called Chart. If the member is highlighted it will be shown in the chart & table. If the member is not highlighted it will not be shown in the chart, but it will be shown in the table.

Calculations

The calculations can be reached by clicking the **MEMBER > Calculator** ribbon menu. It opens a panel with two tabs.

Note: Calculator panel can only be opened on devices that provide a virtual screen resolution of 700 x 700 pixels or more.

- **Calculator Tab**
In this tab there is the calculator panel in which you can define a formula.
- **List Tab**
In this tab you can organize your calculations.

The Calculator Panel

- **Name Field**
The calculator panel consists of a name field where the name of the calculation can be entered.
- **Formula Editor**

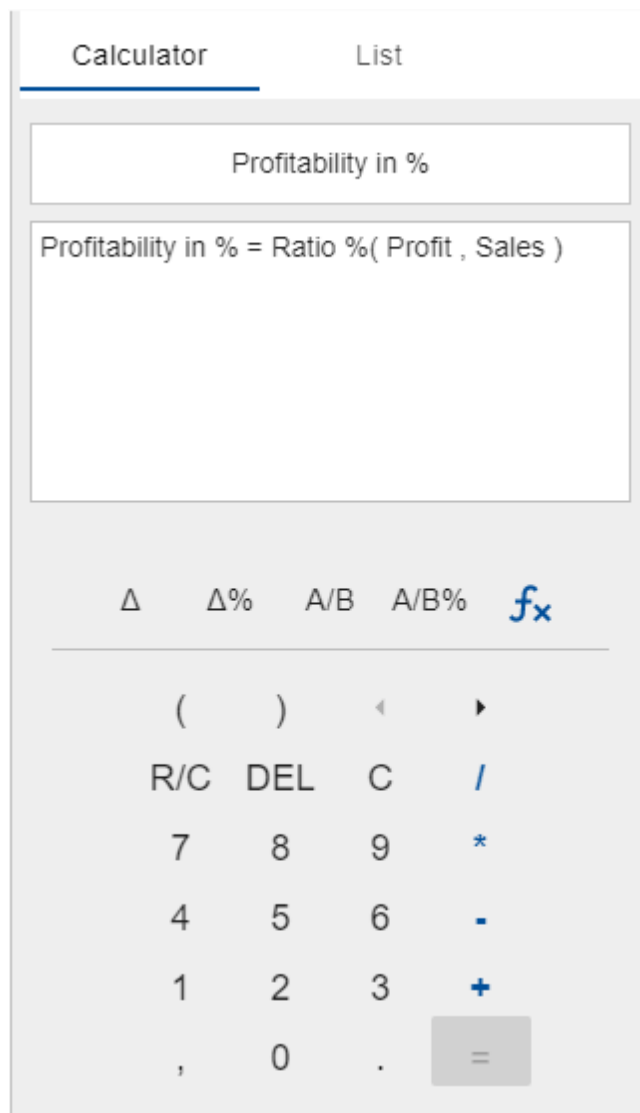
Below the name field there is a formula editor. Here the user can enter the formula formula with digits, operators, functions and members.

- **Function Buttons**

Below the formula editor there is a row of calculator buttons, that gives access to the calculator's functions.

- **Key Pad**

The last area of the panel is the key pad that gives the user to enter formulas.



The Name Field

The name field can contain UTF-8 characters and must be unique within the dimension.

- It is not allowed to have the same name of a calculation within one dimension twice.
- It is allowed to have the same name of a calculation in different dimensions.
- It is not allowed to give the calculation the same name as the internal member

name of a member within the dimension.

- It is allowed to give the calculation the same name as an alias name of a member within the dimension.

The Formula Editor

In the formula editor a calculation formula can be defined.

If AL Anywhere is used on a Desktop Browser, you can also use the keys on your keyboard. Only the keys that are available on the key pad are allowed in the calculation editor and also the backspace key.

