



2.5

Enterprise

User manual....



Business Intelligence
Data Management Solutions
ISV/Software Solutions

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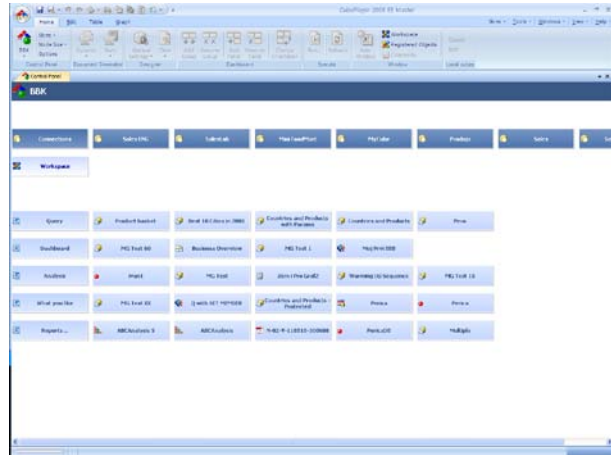
Control Panel

CubePlayer has unique Control Panel that helps user to define favorite objects and in easy-to-use way reach them. We have put a great deal of effort to make this form clear, intuitive and easy to understand.

Control Panel consists of three (3) sections:

- Connections →
- Workspaces →
- Reports. with five (5) rows →

To populate any of those sections, represented with boxes, drag any appropriate object from Registered objects and drop them on appropriate box:



- Connections on connection box first in the row
- Workspaces on Workspace box first in the row
- Dashboards, Dynamic documents, Static reports, Designers or ABC+ Analysis to the first Report box in each row

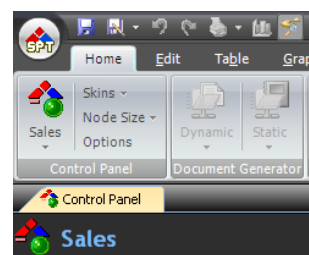
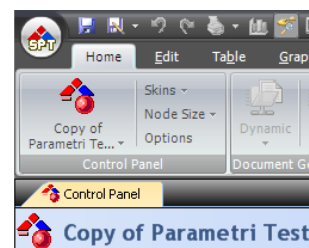
For any additional action right click your mouse over any box and select options from menu like:

- Move left
- Move right
- Run
- Delete
- Rename
- Properties
- Options
- Copy Style
- Paste Style

Control panel modes

There are two available control panels modes:

- Read Only mode (icon with red ball)
 - User is not owner of control panel and it can not change it
 - NOTE
 - User with Master license can change RO control panels
 - And they can select how to save them:
 - using original User name
 - using their own user name (change ownership)
- Read Write mode (icon with green ball)
 - User is owner of control panel and it can change it



Therefore Master License user can save control panel in Master Catalog and make necessary changes, while Standard License users can use them from Master Catalog but they can not change them.

Control panel selector

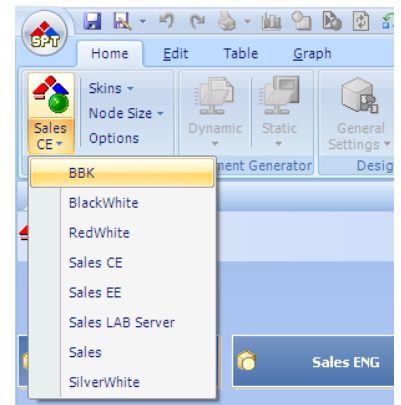
To select Control panel, not using Local repository explorer:

- Select lower part of icon **Control panel**

You will get drop-down menu where you can see:

**Up to ten (20) control panels
inside default Local repository**

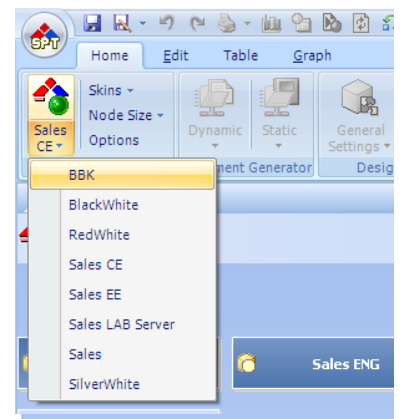
Below the main Control panel icon (inside toolbar) the name represents active control panel



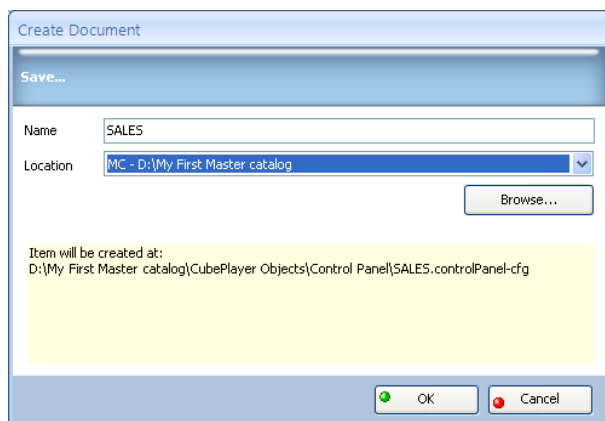
Save control panel

To save Control Panel:

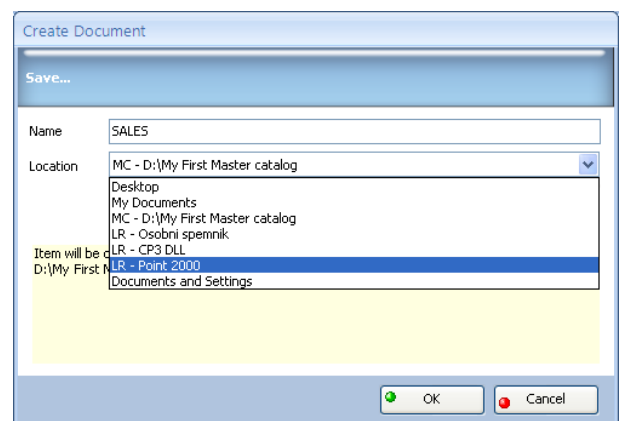
- Select icon **Save** on the Toolbar
- After dialog opens, give the name to the Control Panel
- Select location
- Select **OK**



This way you can create any number of Control Panels according to your needs.



default location to save control panel

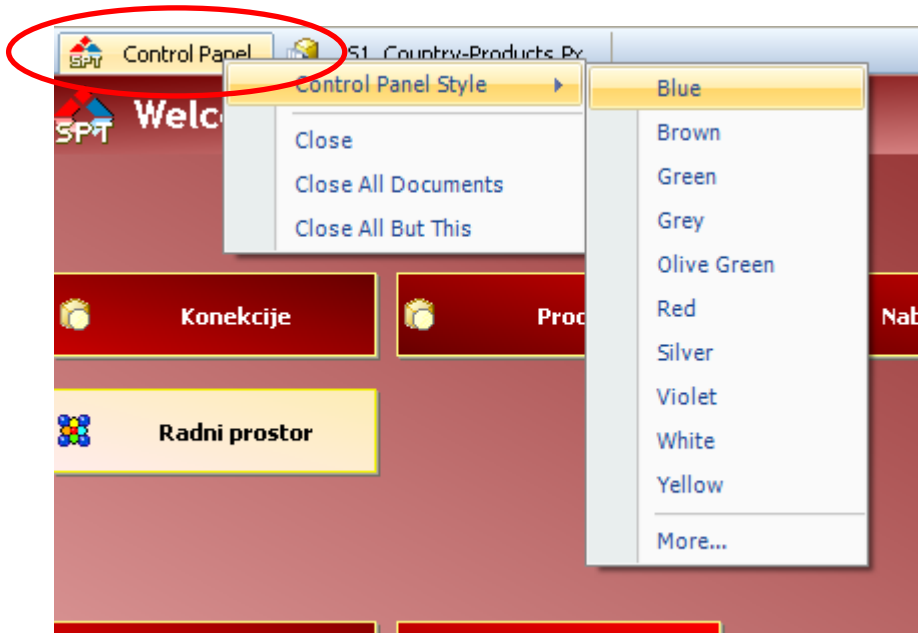


additional locations to save control panel

Control Panel styles

To use predefined Control panel styles:

- Select tab with Control panel name



Use one from the predefined styles from the list.

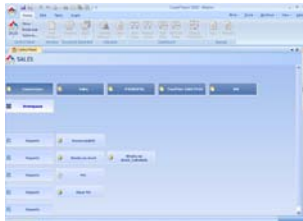


Control Panel skins

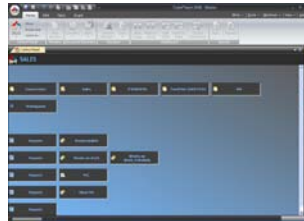
To use predefined skins:

- Select **Home** tab and button **Skin**

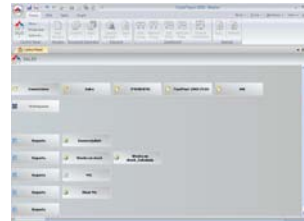
There are six (6) predefined Control Panel skins:



Blue and Blue white skin



Black and black white skin



Silver and silver white sk

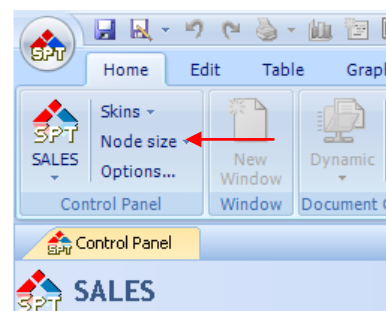
Control Panel node size

To change a node size:

- Select **Home** tab and button Node Size

There are three (3) available sizes:

- small size
- medium size
- large size



Main menu

Main menu is located on the very top of the main application form.



There are nine (9) top-level items on the main menu divided in to two groups:

Left most group

- **Home** for actions like registering and deregistering files and servers, connecting and disconnecting to the selected file or server, working with files and printers, viewing properties and so on
- **Edit** for standard editing operations (select, copy, paste, find, replace...)
- **Table** controlling the available views for table
- **Graph** for controlling the graphs
- **MiniGraph** to activate minigraphs for measure

Right most group

- **Skins** to switch between black, blue and silver skin
- **Tools** for different configuration parameters
- **Windows** for windows configuration
- **View** to activate different windows, like comments, cube explorer, etc.
- **Help** to activate Help

All menus within the CubePlayer application are context-sensitive, meaning that only those menu items that can actually do some useful work at any given point are enabled, and all others are disabled (sometimes even invisible).

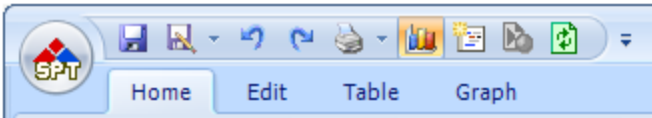
When you open some of the top menu items from the main menu, you will see the next level of menus.

Some items may even have further descendants.

Let us briefly go through the second-level menus for each top-level menu item.











Quick Access Toolbar

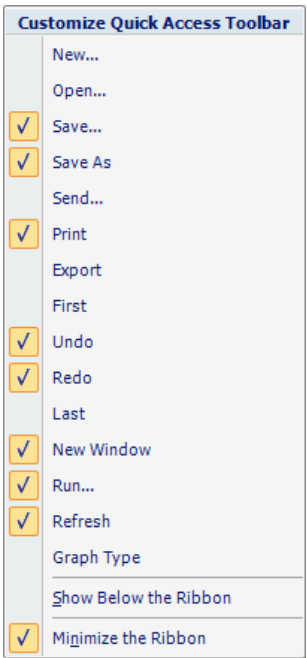
Quick Access Toolbar is located at the left most corner just above Main menu.



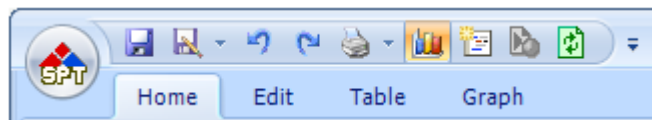
Whenever any icon is active you can use it. Icons are context sensitive, That means only icon that represents valid operations for current tab will be active.

There are ten (10) standard items:

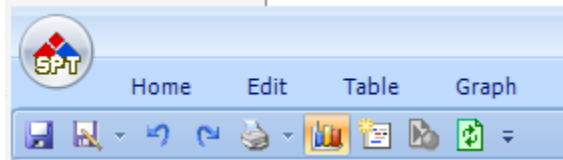
- | | | |
|---|-------------------|---|
| ▪  | Save | To save active window contents |
| ▪  | Save As | To save as static report |
| ▪  | Undo | Undo last change |
| ▪  | Redo | Redo last change |
| ▪  | Print | To access print options |
| ▪  | Graph | To switch graph on or off |
| ▪  | New Window | To run query in new window (tab) |
| ▪  | Run | To run query in designer or in editor |
| ▪  | Refresh | To run again current query in active tab |
| ▪  | QAT menu | QAT menu selector where you can select icons that will be displayed inside QAT, QAT position (bellow or above the ribbon) and will ribbon be minimized or not |



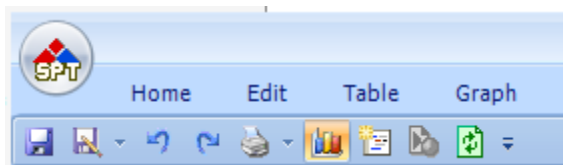
QAT ABOVE THE RIBBON (RIBBON MINIMIZED)



QAT BELOW THE RIBBON (RIBBON MINIMIZED)



RIBBON MINIMIZED



RIBBON MAXIMIZED



Home tab

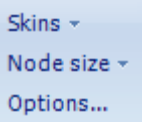


Control Panel Group

SPT Icon	upper part of button reloads latest used Control Panel
SALES	lower part shows registered Control Panels inside default repository (SALES is name of currently active Control Panel)



Skins	to select predefined Control Panel skins (blue, silver, black)
Node size	to select size of nodes (small, medium, big)
Options	to define different Control Panel styles



Window Group

New Window	to execute last query inside active tab in a new tab
------------	--

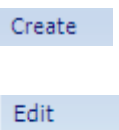


Workspace	to activate workspace window
Registered Objects	to activate registered objects window
Comments	to activate comments window



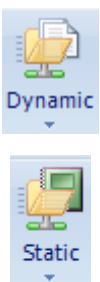
Local cubes Group

Create	creates local cube from elements in placed inside member data area
Edit	edits MDX syntax from elements placed inside member data area



Document Generator Group

Dynamic	copy active tab (or panel) query to Dynamic Document Generator for further use (assume this is clipboard)
Static	copy active tab (or panel) query to Static report Generator for further use as static object (assume this is clipboard)



Designer Group

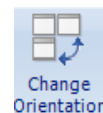
General settings	sets behavior of designer: <ul style="list-style-type: none">- use NonEmptyCrossJoin instead CrosJoin- measures in columns- measures in rows- use NON EMPTY in rows (do not display empty rows)- use NON EMPTY in columns (do not display empty columns)- allow Distinct Members- auto execution on or off
------------------	--



Clear	to clear selected element area in designer
-------	--

Dashboard Group

Add Group	to add new group inside multi window tab
Add Panel	to add new panel inside group
Remove Group	to remove selected group inside multi window tab
Remove Panel	to remove selected panel inside group
Change Orientation	to change orientation from vertical to horizontal and vice versa

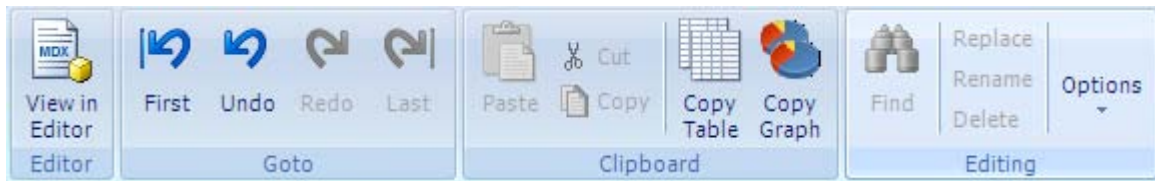


Execute Group

Run	to run query in designer or editor
Refresh	to run again query inside active tab

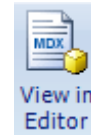


Edit tab



Editor Group

View in Editor to edit MDX in current active tab or panel



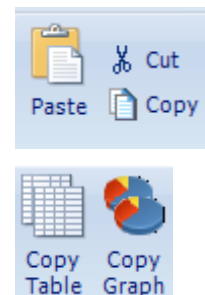
Goto Group

First select first operation or MDX before any change
Undo go back to previous operation or MDX change
Redo repeat last operation or MDX change
Last select last operation or last MDX change



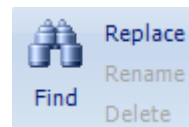
Clipboard Group

Copy selected text in editor
Cut cut selected text in editor
Paste paste copied text in editor
Copy Table copy table to clipboard
Copy Graph copy graph to the clipboard



Editing Group

Find find text
Replace replace selected text with new text



Options

Options here you can disable/enable syntax checking, folding and intellisense

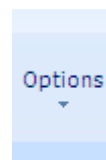
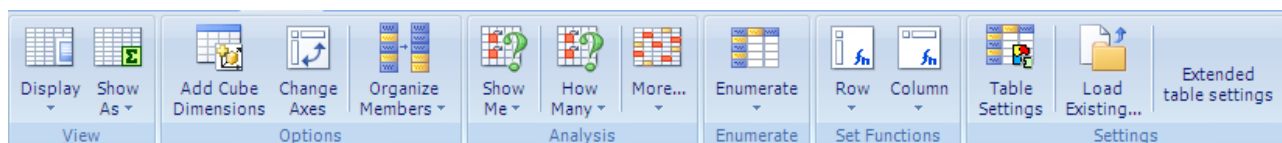


Table tab

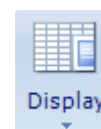


View Group

Display

displays table in three different views:

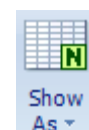
- simple (fastest)
- partial (as simple with dots that represents level depth)
- full represents full cube structure



Show As

displays eight different views of result set

- normal
- sums (rows and columns at the same time)
- percentage in set (each cell compared to total sum value)
- percentage in series (each cell compared to appropriate row or column depending where are the measures)
- average (rows and columns at the same time)
- Min-Max (minimum and maximum for each row or column depending where are the measures)
- difference (percentage difference between column and previous column)
- rank (rank inside columns or rows depending where are the measures)



Options Group

Subtotals

displays subtotals from active tab o panel

Add Cube Dimension

allows adding of new dimension (level or members) to the existing result table inside active tab or panel

Change Axes

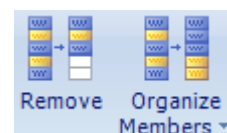
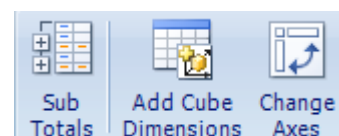
Swap content of rows and columns

Remove

removes one or more members or even dimensions

Organize members

allows to organize members and dimension on result table
ENUMERATION TECHNIQUES



Analysis Group

Define exceptions

ShowME

Hot-Spot Analysis on active result table

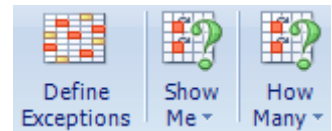
Logical Analysis allows user to set complex logical conditions like:

Show me those customers (from rows) that are buying products A and B at the same time but not product C (from columns)

HowMany

Logical Analysis allows user to find:

How many of my customers from rows buys more than 10 products from my product basket of 50 (from columns)



Enumerate Group

Enumerate rows

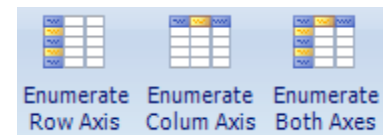
Enumerate columns

Enumerate both

replaces complex MDX syntax with list of members

replaces complex MDX syntax with list of members

replaces complex MDX syntax with list of members



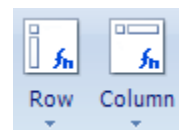
Set Functions Group

Row functions

allows user to set row MDX functions to selected dimension or entire axis

Column functions

allows user to set column MDX functions to selected dimension or entire axis



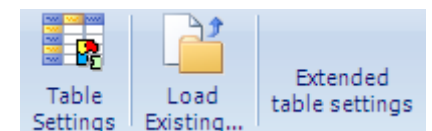
Settings Group

Table settings

Load existing

loads lower window with controls to set table styles

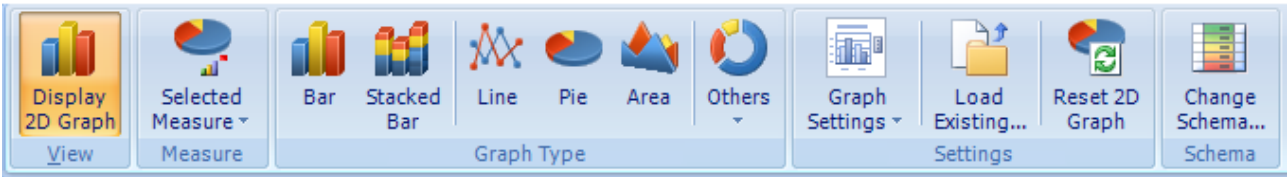
loads menu with existing available styles to be applied on the active tab or panel table



Extended table settings

allows user to define row headers width, rows and columns data colors, permissions

Graph tab



View Group

Display 2D graph 2D graph on or off



Measure Group

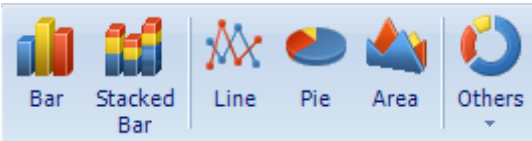
Selected measure allows selection of measure or all measures to be displayed in the graph



Graph Type Group

... allows selection of different graph types:

- bar
- stacked bar
- line
- pie
- area
- radar
- polar



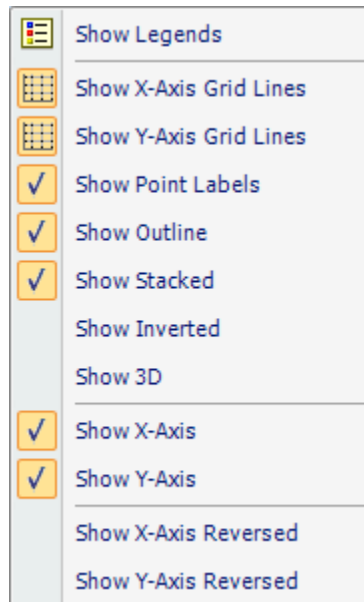
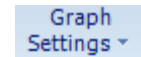
Settings Group

Graph Settings

upper part of button displays graph control where different styles options can be defined



lower part displays graph options like:



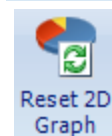
Load existing

loads available and predefined graph settings that can be applied to graph in active tab or panel



Reset 2D Graph

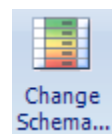
if zoom function was used it will reset graph to starting values



Schema Group

Change Schema

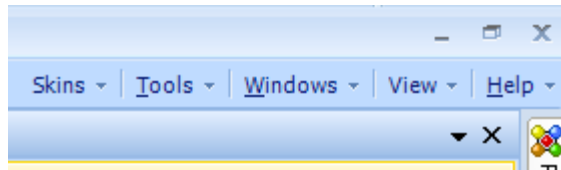
allows user to change color schema for graph point elements



Menus

On the right hand side you will find five (5) available menus:

- Skins
- Tools
- Windows
- View
- Help



Skins

Skins menu allows user to make selection between three predefined skins:

- Blue skin
- Silver skin
- Black skin

Tools menu

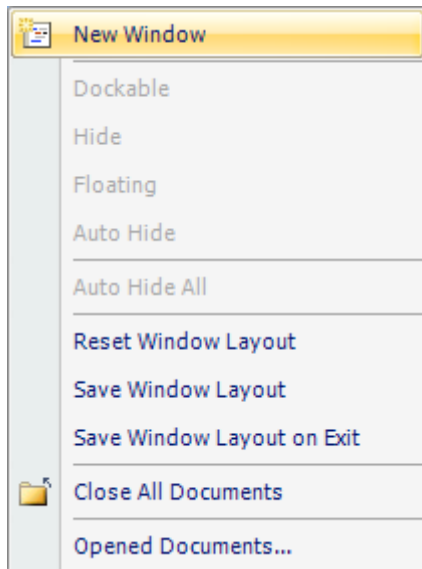
Tools menu allows user to select:

- | | |
|-----------------------------------|---|
| • Configuration menu | sets options like: |
| 1. Graph Color Schema | sets new point color schema |
| 2. Designer | sets designer behavior |
| 3. Excel File Path | sets where MS Excel files will be saved |
| 4. My Catalog Location | sets where is My Catalog located and create one |
| 5. Master Catalog Location | sets Master Catalog location |
| • Change Connection | changes connection definition inside objects |
| • Import from My catalog menu | imports object from My Catalog |
| • Import from Master Catalog menu | imports objects from Master Catalog |
| • Localization menu | sets localization |
| • Show/Hide Tooltips | sets tooltips on or off |

Windows menu

Windows menu allows user to select:

- | | |
|----------------------------------|---|
| • New Window | |
| • Reset Window Layout | to reset to factory default |
| • Save Windows Layout | to save current windows layout |
| • Save Windows Layout on Exit to | save windows layout each time when exit application |
| • Close All Documents | to close all opened documents |
| • Opened Documents | to see list of all opened documents |



View

View menu allows user to activate:

- Registered object window
- Workspace window
- ABC+ Analysis
- Cube explorer window
- Member data window
- Set functions window
- Member properties window
- MDX command window
- Function explorer window
- Show filters window
- Show comments window
- Show/Hide all windows

Help

Help menu allows user to see:

- Help
 1. Contents
 2. Index
 3. Search
- About CubePlayer
- SoftPro on the Web
- Web Help
- Documentation

Connections

CubePlayer supports connection to:

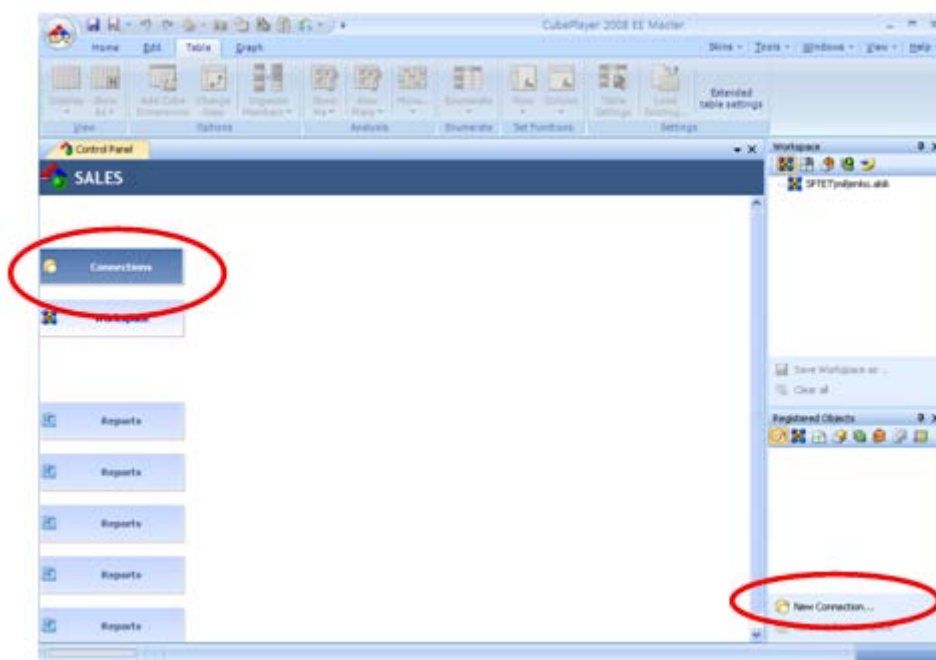
- Microsoft SSAS 8.0
- Microsoft SSAS 9.0
- Microsoft SSAS 10.0
- Microsoft SSAS Local cubes

Connect to SSAS

To create a **Connection**:

- Select **Connections** button on the Control Panel
- or
- Select **New Connection** command line inside **Connection explorer**

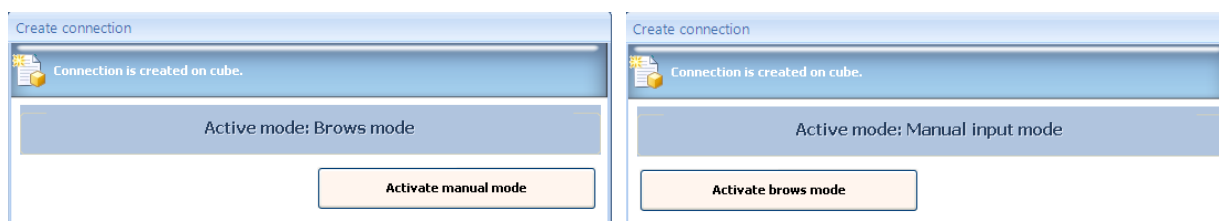
In this example we will use Connections button on the Control Panel.



There are two (2) modes to input your server, database and cube name:

- brows (automatic) mode
- manual mode

To switch between modes, select buttons at the top of dialog form.



MANUAL MODE

By default dialog is set to brows mode. To change to manual mode, select button **Activate manual mode**. When manual mode is activated, input your server/instance, database and cube name.

NOTE: If instance is defined, instance name should be added in the same box where server name is added in form

SERVER_NAME\INSTANCE_NAME

At the end you need to add connection name, some user friendly name.

The screenshot shows the 'Create connection' dialog in 'Manual input mode'. The 'Active mode: Manual input mode' header is at the top. Below it is a button labeled 'Activate brows mode'. The 'Server' field contains 'LAB-SERVER\LAB2005' and the 'Instance' field contains '(default)'. A green 'Connected' status indicator is shown. Below these are fields for 'Username' and 'Password'. The 'Database' field contains 'FM2005ENG' and the 'Cube' field contains 'Sales'. At the bottom, the 'Connection Name' field contains 'My First Connection', which is circled in red. There are 'Help', 'OK', and 'Cancel' buttons at the bottom.

BROWS MODE

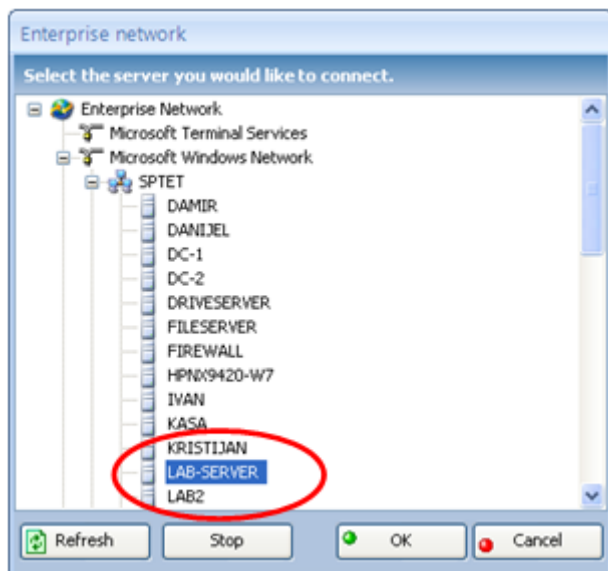
By default server name is your computer name. Since most of the users need to find server on the network, to brows your network:

- Select drop down menu
- Select **Brows servers** command line inside dropdown menu

The screenshot shows the 'Create connection' dialog in 'Brows mode'. The 'Active mode: Brows mode' header is at the top. Below it is a button labeled 'Activate manual mode'. The 'Server' field contains 'MILJENKO-NOTEBO' and the 'Instance' field contains 'MILJENKO-NOTEBO'. A 'Connect' button is next to the 'Instance' field. Below these are fields for 'Username' and 'Password'. The 'Database' field contains 'FM2005ENG' and the 'Cube' field contains 'Sales'. At the bottom, the 'Connection Name' field is empty. There are 'Help', 'OK', and 'Cancel' buttons at the bottom.

This screenshot is similar to the previous one, but the 'Connect' button next to the 'Instance' field is circled in red. The 'Status' indicator next to the 'Instance' field is 'Not connected'.

New dialog will appear:



To select server:

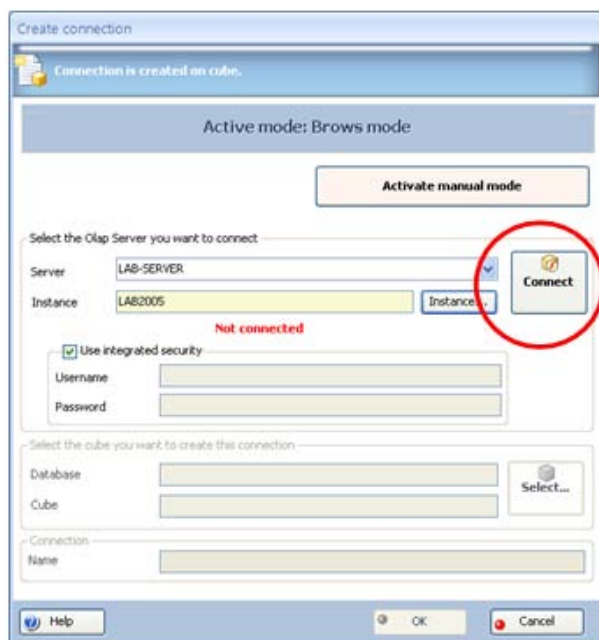
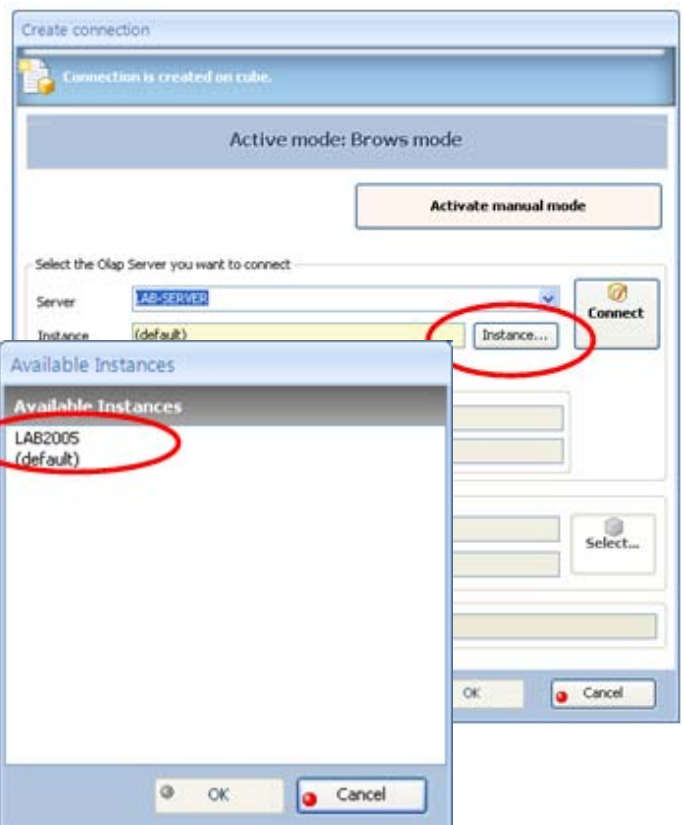
- Select one of the servers from the list
- Select OK.

To select Instance, if you need:

- Select button **Instance ...**
- Select one of the instances from the list from new window
- Select OK.

To connect to selected server:

- Select **Connect** button



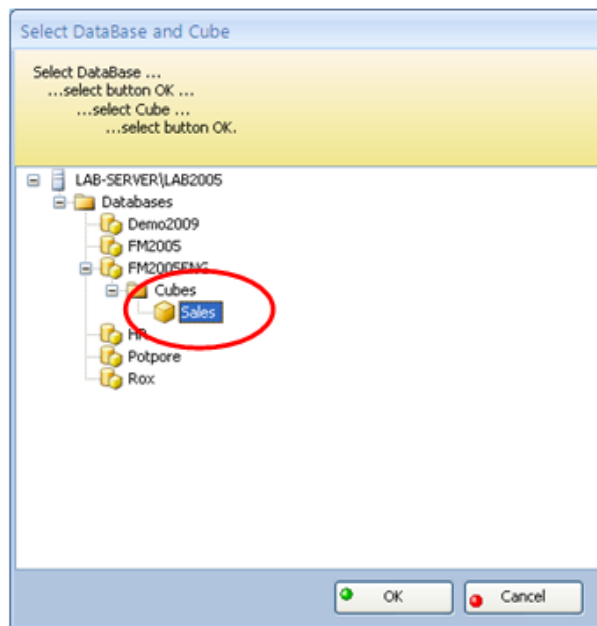
Wait until connection is established. Select button becomes active.

To define the database and cube:

- Select **Select** button

Dialog will appear:

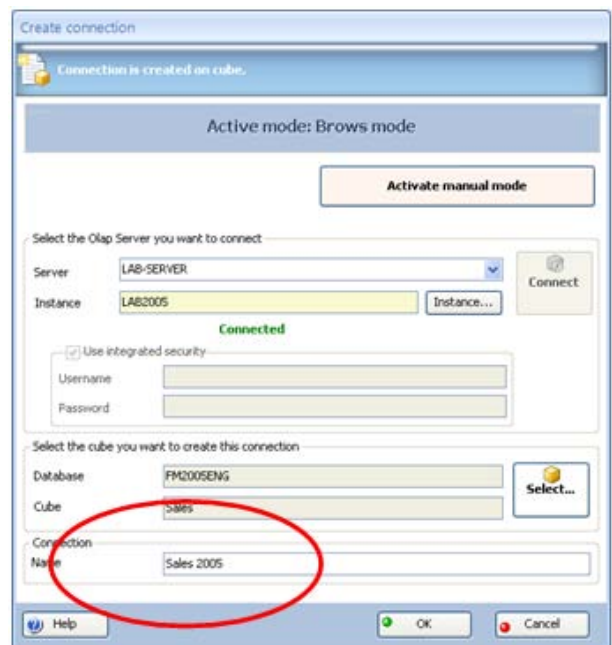
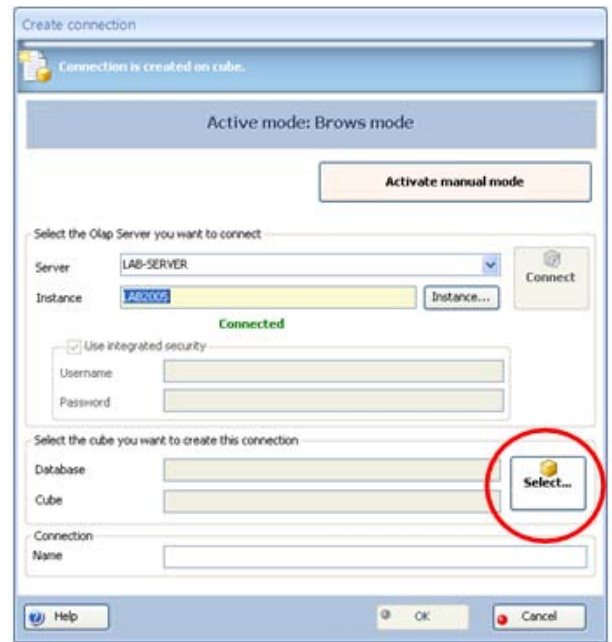
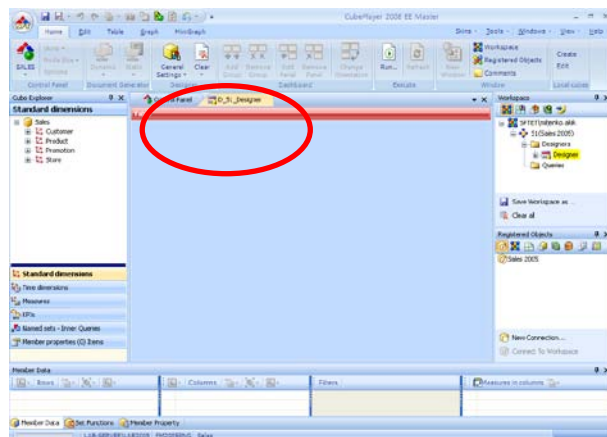
- Select one of the databases with **double click** or **single click and press OK**
- Select one of the **cubes** from the selected database
- Select **OK**.



To finish this process

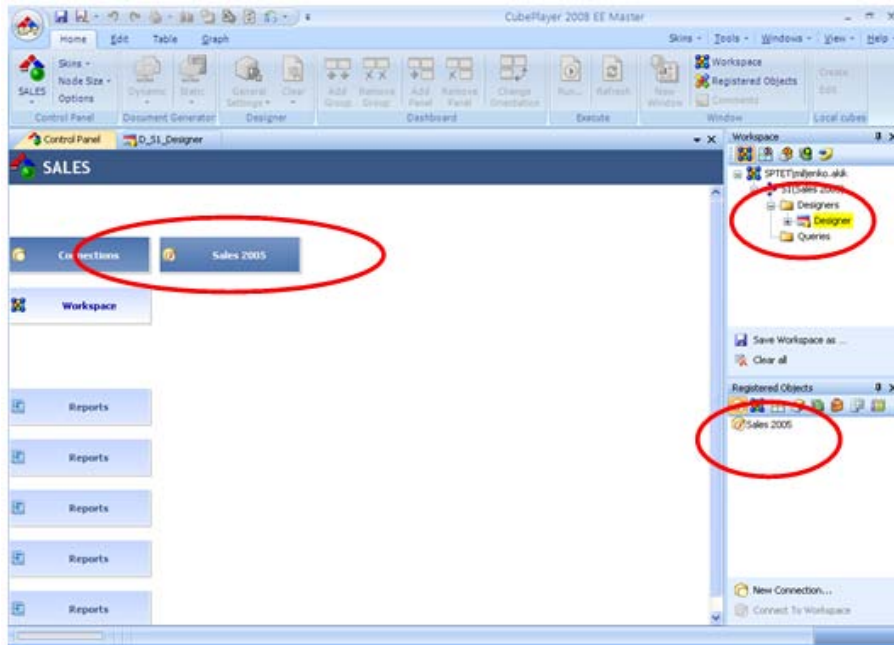
- Give user friendly name to the connection
- Select **OK**.

After some time **Designer** will be opened.

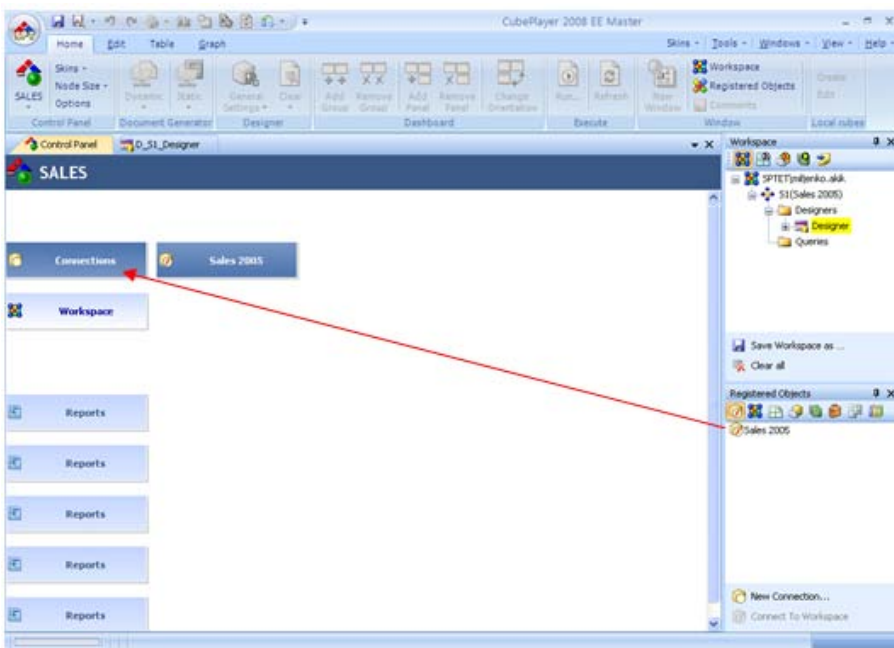


Now you can start creating your queries.

If you switch back to Control Panel by selecting Control Panel tab (red circle) you will see that new connection button Sales has been added to your Control Panel and new connection appears inside Registered Objects window.



In case that you have used any other combination except the one we described the only difference will be that there will be no **Sales** button on the Control Panel. In that case to bring your **Connection** to Control Panel just drag it from **Connections explorer**.

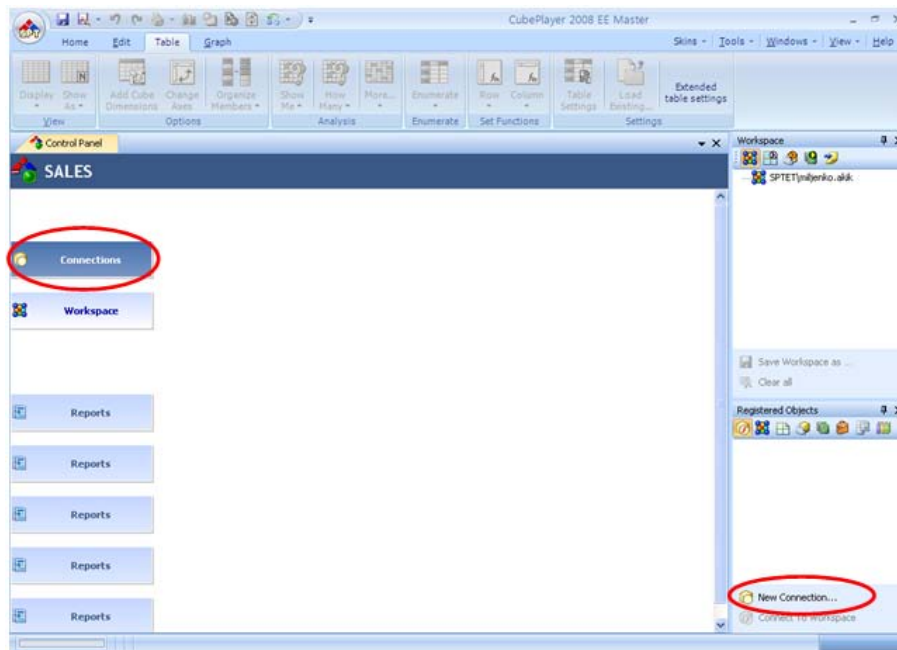


Connect to Local cube

To create a **Connection** to the Local cube:

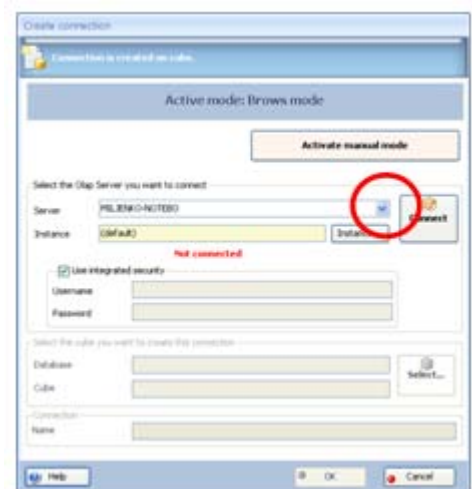
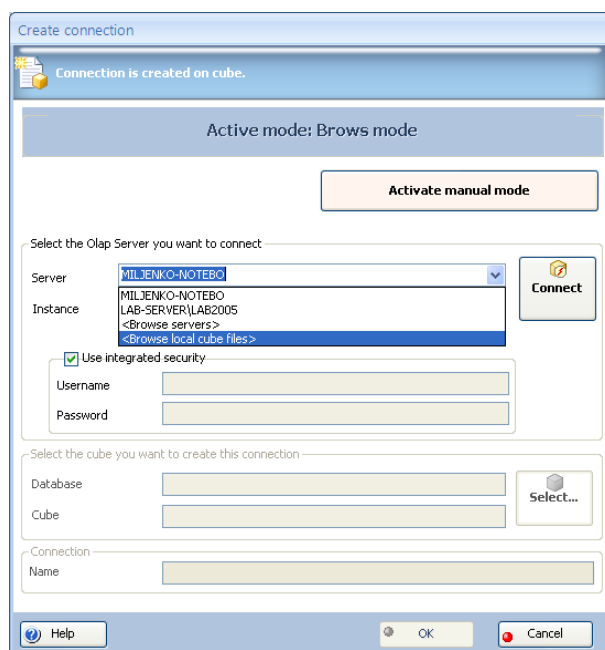
- Select **Connections** button on the Control Panel
- or
- Select **New Connection** command line inside **Connection explorer**

In this example we will use Connections button on the Control Panel.



By default server name is your computer name. Since most of the users need to find server on the network, to brows your network:

- Select drop down menu
- Select **Brows local cube files** command line inside dropdown menu



New dialog will appear.

- Select one of the local cubes from the list
- Select **Open**.

To connect to selected local cube:

- Select **Connect** button

Wait until connection is established. Select button becomes active.

To define the database and cube:

- Select **Select** button

Dialog will appear:

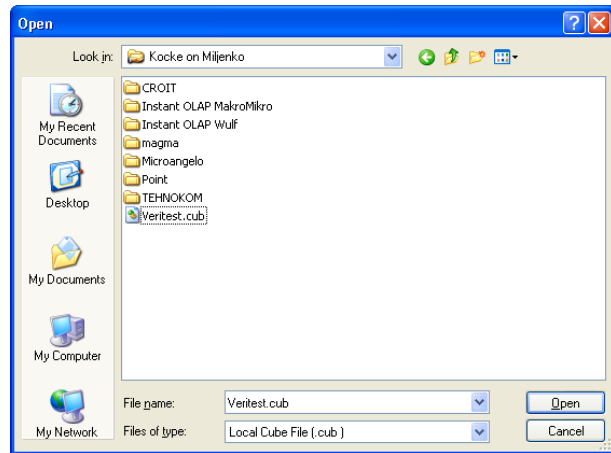
- Select one of the databases
- Select one of the cubes from the selected database
- Select **OK**.

To finish this process

- Give the name to the connection
- Select **OK**.

After some time **Designer** will be opened.

Now you can start creating your queries.



Connect over HTTP protocol

Connecting to SQL Server 2005 Analysis Services over HTTP protocol

Requirements:

HTTP access to SQL Server 2005 Analysis Services has successfully been configured on a windows server.

You have been given access rights to connect to the server (depends on the server configured security settings)

1. URL address

In order to connect to AS over http you must know the „path“ – that is the URL address for the connection to be established.

This URL address maps to the AS pump component loaded into IIS (Internet Information Services) on some windows server and serves as an ISAPI extension, pumping data from the client to an Analysis Services server and back. Depending on the server configuration the HTTP pump can reside on a different server than the Analysis Services server you will be using as the data source.

Enter the path to your virtual directory concatenated with "msmdpump.dll" in the server text box.

2. Identification

CubePlayer's connect dialog supports different types of authentication:

- Anonymous
- Basic (provide username and password in the provided text boxes)
- Integrated (use the check box)

The type of authentication and possibly the credentials that you may have to provide to identify yourself depend on the server configured security settings (and/or your location – intranet, VPN, www).

Contact the server administrator to find out what type of authentication is required.

Example for integrated security (the LAN scenario):

Your administrator has configured HTTP access to SQL Server 2005 Analysis Services on a company server named „BI_SERVER“ in the virtual directory „AS2005“.

In order to minimize potential security issues the administrator has restricted the authentication to integrated security only.

To connect to the server from CubePlayer, you should enter the path to your virtual directory concatenated with "msmdpump.dll" in the server text box that is „http://BI_SERVER/AS2005/msmdpump.dll“ and check the Integrated security checkbox.

User name and password

User name and password in connection dialog are used for HTTP connections only.

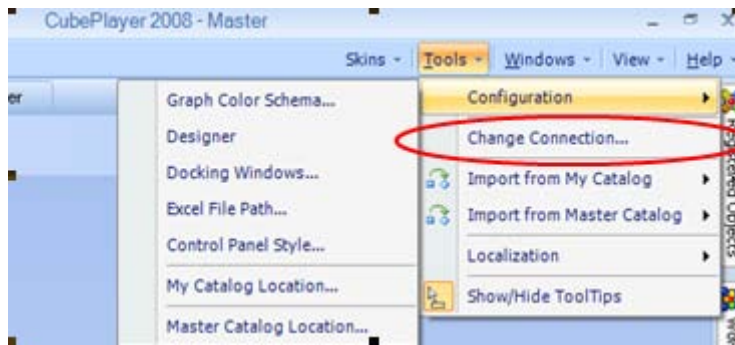
If you want to connect from machine that is not registered in domain where AS server is, do not use Username and password part of dialog to access AS server.

Only way to access it is to register yourself as user on the machine you are trying to access, using your name and password.

Change connections

In case that after some time, you have a lot of defined queries and for any reason (for example new organizations in company) you have to change already existing **Server** or **Database** or **Cube** name, inside CubePlayer exists a special tool that will help you to rename large number of objects or all of them.

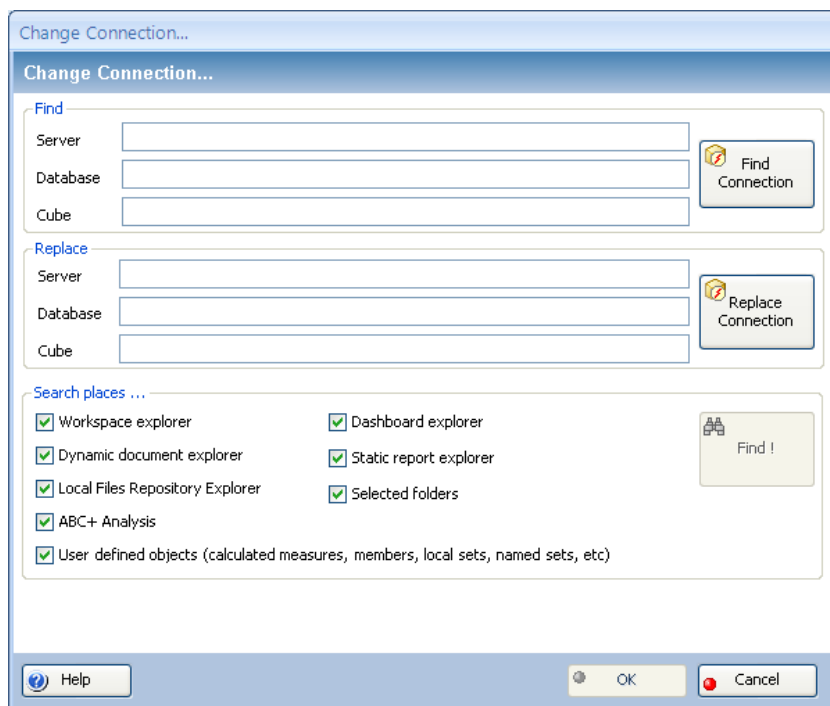
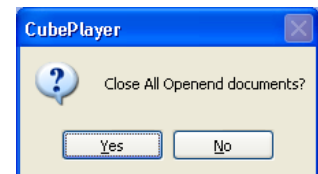
Select **Tools-Options-Change connection** in main menu.



CubePlayer will warn you that this action requires closing all opened documents.

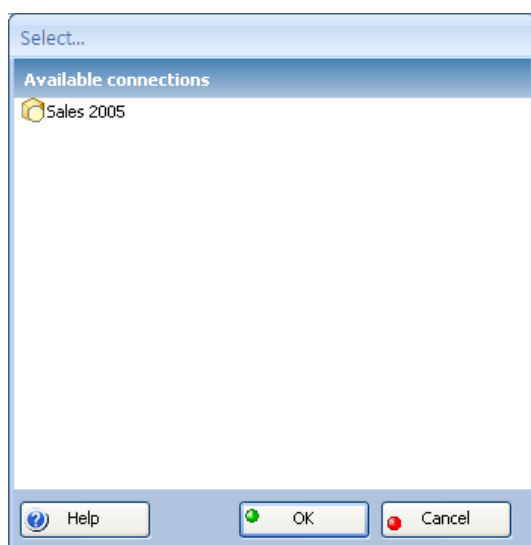
If you want to continue select **Yes**.

Change connection form will appear.

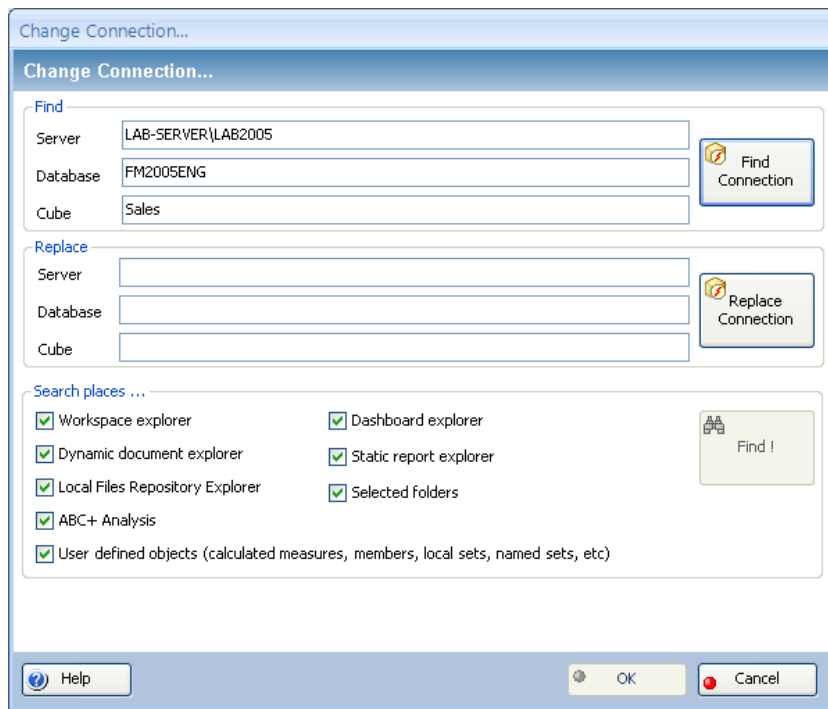


Select button **Find Connection** on the right hand side.

On the new form select one of your predefined connections to be replaced.

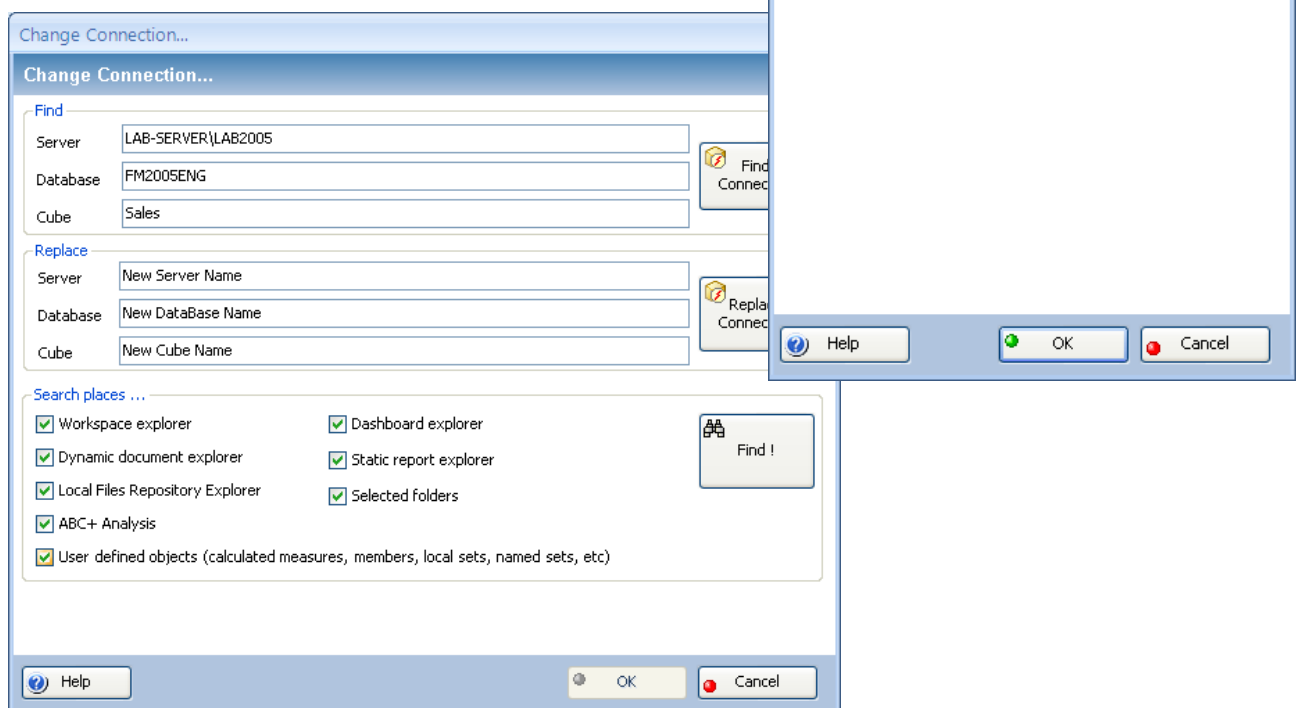


Selected connection will appear in dialog.



Now select button **Replace connection** and select replacement connection from your defined connections.

In case you did not define new connection that have to replace old one, use keyboard to enter server , database and cube name.

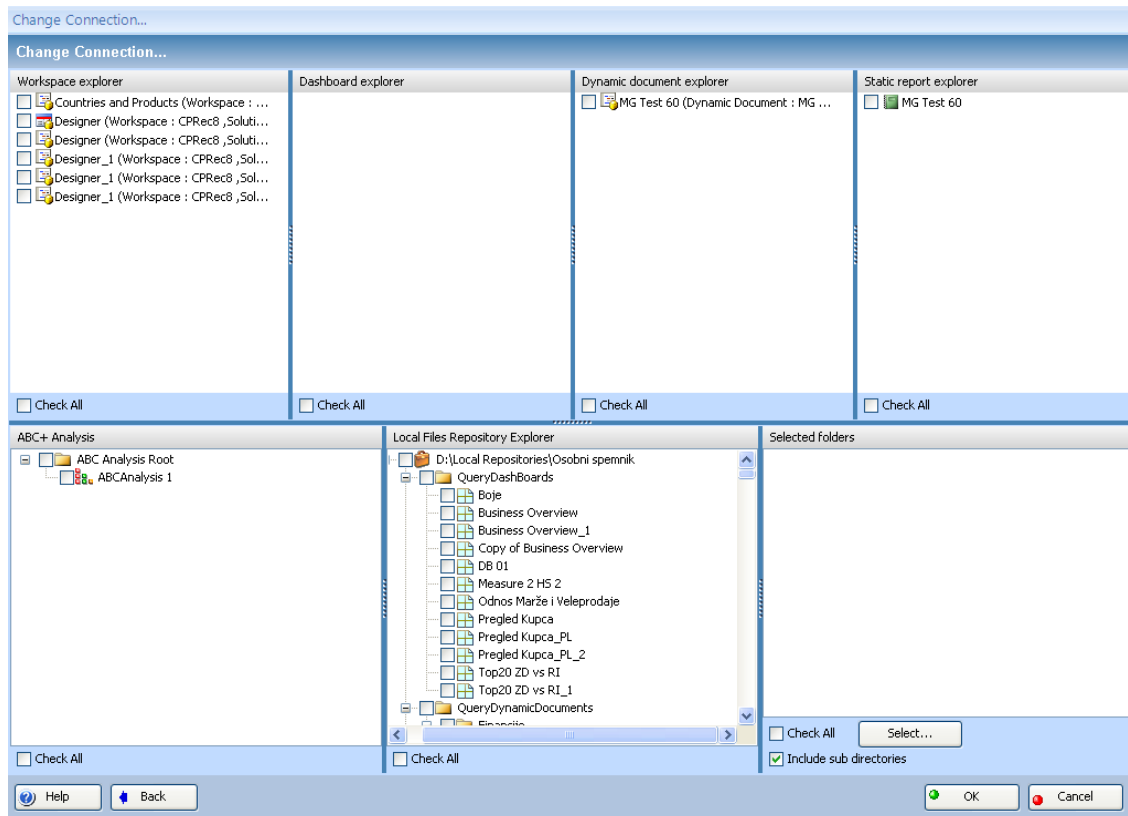


From list bellow use check boxes to determine types of objects you want to check and replace. Available objects are all CubePlayer objects:

- Workspace
- Dashboard
- Dynamic Document
- Static Report
- ABC Analysis
- Local File Repository
- User defined Measures, Members, Sets
- Selected Folders

to select objects from other locations

After your selection click **Find!** button.



CubePlayer will display your selection.

For **Selected Folder** you have to use button **Select** inside window and select folder you want to search for objects.

NOTE: This action can not be undone. Only way to undo is to redefine conditions, select objects again (only those changed) and select Change again.

When you are sure in your selection select **OK**.

Registered objects (Favorites)

When we talk about objects that can be created using CubePlayer, like:

- Workspaces
- Dashboards
- Dynamic Documents
- Static Reports

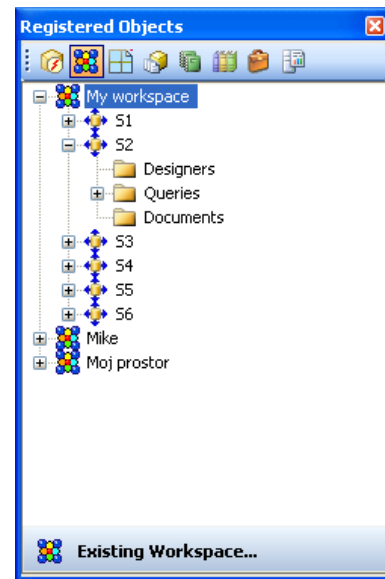
CubePlayer has two (2) main types of those objects:

- **Registered**, and
- **Not-registered**.

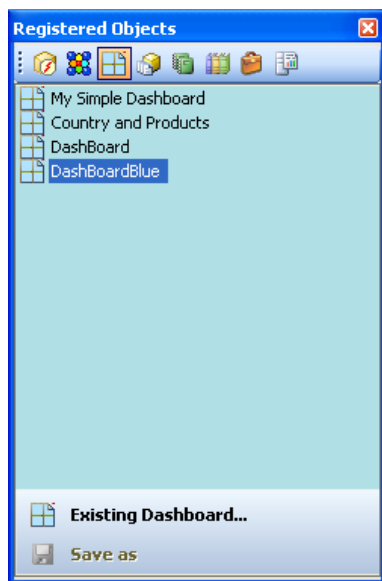
The best way to understand Registered objects is to consider them as **Favorites**.

Registered objects are those that will appear inside

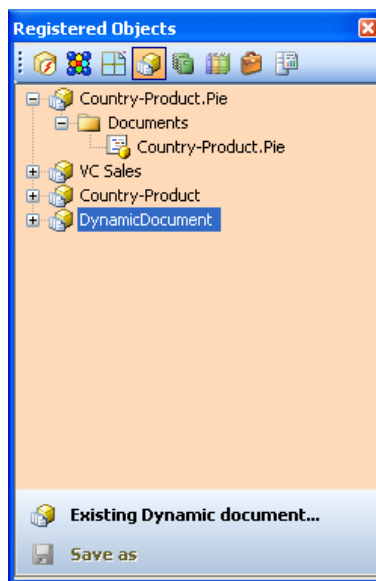
Registered objects window:



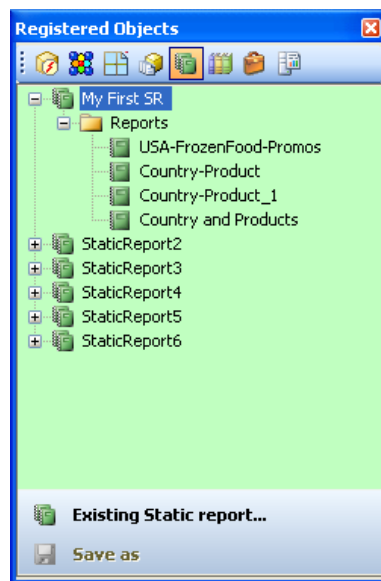
Workspace explorer



Dashboards explorer



Dynamic documents explorer

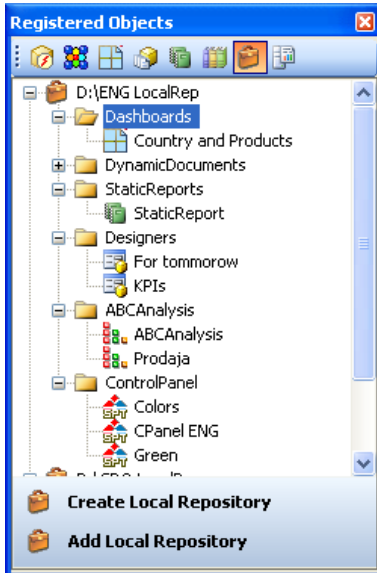


Static reports explorer.

Those objects are placed in folder:

C:\Documents and Settings\user.name\My Documents\SoftPro.CubePlayer.Client

If you chose to save object as Non-registered, by default, it will be saved inside default **Local** repository (user can create any number of local repositories, but only one is default).



If even that is not your choice, you can save them anywhere else.

Registered objects window is located at the right hand side as lower of two (2) docking windows.

It helps you to see your registered objects and to manipulate them.

Registered objects window contains eight (8) explorers, each of them represented with different icon:



Connections explorer



Workspace explorer



Dashboard explorer



Dynamic document explorer



Static report explorer



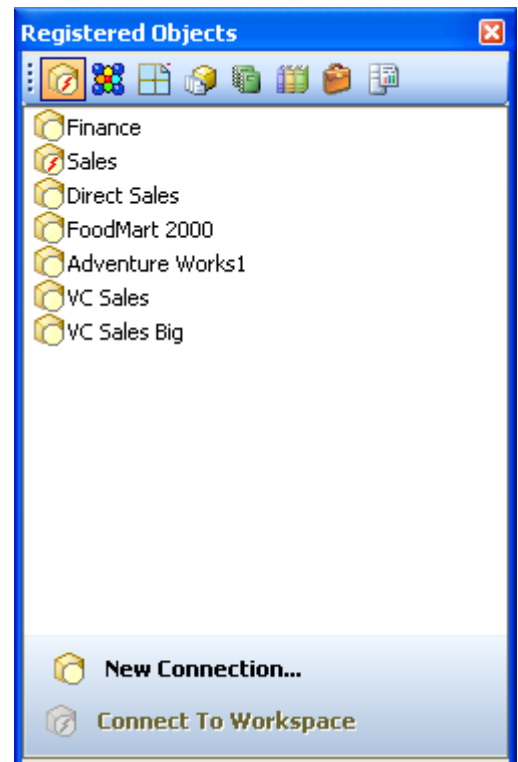
Repository Explorer



Local repositories explorer



Reporting Services explorer



Workspace

Whatever you are doing inside CubePlayer
(only exception is Dashboard) it will happen inside Workspace.
Workspace consists of so called Solutions.
One or more Solutions are making Workspace.
Each Workspace can be saved and used later.
Workspace can be saved only as registered object.
Once saved, it will always appear inside Registered objects window,
Workspace explorer

Workspace window is located at the right hand side as upper of two (2) docking windows.

It helps user to see all working objects and to manipulate with them.

Workspace window contains five (5) different generators, each of them represented with different icon:



Workspace generator



Dashboard generator



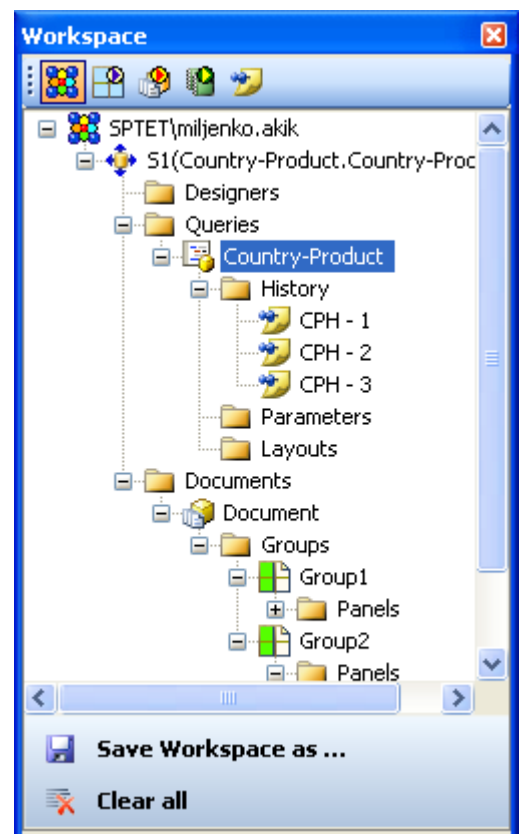
Dynamic document generator



Static report generator



History generator



Master catalog

Master catalog is predefined file structure recognized by CubePlayer.

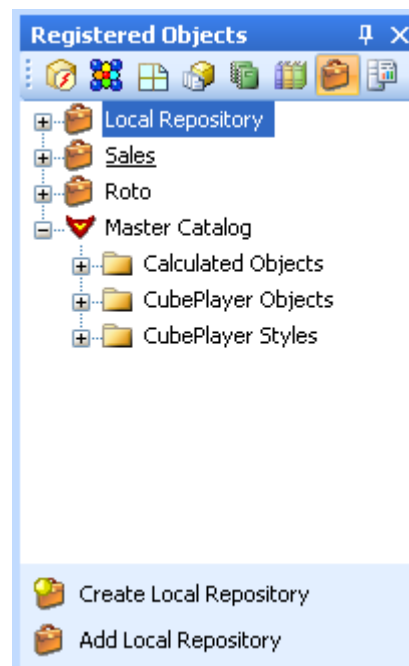
Only CubePlayer Enterprise Edition Master license can create Master Catalog and export objects there.

Main purpose of master catalog is to give users organized place for sharing objects:

- CubePlayer Local calculated objects
- CubePlayer objects
- CubePlayer styles

Master catalog consists of folders:

- Calculated object
 - LocalSets
 - Members
 - Measures
 - NamedSets
- CubePlayer objects
 - ABC
 - Dashboards
 - Designers
 - Dynamic documents
 - Static reports
 - Control Panels
- CubePlayer styles
 - Graph Styles
 - Graph Settings
 - Table Styles



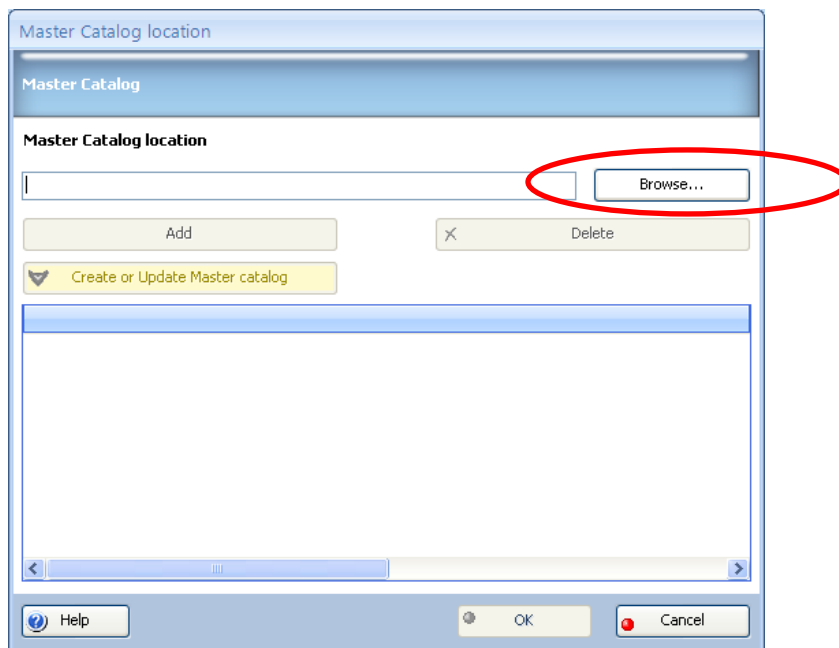
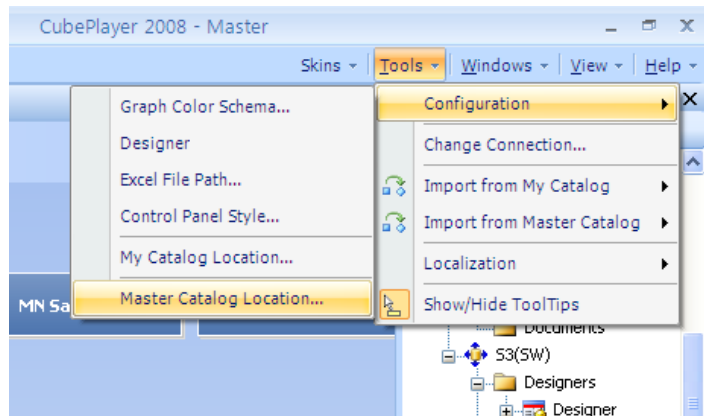
Create Master catalog

AVAILABLE FOR MASTER LICENSE ONLY

To create Master catalog:

- Select **Tools**
- Select **Configuration**
- Select **Master Catalog Location**

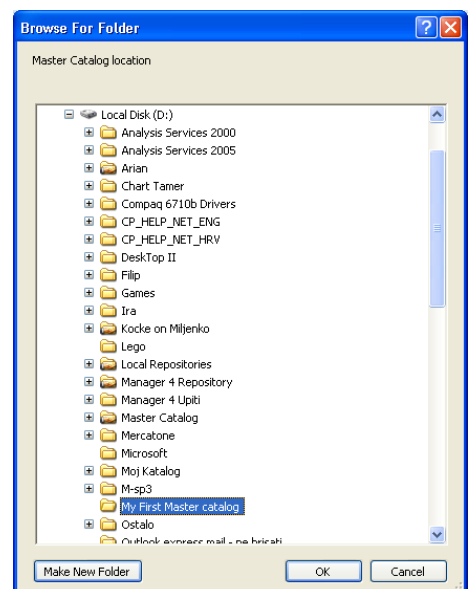
Dialog will appear:

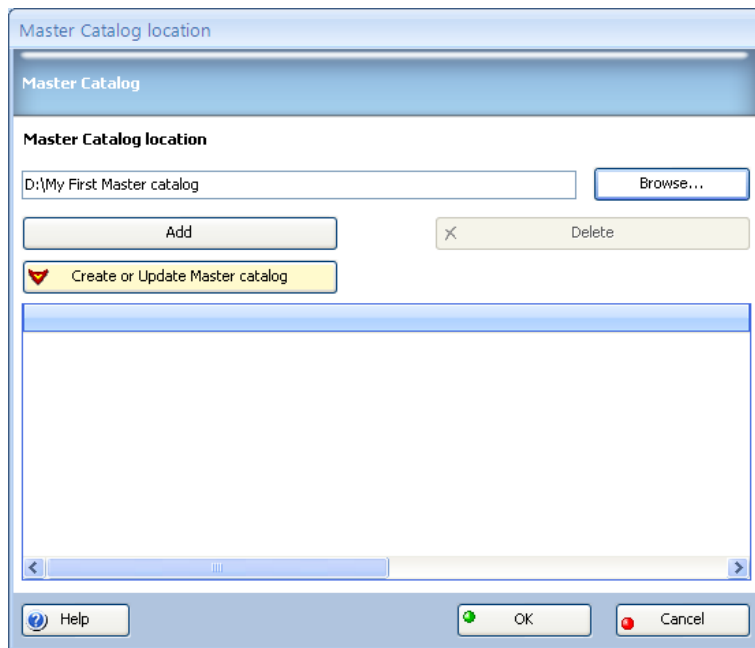


NOTE: Create button, will appear in CubePlayer with Master License only.