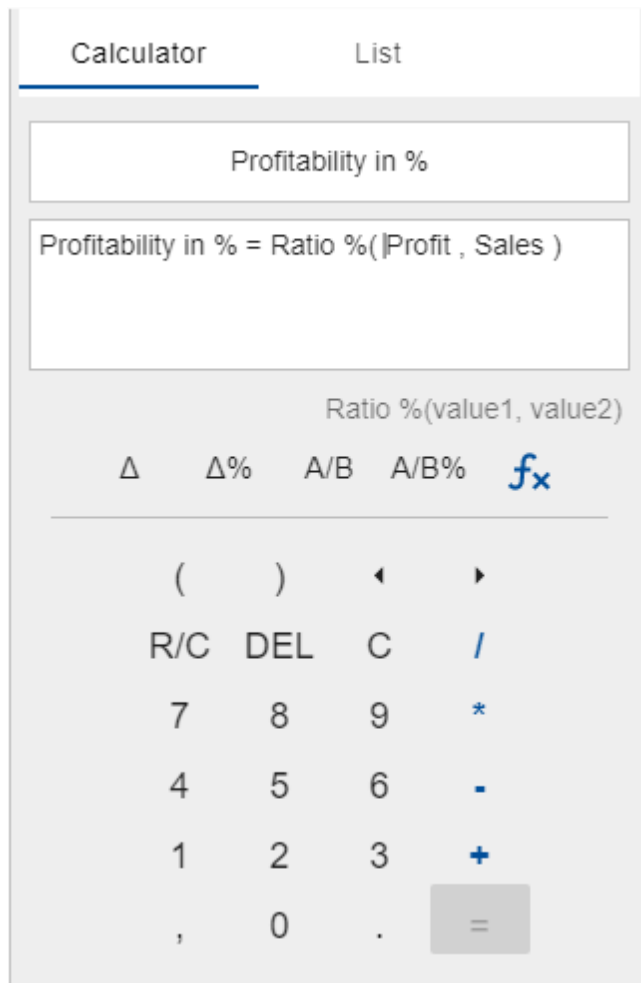
If AL Anywhere is used on a touch device the software keyboard is suppressed. Formulas can only be entered by using the key pad.

A calculation consists of different tokens. Tokens are numbers (123...) , operators (+, -, /) or function names.

If the formula is invalid, the first symbol of the invalid formula is red as well as the rest of the tokens in the formula.

On the bottom of the formula field there is a **function hint**. It gives basic information about the currently focused function.

In the screen shot below the function hint reads **Ratio %(Profit, Sales)**



The Functions Keypad

Below the formula editor there are five buttons. From left to right these are

- Variance() function
- Variance %() function
- Ratio() function
- Ratio %() function
- Functions Menu



5.7.1.3.1 The Functions Menu

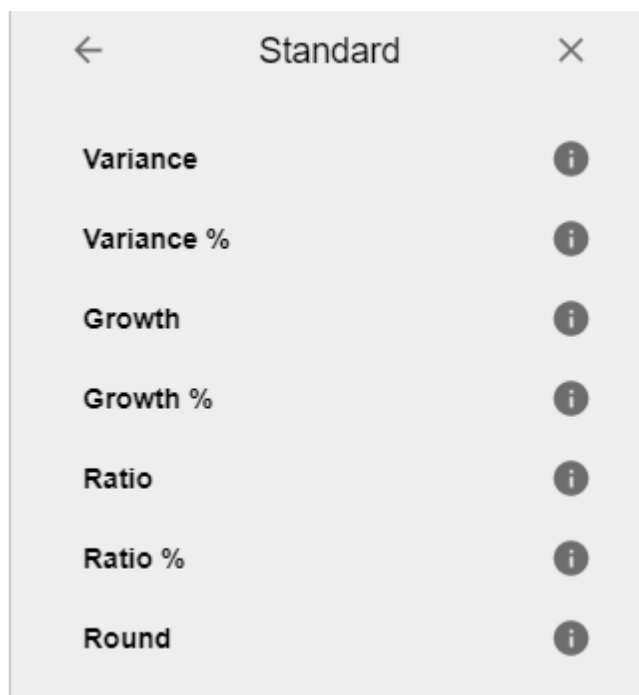
By clicking the functions menu, the key pad will be replaced by a list of function categories, such as Standard, Statistical, Mathematical, Dynamic and Other. By clicking one of these categories a second menu will show with the different functions.