To define location:

- Select **Brows** button to select a place for catalog
- Find (create) location where Master catalog will be created
- Select **OK**



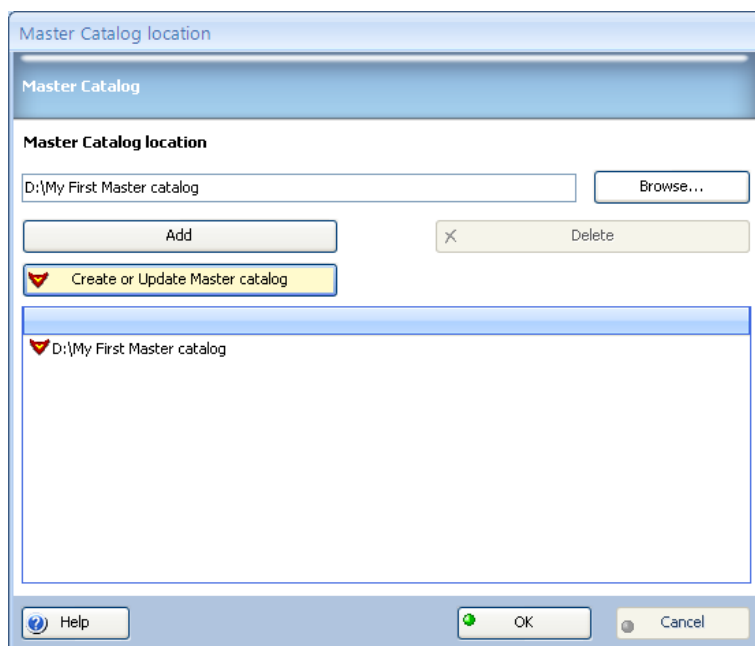
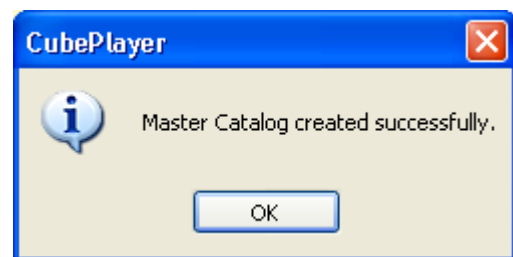


Now select:

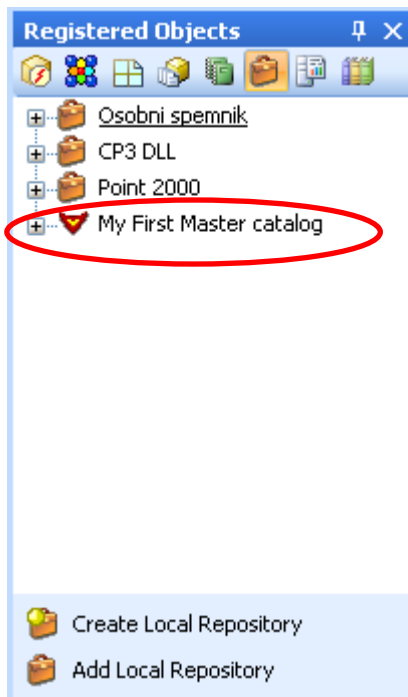
- Create or Update master Catalog, in case that MC does not exist at this location
- Add, in case MC exist at that location

We will select **create**, since MC does not exist at that location.
If successful, message will appear.

Select Ok.



Master Catalog will appear inside Local Repository browser in lower right corner:

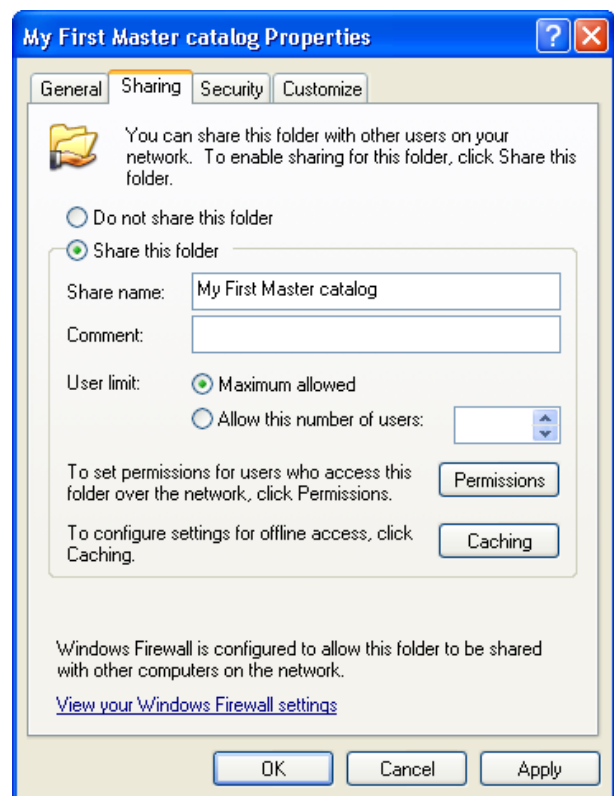


To finish you have to set rights for all users. To do that use system explorer:

- Find your folder **Master Catalog**
- Right click
- Select **Properties** from menu

Dialog will appear:

- Select **Sharing** tab
- Select radio button **Share this folder**
- Select **Permissions**
- Set **read-only** rights
- Select **Apply**
- Select **OK**



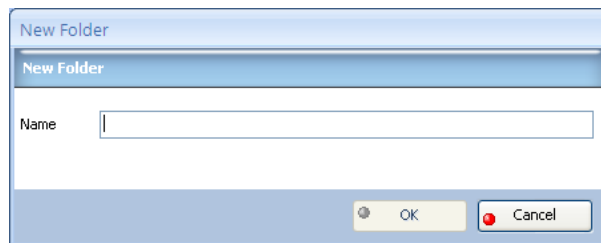
Create new folder

AVAILABLE FOR MASTER LICENSE ONLY

Inside each of predefined folders user can create any number of subfolders according to his needs. To create new folder:

- Select one of predefined folders
- Right click your mouse
- Select **New folder** from menu

Dialog will appear:



- Give the name to new folder
- Select OK

Copy object to clipboard

AVAILABLE FOR MASTER LICENSE ONLY

To copy object from Local repository or Master catalog to the clipboard:

- Select object
- Right click your mouse
- Select **Copy** from menu

Paste object from clipboard

AVAILABLE FOR MASTER LICENSE ONLY

To paste object to selected destination (another Local repository or Master catalog):

- Select destination (it has to be the same according to object type)
- Right click your mouse
- Select **Paste** from menu

Run object

To run object from **Master catalog**:

- Double click object

or

- Select object
- Right click your mouse
- Select **Run** from menu or press F5

Mail object

To mail object from **Master catalog**:

- Select object
- Press F8

Edit object

To edit CubePlayer object located inside **Local repository** or **Master catalog**:

- Select **object**
- Right click your mouse
- Select **Edit** from menu or press F3

Refresh

To see newly stored object inside Master catalog it may happened that you will need to refresh view.

To do that:

- Select folder
- Right click your mouse
- Select **Refresh** from menu

Export to catalog

AVAILABLE FOR MASTER LICENSE ONLY

If you want to export object to **Master catalog** in case you have Master license:

- Select **object anywhere inside CubePlayer**
- Right click your mouse
- Select **Export to My catalog** or **Export to Master catalog** from menu

Selected object will be copied to appropriate folder inside **Master catalog**.

Import from catalog

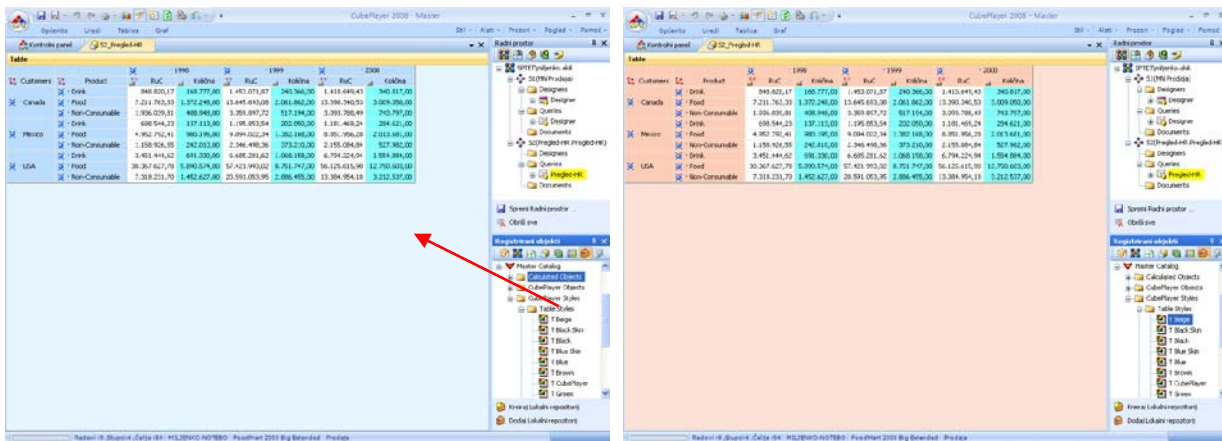
To import object from **Master Catalog**:

- Select appropriate location to be imported
 - Named Sets inside Cube explorer for Named sets
 - Measures inside Cube explorer for measures
 - Members
 - Dimension set folder inside Cube explorer for Dimension set

- Appropriate folders inside Local repository for MDX type objects
- Right click your mouse
- Select **Import from Master catalog** from menu

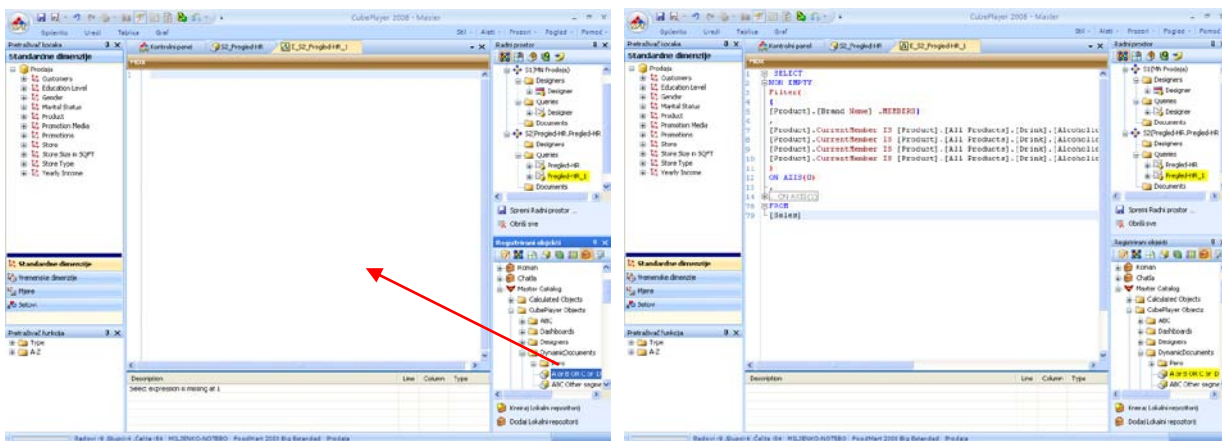
Drag-and-drop styles

Any style inside Master catalog can be drag-and-dropped to any table or graph inside CubePlayer and it will be applied immediately.



Drag-and-drop objects to editor

Any query object inside Master catalog can be drag-and-dropped to opened editor and MDX syntax will be displayed.



Local repository

Local repository is predefined file structure recognized by CubePlayer. Main purpose of Local repository is to give to the user organized place to save his objects. Local repository name depends on user definition, however, subfolder structure is defined by CubePlayer. It consists of six (6) folders:

- QueryDashboards
- QueryDynamicDocuments
- QueryStaticReports
- Designers
- ABCAnalysis
- ControlPanels

After installation CubePlayer will create default Local repository at location:

C:\Documents and Settings**user.name**\My Documents\SoftPro.CubePlayer\LocalRepository

Any Local repository can be browsed through the Local repository explorer that is placed inside Registered objects window. This window is located on the right hand side, as a lower of two docking windows.

User may create more than one Local repository. However, only one local repository can be default. Default Local repository is the one that will be offered first when you are trying to save any CubePlayer object.

Use command line at the bottom of Local repository:

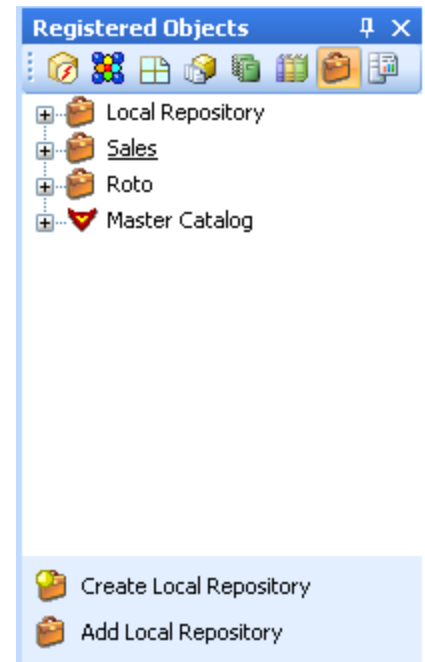
- | | |
|----------------------------------|--|
| ▪ Create Local Repository | to create new Local repository |
| ▪ Add Local Repository | to add already existing Local repository to the list |

Right-click your mouse over existing Local repository to activate a popup-menu:

- | | |
|-------------------------|--|
| ▪ Set as default | to define selected Local repository as default
(for any attempt to save CubePlayer object, this LR will be offered first) |
| ▪ Exclude | to deregister Local repository, but not to delete it |
| ▪ Refresh | to refresh view |

Right-click your mouse over existing folder inside Local repository to activate a popup-menu:

- | | |
|---------------------|--|
| ▪ New folder | to create new folder |
| ▪ Refresh | to refresh view |
| ▪ Copy | to copy entire folder and paste it inside Local repository |



- **Import**

or Master catalog

to import, from other locations

CubePlayer object defined by folder type

Right-click your mouse over existing object inside Local repository to activate a popup-menu:

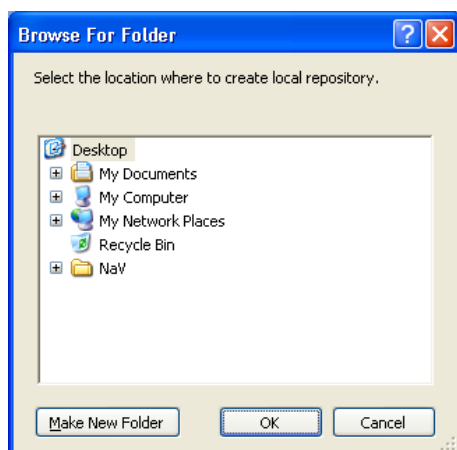
- **Run** to run the object inside workspace
- **Export to catalog** to export selected object to My Catalog
- **Export to Master catalog** to export selected object to Master Catalog
- **Delete** to delete object
- **Copy** to copy object and paste it inside Local repository
or Master catalog
- **Edit** to edit object
- **Rename** to rename object
- **Register** selected object will be copied to the appropriate
Registered objects explorer

Create Local repository

Use command line at the bottom of Local repository explorer:

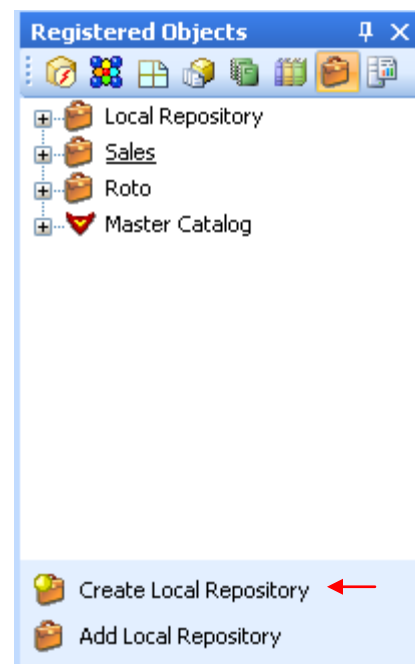
- **Create Local Repository**

Dialog will appear:



- **Brows your computer**
- **Find suitable place**
- **Select Make a new folder**
- **Give the name to the folder**
- **Select OK**

New Local repository will appear inside Local repository explorer.



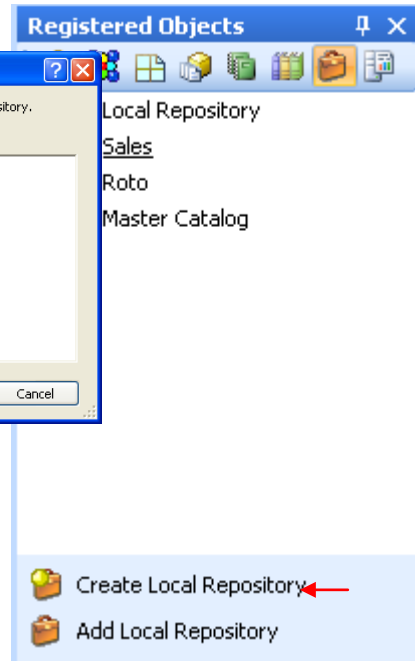
Add existing local repository

Use command line at the bottom of Local repository explorer:

- **Add Local Repository**

Dialog will appear:

- Brows your computer
- **Find your existing Local repository**
- **Select OK**



New Local repository will appear inside Local repository explorer.

Set as default local repository

To set as default:

- **Select Local repository**
- **Right click your mouse**
- **Select Set as default from menu**

Selected Local repository will become default and it's display name inside Local repository explorer will be underlined.

Exclude Local repository

To exclude Local repository from the list:

- Select Local repository
- Right click your mouse
- Select **Exclude** from menu

Local repository will be excluded from the list of local repositories.

It will not be deleted from the disc.

Excluded Local repositories can be added again to the list using:

- **Add Local repository**

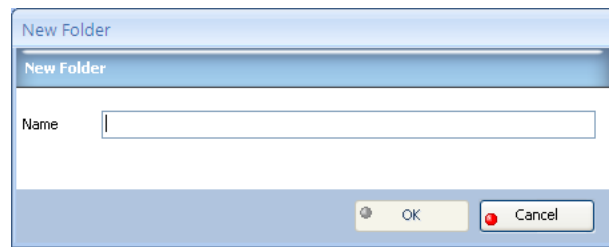
command line at the bottom of the window.

New folder

Inside each of predefined folders user can create any number of subfolders according to his needs. To create new folder:

- Select one of predefined folders
- Right click your mouse
- Select **New folder** from menu

Dialog will appear:



- Give the name to new folder
- Select OK

Export to My catalog or Master catalog

If you want to copy object to **My catalog** or **Master catalog** in case you have Master license:

- Select **object**
- Right click your mouse
- Select **Export to My catalog** or **Export to Master catalog** from menu

Selected object will be copied to appropriate folder inside My Catalog or Master catalog.

For **Master catalog** you can use Copy from menu and them Paste to copy it to the **Master catalog**.

Import object to Local repository

To import object from My Catalog, Master Catalog or any other location:

- Select **object**
- Right click your mouse
- Select **Import from Master catalog** from menu

Dialog will appear. This dialog will allow you to find computer or folder from which you want to import.

When you find your object, select **Open** and object will be copied to your Local repository.

Register object (export to registered objects)

To copy CubePlayer object from Local repository to the Predefined Registered objects explorer
(if you use them more often):

- Select object
- Right click your mouse
- Select **Register** from menu

Object will be copied to the appropriate Registered objects explorer

- Dashboard to the Dashboard explorer
- Dynamic document to the Dynamic document explorer
- Static report to the Static report explorer

Copy object

To copy object to the clipboard:

- Select object
- Right click your mouse
- Select **Copy** from menu

Paste object

To paste object to selected destination (another Local repository or Master catalog):

- Select destination (it has to be the same according to object type)
- Right click your mouse
- Select **Paste** from menu

Refresh

To see newly stored object inside Local repository it may happened that you will need to refresh view. To do that:

- Select folder
- Right click your mouse
- Select **Refresh** from menu

Mail

To send object via e-mail:.

- Select object
- Press F8

Run

To run object:

- Select object
- Press F5

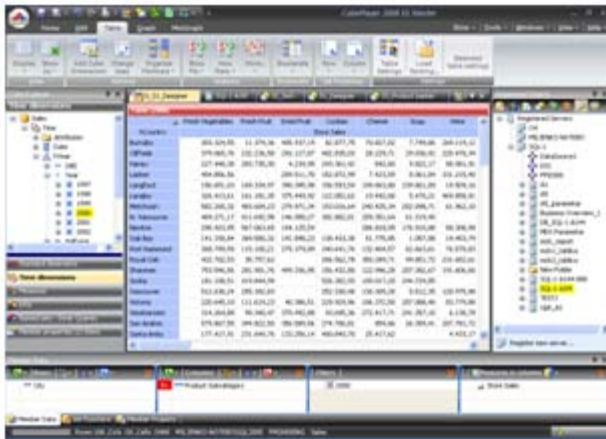
Edit

To edit object:

- Select object
- Press F3

Application shortcuts

Designer

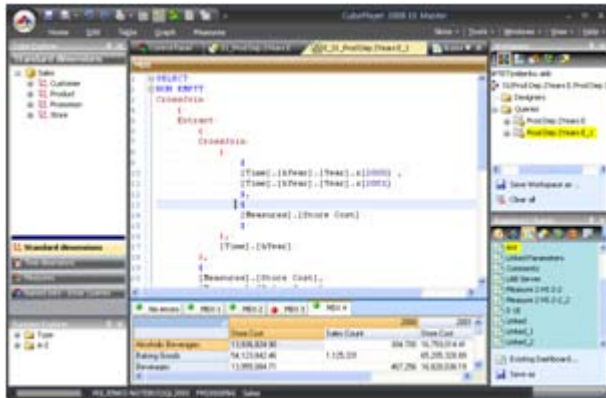


To use function keys as a shortcut while query result table is active (regardless is it part of simple query or dashboard panel) just pres function keys:

- **F2** rename
- **F3** edit object, MDX will be opened in MDX Editor
If dashboard is active, ACTIVE PANEL MDX will be edited
- **F4** -
- **F5** run object
 - For designer, dashboard, dynamic and static objects
MDX will be executed
 - For Connections new designer will be opened on selected connection
- **F6** run in new window
If dashboard is active, ACTIVE PANEL MDX will be executed in new window
- **F7** run in new dashboard
If dashboard is active, ACTIVE PANEL MDX will be executed in new dashbaord
- **F8** Mail object to another user
Works only with Microsoft Outlook
- **F9** Project documentation help
Opens dialog that allows to select object from documentation folder.
Any object selected from dialog will be opened by it's default application
(if .doc selected it will be opened with MS Word, html file will be opened with Internet Explorer)
Folder is placed inside:

C:\Documents and Settings\USER_NAME\My Documents\SoftPro.CubePlayer.Client\Documentation

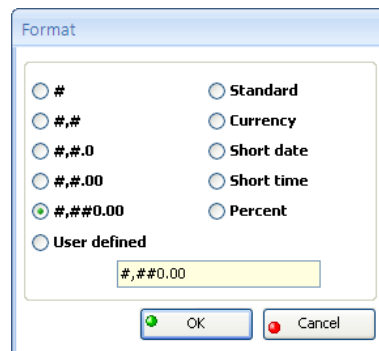
MDX Editor



To use function keys as a shortcut while query result table is active (regardless is it part of simple query or dashboard panel) just press function keys:

- **F2**

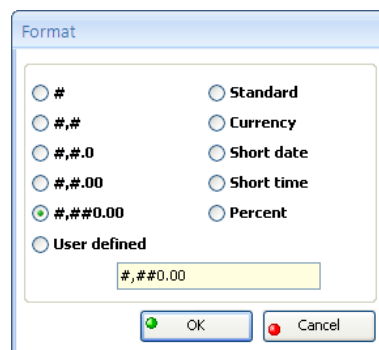
Insert Format dialog



- **F3**

bracket counter

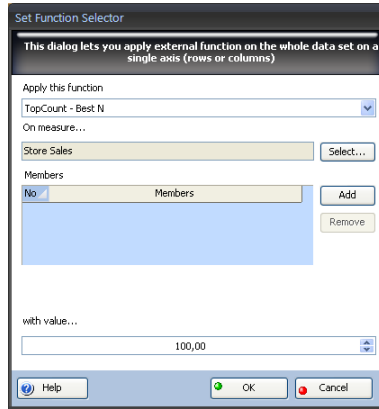
You must have selected part of MDX. Bracket counter will show if all brackets are in pair.



- **F4**

Insert MDX function

You must select part of MDX. Insert MDX function will appear. After selection it will wrap MDX function around selected part of MDX.



- F5

run object in fast preview mode

	Store Cost	Sales Count
Alcoholic Beverages	13,936,824.90	30
Baking Goods	54,123,842.46	1,125,331
Beverages	13,955,084.71	46

- F6

run in new window

MDX will be executed in new window as dynamic document

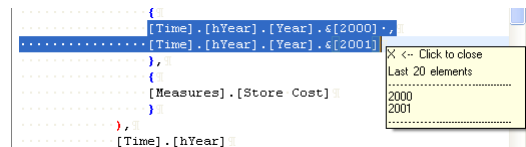
- F7

get caption (user friendly names) for selected part of MDX

It shows only last 20 members.

Select members or expressions inside one axis. Do not overlap axis.

To close tooltip click on it.



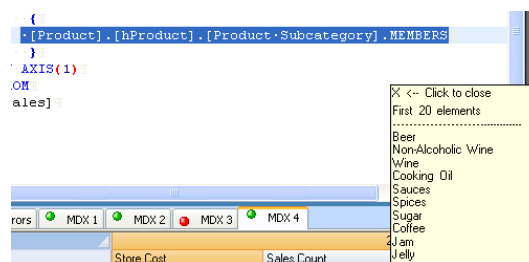
- F8

get caption (user friendly names) for selected part of MDX

It shows only first 20 members.

Select members or expressions inside one axis. Do not overlap axis.

To close tooltip click on it.



- F9

split editor window


```

MDX
1 SELECT
2 NON EMPTY
3
4 .....CrossJoin.....
5 .....{
6 .....[Product].[hProduct].[Product Family].AllMembers,
7 .....{
8 .....«Set_2»
9 .....}
10 .....}
11
12 ON AXIS(0)

```

- F10 Folding – Unfolding

```

MDX
1 WITH
2 MEMBER «DIMENSION».«MEMBER_NAME» ...
8
9 SET «SET_NAME» ...
15 SELECT
16 ... ON AXIS(0)
21 ... ON AXIS(1)
26 FROM [Sales]
27 WHERE ...
30

```

- F11 Comments

```

MDX
1 WITH
2 SET
3 .. AA
4 AS
5 '
6 {
7 .....LastPeriods
8 .....(
9 .....5 , StrToMember("[Vrijeme].[
10 .....])
11 .....}
12 '
13
14
15 SELECT
16 .. ON AXIS(0)
38 NON EMPTY
39 .....{
40 .....[Kupci].[Regionalno].[Država].ALLMEMBERS
41 .....}
42 ON AXIS(1)
43 FROM
44 [Prodaja]

```

- F12 Structures MDX command

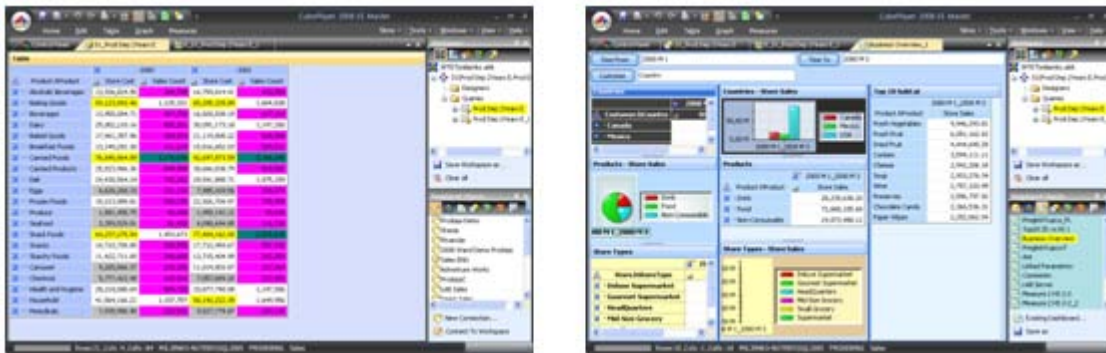
```

MDX
1 SELECT
2 NON EMPTY
3   CrossJoin
4     (
5       {
6         [Time].[hYear].[Year].ALLMEMBERS
7       },
8       {
9         [Measures].[Sales Count] ,
10        [Measures].[Store Cost]
11      }
12     )
13 ON AXIS(0),
14 NON EMPTY
15   CrossJoin
16     (
17       {
18         [Customer].[hCountry].[Country].ALLMEMBERS
19       },
20       {
21         TopCount
22         (
23           [Product].[hProduct].[Product Family].ALLMEMBERS
24         ),
25       12, [Measures].[MarkUp]
26     )
27

```

- CTRL S** create dimension set from selected MDX part, creates if necessary WITH block and inserts set in it.
 At the end user will be prompted to save or not such a created set. If selected to save, set will be added to the tree view structure under selected dimensions inside folder Set definition and it will be on disposition each time CubePlayer connects to that cube.
- CTRL W** create member from selected MDX part, creates if necessary WITH block and inserts member in it.
 At the end user will be prompted to save or not such a created member. If selected to save, member will be added to the tree view structure under selected dimensions inside folder Member definition and it will be on disposition each time CubePlayer connects to that cube.
- CTRL N** create named set from selected MDX part, creates if necessary WITH block and inserts set in it.
 At the end user will be prompted to save or not such a created named set. If selected to save, named set will be added to the tree view inside tab Named sets in cube explorer.
 Named set will be on disposition each time CubePlayer connects to that cube.
- CTRL + 1 (number one)** Forces intellisense window for MDX functions (set functions)
- CTRL + 2 (number two)** Forces intellisense window for element functions
- CTRL + 3 (number three)** Forces intellisense window for cube measures
- CTRL + 4 (number four)** Forces intellisense window for cube dimensions

Query and Dashboard



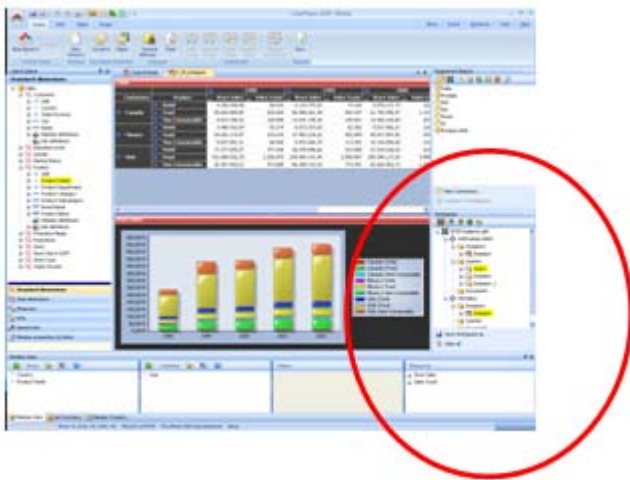
To use function keys as a shortcut while query result table is active (regardless is it part of simple query or dashboard panel) just pres function keys:

- **F2** rename
- **F3** edit object, MDX will be opened in MDX Editor
If dashboard is active, ACTIVE PANEL MDX will be edited
- **F4** -
- **F5** run object
 - For designer, dashboard, dynamic and static objects
MDX will be executed
 - For Connections new designer will be opened on selected connection
- **F6** run in new window
If dashboard is active, ACTIVE PANEL MDX will be executed in new window
- **F7** run in new dashboard
If dashboard is active, ACTIVE PANEL MDX will be executed in new dashboard
- **F8** Mail object to another user
Works only with Microsoft Outlook
- **F9** Project documentation help
Opens dialog that allows to select object from documentation folder.
Any object selected from dialog will be opened by it's default application
(if .doc selected it will be opened with MS Word, html file will be opened with Internet Explorer)
Folder is placed inside:

C:\Documents and Settings\USER_NAME\My Documents\SoftPro.CubePlayer.Client\Documentation

- **Ctrl + Table operation** Forces execution in new window
First select cell where you want to perform operation.
Then pres and hold Ctrl key.
After that right click and select from menu operation.

Registered objects explorer



To use function keys as a shortcut in repository object first select object with mouse click and then select:

- **F2** **rename**
- **F3** **edit object**
 - For designer, dashboard, dynamic and static objects
MDX will be opened in MDX Editor
 - For Connections you can change Server, Database or Cube
- **F4** -
- **F5** **run object**
 - For designer, dashboard, dynamic and static objects
MDX will be executed
 - For Connections new designer will be opened on selected connection
- **F6** -
- **F7** -
- **F8** **mail object to another user**

Works only with Microsoft Outlook
- **F9** **project documentation help**

Opens dialog that allows to select object from documentation folder.
Any object selected from dialog will be opened by it's default application
(if .doc selected it will be opened with MS Word, html file will be opened with Internet Explorer)

Folder is placed inside:

C:\Documents and Settings\USER_NAME\My Documents\SoftPro.CubePlayer.Client\Documentation

Understanding OLAP cubes

In all the previous sections, you have learnt how to plan, install, register and configure the CubePlayer. You have also seen what the main application form looks like, what types of data sources will you work with, and how to register and make a connection to the desired data source.

Before you go on and start using the CubePlayer, we will cover some basics about the OLAP technology itself, and the OLAP cube structure in particular. This will help you to better understand what the CubePlayer does, and how can you get the most by using it.

The word OLAP stands for:

























On Line Analytical Processing.

It is a very special kind of technology specifically developed for analytical purposes, as opposed to OLTP (**O**n **L**ine **T**ransactional **P**rocessing) technology used for transactional purposes. The most known examples of OLTP are relational databases like Microsoft SQL Server, Oracle, DB2, Informix and others.










Like relational database servers, there is another kind of server, the OLAP server, which is specialized in working with very large amount of data. However, unlike the relational database servers, all OLAP servers store the data in special multidimensional structures called cubes.

An OLAP cube is a single unit that CubePlayer uses as its data source. Every time you want to analyze some data, you have to connect to the OLAP server and select a single cube where the data is actually stored.

Icons on SSAS 2000, 2005 and 2008

Icons overview for SSAS 2000, 2005, 2008		
2000	2005, 2008	Meaning
 Sales		Cube
 Customers		Dimension
 Time Calendar	 Customer Geography	Hierarchy
Does not exist	 Demographic	Map (where dimensions and hierarchies can be placed)
Does not exist	 Customer	Attribute (hierarchy with levels 0 and 1)
 (All)		Level All (contains one member)
 All Customers		Member All (at level All)
 City		Level (number of quads represents level depth)
 Burnaby		Member
 Difference		Calculated member (at server or locally)
 Measures		Dimension Measures
Does not exist	 Amount	Map
 Default Group		Default group (contains all measures)
 Store Cost		Measure
 Net Sales		Calculated measure
 Member definitions		Map with local calculated members
 Set definitions		Map with local calculated sets
 My Named Set		Map with server or local Named sets
 Prodaja po zemljama		Dimension set (defined on one dimension) or Named set (defined on one or more dimensions)
 Member Card		Member property
Does not exist	 KPIs	Key Performance Indicator
Does not exist	 Customer Perspective	KPIs Map
Does not exist	 Growth in Customer Base	KPI

Time icons at SSAS 2000, 2005, 2008

2000	2005, 2008	Meaning
 1998 May		Time element
 1998 May		Time element with parallel period
 2000 M 3 : 2000 M 7		Time element From:To
 2000 M 3 : 2000 M 7 , Aggregate		Time element From:To aggregated
 1998 Jan : 1998 May , Aggregate		Time element from:To aggregated with parallel period
 1998 May		Time element PeriodsToDate
 1998 May , Aggregate		Time element PTD aggregated
 1998 May , Aggregate		Time element PTD aggregated with parallel period
 2000 M 3, LastPeriods (1+3 Before)		Time element with Last periods

OLAP cubes

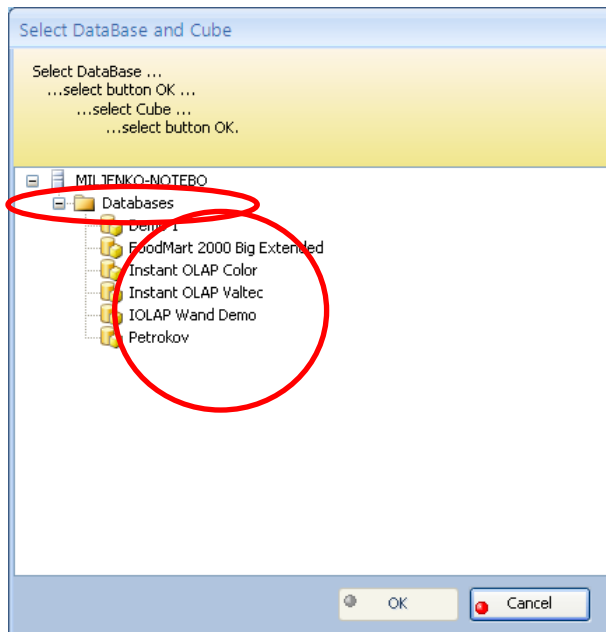
The logical organization of cubes on different OLAP servers may be very different. CubePlayer has been designed to work with a particular type of OLAP server:

the Microsoft Analyses Services server,

which we shall simply call the Microsoft OLAP server or just an OLAP server.

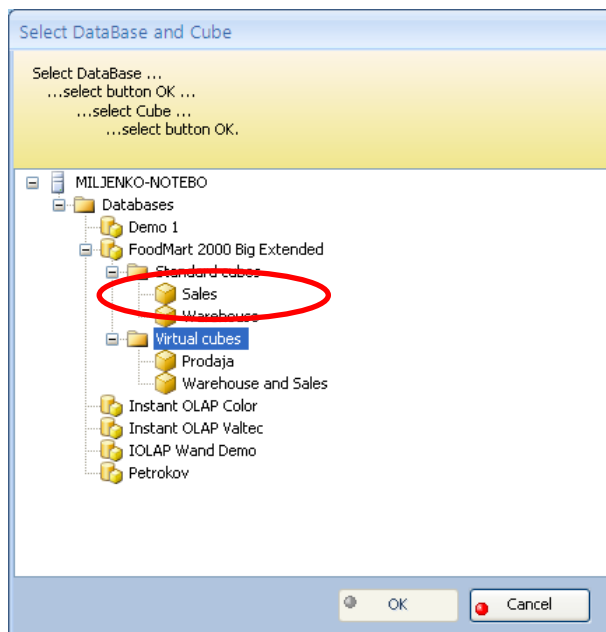
Microsoft OLAP server can have many OLAP databases.

An OLAP database is simply a collection of different types of OLAP cubes.



Therefore, one OLAP database may consist of many OLAP cubes.

It is always a good idea to collect several OLAP cubes that use similar data or cover a similar business process within the same OLAP database.



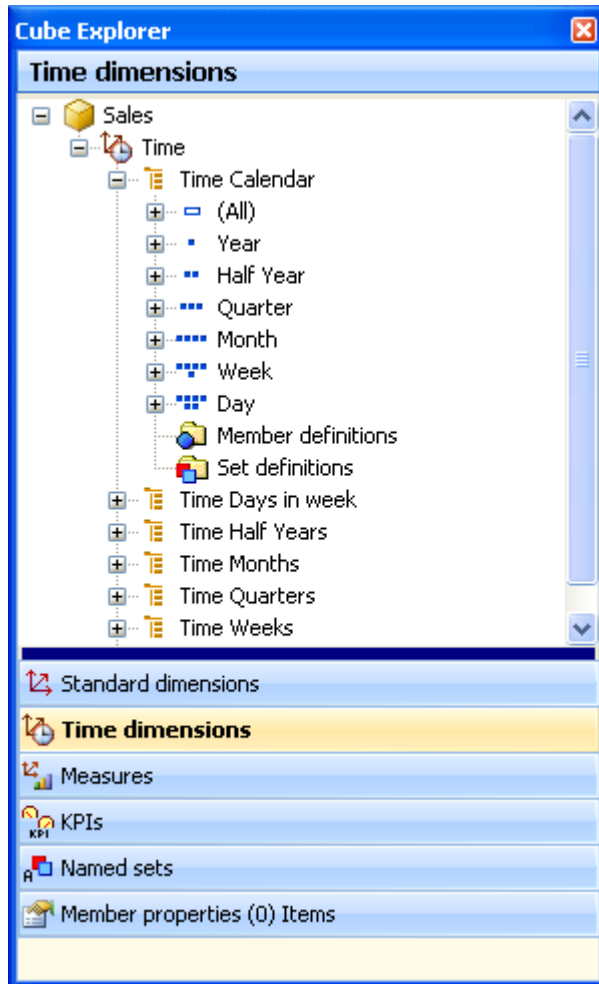
Every single OLAP cube has a very complex internal structure. Without going into much detail here, let us just say that generally speaking, an OLAP cube would have many different dimensions arranged in a strictly hierarchical manner.

OLAP dimensions with multiple hierarchies

Sometimes it makes sense to represent a single dimension as a series of different hierarchies.

Each hierarchy then behaves as a single dimension within the main dimension called the *container*.

The example of this kind of dimensional organization is shown on the following picture:



Notice the six (6) time hierarchies:

- Time Calendar
- Time Days in week
- Time Half Years
- Time Months
- Time Quarters
- Time Weeks

below the Time Scale dimension.

OLAP dimensions, levels and members

A cube dimension should always be closely related with some particular business dimension like:

- customers,
- products,
- organizational structure,
- time and so on.

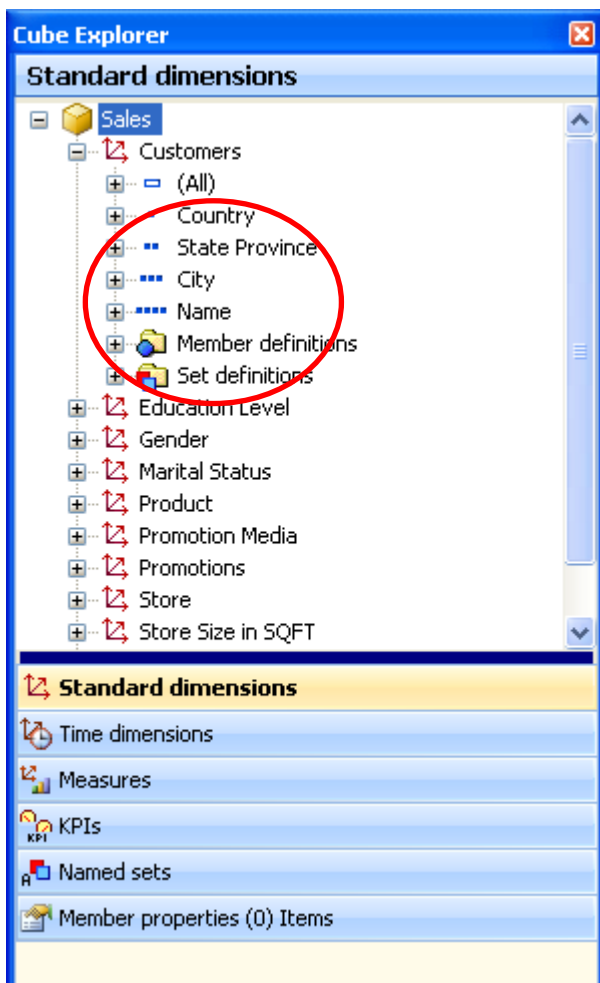
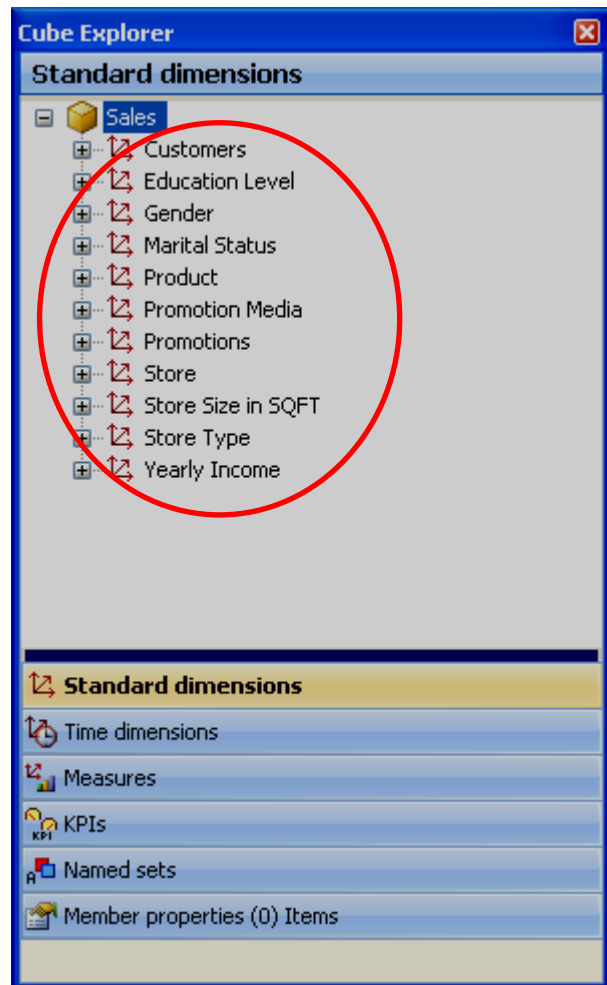
This type of organization is exactly what makes using the OLAP technology so easy and popular.

Unlike the common relational database structures, OLAP cubes are far more intuitive because they resemble the human's perception of the complex data structures.

There are three different types of OLAP dimensions:

1. Standard dimensions
2. Time dimensions, and
3. Measures

You will learn more about each type of an OLAP dimension later.

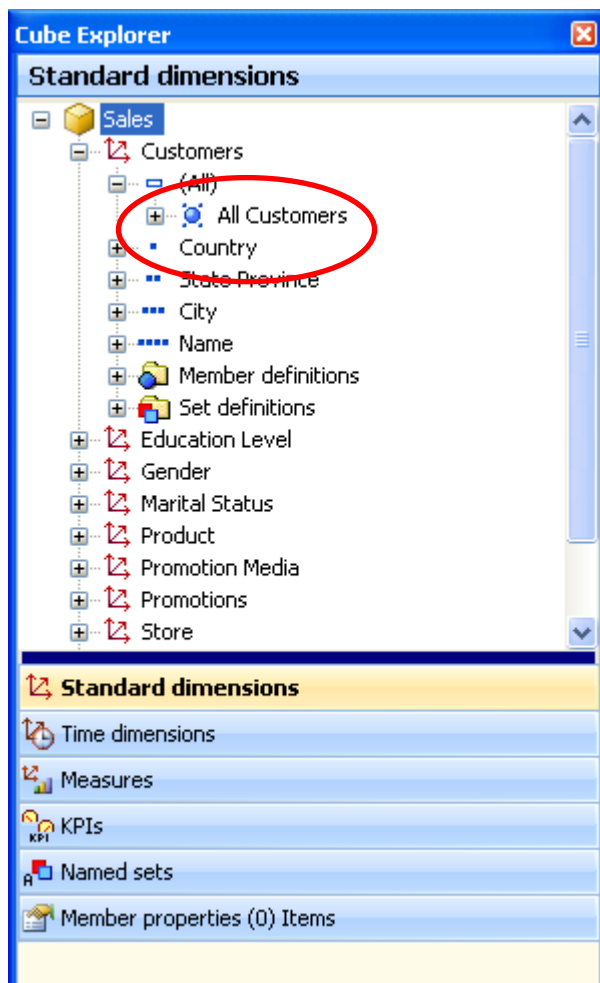
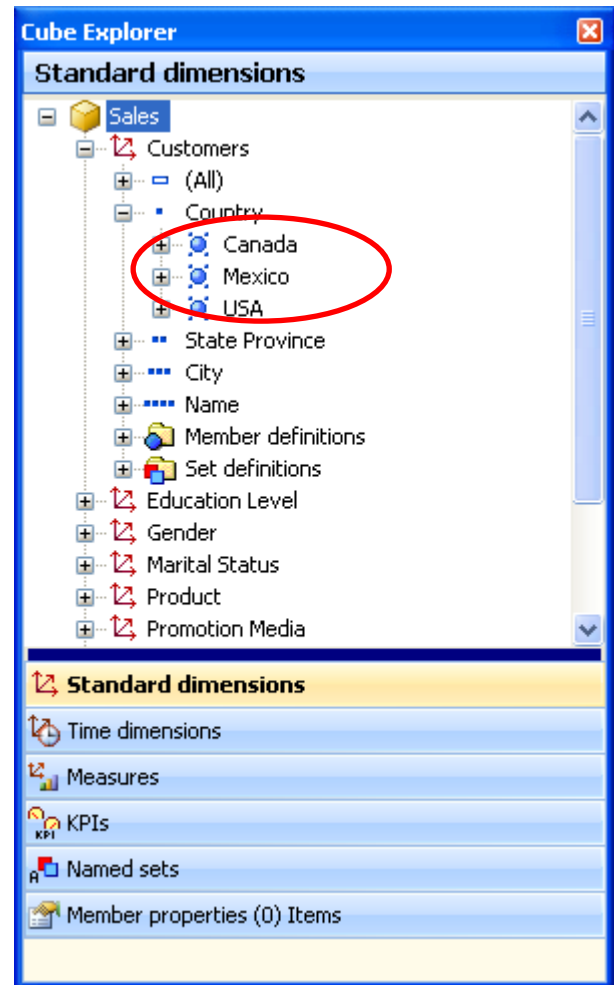


Each OLAP dimension is organized in a hierarchy. On the top of this hierarchy is a dimension itself, followed by any number of levels.

Each level contains any number of data members, and each member can have any number of child-members.

The example of this kind of dimensional organization is shown on the following picture:

When a member does not have any child-member, it is referred to as a leaf-member.

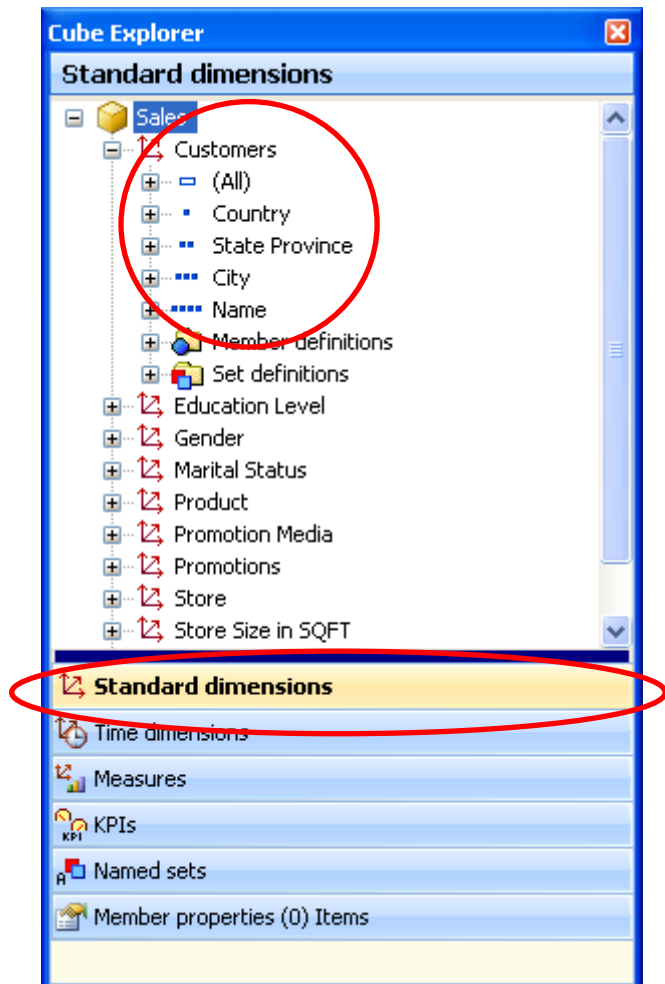


When we speak about the Microsoft OLAP server, a dimension would usually have a very special first level called *All Level*, and the first and only member within this level called *All Members*.

Although this is a default structural organization that makes a lot of sense and is being used for a majority of OLAP cube designs, it is quite possible to construct a cube with a different structure.

OLAP standard dimensions

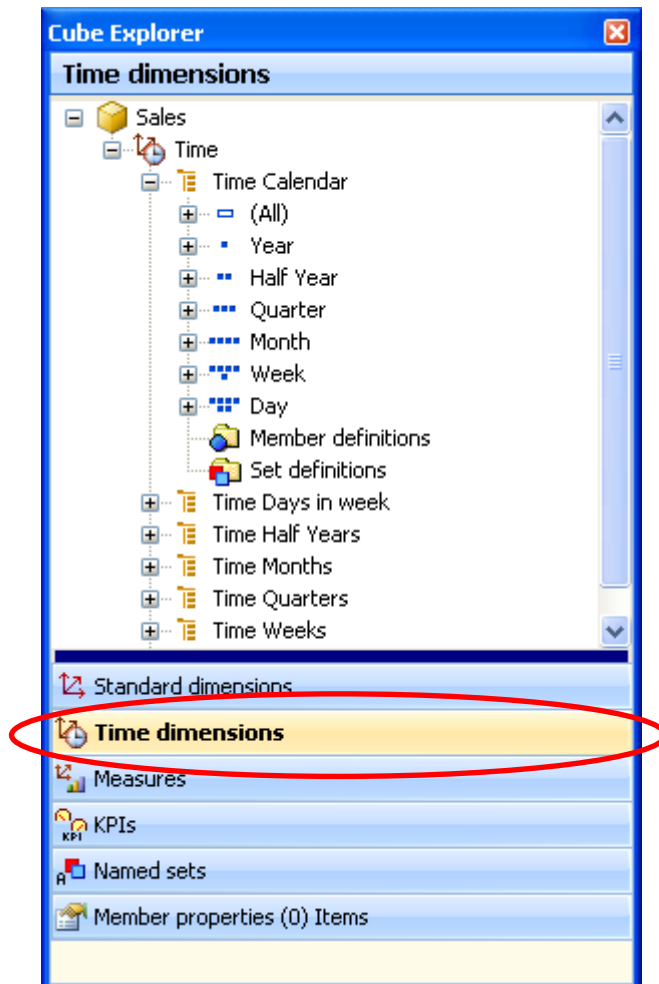
As we already said, a good OLAP cube design calls for a close logical match between a cube dimension and the particular business dimension. The exact implementation may be very different in all cases because companies are different, they collect different data and they do not use the same organizational structures and identically designed business processes.



Any cube dimension (except for the time dimensions and measures explained later) is referred to as a standard dimension.

OLAP time dimensions

Time is always a special type of dimension. All company's activities are somehow distributed in time. Some business processes only make sense in strictly defined time intervals, and some do not. Some decisions are based on a smaller data set, and some (like long-term trends, for example) need a much larger data set that spans several months, years or even decades.



Therefore, a time dimension should be considered as a special type of dimension, and CubePlayer honors this convention throughout the application.

OLAP measure dimension

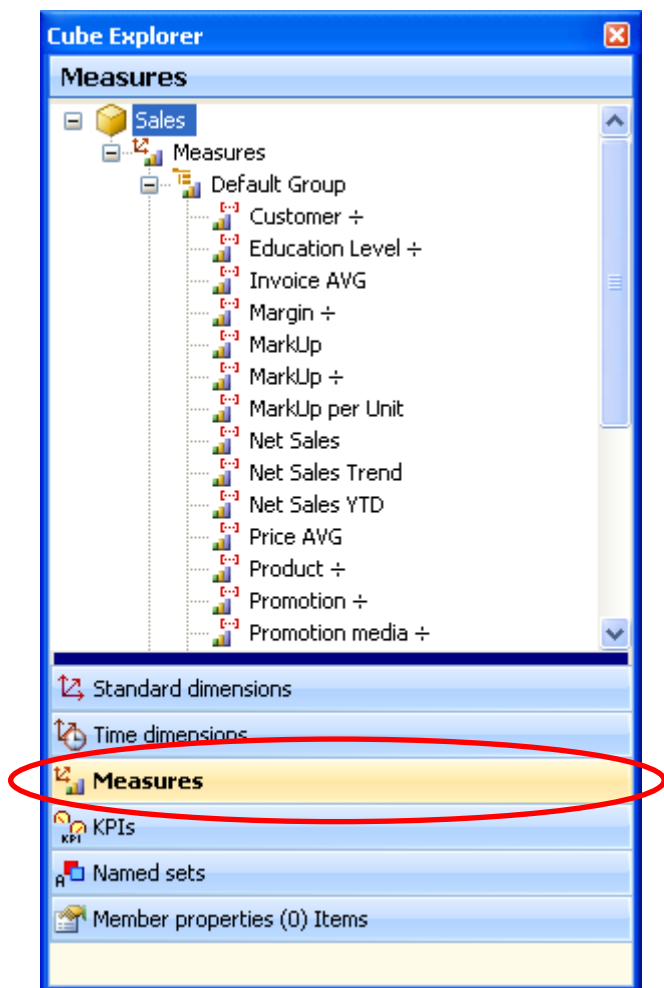
Although the concept of hierarchically organized dimensions is very important, the standard and time dimensions do not contain any numbers. One may ask then 'What is the use of them if I cannot see the numbers?'

Well, you can.

True, the numbers themselves are not stored in members. Instead, OLAP cube has a very special type of dimension called *Measures*. It is the place where you (your OLAP administrator, to be precise) define all individual types of results that you may want to see. Some common examples of measures could be:

- Profit,
- Number of sales,
- Total amount,
- Number of employees,
- Salary and so on.

A single measure is usually (but not always!) represented as a numerical value.

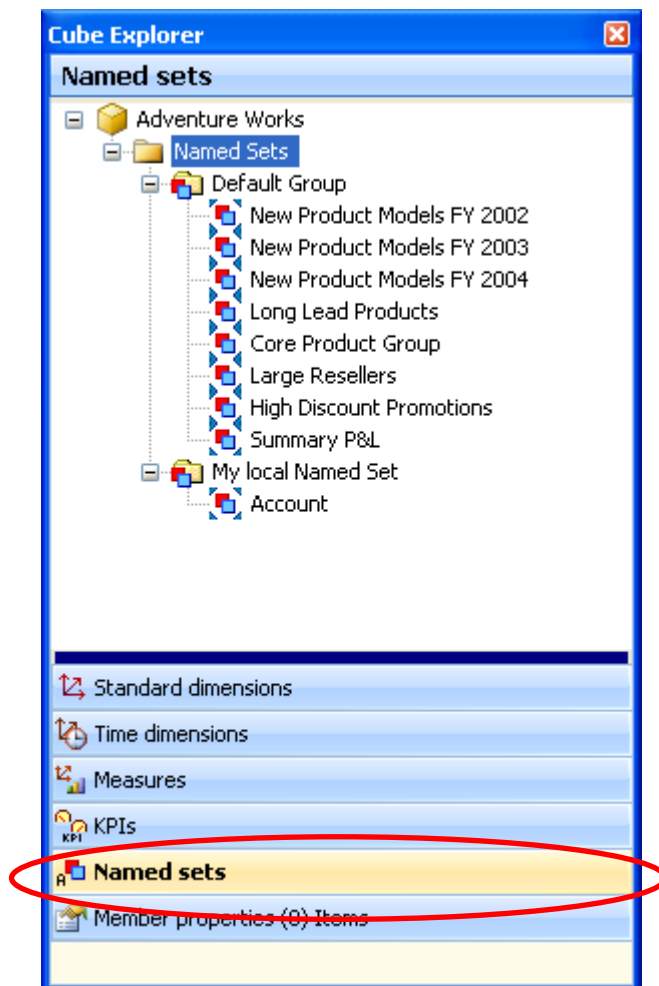


OLAP Named Sets

Named sets are a high-level feature available on the Microsoft OLAP server. Specifically, your administrator can create any number of predefined data set definitions on the server. Those definitions do not actually contain any data, but you can use them to significantly improve the power of the Designer and speed up the entire process.

Every single OLAP client has some form of the query Designer, but most of them do not usually support working with named sets directly in the Designer. This, of course, is not true with the CubePlayer.

Whenever you connect to some OLAP cube, CubePlayer checks for the presence of any server-defined named sets. All found named set definitions are then listed in the separate list box, and you can use them just the same as you would use any other standard level, member or a measure.



Although it is generally impossible to precisely tell whether a named set could become a part of an MDX SELECT statement on some axis or not, CubePlayer will do a lot of checking to determine if the proper conditions have been met.

In addition CubePlayer will allow to user to create his own local calculated Named Sets, to save them and to use them as well as server side Named sets.

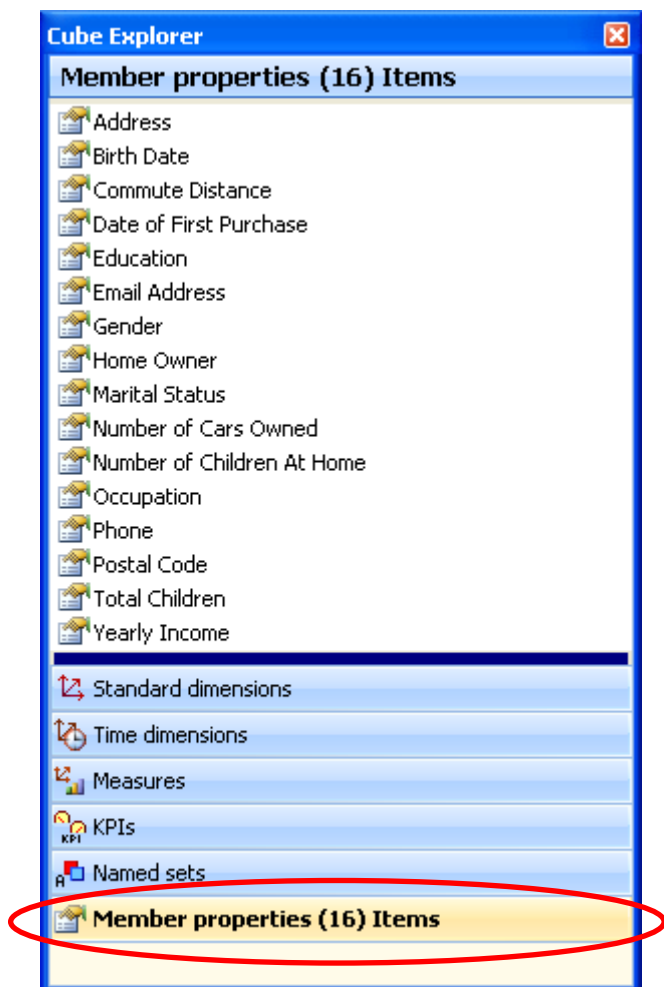
OLAP Member Properties

Similar to the named sets, member properties (sometimes referred to as: extended member properties) are another high-level feature available on the Microsoft OLAP server. Specifically, your administrator can create any number of predefined member property definitions on the server. Those definitions do contain data, and you can use them to significantly improve the power of the Designer.

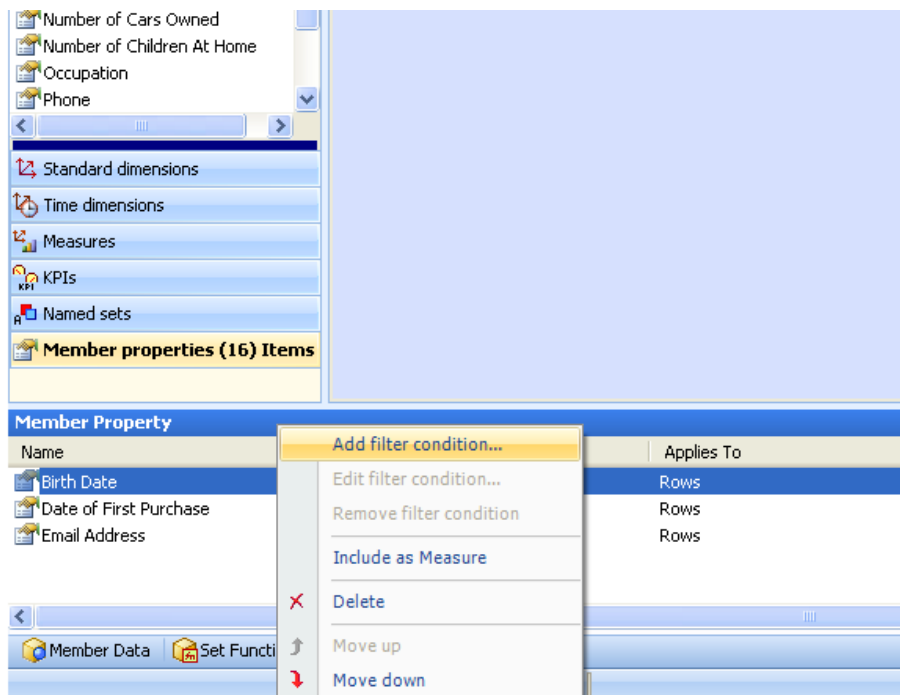
As you might have expected, CubePlayer supports working with member properties directly in the Designer. But, its capabilities do not stop at the simple possibility of including some member properties in your final results.

With CubePlayer you can easily filter your data by existing member properties or use them as measures!

Whenever you add some item from the currently opened OLAP cube to the rows or columns, CubePlayer checks for the presence of any member properties. All found member property definitions are then listed in the separate list box, and you can use them similarly as you would use any other standard level, member or a measure.



The next picture shows the member properties area within the bottom of the Designer:



In this example, there are three member properties namely, Birth Date, Date of First Purchase and Email address Included and ready to be used as filters.

Next picture shows usage of member properties measures in designer:

Table				
Customer, Customer Geography	Birth Date (MP)	Date of First Purchase (MP)	Email Address (MP)	
Adriana Smith	8.4.1968	December 30, 2001	adriana9@adventure-works.com	
Aimee Guo	13.7.1964	February 19, 2004	aimee12@adventure-works.com	
Allison R. Young	3.10.1974	April 7, 2004	allison40@adventure-works.com	
Ann A. Sara	7.7.1944	November 22, 2003	ann15@adventure-works.com	
Antonio G. Patterson	13.6.1955	April 24, 2002	antonio10@adventure-works.com	
Ariana Stewart	20.5.1942	August 1, 2001	ariana21@adventure-works.com	
Arthur Kapoor	16.6.1936	March 19, 2004	arthur3@adventure-works.com	
Barbara W. Lal	18.12.1952	December 18, 2002	barbara40@adventure-works.com	
Bobby D. Saunders	10.8.1958	January 21, 2004	bobby6@adventure-works.com	
Brianna J. Johnson	1.1.1964	March 20, 2004	brianna1@adventure-works.com	
Bruce G. Madan	20.3.1972	October 24, 2003	bruce6@adventure-works.com	
Bryant L. Perez	21.1.1977	April 24, 2003	bryant20@adventure-works.com	
Carla D. Madan	9.5.1957	June 4, 2004	carla10@adventure-works.com	
Carlos Edwards	16.3.1963	February 10, 2004	carlos27@adventure-works.com	
Carly Anand	10.2.1946	April 28, 2002	carly20@adventure-works.com	
Cedric Liu	5.11.1974	August 7, 2002	cedric4@adventure-works.com	
Clarence Xu	13.8.1976	September 18, 2002	clarence19@adventure-works.com	

Member Data	Columns	Filters	Measures
Full Name			Birth Date (MP) Date of First Purchase (MP) Email Address (MP)

Member Data Member Property

Rows :18484 ,Cols :3 ,Cells :55452 MILJAC-LAPTOP\SQL2005 AdventureWorksDW Adventure Works

Understanding the multidimensional data

By now, you understand what has been stored in OLAP cubes. But, what kinds of questions can you ask and how do you ask them?

The shortest answer to this question would be:

'You can get literally any combination of measures (they are supposed to be the numbers you are interested in, remember?) for any possible combination of dimensions, hierarchies, levels and members that can be derived from the existing OLAP cube structure.'

Wow! That is an ambitious answer, isn't it?

Sure, it is, but it is also the very purpose of using the OLAP technology in the first place. Therefore, yes, you can really do it with the CubePlayer.

However, what about the performance? Trying to get the answer to a very complicated question out of millions of records could take a lot of time.

Well, it really depends on the question itself. The OLAP technology has been specifically developed to facilitate this problem. With a good cube design, most of your questions should take no longer than five (5) seconds to execute on the server, no matter how many records are stored in the cube.

Of course, there are always some limits to any technology.

It is always possible to ask a question that would take minutes or even hours to execute on the server. In reality, those questions are extremely rare and you are not supposed to run such queries frequently. Nevertheless, there are some practical advices you should know about before you start asking your own questions, like:

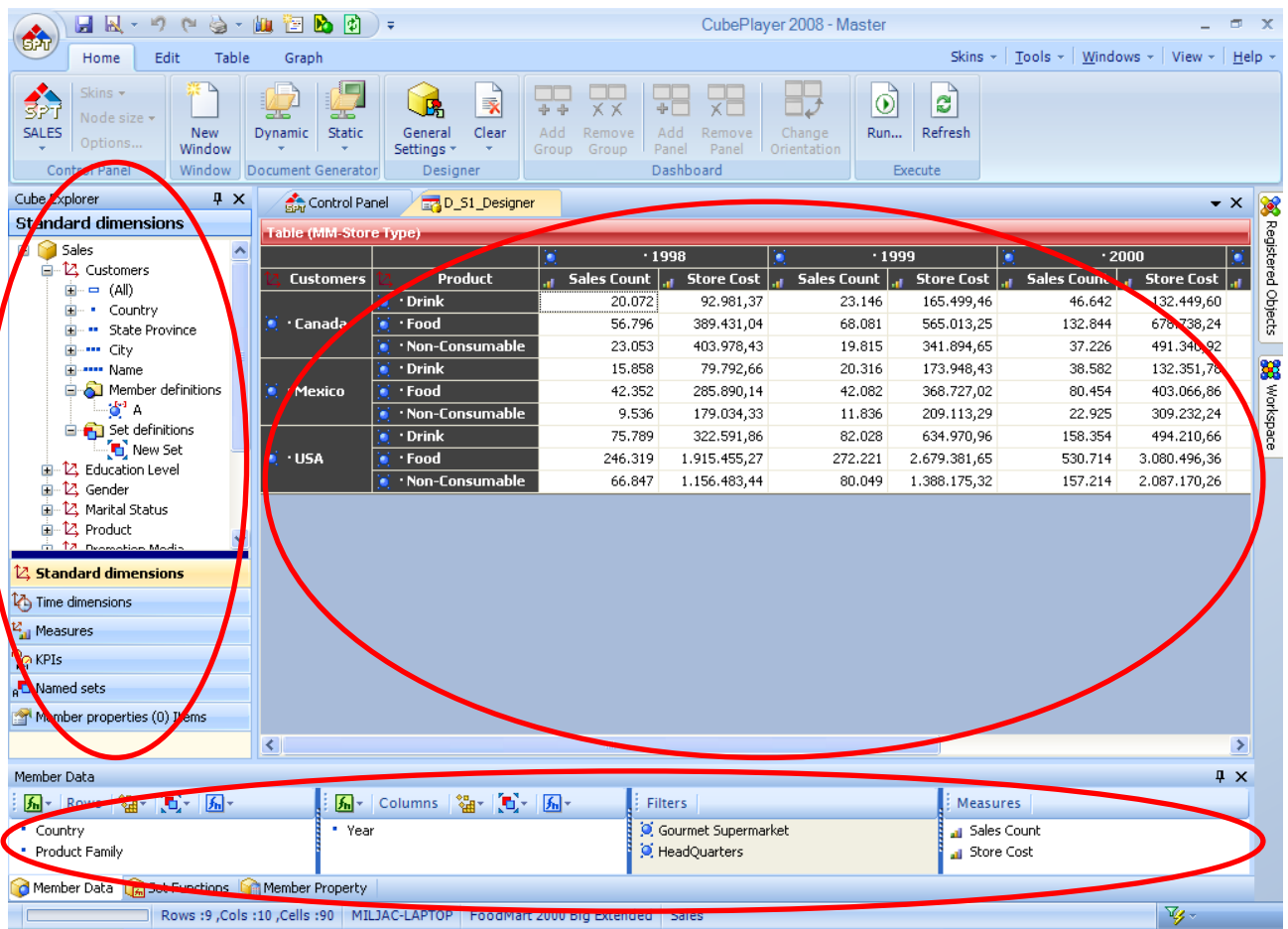
- Do not use more than three (3) dimensions on the same axis in your query
- Do not use more than five (5) dimensions on all axes combined
- Do not try to return all members from the lowest levels within a particular hierarchy (you may end up with hundreds of thousands, even millions of returned data cells)
- Always consider using a filter expression (on the filter axis) to reduce the number of returned data cells
- Do not ask for the empty cells (cells with no data) to be returned back from the server

If you follow these simple guidelines, you will soon find out that OLAP technology is capable of doing wonders for you, and CubePlayer will become your favorite tool for performing extremely fast and useful business analyses.

The communication with the OLAP server requires the use of the special language, called the MDX. Although there are other types of command statements supported by the MDX language, you will mostly use the so-called SELECT statement to describe your question.

Do not worry, unless you really want to, you will never have to write the SELECT statement yourself. Instead, CubePlayer will do this for you. However, we shall spend some time to describe the general syntax of the SELECT statement in case you want to understand the inner workings of the CubePlayer and the OLAP server.

MDX Designer



Basic object for any OLAP client is Designer. The Designer will help you to see all the data structures and individual elements in the currently selected OLAP cube, prepare and then execute a new MDX query.

The Designer has three (3) main parts:

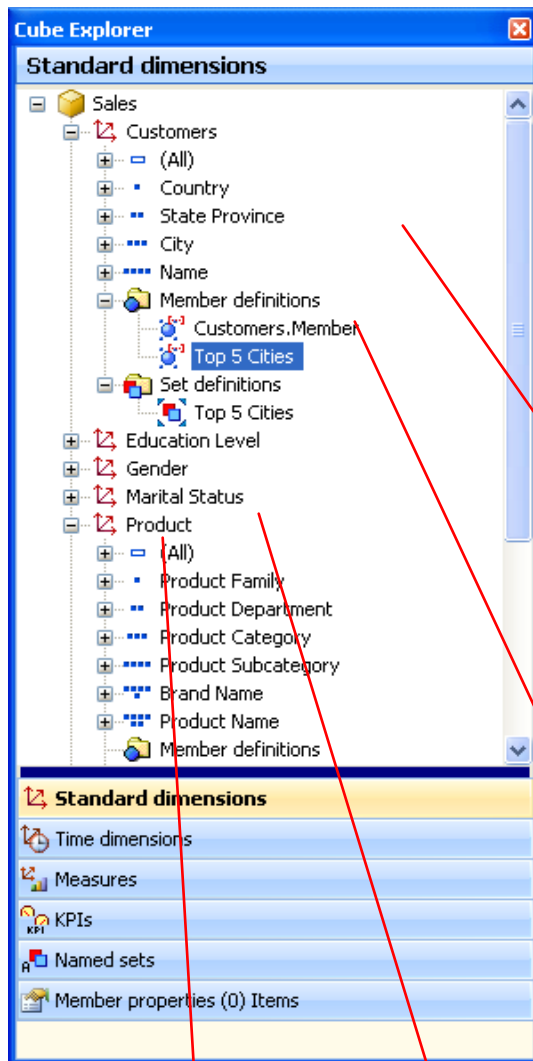
- Cube structure explorer
- Designer with additional controls
- Query Result Form

left-hand side docking window

bottom docking window, and

place where result will be displayed (in the middle)

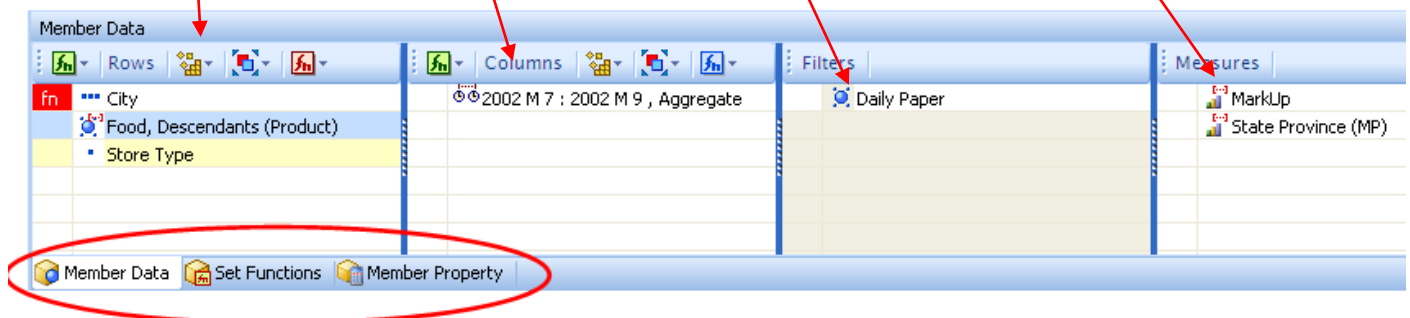
Cube Explorer



The Cube explorer consists of six (6) different areas (tabs):

- **Standard dimensions**
- **Time dimensions**
- **Measures**
- **KPIs**
- **Named sets and Inner Queries**
- **Member properties**

MDX Query definition area



MDX Query definition area takes the most part in the main display area. It is located on the bottom of the window.

Here you have three (3) tabs:

- Member Data
 - Row data
 - Column data
 - Filter condition
 - Measure data
- Set Functions
 - Row Set Functions
 - Column Set Functions
- Member Property

The most of the time, at least at the beginning, you will stay with first tab Member Data.

Member data

Member data tab is place where you can add all the elements you need for you MDX query. It has four (4) different columns:

- | | |
|----------------------------|--|
| • Row data | elements that will be displayed in rows |
| • Column data | elements that will be displayed in columns |
| • Filter data | elements that will be used as filters |
| • Measure data (data area) | measures that will be used in MDX query |

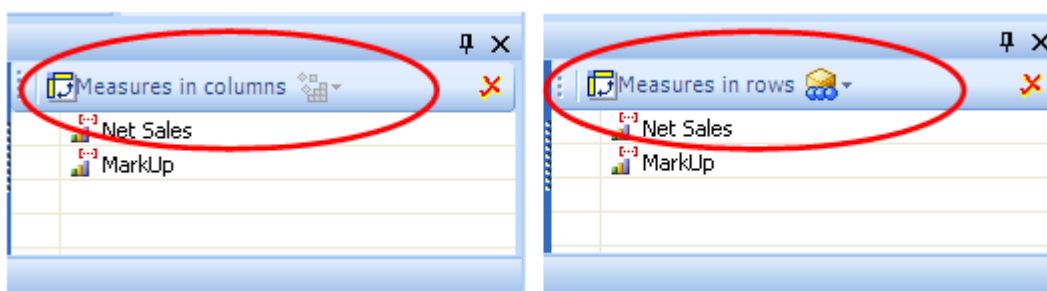
Query can be created by selecting some items from the cube structure

part and placing it into any of above mentioned columns. For instance, if you want to see the results of your query in such a way that some item taken from the cube structure is supposed to be displayed in rows, you would find that item and drag it to the row data column in the designer. In addition instead of drag-and-drop technique you can use a popup-menu that will appear on right hand mouse click and select one of the options.

Additional explanation is needed for Data area.

In CubePlayer exists predefined place for measures.

Default place for Measures is in Columns.



However if you need to place your measures in Rows just click on label **Measures in ...**

Once changed, it will be applied immediately but only for this Designer object.


To change for each designer object got to menu Tools-Configuration-Designer and change there.

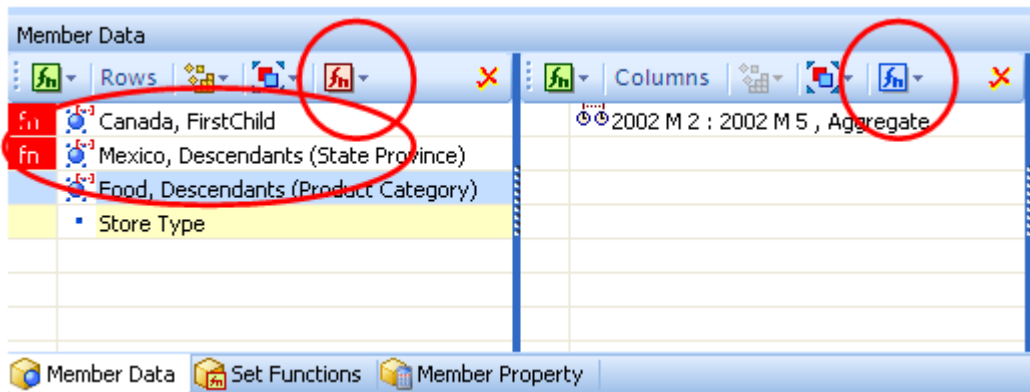
We have done it this way, because most of users in most of cases will place measures in Columns.

Therefore, when you are selecting Measures you can do it with simple double-click on each measure without need for dragging. Measures will be always placed in Data area. If you want to place you measures in Rows, please go to tab General and select Measures in Rows.

Dimension Functions

Dimension Functions are MDX functions applied to the group of elements (levels or members) from the same dimension hierarchy within one axis (rows or columns).

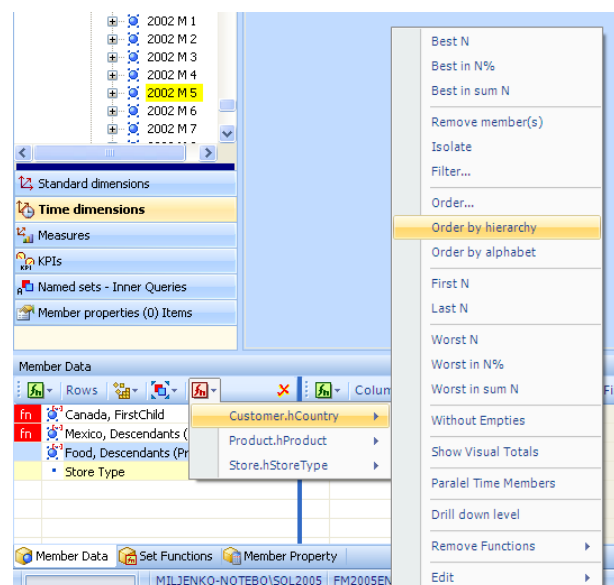
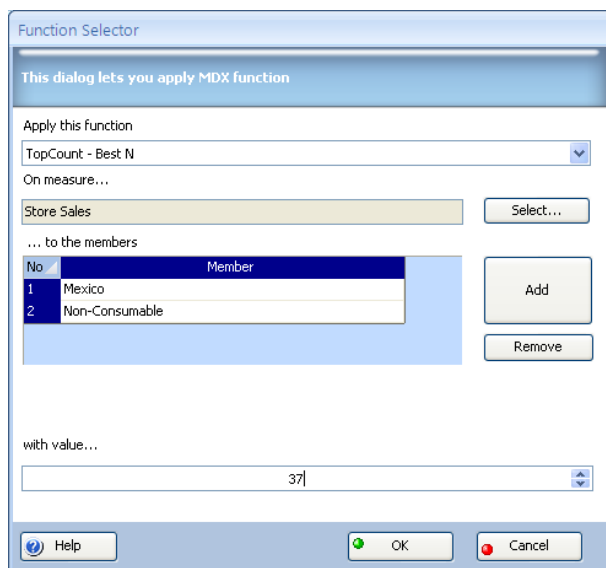
To select appropriate OLAP function, select blue function icon  inside row or column axis title bar



You will get a list of available dimensions.

After selecting dimension/hierarchy continue with selecting functions.

Select one from the list and same dialog, as for Set functions, will appear.



After selection of function parameters select Accept to apply function.

On each axis, once dimension function is applied icon will change color from default  to red .

This way you will always be notified about the function presence.

Dimension functions can be easily removed and edited.

User can apply any number of functions per one dimension/hierarchy.

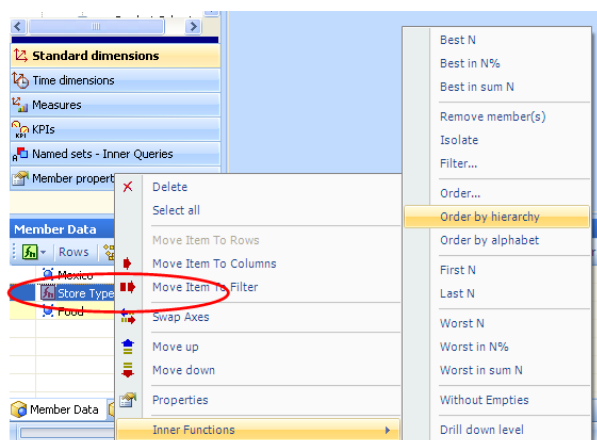
Inner Functions

Inner Functions are MDX functions applied to the only one element (level or member) or CP special member inside one axis (rows or columns).

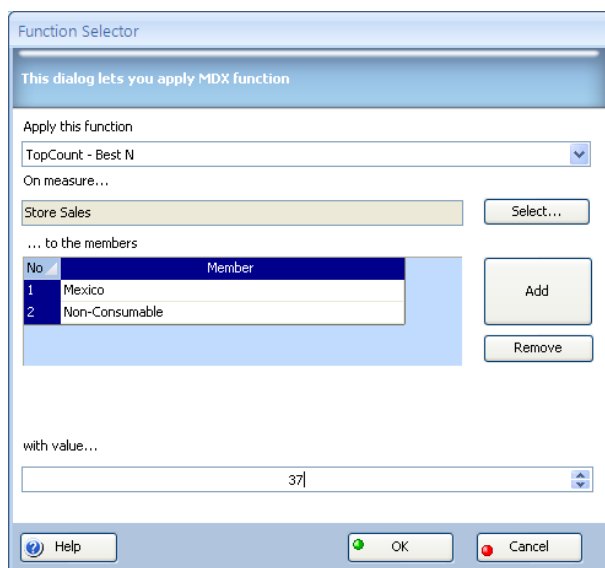
User can combine any number of functions.

To select appropriate Inner function:


- select element inside row or column axis
- right click your mouse
- select Inner function from popup menu



Dialog will appear:



After selection of function parameters select Accept to apply function.

On each axis, once inner function have been applied, particular member or level icon will change to red .

This way you will always be notified about the function presence.

Set Functions (external or axis functions)

Set Functions tab is used to define OLAP functions. Those functions (so called outer or axis functions) will be applied to row or column axis. Tab has two (2) different columns:


- Row set functions location for functions to be applied to row
- Column set functions location for functions to be applied to column

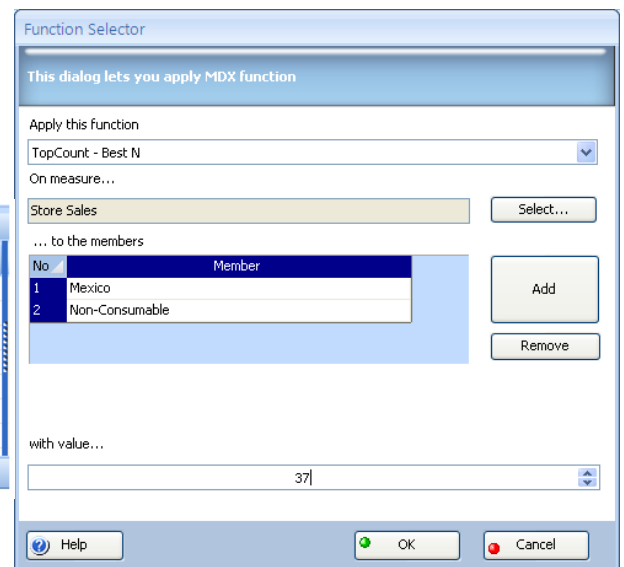
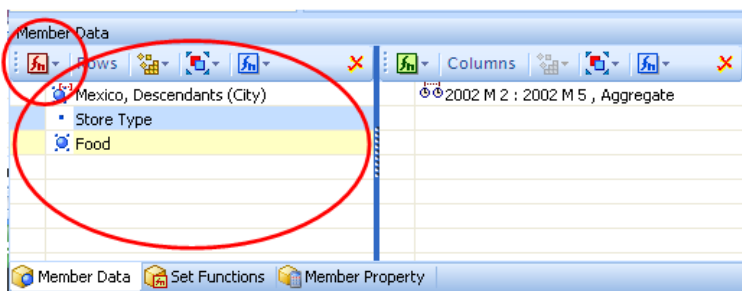
To apply the function simply select Row or Column area and right click your mouse. Popup-menu will appear:

- New set function to select new function
- Edit to edit previous definition
- Delete to delete existing function
- Move up to move up function and change order
- Move down to move down function and change order.

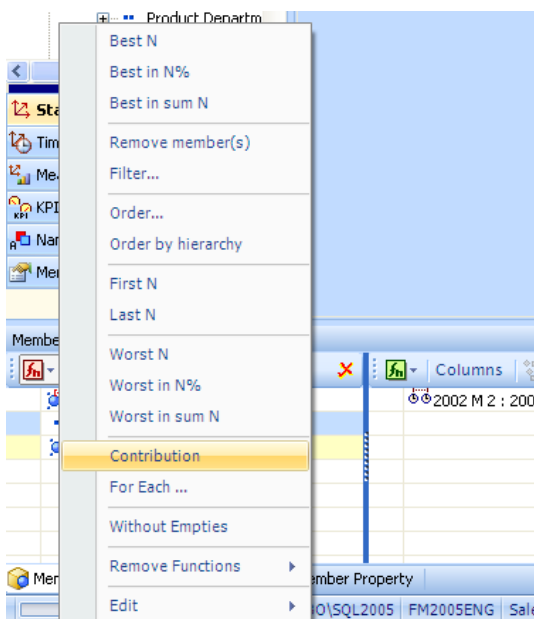
Select New set function and dialog will appear:

Select appropriate OLAP function, set appropriate parameters and select Accept.

Other, more easier way to do it is to select function icon  inside row or column axis title bar





You will get a list of available function.



Select one from the list and same dialog, as previous one, will appear. After selection of function parameters select

Accept to apply function.

On each axis, once function is applied icon will change color from default  to red .

This way you will always be notified about the function presence.

Member properties

Next tab is Member properties tab. Similar to the named sets, member properties (sometimes referred to as: extended

member properties) are another high-level feature available on the Microsoft OLAP server. Specifically, your administrator

can create any number of predefined member property definitions on the server. Those definitions do contain data, and

you can use them to significantly improve the power of the Designer. As you might have expected, CubePlayer supports

working with member properties directly in the Designer. But, its capabilities do not stop at the simple possibility of including

some member properties in your final results. With CubePlayer you can easily filter your data by existing

member properties! Whenever you add some item from the currently opened OLAP cube to the rows or columns,

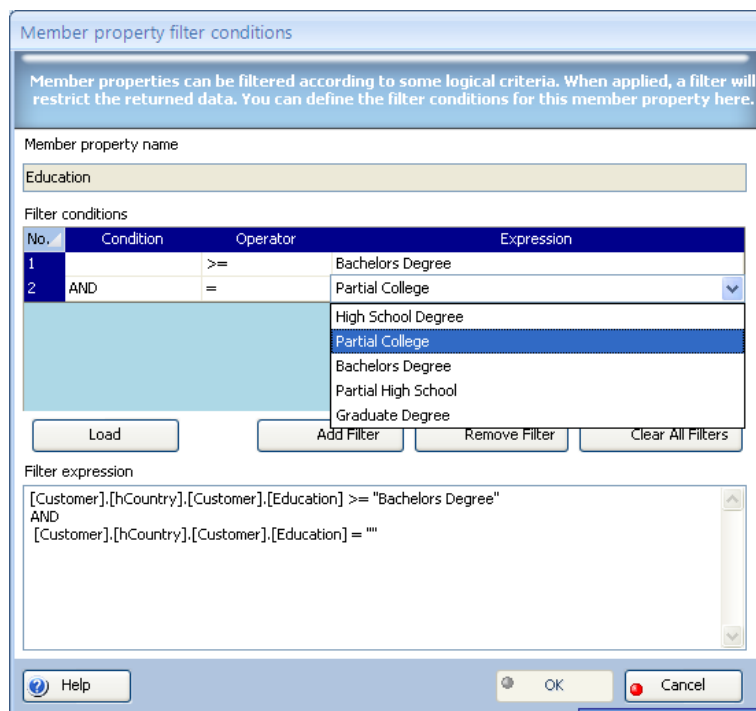
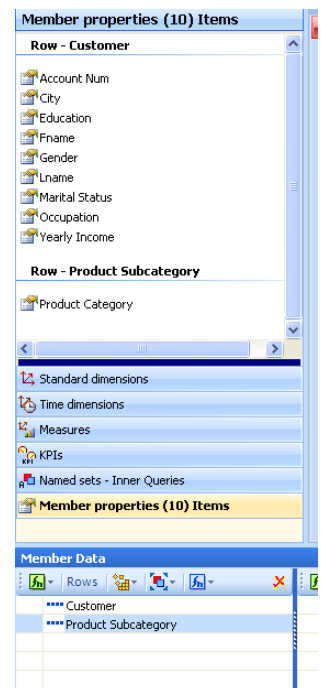
CubePlayer checks for the presence of any member properties. All found member property definitions are then

listed in the Cube explorer under tab Member Properties. If there are any you can notice according to the number

displayed near the label Member Properties:

- zero (0) means no Member Properties
- X where X represents any number > 0 means there are X Member Properties

You can use them similarly as you would use any other standard level, member or a measure.



Same is if you added member (for example USA) inside filter area CubePlayer will prevent you from adding inner queries.

Find member

The cube structure pane is located on the left-hand (side of this view and it consists of the six (6) different areas where all dimensions are represented in hierarchical trees:

1. **Standard dimensions**
2. **Time dimensions**
3. **Measures**
4. **KPIs**
5. **Named sets**
6. **Member properties**

You can navigate through each existing tree by expanding the appropriate nodes until you reach the last level of the hierarchy. Normally, if the dimension, hierarchy or level is not empty, this should be some member (or child member). Once you reach the lowest member in the hierarchy, CubePlayer will recognize this and you will not be able to expand that node any further.

When you get closer to the bottom part of the dimension hierarchy, any node can potentially have many child nodes. This is particularly true for nodes on the last levels in large hierarchies.

Due to the (not so perfect in this regard, to be honest) internal architecture of this version of OLAP server, expanding such nodes could take a considerable amount of time.

There is always a high probability that you only wanted to see some limited subset of the members from that level.

CubePlayer has a built-in mechanism to make your life easier in those cases.

Select ...

... members

☐ Get all available members
This option will return all available members as list, for further selection.
(Warning: total of 10282 members will be returned back)

☐ Show first "n" elements
Maximum number of returned members

☐ Show last "n" elements
50

☒ Define simple restrictions for returned members

Return only members that ...

☒ begins with
☐ contains
☐ ends with
☐ equal to
☐ smaller than
☐ smaller or equal to
☐ greater than
☐ greater or equal to

String value to compare with
D
Import

Maximum number of returned members
50

☒ Do not ignore Case Sensitive search

☐ Define complex restrictions for returned members

Help OK Cancel

If the total number of child nodes is less than 500, CubePlayer will always enumerate and display all child

members of the given node during the expansion process. What happens if the total number of nodes is higher?

As we already mentioned, this number could be very high, in order of tens of thousands.

When CubePlayer detects this situation, it will not enumerate all members.

Instead, you will be presented with the following dialog:

At this point, you can either:

- Decide to enumerate and display all existing members, no matters how long this could take, or, more likely
- Narrow the target set by applying one of the eight (8) available filter conditions

- Return only those members that begin with some letter or series of letters
- Return only those members that have the name equal to entered string value
- Return only those members whose names are different from entered string value
- Return only those members whose names contain entered string value
- Return only those members whose names are smaller then entered string value
- Return only those members whose names are equal or smaller then entered string value
- Return only those members whose names are greater then entered string value
- Return only those members whose names are equal or greater then entered string value

If you apply a filter (in this example, we want all members that begin with a letter D), you will see a result similar to this one:



As you can see, only the members beginning with letter 'D' are displayed.

Find member – multiple criteria

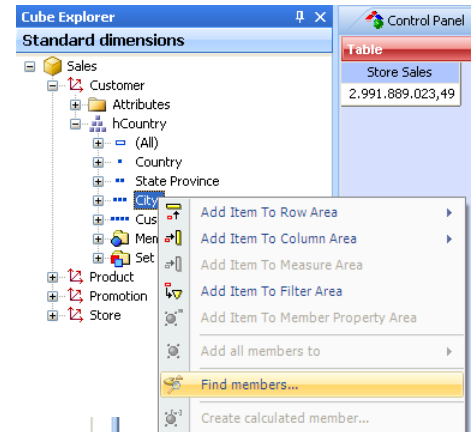
Find member has special feature that allows user to set multiple criteria at once.

Symbol for logical operator OR is “||” (double pipe).

Let us find all cities that names starts with **V** and with **M**:

- Right click **selected level** (our case **City**)
- Select **Find members ...** from menu

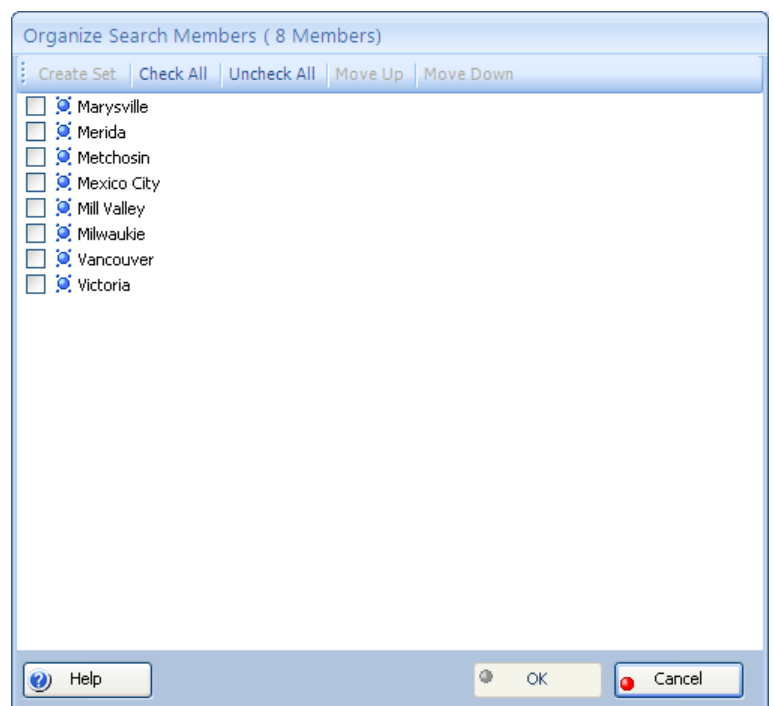
Dialog will appear:

A screenshot of the 'Find members' dialog box. It has a tab 'Define simple restrictions for returned members'. Under the tab, there's a section 'Return only members that ...' with two columns of radio button options: 'begins with', 'contains', 'ends with', 'equal to' in the first column, and 'smaller than', 'smaller or equal to', 'greater than', 'greater or equal to' in the second column. Below these is a text field 'String value to compare with' containing 'V||M|' and an 'Import' button. At the bottom, there's a 'Maximum number of returned members' dropdown set to '50' and a checked checkbox 'Do not ignore Case Sensitive search'.

Enter your criteria:

- Enter **V**
- Enter **||**
- Enter **M**
- Select **OK**

You can make selection from returned result or select all members to import inside tree view. If you need you can even create set from your selection.



Ignore case sensitive

If your database has **Case Sensitive** option set to **True**, this can make problem during find operations.

To ignore this database settings:

- Uncheck **Do not ignore Case Sensitive search** check box.

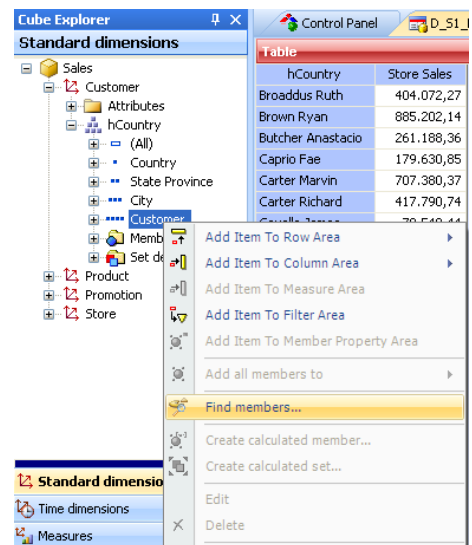
The screenshot shows a search configuration dialog box. At the top, there is a section titled "Define simple restrictions for returned members" with a radio button icon. Below this, a sub-section "Return only members that ..." contains two columns of radio button options: "begins with", "contains", "ends with", "equal to", "smaller than", "smaller or equal to", "greater than", and "greater or equal to". Below these options is a text input field labeled "String value to compare with" containing the text "V||M|", and an "Import" button. Below the input field is a label "Maximum number of returned members" followed by a dropdown menu showing the value "50". At the bottom, there is a checked checkbox labeled "Do not ignore Case Sensitive search" with a red arrow pointing to it.

Find member – load criteria from MS Excel file

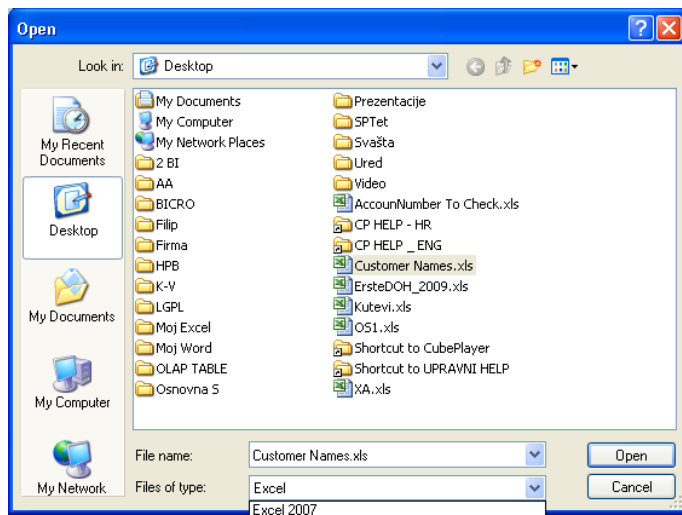
Find member has special feature to load criteria from file:

- Right click **selected level** (our case Customer)
- Select **Find members ...** from menu

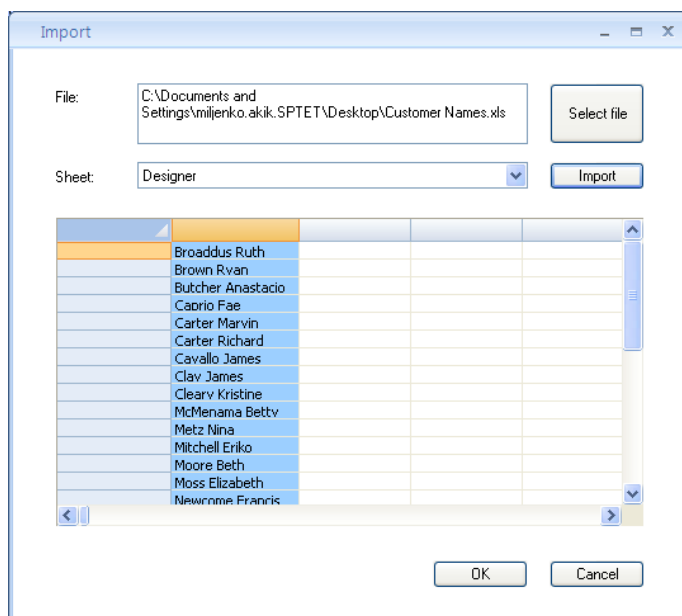
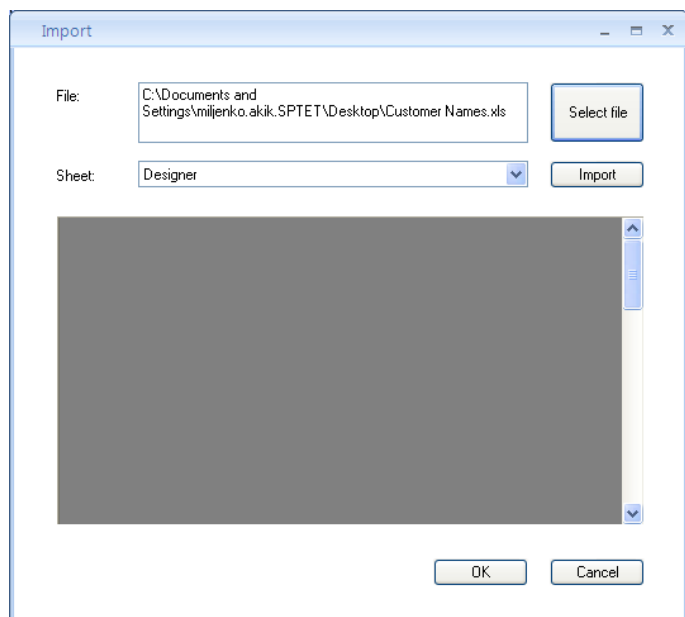
Dialog will appear:



- Select button **Import**
- Select **Select file** button
- Select appropriate version of Excel
- Navigate to file where your criteria have been saved



- Select **Open** button
- Select **Import**



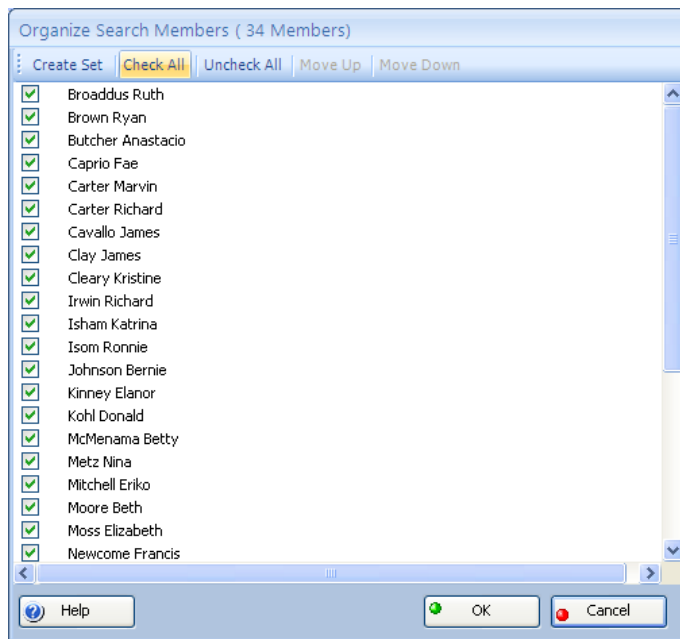
NOTE: Criteria saved in MS Excel file MUST be saved in first (A) column

- Select **OK**

All of your saved criteria are loaded. Sign for OR logical function is "||" (double pipe).

- Select **OK**

Now you can reduce your selection or select all of them.

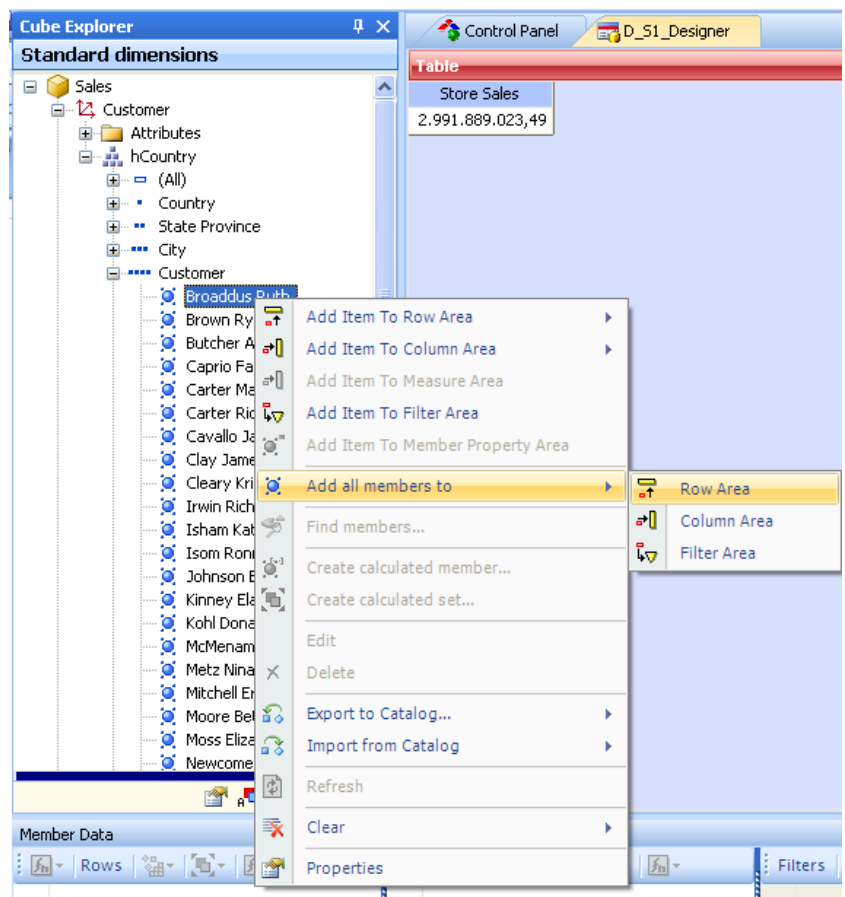


- Select **OK**

Selected members will be visible inside cube browser.

To add all of them to the row or column area:

- Right click one of them
- Select **Add all members to**
- Select one of **areas**



MDX functions and possible misinterpretations

MDX RESTRICTIONS AND POSSIBLE MISINTERPRETATIONS

Whenever you use MDX function please take care about some rules.

If user applies function inside one axis and you want to place entire **level** or **All member** from another dimension inside same or other axis you have no reason to wary.

Special care should be taken when user applies function inside one axis and tries to place **single member** inside another axis which is not filter.

In next table you will see possible combinations. All of them are allowed but it does not display same result set as you may expect.

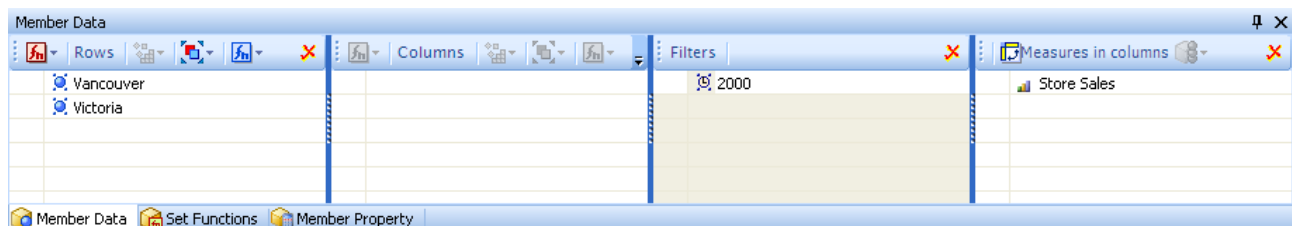
Function type ...	Adding single member (2000) to the axis ...		
Axis Function	Row	Column	Filter
Applied to entire row axis	YES	Possible misinterpretation	YES
Dimension Function			
Applied on one dimension on row axis	Possible misinterpretation	Possible misinterpretation	YES
Element function			
Applied on one member or level on row axis	Possible misinterpretation	Possible misinterpretation	YES

All above MDX combinations are correct. Unfortunately some of them will lead to possible misinterpretations of results. Here are examples:

Example 1.

In 1st example we will try to see top 10 cities according to Store Sales (measure) in year 2000.

Here is how we placed our elements inside Designer:



Result is

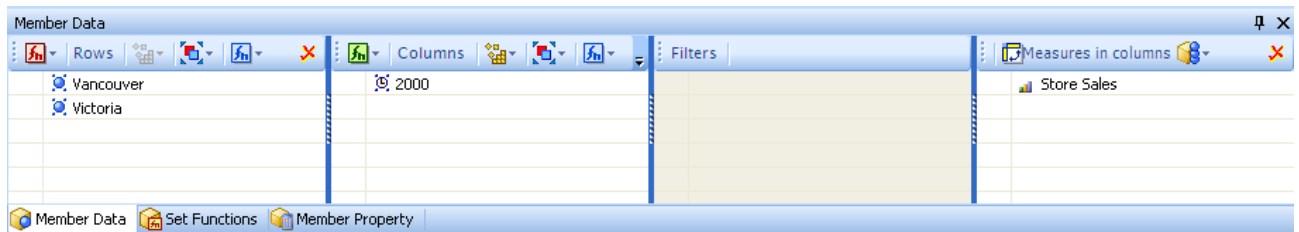
Customers	Store Sales
Downey	5.746.589,05
El Cajon	5.599.117,53
National City	5.485.863,87
N. Vancouver	5.465.956,92
Puyallup	5.461.948,46
Anacortes	5.391.893,37
Burien	5.268.469,00
Richmond	5.265.005,63
Beverly Hills	5.227.451,76
Pomona	5.223.500,83

As you can see we have our result table. Result is sorted in descending mode (this is characteristic of TopCount function)

Example 2.

In this example we will try to achieve same results adding member Year 2000 to the column axis instead of Filter axis. For user it looks the same and it is more convenient to see time element inside table rather than inside title bar.

Our element area inside designer will look like this:



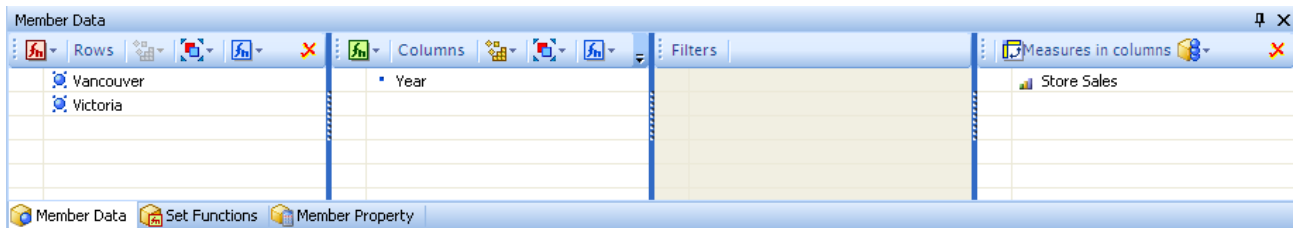
Result set is:

Customers	2000	Store Sales
Everett		4.698.856,90
Torrance		5.115.870,24
Downey		5.746.589,05
Pomona		5.223.500,83
Anacortes		5.391.893,37
El Cajon		5.599.117,53
Beverly Hills		5.227.451,76
N. Vancouver		5.465.956,92
Tixapan		4.992.658,74
Royal Oak		4.806.085,61

You may notice that cities are not ordered in ascending or descending way. If you compare with previous result set, you will see that elements are even different. For example **Royal Oak** city does not exist in example 1 result set.

What we see in second example?

That is a good question. To demystify this situation instead of **Year 2000** place entire **Year level** inside columns:



When result set appears, use Sums view  instead of Normal view:

Table						
	· 1998	· 1999	· 2000	· 2001	· 2002	Store Sales (Sum)
Customers	Store Sales					
· · · Everett	3.239.287,04	30.475.129,48	4.698.856,90	5.564.360,73	7.733.651,89	51.711.286,04
· · · Torrance	3.191.248,86	4.755.205,75	5.115.870,24	6.266.452,42	8.471.195,83	27.799.973,11
· · · Downey	3.573.754,52	5.414.393,83	5.746.589,05	6.543.313,85	5.571.519,76	26.849.571,01
· · · Pomona	3.750.389,17	4.819.793,11	5.223.500,83	6.359.078,55	6.503.894,05	26.656.655,71
· · · Anacortes	3.013.345,84	4.985.035,27	5.391.893,37	6.054.279,40	6.936.471,97	26.381.025,86
· · · El Cajon	3.083.981,24	5.279.698,34	5.599.117,53	6.530.412,17	5.858.566,66	26.351.775,94
· · · Beverly Hills	3.279.786,15	4.852.541,36	5.227.451,76	6.263.238,30	6.621.384,24	26.244.401,81
· · · N. Vancouver	2.816.615,76	4.933.225,18	5.465.956,92	6.363.513,91	6.632.605,30	26.211.917,07
· · · Tixapan	3.775.472,62	4.623.505,57	4.992.658,74	5.896.275,30	6.693.553,93	25.981.466,15
· · · Royal Oak	3.346.306,87	4.547.193,86	4.806.085,61	5.618.808,20	7.522.264,89	25.840.659,43
Sum	33.070.188,06	74.685.721,75	52.267.980,94	61.459.732,84	68.545.108,54	290.028.732,13

First you will see that results inside table are not in order. That is logical because we can not sort results individually according different years and display results inside one table. If you take a look at the end, where row sums are displayed you will see that order is valid for entire time period displayed inside table. That means our result set represents top 10 cities over entire time period and not for individual year.

Now compare result table from example 2 and column for year 2000 in table above:

Table						
	· 1998	· 1999	· 2000		· 2000	
Customers	Store Sales			Customers	Store Sales	
· · · Everett	3.239.287,04	30.475.129,48	4.698.856,90	· · · Everett	4.698.856,90	286,04
· · · Torrance	3.191.248,86	4.755.205,75	5.115.870,24	· · · Torrance	5.115.870,24	973,11
· · · Downey	3.573.754,52	5.414.393,83	5.746.589,05	· · · Downey	5.746.589,05	571,01
· · · Pomona	3.750.389,17	4.819.793,11	5.223.500,83	· · · Pomona	5.223.500,83	655,71
· · · Anacortes	3.013.345,84	4.985.035,27	5.391.893,37	· · · Anacortes	5.391.893,37	775,94
· · · El Cajon	3.083.981,24	5.279.698,34	5.599.117,53	· · · El Cajon	5.599.117,53	401,81
· · · Beverly Hills	3.279.786,15	4.852.541,36	5.227.451,76	· · · Beverly Hills	5.227.451,76	917,07
· · · N. Vancouver	2.816.615,76	4.933.225,18	5.465.956,92	· · · N. Vancouver	5.465.956,92	466,15
· · · Tixapan	3.775.472,62	4.623.505,57	4.992.658,74	· · · Tixapan	4.992.658,74	659,43
· · · Royal Oak	3.346.306,87	4.547.193,86	4.806.085,61	· · · Royal Oak	4.806.085,61	732,13
Sum	33.070.188,06	74.685.721,75	52.267.980,94			

Yes! They are identical.

That means in example two we discovered top 10 cities, but not for year 2000. Instead of that since year 2000 have not been in filter axis or inside function TopCount, OLAP server discovered Top 10 cities for entire time period in our data base and after that according to our request (Year 2000 in columns) OLAP displayed what was happening with those 10 cities in Year 2000 and their results.

That happened because OLAP looks first if required result set is reduced with some elements inside filter (slicer) axis. After that it will go to see if inside function we have specified anything else except measure (we can not do that inside our designer).

External (Set or Axis) functions

Axis function is:

- Function that is always applied on the whole data set on a single axis (rows or columns),

Once applied, you can add new elements (levels or members) from already existing dimension inside axis or elements from new dimensions to the axis.

Those new elements will be added, always inside function.

List of functions that are supported in designer:

CubePlayer Functions	MDX Functions used to create CubePlayer Functions
Best N	Equivalent to TopCount
Best in Sum	Equivalent to TopSum
Best in Percent	Equivalent to TopPercent
Worst N	Equivalent to BottomCount
Worst in Sum	Equivalent to BottomSum
Worst in Percent	Equivalent to BottomPercent
Order	Equivalent to Order
Order by Alphabet	Combination of Order function and order conditions
Order by Hierarchy	Equivalent to Hierachize
Filter	Equivalent to Filter
Remove member(s)	Combination of Filter (and NOT members ...)
First N	Equivalent to Head
Last N	Equivalent to Tail
Contribution	Special syntax
For each from previous dimension	Equivalent to Generate
Without empties	Equivalent to NonEmpty

Whenever external function is applied in to rows or columns CubePlayer will notify you:

- If function is not applied icon will be
- If function is applied icon will be



Example:

Axis functions

Axis functions are always applied to entire axis regardless of number of dimension-hierarchies at that axis.

Example We have level State Province on Columns
 We will apply TopCount 100 on entire axis

```
SELECT
NON EMPTY
TopCount
(
    {
        [Customer].[hCountry].[State Province].MEMBERS
    }
    ,100, [Measures].[Store Sales]
)
ON AXIS(0)
FROM
    [Sales]
```

Now when we add another dimension/hierarchy, let us say Product Family it will come inside function or better to say function will be applied after CrossJoin:

```
SELECT
NON EMPTY
TopCount
(
    CrossJoin
    (
        {
            [Customer].[hCountry].[State Province].MEMBERS
        },
        {
            [Product].[hProduct].[Product Family].MEMBERS
        }
    )
    ,100, [Measures].[Store Sales]
)
ON AXIS(0)
FROM
    [Sales]
```

The same will be when we add third dimension:

```
SELECT
NON EMPTY
TopCount
(
    CrossJoin
    (
        CrossJoin
        (
            {
                [Customer].[hCountry].[State Province].MEMBERS
            },
            {
                [Product].[hProduct].[Product Family].MEMBERS
            }
        ),
        {
            [Store].[hStoreType].[Store Type].MEMBERS
        }
    )
    ,100, [Measures].[Store Sales]
)
ON AXIS(0)
FROM
    [Sales]
```

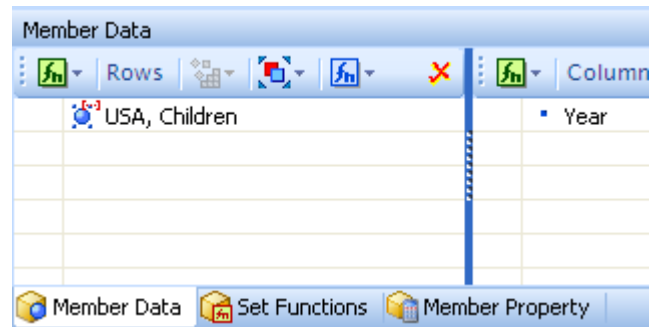
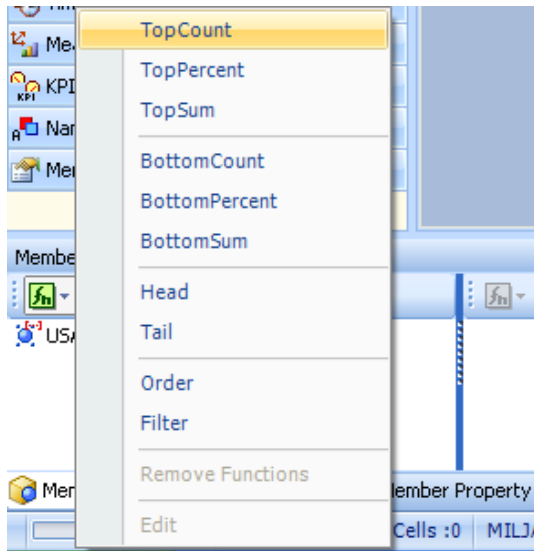
Apply external function

There are two ways how to apply External function:

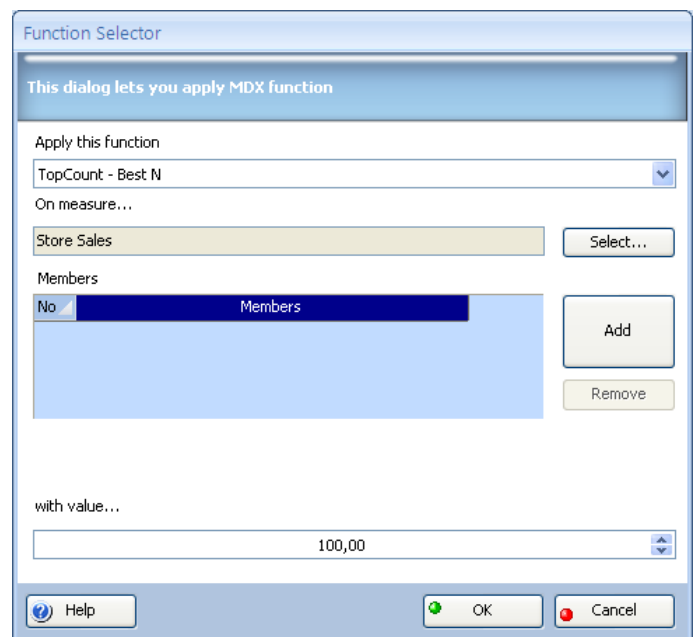
- Directly at **row** or **column** data area
- Switching to tab **Set Functions** and selecting row or column functions

To use **direct** method:

- Fill **row** or **column** data area with cube elements
- Select icon **Functions** in title area
- Select **function** from menu

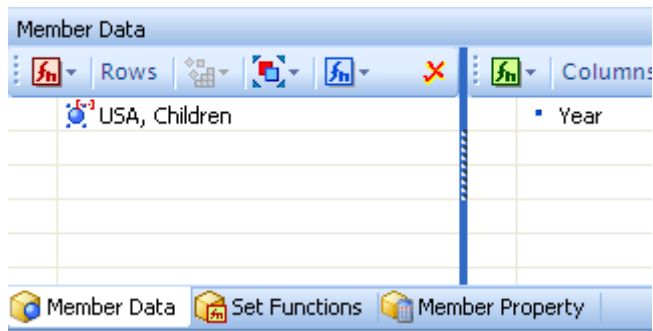


Dialog will appear:



- Select **Function** from the drop down list if you did not already select right one
- Select **measure** to apply the function from drop down list
- Select **value** (if applicable)
- Select **Accept**

This way created **function** will be applied to set (**row set in this case**) regardless how much you change elements inside row axis. **It will be applied until you remove it from designer or until axis is cleared.**

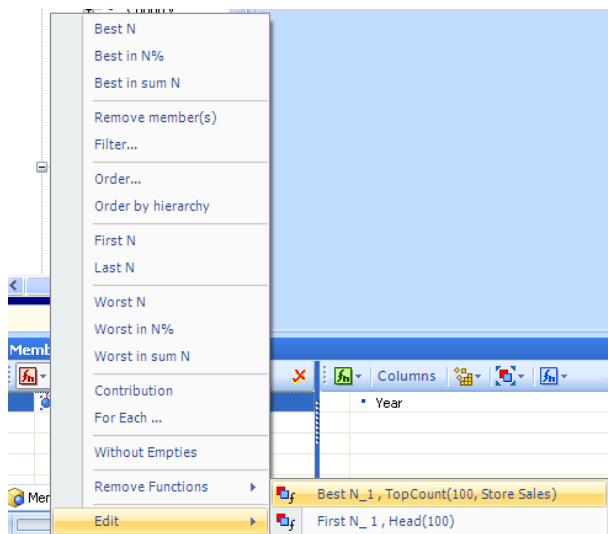


Whenever you save designer you will save function also.

Edit or delete external function

To edit or delete external function:

- Select External **Functions** icon
- Select **Edit** or **Remove**
- Select **Function** from the list





Dimension functions

Dimension function is:

- MDX function that is always applied to all elements from single dimension(hierarchy) within set on a single axis (row or column),

List of functions that are supported in designer:

CubePlayer Functions	MDX Functions used to create CubePlayer Functions
Best N	Equivalent to TopCount
Best in Sum	Equivalent to TopSum
Best in Percent	Equivalent to TopPercent
Worst N	Equivalent to BottomCount
Worst in Sum	Equivalent to BottomSum
Worst in Percent	Equivalent to BottomPercent
Order	Equivalent to Order
Order by Alphabet	Combination of Order function and order conditions
Order by Hierarchy	Equivalent to Hierachize
Filter	Equivalent to Filter
Remove member(s)	Combination of Filter (and NOT members ...)
First N	Equivalent to Head
Last N	Equivalent to Tail
Without empties	Equivalent to NonEmpty
Show Visual Totals	Equivalent to VisualTotals
Parallel Time Members	Implementation of generate and ParallelPeriods
DrillD Down Level	Implementations of Generate to select level

On each axis, once dimension function is applied icon will change color from default  to red .

This way you will always be notified about the function presence.

Dimension functions

Dimension functions will always be applied around one dimension/hierarchy.

Example We have level State Province on Columns

We will apply TopCount 100 on entire axis

```
SELECT
NON EMPTY
TopCount
(
    {
        [Customer].[hCountry].[State Province].MEMBERS
    }
    ,100, [Measures].[Store Sales]
)
ON AXIS(0)
FROM
    [Sales]
```

At this point Axis function and Dimension function are the same since they are applied on only one dimension.

Let us add another dimension/hierarchy Product Family

```
SELECT
NON EMPTY
CrossJoin
(
    TopCount
    (
        {
            [Customer].[hCountry].[State Province].MEMBERS
        }
        ,100,
        [Measures].[Store Sales]
    )
    ,
    {
        [Product].[hProduct].[Product Family].MEMBERS
    }
)
ON AXIS(0)
FROM
    [Sales]
```

As you can see TopCount is now inside CrossJoin applied only on dimension Customer.


Let us add another member or level from dimension Customer. In our case Member USA

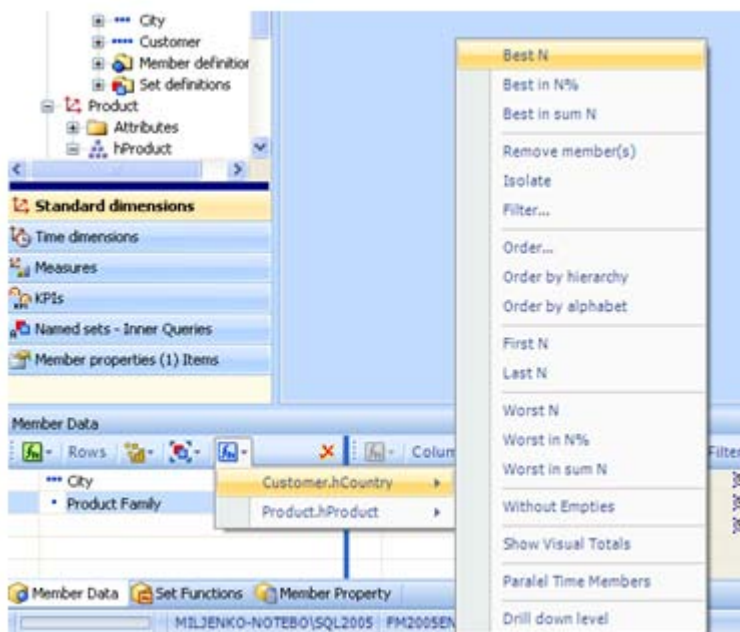
```
SELECT
NON EMPTY
CrossJoin
(
    TopCount
    (
        {
            [Customer].[hCountry].[State Province].MEMBERS ,
            [Customer].[hCountry].[Country].&[USA]
        }
        ,100,
        [Measures].[Store Sales]
    )
    ,
    {
        [Product].[hProduct].[Product Family].MEMBERS
    }
)
ON AXIS(0)
FROM
    [Sales]
```

Since TopCount is applied to dimension Customer, member from dimension Customer is placed inside TopCount function, therefore TopCount function will have influence to that member as well.

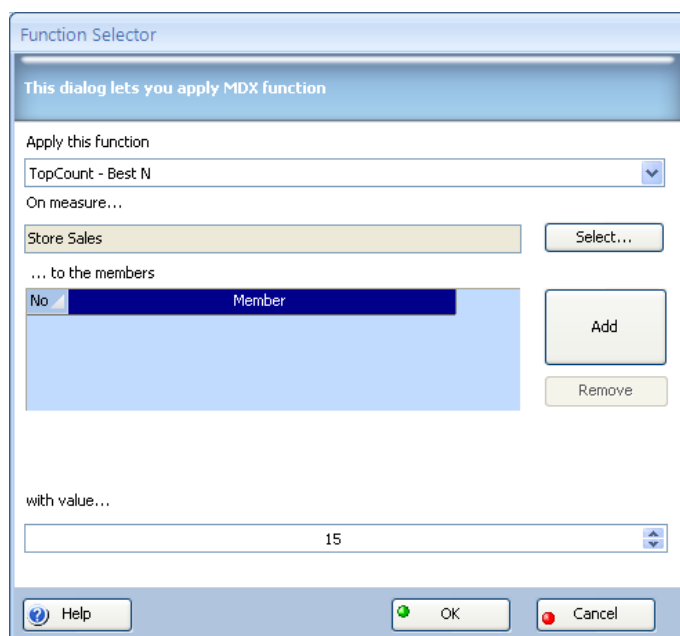
Apply dimension function

To apply dimension function:

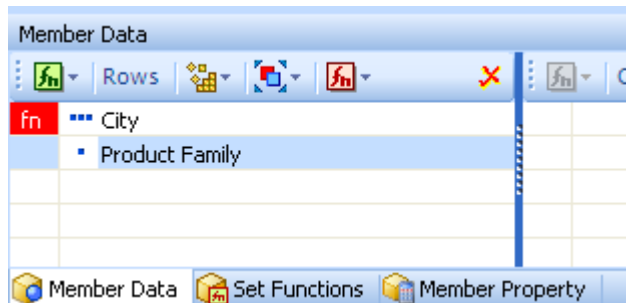
- Fill **row** or **column** data area with cube elements
- Select icon  **Functions** inside title area
- Select **function** from menu
- Select (if more then one) dimension to apply function



Dialog will appear:




- Select **Function** from the drop down list if you changed your mind
- Select **measure** to apply the function from drop down list
- Select **value**
- Select **Accept**

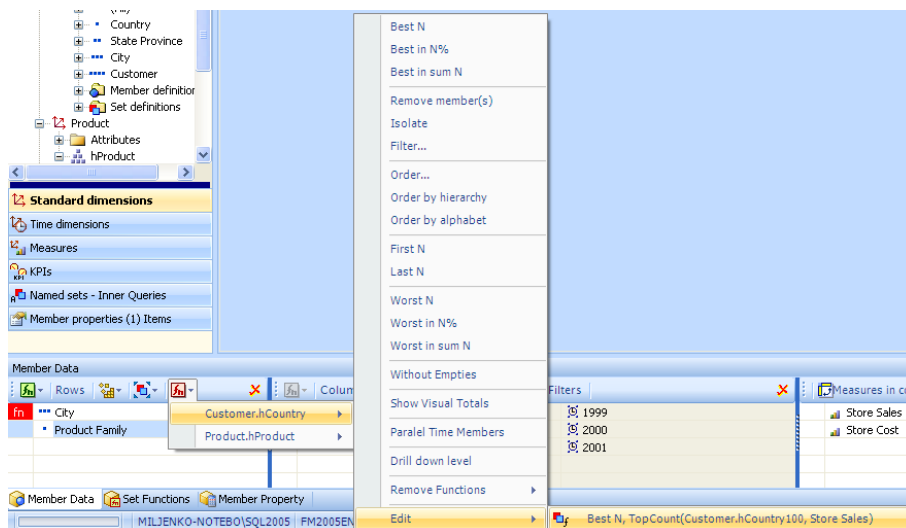


Whenever you save designer you will also save function.

Edit and delete dimension function

To edit Dimension function:

- Select **Dimension Functions** icon (now is red) 
- Select **Dimension** from menu
- Select **Edit** and function



Dialog will appear.

Inner (element) functions

Inner function is:

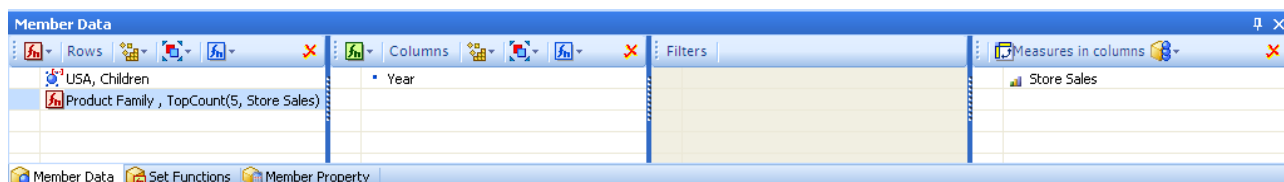
- Function that is always applied to a single item (element) within axis.

List of functions that are supported in designer:

CubePlayer Functions	MDX Functions used to create CubePlayer Functions
Best N	Equivalent to TopCount
Best in Sum	Equivalent to TopSum
Best in Percent	Equivalent to TopPercent
Worst N	Equivalent to BottomCount
Worst in Sum	Equivalent to BottomSum
Worst in Percent	Equivalent to BottomPercent
Order	Equivalent to Order
Order by Alphabet	Combination of Order function and order conditions
Order by Hierarchy	Equivalent to Hierachize
Filter	Equivalent to Filter
Remove member(s)	Combination of Filter (and NOT members ...)
First N	Equivalent to Head
Last N	Equivalent to Tail
Without empties	Equivalent to NonEmpty
DrillD Down Level	Implementations of Generate to select level

Whenever inner function is applied to the rows or columns element, CubePlayer will notify you:

- Standard element function will be turned into the



Element functions

Element functions will always be applied to single element.

Example We have level State Province on Columns
 We will apply TopCount 100 on entire axis

```

SELECT
NON EMPTY
TopCount
(
{
[Customer].[hCountry].[State Province].MEMBERS
}
,100, [Measures].[Store Sales]
)
ON AXIS(0)
FROM
[Sales]

```

At this point Axis function, Dimension functions and element functions are the same since they are applied on only one dimension.

Let us add another element from another dimension/hierarchy

```

SELECT
NON EMPTY
CrossJoin
(
{
TopCount
(
{
[Customer].[hCountry].[State Province].MEMBERS
}
,100, [Measures].[Store Sales]
)
},
{
[Product].[hProduct].[Product Family].MEMBERS
}
)
ON AXIS(0)
FROM
[Sales]

```

At this point Dimension functions and Element functions are the same since they are only one element from each dimension.

Now we will make difference. We will add another element from Customer dimension, USA again

```

SELECT
NON EMPTY
CrossJoin
(
{
TopCount
(
{
[Customer].[hCountry].[State Province].MEMBERS
}
,100, [Measures].[Store Sales]
)
},
{
[Customer].[hCountry].[Country].&[USA]
},
{
[Product].[hProduct].[Product Family].MEMBERS
}
)
ON AXIS(0)
FROM
[Sales]

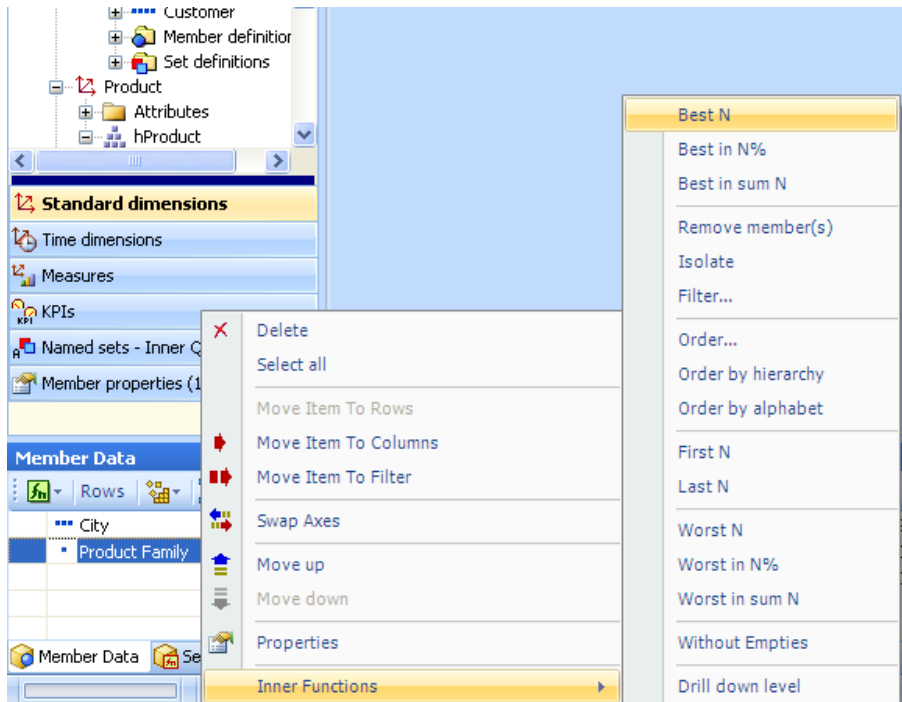
```

As you can see Element function remains applied on element from beginning, other words on only one element.

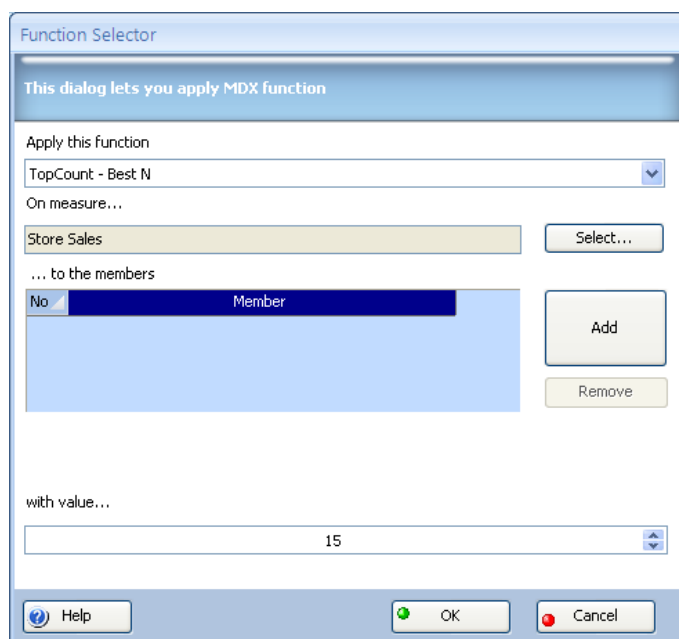
Apply inner function

To apply inner function:

- Select level or member with applied children or descendants function
- Right click
- Select **Inner functions** from menu
- Select **one** of the **functions** from submenu (**TopCount**)

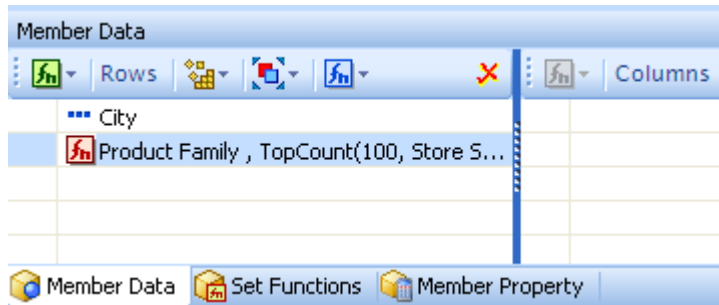


Dialog will appear:



Now decide:

- If you want to change function, change it
- Which **measure** to use
- Rest of conditions if exist
- Select **OK**



New element will be created.

If you do not need original element from which we created new one, you can remove it from area.

You can apply new function to newly created element, as many as you need.

You can apply functions to other elements regardless dimension that are coming from.

CubePlayer does not set any restrictions regarding number of functions applied.

Whenever you save designer you will save functions also.

Edit and delete inner function

There is no way to edit inner function. Therefore you have to:

- Delete element
- Add element once again
- Define function once again

To delete Inner function you have to delete element itself:

- Select **element with function applied**
- Right click
- Select **Delete** from menu

MDX functions

CubePlayer allows you to use wide number of MDX functions inside MDX Designer:

Functions that you can apply are:

CubePlayer Functions	MDX Functions used to create CubePlayer Functions
Best N	Equivalent to TopCount
Best in Sum	Equivalent to TopSum
Best in Percent	Equivalent to TopPercent
Worst N	Equivalent to BottomCount
Worst in Sum	Equivalent to BottomSum
Worst in Percent	Equivalent to BottomPercent
Order	Equivalent to Order
Order by Alphabet	Combination of Order function and order conditions
Order by Hierarchy	Equivalent to Hierachize
Filter	Equivalent to Filter
Remove member(s)	Combination of Filter (and NOT members ...)
First N	Equivalent to Head
Last N	Equivalent to Tail
Contribution	Special syntax
For each from previous dimension	Equivalent to Generate
Without empties	Equivalent to NonEmpty
Show Visual Totals	Equivalent to VisualTotals
Parallel Time Members	Implementation of generate and ParallelPeriods
DrillD Down Level	Implementations of Generate to select level

Availability of CubePlayer functions according to axis where applied:

MDX Functions	CubePlayer names and functions	Row Axis	Column Axis
TopCount	Best N	Yes	Yes
TopSum	Best in Sum	Yes	Yes
TopPercent	Best in Percent	Yes	Yes
BottomCount	Worst N	Yes	Yes
BottomSum	Worst in Sum	Yes	Yes
BottomPercent	Worst in Percent	Yes	Yes
Order	Order	Yes	Yes
	Order by Alphabet	Yes	Yes
Hierachize	Order by Hierarchy	Yes	Yes
Filter	Filter	Yes	Yes
Filter (and NOT members ...)	Remove member(s)	Yes	Yes
Head	First N	Yes	Yes
Tail	Last N	Yes	Yes
	Contribution	Yes	No
Generate	For each from previous dimension	Yes	Yes
NonEmpty	Without empties	Yes	Yes
VisualTotals	Show Visual Totals	Yes	Yes
Implementation of generate and ParallelPeriods	Parallel Time Members	Yes	Yes
Drill Down Level	DrillID Down Level	Yes	Yes

Availability of CubePlayer functions according to three internal types:

MDX Functions	CubePlayer names and functions	Axis Functions	Dimension Functions	Element Functions
TopCount	Best N	Yes	Yes	Yes
TopSum	Best in Sum	Yes	Yes	Yes
TopPercent	Best in Percent	Yes	Yes	Yes
BottomCount	Worst N	Yes	Yes	Yes
BottomSum	Worst in Sum	Yes	Yes	Yes
BottomPercent	Worst in Percent	Yes	Yes	Yes
Order	Order	Yes	Yes	Yes
	Order by Alphabet	No	Yes	Yes
Hierachize	Order by Hierarchy	Yes	Yes	Yes
Filter	Filter	Yes	Yes	Yes
Filter (and NOT members ...)	Remove member(s)	Yes	Yes	Yes
Head	First N	Yes	Yes	Yes
Tail	Last N	Yes	Yes	Yes
	Contribution	Yes	No	No
Generate	For each from previous dim.	Yes	No	No

Best N – implementation of TopCount function

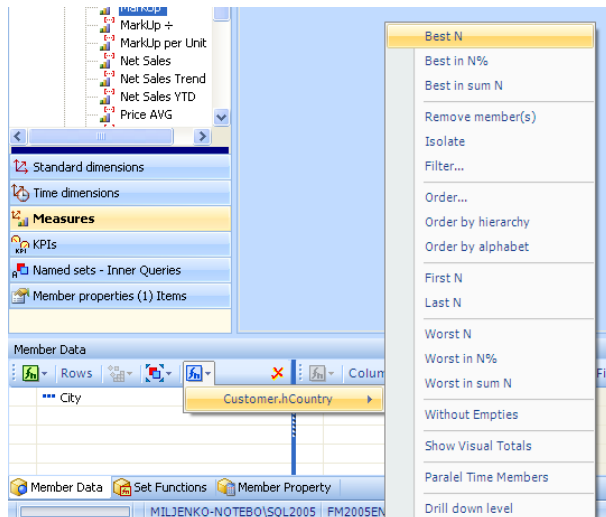
Sorts a set in descending order and returns the specified number of elements with the highest values.

To select Best 10 members from level City (belongs to hierarchy Customer.hCountry) measured by measure MarkUp:

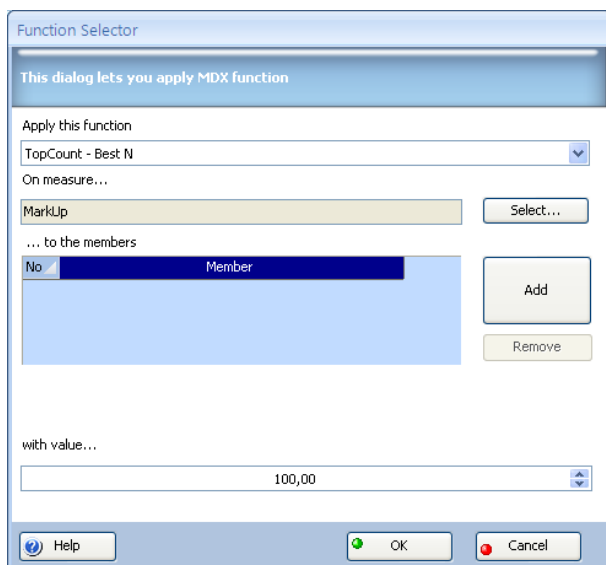
- Place level City in Row area
- Place measure MarkUp in Data area
- Select Dimension Function for hierarchy Customer.hCountry
- Select function Best N

NOTE: When you have only one dimension on axis it is absolutely the same if you use Axis, Dimension or Element function.

However, whenever possible use Dimension functions.



Dialog will appear:



Since Markup is first measure in measure area, dialog will pick it up.

In case you need to change measure to another one:

- click on button Select

On measure...

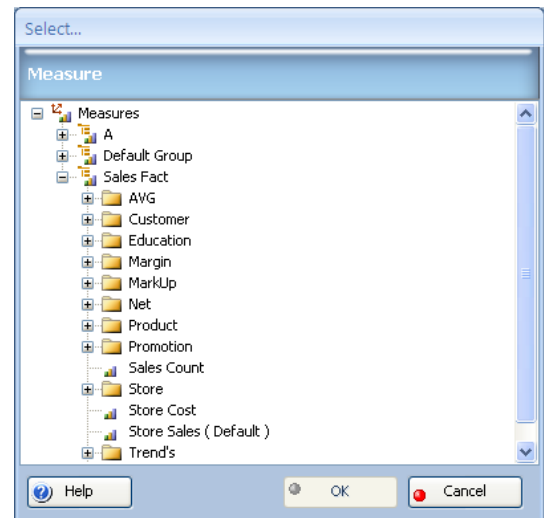
Markup

Select...

... to the members

and within new dialog

- select another measure



Now set new value:

- Replace value 100 with 10

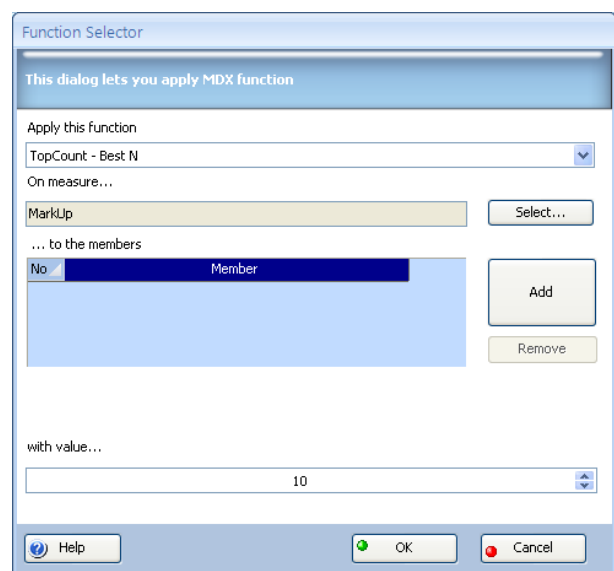
with value...

100,00

Dialog has new values:

- Select OK

Table	
Customer.hCountry	Markup
Everett	13,177,742.70
Richmond	11,585,162.47
Torrance	7,390,555.82
Beverly Hills	6,932,023.72
Royal Oak	6,909,968.16
N. Vancouver	6,909,753.21
Anacortes	6,860,471.40
Pomona	6,796,288.27
Tacoma	6,750,912.95
Tixapan	6,729,888.19



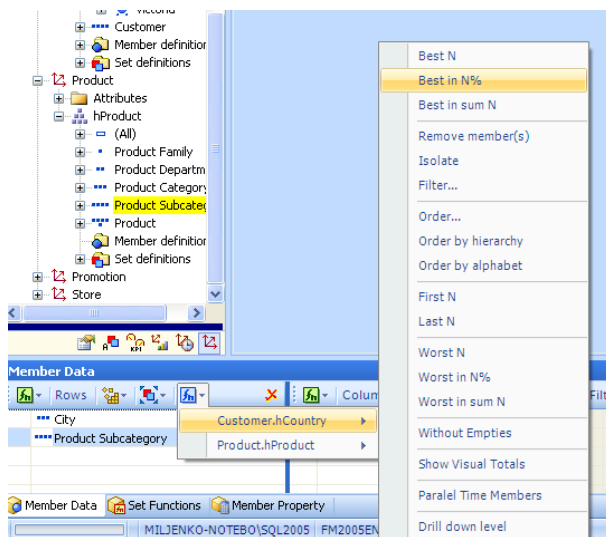
Best in N% - implementation of TopPercent function

Sorts a set in descending order, and returns a set of tuples with the highest values whose cumulative total is equal to or greater than a specified percentage.

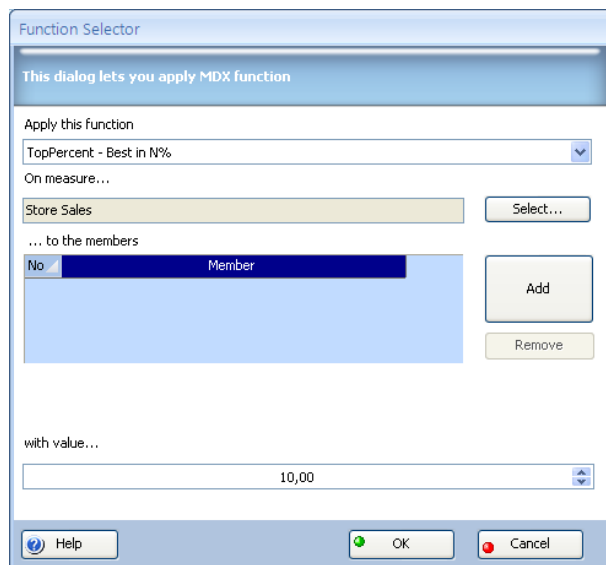
To select Best in 8% members from level City (belongs to hierarchy Customer.hCountry) measured by measure MarkUp:

- Place level City in Row area
- Place measure MarkUp in Data area
- Select Dimension Function for hierarchy Customer.hCountry
- Select function Best in N%

NOTE: When you have only one dimension on axis it is absolutely the same if you use Axis, Dimension or Element function.
However, whenever possible use Dimension functions.



Dialog will appear:



Since Markup is first measure in measure area, dialog will pick it up.

In case you need to change measure to another one:

- click on button Select

On measure...

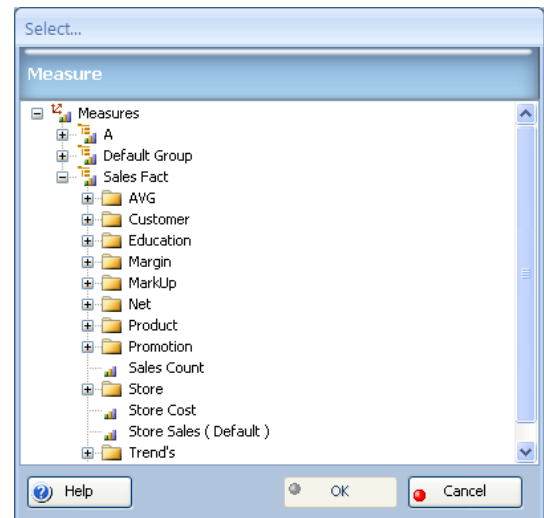
Markup

Select...

... to the members

and within new dialog

- select another measure



Now set new value:

- Replace value 10% with 8%

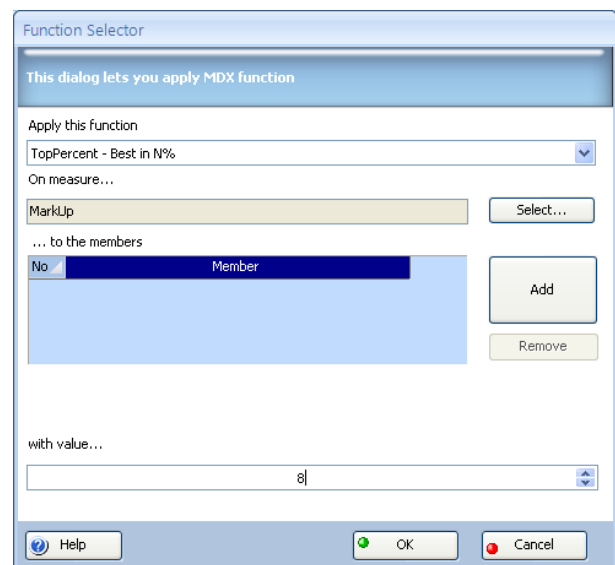
with value...