The screenshot as an example shows the Standard category and its functions.

Next to the functions name there is an info button. Clicking this button leads to the function's descriptions, where the use of the functions is described.

Furthermore on top left there is an **back arrow**, to return to the previous function sub menu and also an **X** to close the functions window and directly return to the key pad.

By clicking one of the names the specific function can be added to the formula editor. When the information button is pressed in the function description panel there is also an **INSERT** button to add the function to the formula.



The Calculator Keypad

The calculator keypad has the following keys

- The numbers **0 - 9** to add values
- A **point (.)** to write decimal numbers
- A **comma (,)** to separate function parameters
- The operations **plus (+), minus (-), divide (/), multiply (*)**
- **Parenthesis** for the formula and also for functions
- **Left and right arrows** to move the cursor to the previous / next token
- The **DEL** button is used to delete the token after the current cursor position
- The **C** button is used to delete the complete formula
- The **R/C** button is used to toggle between normal mode and **Row/Column** mode
- **Equals (=)** to save the current formula. This key can only be pressed if the formula of the calculation is valid

5.7.1.4.1 The R/C Button

When the **R/C** button is not clicked, members are referenced by its name in the formula. This is the default.

When the **R/C** button is clicked, members are referenced by their ID within the grid, starting at index 1.

R/C and normal mode can be combined in one formula.

The Calculation List

The calculation list shows all calculations that are available in the current view.

The order of the calculations in the list represent their evaluation order. This means the first calculation will be evaluated first, the second will be evaluated second and so on.

The List tab has the following buttons:

- **NEW**
Create a new empty calculation
- **EDIT**
Edit the currently selected calculation in the Calculator panel
- **RENAME**
Rename the currently selected calculation by opening a rename dialog
- **DELETE**
Delete the currently selected calculation(s)
- **MOVE UP**
Move the selected calculation(s) up in the list to change their evaluation order
- **MOVE DOWN**
Move the selected calculation(s) down in the list to change their evaluation order

Working with calculations

The following section gives a brief description how to define a calculation

Creating a calculation

- Click on **MEMBER > Calculator**
- Enter a name in the name field
- Click members in the grid or offspread to add items to the formula
- Use the keypad to enter numbers, operators and functions
- Click "="

Editing a calculation

- Click on the small calculator icon in the grid / offspread

or

- Click on **MEMBER > Calculator**

- Select the List Tab
- Select a calculation
- Click EDIT

Cross Dimensional References

Cross dimensional references are used to lock certain coordinates of your cube.

Imagine you have a grid like

Market: East
 Product: Cola
 Year: Year 2020

By clicking the grid items after another (East, Cola and Year 2020) the calculator will create the following element in the calculation editor: **East->Cola->Year 2020**

Adding Members that are not visible at the moment

It might be required that the calculation should also contain a member that is not visible in the grid at the moment.