10,00

Dialog has new values:

- Select OK
- Run query

Table	
Customer.hCountry	Markup
Everett	13,177,742.70
Richmond	11,585,162.47
Torrance	7,390,555.82
Beverly Hills	6,932,023.72
Royal Oak	6,909,968.16
N. Vancouver	6,909,753.21
Sums	52,905,206,09



As you can see there are six (6) members whose cumulative total is equal to or greater than 8%.

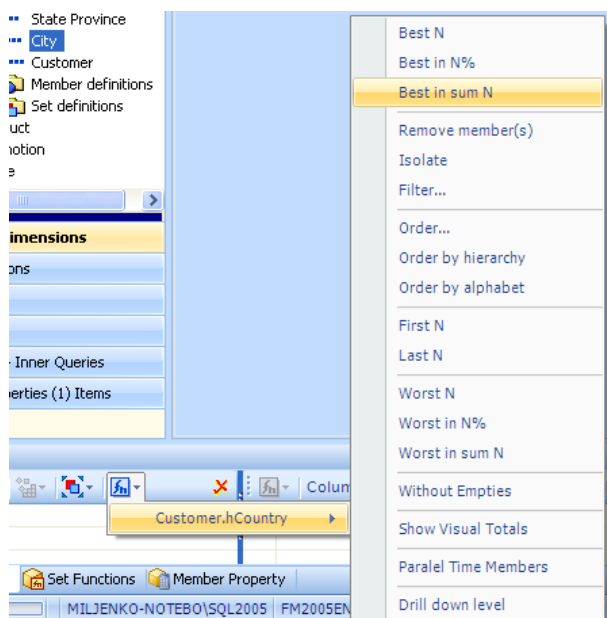
Best in sum of N – implementation of TopSum function

Sorts a set in descending order, and returns a set of tuples with the highest values whose cumulative total is equal to or greater than a specified value.

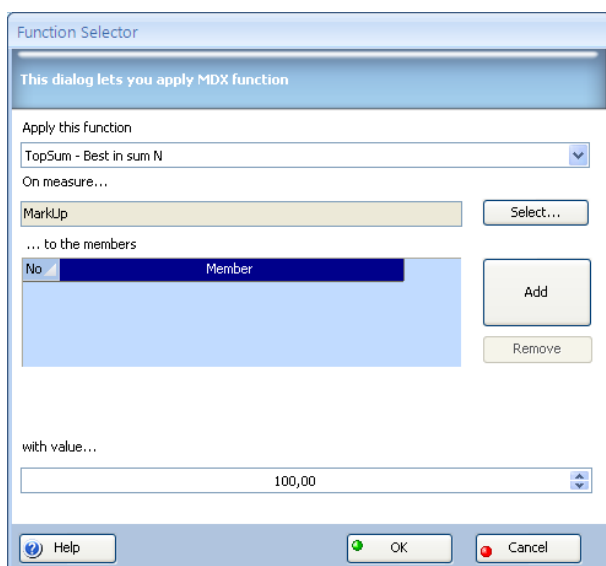
To select Best in sum that their cumulative value is greater or equal to 40.000.000 on the level City (belongs to hierarchy Customer.hCountry) measured by measure MarkUp:

- Place level City in Row area
- Place measure MarkUp in Data area
- Select Dimension Function for hierarchy Customer.hCountry
- Select function Best in sum N

NOTE: When you have only one dimension on axis it is absolutely the same if you use Axis, Dimension or Element function. However, whenever possible use Dimension functions.



Dialog will appear:



Since Markup is first measure in measure area, dialog will pick it up.

In case you need to change measure to another one:

- click on button Select

On measure...

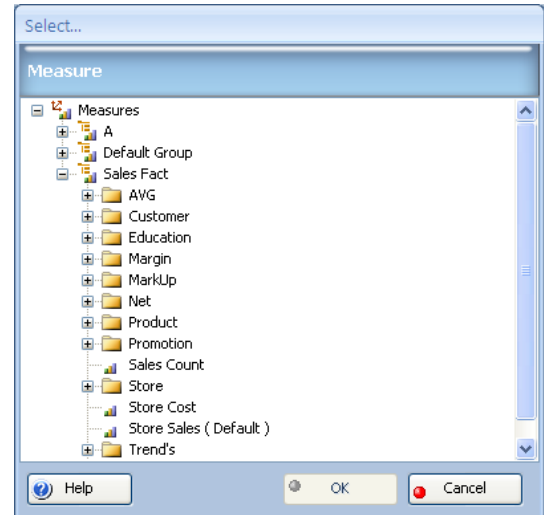
Markup

Select...

... to the members

and within new dialog

- select another measure



Now set new value:

- Replace value 100 with 40.000.000

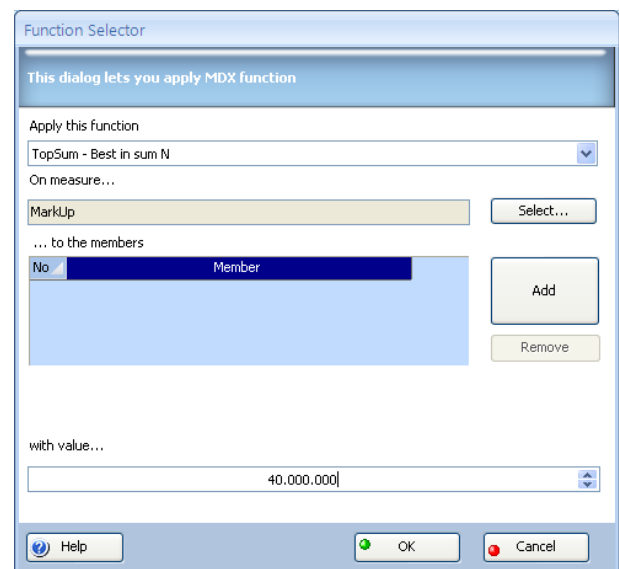
with value...

100,00

Dialog has new values:

- Select OK
- Run query

Table	
Customer.hCountry	Markup
Everett	13.177.742,70
Richmond	11.585.162,47
Torrance	7.390.555,82
Beverly Hills	6.932.023,72
Royal Oak	6.909.968,16
Sums	45.995.452,87



As you can see there are five (5) members whose cumulative total is equal to or greater than 40.000.000.

Remove – implementation of Filter function

Removes selected members, leaving not selected members on the result set.

There are two ways to remove member(s):

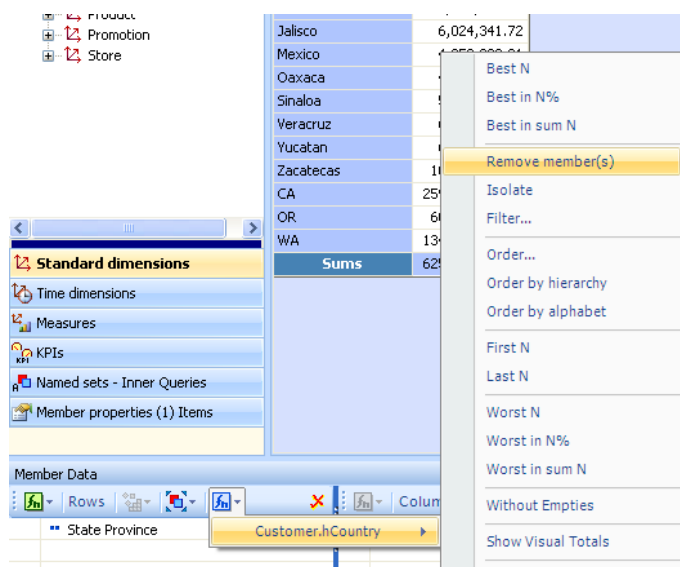
- Standard, using initializing function from row/column area toolbar or
- Fast way, directly on result table if available

STANDARD

We will try to remove Guerrero and Oaxaca from level State Province
(belongs to hierarchy Customer.hCountry) :

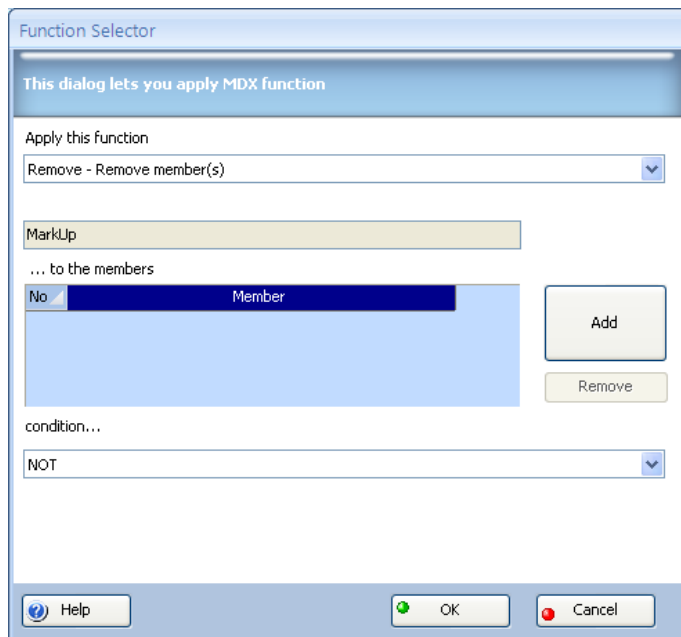
- Place level State Province in Row area
- Place measure Markup in Data area
- Select Dimension Function for hierarchy Customer.hCountry
- Select function Remove

NOTE: When you have only one dimension on axis it is absolutely the same if you use Axis, Dimension or Element function. However, whenever possible use Dimension functions.



Dialog will appear:

Table	
Customer.hCountry	Markup
BC	99,102,939.23
DF	21,545,216.99
Guerrero	5,477,696.92
Jalisco	6,024,341.72
Mexico	4,353,829.31
Oaxaca	4,523,733.08
Sinaloa	5,234,606.62
Veracruz	6,316,815.90
Yucatan	6,375,787.40
Zacatecas	10,828,194.54
CA	259,669,458.55
OR	60,852,327.08
WA	134,966,038.00
Sums	625,270,985.34

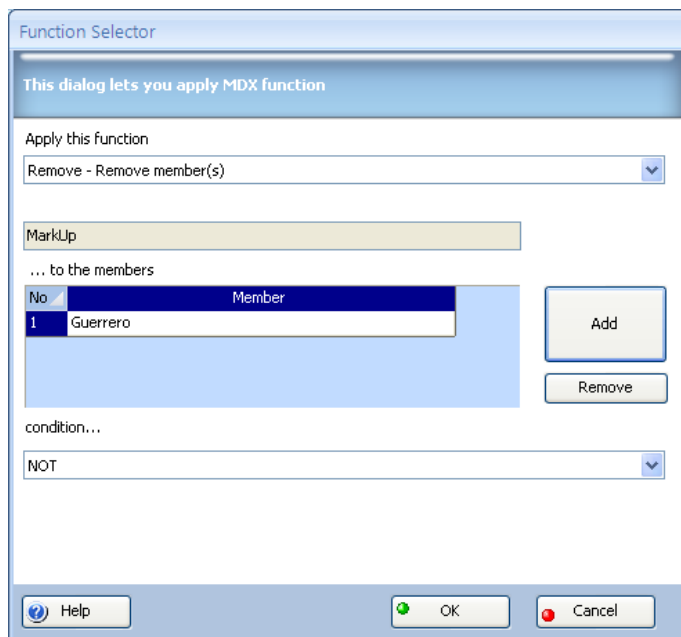


Use button Add to select members you want to exclude from result set, in our case Oaxaca and Guerrero.

Select them one by one.

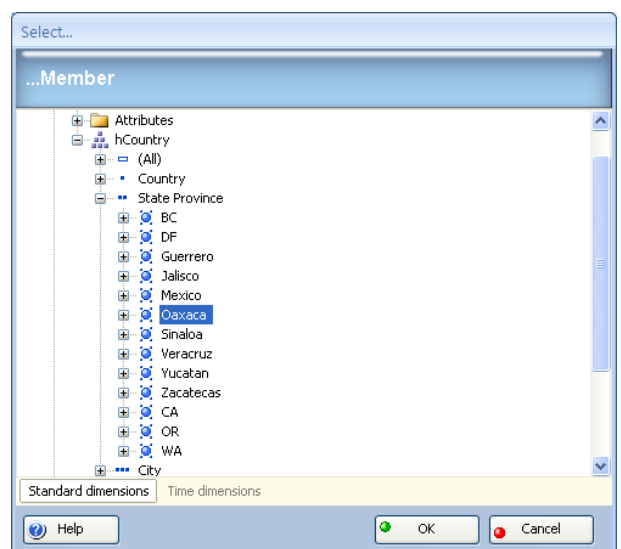
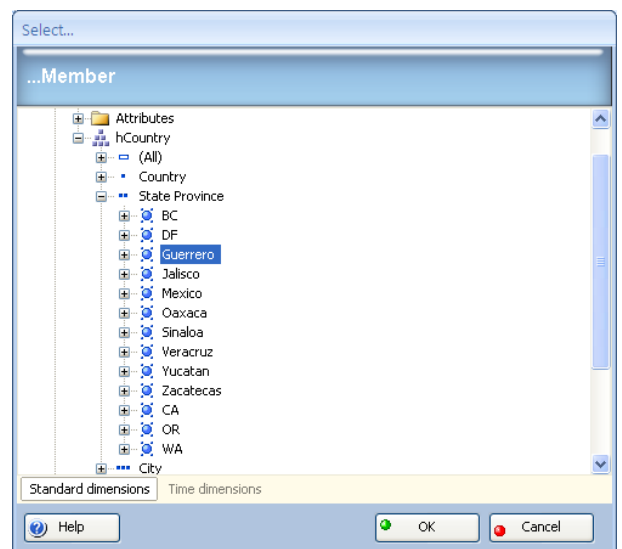
- Guerrero first

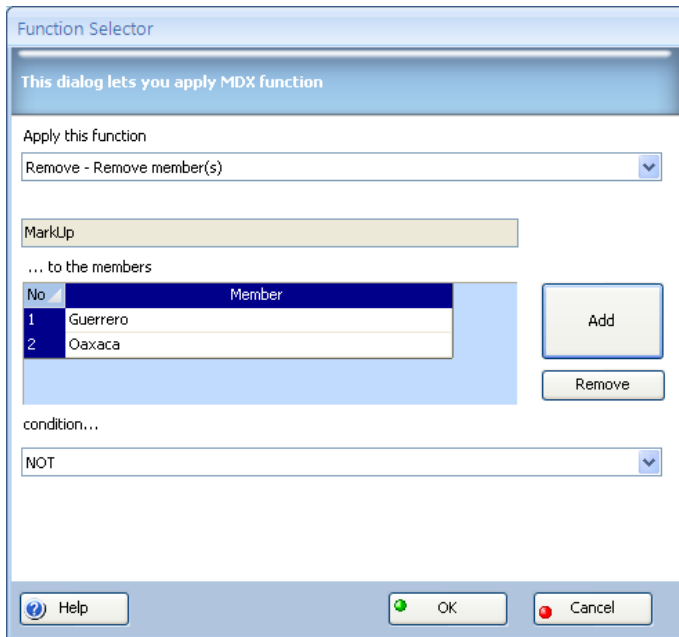
It will be added to the list:



- Select Add
- Oaxaca second

Dialog has new values:





- Select OK
- Run query

As you can see Oaxaca and Guerrero are not longer within result set.

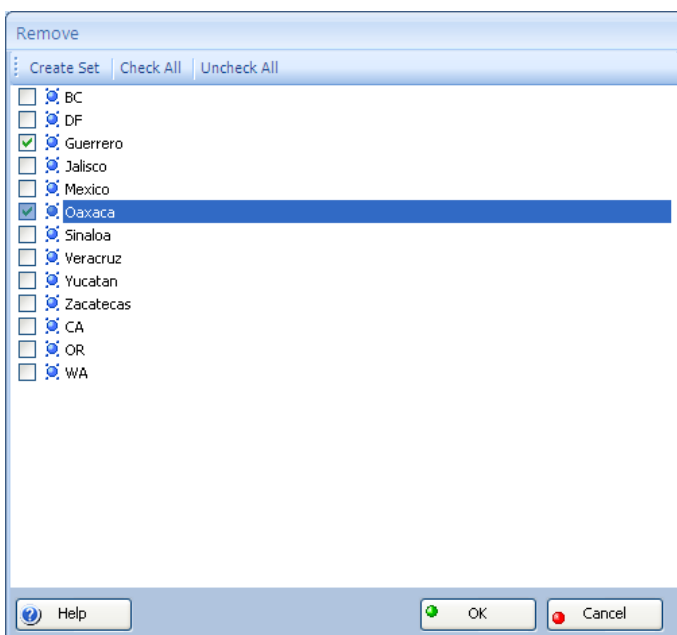
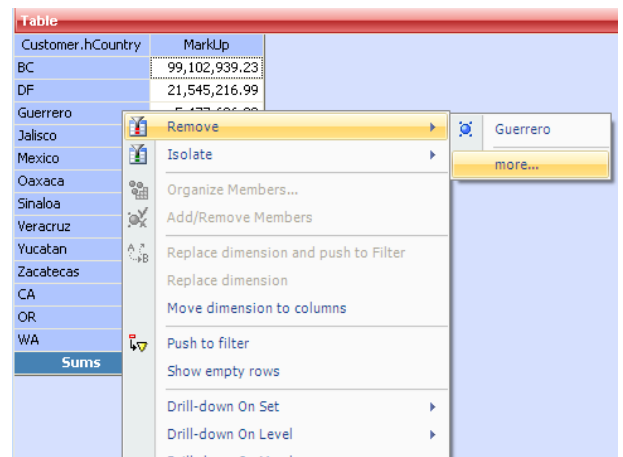
FAST

To use fast way in designer, if result table is available (there was at least one execution):

- right click over member you want to remove
- select Remove
- select More

Dialog will appear:

- Check all members you want to exclude.
- Select OK
- Select Run



Results are the same:

Table	
Customer.hCountry	MarkUp
BC	99,102,939.23
DF	21,545,216.99
Jalisco	6,024,341.72
Mexico	4,353,829.31
Sinaloa	5,234,606.62
Veracruz	6,316,815.90
Yucatan	6,375,787.40
Zacatecas	10,828,194.54
CA	259,669,458.55
OR	60,852,327.08
WA	134,966,038.00
Sums	615.269.555,34

Isolate – implementation of Filter function

Isolate selected members and removes NOT selected members from the set.

There are two ways to remove member(s):

- Standard, initializing function from row/column area toolbar or
- Fast way, directly on result table if available

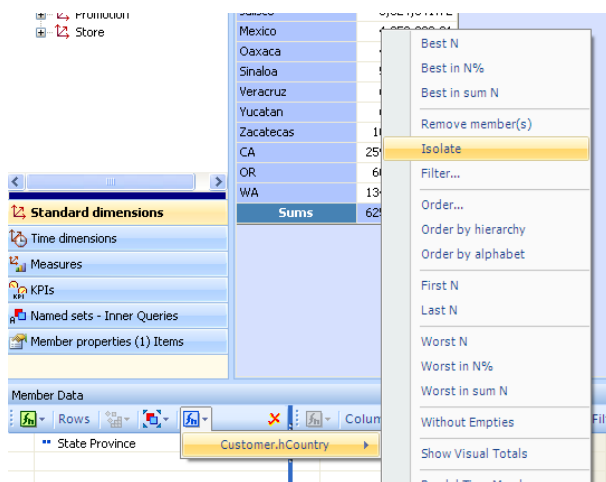
STANDARD

We will try to isolate Guerrero and Oaxaca from level State Province (belongs to hierarchy Customer.hCountry) :

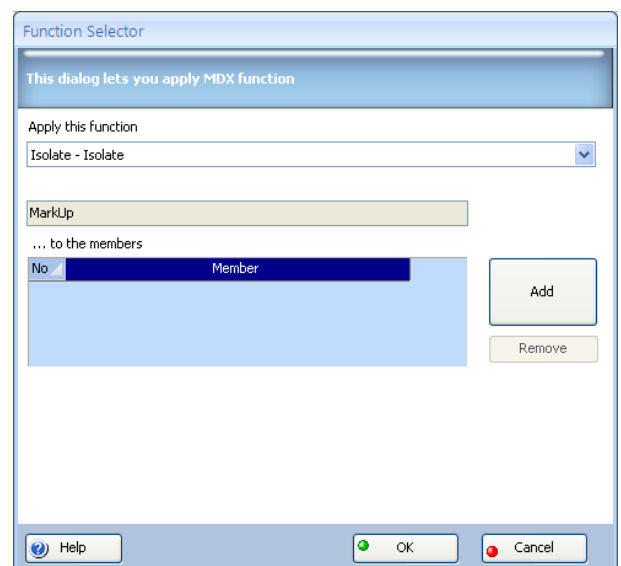
- Place level State Province in Row area
- Place measure MarkUp in Data area
- Select Dimension Function for hierarchy Customer.hCountry
- Select function Isolate

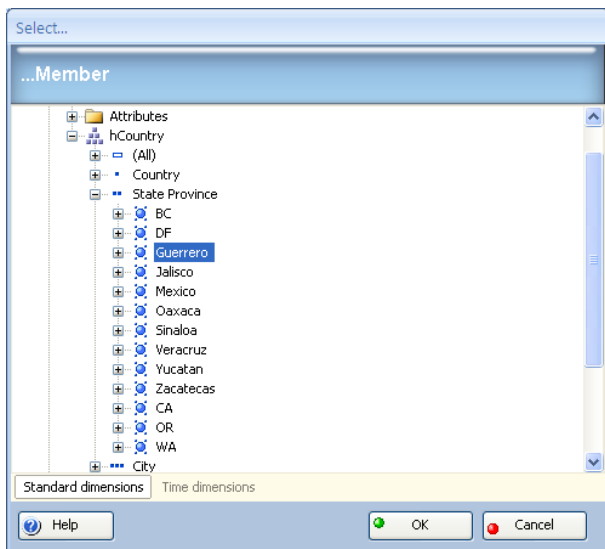
NOTE: When you have only one dimension on axis it is absolutely the same if you use Axis, Dimension or Element function. However, whenever possible use Dimension functions.

Table	
Customer.hCountry	MarkUp
BC	99,102,939.23
DF	21,545,216.99
Guerrero	5,477,696.92
Jalisco	6,024,341.72
Mexico	4,353,829.31
Oaxaca	4,523,733.08
Sinaloa	5,234,606.62
Veracruz	6,316,815.90
Yucatan	6,375,787.40
Zacatecas	10,828,194.54
CA	259,669,458.55
OR	60,852,327.08
WA	134,966,038.00
Sums	625,270,985.34



Dialog will appear:



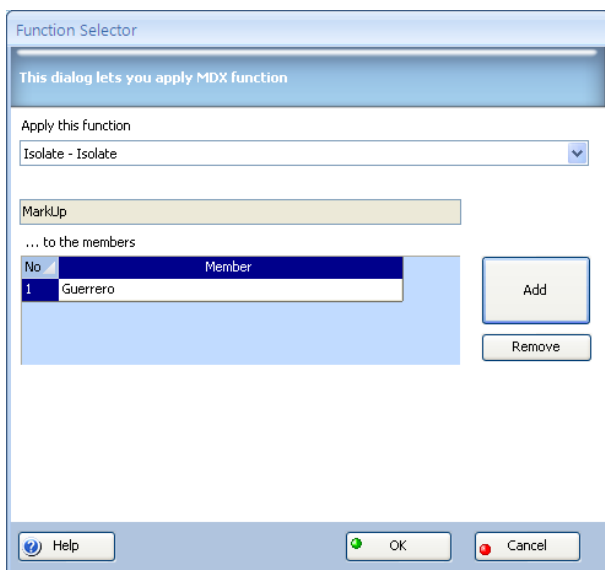
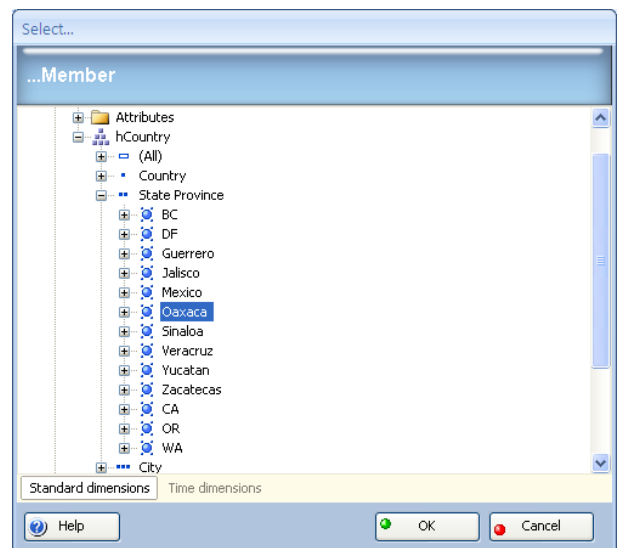


Use button Add to select members you want to exclude from result set, in our case Oaxaca and Guerrero.

Select them one by one.

- Guerrero first

It will be added to the list:



- Select Add
- Oaxaca second

Dialog has new values

- Select OK
- Run query

As you can see Oaxaca and Guerrero remain on the result set.

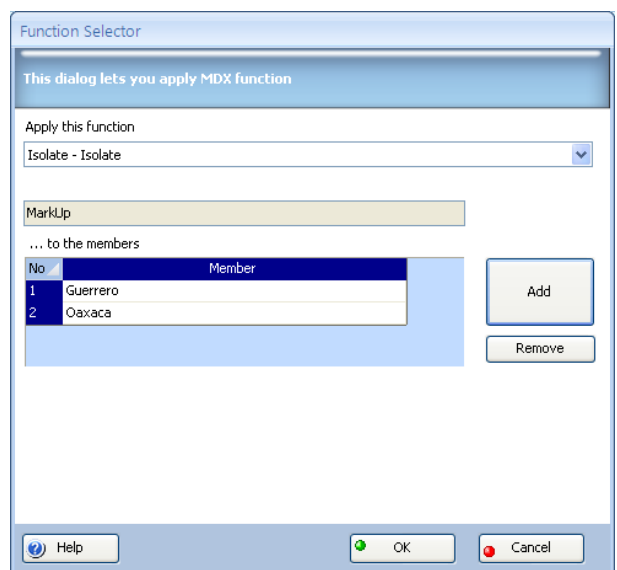
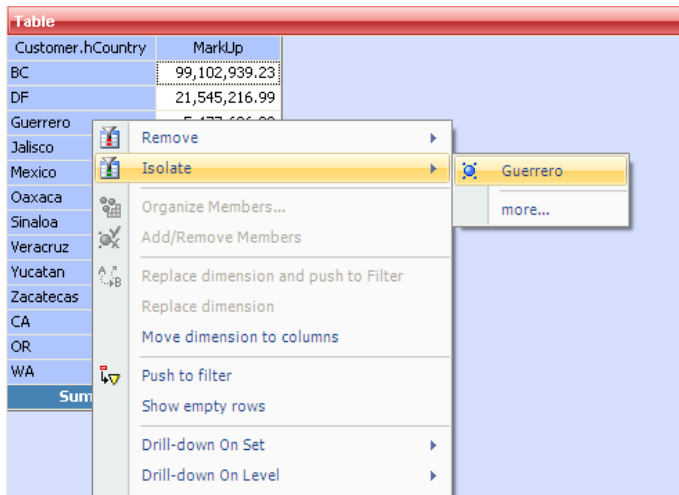


Table	
Customer.hCountry	Markup
Guerrero	5,477,696.92
Oaxaca	4,523,733.08
Sums	10.001.430,00

FAST

To use fast way in designer, if result table is available (there was at least one execution):

- right click over member you want to isolate
- select Isolate
- select More



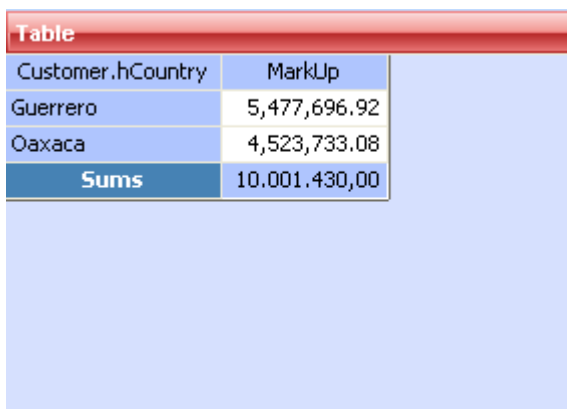
The screenshot shows a table with two columns: 'Customer.hCountry' and 'MarkUp'. The rows are BC, DF, Guerrero, Jalisco, Mexico, Oaxaca, Sinaloa, Veracruz, Yucatan, Zacatecas, CA, OR, WA, and a 'Sum' row. A right-click context menu is open over the 'Guerrero' row. The menu options are: Remove, Isolate, Organize Members..., Add/Remove Members, Replace dimension and push to Filter, Replace dimension, Move dimension to columns, Push to filter, Show empty rows, Drill-down On Set, and Drill-down On Level. The 'Isolate' option is highlighted, and a sub-menu is open showing 'Guerrero' and 'more...'.

Customer.hCountry	MarkUp
BC	99,102,939.23
DF	21,545,216.99
Guerrero	5,477,696.92
Jalisco	
Mexico	
Oaxaca	
Sinaloa	
Veracruz	
Yucatan	
Zacatecas	
CA	
OR	
WA	
Sum	

Dialog will appear:

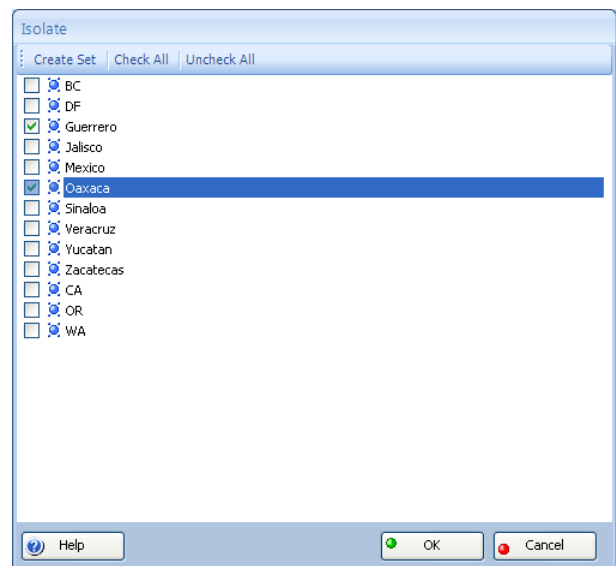
- Check all members you want to preserve on the result set.
- Select OK
- Select Run

Results are:



The screenshot shows the resulting table after isolation. It has two columns: 'Customer.hCountry' and 'MarkUp'. The rows are Guerrero, Oaxaca, and a 'Sums' row. The 'Guerrero' row has a value of 5,477,696.92, and the 'Oaxaca' row has a value of 4,523,733.08. The 'Sums' row has a value of 10,001,430.00.

Customer.hCountry	MarkUp
Guerrero	5,477,696.92
Oaxaca	4,523,733.08
Sums	10,001,430,00



Order

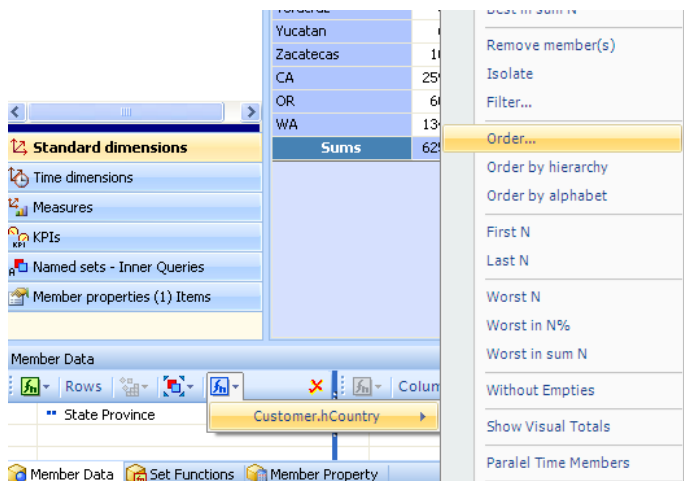
Arranges members of a specified set, optionally preserving or breaking the hierarchy.

We will try to order members by Markup in descending order:

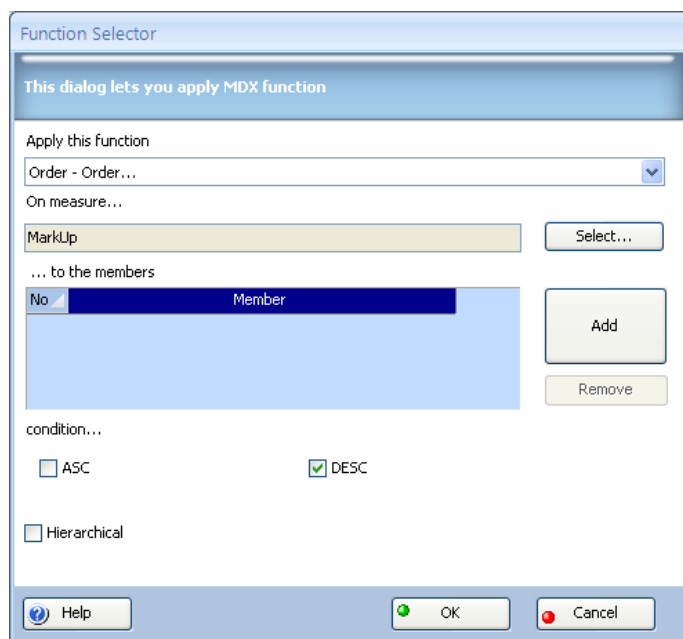
- Place level State Province in Row area
- Place measure Markup in Data area
- Select Dimension Function for hierarchy Customer.hCountry
- Select function Filter

NOTE: When you have only one dimension on axis it is absolutely the same if you use Axis, Dimension or Element function. However, whenever possible use Dimension functions.

Table	
Customer.hCountry	Markup
BC	99,102,939.23
DF	21,545,216.99
Guerrero	5,477,696.92
Jalisco	6,024,341.72
Mexico	4,353,829.31
Oaxaca	4,523,733.08
Sinaloa	5,234,606.62
Veracruz	6,316,815.90
Yucatan	6,375,787.40
Zacatecas	10,828,194.54
CA	259,669,458.55
OR	60,852,327.08
WA	134,966,038.00
Sums	625,270,985.34



Dialog will appear:



Since Markup is first measure in measure area, dialog will pick it up.

In case you need to change measure to another one:

- click on button Select

On measure...

Markup

Select...

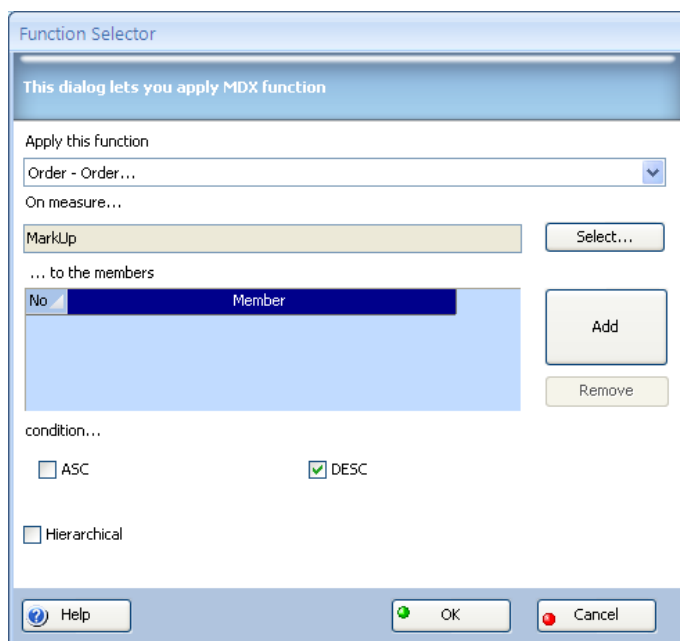
... to the members

and within new dialog

- select another measure

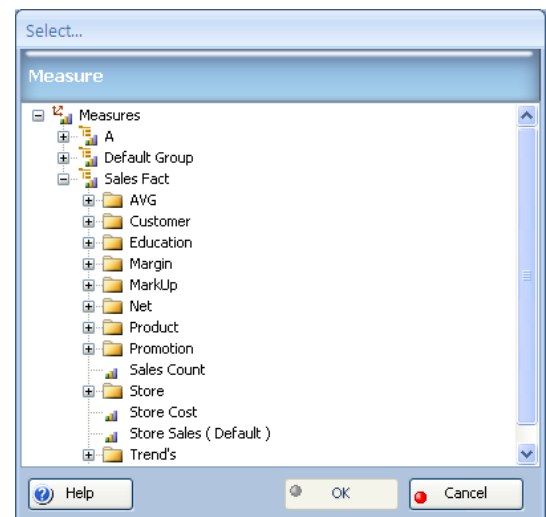
Now set order parameters:

- check DESC for descending order
- DO NOT check Hierarchical (this way we will break hierarchical order)



The Function Selector dialog box is titled "Function Selector" and contains the text "This dialog lets you apply MDX function". It has a dropdown menu for "Apply this function" set to "Order - Order...". Below this is a text field for "On measure..." containing "Markup" and a "Select..." button. Underneath is a section for "... to the members" with a table showing "No" and "Member" columns. To the right of this table are "Add" and "Remove" buttons. At the bottom, there is a "condition..." section with checkboxes for "ASC", "DESC" (checked), and "Hierarchical". The dialog has "Help", "OK", and "Cancel" buttons at the bottom.

- Select OK
- Run query



The Select... dialog box is titled "Select..." and contains a tree view titled "Measure". The tree view shows a hierarchy: Measures > A > Default Group > Sales Fact > AVG > Customer > Education > Margin > Markup > Net > Product > Promotion > Sales Count > Store > Store Cost > Store Sales (Default) > Trend's. The dialog has "Help", "OK", and "Cancel" buttons at the bottom.

Table

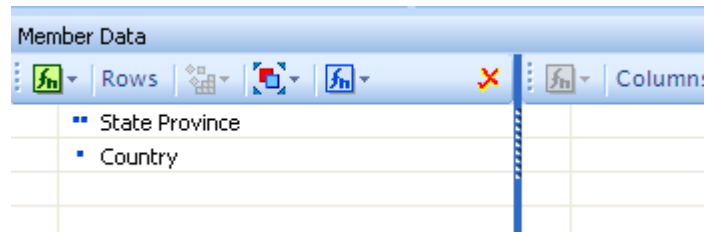
Customer.hCountry	Markup
CA	259,669,458.55
WA	134,966,038.00
BC	99,102,939.23
OR	60,852,327.08
DF	21,545,216.99
Zacatecas	10,828,194.54
Yucatan	6,375,787.40
Veracruz	6,316,815.90
Jalisco	6,024,341.72
Guerrero	5,477,696.92
Sinaloa	5,234,606.62
Oaxaca	4,523,733.08
Mexico	4,353,829.31
Sums	625.270.985,34

Order by hierarchy – Hierarchize

Orders the members of a set in a hierarchy.

This is implementation of MDX Hierarchize function. Create query with:

- Place level Country in Row area
- Place next level State Province in Row area
- Place measure Markup in Data area

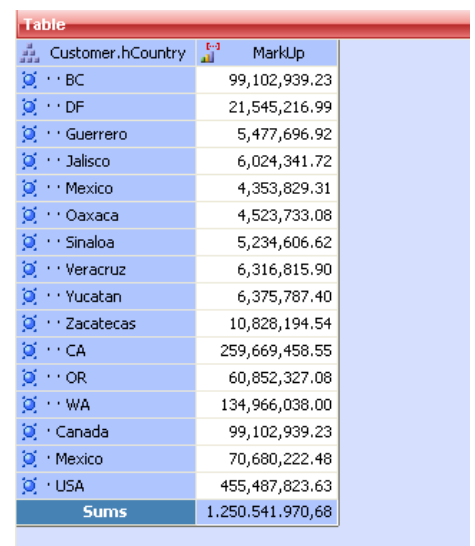


Select Run to see how result looks like:

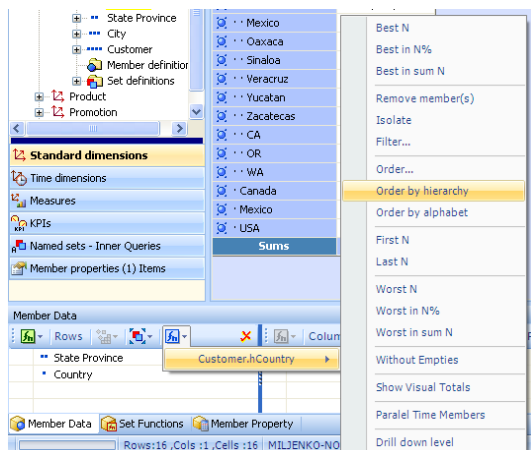
Now to order them by hierarchy and in addition to put parents (from level Country) to the top:

- Select Dimension Function for hierarchy Customer.hCountry
- Select function Order by hierarchy

NOTE: When you have only one dimension on axis it is absolutely the same if you use Axis, Dimension or Element function. However, whenever possible use Dimension functions.



Customer.hCountry	Markup
· · BC	99,102,939.23
· · DF	21,545,216.99
· · Guerrero	5,477,696.92
· · Jalisco	6,024,341.72
· · Mexico	4,353,829.31
· · Oaxaca	4,523,733.08
· · Sinaloa	5,234,606.62
· · Veracruz	6,316,815.90
· · Yucatan	6,375,787.40
· · Zacatecas	10,828,194.54
· · CA	259,669,458.55
· · OR	60,852,327.08
· · WA	134,966,038.00
· Canada	99,102,939.23
· Mexico	70,680,222.48
· USA	455,487,823.63
Sums	1,250,541,970.68



Dialog will appear:

Function Selector

This dialog lets you apply MDX function

Apply this function

Hierarchize - Order by hierarchy

condition...

☒ First Parents then Children ☐ First Children then Parents - POST

Help OK Cancel

- Select OK
- Select Run

Table	
Customer.hCountry	MarkUp
Canada	99,102,939.23
BC	99,102,939.23
Mexico	70,680,222.48
DF	21,545,216.99
Guerrero	5,477,696.92
Jalisco	6,024,341.72
Mexico	4,353,829.31
Oaxaca	4,523,733.08
Sinaloa	5,234,606.62
Veracruz	6,316,815.90
Yucatan	6,375,787.40
Zacatecas	10,828,194.54
USA	455,487,823.63
CA	259,669,458.55
OR	60,852,327.08
WA	134,966,038.00
Sums	1.250.541.970,68

Order by alphabet – implementation of Order function

Orders the members of a set alphabetically.

This is implementation of MDX Order function. Create query with:

- Place next level State Province in Row area
- Place measure MarkUp in Data area

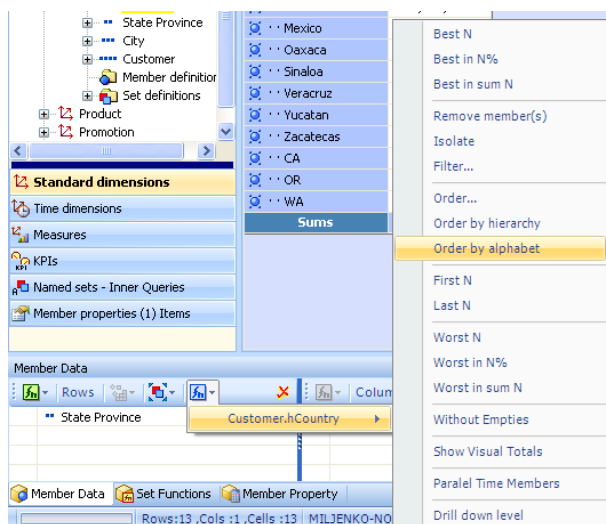
Table	
Customer.hCountry	MarkUp
· · BC	99,102,939.23
· · DF	21,545,216.99
· · Guerrero	5,477,696.92
· · Jalisco	6,024,341.72
· · Mexico	4,353,829.31
· · Oaxaca	4,523,733.08
· · Sinaloa	5,234,606.62
· · Veracruz	6,316,815.90
· · Yucatan	6,375,787.40
· · Zacatecas	10,828,194.54
· · CA	259,669,458.55
· · OR	60,852,327.08
· · WA	134,966,038.00
Sums	625.270.985,34

Now to order them alphabetically:

- Select Dimension Function for hierarchy Customer.hCountry
- Select function Order by alphabet

NOTE: When you have only one dimension on axis it is absolutely the same if you use Axis, Dimension or Element function.

However, whenever possible use Dimension functions.



Dialog will appear:

Function Selector

This dialog lets you apply MDX function

Apply this function

OrderByABC - Order by alphabet

condition...

☐ ASC ☒ DESC

☐ Hierarchical

Help OK Cancel

- Select OK
- Select Run

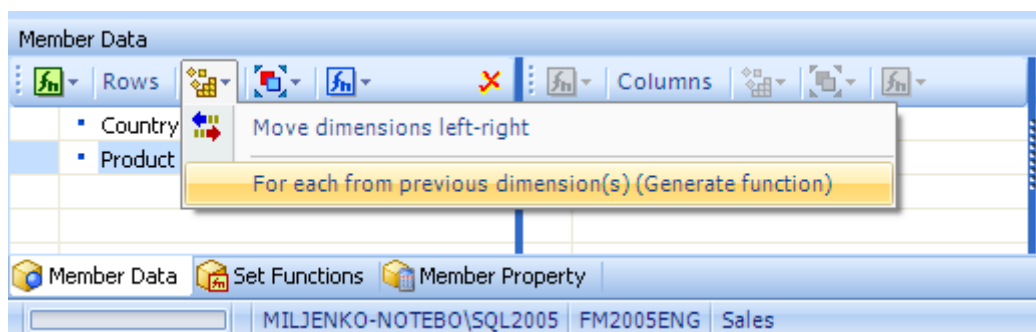
Set is ordered in reverse alphabet order.


Table	
Customer.hCountry	MarkUp
• • Zacatecas	10,828,194.54
• • Yucatan	6,375,787.40
• • WA	134,966,038.00
• • Veracruz	6,316,815.90
• • Sinaloa	5,234,606.62
• • OR	60,852,327.08
• • Oaxaca	4,523,733.08
• • Mexico	4,353,829.31
• • Jalisco	6,024,341.72
• • Guerrero	5,477,696.92
• • DF	21,545,216.99
• • CA	259,669,458.55
• • BC	99,102,939.23
Sums	625.270,985,34


For each - Generate function

To apply Generate function to row or column axis:

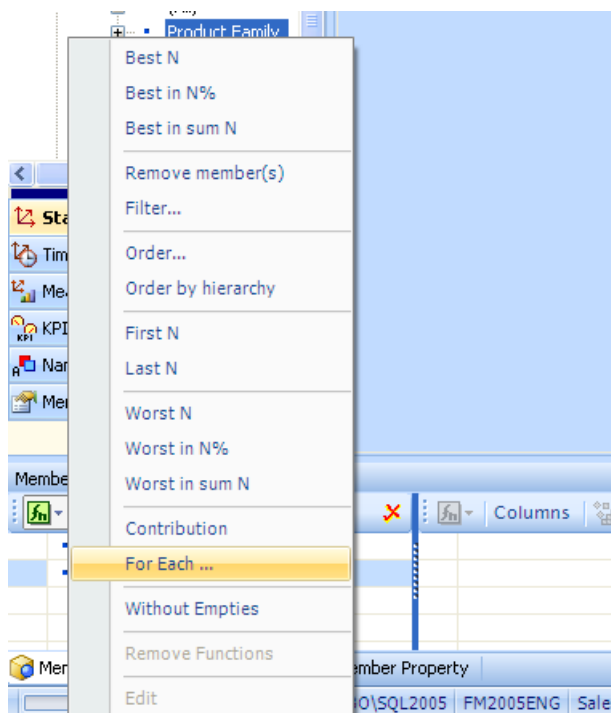
- Select row or column axis (there should be at least two dimension, it includes measure dimension)
- Select icon Organize
- Select **For each ...** from menu



When Generate function is not applied icon appearing is .

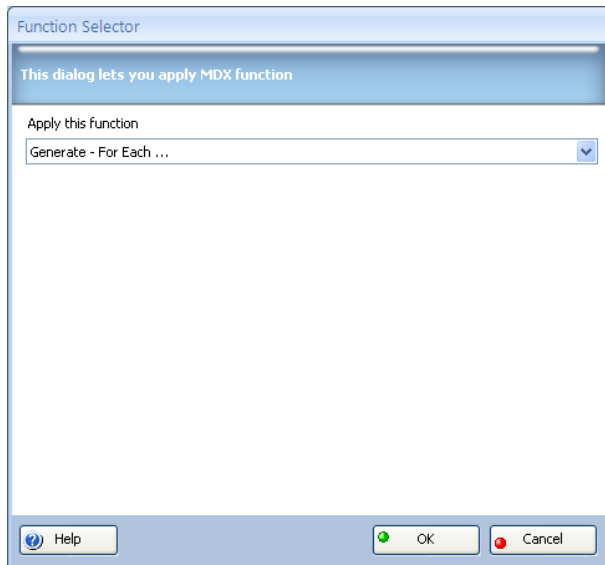
Whenever Generate function is applied icon appearing is .

Generate function will also turn axis functions icon from green to red, since it can be applied from axis functions menu as well. Second way to apply For each function is to select axis function selector



- Select **For each ...** function from menu

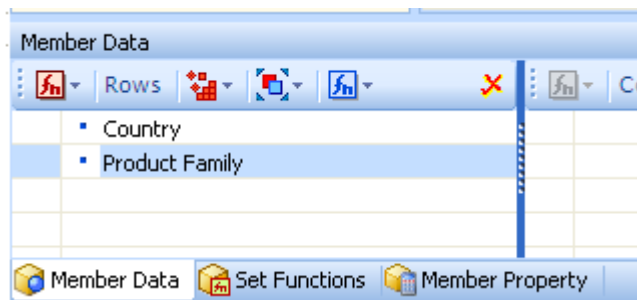
Dialog will appear:



Since there is no available options for this function just:

- Select **OK**

Both indicators, for axis function and for For each – Generate functions are turned red.



Generate function will combine two or more dimensions in a different way then CrossJoin function.

If no functions are applied CrossJoin and Generate will return same result set.


If only Set (Axis) functions will be applied there will be no difference between CrossJoin and Generate result set.


So, when to use Generate?




Let us suppose you want to see:

**Top 3 Cities (Store sales), and for each of them their
Top 3 Product Names (Store Sales).**

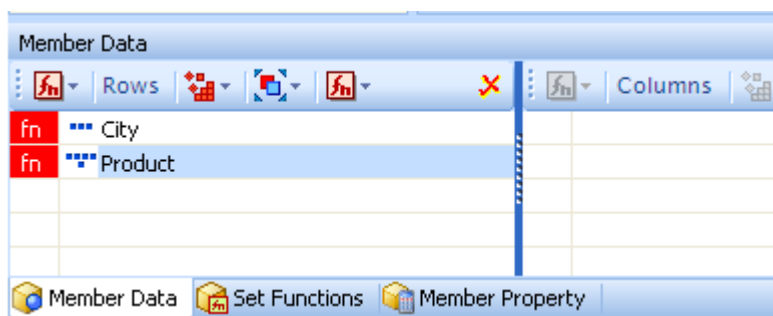
Let us do it:

- Select level **City** from dimension Customers and place it inside row area
- Apply **TopCount** Dimension function using dimension function icon 

- Select icon 
- Select **TopCount** from menu
- Select dimension **Customers** from submenu

- Select measure **Store Sales**
- Select value **three (3)**
- Select **Apply**
- Select level **Product Name** from dimension Product and place it inside row area
- Apply **TopCount** Dimension function using dimension function icon 
 - Select icon 
 - Select **TopCount** from menu
 - Select dimension Product from submenu
 - Select measure **Store Sales**
 - Select value **three (3)**
 - Select **Apply**
- Select icon **organize**  inside row area title bar
- Select **Use Generate function** from menu

Before we place measure **Store Sales** in **Measures** area, your designer should look like this:



Now add measure **Store Sales** to the **Measure** area.

Result will appear:

Table		
Customers	Product	Store Sales
Everett	Sunset Silver Cleaner	27.780.343,16
	Hermanos Broccoli	1.393.474,19
	Fort West Beef Jerky	935.448,70
Torrance	Carrington Frozen Pepperoni Pizza	1.629.220,57
	Hermanos Almonds	1.201.347,13
	Hermanos Corn on the Cob	1.090.947,28
Downey	Johnson Oatmeal	1.087.072,29
	Plato Pepper	1.057.270,43
	CDR Low Fat Apple Butter	859.516,69


As you can see: Each City has different Top 3 Products.

That means that bestsellers are not the same in those three Cities.

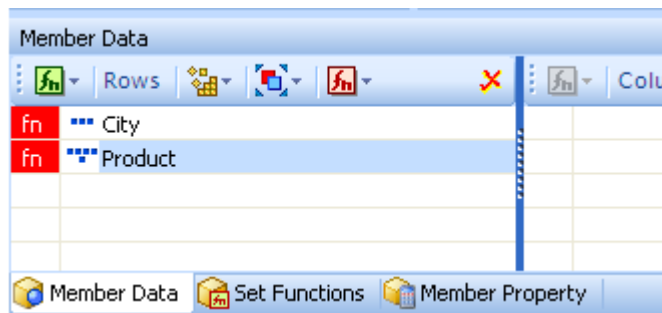
Now remove generate function. This will apply CrossJoin function and this way we will see what is the behavior of CrossJoin

function and how it differs from Generate function.

To apply **CrossJoin** instead of **Generate**:

- Select icon **Organize**  inside row area title bar
- Select **Use generate function** once again to remove check mark

Your designer will look like this:



and result set will look like this:

Table		
Customers	Product	Store Sales
Everett	Sunset Silver Cleaner	27.780.343,16
Torrance	CDR Extra Chunky Peanut Butter	246.362,67

This is little bit a surprise:

- There are only two cities listed even we asked for Top three (3).
- In addition there are only two products listed even we asked for Top three (3).
- More confusion is generated with fact that total number of rows is two (we expected $9 = 3 \times 3$).

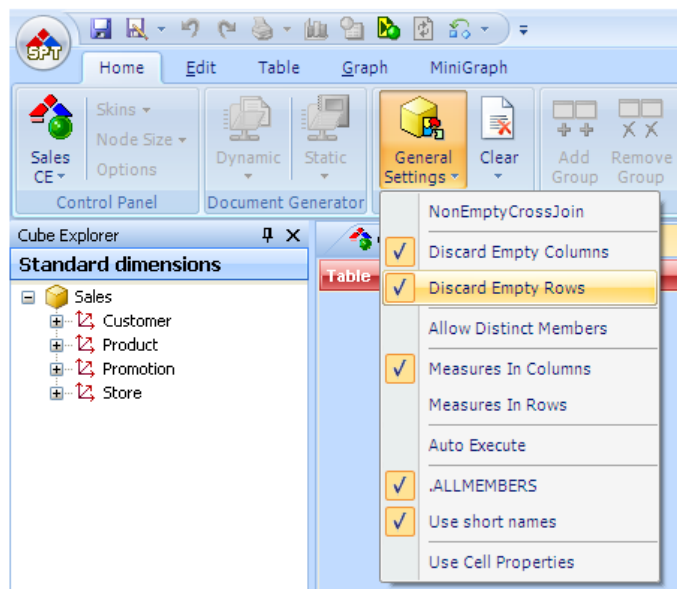
Despite our expectation nothing is wrong with result. The reason for such result is:

From our Top three (3) products only two (2) of them we are selling in our Top three (3) cities.

- One product (Sunset Silver Cleaner) we are selling in Everett.
- One product (CDR Extra Chunky Peanut Butter) we are selling in Torrance
- In third city we do not sell any of our top three products

Now we will enable to see empty rows in designer to discover our third product and third city.

To do that go to icon General and deselect Discard Empty Rows:



Result table will look like this:

Table		
Customers	Product	Store Sales
Everett	Sunset Silver Cleaner	27.780.343,16
	CDR Apple Jelly	
	CDR Extra Chunky Peanut Butter	
Torrance	Sunset Silver Cleaner	
	CDR Apple Jelly	
	CDR Extra Chunky Peanut Butter	246.362,67
Downey	Sunset Silver Cleaner	
	CDR Apple Jelly	
	CDR Extra Chunky Peanut Butter	

Now we can see all our cities and products. Also we can see that there are results for only two of them.

To understand what happened we should understand OLAP server little bit more.

Here are calculations done by OLAP and the order:

- Find Top three (3) cities
- Find Top three (3) product names
- Now combines, using CrossJoin function, those two sets

First – implementation of Head function

Returns the first specified number of elements in a set, while retaining duplicates.

Create query with:

- Place next level State Province in Row area
- Place measure MarkUp in Data area

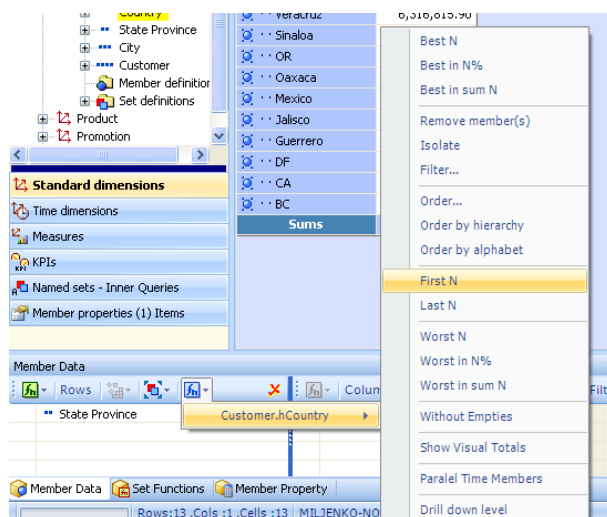
Table	
Customer.hCountry	MarkUp
• BC	99,102,939.23
• DF	21,545,216.99
• Guerrero	5,477,696.92
• Jalisco	6,024,341.72
• Mexico	4,353,829.31
• Oaxaca	4,523,733.08
• Sinaloa	5,234,606.62
• Veracruz	6,316,815.90
• Yucatan	6,375,787.40
• Zacatecas	10,828,194.54
• CA	259,669,458.55
• OR	60,852,327.08
• WA	134,966,038.00
Sums	625.270.985,34

Now to get only first five (5) members:

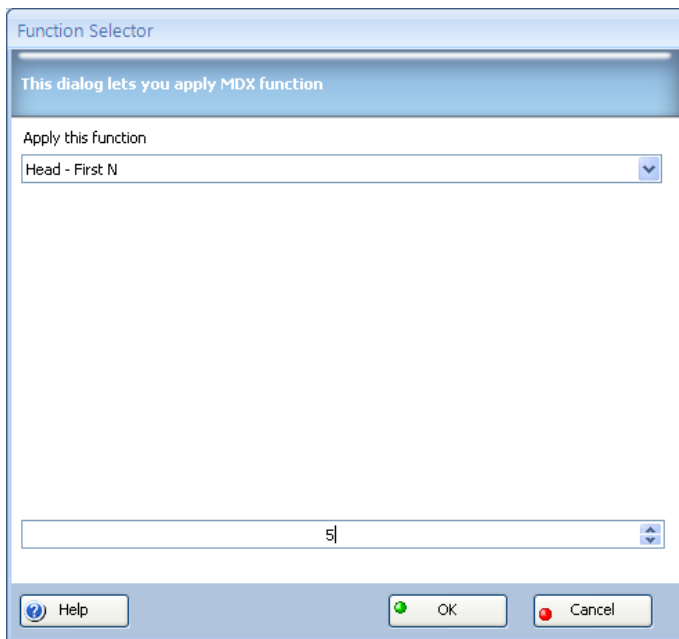
- Select Dimension Function for hierarchy Customer.hCountry
- Select function First N

NOTE: When you have only one dimension on axis it is absolutely the same if you use Axis, Dimension or Element function.

However, whenever possible use Dimension functions.



Dialog will appear:



The dialog box is titled "Function Selector". It contains a message "This dialog lets you apply MDX function". Below this, there is a section "Apply this function" with a dropdown menu showing "Head - First N". At the bottom, there is a text input field containing the number "5". The dialog has three buttons: "Help", "OK", and "Cancel".

- Change value of 100 to 5
- Select OK
- Select Run

Table		
Customer.hCountry	MarkUp	
BC	99,102,939.23	
DF	21,545,216.99	
Guerrero	5,477,696.92	
Jalisco	6,024,341.72	
Mexico	4,353,829.31	
Sums	136.504.024,17	

First five members are at the table.

Last – implementation of Tail function

Returns the first specified number of elements in a set, while retaining duplicates.

Create query with:

- Place next level State Province in Row area
- Place measure MarkUp in Data area

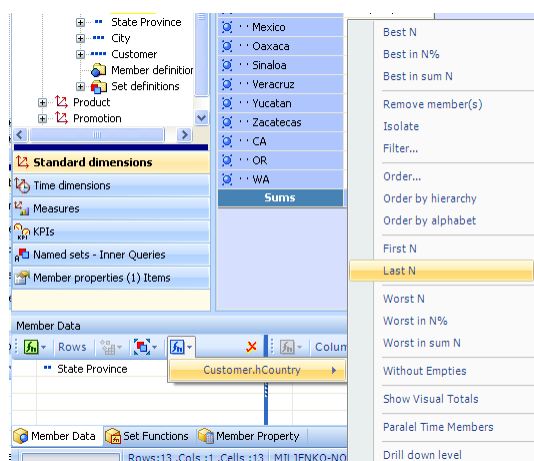
Table	
Customer.hCountry	MarkUp
BC	99,102,939.23
DF	21,545,216.99
Guerrero	5,477,696.92
Jalisco	6,024,341.72
Mexico	4,353,829.31
Oaxaca	4,523,733.08
Sinaloa	5,234,606.62
Veracruz	6,316,815.90
Yucatan	6,375,787.40
Zacatecas	10,828,194.54
CA	259,669,458.55
OR	60,852,327.08
WA	134,966,038.00
Sums	625.270.985,34

Now to get only last five (5) members:

- Select Dimension Function for hierarchy Customer.hCountry
- Select function Last N

NOTE: When you have only one dimension on axis it is absolutely the same if you use Axis, Dimension or Element function.

However, whenever possible use Dimension functions.



Dialog will appear:

Function Selector

This dialog lets you apply MDX function

Apply this function

Tail - Last N

5

Help OK Cancel

- Change value of 100 to 5
- Select OK
- Select Run

Table	
Customer.hCountry	MarkUp
Yucatan	6,375,787.40
Zacatecas	10,828,194.54
CA	259,669,458.55
OR	60,852,327.08
WA	134,966,038.00
Sums	472.691.805,57

Last five members are at the table.

Show Visual Totals – implementation of VisualTotals function

Returns a set generated by dynamically totaling child members in a specified set, optionally using a pattern for the name of the parent member in the result set.

Create query with:

- Mexico, and two children (Guerrero and Oaxaca) in Row area
- Place measure Markup in Data area

The screenshot shows the Tableau interface. On the left, the 'Standard dimensions' pane displays a hierarchy: Country (All) > Mexico > Guerrero. The 'Table' pane on the right shows the following data:

Customer.hCountry	Markup
Mexico	70,680,222.48
Oaxaca	4,523,733.08
Guerrero	5,477,696.92
Sums	80,681,652.49

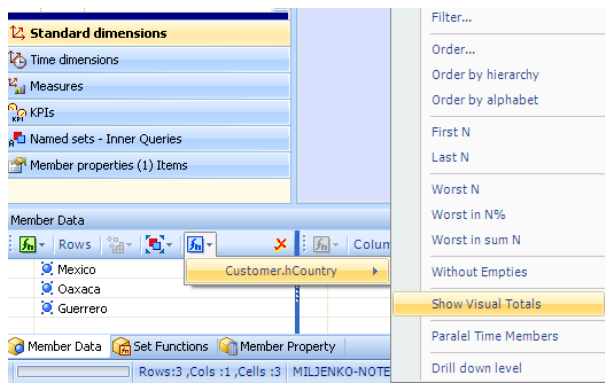
Below the table, the 'Member Data' pane shows the following rows:

Rows	Columns
Mexico	
Oaxaca	
Guerrero	

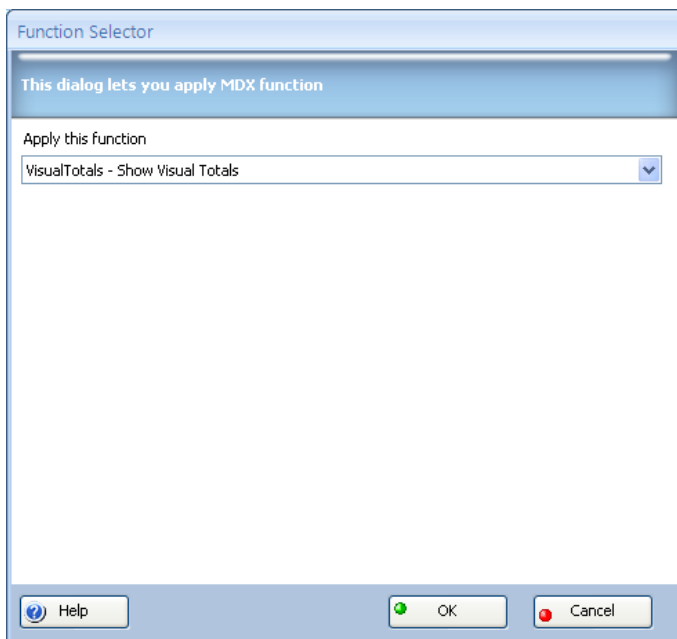
As you can see Mexico shows value of 70 millions. To force Mexico to show cumulative value of it's children on the table:

- Select Dimension Function for hierarchy Customer.hCountry
- Select function Show Visual Totals

NOTE: When you have only one dimension on axis it is absolutely the same if you use Axis, Dimension or Element function.
However, whenever possible use Dimension functions.



Dialog will appear:



- Select OK
- Select Run

Table	
Customer.hCountry	Markup
· Mexico * VT	10,001,430.00
· · Oaxaca	4,523,733.08
· · Guerrero	5,477,696.92
Sums	20,002,860,01

Mexico shows cumulative value of it's children.

NOTE: Parent must be on the top of the list

Parallel Time Members – implementation of ParallelPeriods function

Returns a set ordered by base member then parallel member or parallel member and then base member regardless how many members you have.

Create query with:

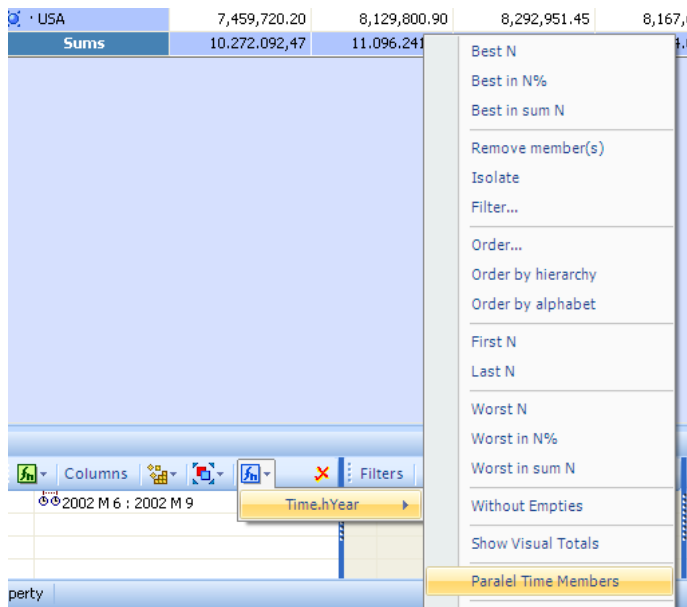
- Level Country in Row area
- Time Range member 2002 M6 up to 2002 M9 in columns
(to get range member, drop 2002 M6 first and then drop 2002 M9 directly on 2002 M6)
- Place measure Markup in Data area

	2002 M 6	2002 M 7	2002 M 8	2002 M 9
Customer.hCountry	Markup			
Canada	1,642,484.41	1,722,938.44	1,822,388.27	1,815,922.58
Mexico	1,169,887.86	1,243,502.31	1,268,948.98	1,310,481.96
USA	7,459,720.20	8,129,800.90	8,292,951.45	8,167,643.82
Sums	10,272,092.47	11,096,241.65	11,384,288.70	11,294,048.37

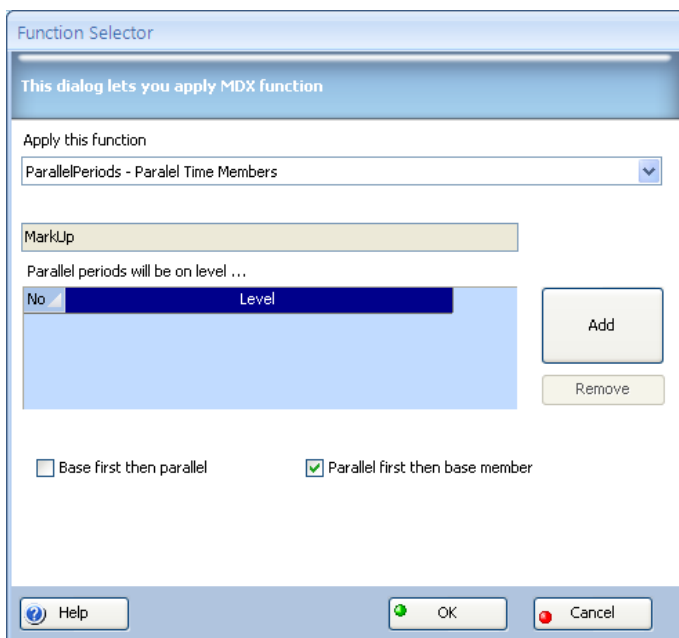
To see parallel members in previous Year, near base members:

- Select Dimension Function for hierarchy Time.hYear
- Select function Parallel Time Members

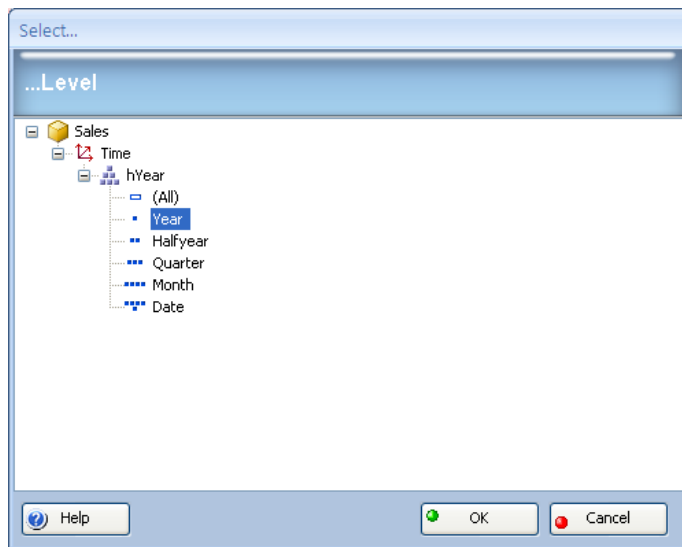
NOTE: When you have only one dimension on axis it is absolutely the same if you use Axis, Dimension or Element function.
However, whenever possible use Dimension functions.



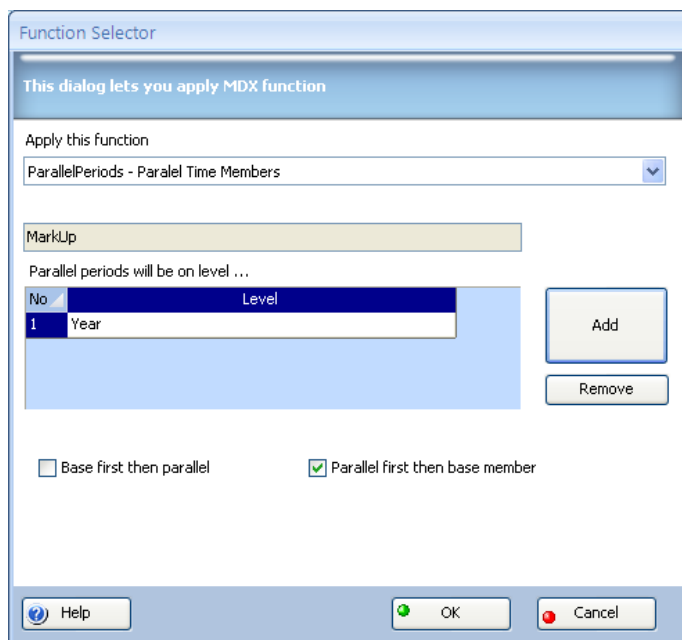
Dialog will appear:



- Select level for parallel period (Year)



- Select OK



- Select OK
- Select Run

Table								
	2001 M 6	2002 M 6	2001 M 7	2002 M 7	2001 M 8	2002 M 8	2001 M 9	
Customer.hCountry	MarkUp							
Canada	1,864,606.44	1,642,484.41	1,983,444.37	1,722,938.44	2,180,965.53	1,822,388.27	2,212,814.70	
Mexico	1,346,430.57	1,169,887.86	1,459,048.99	1,243,502.31	1,506,577.80	1,268,948.98	1,626,739.45	
USA	8,222,567.62	7,459,720.20	9,337,153.25	8,129,800.90	9,661,535.64	8,292,951.45	9,636,257.99	
Sums	11.433.604,63	10.272.092,47	12.779.646,61	11.096.241,65	13.349.078,97	11.384.288,70	13.475.812,15	

DrillDown Level

Returns children on specified level.

This function is very useful, for example, if user wants to see children of Top 10 members from some level.

Create query with:

- Level Country in Row area
- Place measure Markup in Data area

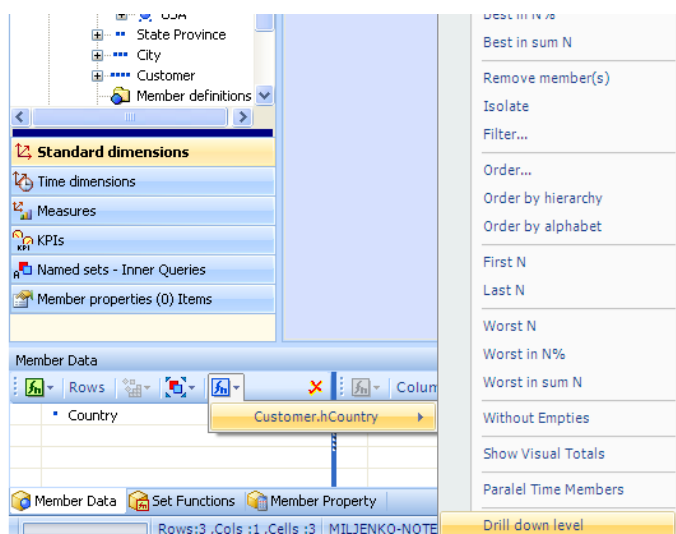
Table	
Customer.hCountry	Markup
Canada	99,102,939.23
Mexico	70,680,222.48
USA	455,487,823.63
Sums	625.270.985,34

To see children on level City of entire level Country:

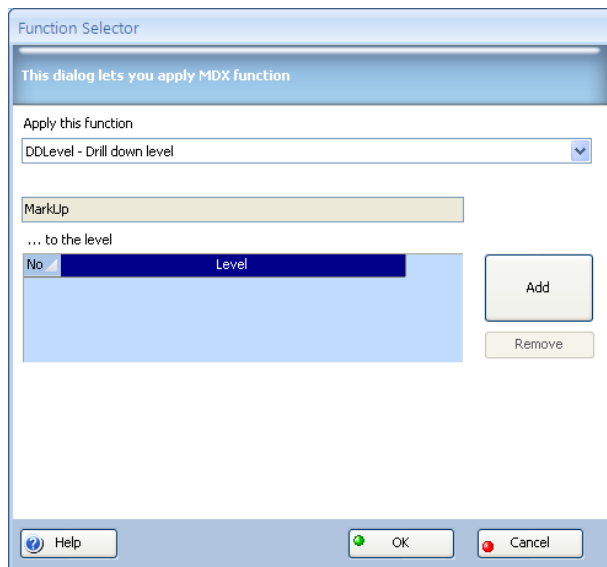
- Select Dimension Function for hierarchy Customer.hCountry
- Select function Drill Down Level

NOTE: When you have only one dimension on axis it is absolutely the same if you use Axis, Dimension or Element function.

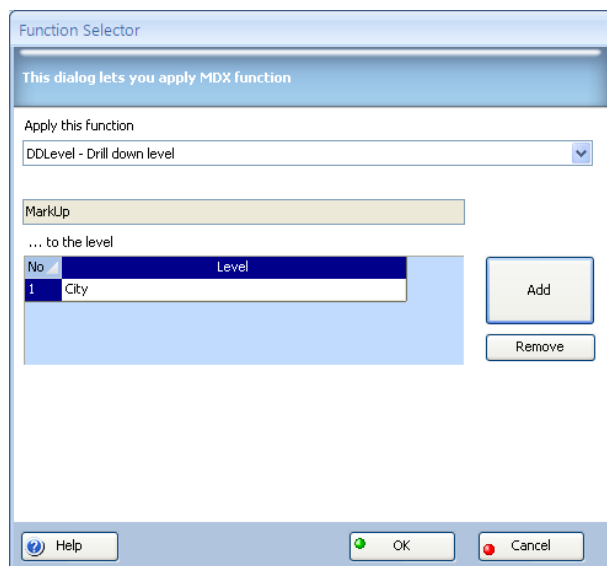
However, whenever possible use Dimension functions.



Dialog will appear:



- Select level to drill to
- Select OK



- Select OK
- Select Run

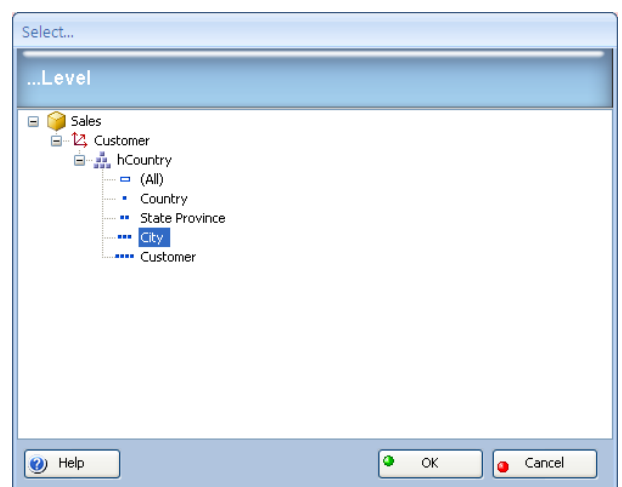


Table	
Customer.hCountry	MarkUp
· · · Burnaby	5,497,269.00
· · · Cliffside	5,556,606.39
· · · Haney	4,248,376.38
· · · Ladner	6,618,232.48
· · · Langford	6,213,795.12
· · · Langley	5,916,355.08
· · · Metchosin	6,094,448.38
· · · N. Vancouver	6,909,753.21
· · · Newton	5,751,208.94
· · · Oak Bay	5,797,485.96
· · · Port Hammond	5,396,537.97
· · · Royal Oak	6,909,968.16
· · · Shawnee	6,358,802.61
· · · Sooke	5,360,309.48
· · · Vancouver	5,195,690.24
· · · Victoria	5,507,376.11
· · · Westminster	5,770,723.71
· · · San Andres	5,489,504.17
· · · Santa Anita	6,622,124.00

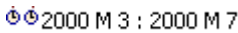

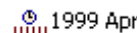



Time functions in Designer

Our Designer has a special ability to apply MDX Time Functions to time dimension members.

Functions that can be applied without need to learn MDX language and syntax are:

- **From:To** function (range)
- **PeriodsToDate** function
- **ParallelPeriod** function
- **LastPeriods** function

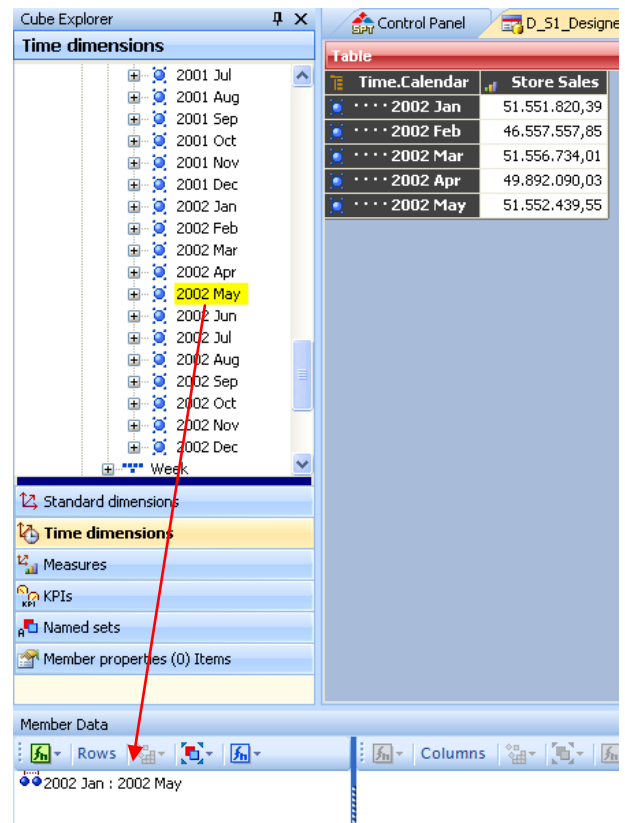
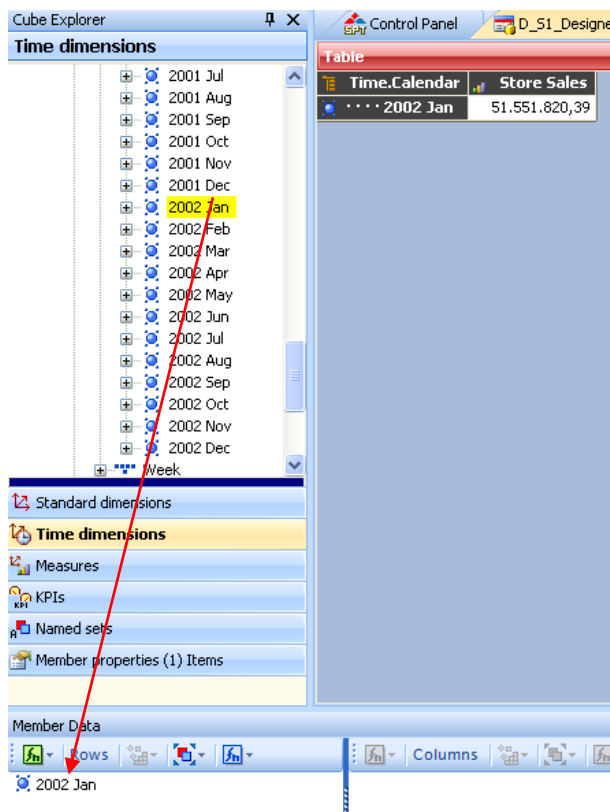
Using standard time dimension members you can create:

- **From:To** element 
 - Displaying one-by-one element
 - Displaying aggregation of From:To element
- **PeriodsToDate** element 
 - Displaying one-by-one element
 - Displaying aggregation of PeriodsToDate element 
- **Parallel** members
 - Displaying one-by-one element
- **Parallel From:To** elements 
 - Displaying one-by-one element
 - Displaying aggregation of From:To element
- **Parallel PeriodsToDate** elements 
 - Displaying one-by-one element
 - Displaying aggregation of PeriodsToDate element
- **LastPeriods** elements 

From:To time element

To create **From:To** element:

- Select one time member in cube explorer
- Place it into row or column or filter section inside designer (**row** area our case)

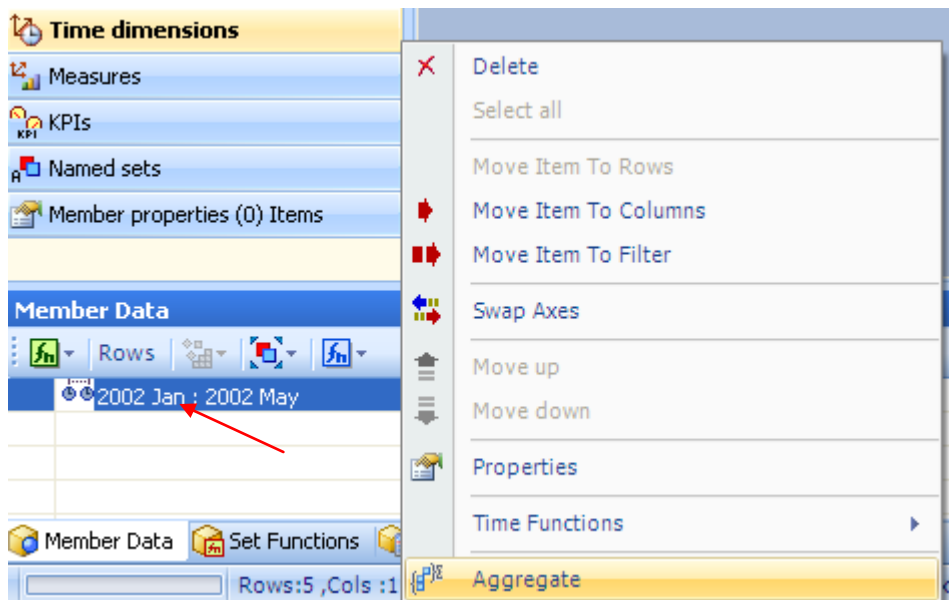


- Select second time member in cube explorer
- Drag-and-drop it **directly over** previous member

Now you can select whether you will leave it like on-by-one member or you will create aggregated element.

To create aggregated element:

- Select **From:To** element inside member data area
- Right click
- Select **Aggregate** from menu



Aggregated element is created,

Time.Calendar	Store Sales
2002 Jan_2002 May	251,110,641,84

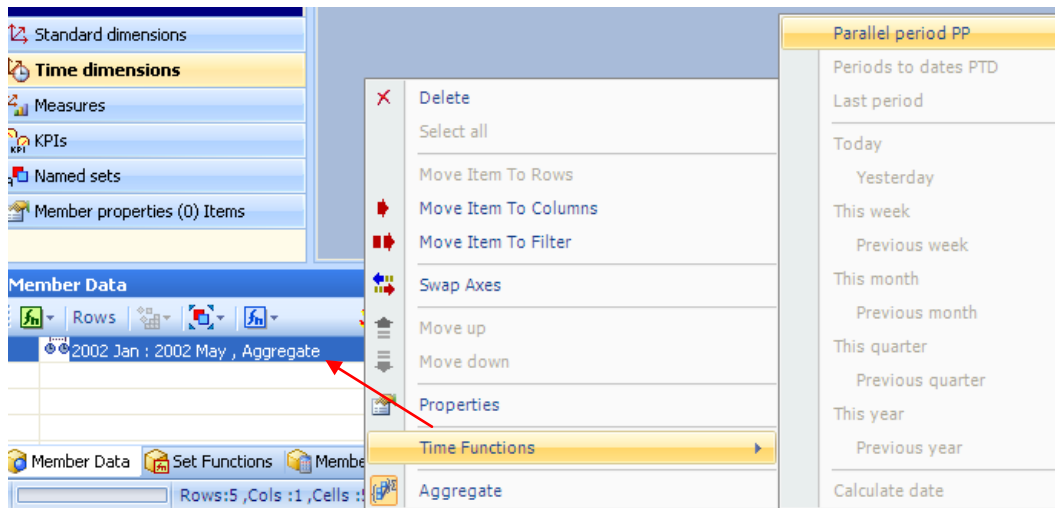
To see again all members from range From:To (not aggregated view):

- Select **From:To** element inside member data area
- Right click
- Select again **Aggregate** from menu

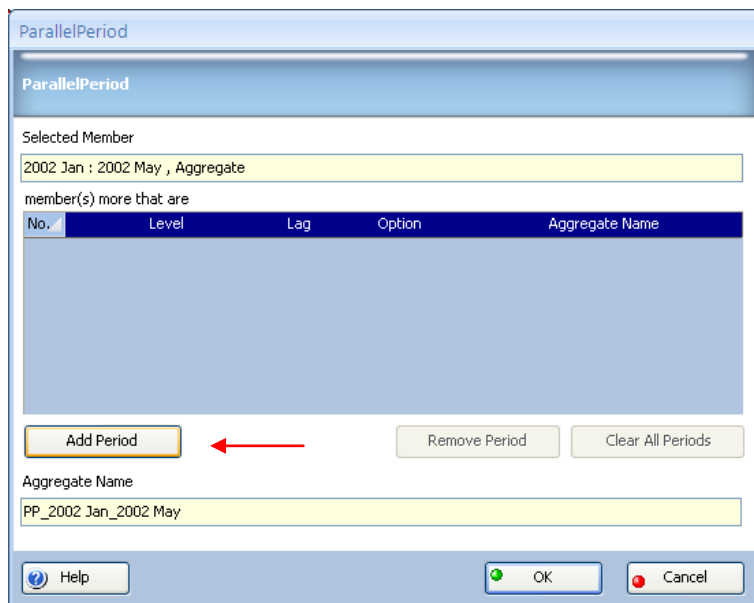
From:To time element and Parallel Periods

To create **ParallelPeriods** from **From:To** element:

- Select **From:To** element
- Right click
- Select **Function** from menu
- Select **ParallelPeriod** from submenu



ParallelPeriod dialog appears.



- Select **Add period** button
- Select **Level** on which you want to create parallel period
- Select **Lag** – how many periods before
- Select **Option** – Aggregate or single view

ParallelPeriod

ParallelPeriod

Selected Member

2002 Jan : 2002 May , Aggregate

member(s) more that are

No.	Level	Lag	Option	Aggregate Name
1	Year	1	Aggregate	PP_Year_1_2002 Jan_2002 May
2	Year	2	Aggregate	PP_Year_2_2002 Jan_2002 May

Aggregate Name

PP_2002 Jan_2002 May

If you have selected aggregate (or it was inherited from the element itself) **Aggregate Name** will be created. If you do not like our generated name, you can easily give your own name in **Aggregate Name** box at the for each element.

Cube Explorer

Time dimensions

Time.Calendar	Store Sales
2001 Jul	
2001 Aug	
2001 Sep	
2001 Oct	
2001 Nov	
2001 Dec	
2002 Jan	
2002 Feb	
2002 Mar	

Control Panel D_S1_Designer

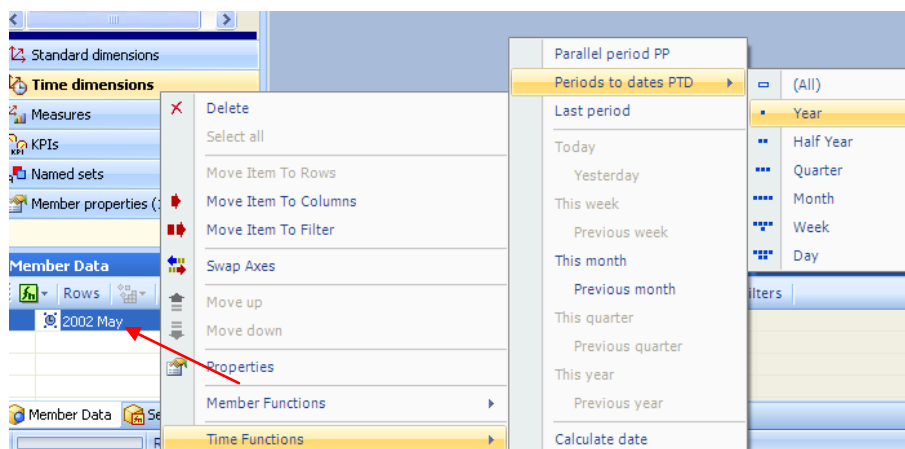
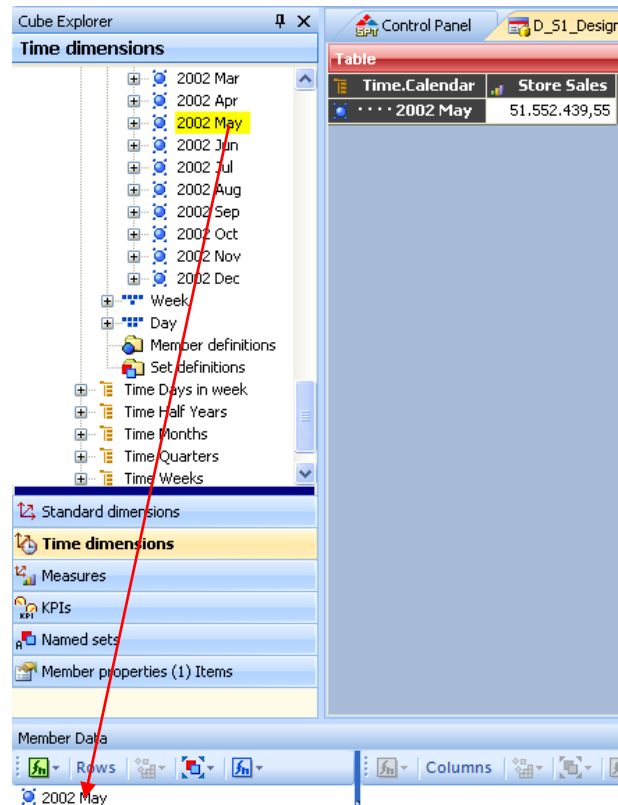
Table

Time.Calendar	Store Sales
PP_Year_2_2002 Jan_2002 May	205.217.111,28
PP_Year_1_2002 Jan_2002 May	240.291.493,80
PP_2002 Jan_2002 May	251.110.641,84

PeriodsToDate function

To create **PeriodsToDate** element:

- Select one time member in cube explorer
- Place it into row or column section inside designer
- Right click
- Select **Function** from menu
- Select **PeriodsToDate** from submenu
- Select level from submenu (**Year**)



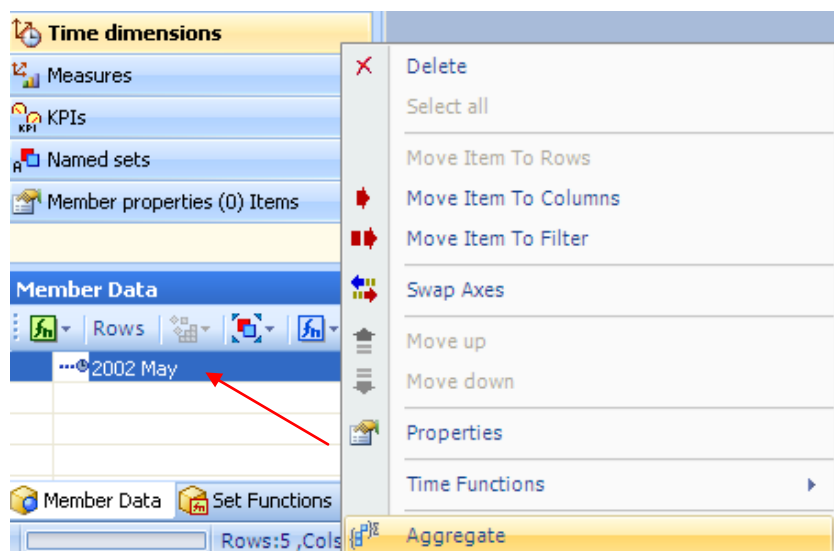
Result will be

Cube Explorer		Control Panel	
Time dimensions		Table	
		Time.Calendar	Store Sales
	2002 Mar	2002 Jan	51.551.820,39
	2002 Apr	2002 Feb	46.557.557,85
	2002 May	2002 Mar	51.556.734,01
	2002 Jun	2002 Apr	49.892.090,03
	2002 Jul	2002 May	51.552.439,55
	2002 Aug		
	2002 Sep		
	2002 Oct		

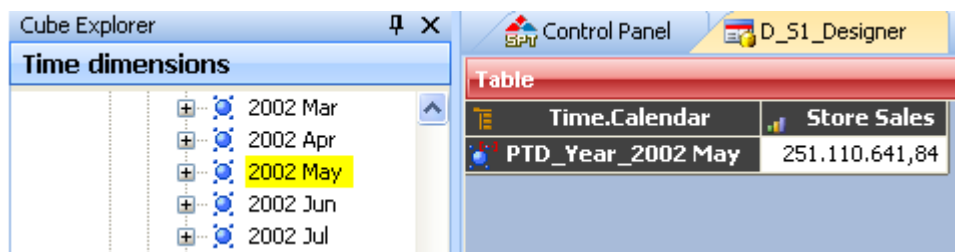
Now you can select whether you will leave it like on-by-one member or you will create aggregated element.

To create aggregated element:

- Select **PeriodsToDate** element inside member data area
- Right click
- Select **Aggregate** from menu



Aggregated element was created,



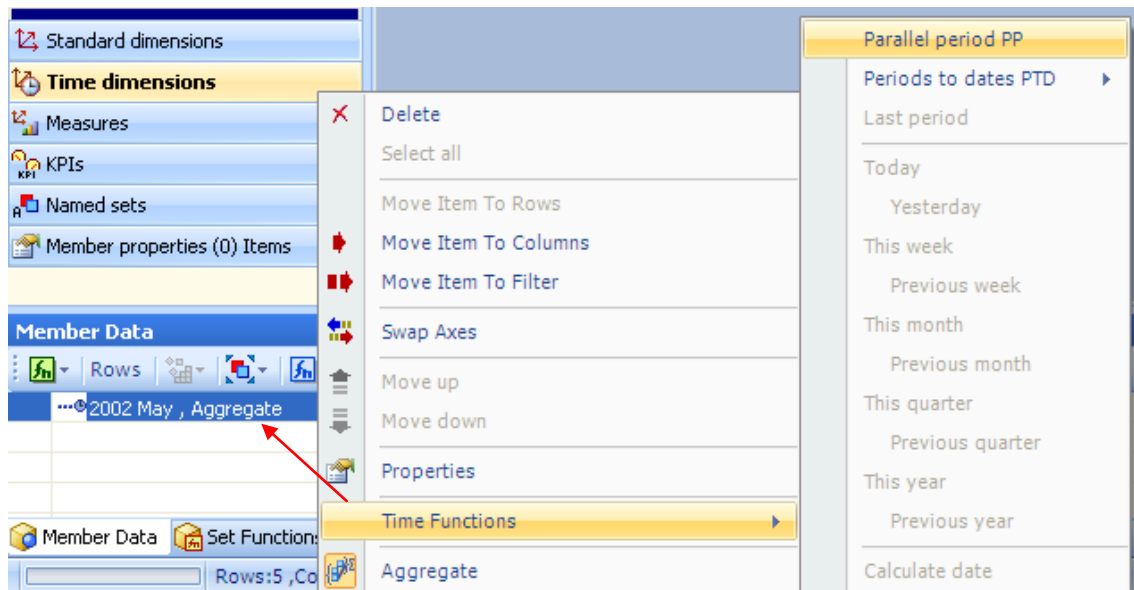
To see again all members from element PeriodsToDate (not aggregated view):

- Select PeriodsToDate element inside member data area
- Right click
- Select again **Aggregate** from menu

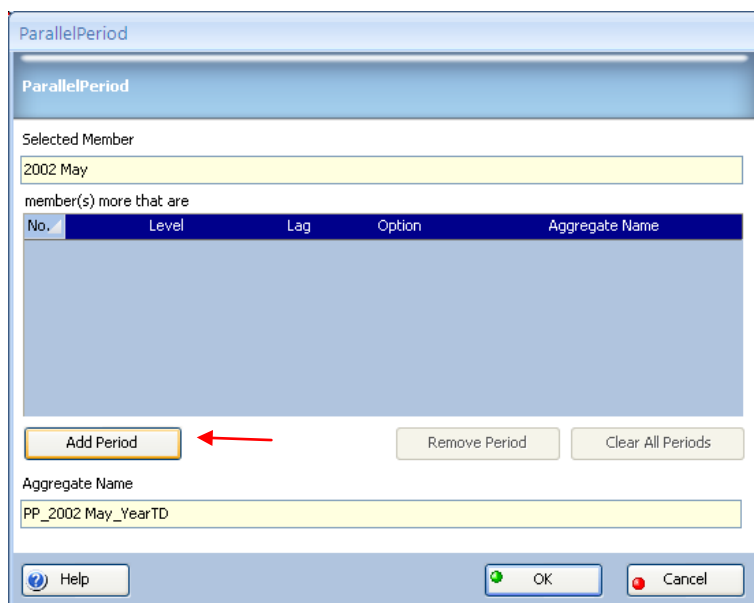
PeriodsToDate function and Parallel Periods

To create ParallelPeriods from **PeriodsToDate** element:

- Select **PeriodsToDate** element
- Right click
- Select **Function** from menu
- Select **ParallelPeriod** from submenu



ParallelPeriod dialog appears.



- Select **Add period** button
- Select **Level** on which you want to create parallel period
- Select **Lag** – how many periods before
- Select **Option** – Aggregate or single view

ParallelPeriod

ParallelPeriod

Selected Member

2002 May

member(s) more that are

No.	Level	Lag	Option	Aggregate Name
1	Year	1	Aggregate	PP_Year_1 2002 May_YearTD
2	Year	2	Aggregate	PP_Year_2 2002 May_YearTD

Add Period Remove Period Clear All Periods

Aggregate Name

PP_2002 May_YearTD

Help OK Cancel

If you have selected aggregate (or it was inherited from the element itself) **Aggregate Name** will be created. If you do not like our generated name, you can easily give your own name in **Aggregate Name** box at the bottom of the dialog.

Cube Explorer

Time dimensions

- 2002 Mar
- 2002 Apr
- 2002 May
- 2002 Jun
- 2002 Jul
- 2002 Aug
- 2002 Sep
- 2002 Oct

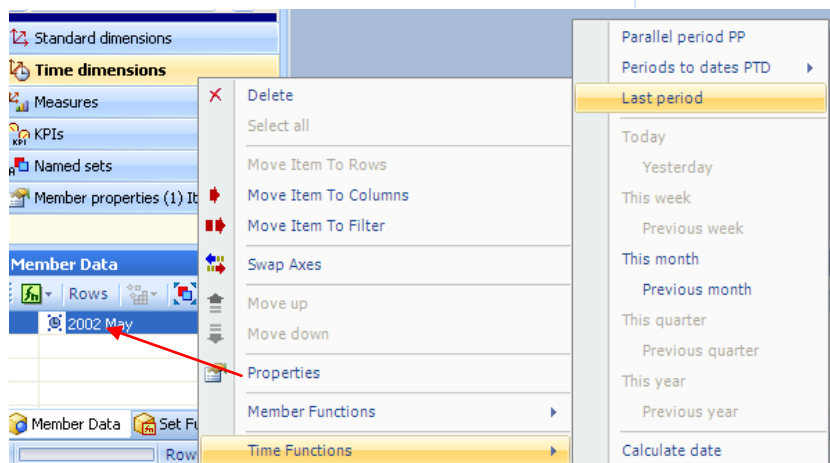
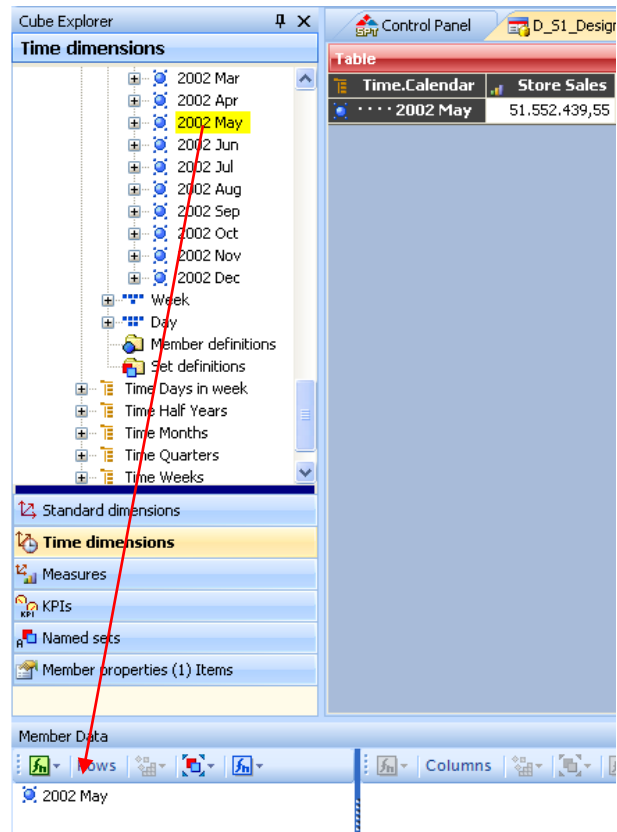
Control Panel D_S1_Designer

Table	
Time.Calendar	Store Sales
PP_Year_2 2002 May_YearTD	205.217.111,28
PP_Year_1 2002 May_YearTD	240.291.493,80
PP_2002 May_YearTD	251.110.641,84

LastPeriods function

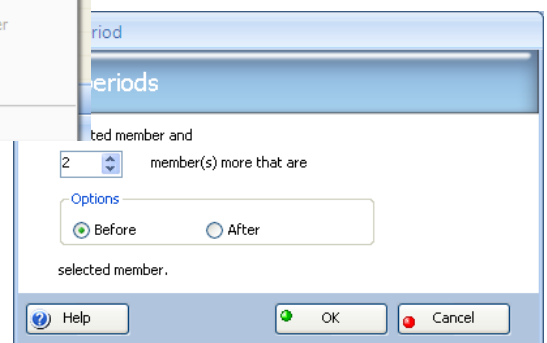
To create **LastPeriods** element:

- Select one time member in cube explorer
- Place it into row or column section inside designer
- Right click
- Select **Function** from menu
- Select **LastPeriods** from submenu



Dialog will appear

Select how many periods before or after current member in the columns. Result will be



Control Panel D_S1_Designer

Table

Time.Calendar	Store Sales
2002 May	51.552.439,55
2002 Mar	51.556.734,01
2002 Apr	49.892.090,03
2002 May	51.552.439,55

Remove base member that was used to create LastPeriods 2002 May (red circle).

Member Data

Rows

2002 May
2002 May, LastPeriods (1+2 Before)

Member Data Set Functions Member Property

And you will get your result:

Control Panel D_S1_Designer

Table

Time.Calendar	Store Sales
2002 Mar	51.556.734,01
2002 Apr	49.892.090,03
2002 May	51.552.439,55

Date elements

One of the most needed features for those that are not professionals in “MDX world”:

How to create query that will refer to YESTERDAY (or LAST WEEK, LAST MONTH, THIS YEAR ...) whenever I run my query?

CubePlayer will try to help any user, professional or not, with or without programming skill to achieve such a aim without any problem within a second.

Therefore CubePlayer offers you to create on one or twp clicks:

- **Today**
- **Yesterday**
- **This Week**
- **Last Week**
- **This Month**
- **Last Month**
- **This Quarter**
- **Last Quarter**
- **This Year**
- **Last Year**
- **Date Calculate (calculate any date based on Year, Month, Day calculation)**

Create Date elements

CubePlayer will ALWAYS make calculations according to current day (TODAY) on your own computer (it will use your system clock).

There are three type of names that can be used for members:

UNIQUE NAME	<code>[Time].[hYear].[Date].[2527]</code> usually created from Level Unique Name + Key
QUALIFIED NAME	<code>[Vrijeme].[Kalendar].[Svi datumi].[2008].[2008 Q 1].[2008 M 1]</code> usually created from Ancestors and Parent Names
COMBINED NAME	<code>[Date].[Calendar].[Calendar Quarter].[2003]&[4]</code> usually created from two Level Unique Name and two or more Keys

CubePlayer handles all three types.

Unique names

CubePlayer will ALWAYS make calculations according to current day (TODAY) on your own computer (it will use your system clock).

In this case we will show example with UNIQUE NAMES.

Unique name	[Time].[hYear].[Date].&[2527]
Caption	12/01/2002
Date	December 1 st 2002

To create date element you have to place one member from the level that will be used for calculations.

If you want to create:

Today or **Yesterday** select member from level that represents Day

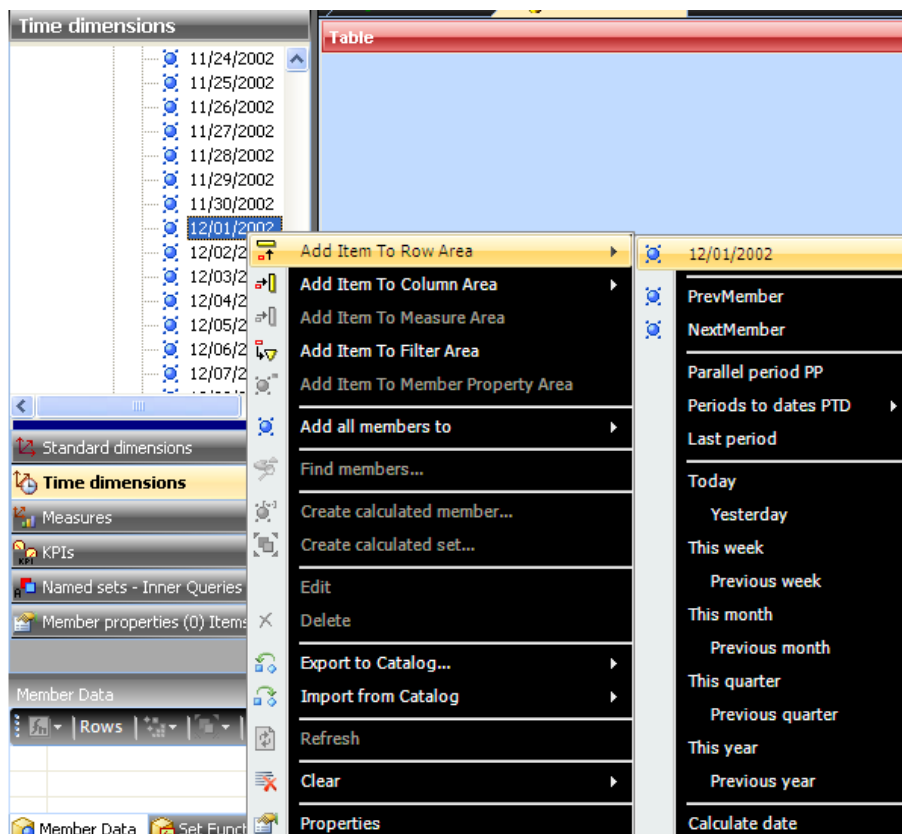
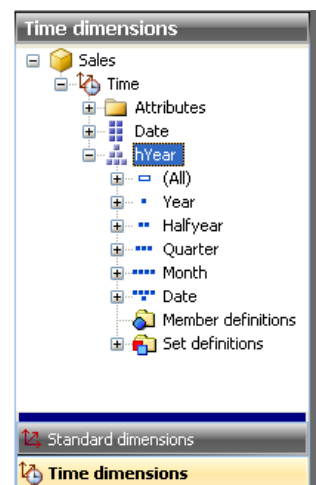
This Week or **Last Week** select member from level that represents Weeks

This Month or **Last Month** select member from level that represents Months

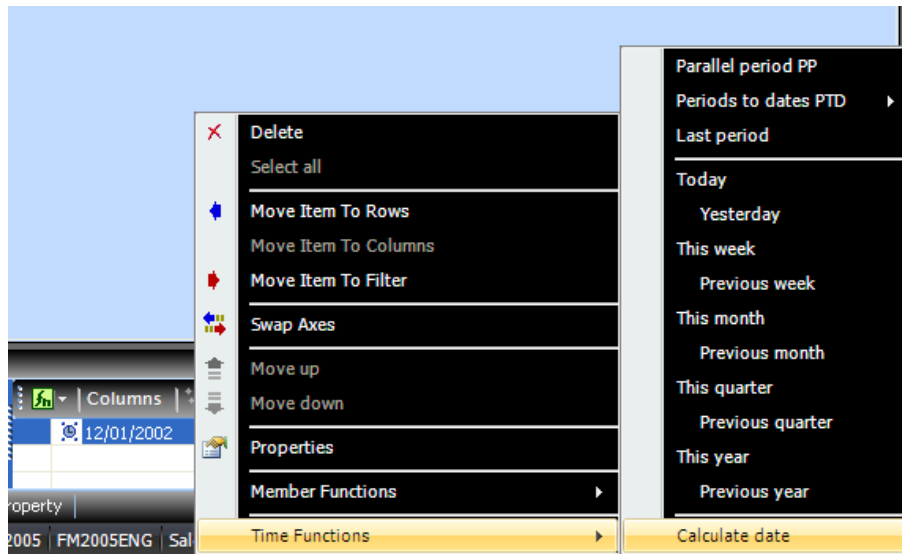
This Quarter or **Last Quarter** select member from level that represents Quarters

This Year or **Last Year** select member from level that represents Years

- Add member from selected level (Day in our case) to rows or columns area

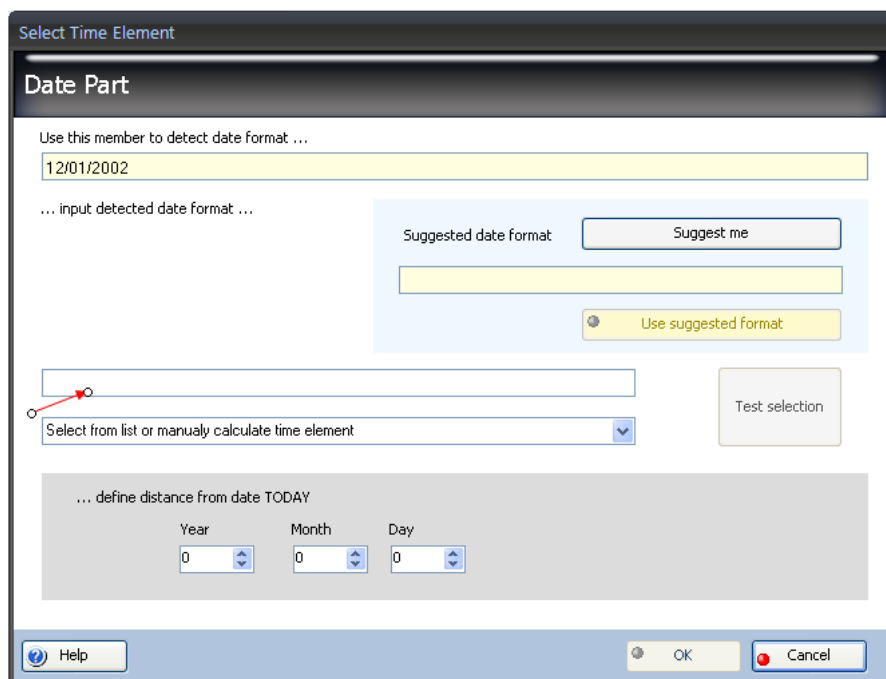


If levels have defined Time Types, CubePlayer will detect that and it will enable only appropriate options. On the previous picture there is Day level does not have any definition, so CubePlayer allows all options.



- Select appropriate option during member selection or after inside row or column area

After selection dialog will appear:



In second text box you have to enter Date Format.

CubePlayer will try to help you and if you select button **Suggest me**, it will suggest Date Format.

If you find that suggestion suitable just click on button **Use suggested** format and it will appear inside the text box that should be filled with date format.

Select Time Element

Date Part

Use this member to detect date format ...

12/01/2002

... input detected date format ...

Suggested date format

MM"dd"yyyy

☒ Use suggested format

Select from list or manually calculate time element

... define distance from date TODAY

Year Month Day

0 0 0

However, due to many, many combinations there is a chance that suggested Date Format will not be Appropriate. If that is the case instead MM or d or yy you will see ? (question mark(s)). In that case you can do the same and try to replace ? with appropriate symbols. And you will have to add or correct it manually.

Select Time Element

Date Part

Use this member to detect date format ...

12/01/2002

... input detected date format ...

Suggested date format

??"dd"yyyy

☒ Use suggested format

??"dd"yyyy

Select from list or manually calculate time element

... define distance from date TODAY

Year Month Day

0 0 0

Main guidelines:

Any element that represents any Date Part (number or character written Date Part) replace with appropriate international replacement:

yy

Years represented with two digits

yyyy	Years represented with four digits
M	Month
MM	Month with leading zero (... 07, 08, 09, 10 ...)
MMM	Month abbreviation (... Oct, Nov ...)
MMMM	Month full name (... October ...)
Q	Quarter
QQ	Quarter with leading zero
W	Week
WW	Week with leading zero
d	day
dd	day with leading zero (... 08, 09, 10, 11 ...)
ddd	day short name (... Fri, Thu ...)
dddd	day full name (... Friday ...)

Any element that does not represents Date Part should be placed inside **DOUBLE QUOTES**

Examples:

Returned date	Format	Date to count from
01/01/2008	dd"/"MM"/"yyyy	1 st of January 2008
01/01/2008 - Thu	dd"/"MM"/"yyyy" _ "ddd	1 st of January 2008
01/01/2008 - Thursday	dd"/"MM"/"yyyy" _ "dddd	1 st of January 2008
1/1/08	d"/"M"/"yy	1 st of January 2008
Q1 FY 2008	"Q"Q" FY "yyyy	1 st quarter of Fiscal Year 2008
Week 03 CY 2007	"Week "WW" CY "yyyy	third week of year 2007

Select Time Element

Date Part

Use this member to detect date format ...

12/01/2002

... input detected date format ...

Suggested date format: MM"/"dd"/"yyyy

Use suggested format

MM"/"dd"/"yyyy

Select from list or manually calculate time element

... define distance from date TODAY

Year: 0, Month: 0, Day: 0

Help OK Cancel

In our case CubePlayer suggests correct Date Format. All you have to do is select OK.

Recommendation

When you want to determine whether your months or days have leading zeros, before you use this feature open your time dimension and take a look for members from beginning of month (if you are looking for days). There you will see if for example first day in month is **01** (with leading zero) or **1** (without leading zero).

Now, let us define date that is on distance of

9 years 2 months and one day from today
(and today is **December 19th 2009**)

Input numbers -9 for years, -2 for months and -1 for days.

Select Time Element

Date Part

Use this member to detect date format ...

12/01/2002

... input detected date format ...

Suggested date format:

Select from list or manually calculate time element

... define distance from date TODAY

Year	Month	Day
<input type="text" value="-9"/>	<input type="text" value="-2"/>	<input type="text" value="1"/>

To test your selection press button **test**.

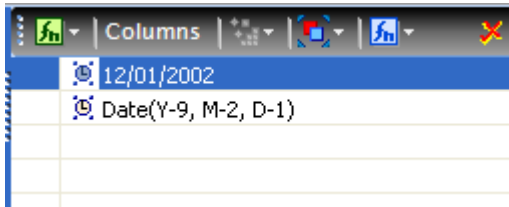
If you entered correct format and that member exists in time dimension you will get message:

CubePlayer

Member UN:
[Time].[hYear].[Date].&[1753]

Member C:
10/18/2000

Now press **OK** on main dialog.



Remove “mother” member (the member Date Element is made of – 12/01/2002) and select Run icon to see result.

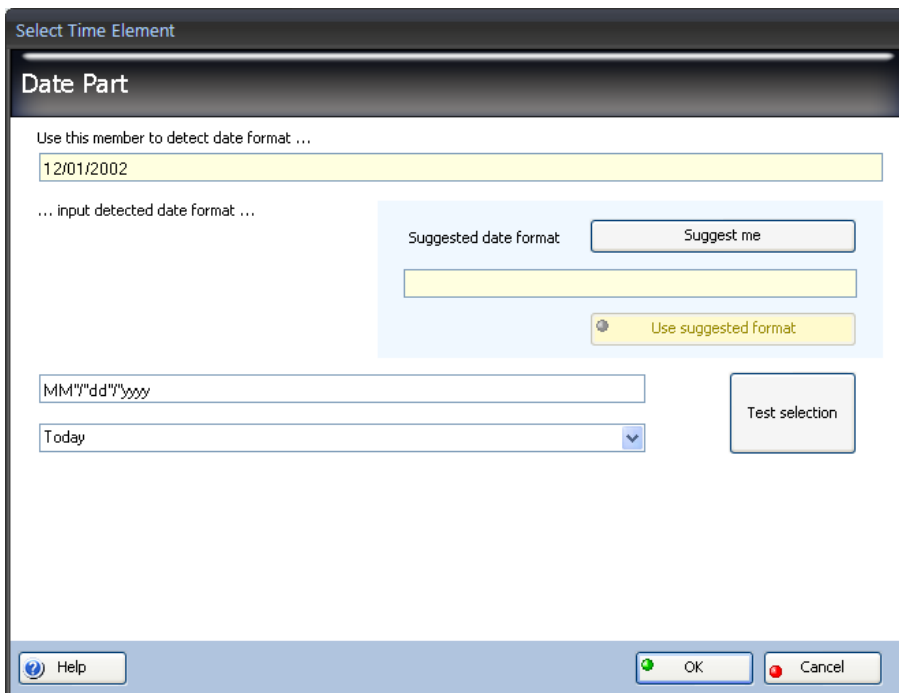
NOTE

Please do not forget that some Date Elements may not have results.

For example, many cubes will not have results for **Today**, since last processed data is for **Yesterday**.

Once you set format for one hierarchy and one level inside that hierarchy CubePlayer will remember it
And each time you deal with that hierarchy and level it will offer that format.

Let us do it once again for same member (now select Today):



As you can see, instead of suggestion you have already filled date format text box.
In case you made mistake previously just correct format and select **OK**.

Qualified names

CubePlayer will ALWAYS make calculations according to current day (TODAY) on your own computer (it will use your system clock).

In this case we will show example with Qualified Names like

```
[Vrijeme].[Kalendar].[Svi datumi].[2008].[2008 Q 1].[2008 M 1]
```

Translation:

```
[Date].[Calendar].[All date].[2008].[2008 Q 1].[2008 M 1]
```

January 2008

To create date element you have to place one member from the level that will be used for calculations.

If you want to create:

Today or **Yesterday** select member from level that represents Day

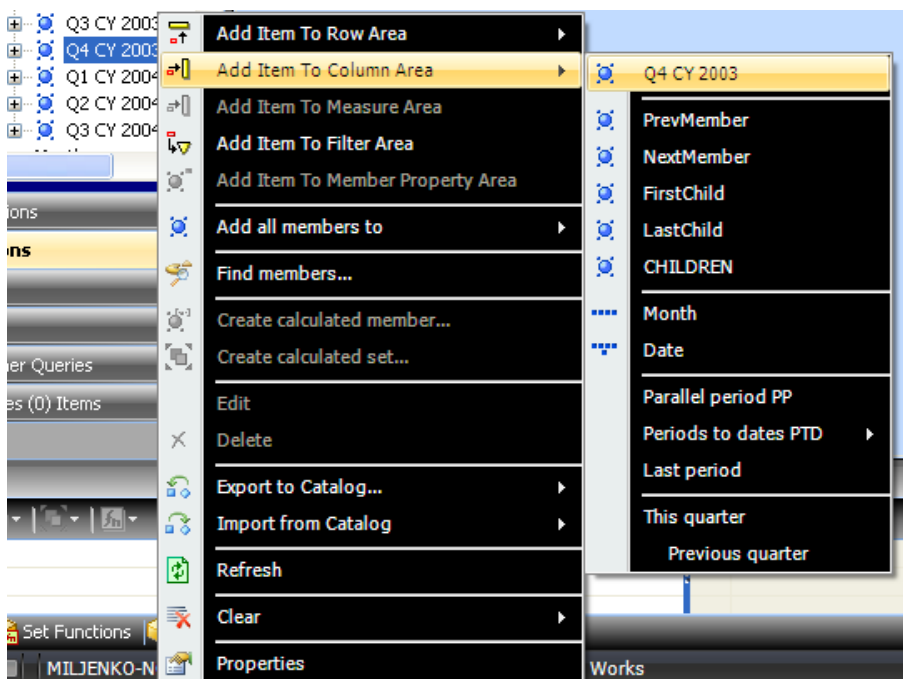
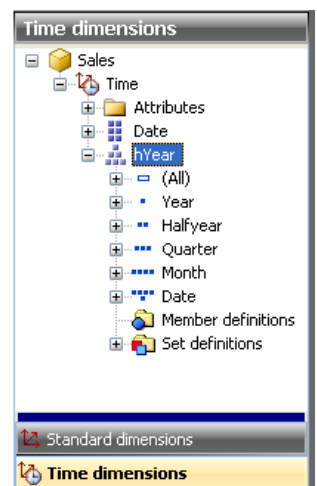
This Week or **Last Week** select member from level that represents Weeks

This Month or **Last Month** select member from level that represents Months

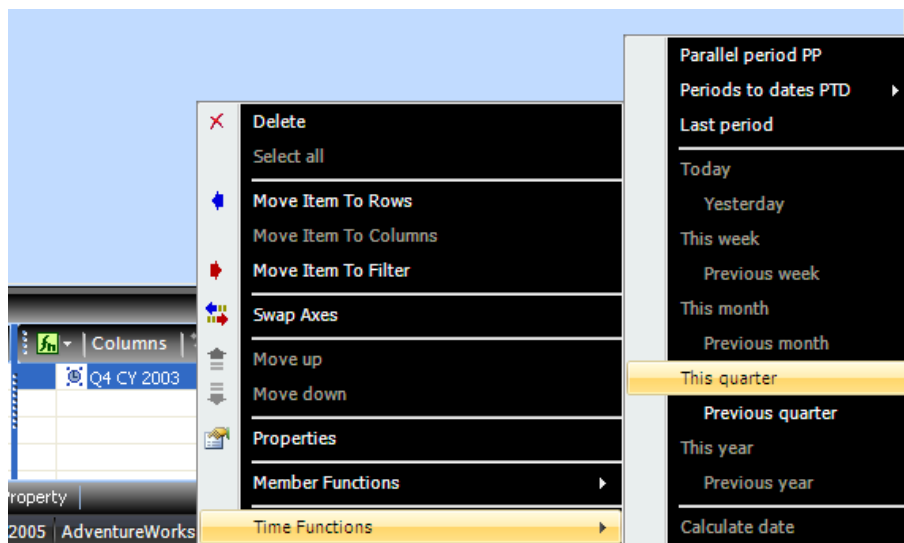
This Quarter or **Last Quarter** select member from level that represents Quarters

This Year or **Last Year** select member from level that represents Years

- Add member from selected level (**Quarter** in our case) to rows or columns area

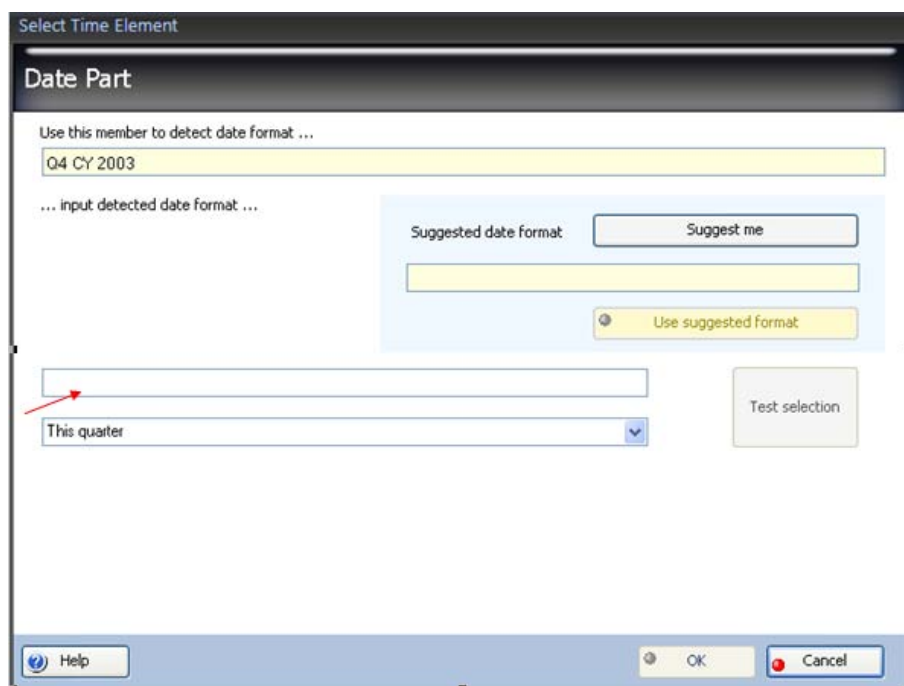


If levels have defined Time Types, CubePlayer will detect that and it will enable only appropriate options. On the previous picture there **Quarter** level has definition, so CubePlayer allows only appropriate options.



- Select appropriate option during member selection or after inside row or column area (we will select Calculate option)

After selection dialog will appear:



In second text box you have to enter Date Format.

CubePlayer will try to help you and if you select button **Suggest me**, it will suggest Date Format.

If you find that suggestion suitable just click on button **Use suggested** format and it will appear inside the text box that should be filled with date format.

Select Time Element

Date Part

Use this member to detect date format ...

Q4 CY 2003

... input detected date format ...

Suggested date format

Suggest me

"Q"Q" CY "yyyy

Use suggested format

Test selection

Help OK Cancel

However, due to many, many combinations there is a chance that suggested Date Format will not be Appropriate. If that is the case instead **MM** or **d** or **yy** you will see ? (question mark(s)). In that case you can do the same and try to replace ? with appropriate symbols. And you will have to add or correct it manually.

Select Time Element

Date Part

Use this member to detect date format ...

Q4 CY 2003

... input detected date format ...

Suggested date format

Suggest me

"?"?" CY "yyyy

Use suggested format

Test selection

Help OK Cancel

Main guidelines:

Any element that represents any Date Part (number or character written Date Part) replace with appropriate international replacement:

yy

Years represented with two digits

yyyy	Years represented with four digits
M	Month
MM	Month with leading zero (... 07, 08, 09, 10 ...)
MMM	Month abbreviation (... Oct, Nov ...)
MMMM	Month full name (... October ...)
Q	Quarter
QQ	Quarter with leading zero
W	Week
WW	Week with leading zero
d	day
dd	day with leading zero (... 08, 09, 10, 11 ...)
ddd	day short name (... Fri, Thu ...)
dddd	day full name (... Friday ...)

Any element that does not represents Date Part should be placed inside **DOUBLE QUOTES**

Examples:

Returned date	Format	Date to count from
01/01/2008	dd"/"MM"/"yyyy	1 st of January 2008
01/01/2008 - Thu	dd"/"MM"/"yyyy" _ "ddd	1 st of January 2008
01/01/2008 - Thursday	dd"/"MM"/"yyyy" _ "dddd	1 st of January 2008
1/1/08	d"/"M"/"yy	1 st of January 2008
Q1 FY 2008	"Q"Q" FY "yyyy	1 st quarter of Fiscal Year 2008
Week 03 CY 2007	"Week "WW" CY "yyyy	third week of year 2007

In our case CubePlayer suggested correct Date Format. All you have to do is select OK.

Recommendation

When you want to determine whether your months or days have leading zeros, before you use this feature open your time dimension and take a look for members from beginning of month (if you are looking for days). There you will see if for example first day in month is **01** (with leading zero) or **1** (without leading zero).

Now, select drop down box to select option:

Select from list or ...

Select Time Element

Date Part

Use this member to detect date format ...

Q4 CY 2003

... input detected date format ...

Suggested date format

Suggest me

"Q" "Q" CY "yyyy"

Use suggested format

"Q" "Q" CY "yyyy"

Test selection

Today

Select from list or manually calculate time element

Today

Yesterday

Previous week

Previous month

Previous quarter

Previous year

This week

Help OK Cancel

Now, let us define date that is on distance of

7 years from today
(and today is **December 20th 2009**)

Input numbers -7 for years.

Select Time Element

Date Part

Use this member to detect date format ...

Q4 CY 2003

... input detected date format ...

Suggested date format: "Q"Q" CY "yyyy

Use suggested format

"Q"Q" CY "yyyy

Select from list or manually calculate time element

... define distance from date TODAY

Year: -7, Month: 0, Day: 0

Test selection

Help OK Cancel

To test your selection press button **test**.

If you entered correct format and that member exists in time dimension you will get message:

CubePlayer

Member UN:
[Date].[Calendar].[Calendar Quarter].&[2002]&[4]

Member C:
Q4 CY 2002

OK

Now press **OK** on main dialog.

Columns

Q4 CY 2003

Calendar Quarter(Y-7, M+0, D+0)

Remove "mother" member (the member Date Element is made of – Q4 CY 2003) and select Run icon to see result.

NOTE

Please do not forget that some Date Elements may not have results.

For example, many cubes will not have results for **Today**, since last processed data is for **Yesterday**.

Once you set format for one hierarchy and one level inside that hierarchy CubePlayer will remember it. And each time you deal with that hierarchy and level it will offer that format.

Let us do it once again for same member (now select **This Quarter**):

Select Time Element

Date Part

Use this member to detect date format ...

Q4 CY 2003

... input detected date format ...

Suggested date format

Suggest me

Use suggested format

"Q" "Q" CY "yyy

This quarter

Test selection

Help OK Cancel

As you can see, instead of suggestion you have already filled date format text box.
In case you made mistake previously just correct format and select **OK**.

Composite names

CubePlayer will ALWAYS make calculations according to current day (TODAY) on your own computer (it will use your system clock).

In this case we will show example with Composite Names like

Unique name	[Date].[Calendar].[Calendar Quarter].&[2003]&[4]
Caption	Q4 CY 2003
Date	4th quarter of 2003

To create date element you have to place one member from the level that will be used for calculations.

If you want to create:

Today or Yesterday select member from level that represents Day

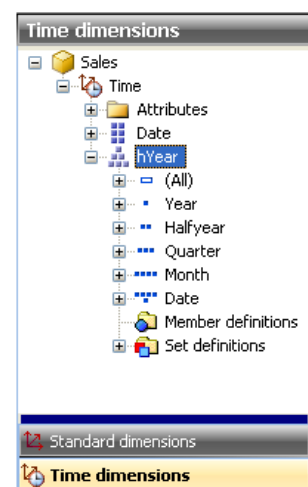
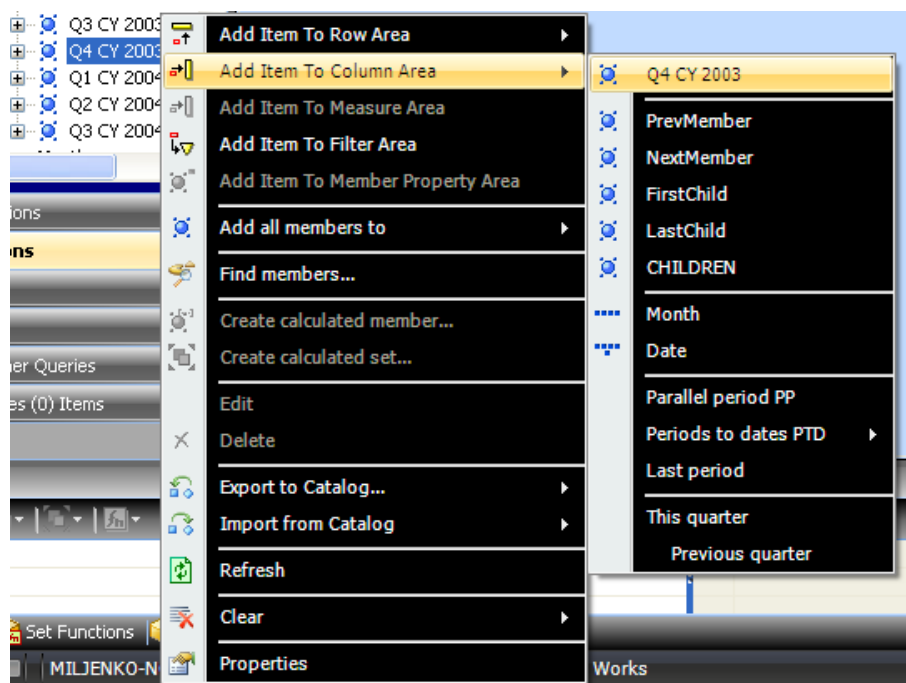
This Week or Last Week select member from level that represents Weeks

This Month or Last Month select member from level that represents Months

This Quarter or Last Quarter select member from level that represents Quarters

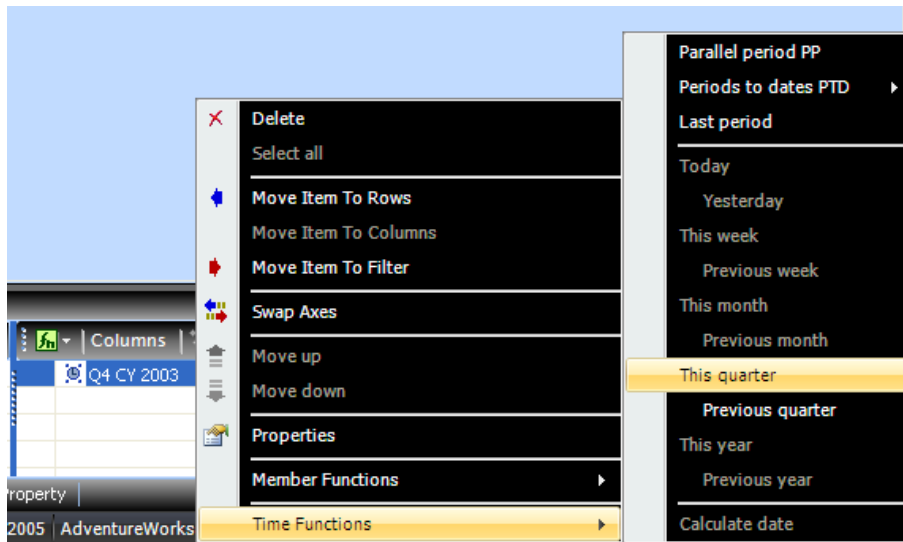
This Year or Last Year select member from level that represents Years

- Add member from selected level (**Quarter** in our case) to rows or columns area



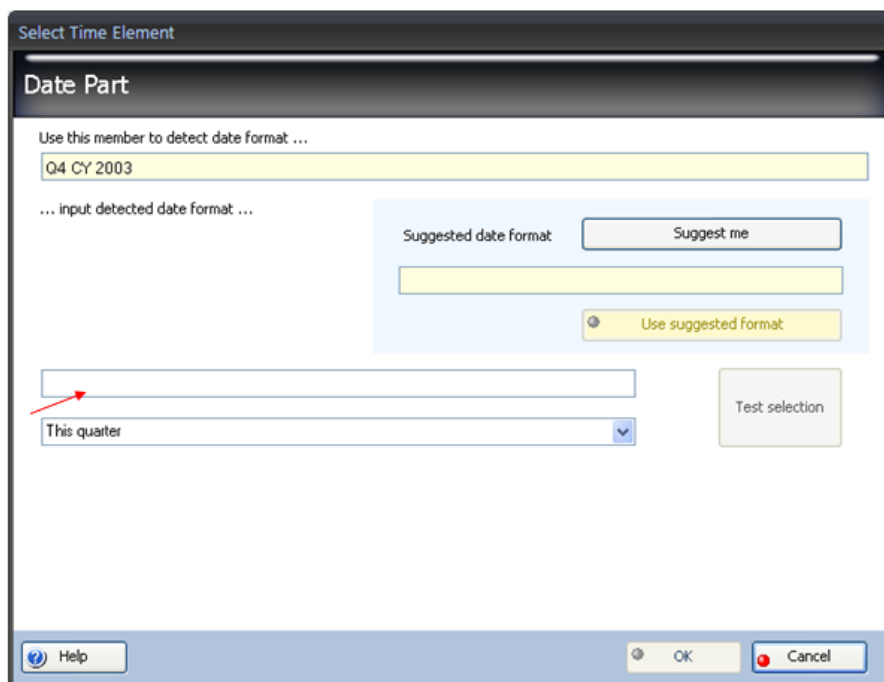
If levels have defined Time Types, CubePlayer will detect that and it will enable only appropriate options.

On the previous picture there **Quarter** level has definition, so CubePlayer allows only appropriate options.



- Select appropriate option during member selection or after inside row or column area (we will select Calculate option)

After selection dialog will appear:



In second text box you have to enter Date Format.

CubePlayer will try to help you and if you select button **Suggest me**, it will suggest Date Format.

If you find that suggestion suitable just click on button **Use suggested** format and it will appear inside the text box that should be filled with date format.

Select Time Element

Date Part

Use this member to detect date format ...

Q4 CY 2003

... input detected date format ...

Suggested date format

Suggest me

"Q"Q" CY "yyyy

Use suggested format

Test selection

Help OK Cancel

However, due to many, many combinations there is a chance that suggested Date Format will not be Appropriate. If that is the case instead **MM** or **d** or **yy** you will see ? (question mark(s)). In that case you can do the same and try to replace ? with appropriate symbols. And you will have to add or correct it manually.

Select Time Element

Date Part

Use this member to detect date format ...

Q4 CY 2003

... input detected date format ...

Suggested date format

Suggest me

"?"?" CY "yyyy

Use suggested format

Test selection

Help OK Cancel

Main guidelines:

Any element that represents any Date Part (number or character written Date Part) replace with appropriate international replacement:

yy

Years represented with two digits

yyyy	Years represented with four digits
M	Month
MM	Month with leading zero (... 07, 08, 09, 10 ...)
MMM	Month abbreviation (... Oct, Nov ...)
MMMM	Month full name (... October ...)
Q	Quarter
QQ	Quarter with leading zero
W	Week
WW	Week with leading zero
d	day
dd	day with leading zero (... 08, 09, 10, 11 ...)
ddd	day short name (... Fri, Thu ...)
dddd	day full name (... Friday ...)

Any element that does not represents Date Part should be placed inside **DOUBLE QUOTES**

Examples:

Returned date	Format	Date to count from
01/01/2008	dd"/"MM"/"yyyy	1 st of January 2008
01/01/2008 - Thu	dd"/"MM"/"yyyy" _ "ddd	1 st of January 2008
01/01/2008 - Thursday	dd"/"MM"/"yyyy" _ "dddd	1 st of January 2008
1/1/08	d"/"M"/"yy	1 st of January 2008
Q1 FY 2008	"Q"Q" FY "yyyy	1 st quarter of Fiscal Year 2008
Week 03 CY 2007	"Week "WW" CY "yyyy	third week of year 2007

Select Time Element

Date Part

Use this member to detect date format ...

12/01/2002

... input detected date format ...

Suggested date format: MM"/"dd"/"yyyy

Use suggested format

MM"/"dd"/"yyyy

Select from list or manually calculate time element

... define distance from date TODAY

Year: 0, Month: 0, Day: 0

Help OK Cancel

In our case CubePlayer suggested correct Date Format. All you have to do is select OK.

Recommendation

When you want to determine whether your months or days have leading zeros, before you use this feature open your time dimension and take a look for members from beginning of month (if you are looking for days). There you will see if for example first day in month is **01** (with leading zero) or **1** (without leading zero).

Now, select drop down box to select option:

Select from list or ...

Select Time Element

Date Part

Use this member to detect date format ...

Q4 CY 2003

... input detected date format ...

Suggested date format

Suggest me

"Q"Q" CY "yyyy"

Use suggested format

"Q"Q" CY "yyyy"

Test selection

Today

Select from list or manually calculate time element

Yesterday

Previous week

Previous month

Previous quarter

Previous year

This week

Help OK Cancel

Now, let us define date that is on distance of

7 years from today
(and today is **December 20th 2009**)

Input numbers -7 for years.

Select Time Element

Date Part

Use this member to detect date format ...

Q4 CY 2003

... input detected date format ...

Suggested date format:

Select from list or manually calculate time element

... define distance from date TODAY

Year	Month	Day
-7	0	0

To test your selection press button **test**.

If you entered correct format and that member exists in time dimension you will get message:

CubePlayer

Member UN:
[Date].[Calendar].[Calendar Quarter].&[2002]&[4]

Member C:
Q4 CY 2002

Now press **OK** on main dialog.

Columns
Q4 CY 2003
Calendar Quarter(Y-7, M+0, D+0)

Remove "mother" member (the member Date Element is made of – Q4 CY 2003) and select Run icon to see result.

NOTE

Please do not forget that some Date Elements may not have results.

For example, many cubes will not have results for **Today**, since last processed data is for **Yesterday**.

Once you set format for one hierarchy and one level inside that hierarchy CubePlayer will remember it. And each time you deal with that hierarchy and level it will offer that format.

Let us do it once again for same member (now select **This Quarter**):

Select Time Element

Date Part

Use this member to detect date format ...

Q4 CY 2003

... input detected date format ...

Suggested date format

Suggest me

Use suggested format

"Q"Q" CY "yyyy"

This quarter

Test selection

Help OK Cancel

As you can see, instead of suggestion you have already filled date format text box.
In case you made mistake previously just correct format and select **OK**.

Member functions in Designer

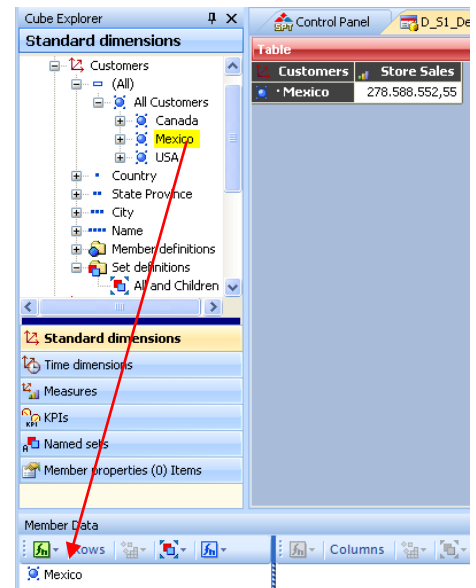
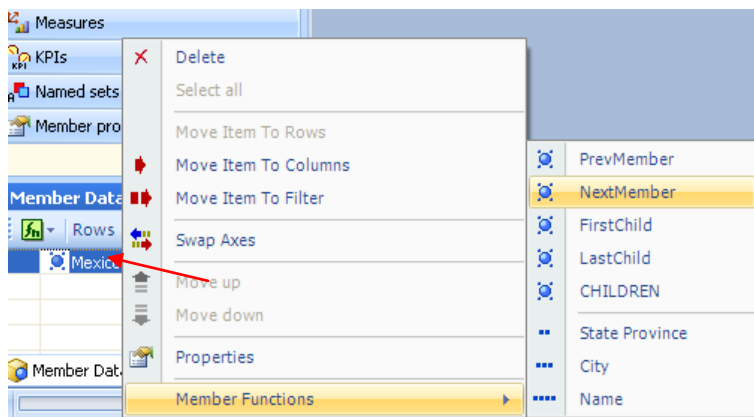
Our Designer has a special ability to apply MDX Member Functions to any member from any dimension including time dimension. Functions that can be applied without need to learn MDX language and syntax are:

- **NextMember** function
- **PreviousMember** function
- **FirstChilde** function
- **LastChilde** function
- **CHILDREN** function
- **Descendants** function

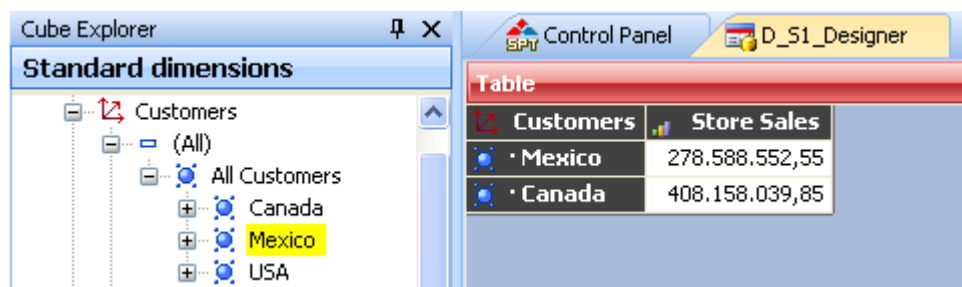
Next Member

To apply NextMember:


- Select **one member** from dimension (in our case **Mexico**)
(place it in a row area and put one measure in measure area)
- Right click
- Select **Member Functions** from menu
- Select **NextMember** from submenu



Next member is **USA** and it will appear at the result table.



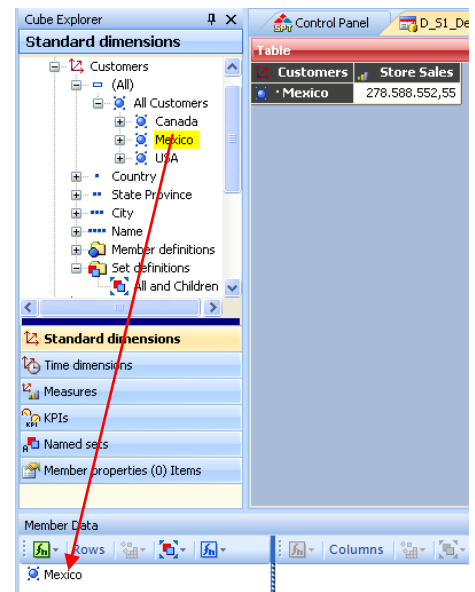
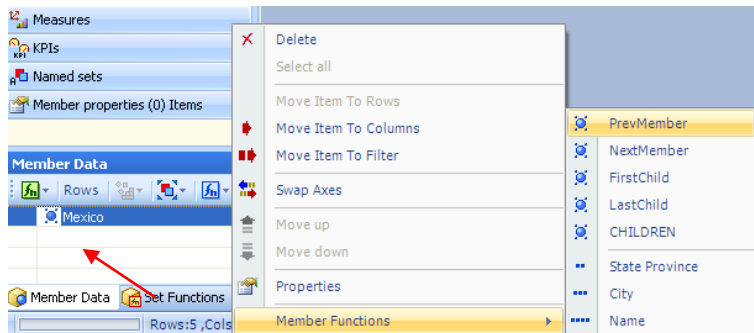
In row area you will see special element:

 Mexico , NextMember

Previous Member

To apply PrevMember:


- Select **one member** from dimension (in our case **Mexico**)
(place it in a row area and put one measure in measure area)
- Right click
- Select **Member Functions** from menu
- Select **PrevMember** from submenu



Previous member is **Canada** and it will appear at the result table.

Customers		Measures
(All)	Country	Store Sales
All Customers	Mexico	278.588.552,55
	Canada	408.158.039,85

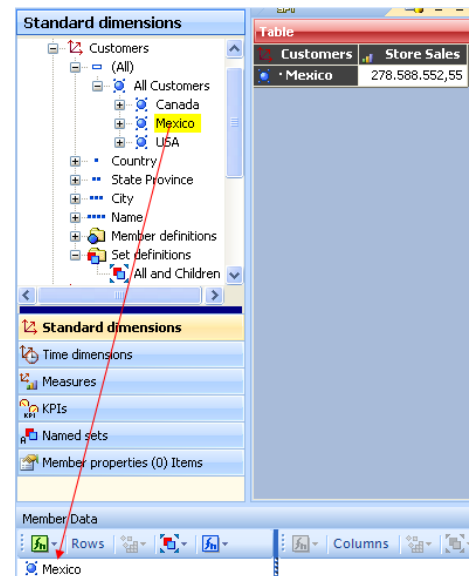
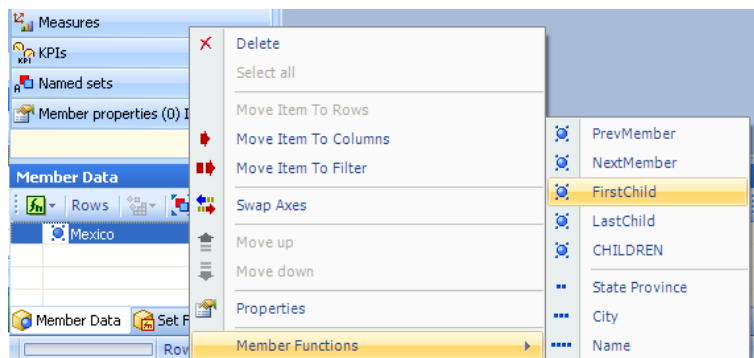
In row area you will see special element:

 Mexico , PrevMember

FirstChild function

To use function **FirstChild**:

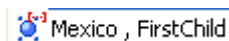
- Select **one member** from dimension (in our case **Mexico**)
(place it in a row area and put one measure in measure area)
- Right click
- Select **Member Functions** from menu
- Select **FirstChild** from submenu



FirstChild of **Mexico**, together with member **Mexico** will appear at the result table.



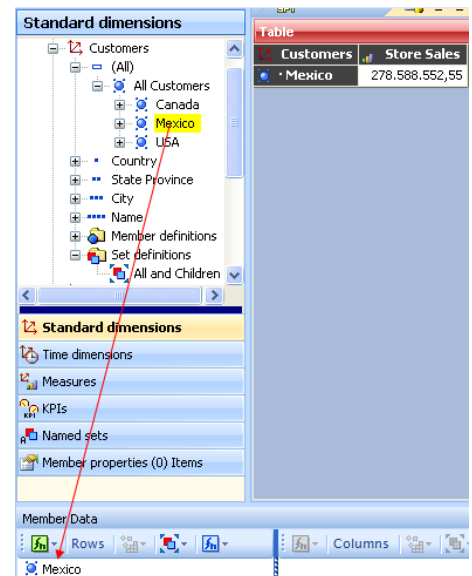
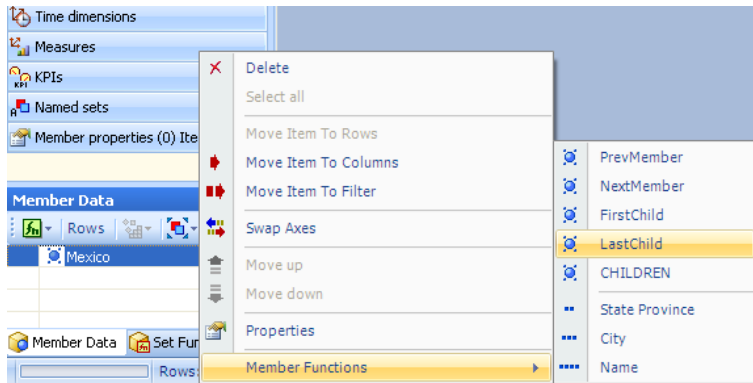
In row area you will see special element:



LastChild function

To use function **LastChild**:


- Select **one member** from dimension (in our case **Mexico**)
(place it in a row area and put one measure in measure area)
- Right click
- Select **Member Functions** from menu
- Select **LastChild** from submenu



LastChild of **Mexico**, together with member **Mexico** will appear at the result table.

Customers			Measures
(All)	Country	State Province	Store Sales
All Customers	Mexico	Zacatecas	42.990.736,85

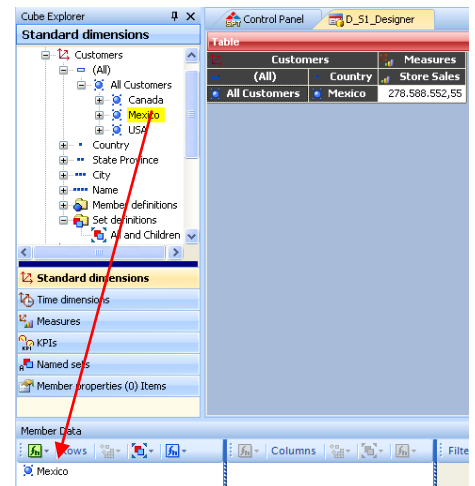
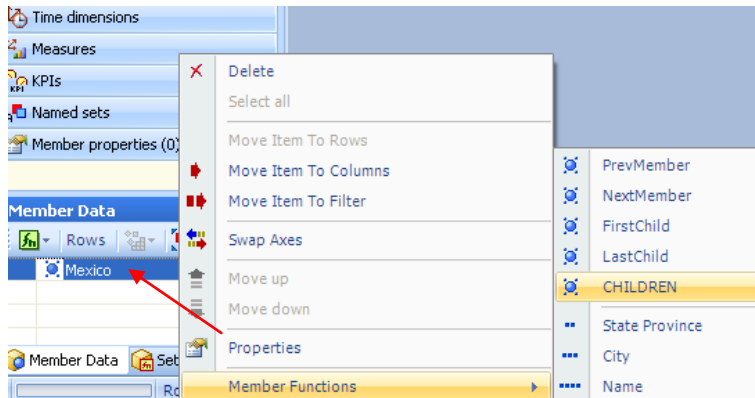
In row area you will see special element:

 Mexico , LastChild

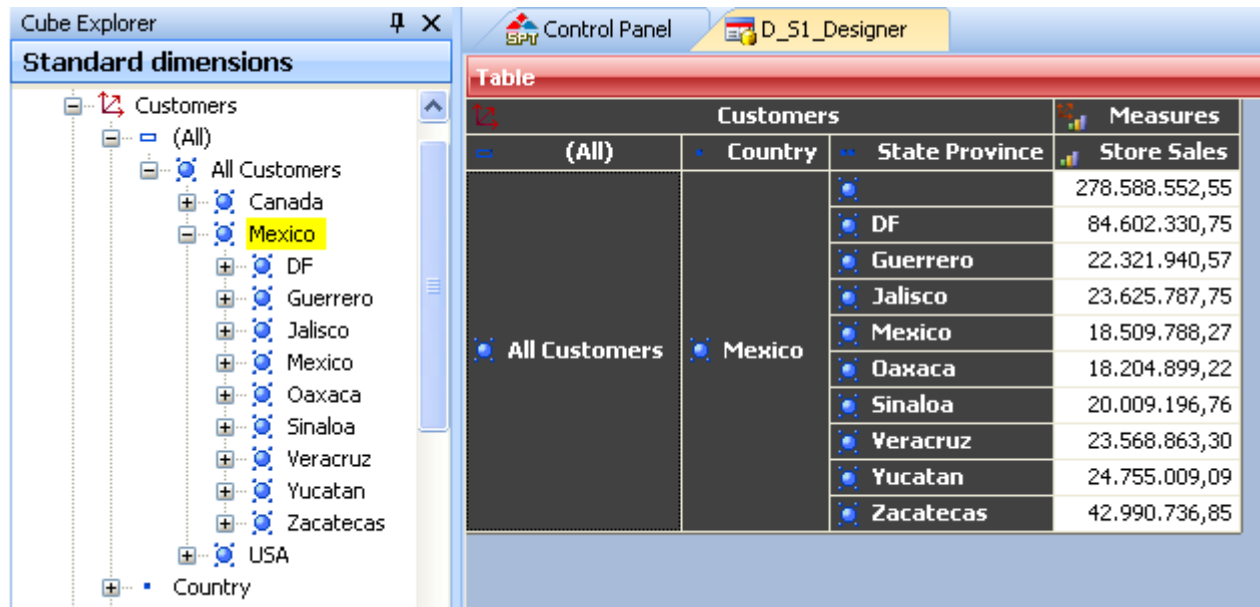
CHILDREN

To apply CHILDREN:

- Select **one member** from dimension (in our case **Mexico**)
(place it in a row area and put one measure in measure area)
- Right click
- Select **Member Functions** from menu
- Select CHILDREN from submenu



Childes of member **Mexico**, together with member **Mexico** will appear at the result table.