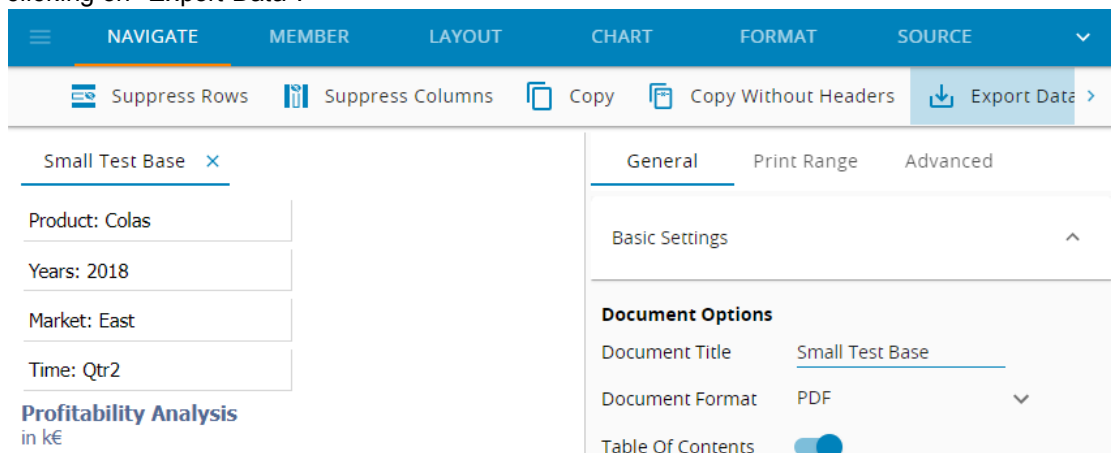
It can be done by performing a right click / long tap on a member, while being in the Calculator Panel. By that an additional member select panel will open, where a member of the clicked dimension can be selected.

Exporting Views

The AL Anywhere can export views to one of these supported file types:

- PDF
- XLSX
- CSV

You can find the dialog to configure the export options by going to the "Navigate" tab and clicking on "Export Data".



A detailed description of all the options that can be configured in this dialog can be found in the [Printing Views](#) chapter.

If you have multiple views opened, an additional accordion will appear in the "General" tab.

The screenshot shows a software interface with two main parts. On the left is a 'Profitability Analysis' table for 'Colas' in 2018, showing sales, COGS, margin, and profit. On the right is a configuration panel with tabs for 'General', 'Print Range', and 'Advanced'. The 'General' tab is active, showing 'Basic Settings' and 'View Range' sections. A 'Views' section allows selecting which views to include in the report, with '01 Formatted Table' checked and 'Small Test Base' unchecked.

		Qtr2
		Actual
East	Sales	7,946
	COGS	2,429
	Margin	5,517
	Total Expenses	1,045
	Profit	4,472
	Profitability in %	56.3 %

Here you can configure which of the opened views you want to include in your exported report.

Please note that not all configuration options are supported for all of the available file types, however when selecting the file type, the unsupported options will become disabled automatically.

Charts

The following chart types are supported:

- Bar
- Line
- Area
- Pie
- Radar
- Bubble
- Scatter
- Range
- Dial

PowerBI Visual

The AL Anywhere is available as a Visualization for Microsoft Power BI.

The Performance Analytics Setup and Installation Guide describes how to setup and install the visual. For the following description, we assume that the Visual is available in Power BI..

Overview

The Serviceware Performance Analytics Visual allows to add multi-dimensional data retrieved via the Performance Analytics server to a Power BI report. The Visual is using

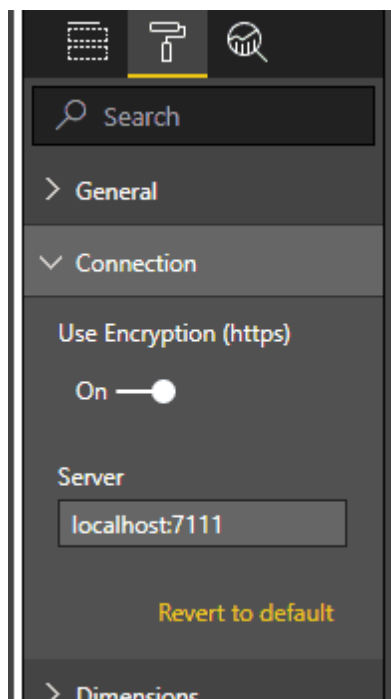
the AL Anywhere client and it's API to allow an interaction between Power BI and the AL Anywhere.

The typical Use-Case is to open up a specific Performance Analytics view and provide a point of view from Power BI. Furthermore, the Visual allows to use the full functionality available to the AL Anywhere inside Power BI while configuring which options should be available to a consumer.