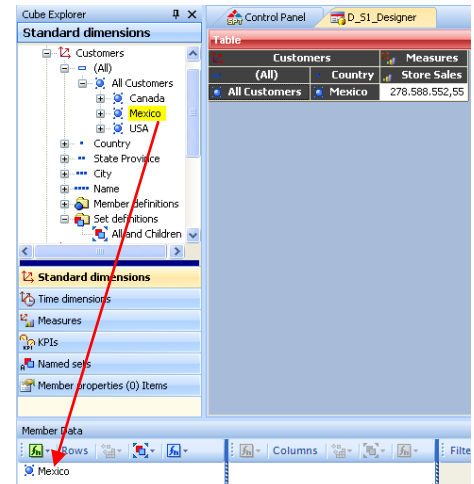
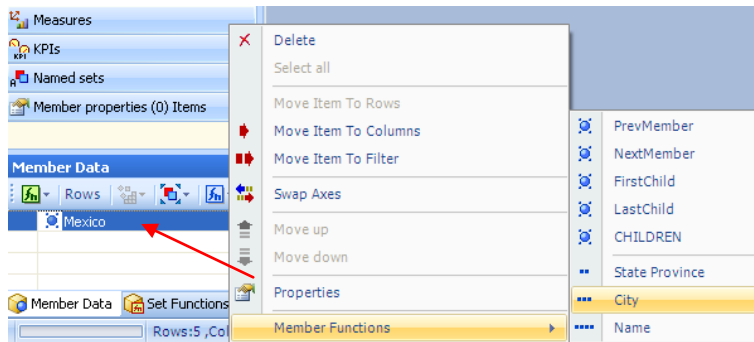
In row area you will see special element:



Descendants

To apply Descendants:

- Select **one member** from dimension (in our case **Mexico**)
(place it in a row area and put one measure in measure area)
- Right click
- Select **Member Functions** from menu
- Select **Descendants** from submenu
- Select **Level (City)** from submenu



Descendants of member Mexico, from level City, together with member Mexico will appear at the result table.

Table				
Customers				Measures
(All)	Country	State Province	City	Store Sales
All Customers	Mexico	DF	San Andres	21.863.173,83
			Santa Anita	25.342.713,58
			Santa Fe	11.414.977,18
			Tixapan	25.981.466,15
		Guerrero	Acapulco	22.321.940,57
			Jalisco	23.625.787,75
			Mexico	18.509.788,27
			Oaxaca	18.204.899,22
		Sinaloa	La Cruz	20.009.196,76
			Veracruz	23.568.863,30
			Yucatan	24.755.009,09
			Camacho	22.096.112,39
		Zacatecas	Hidalgo	20.894.624,45

In row area you will see special element:

Mexico , Descendants (City)

Local calculated cube elements

CubePlayer gives you opportunity to create four (4) types of **Local Calculated elements**:

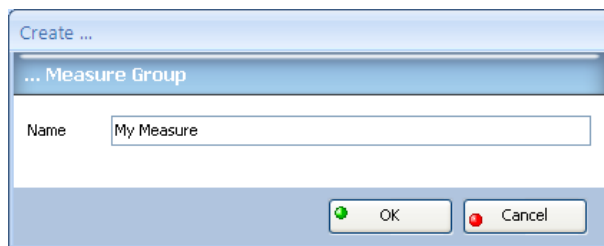
- Calculated Measures
- Calculated Members
- Calculated Sets
- Calculated Named sets

Create calculated measure in designer

Inside **Designer** switch to **Measures** tab.

- Select **Measures** in tree view
- Right click your mouse
- Select **Create new group** from popup menu

Create group dialog will appear.



The 'Create ...' dialog box is shown. It has a title bar 'Create ...' and a subtitle '... Measure Group'. There is a text field labeled 'Name' containing 'My Measure'. At the bottom right are 'OK' and 'Cancel' buttons.

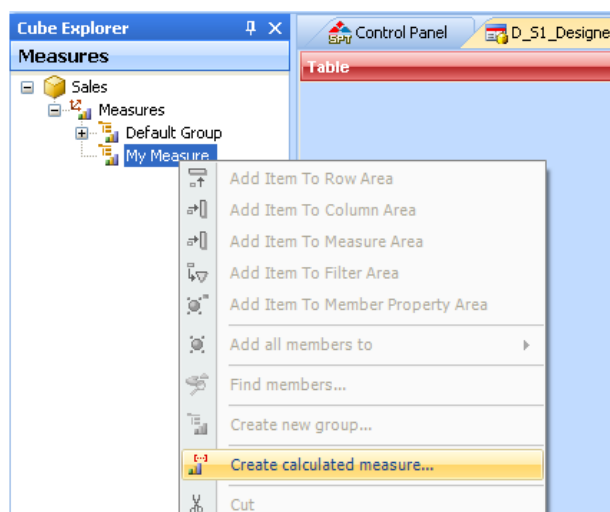
Name your group

- Write the name inside **Name** box
- Select OK.

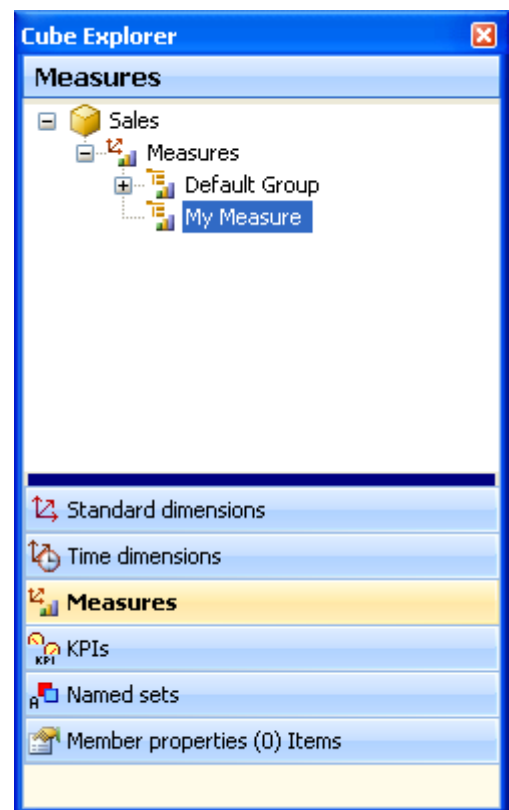
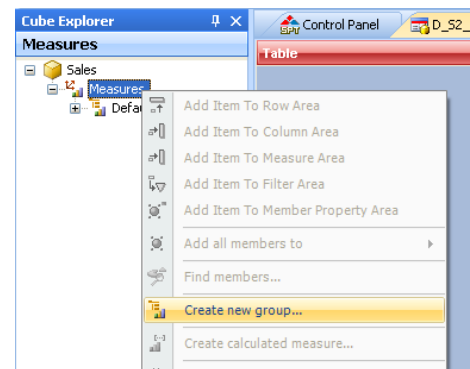
New group named **My Measures** appeared.

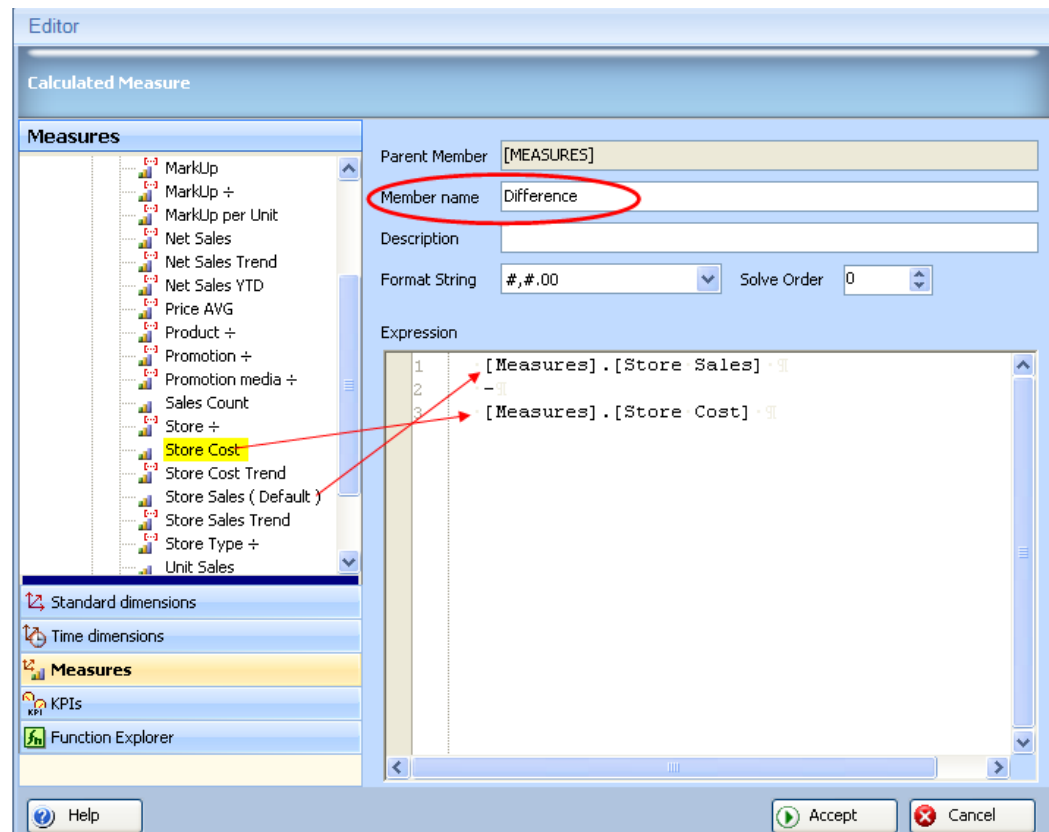
To create a **measure**:

- Place mouse over group
- Right click
- Select **Create calculated measure**.

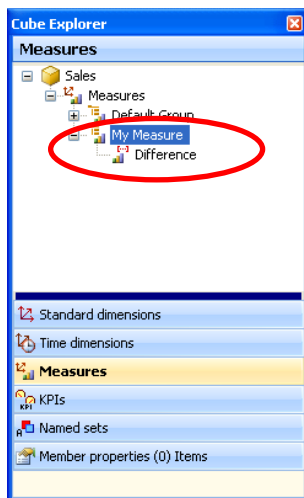


Create calculate measure form will appear.





Use left sided **Cube Explorer** to drag and drop measures. In this case we will calculate difference between **Store Sales** and **Store Cost**. This is a simple example. Now name your new measure (**Difference**) and Select OK.

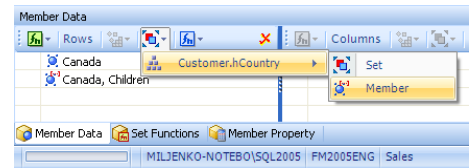


New measure will appear in **My Measure** group.

Create calculated member – from axis elements

Inside **Designer**:

- Open any dimension
- Add dimension members in **rows** or **columns**, add functions if you like
- Right click **Set icon** in title bar
- Select Dimension (if there are more) to create set
- Select **Member** from submenu

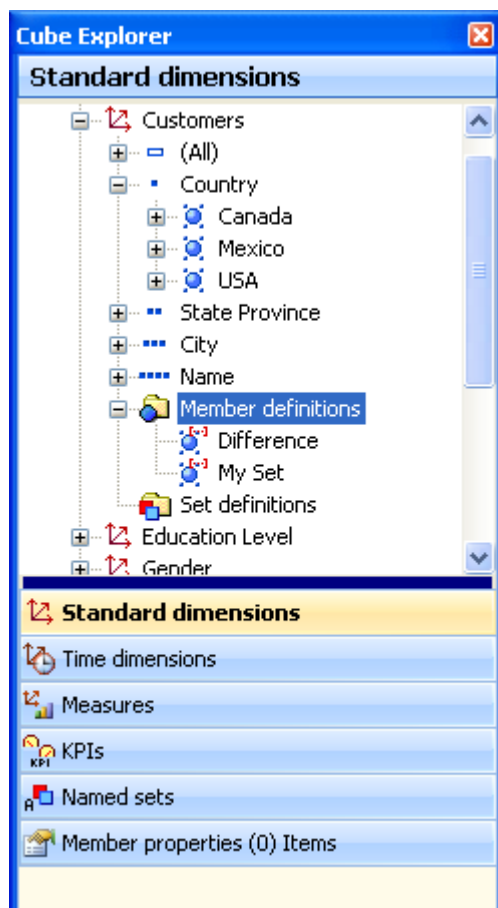
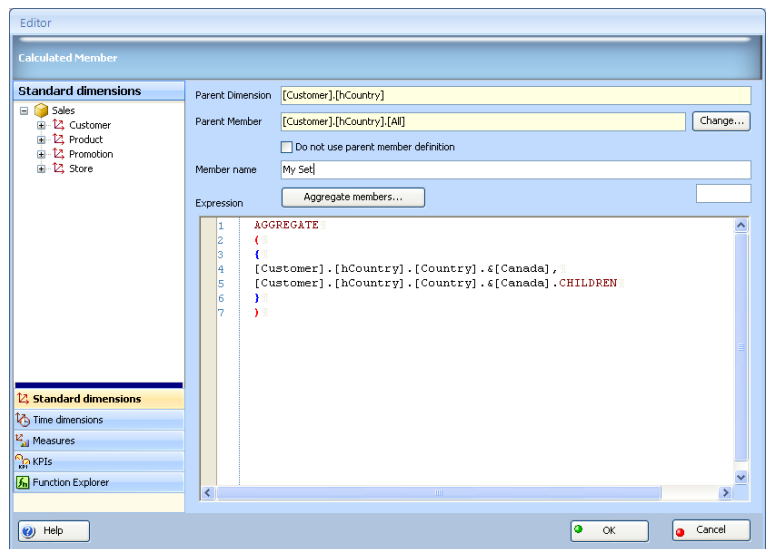


Create calculate member form will appear.

Expression for selected Dimension (from row set in our case) will appear inside expression window.

- Change the name if you like
- Select OK

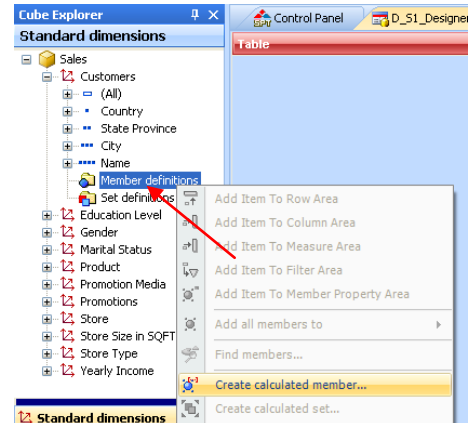
Member will appear inside selected dimension folder **Set**, ready for use.



Create calculated member

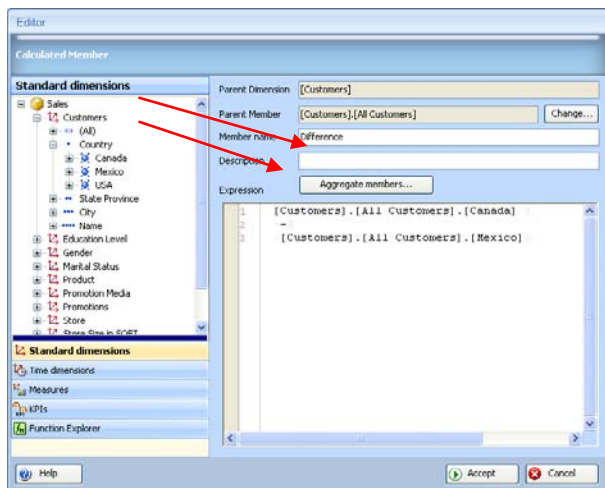
Inside **Designer** switch to tab **Time dimensions** or **Standard dimensions**:

- Open any dimension
- Place mouse over **Member definitions**.
- Right click
- Select **Create calculate member**.



Create calculate member form will appear.

Let us create one:



- First select parent member
- Use **Cube Explorer** to drag and drop Members (In this case we will calculate difference

between **Canada** and **Mexico**)

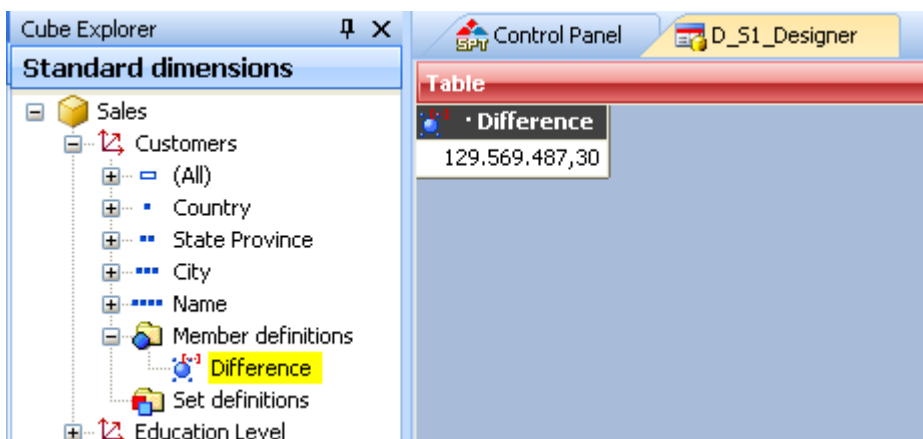
- Write name inside **Member name** box (**Difference**)

- Select OK.

To see new member:

- Select **Member definitions** folder
- Right click
- Select **Refresh** from menu

To check what we have done, we will add **Difference** member in a **Member data Column** area.

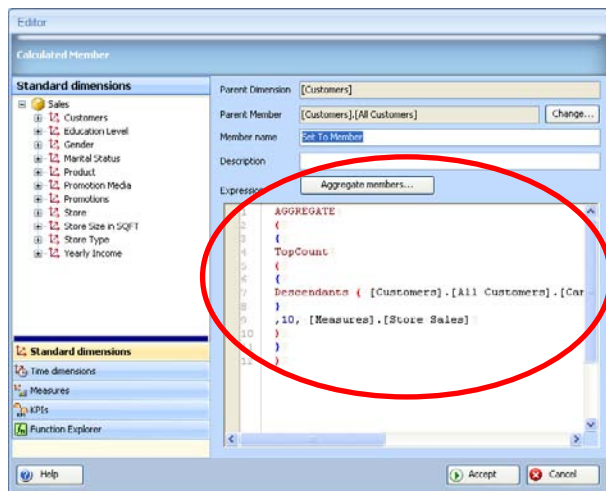


Create calculated member from set

Inside **Designer**:

- Select any dimension with local calculate set
- Right click selected set
- Select **Create member from** menu

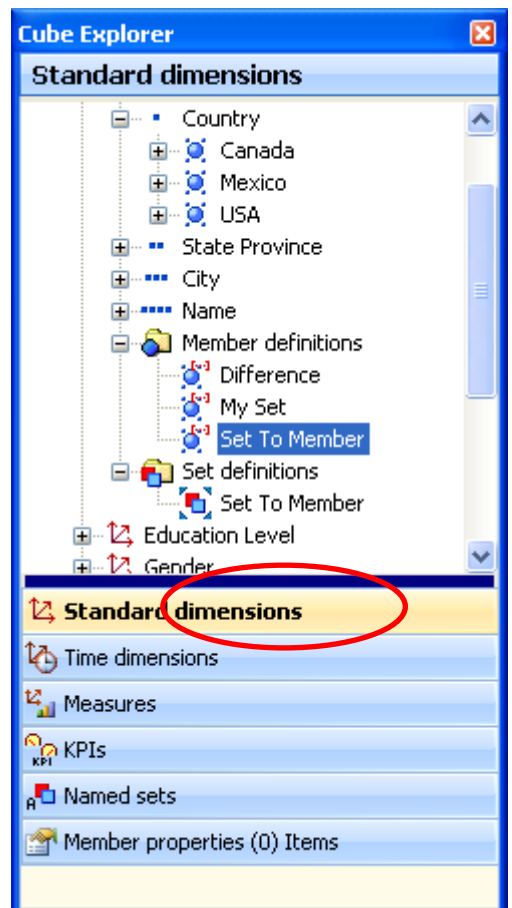
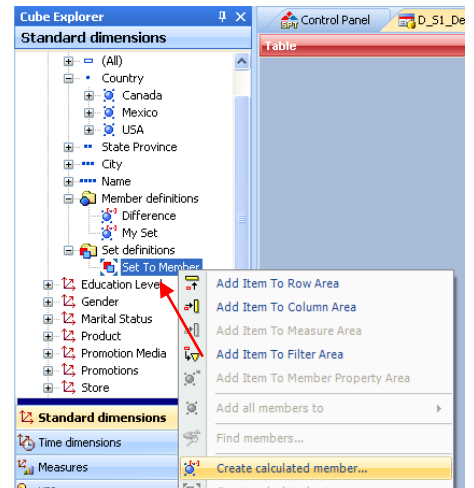
Create calculate member form will appear.



Expression from selected Set will appear inside expression window.

- Change the name if you like
- Select OK

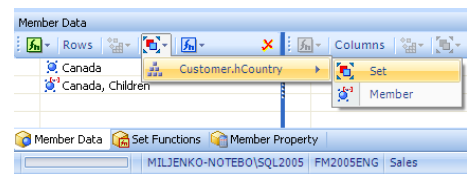
Member will appear inside selected dimension folder **Set**, ready for use.



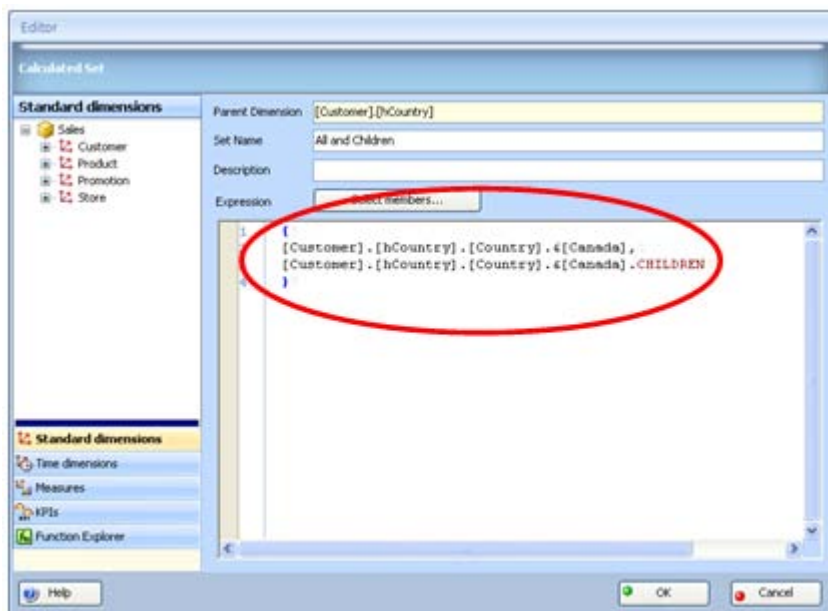
Create calculated set – from axis elements

Inside **Designer**:

- Open any dimension
- Add dimension members in **rows** or **columns**, add functions if you like
- Right click **Set icon** in title bar
- Select Dimension (if there are more) to create set



Create **calculate set** form will appear.



Expression for selected Dimension (from row set in our case) will appear inside expression window.

- Change the name if you like
- Select OK

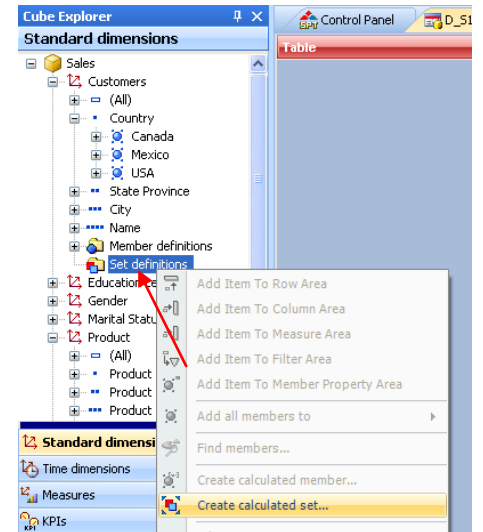
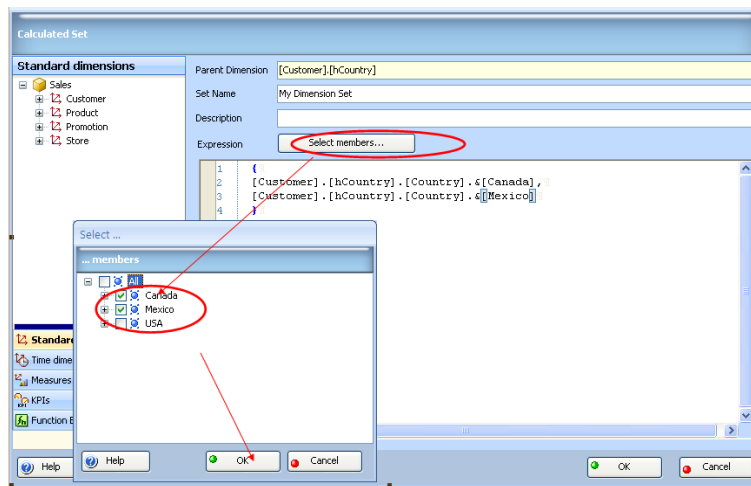
Set will appear inside selected dimension folder **Set**, ready for use.

Create calculated set

Inside **Designer** switch to tab **Time dimensions** or **Standard dimensions**:

- Open any **dimension**
- Place mouse over **Set definitions**.
- Right click
- Select **Create calculated set**.

Create calculate set form will appear.



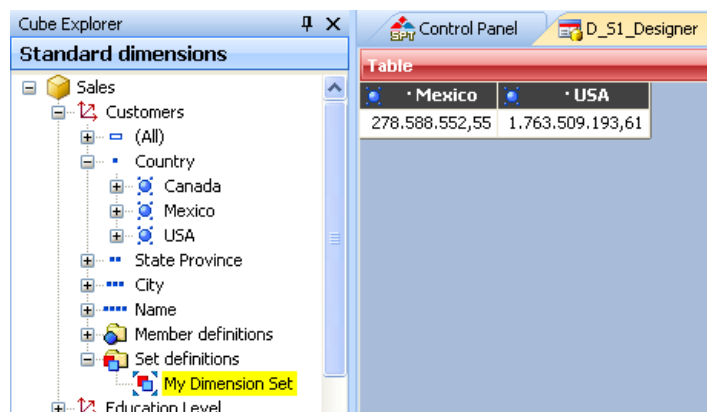
To create simple set:

- Select **Select members** button
- Select members (any member inside tree view, open tree view for more members) from new form.
 - We will select **USA** and **Mexico**.
- Give name (**My Dimension Set**)
- Select OK

To see new **dimension set**:

- Select **Set definitions** folder
- Right click
- Select **Refresh** from menu

To check what we have done, we will add **My Dimension Set** in a **Member data Column** area.



Create calculated Named set – from axis elements

Inside **Designer**:

- Use dimensions
- Add dimensions members in **rows** or **columns**, add functions if you like
- Right click **Set icon** in title bar
- Select **All (Named set)** from menu to create Named Set

Select dimension Customer or Product to create Set

Create calculate Named set group form will appear.

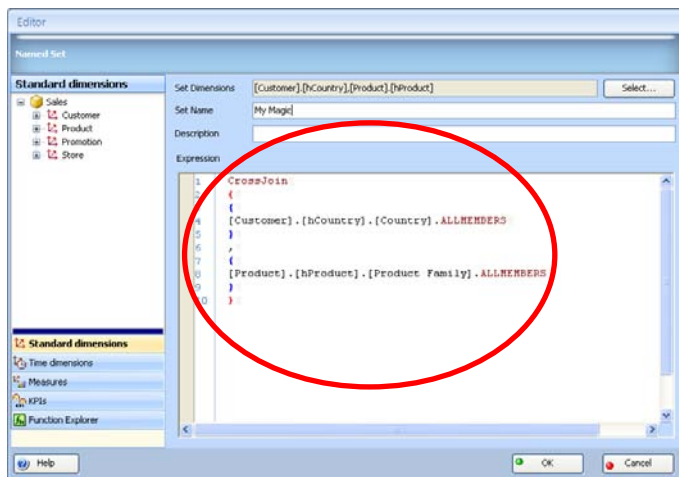
If you do not have any group created, you will have to create one.

If there is existing one, you can select it or create new one.

- Select **My Named Set**
- Select OK

Expression for selected Dimension (from **Member data** row area in our case) will appear inside expression window.

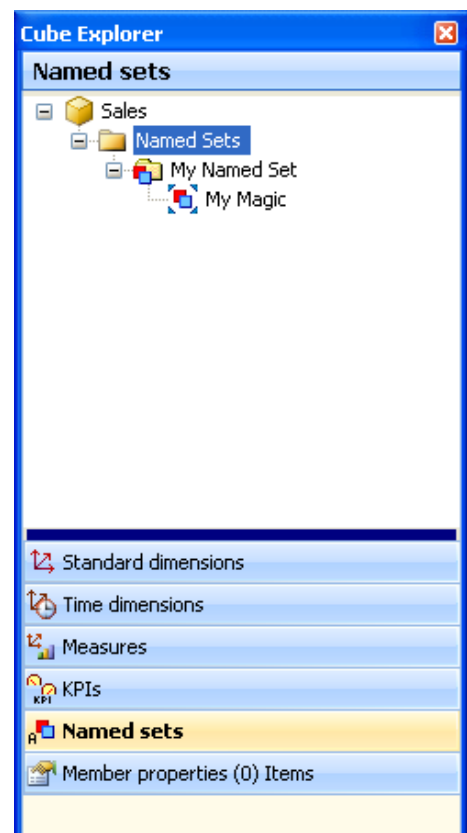
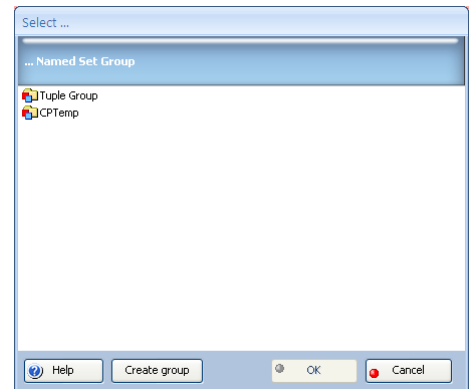
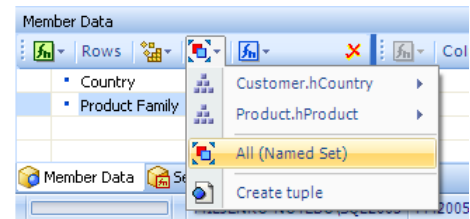
- Change the name if you like
- Select OK



Set will appear inside **Named set** tab, ready for use:

- Select tab **Named sets**
- Select folder **Named sets**
- Right click
- Select **Refresh**

If you can not see named set immediately, right click over group and select **Refresh**.

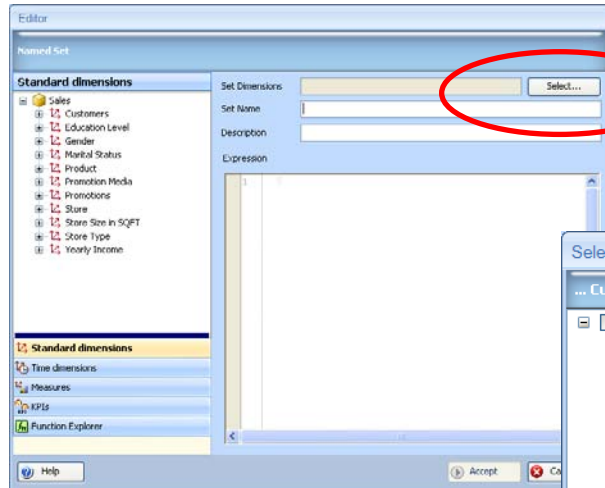
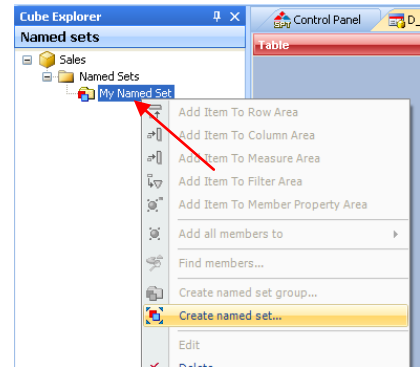


Create calculated Named set

To create a Named set:

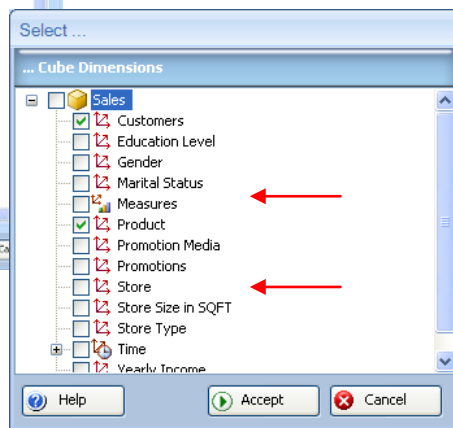
- Find Named set group
- Place the mouse over the group
- Right click
- Select **Create named set.**

Create named set form will appear.



To create simple set click on **Select Dimensions** button and select dimensions you want to include in set.

In this case select **Product** and **Customer** dimension.



Select your already prepared MDX:

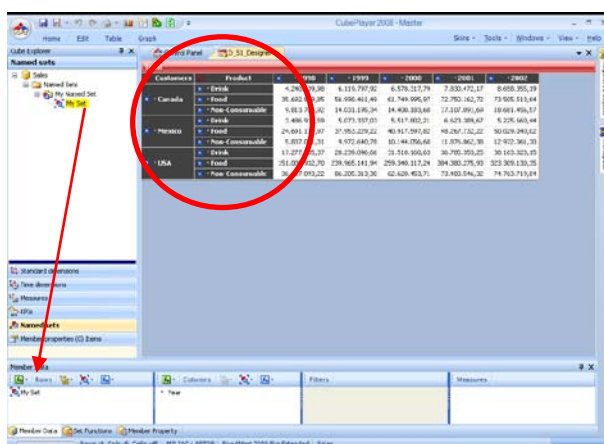
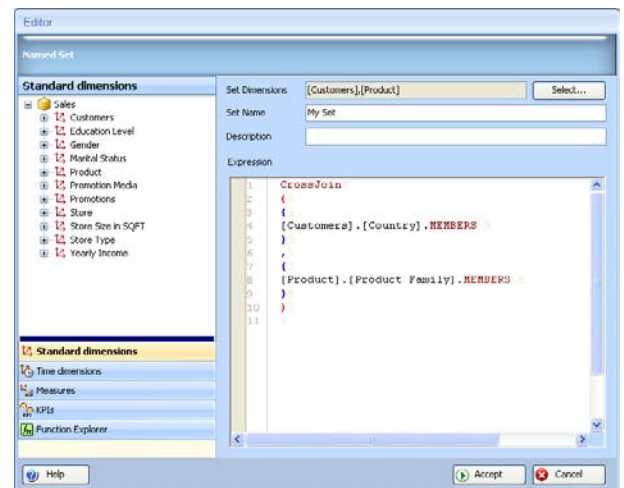
CrossJoin

```
{
  {
    [Customers].[Country].MEMBERS
  }
  ,
  {
    [Product].[Product Family].MEMBERS
  }
}
```

and paste it into Editor.

Now name your new set (My Set) and Select OK.

Use your set and place it inside rows. Add **Years** inside columns. And ... you have result for your **Named Set**.



Create tuple

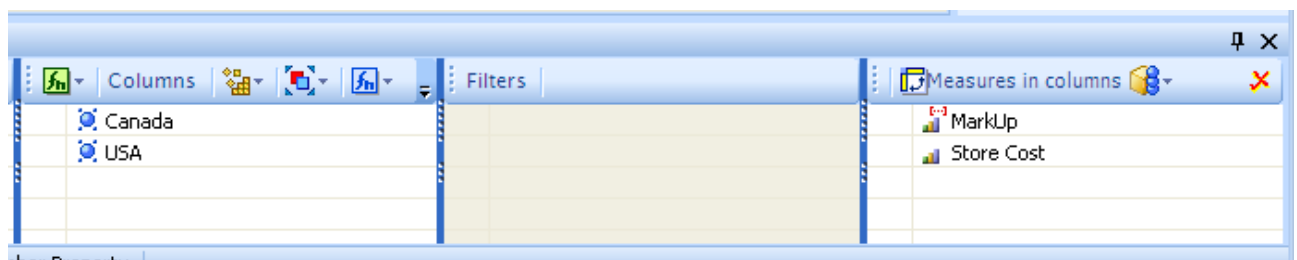
If you want to see Markup for USA and Canada and also Store Cost only for USA you will have to create so called Tuples. Groups of members from different dimensions that will represent a set of your data.

That set can be made of groups that contains one, two, three or more dimension in each group. It is must that each group Has same number of dimensions and in same order.

Table		
Canada	USA	
Markup	Store Cost	Markup
99,102,939.23	1,724,071,269.24	455,487,823.63

Without using tuple editor you may create something like this in designer:

Columns	USA
	Canada
Measures	Markup
	Store Cost



Unfortunately result set will look like this:

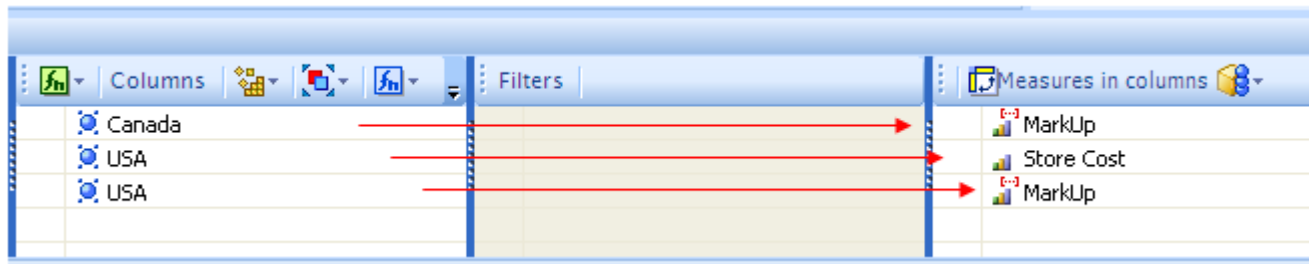
Table			
Canada		USA	
Markup	Store Cost	Markup	Store Cost
99,102,939.23	373,816,115.65	455,487,823.63	1,724,071,269.24

Reason is that OLAP always combine all members from one dimension with all members from another dimension.

Tuples we want create are

tuple (group) 1	Canada	Markup
tuple (group) 2	USA	Store Cost
tuple (group) 3	USA	Markup

That is exactly how you should order them inside designer elements

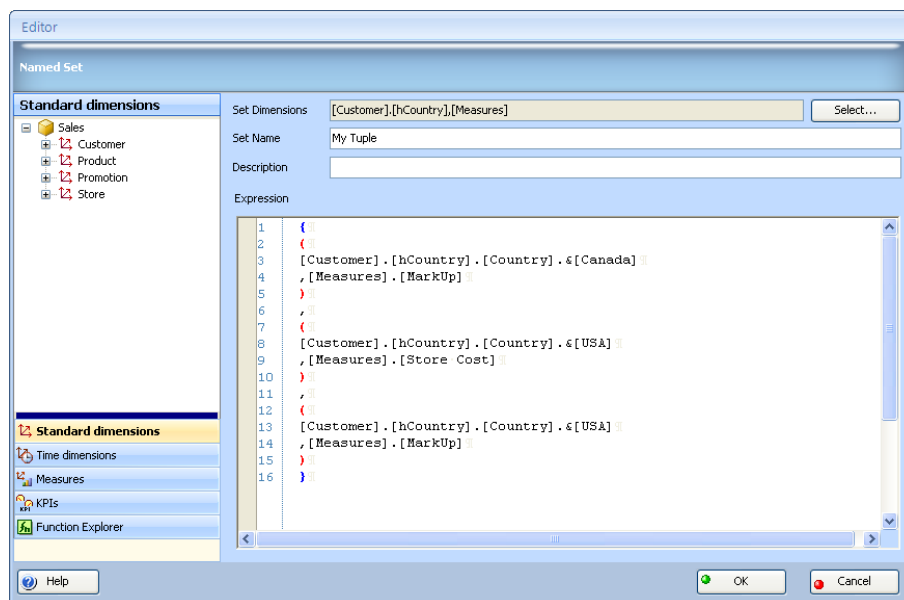


Use icon **Set**  and

- select **Create Tuple**.

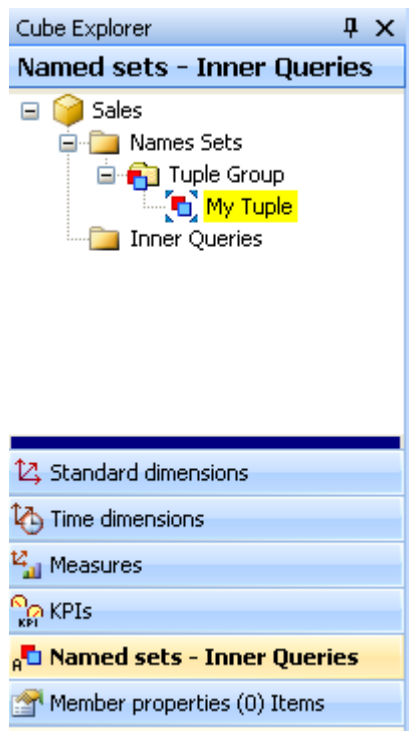


Dialog will appear (if you do not have any defined group for Named Sets you will have first to define new group and then to select it).



- Select **OK**

Your tuple will be saved inside Named Set tab within selected group:



Clear content of designer and add you tuple to columns:

Table		
Canada	USA	
MarkUp	Store Cost	MarkUp
99,102,939.23	1,724,071,269.24	455,487,823.63

Columns	Filters
My Tuple	

Create subselect - Inner query (2005 only)

CubePlayer gives you opportunity to create and use subselects or Inner Queries.

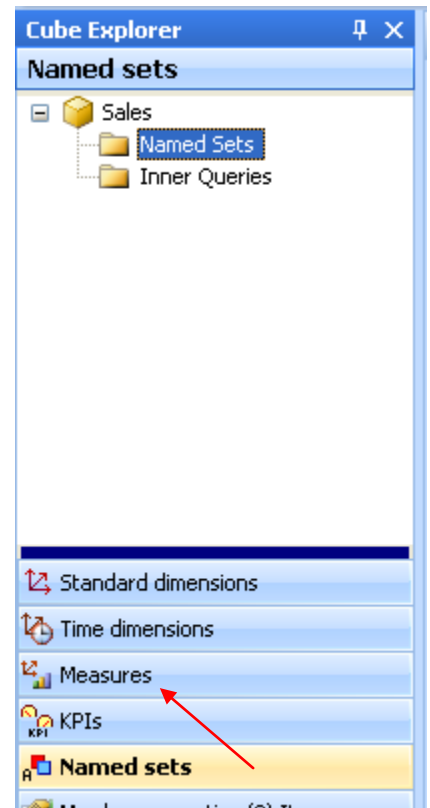
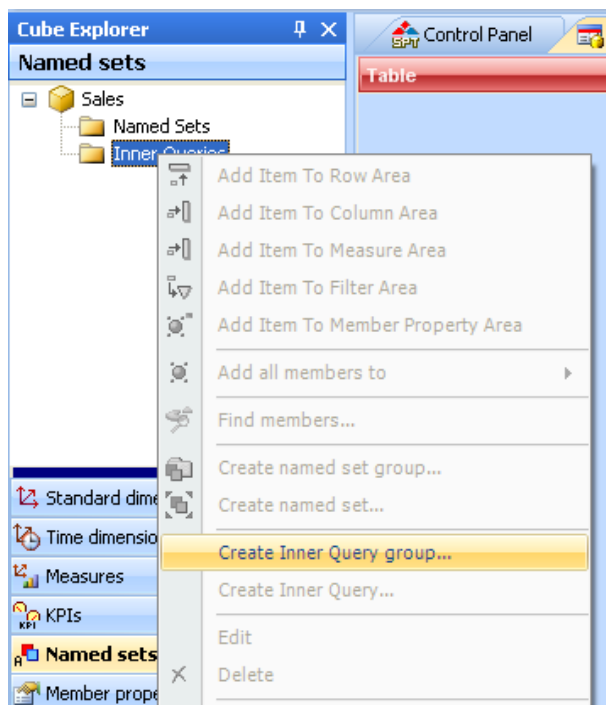
Inner Queries are placed at the same place as Named Sets, that means inside Named set tab:

Inner Query can not contain:

- WITH members
- Calculated measures
- NON EMPTY keyword

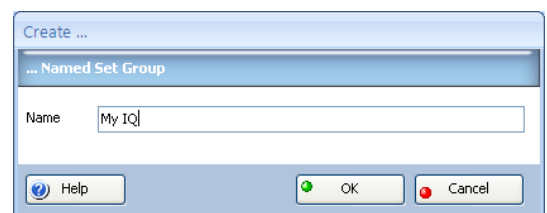
For inner query you need a group. To create a group:

- Select tab **Named Sets** inside **Cube Explorer**
- Place mouse over folder **Inner Query**
- Right click
- Select **Create Inner Query Group** from menu



Dialog will appear.

- Write name in the **Name** box
- Select **OK**.
- Use **Refresh**



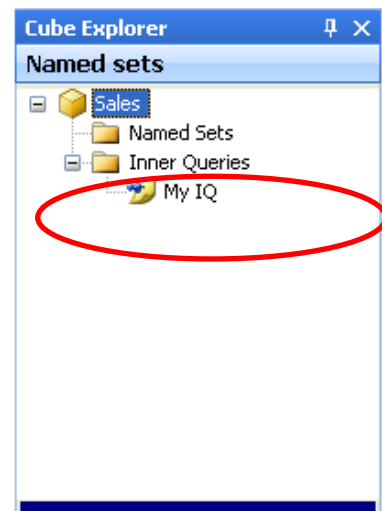
As a result group **My IQ** is created.

To create an Inner Query first create query using designer. Take in mind Inner Query can not contain:

- WITH members
- Calculated measures
- NON EMPTY keyword

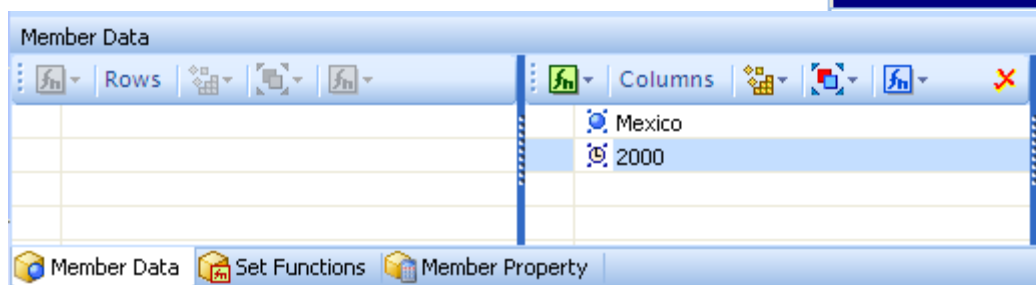
We will place members Mexico and 2000 in columns. That means inner will reduce

result set and results will be displayed always for country Mexico and year 2000.

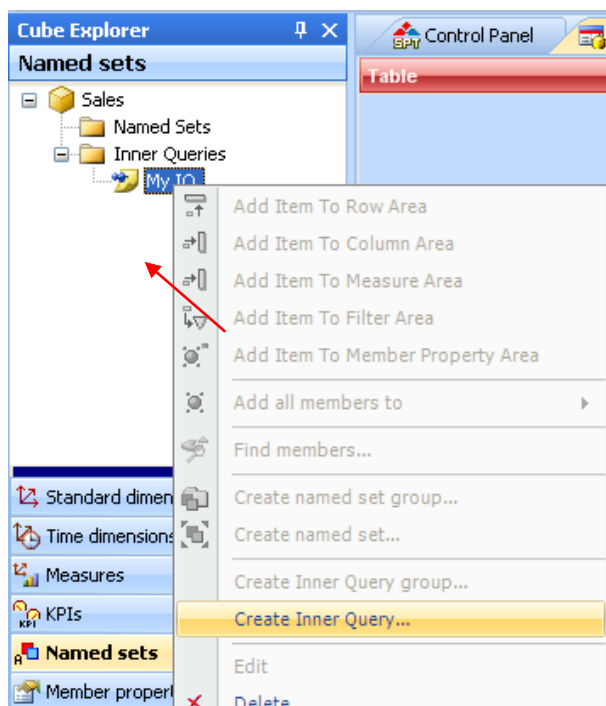


that

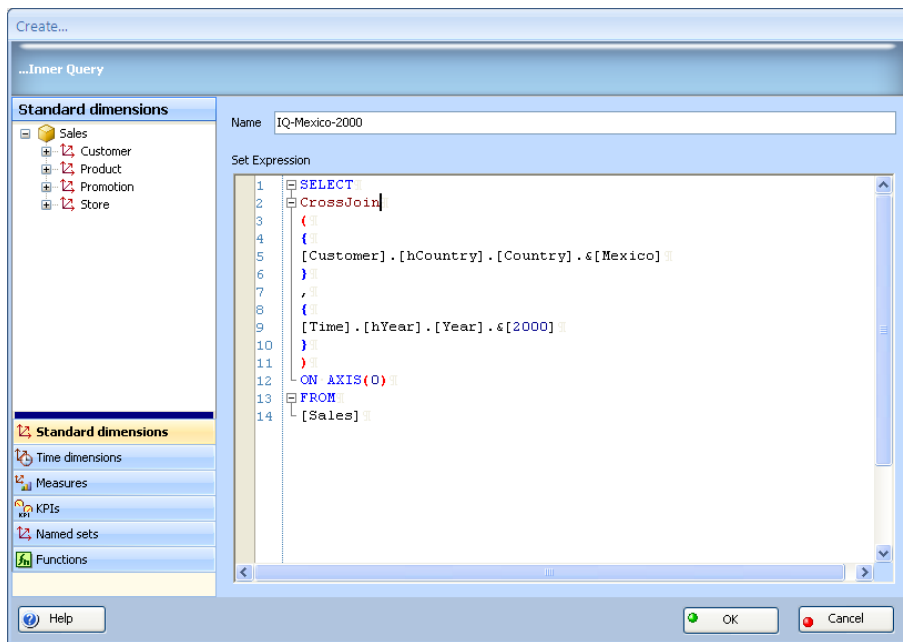
query



- Find Inner Query group
- Place the mouse over the group
- Right click
- Select **Create Inner Query**



Create inner query form will appear.



- Give **name**
- Select OK

CubePlayer will automatically remove NON EMPTY keyword from MDX syntax.

To use your inner query, simply:

- Drag and drop it into Filter area

CubePlayer recognizes possible filter elements and inner queries. Therefore, once you add

inner query inside filter area you are not allowed to add members or levels from the cube, until

you do not clear filter area.



KPIs

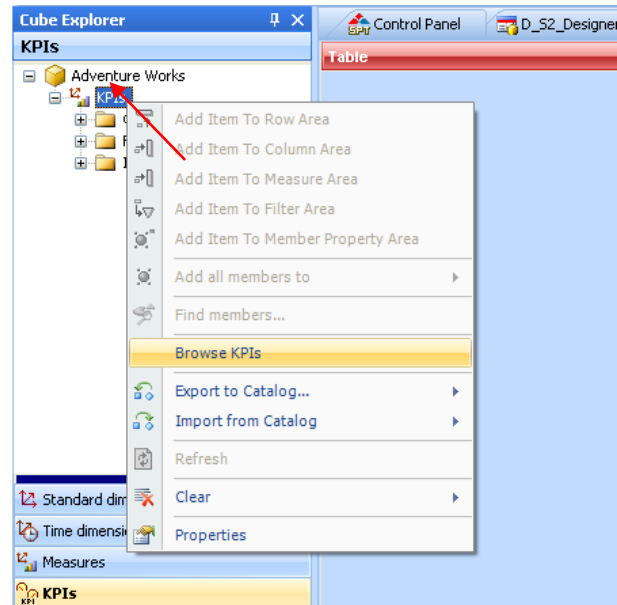
In CubePlayer we support two (2) operations with KPIs:

- Browse all KPIs
- Use KPIs as measure

Brows KPI

If you have defined KPIs, to brows them:

- Run **Designer**
- Select **tab KPIs** in Cube explorer
- Right click **folder KPIs**
- Select **Brows KPIs** from menu



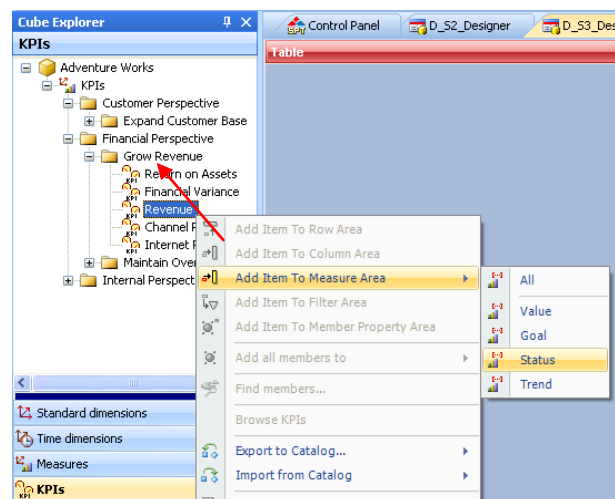
Result will be displayed in a separate tab:

Table					
Display Structure	Value	Goal	Status	Trend	Weight
Internal Perspective					
Increase Operational Efficiency					
Expense to Revenue Ratio	25,19%	0,25			
Financial Perspective					
Maintain Overall Margins					
Product Gross Profit Margin	11,43%	0,12			
Net Income	12609503	5583900			
Operating Profit	16728234,5	5583900			
Financial Gross Margin	44390103	11848650			
Operating Expenses	27661868,5	6264750			
Grow Revenue					
Internet Revenue	29.358.677,22 kn	29358677,2207			
Channel Revenue	80.450.596,98 kn	114253550			
Revenue	109.809.274,20 kn	109809274,20299456			
Financial Variance	1,25818925840362	0			
Return on Assets	0,917673375601342	Not Budgeted			
Customer Perspective					
Expand Customer Base					
Growth in Customer Base	NA	NA			

KPI as a measure

If you want to use KPIs as a measure in your query:

- Run **Designer**
- **Create your query**
- Select **tab KPIs** in Cube explorer
- Open folder **KPIs**
- Fine one or more KPIs you need
- Right-click
- Select what to display for certain **KPIs**



And your KPI will appear inside result table.

Account.Accounts	Revenue Status
• Assets	
• Liabilities and Owners Equity	
• Operating Profit	
• Other Income and Expense	
• Taxes	
• Headcount	
• Units	
• Average Unit Price	
• Square Footage	

Member properties

Member properties are usually not visible. To use member properties two conditions has to be met:

- One or more member properties has to be defined on the server
- At least one element with member properties has to be in rows or columns.

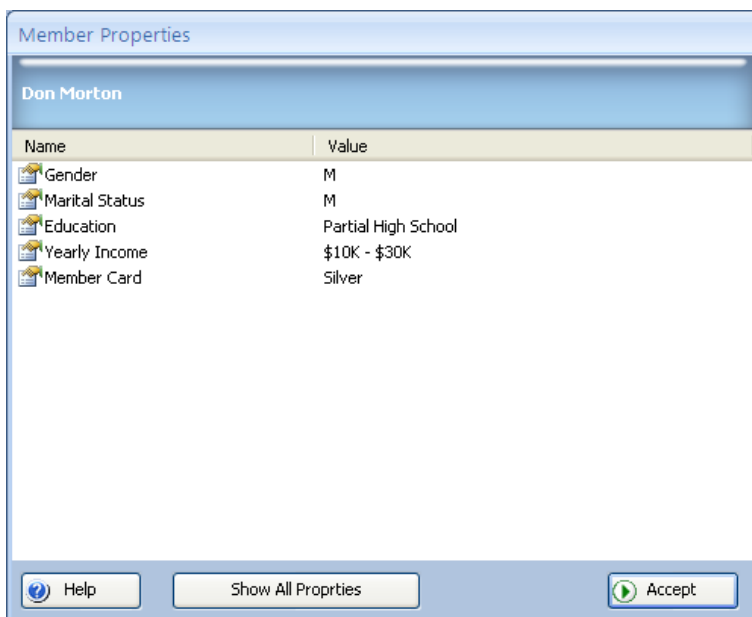
According to each member property you can define filter conditions or you can use particular member property as measure at the result set.

Members properties at the table

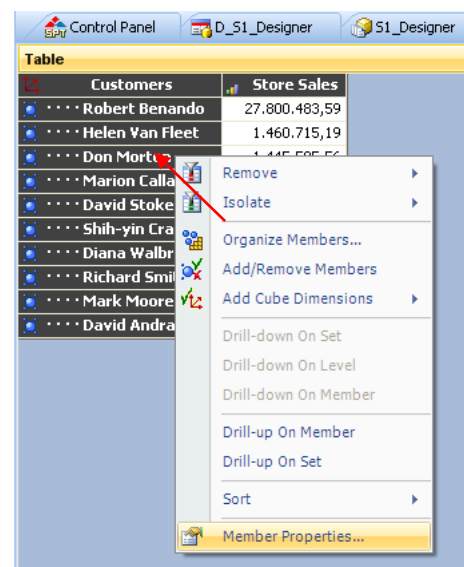
At any result table, if involved dimensions have defined measure properties, even they are not stated

inside MDX command you can see them:

- Right click any member
 - Select **Member properties** from menu
- (If member properties are not defined for selected member, menu option will not be available)



Dialog with member properties will appear:



Members properties as filter – load from MS Excel file

Sometimes, filtering can be a big problem. Let us suppose you are working on a last level of your hierarchy, where hundreds of thousands of members are (maybe million or more) and you want select some of them, let us say thirty four (34). To filter those 34 you have to select them. To select them first you have to read all members member property (let us say this might be bar code for products or account number for customers).

Retrieving million of member property values from server will be time consuming and for your computer memory consuming as well.

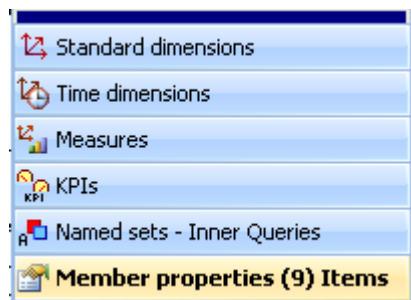
To avoid this problem you can read list of member properties directly from MS Excel file without need to retrieve all values from the server and then to brows through them.

We will create query where measure Store Sales is in measure area and entire level Customer in rows.

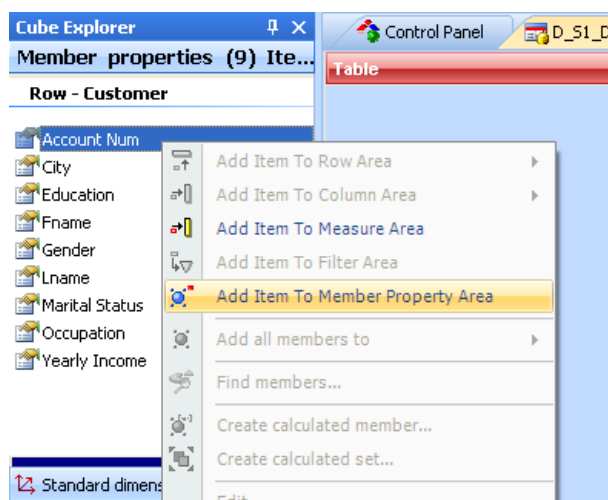
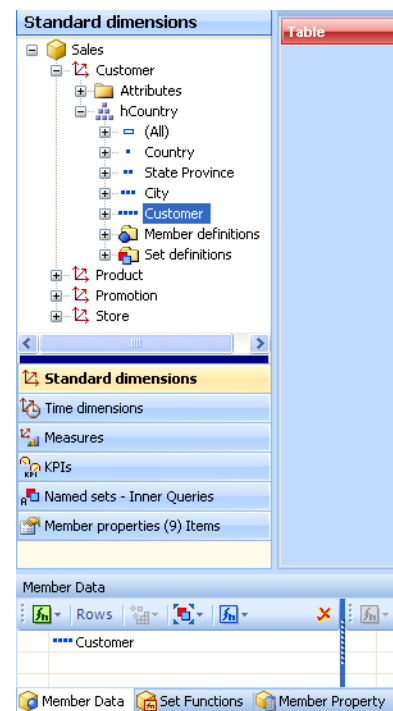
Level Customer has more then 10000 members. We will try to find 34 of them filtering according to Account Number property that is stored in MS Excel file.

According to each member property you can define filter conditions:

- Select **level Customer**
- Add it to **rows**
- Select tab **Member properties** inside **Cube explorer**



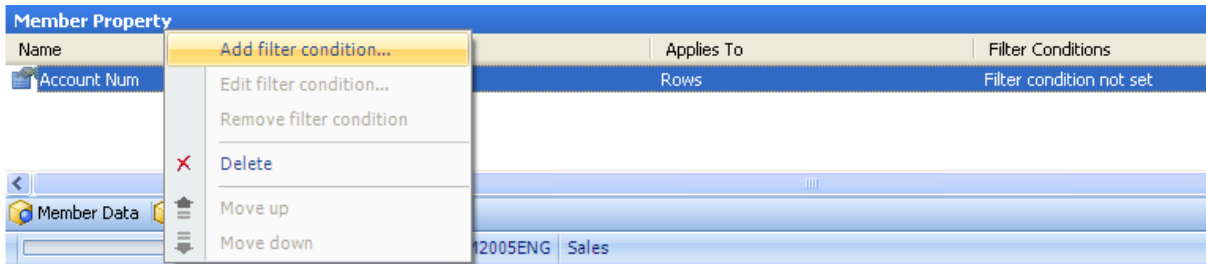
- Select **Account Number** member property
- Right click
- Select **Add Item To Member Properties Area** from menu



To finish:

- Select **member property**
- Right click

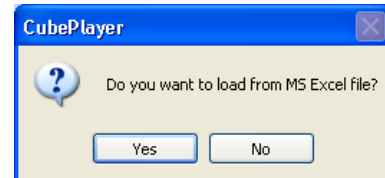
- Select **Add filter condition** from menu



Dialog will appear:

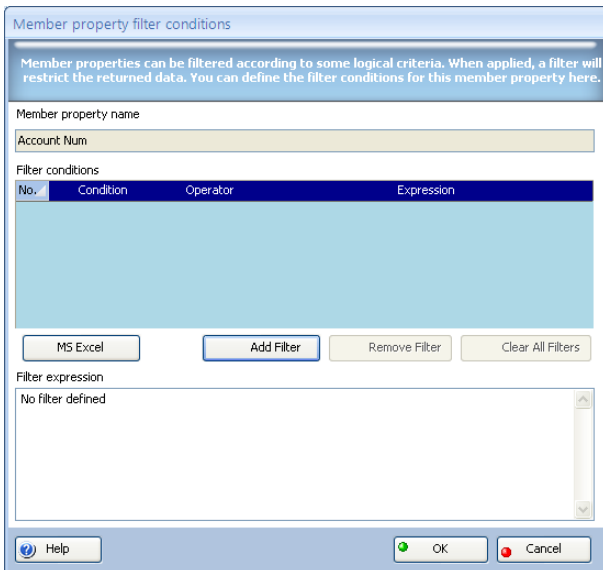
If you want to load from MS Excel file select **Yes**.

If you want to leave to CubePlayer to retrieve all member property values from server answer **No**.



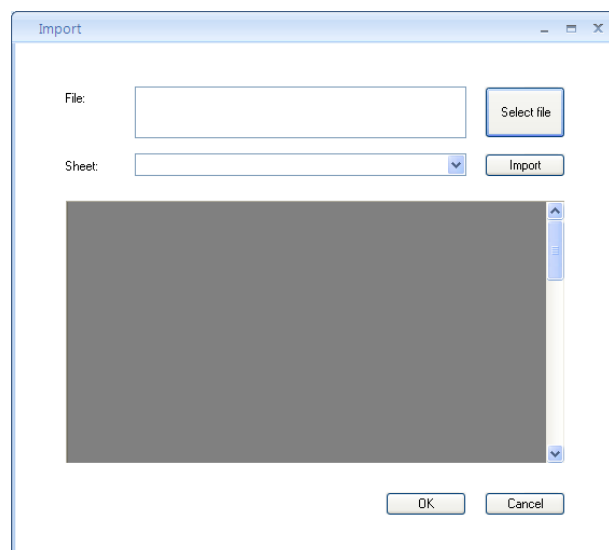
We will answer **yes**,

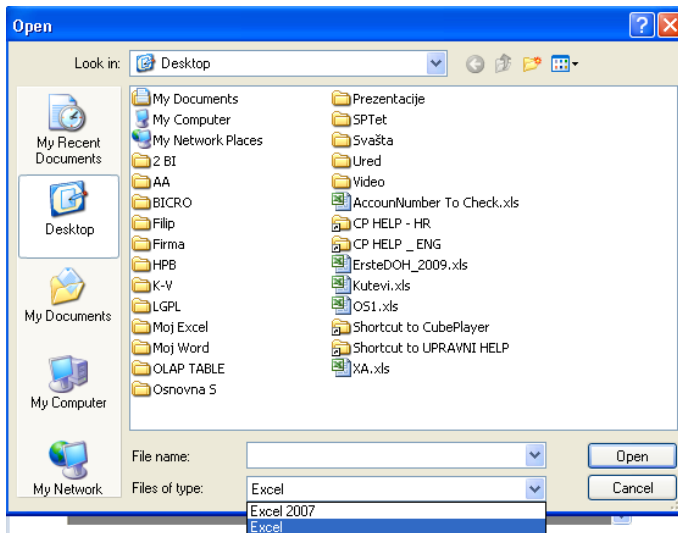
Dialog will appear.



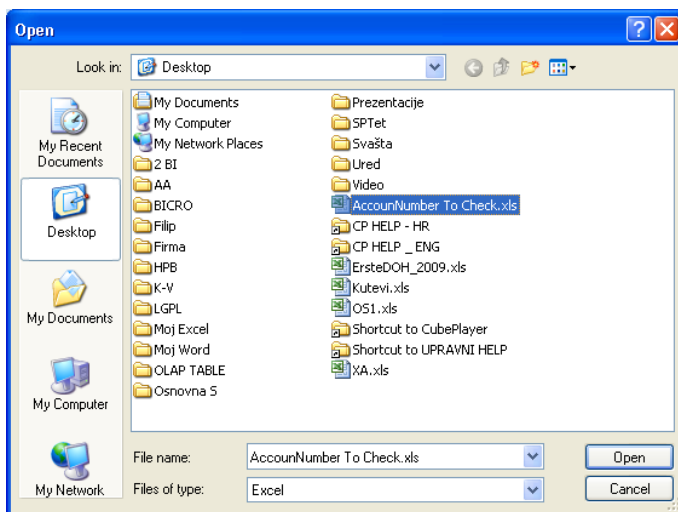
Now:

- Select **MS Excel** button to load from file
- Select **Select file** button
- Select appropriate version of Excel
- Navigate to file

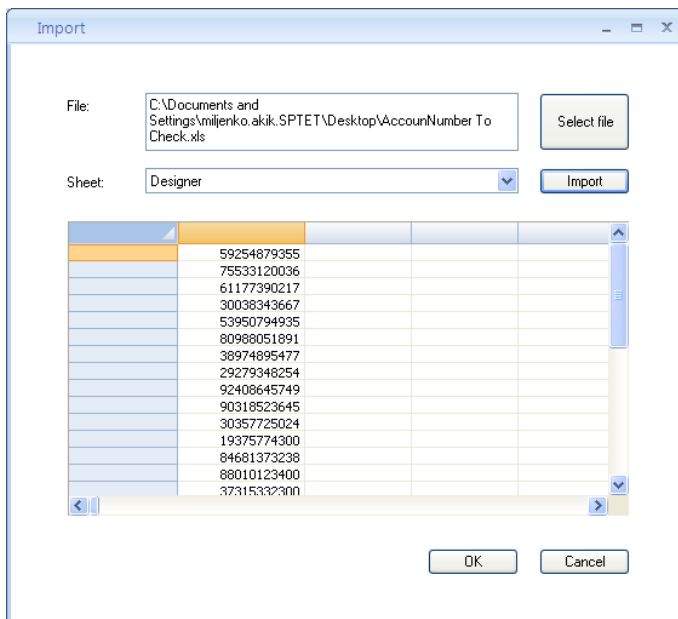




- Select file



- Select Open
- Select Import



NOTE: Values MUST be in first (A column) of MS Excel File.

- Select **OK**

Member property filter conditions

Member properties can be filtered according to some logical criteria. When applied, a filter will restrict the returned data. You can define the filter conditions for this member property here.

Member property name
Account Num

Filter conditions

No.	Condition	Operator	Expression
1		=	592548793
2	OR	=	755331200
3	OR	=	611773902
4	OR	=	300383436
5	OR	=	539507949
6	OR	=	592548793

MS Excel Add Filter Remove Filter Clear All Filters

Filter expression

[Customer].[hCountry].[Customer].[Account Num] = 59254879355

OR

[Customer].[hCountry].[Customer].[Account Num] = 75533120036

OR

[Customer].[hCountry].[Customer].[Account Num] = 61177390217

OR

[Customer].[hCountry].[Customer].[Account Num] = 30038343667

Help OK Cancel

- Select **OK**
- Run **Query**

Result table has 34 data rows.

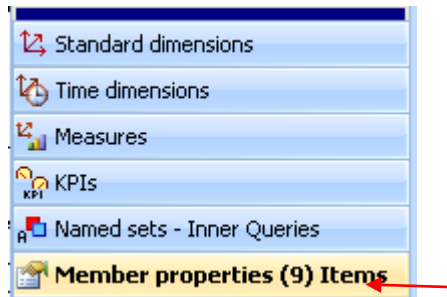
Table	
hCountry	Store Sales
Broaddus Ruth	404.072,27
Brown Ryan	885.202,14
Butcher Anastacio	261.188,36
Caprio Fae	179.630,85
Carter Marvin	707.380,37
Carter Richard	417.790,74
Cavallo James	78.548,44
Clay James	111.780,60
Cleary Kristine	14.182,37
McMenama Betty	11.936,39
Metz Nina	75.253,68
Mitchell Eriko	23.771,48
Moore Beth	1.500.723,05
Moss Elizabeth	824,56
Newcome Francis	386.005,30
Norby Walter	721.767,08
Pearce Ann	21.324,80
Quick Ana	19.879,89
Richeson Priscilla	194.897,91
Rognmoe Peter	788.741,05
Serventi Barbara	259.915,67
Shonberg Roger	291.793,72
Silsby Lucille	203.947,92
Spence Michael	1.269,27
Staisteven David	654.494,36
Stephenson Peter	193.135,56
Stone John	42.388,96
Stone Mike	12.711,74
Irwin Richard	9.588,19
Isham Katrina	243.531,76
Isom Ronnie	84.938,15
Johnson Bernie	22.487,93
Kinney Elanor	19.405,83
Kohl Donald	246.956,94

Rows:34 ,Cols

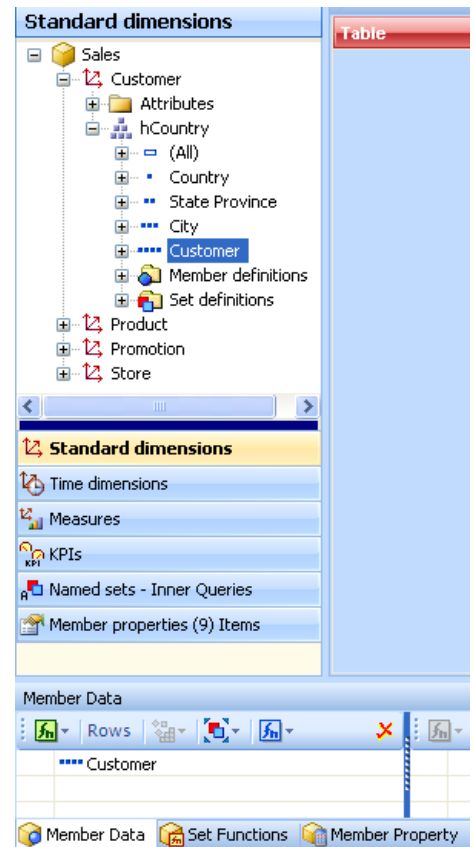
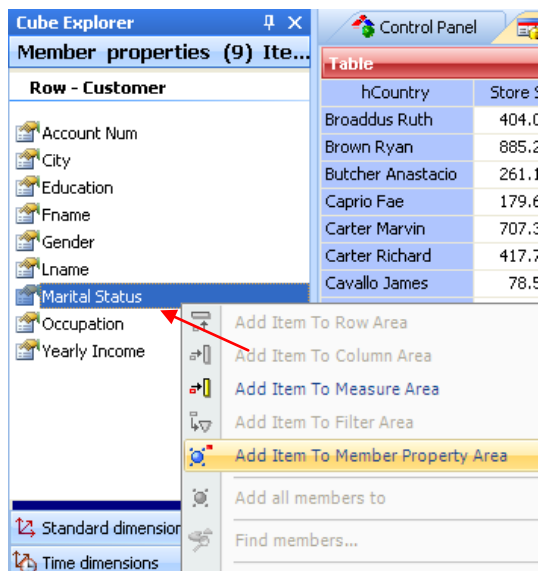
Members properties as filter

According to each member property you can define filter conditions:

- Select **member** or **level** where member properties are defined
- Place them in to **rows** or **columns**
- Select tab **Member properties** inside **Cube explorer**



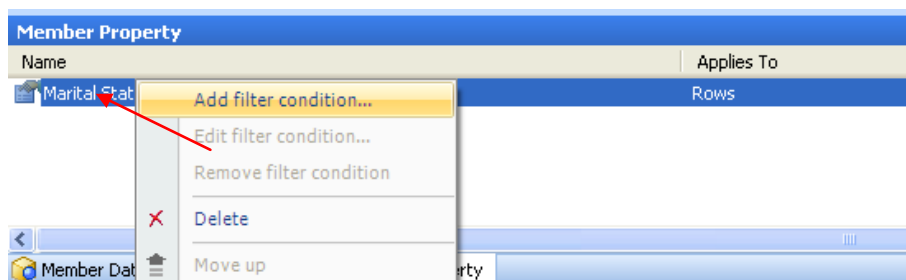
- Select **member property**
- Right click
- Select **Add Item To Member Properties Area** from menu



Selected **member property** will appear inside **Member property tab** in the Member area window.

To finish:

- Select **member property**
- Right click
- Select **Add filter condition** from menu



Dialog will appear.

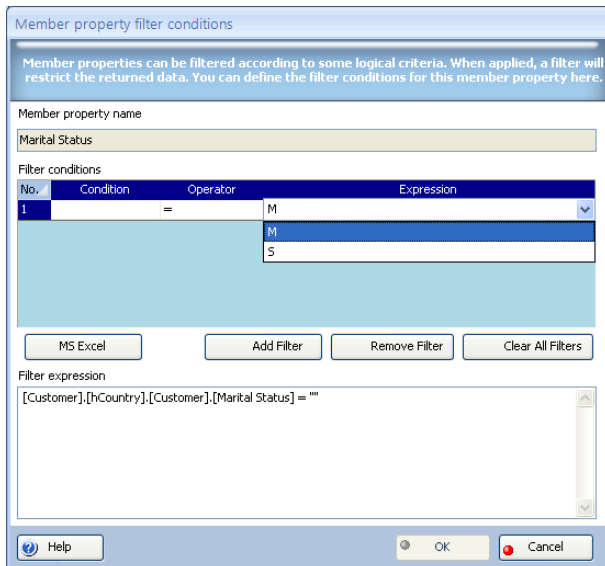
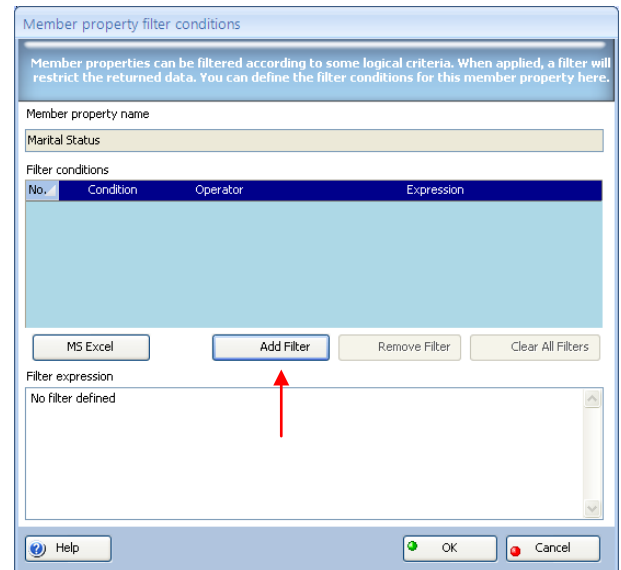
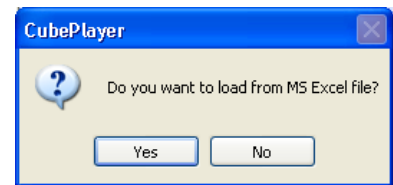
To read values of selected member property from the cube, select **No**.