The Power BI Visual supports the same languages as the Serviceware Performance Analytics.

Getting started

1. Add the Performance Analytics Visual to your report.
2. In the format tab, you can now configure the connection to the Performance Analytics server.



Note that you do not need to specify a port if you use the default port (80 for http, 443 for https).

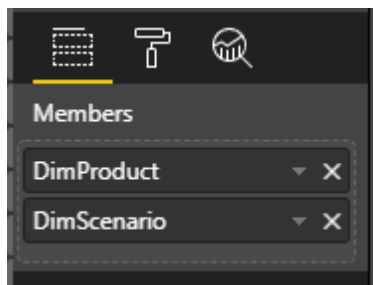
Your AL Anywhere should show the login screen / backstage now and is ready to be used.

Configuration

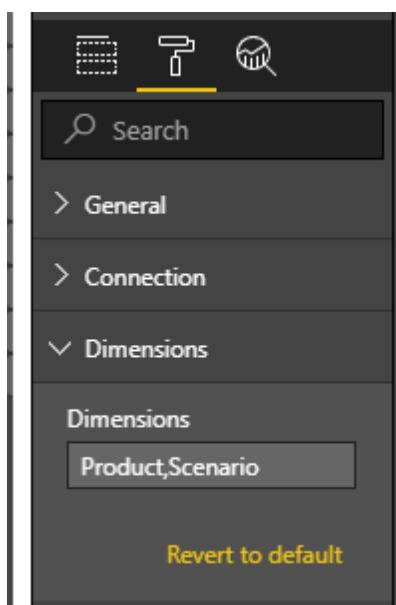
- **Connection:** Configure the Connection to the Performance Analytics server. All data is loaded live from the server and the visual cannot work without a connection. The connection must match the Endpoint configured for the REST API of the Performance Analytics server. Note that you do not need to specify a port if you use the default port

(80 for http, 443 for https), i.e. you just need the hostname (e.g. "localhost", "myserver") for the connection, but you can also add a port ("localhost:7111", "myserver:9000").

- **Permissions:** Control the UI (e.g. hide the menu) as well as the behavior (e.g. disable changing the selection) of the AL Anywhere. This allows to display a view in "read-only" mode if you disable all options.
- **Views:** Allows to specify the path to a view that is opened when loading the visual. You can right-click a view in the backstage to copy the path of the view to the clipboard (works only with https connections). Note that if you specify in the permissions to hide the backstage, it is strongly recommended to specify a view here. If you configure a member selection, it will be applied to the view upon loading.
- **Dimensions / Members** (on the fields tab): Allows to use the data inside Power BI to specify a member selection for the view that is currently open.
 - Add the columns containing the member names to the *Members* field.

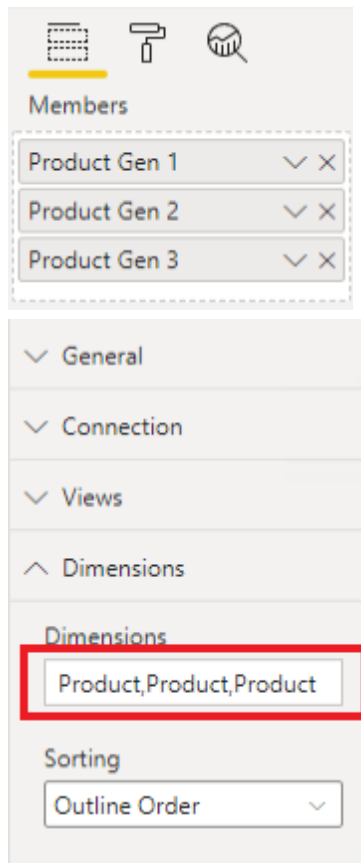


- For each column that you added, add the dimension name to the *Dimensions* property. Note that the *Dimensions* property is a comma-separated list of dimensions.



The dimensions must appear in the same order as the member columns. The member columns must contain the **member names** (it does not work with aliases).

Note that a dimension can appear multiple times, to merge the selections together.



Now you can apply filters or slice the data inside Power BI. The resulting members are passed to the Visual and will be applied. Note that for Ingrid-Dimensions, it will only apply to the default selection, not to asymmetrical selections.

The image shows a Power BI report. On the left, there is a table titled 'Profitability Analysis in k€'. The table has columns for 'Product: Cola', 'Year: Qtr2', and 'Actual'. The data is grouped by 'East' and 'West'. The 'Actual' column is highlighted in grey. The 'Profit' values are highlighted in blue. The 'Profitability in %' values are also highlighted in blue. On the right, there is a 'Filters on this visual' pane. It shows a filter for 'DimProduct' set to 'is (All)'. Below that, there is a filter for 'DimScenario' set to 'is Actual'. The filter type is 'Basic filtering'. There is a search box and a list of filter items: 'Select all', 'Actual' (checked, 5472), and 'Budget' (unchecked, 2724). At the bottom of the pane, there is a checkbox for 'Require single selection' which is unchecked.

Product: Cola	Year: Qtr2	Actual
East	Sales	3.666
	COGS	1.903
	Margin	1.763
	Total Expenses	1.181
	Profit	582
	Profitability in %	15,9 %
West	Sales	3.824
	COGS	1.557
	Margin	2.267
	Total Expenses	1.078
	Profit	1.189
	Profitability in %	31,1 %

Applying filters through a flatlist

One of the ways we can have data represented is by a table where every member is listed together with its parent.

Parent	Member	Alias
	0	Product
0	100	Colas
100	100-10	Cola
100	100-20	Diet Cola
0	200	Root Beer
200	200-10	Old Fashioned
200	200-20	Diet Root Beer

Based on this, we can pass either a single selection (e.g. for the offspread),

Products

- Caffeine Free Cola
- Cola
- Colas
- Diet Cola
- Diet Root Beer
- Old Fashioned
- Product
- Root Beer
- Sasparilla

Product: Diet Root Beer		Year: 2017		Market: Market	
Profitability Analysis in k€					
		Qtr3		Year	
		Actual	Budget	Actual	Budget
Sales		8.018	7.969	31.431	31.660
COGS		3.502	3.312	13.739	13.176
Margin		4.516	4.657	17.692	18.485
Total Expenses		2.082	1.630	8.249	6.175
Profit		2.435	3.026	9.443	12.310
Profitability in %		30,4 %	38,0 %	30,0 %	38,9 %

Parent	Member	Alias
200	200-20	Diet Root Beer

or a multiple selection (for the inspread) to our visual.

Products

- Caffeine Free Cola
- Cola
- Colas
- Diet Cola
- Diet Root Beer
- Old Fashioned
- Product
- Root Beer
- Sasparilla

Account: Margin		Year: 2017		Market: Market	
Profitability Analysis in k€					
		Qtr3		Year	
		Actual	Budget	Actual	Budget
Product		49.432	50.909	192.322	194.333
Colas		14.661	16.426	55.941	60.946
Cola		8.711	9.823	33.017	35.492
Diet Cola		4.250	4.759	16.208	18.199
Old ...		4.970	5.737	19.697	22.204
Diet Root ...		4.516	4.657	17.692	18.485

Parent	Member	Alias
	0	Product
0	100	Colas
100	100-10	Cola
100	100-20	Diet Cola
200	200-10	Old Fashioned
200	200-20	Diet Root Beer

Applying filters through a hierarchy

There's also the possibility of having the data in a table where every column represents a generation.

	Product Alias 1	Product Alias 2	Product Alias 3
Product	Colas		Caffeine Free Cola
Product	Colas		Cola
Product	Colas		Diet Cola
Product	Root Beer		Diet Root Beer
Product	Root Beer		Old Fashioned
Product	Root Beer		Sasparilla

Based on this model, in order to select a single member, the *Single selection* switch must be ON.