Now:

- Select **Add Filter** button to add your criteria
- Select appropriate operators
- Select appropriate expression
- To add more conditions, select **Add Filter** again

In our case we have selected to see all members from dimension **Customers** whose **Marital status**

is **M** what means married.



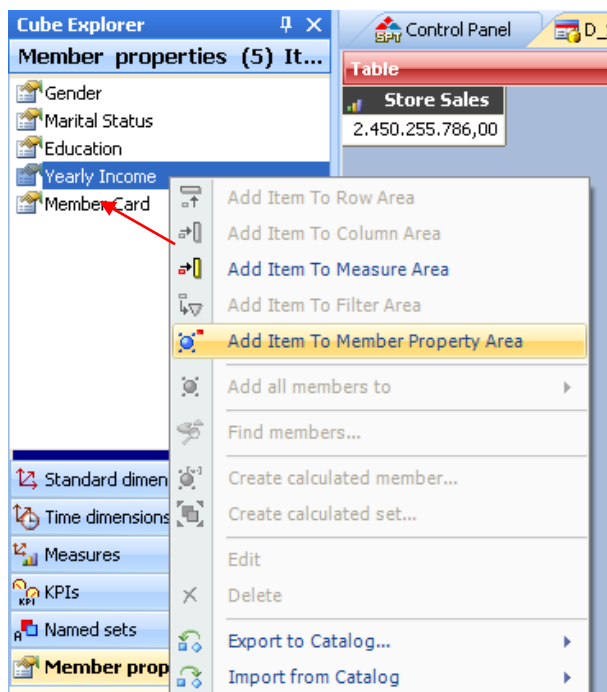
Members properties as measure

To use member properties as measures:

- Select member or level with member properties and place it into rows or columns.

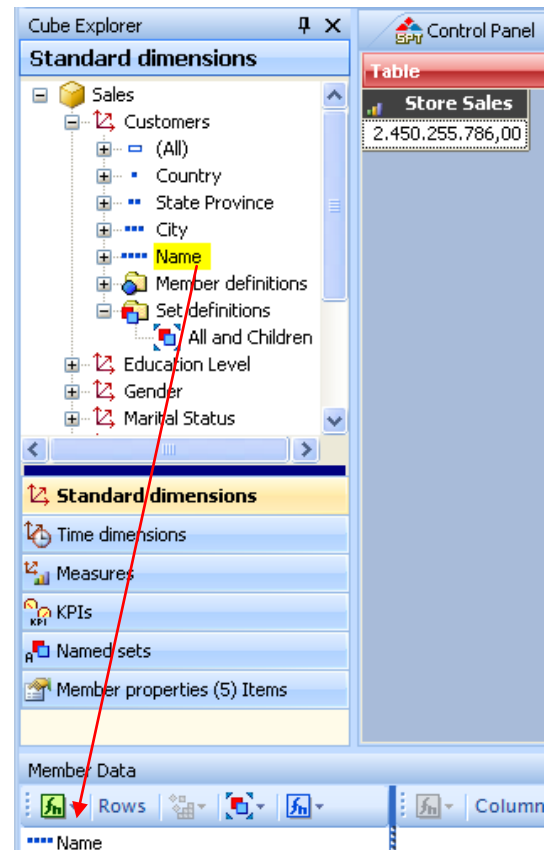
Inside Member Properties tab (inside Cube Explorer) it will appear number of member properties (in our case 5).

- Select tab **Member Property** inside **Member Data** area
- Drag-and-drop any **member property** to the **Member Property** area (we will use Yearly income)



- Right click property
- Select **Include as a measure** from menu
- Add one regular measure like Store Cost

Your member property will appear inside result table.



Cube Explorer

Member properties (5) Items

- Gender
- Marital Status
- Education
- Yearly Income
- Member Card

Standard dimensions

Control Panel

D_S1_Designer

Table

Customers	Store Sales	Yearly Income (MP)
Alexandra Wellington	10.643,52	\$10K - \$30K
Ana Quick	19.879,89	\$10K - \$30K
Anastacio Butcher	261.188,36	\$30K - \$50K
Ann Pearce	21.324,80	\$30K - \$50K
Barbara Serventi	161.072,94	\$90K - \$110K
Beth Moore	933.247,52	\$30K - \$50K
Betty McMenama	8.411,27	\$30K - \$50K
Candice Ashe	540.767,36	\$50K - \$70K
Celeste Triebel	169.908,00	\$10K - \$30K
Chris Trigg	50.983,30	\$150K +
Cindy Dodd	6.408,40	\$10K - \$30K
Cindy Golden	34.751,63	\$10K - \$30K
Crystal McDonald	256.845,83	\$110K - \$130K
Daniel Waskey	678.819,97	\$10K - \$30K
Danielle Hurtado	129.169,38	\$130K - \$150K
Daryl Ives	585.436,46	\$30K - \$50K
Dave Garner	1.927,50	\$70K - \$90K
David Staisteven	411.992,92	\$130K - \$150K

Furthermore to see all dimension properties in any table:

Control Panel

D_S1_Designer

S1_Designer

Table

Customers	Store Sales	Yearly Income (MP)
Alexandra Wellington	10.643,52	\$10K - \$30K
Ana Quick	19.879,89	\$10K - \$30K
Anastacio Butcher	261.188,36	\$30K - \$50K
Ann Pearce	21.324,80	\$30K - \$50K
Barbara Serventi	161.072,94	\$90K - \$110K
Beth Moore	933.247,52	\$30K - \$50K
Betty McMenama	8.411,27	\$30K - \$50K
Candice Ashe	540.767,36	\$50K - \$70K
Celeste Triebel	169.908,00	\$10K - \$30K
Chris Trigg	50.983,30	\$150K +
Cindy Dodd	6.408,40	\$10K - \$30K
Cindy Golden	34.751,63	\$10K - \$30K
Crystal McDonald	256.845,83	\$110K - \$130K
Daniel Waskey	678.819,97	\$10K - \$30K
Danielle Hurtado	129.169,38	\$130K - \$150K
Daryl Ives	585.436,46	\$30K - \$50K
Dave Garner	1.927,50	\$70K - \$90K
David Staisteven	411.992,92	\$130K - \$150K
Derek Armstrong		\$50K
Dorothy Weir		\$30K
Doug Thomas		\$90K
Dyana Gallagher		\$50K
Eddie Gillmore		\$70K
Elizabeth Arnold	339.334,46	\$30K - \$50K

Remove

Isolate

Organize Members...

Add/Remove Members

Add Cube Dimensions

Drill-down On Set

Drill-down On Level

Drill-down On Member

Drill-up On Member

Drill-up On Set

Sort

Member Properties...

- Right click cell with member that contains member properties
- Select **Member properties** from menu

Dialog will appear, including properties from the table:

Member Properties

Betty McMenama

Name	Value
Yearly Income	\$30K - \$50K

Help Show All Properties Accept

Member Properties

Betty McMenama

Name	Value
Gender	F
Marital Status	S
Education	High School Degree
Yearly Income	\$30K - \$50K
Member Card	Silver

Help Show All Properties Accept

To see all defined ember properties:

- Select button **Show All Properties**

Create local cube

In designer user can create local cubes.

Inside tab Home, there are two grouped buttons:

- **Create**
Used to create local cubes from cube elements placed inside designer Member Area
- **Edit**
Used to transfer MDX CREATE CUBE syntax from designer to MDX Editor



CREATE

To create local cube you have to use Member Data area at the bottom.

Rules:

ADDING ENTIRE HIERARCHY

- If you want to include entire Hierarchy, drag and drop it in **ROW** or **COLUMN** data area. Other elements inside row and column area (at this moment) will be **IGNORED**. It is **IRRELEVANT** if hierarchies are inside **ROW** or **COLUMN** or their order.

ADDING SELECTED LEVELS FROM HIERARCHY

- If you want to include some levels from hierarchy drop them inside **FILTER** area

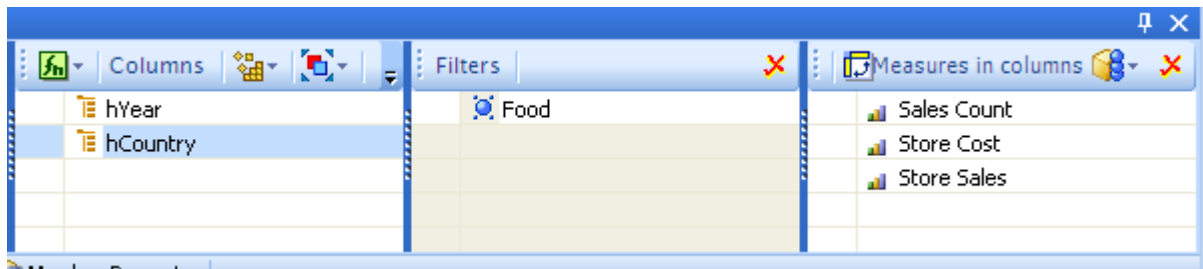
ADDING SLICER (FILTER) ELEMENTS

- If you want to include member as slicer element drop them inside **FILTER** area

Example

In our example we have made decision to create local cube from.

- hierarchy **hYear** (time hierarchy)
- hierarchy **hCustomer**
- member product family **Food** in **slicer (filter)**
- three measures **Store Cost**, **Store Sales**, **Store Count**



After we placed our elements inside designer **Member Data** area:

- select button Create

- select **location**
- add **file name**
- add **cube name**

- select **OK**

After creation, if successful message will appear:



Use control panel to add your new cube (local cube) to your selected cubes.

EDIT

First you have to select cube elements inside Member Data area. After selection instead of creating you can select to Edit to bring syntax inside editor.

```

MDX
1  CREATE GLOBAL CUBE [My Local Cube]
2  ..... Storage 'D:\My Local Cube.cub'
3  FROM [Sales]
4  (
5  ..... MEASURE [Sales].[Sales Count]
6  ..... , MEASURE [Sales].[Store Cost]
7  ..... , MEASURE [Sales].[Store Sales]
8  ..... ,
9  ..... DIMENSION [Sales].[Time].[hYear]
10 ..... , DIMENSION [Sales].[Customer].[hCountry]
11 ..... ,
12 ..... DIMENSION [Sales].[Product].[hProduct]
13 ..... (
14 ..... LEVEL [Product Family]
15 ..... , MEMBER [Product].[hProduct].[Product Family].[Food]
16 ..... )
17 ..... )

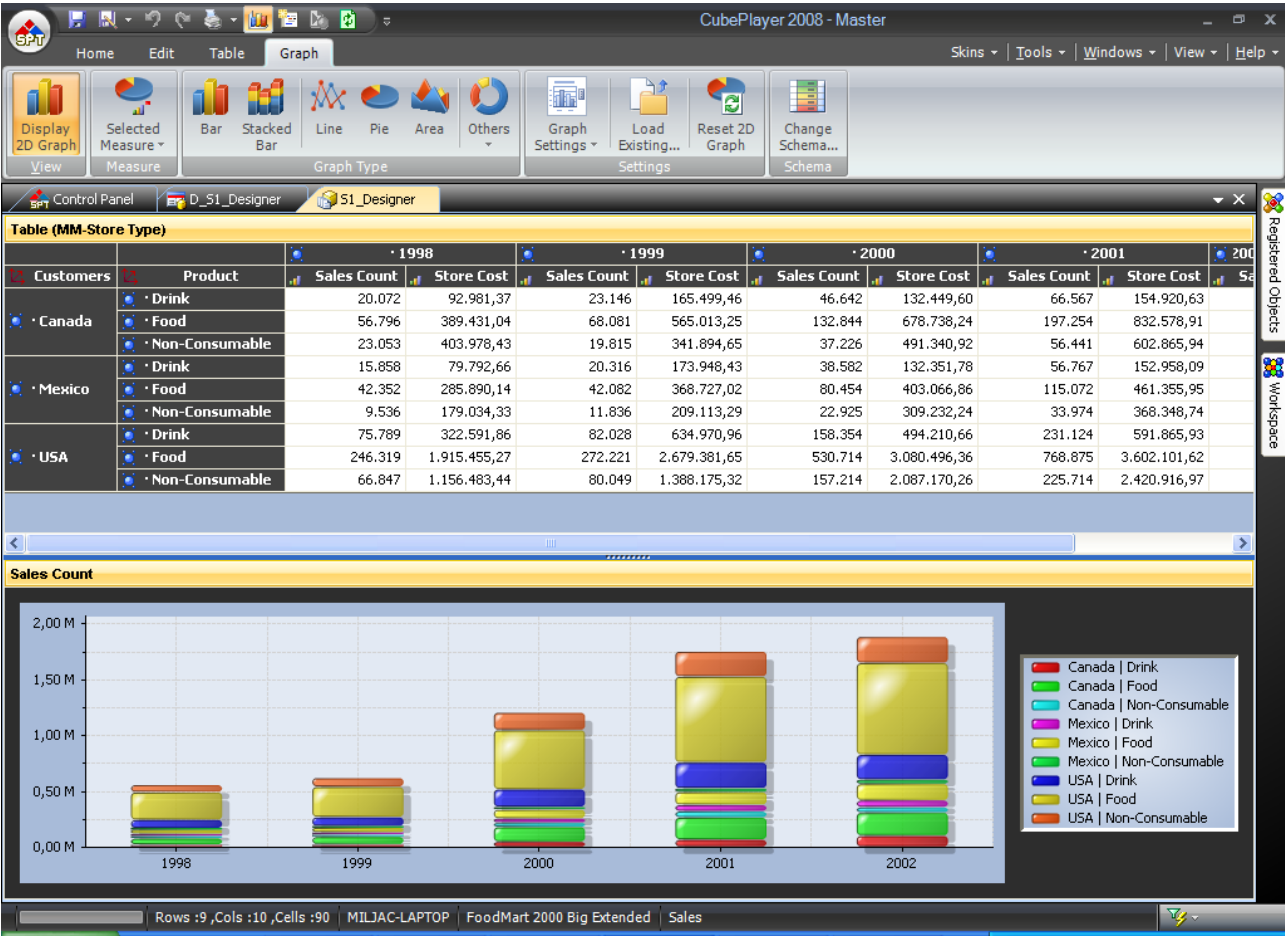
```

Here you can change syntax if you like.

To create cube from Editor press F5.

Using F6 will raise error after creation since cellset is expected.

Query




Query object is basically tab with only one result table displayed.

You can see your results as:

- Table
- Table and graph (synchronized)

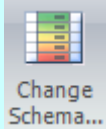
Use icons:

- To add synchronized **Graph view**:

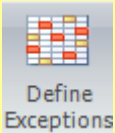
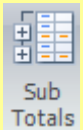
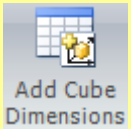

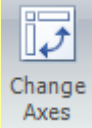

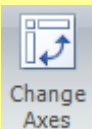

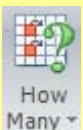
Icon	Name	Description
	Graph	Displays available graph settings


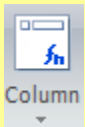


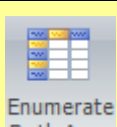
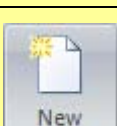
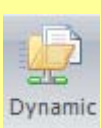








- To change **Graph types**, displayed measures or to use additional graph features:


Icon	Name	Description
	Display Graph	Graph on/off
	Bar	Select bar graph type
	Stacked bar	Select stacked bar graph type
	Line	Select line graph type
	Pie	Select pie graph type
	Area	Select area graph type
	Others	Select radar or polar type
	Graph Settings	Upper part of button to load settings form
	Graph Settings	Lower part of the button to select graph settings like labels, grids ...
	Selected Measure	Select measure or all measures you want to see
	Load existing	Load existing graph settings and apply them to the graph
	Reset Graph 2D	Resets 2D graph

Icon	Name	Description
	Change Schema	Select and apply new graph schema

- To use special features

Icon	Name	Description
	Exceptions	Displays Exception form
	Subtotals	Displays subtotal form
	Add dimension	Adds dimensions in rows, columns or filter axis
	Remove	Remove data from the table
	Swap axis	Swaps axes
	Organize members	To organize members at the table
	Swap axis	Swaps axes
	ShowMe	To activate Show Me analysis
	HowMany	To activate How Many analysis

Icon	Name	Description
 Row	Row	To apply MDX functions on dimension or entire axis (row)
 Column	Column	To apply MDX functions on dimension or entire axis (column)
 Enumerate Row Axis	Enumerate row axis	To enumerate row axis
 Enumerate Column Axis	Enumerate column axis	To enumerate column axis
 Enumerate Both Axes	Enumerate both axes	To enumerate column and row axes
 New Window	New window	To executes last MDX from active tab or panel in new window
 Dynamic	Add to DDG	Group of commands that allow adding to the Dynamic document generator
	Add win to DDG	Adds active tab
	Add panel to DDG	Adds active panel
	Add Doc to DDG	Adds entire Dashboard, Document, Layout
	Add Panels to DDG	Adds panels as separate objects
 Static	Add to SRG	Group of commands that allow adding to the Static report generator
	Add win to SRG	Adds active tab
	Add panel to SRG	Adds active panel
	Add Doc to	Adds entire Dashboard, Document, Layout

Icon	Name	Description
	SRG	
	Add Panels to SRG	Adds panels as separate objects

To perform other actions inside panel like

- Drill-up
- Drill-down
- Remove member
- Isolate member
- Add-Remove members
- Add-Remove dimensions
- Add-Remove Filter
- Add Calculate measure

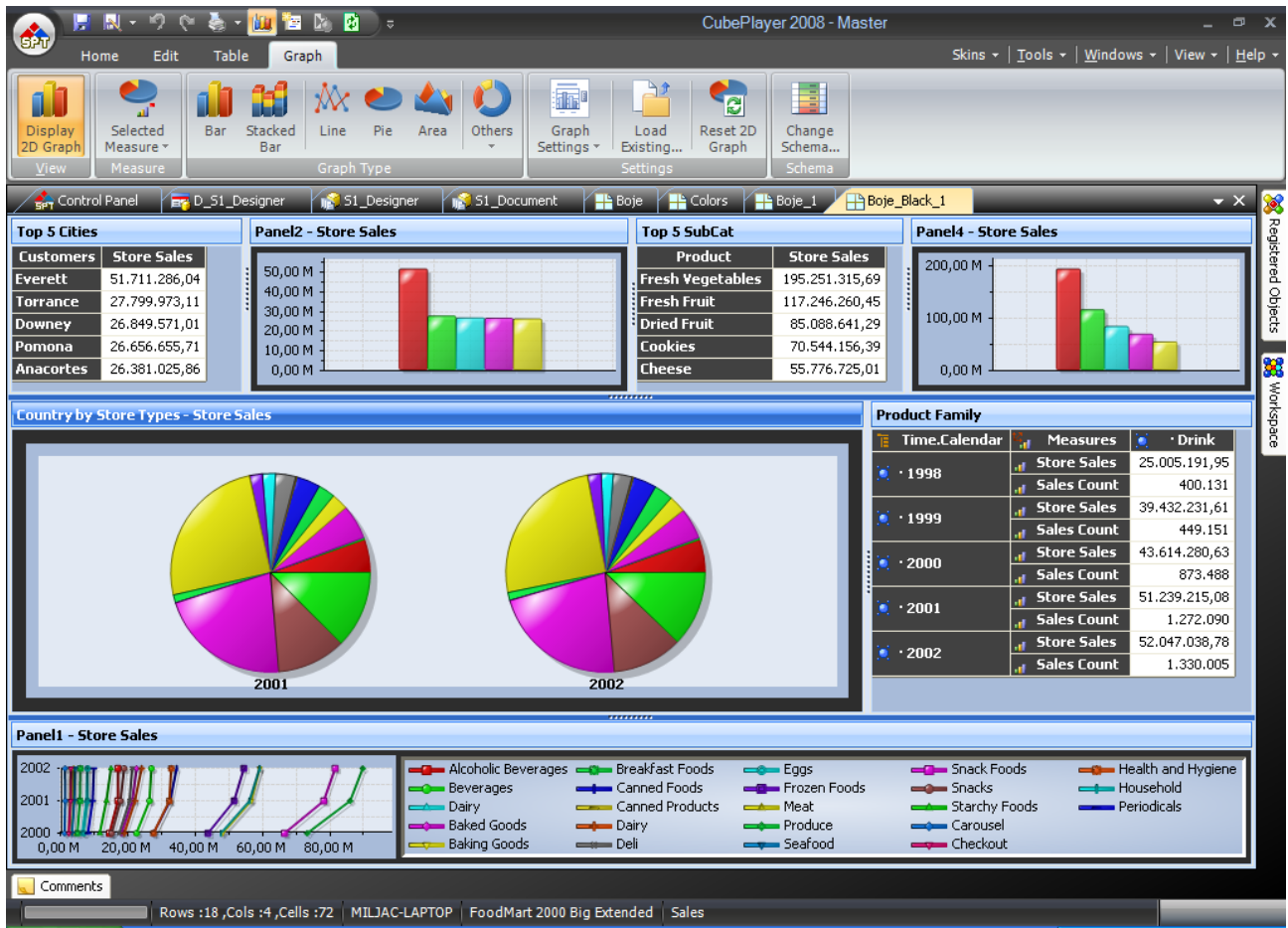
right click your mouse on the table or graph.

Each menu you will get is case sensitive.

Therefore different menus are available if you click on rows or columns.

Those menus depend of the display view as well.

Dashboard



CubePlayer allows you to create multiple windows object that can hold MDX queries:

- From different Servers
- From different Databases
- From different Cubes

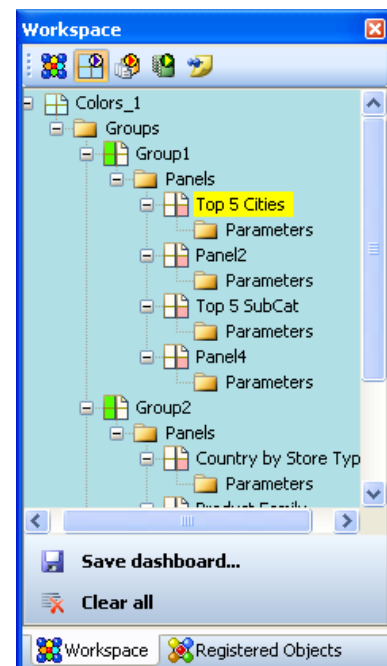
All those queries can be displayed at the same time.

That object is called **Dashboard**.

Dashboard is the only object that will not be run inside Workspace.

Inside Dashboard you can:

- Copy and paste MDX from on panel to another
- Copy and paste member from one panel to another panel
- Define parameters
- Define linked parameters (unique parameters for all queries)



Each time when you run or create new Dashboard it will appear inside Dashboard generator.

To create Dashboard use menu or icon **New** and select **New Dashboard**.

Immediately after you will be asked to select basic splitting orientation:

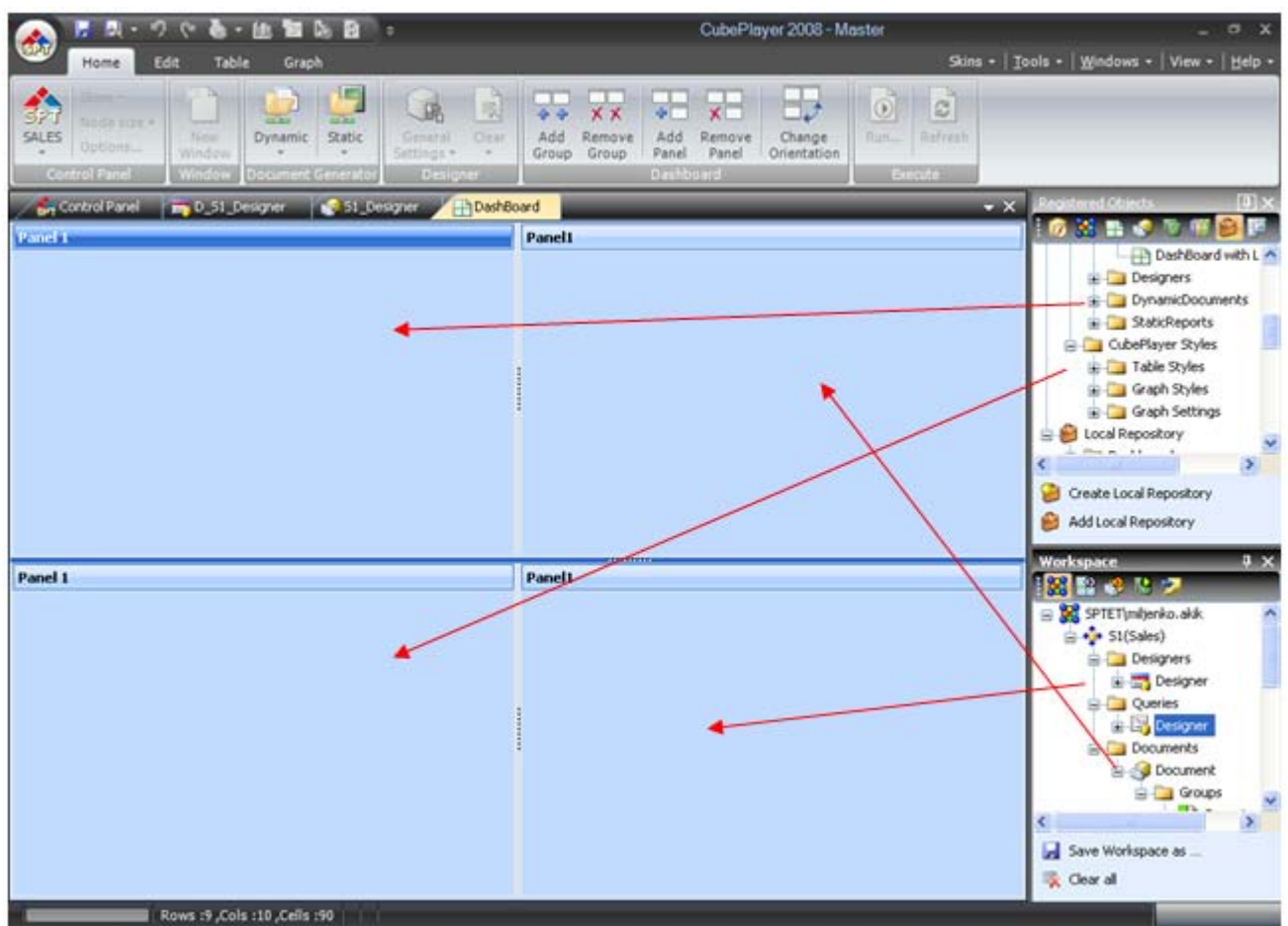
- Vertical or
- Horizontal

When you have finished with basic orientation you can create as many groups and panels as you like using icons.

What now when you have your desired form?

It is simple. Select objects from Workspace or Workspace explorer and drag-and-drop them to desired Panel.

Wait for execution, and after it is finished continue with populating panels.



After that you can make a choice whether you want to see graphs or tables inside each panel, what type of graph or different table view and so on.

Create Dashboard

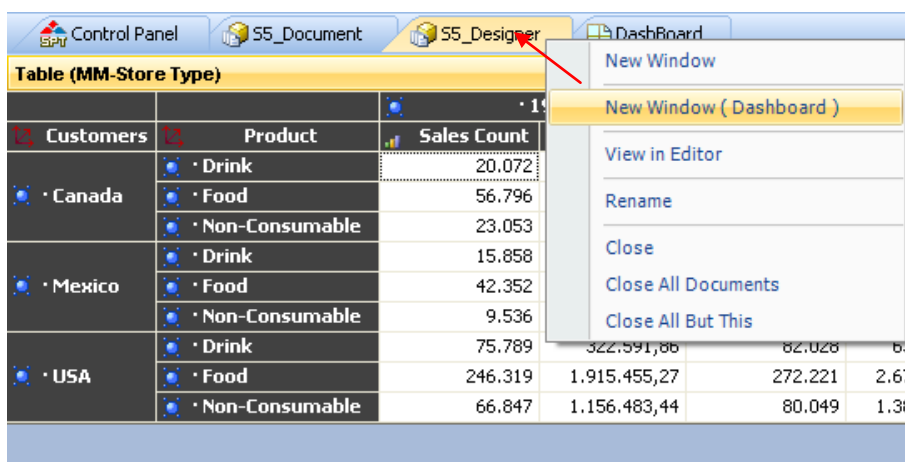
To create a **Dashboard** use:

- **Application Menu - New - Dashboard**



or

- **Right click active tab**
- **Select New Window (Dashboard) from menu**

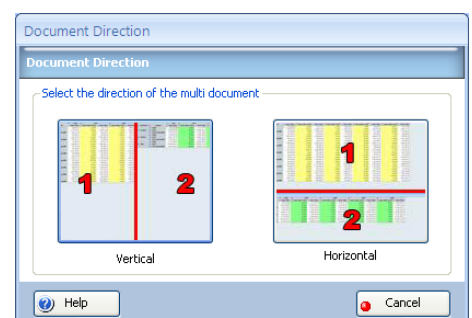


In both cases you will have to define what will be the basic orientation of groups:

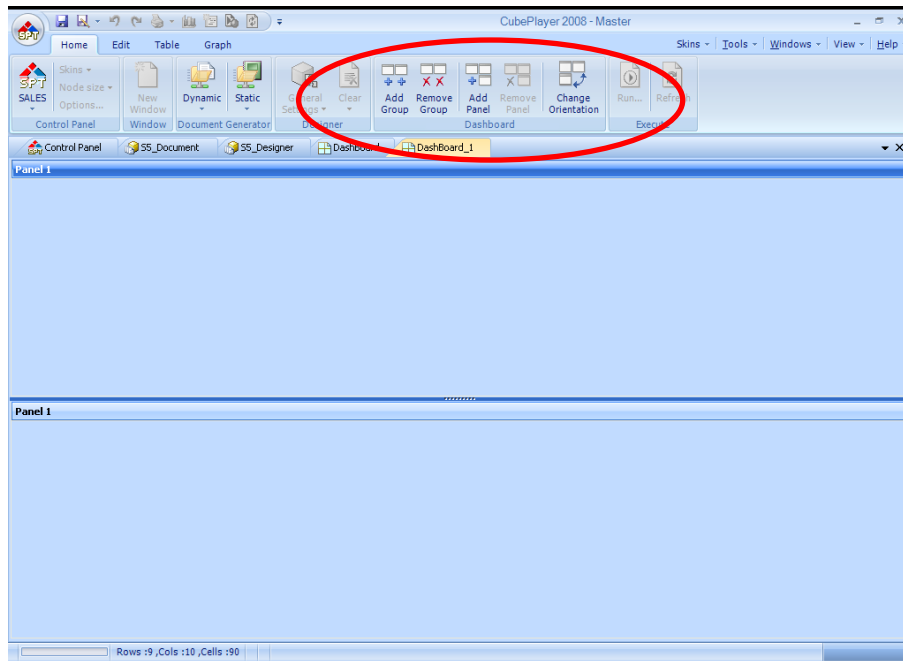
- Vertical
- Horizontal.

Each new group added will have that orientation.

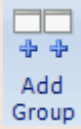
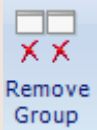
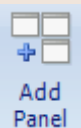

Once selected can not be change.



Select **Horizontal**.

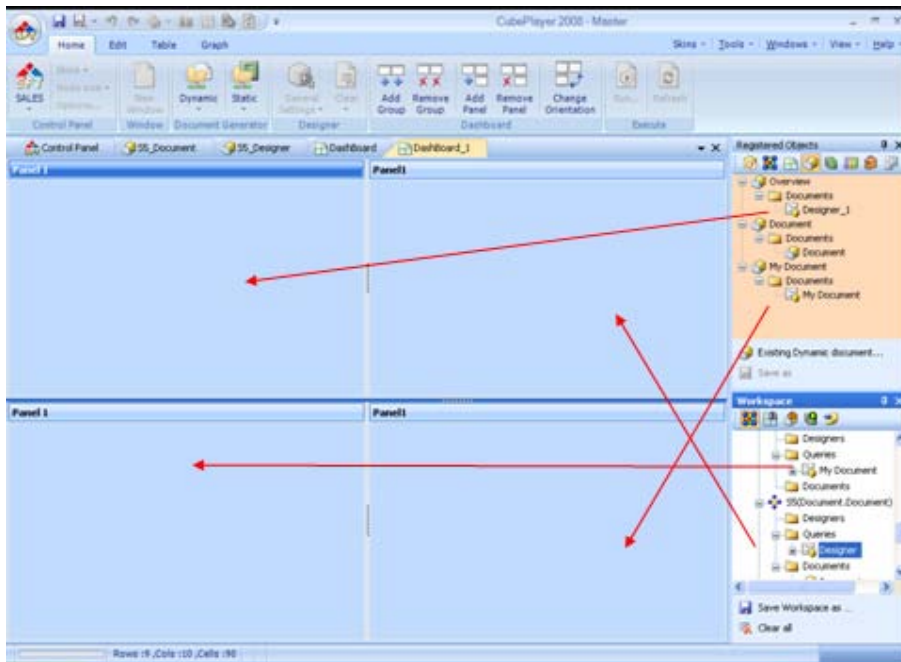


To add new group or panel use icons:

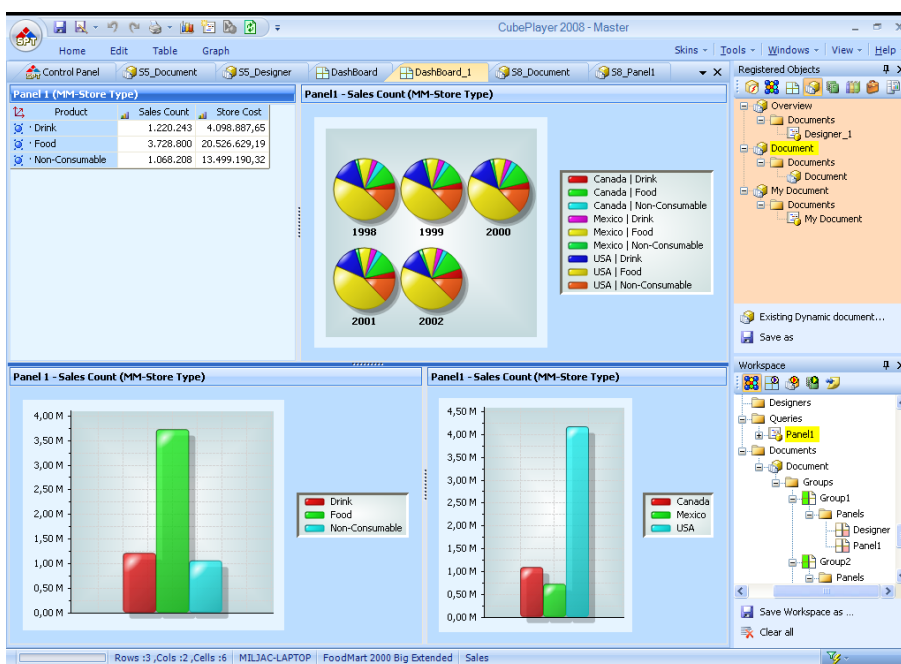
Icon	Name	Description
	Add Group	Add group
	Remove group	Remove group
	Add Panel	Add panel
	Remove panel	Remove panel

We will add one panel to **Group 1** and one panel to **Group 2**:

- Select title bar **Panel 1** (click with mouse on it)
- Select icon **Add Panel**
- Select title bar **Panel 2** (click with mouse on it)
- Select icon **Add Panel**



Now, as you like, drag-and-drop objects from **Workspace generator** or **Registered objects explorer** to the panels.

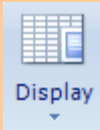





Each panel will have a new name, exactly the same as the query we used.

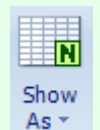

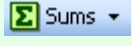
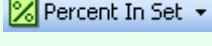
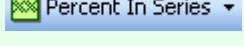
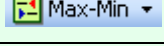
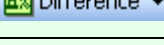
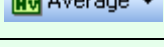
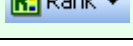
In case those two queries has same name first panel will have the name of the queries and second panel will have default name **Panel X**.

Now you have to decide about the view in each panel. First select the Panel by simple click on the title bar and then use icons:


- To select **Display style**

Icon	Name	Description
	Display	Main selector button
	Simple display	Displays table in simple view
	Partial display	Displays table in partial view
	Full display	Displays table in full view




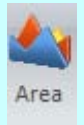
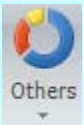

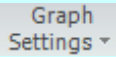

- To change **Table view**

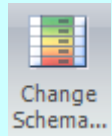
Icon	Name	Description
	Show As	Main selector button for table view
	Normal	Shows normal view
	Sum	Shows sums view
	% in set	Shows percentages in set view
	% in series	Shows percentages in series view
	Min-max view	Shows minimum-maximum view
	Difference %	Shows difference as percentage view
	Average	Shows average view
	Rank	Shows rank view

- To change between **Graph view** and **Table view**:

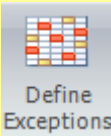
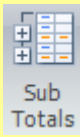
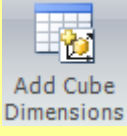

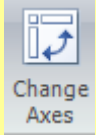

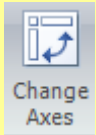
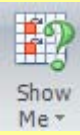
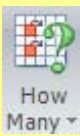
Icon	Name	Description
	Display 2D Graph	Graph on/off


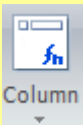

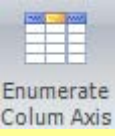
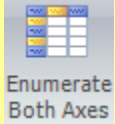











- To change **Graph types**, displayed measures or to use additional graph features:
-

Icon	Name	Description
	Display Graph	Graph on/off
	Bar	Select bar graph type
	Stacked bar	Select stacked bar graph type
	Line	Select line graph type
	Pie	Select pie graph type
	Area	Select area graph type
	Others	Select radar or polar type
	Graph Settings	Upper part of button to load settings form
	Graph Settings	Lower part of the button to select graph settings like labels, grids ...
	Selected Measure	Select measure or all measures you want to see
	Load existing	Load existing graph settings and apply them to the graph
	Reset 2D Graph	Resets 2D graph

Icon	Name	Description
	Change Schema	Select and apply new graph schema

- To use special features

Icon	Name	Description
	Exceptions	Displays Exception form
	Subtotals	Displays subtotal form
	Add dimension	Adds dimensions in rows, columns or filter axis
	Remove	Remove data from the table
	Swap axis	Swaps axes
	Organize members	To organize members at the table
	Swap axis	Swaps axes
	ShowMe	To activate Show Me analysis
	HowMany	To activate How Many analysis

Icon	Name	Description
	Row	To apply MDX functions on dimension or entire axis (row)
	Column	To apply MDX functions on dimension or entire axis (column)
	Enumerate row axis	To enumerate row axis
	Enumerate column axis	To enumerate column axis
	Enumerate both axes	To enumerate column and row axes
	New window	To executes last MDX from active tab or panel in new window
	Add to DDG	Group of commands that allow adding to the Dynamic document generator
	Add win to DDG	Adds active tab
	Add panel to DDG	Adds active panel
	Add Doc to DDG	Adds entire Dashboard, Document, Layout
	Add Panels to DDG	Adds panels as separate objects
	Add to SRG	Group of commands that allow adding to the Static report generator
	Add win to SRG	Adds active tab
	Add panel to SRG	Adds active panel
	Add Doc to SRG	Adds entire Dashboard, Document, Layout
	Add Panels to SRG	Adds panels as separate objects

To perform other actions inside panel like

- Drill-up
- Drill-down
- Remove
- Isolate
- Add-Remove members
- Add dimensions
- Calculate measures

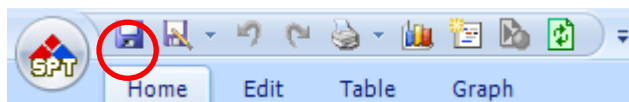
right click your mouse on the table or graph.

Each menu you will get is case sensitive.

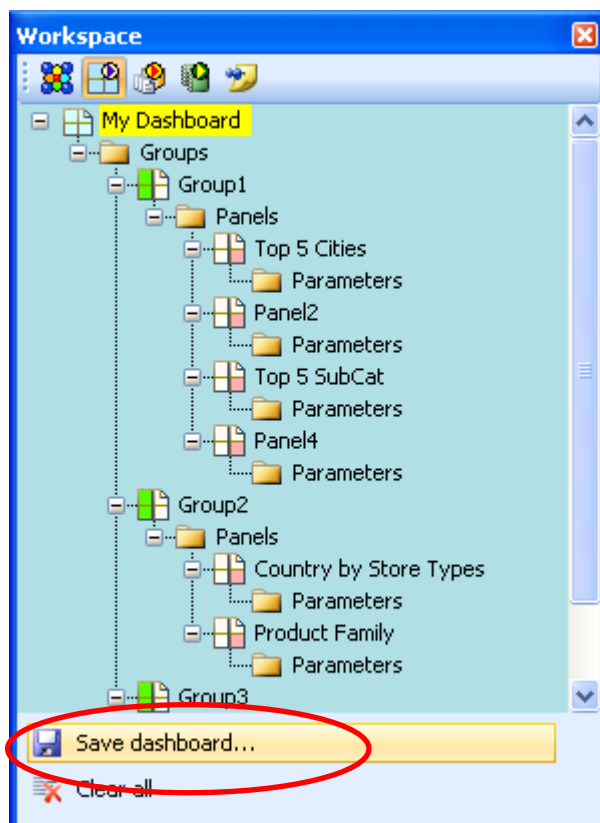
Therefore different menus are available if you click on rows or columns.

Those menus depend of the display view as well.

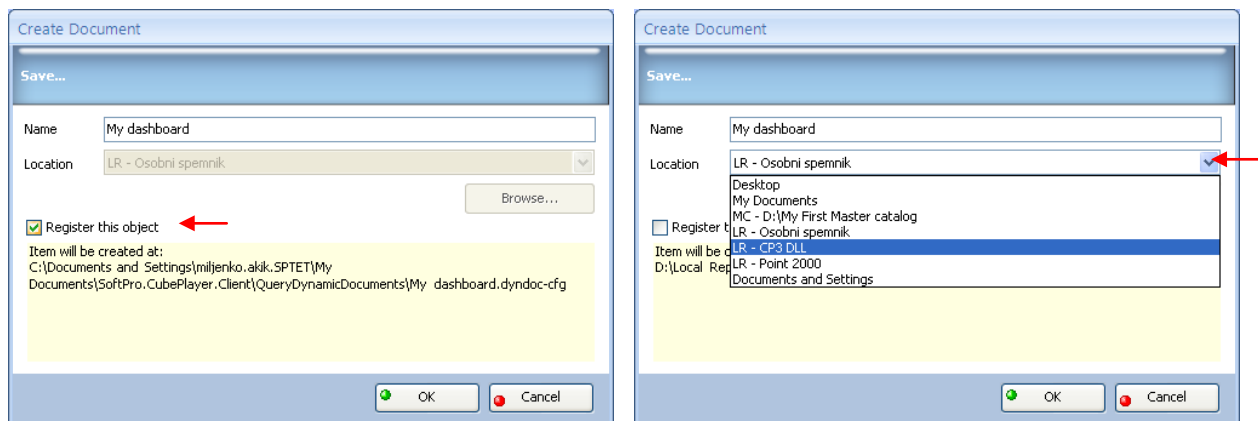
After finishing your masterpiece to save:



- Icon **Save**
or
- Select command line **Save Dashboard** inside **Dashboard Generator**



Dialog will appear.

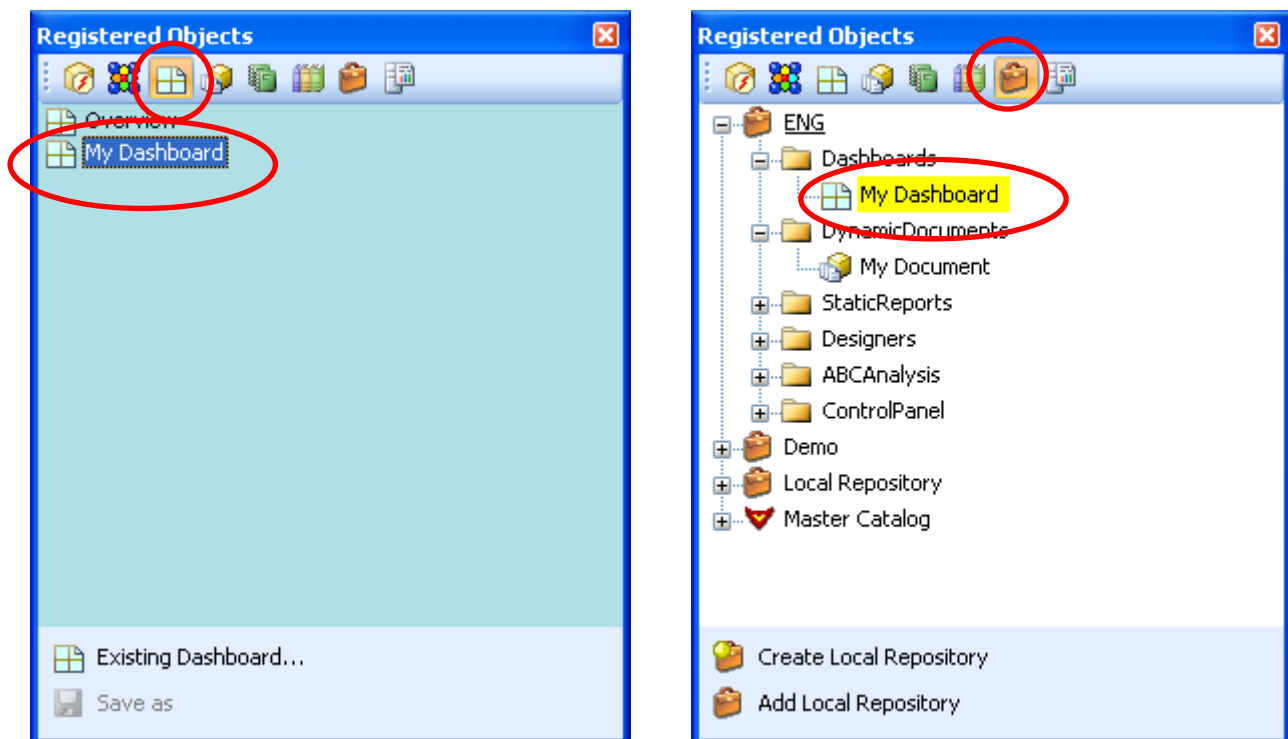


Give the name to the dashboard (**My Dashboard**) and select location where to save it.

Possible locations to save:

- Registered objects – Dashboard explorer
- Local repository

If you select to register your dashboard it will be saved inside **Registered Objects Dashboard Explorer**.



If you select not to register you dashboard

it will be save inside **Local Repository** (use arrow to select appropriate local repository)

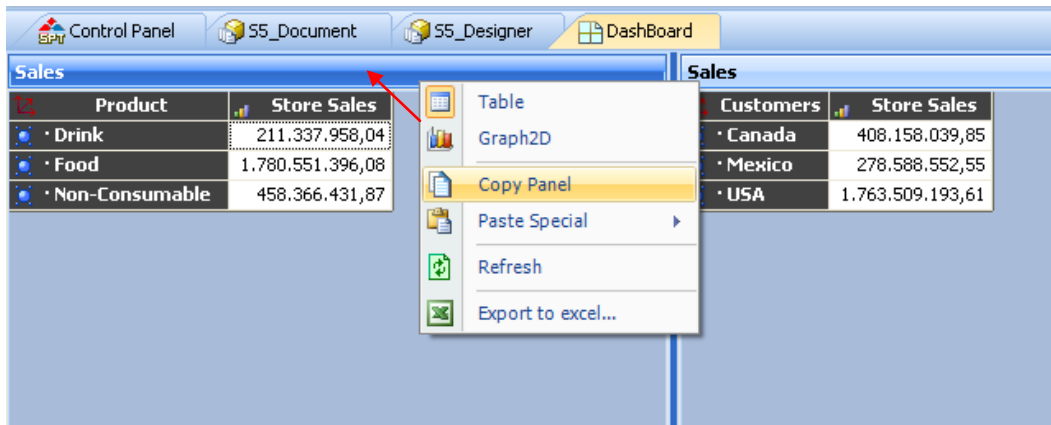
folder **Dashboards** or any other location if you use button **Brows**.

Copy & Paste panel

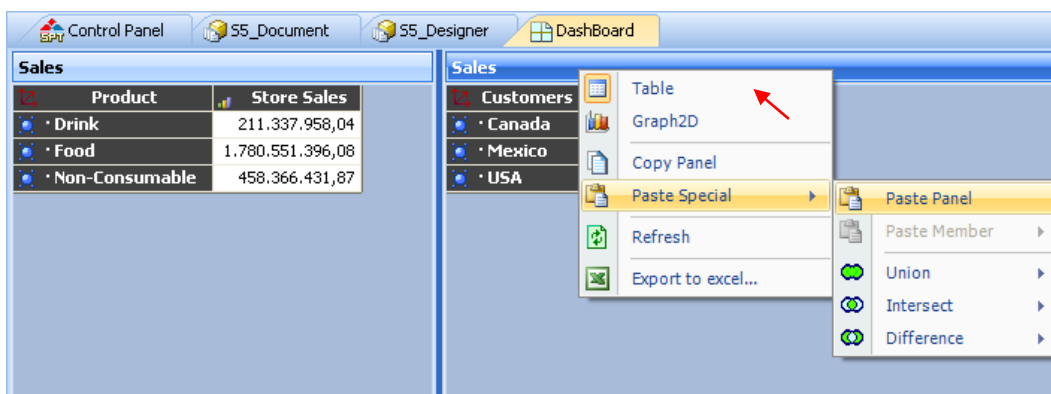
Inside any multi window tab you can copy any panel and paste it on any other panel.

To use this feature:

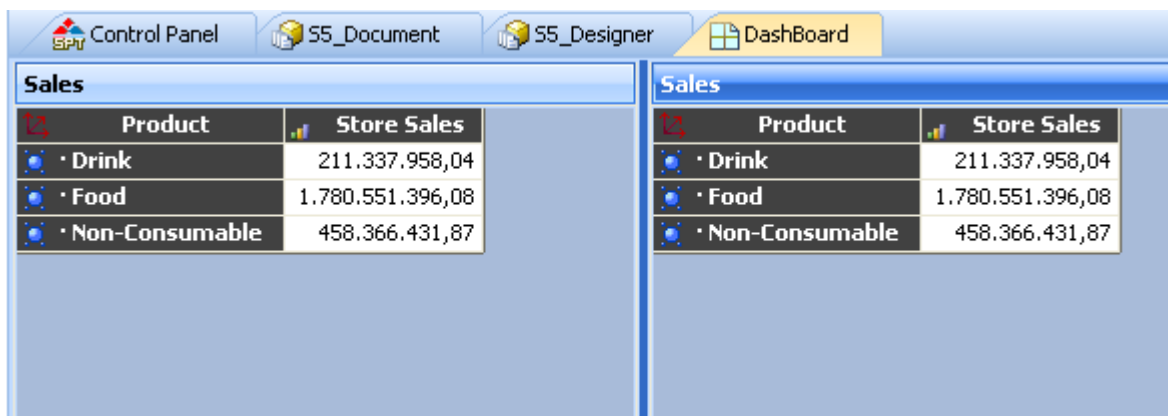
- Select panel inside dashboard
- Right click title bar
- Select **Copy Panel** from popup menu



Select destination panel by mouse click on the title bar



- Right click over the title bar to get popup menu
- Select **Paste Panel**



Both panels are the same now.

Copy & Paste members

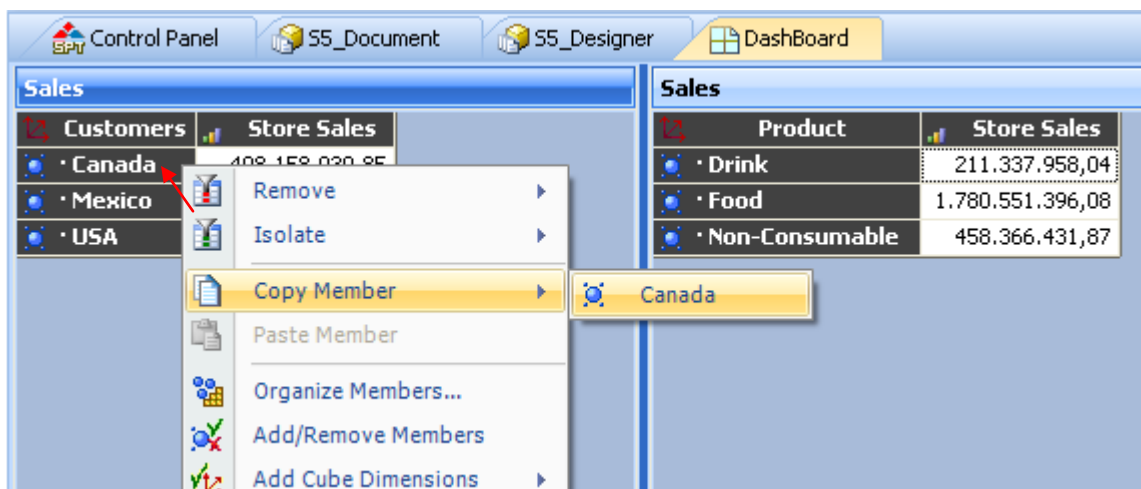
Inside dashboard you can copy any member available from table inside one panel and paste it on the table inside any other panel. **Copy Member** is without options, because you can select only one member.

Paste Member has four (4) different options:

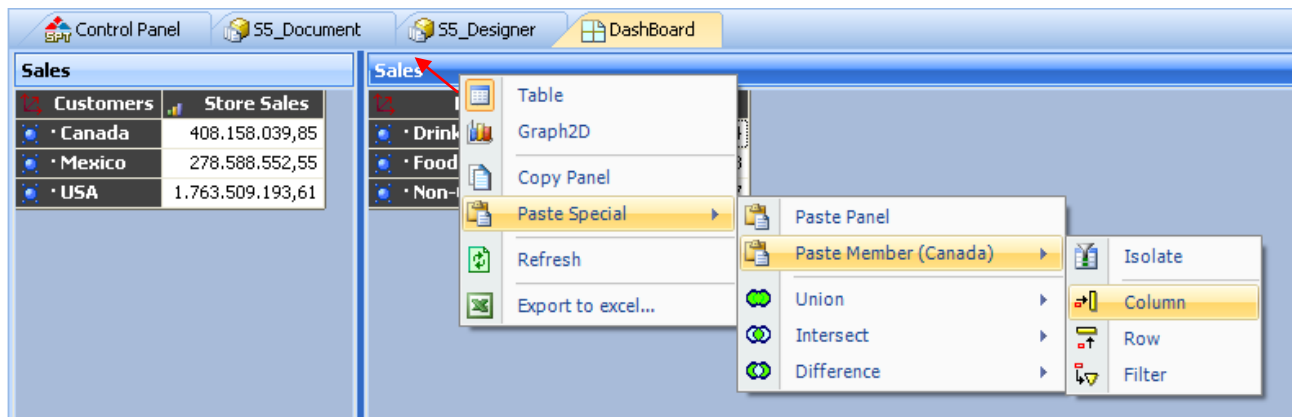
- **Isolate** performs Isolate function inside destination panel with MDX from source panel
- **Column** It will add member to the columns inside new table
- **Row** It will add member to the rows inside new table
- **Filter** It will add member to the filter inside new table

To use this feature:

- Select panel inside dashboard
- Select member from the table we will select row member **Canada** from **1st** panel
- Right click
- Select **Copy Member** from popup menu
- Select **Canada** from submenu



- Go to panel **second panel**
- Right click title bar
- Select **Paste Member** from menu
- Select one of options from submenu in this example **Columns**



Row member **Canada** from first panel is add to the second panel as a column member.

Sales		Sales	
Customers	Store Sales	Product	Store Sales
• Canada	408.158.039,85	• Canada	33.427.363,05
• Mexico	278.588.552,55	• Drink	300.697.023,67
• USA	1.763.509.193,61	• Food	74.033.633,13
		• Non-Consumable	

Join two panels

Basically this feature is implementation of MDX function named **Union**.

This function allows putting together two sets that are made from same combination of dimensions and in a same order (dimensions order).

Union will preserve elements from each set and order as well and as a final result it will put it inside the same table. This way you can make more combination for your reports.

To demonstrate this function in CubePlayer we will create two simple queries:

Query Countries

- On rows level country (all members from level Country level will be displayed)
- On columns level Years (all members from level Years will be displayed)
measure Store Count

Query All

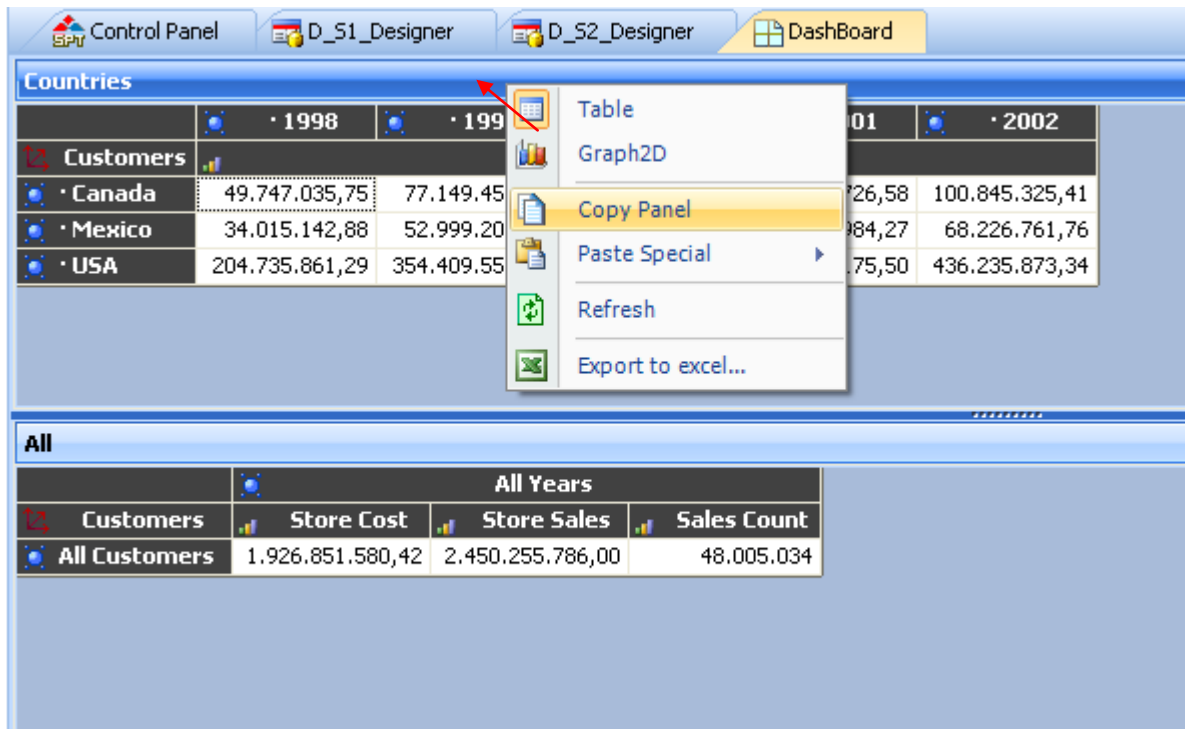
- On rows member All Customers from dimension Customers
- On columns member All Years from level Time
measure Store Cost, Store Sales, Store Count

Control Panel D_S1_Designer D_S2_Designer DashBoard						
Countries						
	• 1998	• 1999	• 2000	• 2001	• 2002	
Customers	Store Sales					
• Canada	49.747.035,75	77.149.454,74	82.728.497,36	97.687.726,58	100.845.325,41	
• Mexico	34.015.142,88	52.999.207,02	56.579.456,63	66.767.984,27	68.226.761,76	
• USA	204.735.861,29	354.409.551,90	353.478.731,58	414.649.175,50	436.235.873,34	
All						
	All Years					
Customers	Store Cost	Store Sales	Sales Count			
All Customers	1.926.851.580,42	2.450.255.786,00	48.005.034			

Join rows

To join rows from two different panels simply:

- Place your mouse over upper title bar
- Right click your mouse
- Select **Copy Panel** from menu



The screenshot shows a software interface with a top navigation bar containing 'Control Panel', 'D_S1_Designer', 'D_S2_Designer', and 'DashBoard'. Below this, there are two main panels. The top panel, titled 'Countries', displays a table with columns for 'Customers', '1998', and '1999'. A right-click context menu is open over the '1998' column, with 'Copy Panel' highlighted. The bottom panel, titled 'All', displays a table with columns for 'Customers', 'Store Cost', 'Store Sales', and 'Sales Count'.

Customers	1998	1999
Canada	49.747.035,75	77.149.45
Mexico	34.015.142,88	52.999.20
USA	204.735.861,29	354.409.55

Customers	Store Cost	Store Sales	Sales Count
All Customers	1.926.851.580,42	2.450.255.786,00	48.005.034

Now:

- Select **Panel** you want to use to apply Union
- Right click
- Select **Union** from menu
- Select **ON ROWS**

Control Panel D_S1_Designer D_S2_Designer DashBoard

Countries

	• 1998	• 1999	• 2000	• 2001	• 2002
Customers	Store Sales				
• Canada	49.747.035,75	77.149.454,74	82.728.497,36	97.687.726,58	100.845.325,41
• Mexico	34.015.142,88	52.999.207,02	56.579.456,63	66.767.984,27	68.226.761,76
• USA	204.735.861,29	354.409.551,90	353.478.731,58	414.649.175,50	436.235.873,34

All

Customers

All Customer

Table

Graph2D

Copy Panel

Paste Special

Refresh

Export to excel...

Paste Panel

Paste Member

Union

Intersect

Difference

ON COLUMNS

ON ROWS

ON BOTH

Result will be displayed in new window:

Control Panel D_S1_Designer D_S2_Designer DashBoard S3_All

Table

	• 1998	• 1999	• 2000	• 2001	• 2002
Customers	Store Sales				
• Canada	49.747.035,75	77.149.454,74	82.728.497,36	97.687.726,58	100.845.325,41
• Mexico	34.015.142,88	52.999.207,02	56.579.456,63	66.767.984,27	68.226.761,76
• USA	204.735.861,29	354.409.551,90	353.478.731,58	414.649.175,50	436.235.873,34
All Customers	288.498.039,91	484.558.213,66	492.786.685,57	579.104.886,34	605.307.960,52

Join columns

To join columns from two different panels simply:

- Place your mouse over upper title bar
- Right click your mouse
- Select **Copy Panel** from menu

The screenshot shows a software interface with two panels. The top panel, titled 'Countries', displays a table with columns for '1998' and '1999'. The bottom panel, titled 'All', displays a table with columns for 'Store Cost', 'Store Sales', and 'Sales Count'. A context menu is open over the 'Countries' panel, showing options: 'Table', 'Graph2D', 'Copy Panel' (highlighted), 'Paste Special', 'Refresh', and 'Export to excel...'. A red arrow points to the 'Copy Panel' option.

	1998	1999
Customers		
Canada	49.747.035,75	77.149.45
Mexico	34.015.142,88	52.999.20
USA	204.735.861,29	354.409.55

	All Years
Customers	
All Customers	1.926.851.580,42 2.450.255.786,00 48.005.034

Now:

- Select **Panel** you want to use to apply Union
- Right click
- Select Union from menu
- Select ON COLUMNS

Control Panel D_S1_Designer D_S2_Designer DashBoard S3_All

Countries

	1998	1999	2000	2001	2002
Customers	Store Sales				
Canada	49.747.035,75	77.149.454,74	82.728.497,36	97.687.726,58	100.845.325,41
Mexico	34.015.142,88	52.999.207,02	56.579.456,63	66.767.984,27	68.226.761,76
USA	204.735.861,29	354.409.551,90	353.478.731,58	414.649.175,50	436.235.873,34

All

- Table
- Graph2D
- Copy Panel
- Paste Special
 - Paste Panel
 - Paste Member
 - Union
 - ON COLUMNS
 - ON ROWS
 - ON BOTH
 - Intersect
 - Difference
- Refresh
- Export to excel...

Result will be displayed in new window:

Control Panel D_S1_Designer D_S2_Designer DashBoard S3_All S4_All

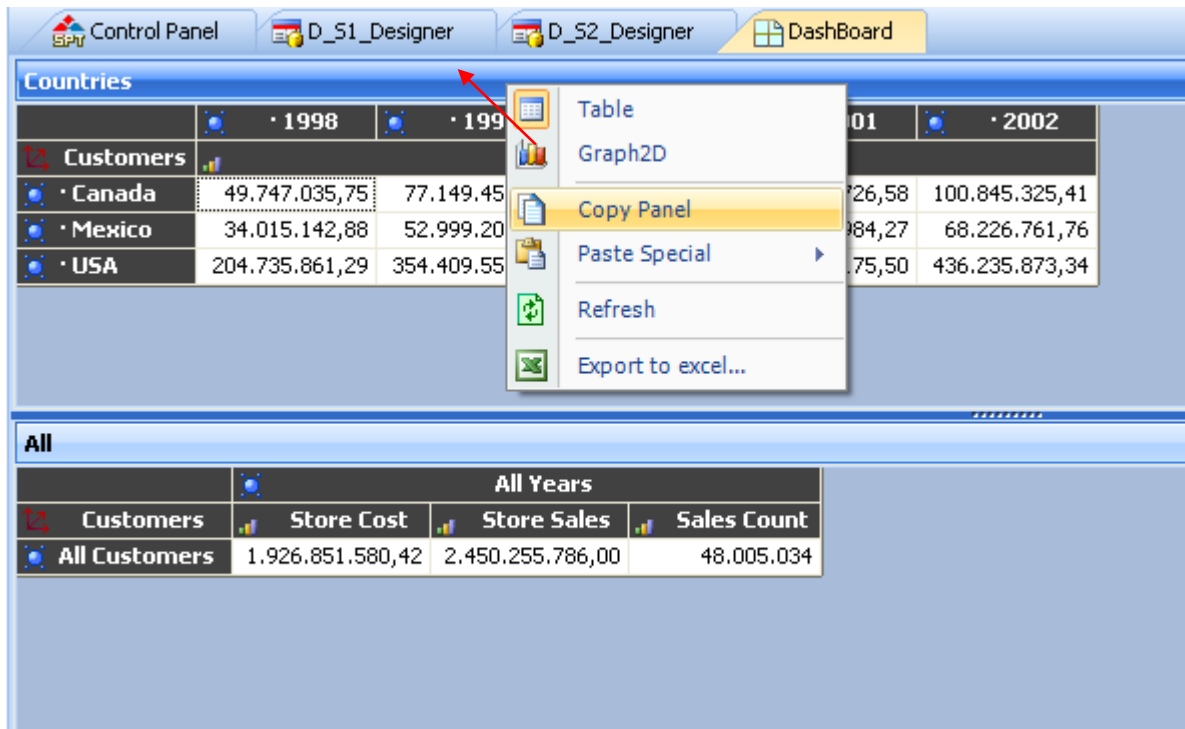
Table

	1998	1999	2000	2001	2002	All Years		
Customers	Store Sales					Store Cost	Store Sales	Sales Count
Canada	49.747.035,75	77.149.454,74	82.728.497,36	97.687.726,58	100.845.325,41	320.823.834,44	408.158.039,85	7.971.026
Mexico	34.015.142,88	52.999.207,02	56.579.456,63	66.767.984,27	68.226.761,76	219.287.459,72	278.588.552,55	5.635.457
USA	204.735.861,29	354.409.551,90	353.478.731,58	414.649.175,50	436.235.873,34	1.386.740.286,25	1.763.509.193,61	34.398.551

Join both (rows and columns)

To join both, rows and columns, from two different panels simply:

- Place your mouse over upper title bar
- Right click your mouse
- Select **Copy Panel** from menu



The screenshot shows a software interface with a top navigation bar containing 'Control Panel', 'D_S1_Designer', 'D_S2_Designer', and 'DashBoard'. Below this, there are two main panels. The top panel, titled 'Countries', contains a table with columns for '1998' and '1999'. The bottom panel, titled 'All', contains a table with columns for 'Store Cost', 'Store Sales', and 'Sales Count'. A right-click context menu is open over the 'Countries' panel, with the 'Copy Panel' option highlighted. The menu also includes options for 'Table', 'Graph2D', 'Paste Special', 'Refresh', and 'Export to excel...'. A red arrow points to the 'Copy Panel' option in the menu.

	1998	1999
Customers		
Canada	49.747.035,75	77.149.45
Mexico	34.015.142,88	52.999.20
USA	204.735.861,29	354.409.55

	Store Cost	Store Sales	Sales Count
All Customers	1.926.851.580,42	2.450.255.786,00	48.005.034

Now:

- Select **Panel** you want to use to apply Union
- Right click
- Select Union from menu
- Select **ON BOTH**

Control Panel D_S1_Designer D_S2_Designer Dashboard S3_All S4_

Countries

	1998	1999	2000	2001	2002
Customers	Store Sales				
Canada	49.747.035,75	77.149.454,74	82.728.497,36	97.687.726,58	100.845.325,41
Mexico	34.015.142,88	52.999.207,02	56.579.456,63	66.767.984,27	68.226.761,76
USA	204.735.861,29	354.409.551,90	353.478.731,58	414.649.175,50	436.235.873,34

All

Custom

All Custo

Table

Graph2D

Copy Panel

Paste Special

Refresh

Export to excel...

Paste Panel

Paste Member

Union

Intersect

Difference

ON COLUMNS

ON ROWS

ON BOTH

Result will be displayed in new window:

Control Panel D_S1_Designer D_S2_Designer Dashboard S3_All S4_All S5_All

Table

	1998	1999	2000	2001	2002	All Years		
Customers	Store Sales					Store Cost	Store Sales	Sales Count
Canada	49.747.035,75	77.149.454,74	82.728.497,36	97.687.726,58	100.845.325,41	320.823.634,44	408.158.039,85	7.971.026
Mexico	34.015.142,88	52.999.207,02	56.579.456,63	66.767.984,27	68.226.761,76	219.287.459,72	278.588.552,55	5.635.457
USA	204.735.861,29	354.409.551,90	353.478.731,58	414.649.175,50	436.235.873,34	1.386.740.286,25	1.763.509.193,61	34.398.551
All Customers	288.498.039,91	484.558.213,66	492.786.685,57	579.104.886,34	605.307.960,52	1.926.851.580,42	2.450.255.786,00	48.005.034

What is common between panels?

Basically this feature is implementation of MDX function named **Intersect**.

This function allows detecting what are common members between two sets.

Let us suppose we have two sets, one inside Panel A and one inside Panel B.

If we copy Panel A and paste it over Panel B on rows, as a result we will get

all members that are inside Panel A and that are also inside Panel B.

To demonstrate this function in CubePlayer we will use two simple queries:

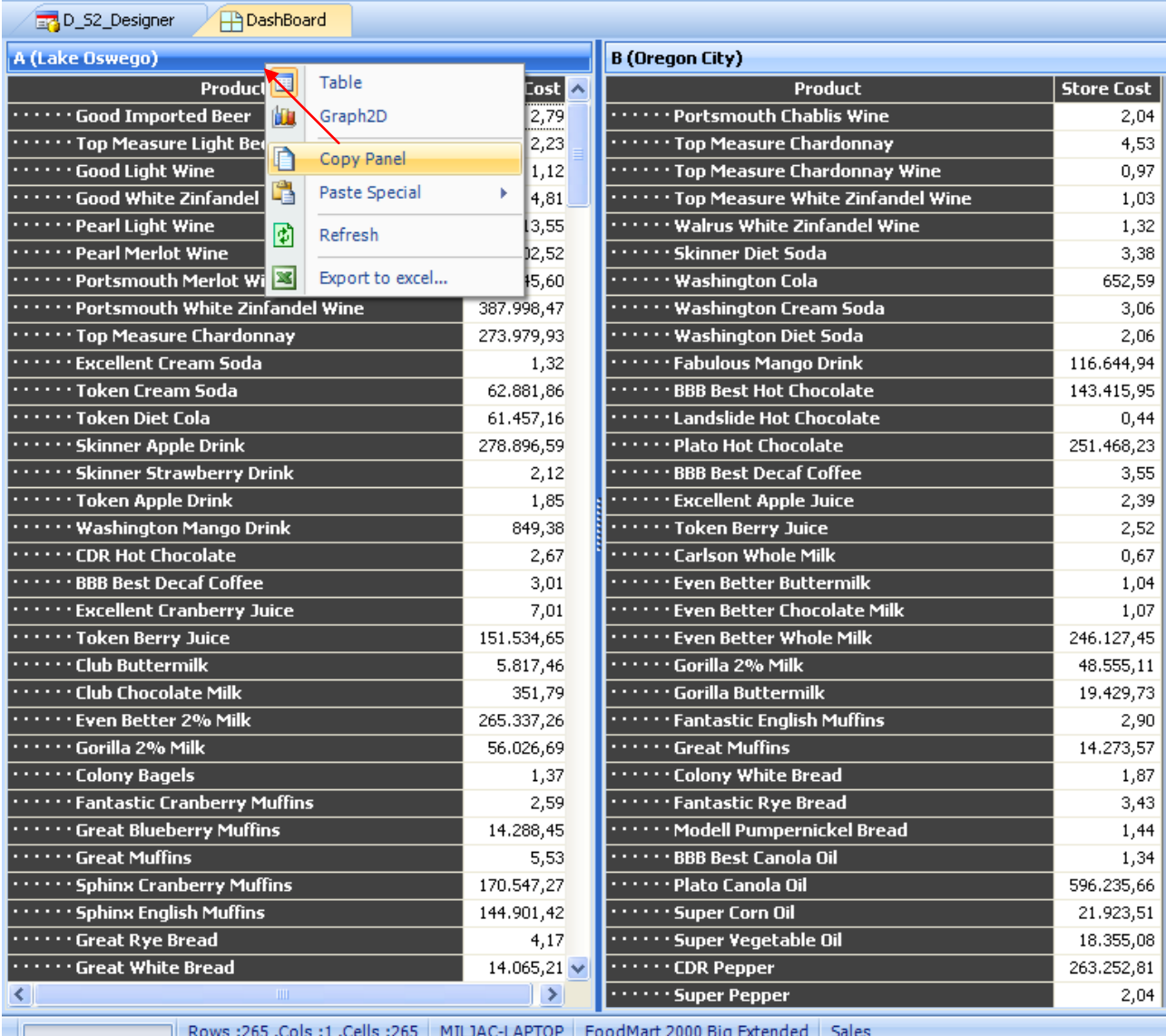
- Products for **Oregon City** 202 products in rows
- Products for **Lake Oswego** 256 products in rows

A (Lake Oswego)		B (Oregon City)	
Product	Store Cost	Product	Store Cost
Good Imported Beer	2,79	Portsmouth Chablis Wine	2,04
Top Measure Light Beer	2,23	Top Measure Chardonnay	4,53
Good Light Wine	1,12	Top Measure Chardonnay Wine	0,97
Good White Zinfandel Wine	4,81	Top Measure White Zinfandel Wine	1,03
Pearl Light Wine	103.613,55	Walrus White Zinfandel Wine	1,32
Pearl Merlot Wine	294.302,52	Skinner Diet Soda	3,38
Portsmouth Merlot Wine	256.045,60	Washington Cola	652,59
Portsmouth White Zinfandel Wine	387.998,47	Washington Cream Soda	3,06
Top Measure Chardonnay	273.979,93	Washington Diet Soda	2,06
Excellent Cream Soda	1,32	Fabulous Mango Drink	116.644,94
Token Cream Soda	62.881,86	BBB Best Hot Chocolate	143.415,95
Token Diet Cola	61.457,16	Landslide Hot Chocolate	0,44
Skinner Apple Drink	278.896,59	Plato Hot Chocolate	251.468,23
Skinner Strawberry Drink	2,12	BBB Best Decaf Coffee	3,55
Token Apple Drink	1,85	Excellent Apple Juice	2,39
Washington Mango Drink	849,38	Token Berry Juice	2,52
CDR Hot Chocolate	2,67	Carlson Whole Milk	0,67
BBB Best Decaf Coffee	3,01	Even Better Buttermilk	1,04
Excellent Cranberry Juice	7,01	Even Better Chocolate Milk	1,07
Token Berry Juice	151.534,65	Even Better Whole Milk	246.127,45
Club Buttermilk	5.817,46	Gorilla 2% Milk	48.555,11
Club Chocolate Milk	351,79	Gorilla Buttermilk	19.429,73
Even Better 2% Milk	265.337,26	Fantastic English Muffins	2,90
Gorilla 2% Milk	56.026,69	Great Muffins	14.273,57
Colony Bagels	1,37	Colony White Bread	1,87
Fantastic Cranberry Muffins	2,59	Fantastic Rye Bread	3,43
Great Blueberry Muffins	14.288,45	Modell Pumpnickel Bread	1,44
Great Muffins	5,53	BBB Best Canola Oil	1,34
Sphinx Cranberry Muffins	170.547,27	Plato Canola Oil	596.235,66
Sphinx English Muffins	144.901,42	Super Corn Oil	21.923,51
Great Rye Bread	4,17	Super Vegetable Oil	18.355,08
Great White Bread	14.065,21	CDR Pepper	263.252,81
		Super Pepper	2,04

Rows :202 ,Cols :1 ,Cells :202 MILJAC-LAPTOP FoodMart 2000 Big Extended Sales

To detect what is common between two panels on rows:

- Place your mouse over title bar
- Right click your mouse
- Select **Copy Panel** from menu



A (Lake Oswego)

Product	Cost
Good Imported Beer	2,79
Top Measure Light Beer	2,23
Good Light Wine	1,12
Good White Zinfandel	4,81
Pearl Light Wine	13,55
Pearl Merlot Wine	12,52
Portsmouth Merlot Wine	15,60
Portsmouth White Zinfandel Wine	387.998,47
Top Measure Chardonnay	273.979,93
Excellent Cream Soda	1,32
Token Cream Soda	62.881,86
Token Diet Cola	61.457,16
Skinner Apple Drink	278.896,59
Skinner Strawberry Drink	2,12
Token Apple Drink	1,85
Washington Mango Drink	849,38
CDR Hot Chocolate	2,67
BBB Best Decaf Coffee	3,01
Excellent Cranberry Juice	7,01
Token Berry Juice	151.534,65
Club Buttermilk	5.817,46
Club Chocolate Milk	351,79
Even Better 2% Milk	265.337,26
Gorilla 2% Milk	56.026,69
Colony Bagels	1,37
Fantastic Cranberry Muffins	2,59
Great Blueberry Muffins	14.288,45
Great Muffins	5,53
Sphinx Cranberry Muffins	170.547,27
Sphinx English Muffins	144.901,42
Great Rye Bread	4,17
Great White Bread	14.065,21

B (Oregon City)

Product	Store Cost
Portsmouth Chablis Wine	2,04
Top Measure Chardonnay	4,53
Top Measure Chardonnay Wine	0,97
Top Measure White Zinfandel Wine	1,03
Walrus White Zinfandel Wine	1,32
Skinner Diet Soda	3,38
Washington Cola	652,59
Washington Cream Soda	3,06
Washington Diet Soda	2,06
Fabulous Mango Drink	116.644,94
BBB Best Hot Chocolate	143.415,95
Landslide Hot Chocolate	0,44
Plato Hot Chocolate	251.468,23
BBB Best Decaf Coffee	3,55
Excellent Apple Juice	2,39
Token Berry Juice	2,52
Carlson Whole Milk	0,67
Even Better Buttermilk	1,04
Even Better Chocolate Milk	1,07
Even Better Whole Milk	246.127,45
Gorilla 2% Milk	48.555,11
Gorilla Buttermilk	19.429,73
Fantastic English Muffins	2,90
Great Muffins	14.273,57
Colony White Bread	1,87
Fantastic Rye Bread	3,43
Modell Pumpernickel Bread	1,44
BBB Best Canola Oil	1,34
Plato Canola Oil	596.235,66
Super Corn Oil	21.923,51
Super Vegetable Oil	18.355,08
CDR Pepper	263.252,81
Super Pepper	2,04

Rows :265 ,Cols :1 ,Cells :265 MILJAC-LAPTOP FoodMart 2000 Big Extended Sales

Now:

- Select **Panel** you want to apply Intersect
- Right click
- Select Intersect from menu
- Select available option
 - ON ROWS (**our case**)
 - ON COLUMNS
- Select on which **dimension (Products)**

A (Lake Oswego)

Product	Store Cost
Good Imported Beer	2,79
Top Measure Light Beer	2,23
Good Light Wine	1,12
Good White Zinfandel Wine	4,81
Pearl Light Wine	103.613,55
Pearl Merlot Wine	294.302,52
Portsmouth Merlot Wine	256.045,60
Portsmouth White Zinfandel Wine	387.998,47
Top Measure Chardonnay	273.979,93
Excellent Cream Soda	1,32
Token Cream Soda	62.881,86
Token Diet Cola	61.457,16
Skinner Apple Drink	278.896,59
Skinner Strawberry Drink	2,12
Token Apple Drink	1,85
Washington Mango Drink	849,38
CDR Hot Chocolate	2,67

B (Oregon City)

Product	Store Cost
Port	2,04
Top	4,53
Top	0,97
Wal	
Skir	
Was	
Washington Cream Soda	
Washington Diet Soda	
Fabulous Mango Drink	
BBB Best Hot Chocolate	143.415,95
Landslide Hot Chocolate	0,44
Plato Hot Chocolate	251.468,23
BBB Best Decaf Coffee	3,55
Excellent Apple Juice	2,39
Token Berry Juice	2,52
Carlson Whole Milk	0,67

Result will be displayed in new window, 26 products are the same:

NOTE:

In case you have more then one dimension on axis you want to compare, inside result table we will use

dimension elements from first (COPIED) panel.