Example: Single member selection

The screenshot shows a BI tool interface. On the left, a product hierarchy is displayed with 'Colas' selected. The main view shows a 'Profitability Analysis' table for 'Colas' in 2017. The table has columns for 'Actual' and 'Budget' for both 'Qtr3' and 'Year'. The 'Single selection' switch in the filters pane is turned ON.

	Qtr3		Year	
	Actual	Budget	Actual	Budget
Sales	24,863	27,238	94,465	101,156
COGS	10,202	10,812	38,524	40,210
Margin	14,661	16,426	55,941	60,946
Total Expenses	6,344	5,503	25,193	20,879
Profit	8,317	10,924	30,748	40,067
Profitability in %	33.5 %	40.1 %	32.5 %	39.6 %

As it can be seen in the screenshot above, when selecting the member "Colas" in the slider from the left, it's children are also selected, but because the *Single selection* switch is on, the selection that is passed to the view is only the "Colas" member. Based on the order of the columns passed to the visual, the member of the last dimension containing only one member will be selected. In the example, there are multiple members selected for the third column, but only one (Colas) for the second column.

Example: Multiple member selection

The screenshot shows a BI tool interface. On the left, a product hierarchy is displayed with 'Colas', 'Root Beer', and 'Sasparilla' selected. The main view shows a 'Profit per Product and Market' table for 'Profit' in 2017. The table has columns for 'East', 'West', 'South', and 'Central'. The 'Single selection' switch in the filters pane is turned OFF.

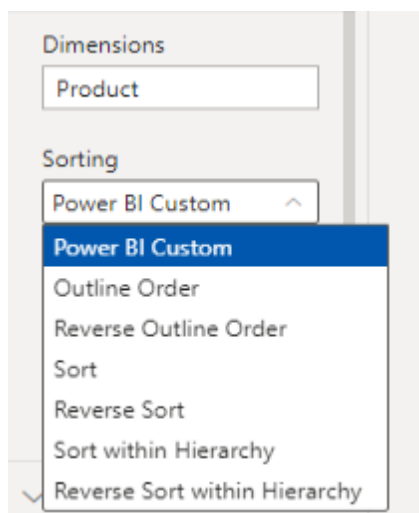
Product	East	West	South	Central
Product	5,583	4,394	3,745	10,223
Colas	3,592	620	1,517	2,588
Cola	3,145	291	1,233	925
Root Beer	-268	1,201	1,630	2,508
Old ...	-409	330	534	1,625
Diet Root ...	260	580	711	884
Sasparilla		291	385	

If we want to pass a multiple selection, the *Single selection* switch must be OFF. In the screenshot above, the members Cola, Root Beer and its children are selected and passed to the visual but, due to a limitation of PowerBI, their parents (Colas and Product) are also selected.

Note that if you don't want "Product" to be selected, you should only pass generation 2 and 3 to the visual and the first generation will always be excluded.

Sorting the selected members

It is possible to have the members sorted by one of the next criteria:



- **Power Bi Custom** - keeps the order provided by Power BI
- **Outline Order** - sorts members according to the outline order in the database.
- **Reverse Outline Order** - sorts members in a reverse way according to the outline order in the database.
- **Sort** - sorts members alphabetically.
- **Reverse Sort** - sorts members in reverse alphabetic order.
- **Sort within Hierarchy** - sort members in ascending or descending order, while respecting the dimension hierarchy.
- **Reverse Sort within Hierarchy** - members are sorted in reverse alphabetical order within their hierarchies

Known Differences

While most of the views look very similar in AL Anywhere and the Desktop Client, there are some differences that one should be aware of:

- Handling of 3D borders.
At most one border is displayed between cells. Hence, spacing required for the 3D effect are not shown in Anywhere. One can achieve the 3D effect by manually adding spaces between the elements.

Personalized Outlines

The AL Anywhere supports personalized outlines. Depending on your database and datasource configurations users that have restricted access to certain members in an outline will now either see those members as labels (without data behind them) or not at all.

6. Notices

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