Table (Lake Oswego)

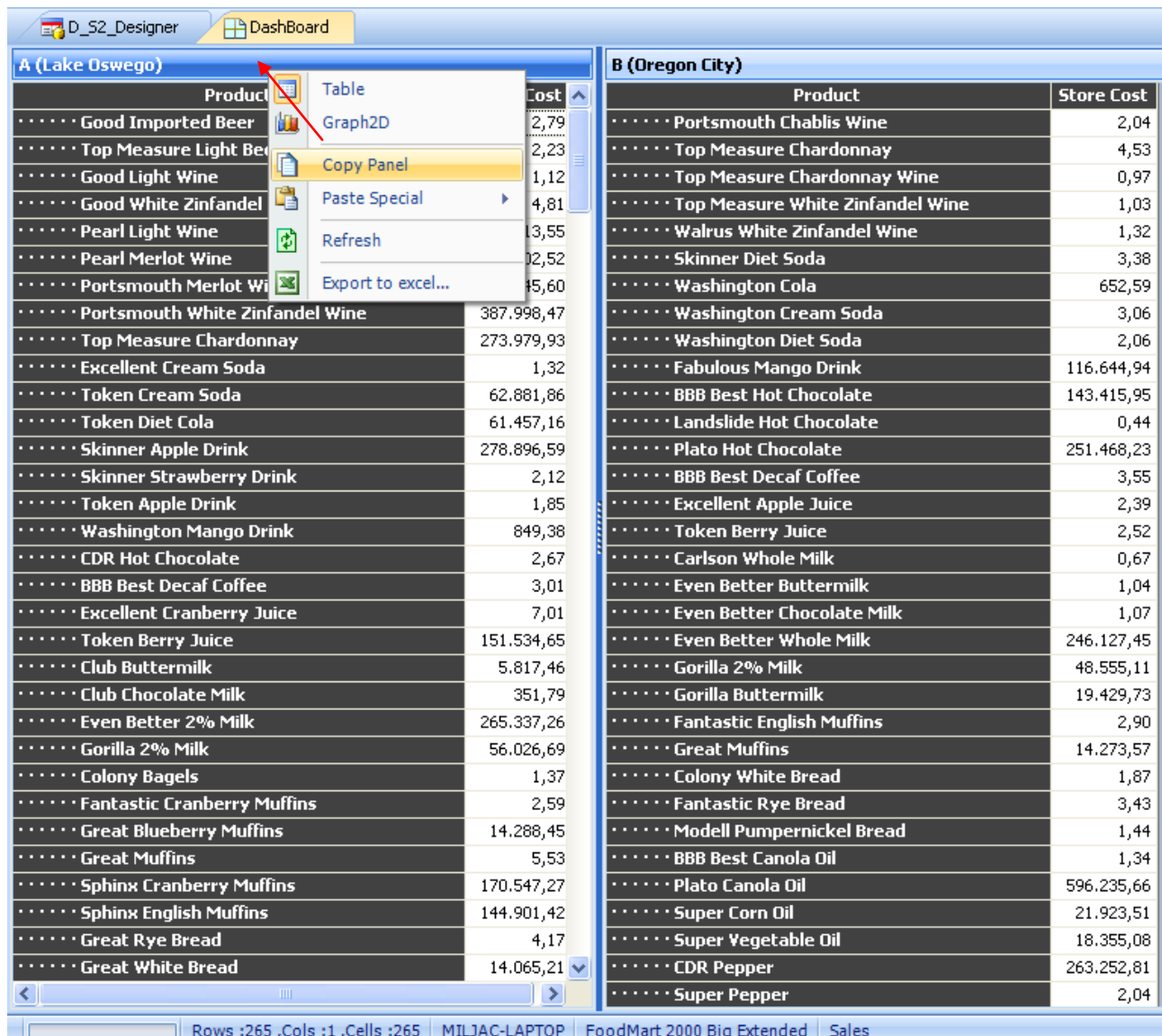
Product	Store Cost
Top Measure Chardonnay	273.979,93
BBB Best Decaf Coffee	3,01
Token Berry Juice	151.534,65
Gorilla 2% Milk	56.026,69
Great Muffins	5,53
BBB Best Grape Jam	5,15
BBB Best Apple Jelly	2,49
Landslide Strawberry Jelly	3.348,66
Bravo Noodle Soup	66.784,82
Carlson Jack Cheese	4,23
American Sliced Ham	2,73
Lake Roasted Chicken	2,87
American Chicken Hot Dogs	1,66
Moms Foot-Long Hot Dogs	5,54
Ebony Baby Onion	10,01
Hermanos Broccoli	4,05
Hermanos Shitake Mushrooms	5,04
High Top Green Pepper	3,52
Tell Tale Broccoli	1,95
Tell Tale Sweet Onion	1,26
Nationeel Frosted Cookies	320.771,70
High Quality C-Size Batteries	355.042,43
Cormorant Frying Pan	176.939,19
Sunset Paper Cups	4,52
High Quality Plastic Knives	3,83
Gauss Monthly Auto Magazine	256.593,19

Rows :26 ,Cols :1 ,Cells :26

What is different between panels?

To detect difference between two panels on rows simply:

- Place your mouse over title bar
- Right click your mouse
- Select **Copy Panel** from menu



The screenshot shows the D_S2_Designer interface with two panels, A and B, displaying data tables. Panel A is titled 'A (Lake Oswego)' and Panel B is titled 'B (Oregon City)'. A right-click context menu is open over the title bar of Panel A, with the 'Copy Panel' option highlighted. The status bar at the bottom indicates 'Rows :265 ,Cols :1 ,Cells :265' and 'MILJAC-LAPTOP FoodMart 2000 Big Extended Sales'.

A (Lake Oswego)	
Product	Cost
Good Imported Beer	2,79
Top Measure Light Beer	2,23
Good Light Wine	1,12
Good White Zinfandel	4,81
Pearl Light Wine	13,55
Pearl Merlot Wine	12,52
Portsmouth Merlot Wine	15,60
Portsmouth White Zinfandel Wine	387.998,47
Top Measure Chardonnay	273.979,93
Excellent Cream Soda	1,32
Token Cream Soda	62.881,86
Token Diet Cola	61.457,16
Skinner Apple Drink	278.896,59
Skinner Strawberry Drink	2,12
Token Apple Drink	1,85
Washington Mango Drink	849,38
CDR Hot Chocolate	2,67
BBB Best Decaf Coffee	3,01
Excellent Cranberry Juice	7,01
Token Berry Juice	151.534,65
Club Buttermilk	5.817,46
Club Chocolate Milk	351,79
Even Better 2% Milk	265.337,26
Gorilla 2% Milk	56.026,69
Colony Bagels	1,37
Fantastic Cranberry Muffins	2,59
Great Blueberry Muffins	14.288,45
Great Muffins	5,53
Sphinx Cranberry Muffins	170.547,27
Sphinx English Muffins	144.901,42
Great Rye Bread	4,17
Great White Bread	14.065,21

B (Oregon City)	
Product	Store Cost
Portsmouth Chablis Wine	2,04
Top Measure Chardonnay	4,53
Top Measure Chardonnay Wine	0,97
Top Measure White Zinfandel Wine	1,03
Walrus White Zinfandel Wine	1,32
Skinner Diet Soda	3,38
Washington Cola	652,59
Washington Cream Soda	3,06
Washington Diet Soda	2,06
Fabulous Mango Drink	116.644,94
BBB Best Hot Chocolate	143.415,95
Landslide Hot Chocolate	0,44
Plato Hot Chocolate	251.468,23
BBB Best Decaf Coffee	3,55
Excellent Apple Juice	2,39
Token Berry Juice	2,52
Carlson Whole Milk	0,67
Even Better Buttermilk	1,04
Even Better Chocolate Milk	1,07
Even Better Whole Milk	246.127,45
Gorilla 2% Milk	48.555,11
Gorilla Buttermilk	19.429,73
Fantastic English Muffins	2,90
Great Muffins	14.273,57
Colony White Bread	1,87
Fantastic Rye Bread	3,43
Modell Pumpernickel Bread	1,44
BBB Best Canola Oil	1,34
Plato Canola Oil	596.235,66
Super Corn Oil	21.923,51
Super Vegetable Oil	18.355,08
CDR Pepper	263.252,81
Super Pepper	2,04

Now:

- Select **Panel** you want to apply Intersect
- Right click
- Select Difference from menu
- Select available option
 - ON ROWS (**our case**)
 - ON COLUMNS

- o Select on which **dimension (Products)**

A (Lake Oswego)

Product	Store Cost
Good Imported Beer	2,79
Top Measure Light Beer	2,23
Good Light Wine	1,12
Good White Zinfandel Wine	4,81
Pearl Light Wine	103.613,55
Pearl Merlot Wine	294.302,52
Portsmouth Merlot Wine	256.045,60
Portsmouth White Zinfandel Wine	387.998,47
Top Measure Chardonnay	273.979,93
Excellent Cream Soda	1,32
Token Cream Soda	62.881,86
Token Diet Cola	61.457,16
Skinner Apple Drink	278.896,59
Skinner Strawberry Drink	2,12

B (Oregon City)

Product	Store Cost
Washington Cream Soda	2,04
Washington Diet Soda	4,53
Fabulous Mango Drink	0,97
BBB Best Hot Chocolate	0,03
BBB Best Hot Chocolate	0,32
Landslide Hot Chocolate	0,38
Plato Hot Chocolate	0,59
BBB Best Decaf Coffee	0,06
BBB Best Decaf Coffee	0,44
Plato Hot Chocolate	251.468,23
BBB Best Decaf Coffee	3,55

Result, 239 products we have sold in Lake Oswego different than in Oregon City, will be displayed in new window:

NOTE:

In case you have more then one dimension on axis you want to compare, inside result table we will use

dimension elements from first (COPIED) panel.

Table (Lake Oswego)

Product	Store Cost
Good Imported Beer	2,79
Top Measure Light Beer	2,23
Good Light Wine	1,12
Good White Zinfandel Wine	4,81
Pearl Light Wine	103.613,55
Pearl Merlot Wine	294.302,52
Portsmouth Merlot Wine	256.045,60
Portsmouth White Zinfandel Wine	387.998,47
Excellent Cream Soda	1,32
Token Cream Soda	62.881,86
Token Diet Cola	61.457,16
Skinner Apple Drink	278.896,59
Skinner Strawberry Drink	2,12
Token Apple Drink	1,85
Washington Mango Drink	849,38
CDR Hot Chocolate	2,67
Excellent Cranberry Juice	7,01
Club Buttermilk	5.817,46
Club Chocolate Milk	351,79
Even Better 2% Milk	265.337,26
Colony Bagels	1,37
Fantastic Cranberry Muffins	2,59
Great Blueberry Muffins	14.288,45
Sphinx Cranberry Muffins	170.547,27
Sphinx English Muffins	144.901,42
Great Rye Bread	4,17
Great White Bread	14.065,21
CDR Vegetable Oil	4,12
CDR Tomato Sauce	316.061,20
BBB Best Salt	247.746,83
Landslide Pepper	40.583,90
Plato White Sugar	1,65
Super White Sugar	15.138,19

Rows :239 ,Cols :1 ,Cells :239

Dynamic documents

Dynamic document object is a set of one or more MDX queries that will be executed at once when you select to run it.

Each time when you find something interesting you can add it to **Dynamic document generator**.

Allowed objects are:

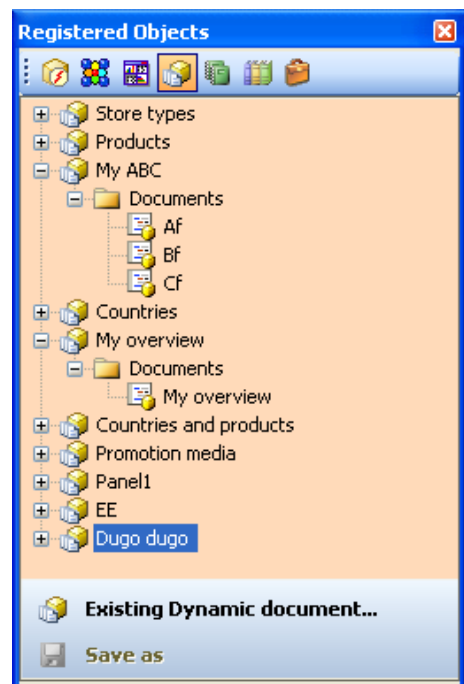
- Queries
- Layouts
- Documents

After you have been finished with collecting objects go to the Generator and arrange them as you wish in terms of order or rename them.

Final step is to select **Save Dynamic Document** command line.

Here you have two choices:

- to register object
- not to register the object



If your decision is to register the object during save procedure it will be save inside registered objects that are located on:

C:\Documents and Settings\user.name\My Documents\SoftPro.CubePlayer.Client

This location can not be changed. Next time when you run **CubePlayer** object will appear inside objects explorer.






If you have selected not to register the object you can save it anywhere on the local disk or on the network or in the Local repository.

From Dynamic document explorer you can run your document or you can drag it to the Control Panel.

Create Dynamic document

Each time when you find something interesting you can add it to **Dynamic Document Generator**.

To collect objects use tab **Home** and select:

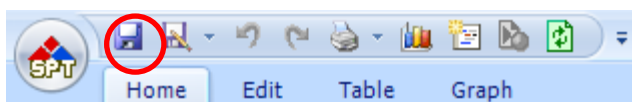
Icon	Name	Description
	Add to DDG	Group of commands that allow adding to the Dynamic document generator
	Add win to DDG	Adds active tab
	Add panel to DDG	Adds active panel
	Add Doc to DDG	Adds entire Dashboard, Document, Layout
	Add Panels to DDG	Adds panels as separate objects

Allowed objects are:

- Queries
- Layouts
- Layout panel
- Documents
- Document panel
- Dashboard panel (only)

When you finish with collecting objects go to the Generator and arrange them as you wish in terms of order or rename them.

Other way is to save any active window (tab) as a dynamic document:



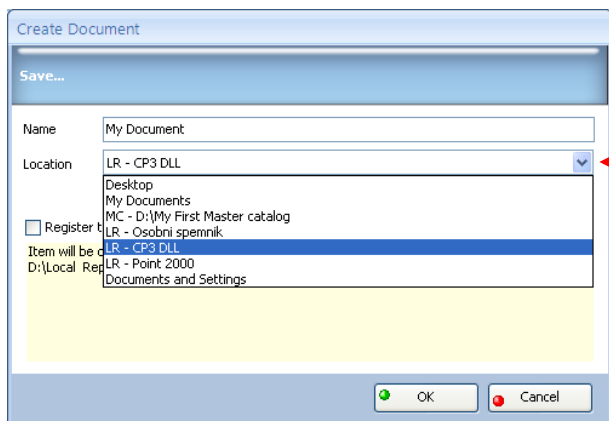
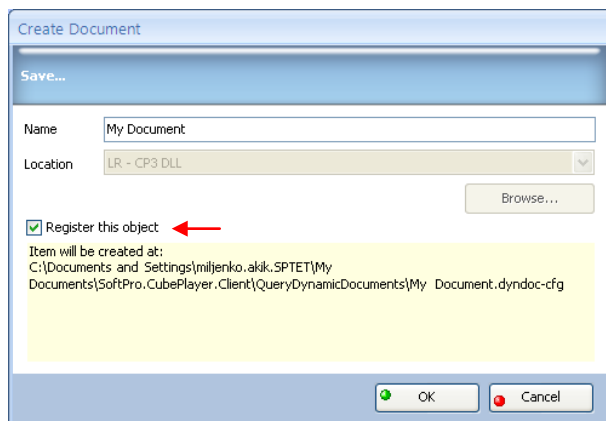
- use icon **Save**

or **Generate Dynamic Document**:

- Select **Add document to Dynamic Document** icon
- Save **Dynamic Document** using **Save command** line at the bottom of generator.

dialog will appear:

Give the name to the document (**My Document**) and select location where to save it.

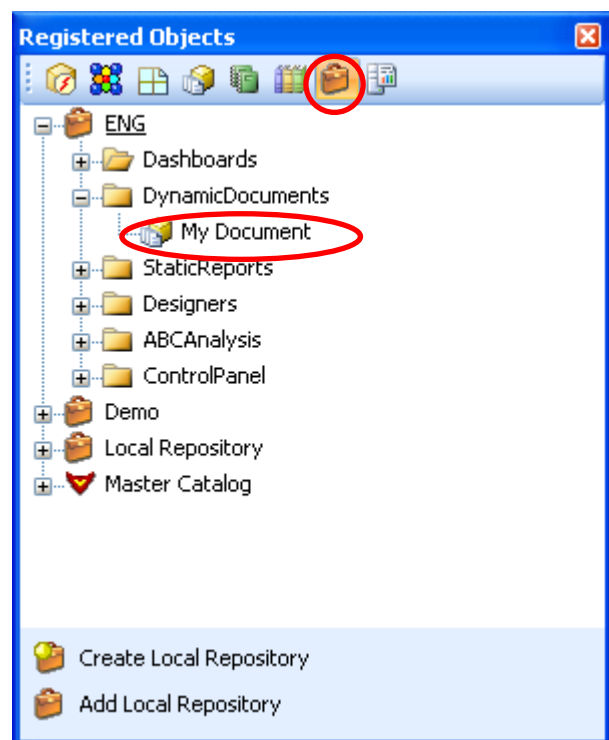
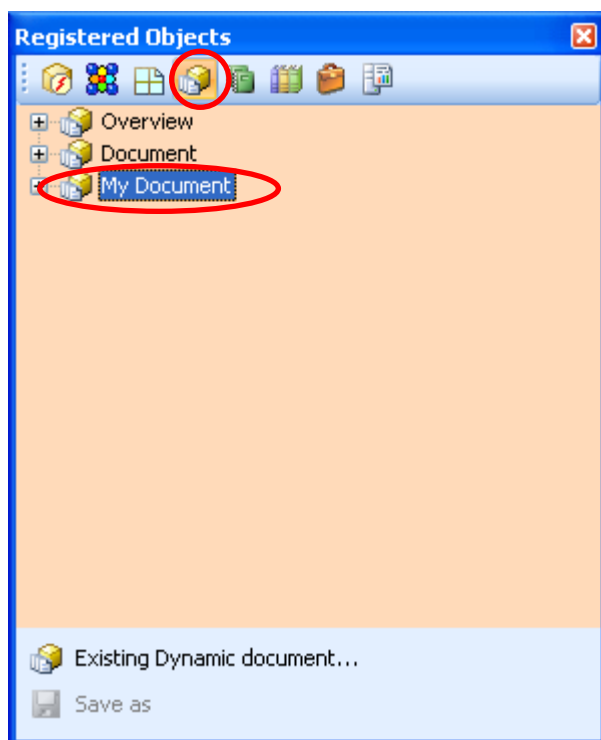


Possible locations to save:

- Registered objects – Dynamic Document explorer
- or
- Local repository

If you select to register your document:

- It will be saved inside **Registered Objects Dynamic Document explorer**.








If you select not to register your document it will be saved:

- inside one of your **Local Repositories** (folder **DynamicDocuments**).

Static report

Each time when you find something interesting you can add it to **Static Report Generator**.

To collect objects use tab **Home** and select:

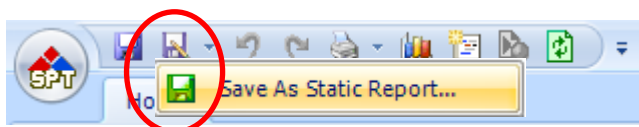
Icon	Name	Description
	Add to SRG	Group of commands that allow adding to the Static report generator
	Add win to SRG	Adds active tab
	Add panel to SRG	Adds active panel
	Add Doc to SRG	Adds entire Dashboard, Document, Layout
	Add Panels to SRG	Adds panels as separate objects

Allowed objects are:

- Queries
- Layouts
- Layout panel
- Documents
- Document panel
- Dashboard
- Dashboard panel

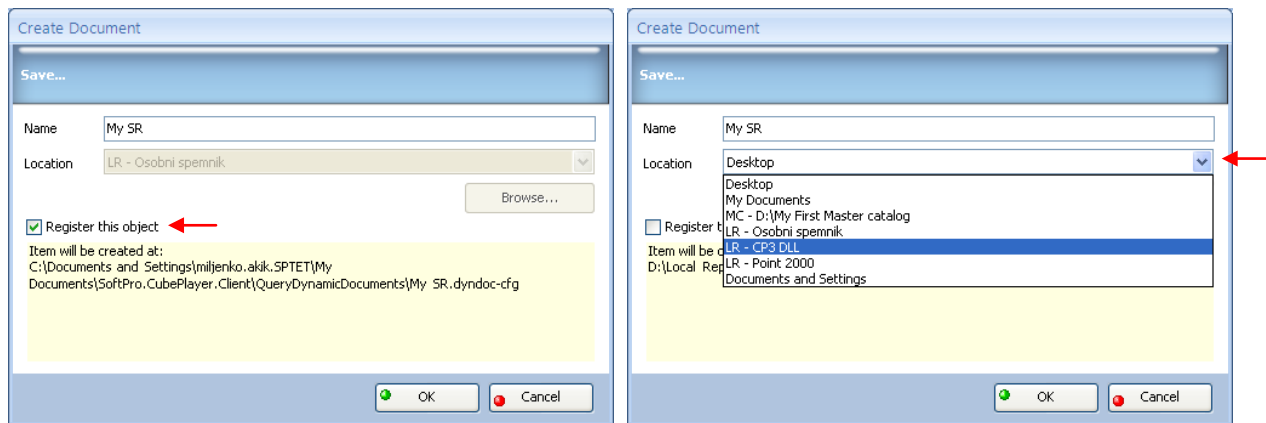
When you finish with collecting objects go to the Generator and arrange them as you wish in terms of order or rename them.

Other way is to save any active window (tab) as a Static report:



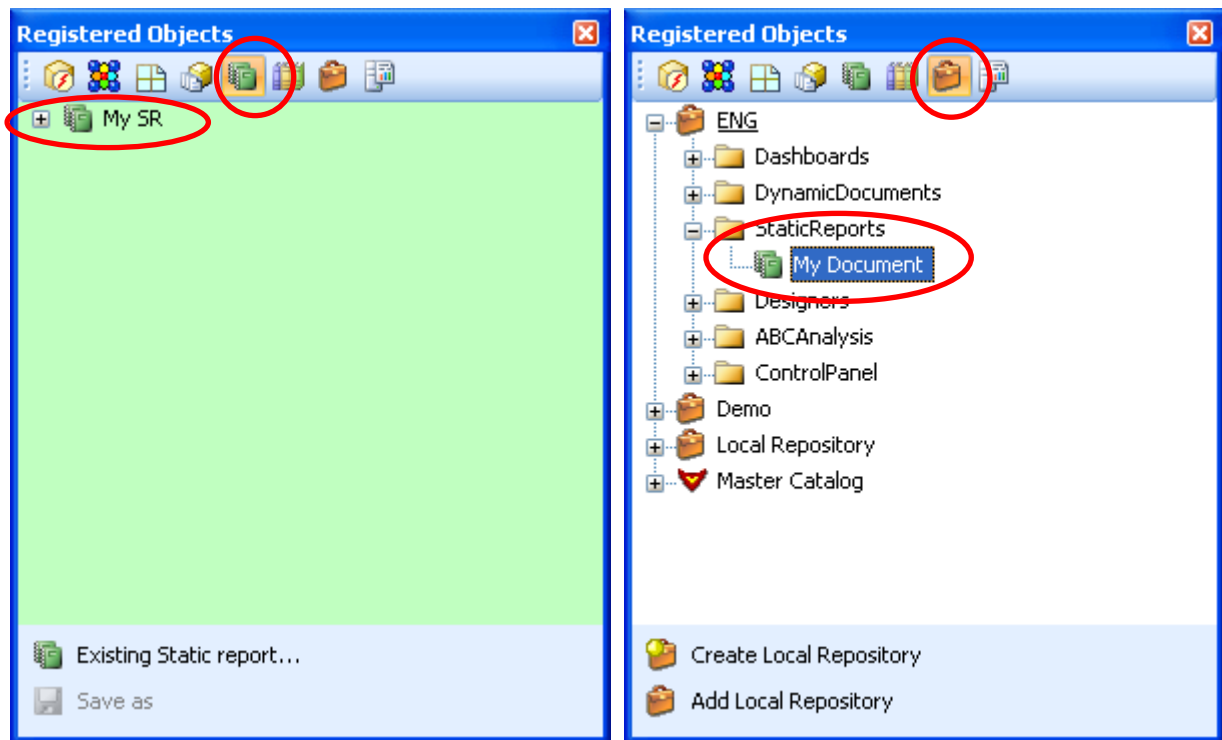
- Select icon **Save As** inside QAT

Dialog will appear:



Give the name to the document (**My SR**) and select location where to save it.

If selected to register document it will be saved inside **Registered Objects Static Report Explorer**.



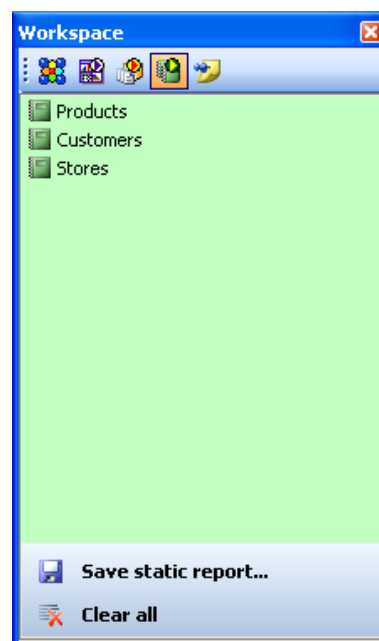
If you select not to register you document it will be save inside selected **Local Repository**:

Create Static report






Each time when you find something interesting you can add it to **Static report generator**.

Allowed objects are:

- Queries
- Layouts
- Layout panel
- Documents
- Document panel
- Dashboard
- Dashboard panel



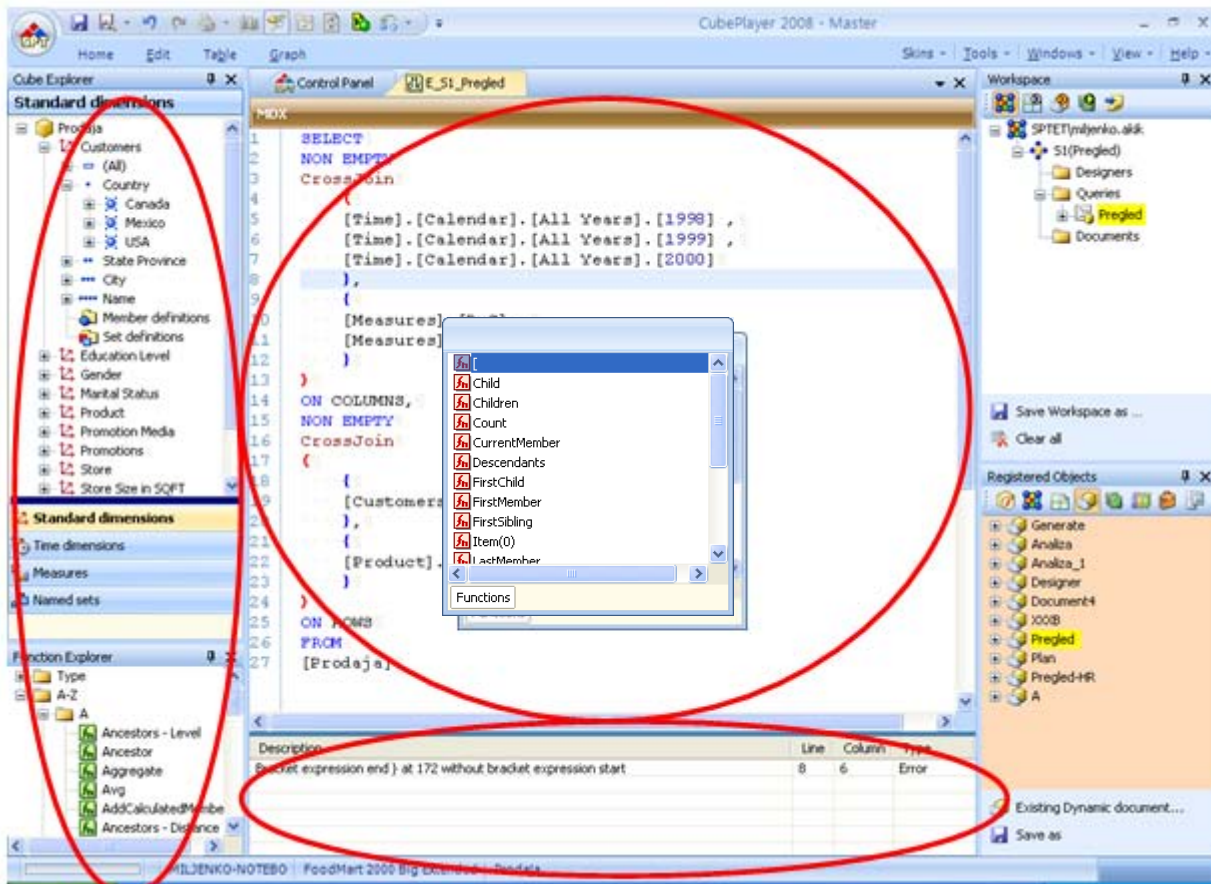
When you finish with collecting objects go to the Generator and arrange them as you wish in terms of order or rename them.

Icon	Name	Description
	Add to SRG	Group of commands that allow adding to the Static report generator
	Add win to SRG	Adds active tab
	Add panel to SRG	Adds active panel
	Add Doc to SRG	Adds entire Dashboard, Document, Layout
	Add Panels to SRG	Adds panels as separate objects

MDX Editor

Editor is organized in three (3) main parts:

- Editing area
- Cube explorer and Function explorer on the left hand side
- Fast preview and syntax-checker area at the bottom



CubePlayer will perform automatic MDX syntax check while you write MDX command.

If syntax is not correct you will get error(s) in bottom window:

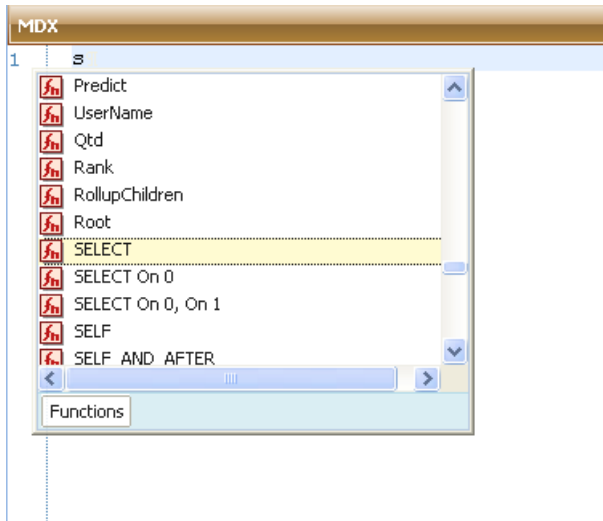
Description	Line	Column	Type
Bracket expression end } at 172 without bracket expression start	8	6	Error

Editing area

Editing area is main part of MDX Editor where user writes MDX syntax.

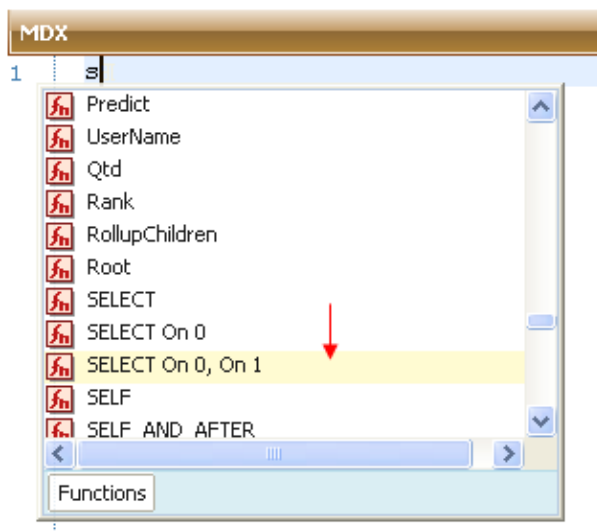
To start writing on empty area it is enough to:

- press “S” and MDX Intellisense will appear:



If you want to have both axes:

- move selection with arrow key down twice



- press ENTER or TAB

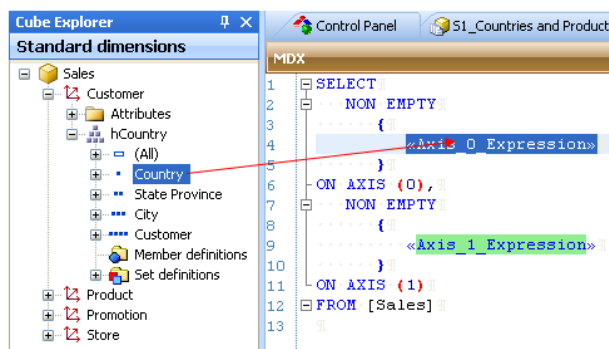
```

MDX
1 SELECT
2     NON EMPTY
3     {
4         «Axis_0_Expression»
5     }
6 ON AXIS (0),
7     NON EMPTY
8     {
9         «Axis_1_Expression»
10    }
11 ON AXIS (1)
12 FROM [Sales]
13

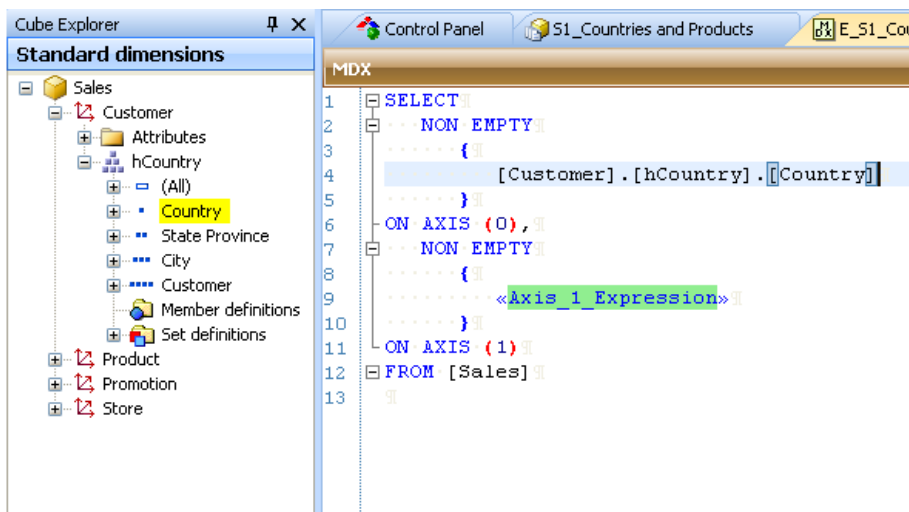
```

To fill «Axis_0_Expression»

- Double-click «Axis_0_Expression»

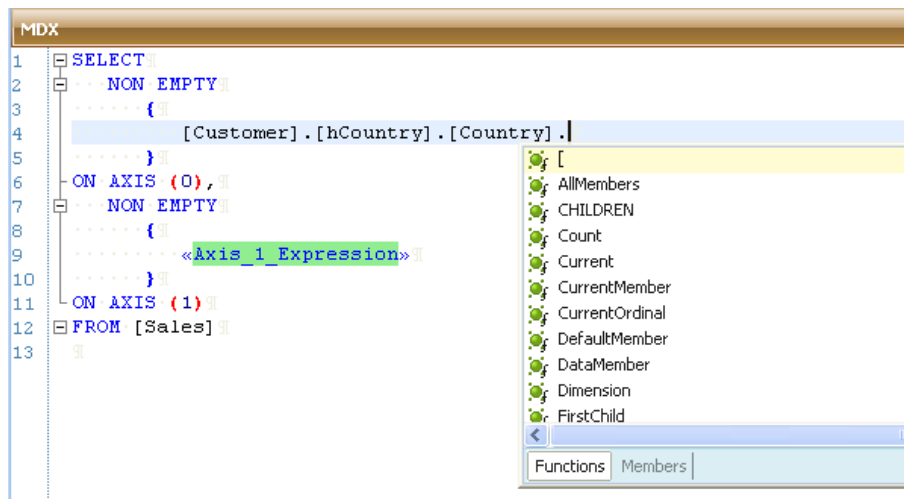


- Drag-and-drop elements from cube explorer

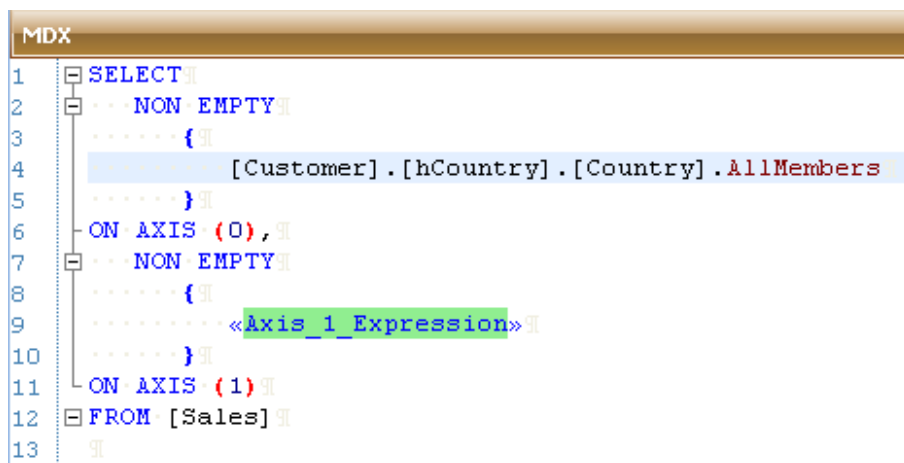


If you want to add, for example .ALLMEMBERS:

- just press DOT "." at the end of level unique name

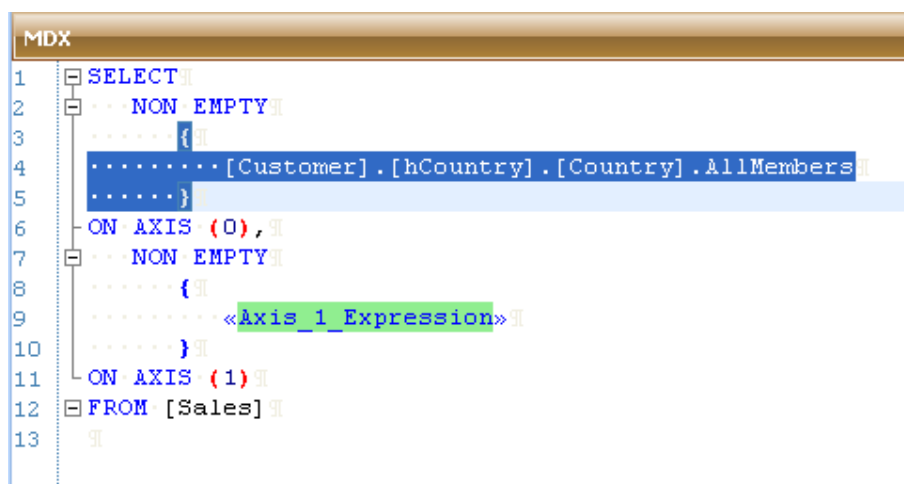


- press A
- press ENTER or TAB



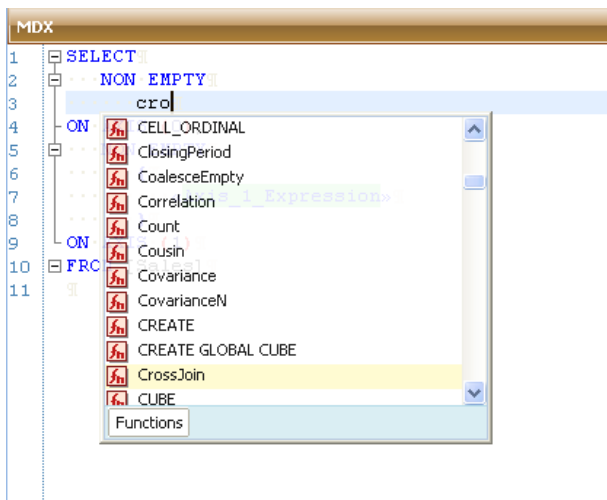
To add another hierarchy and crossjoin it with Customer.hCountry:

- select with mouse MDX part

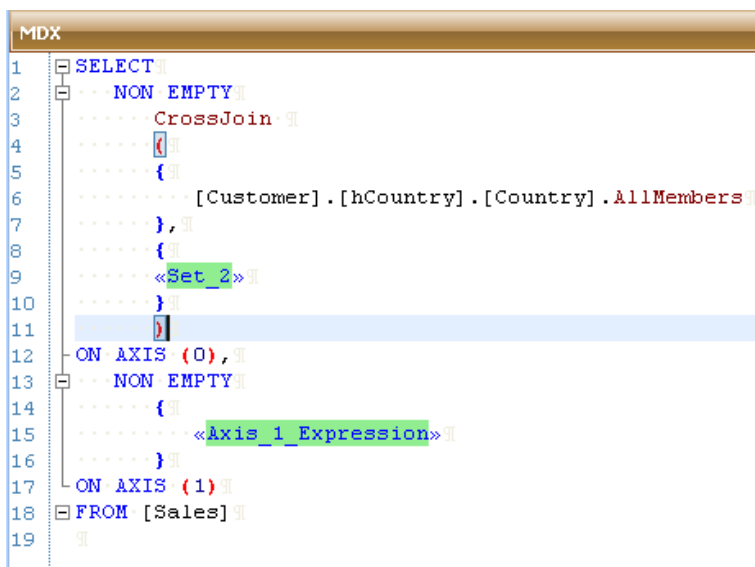


- press "C"

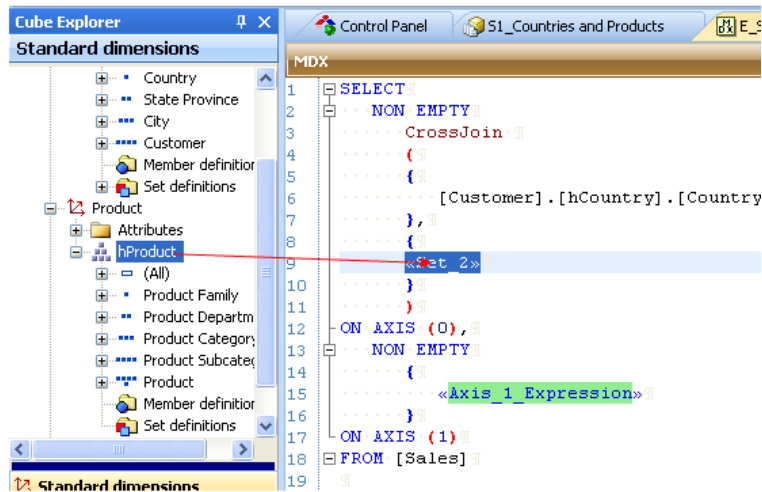
- press “r”
- press “o”



- press ENTER (do not press TAB since it will place down only keyword CrossJoin)



- double-click <<Set_2>>

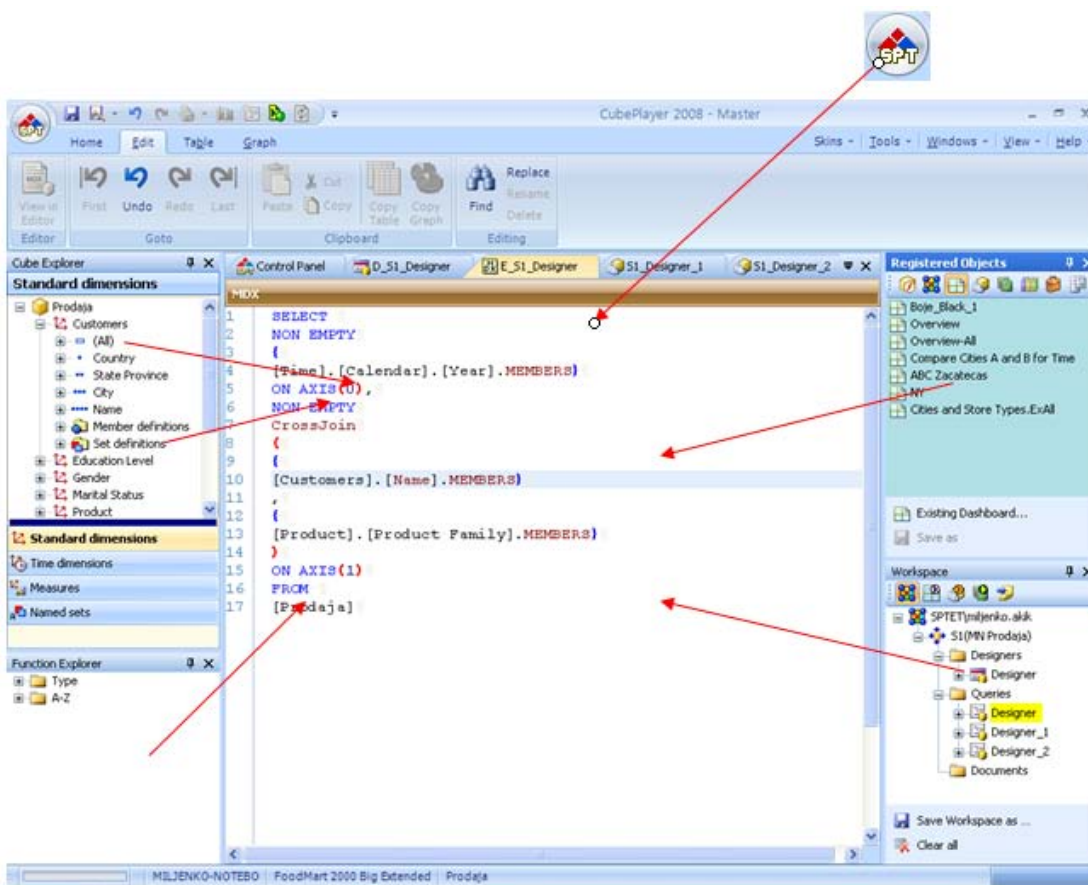


- drag-n-drop element from hierarchy hProduct

Drag-n-drop

In editor you can drag and drop from:

- Cube explorer
 - Cube elements
 - Dimensions
 - Hierarchies
 - Levels
 - Members
 - Local calculated elements
 - Local calculated measures
 - Local calculated members
 - Local calculated dimension sets
 - Local calculated named sets
- Function explorer
 - MDX functions
- CubePlayer objects from outside

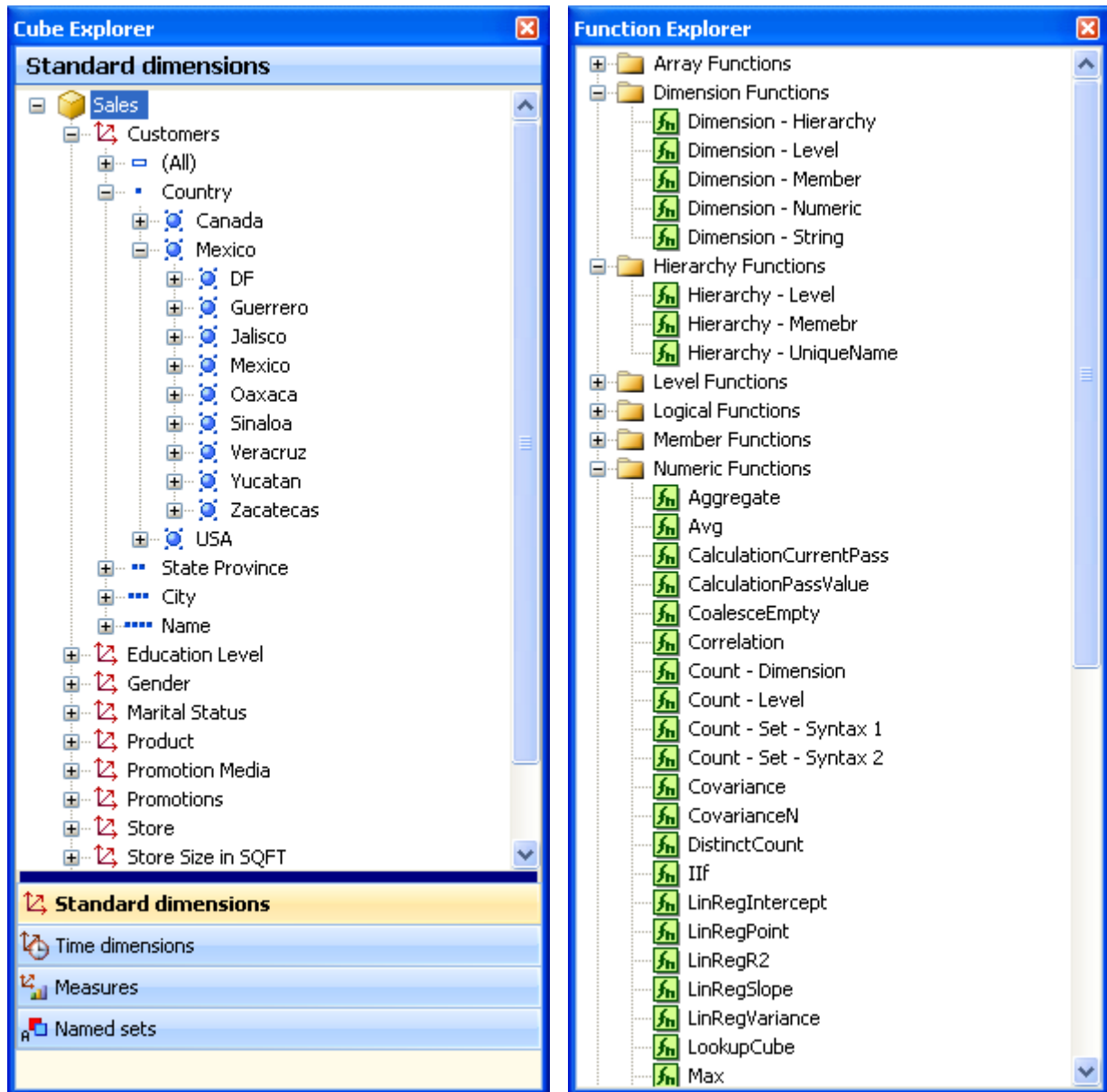


Cube and function explorer

Cube and function explorer are placed on left hand side of MDX Editing area.

They are used to drag-n-drop cube elements or MDX function on the main editing area.

To add MDX functions we recommend usage of MDX intellisense described in MDX Editing area chapter or MDX intellisense chapter.

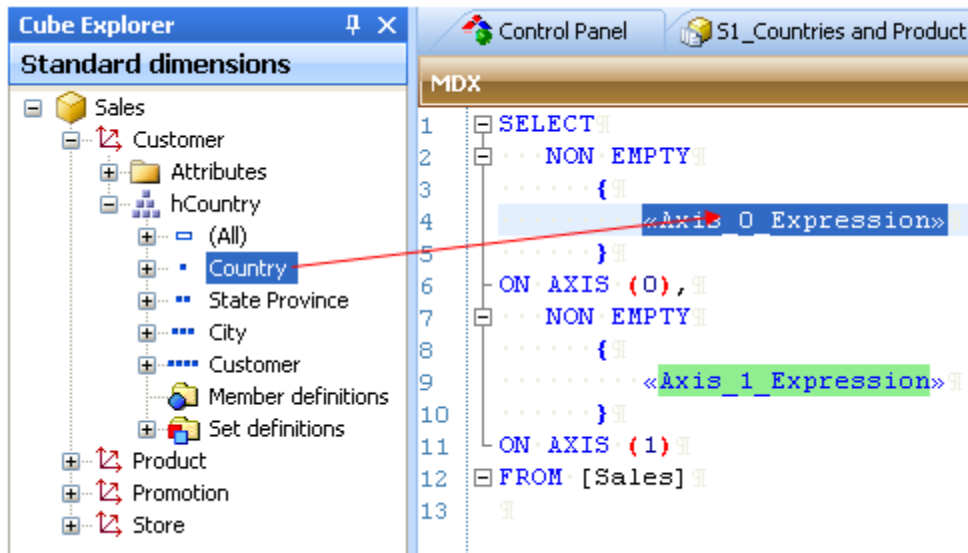


Cube explorer

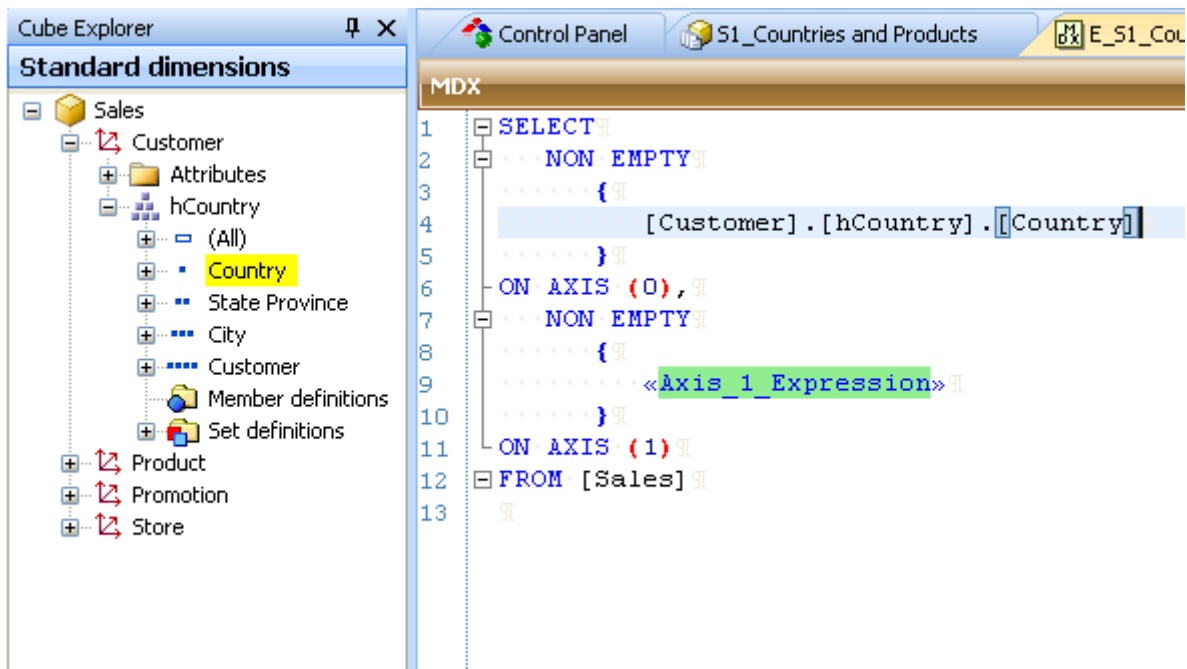
Function explorer

To add cube element or replace any place-holder in MDX snippets:

- Double-click `<Axis_0_Expression>`



- Drag-and-drop elements from cube explorer



Fast preview and syntax checker

Fast preview and syntax checker window is located at the bottom of the MDX Editor.

The screenshot displays the MDX Editor interface. The main text area contains the following MDX query:

```
1 SELECT *  
2 NON-EMPTY  
3 CrossJoin  
4 (  
5 {  
6 [Time].[hYear].[Year].ALLMEMBERS  
7 }  
8 ,  
9 {  
10 [Measures].[Sales Count] ,  
11 [Measures].[Store Cost]  
12 }  
13 )  
14 ON-Axis(0),  
15 NON-EMPTY  
16 CrossJoin  
17 (  
18 {  
19 [Customer].[hCountry].[Country].ALLMEMBERS  
20 }  
21 ,  
22 {  
23 [Product].[hProduct].[Product Family].ALLMEMBERS
```

The fast preview window at the bottom shows a syntax error. The error message is "Unclosed identifier expression [" and it is located at line 11, column 13. The error type is "Error".

Description	Line	Column	Type
✖ Unclosed identifier expression [	11	13	Error

Fast preview

To execute entire MDX in Fast preview tab:

- press F5

The screenshot shows the MDX editor with the following query:

```
1 SELECT
2 NON EMPTY
3 CrossJoin
4 (
5 {
6 [Time].[hYear].[Year].ALLMEMBERS
7 },
8 {
9 [Measures].[Sales Count],
10 [Measures].[Store Cost]
11 }
12 )
13 ON AXIS(0),
14 NON EMPTY
15 CrossJoin
16 (
17 {
18 [Customer].[hCountry].[Country].ALLMEMBERS
```

The Fast preview tab shows the result for the year 1998:

		Sales Count	Store Cost
Canada	Drink	262,212	12,163,918.27
	Food	663,482	28,699,675.69
	Non-Consumable	281,859	10,807,607.83
Mexico	Drink	178,756	6,953,105.36
	Food	524,235	22,615,177.99
	Non-Consumable	189,463	7,370,740.59
USA	Drink	1,180,270	51,704,294.72

Part of MDX

if you want to see caption of your member or what will be result of just a part of your MDX select it end execute it. To execute part of MDX:

- select it with mouse
- press F5

The screenshot shows the MDX editor with the first part of the query selected (lines 1-12). The Fast preview tab shows the result for the year 1997:

	Sales Count	Store Cost
1997	Sales Count	Store Cost
1998	Sales Count	Store Cost
1999	Sales Count	Store Cost
2000	Sales Count	Store Cost
2001	Sales Count	Store Cost
2002	Sales Count	Store Cost

The screenshot shows the MDX editor with the second part of the query selected (lines 13-18). The Fast preview tab shows the result for the year 1997:

	Sales Count	Store Cost
1997	Sales Count	Store Cost
1998	Sales Count	Store Cost
1999	Sales Count	Store Cost
2000	Sales Count	Store Cost
2001	Sales Count	Store Cost
2002	Sales Count	Store Cost

Edit tab

To use MDX syntax from one of the tabs, just right-click over selected tab and select Edit from menu.

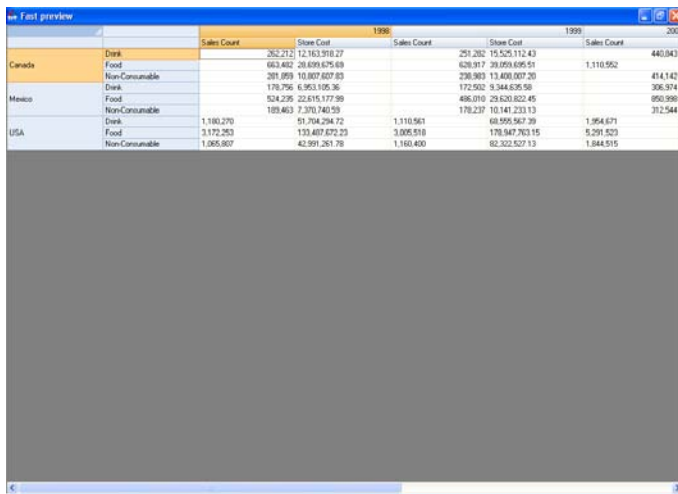
New window

New window will execute MDX as dynamic document in new window.

Zoom

To see result in separate form:

- right-click tab
- select Zoom from menu

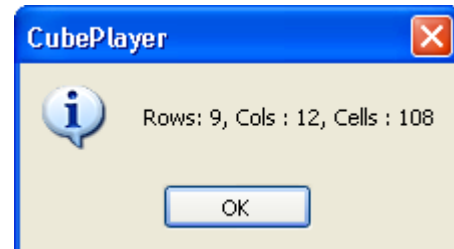


First preview		1998		1999		2000
		Sales Count	Store Cost	Sales Count	Store Cost	Sales Count
Canada	Drink	262,212	12,163,918.27	251,262	15,525,112.43	440,043
	Food	663,462	28,699,625.69	626,917	28,059,695.51	1,110,552
	Non-Consumable	291,959	10,807,607.03	236,963	13,400,007.20	474,142
Mexico	Drink	176,796	6,953,106.36	172,932	8,344,526.98	306,974
	Food	524,235	22,615,177.99	486,010	25,620,822.45	850,998
	Non-Consumable	189,463	7,370,740.59	178,237	10,141,233.13	312,544
USA	Drink	1,160,270	51,704,204.72	1,110,561	60,595,567.39	1,964,671
	Food	3,172,263	133,407,672.23	3,008,518	178,947,763.15	5,291,523
	Non-Consumable	1,065,807	42,991,261.78	1,160,430	62,322,527.13	1,844,515

Info

To see info about result table:

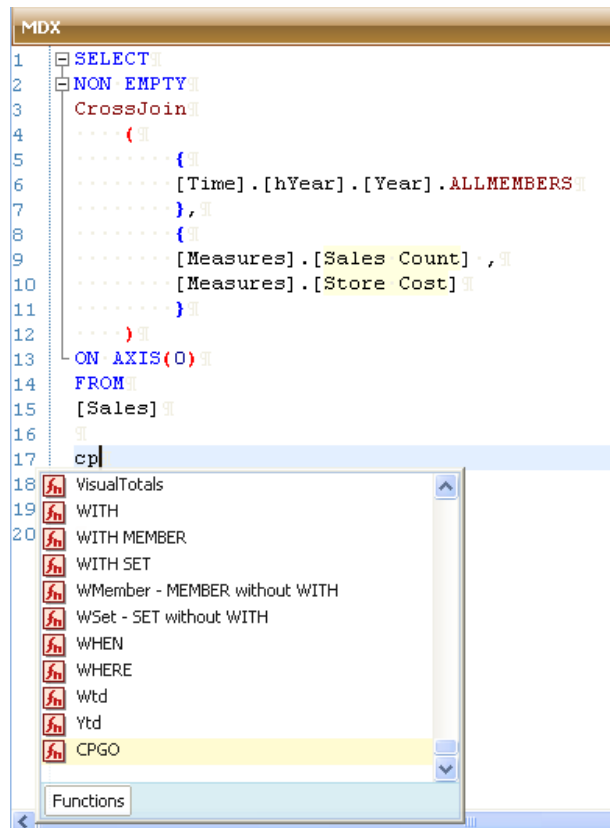
- right-click tab
- select info



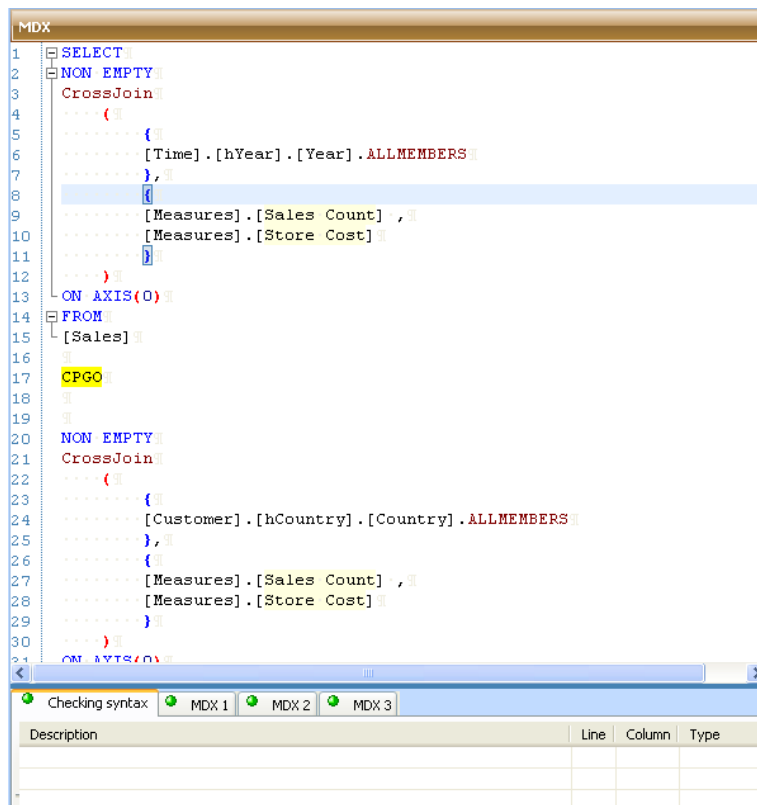
More then one MDX syntax

When you want to use two or more MDX syntaxes you should use **CPGO** as a batch job separator.

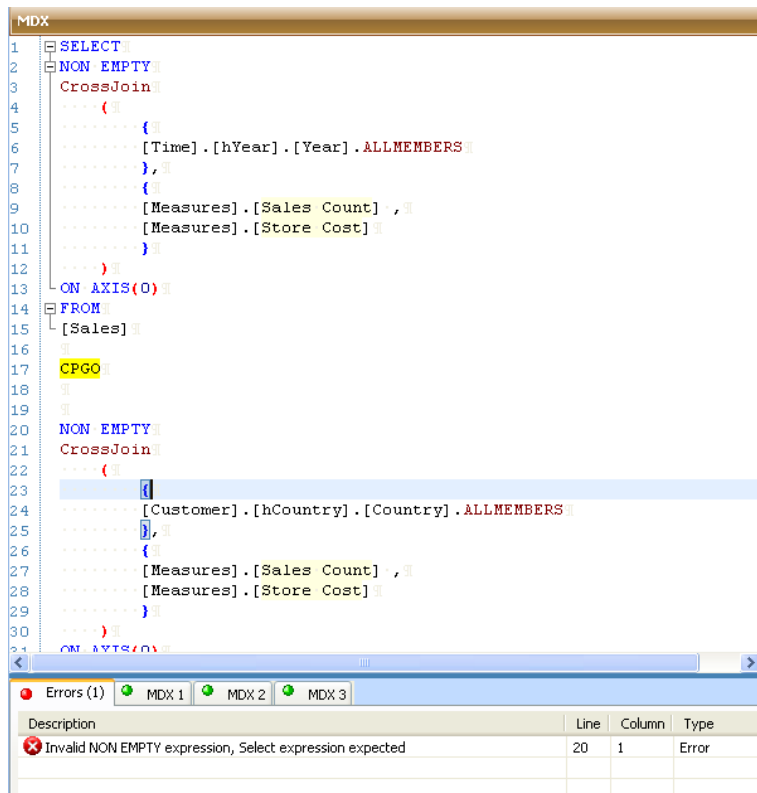
CPGO separator is part of MDX Intellisense. So when you start typing CP it will appear as option.



In that case CubePlayer understands that there is more then one syntax.



Caret is placed in upper syntax. Since upper syntax is correct, CubePlayer did not raise any error.
When we select lower syntax (with mouse)



CubePlayer notifies an error since **SELECT** expression is missing.

Single execution

If you have more than one syntax separated with CPGO separator to execute one of them:

- select MDX

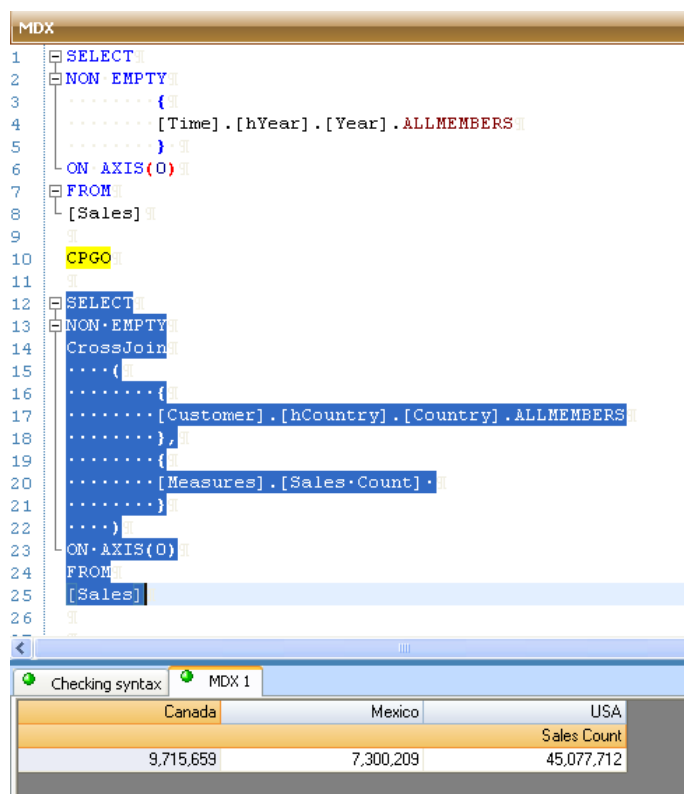


```
MDX
1 SELECT
2 NON EMPTY
3 {
4 [Time].[hYear].[Year].ALLMEMBERS
5 }
6 ON AXIS(0)
7 FROM
8 [Sales]
9
10 CPGO
11
12 SELECT
13 NON EMPTY
14 CrossJoin
15 {
16 {
17 [Customer].[hCountry].[Country].ALLMEMBERS
18 }
19 {
20 [Measures].[Sales.Count]
21 }
22 }
23 ON AXIS(0)
24 FROM
25 [Sales]
```

Checking syntax

Description	Lib
-------------	-----

- press F5 to execute in Fast preview tab or F6 to execute outside of editor



```
MDX
1 SELECT
2 NON EMPTY
3 {
4 [Time].[hYear].[Year].ALLMEMBERS
5 }
6 ON AXIS(0)
7 FROM
8 [Sales]
9
10 CPGO
11
12 SELECT
13 NON EMPTY
14 CrossJoin
15 {
16 {
17 [Customer].[hCountry].[Country].ALLMEMBERS
18 }
19 {
20 [Measures].[Sales.Count]
21 }
22 }
23 ON AXIS(0)
24 FROM
25 [Sales]
```

Checking syntax MDX 1

Canada	Mexico	USA
		Sales Count
9,715,659	7,300,209	45,077,712

Multiple execution

If you have more than one syntax separated with CPGO separator to execute all of them:

- do not select anything, just press F5 or F6

The screenshot shows an MDX query editor with two queries separated by a CPGO separator. The first query is a simple SELECT statement. The second query is a more complex SELECT statement using a CrossJoin. Below the editor, a results pane shows the execution results for MDX 1 and MDX 2, with arrows indicating the mapping between the queries and the results.

```
1 SELECT
2 NON EMPTY
3 {
4 [Time].[hYear].[Year].ALLMEMBERS
5 }
6 ON AXIS(0)
7 FROM
8 [Sales]
9
10 CPGO
11
12 SELECT
13 NON EMPTY
14 CrossJoin
15 (
16 {
17 [Customer].[hCountry].[Country].ALLMEMBERS
18 },
19 {
20 [Measures].[Sales Count]
21 }
22 )
23 ON AXIS(0)
24 FROM
25 [Sales]
```

Canada	Mexico	USA
9,715,659	7,300,209	45,077,712

MDX intellisense

CubePlayer MDX Editor Supports MDX Intellisense for:

- MDX Functions (set functions)
- MDX Element Functions (.AllMembers, .Item(0) ...)
- Cube elements (Dimensions, Hierarchies, Levels, Members)
- Cube Measures

MDX intellisense will be automatically initialized. There is important to remember:

area between square brackets is NO INTELLISENSE ZONE.

Intellisense Zone [No Intellisens Zone] Intellisense Zone

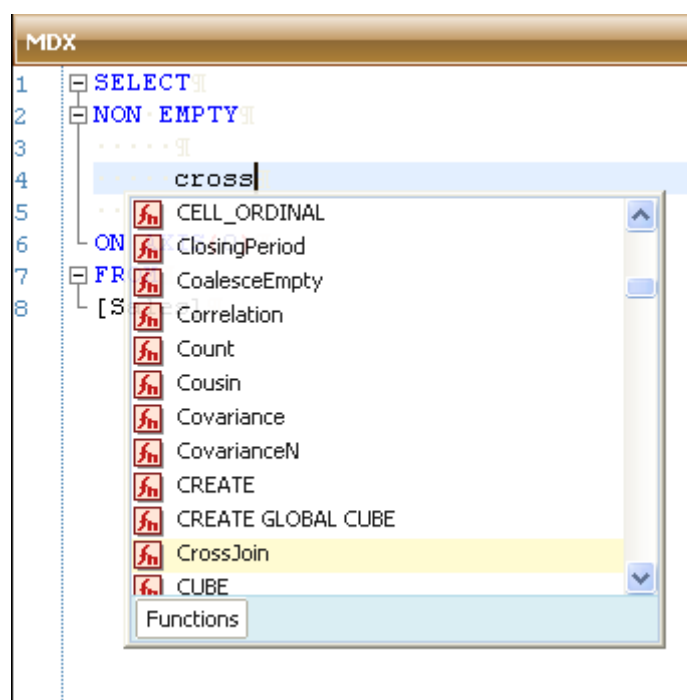
Inside that area intellisense will not be initialized.

To use selected function you can press ENTER or TAB.

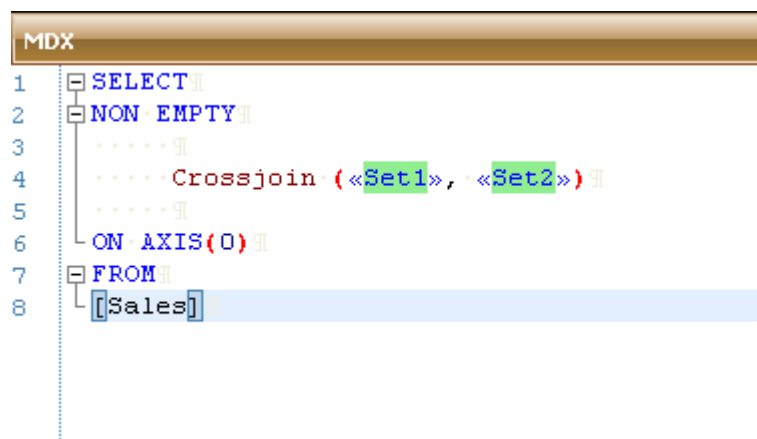
ENTER	will add entire expression
TAB	will enter only keyword

Example:

ENTER Crossjoin



after ENTER

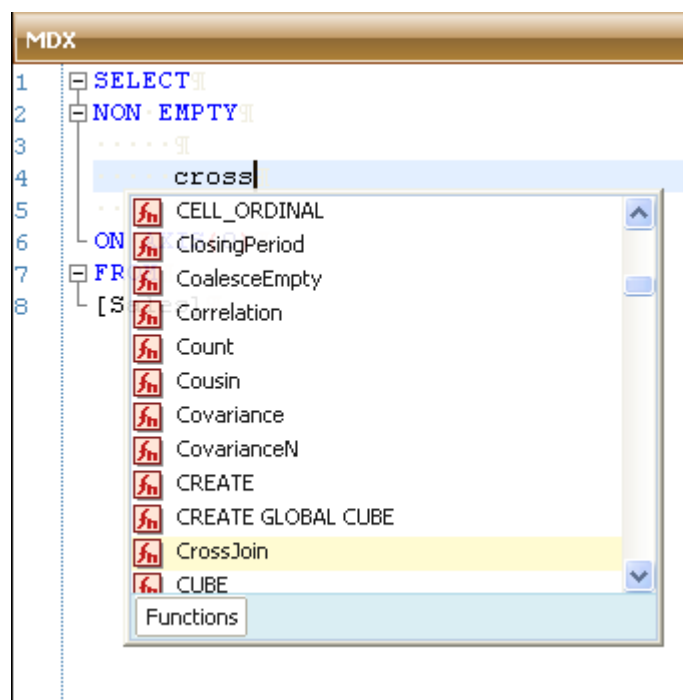


The screenshot shows an MDX editor window with a query structure. The query is as follows:

```
1 SELECT
2 NON EMPTY
3 .....
4 ..... Crossjoin («Set1», «Set2»)
5 .....
6 ON AXIS(0)
7 FROM
8 [Sales]
```

The editor has a line number column on the left from 1 to 8. The text is color-coded: SELECT is blue, NON EMPTY is blue, Crossjoin is red, «Set1» and «Set2» are green, ON AXIS(0) is blue, FROM is blue, and [Sales] is blue. The line 4 text is highlighted in light blue.

TAB CrossJoin



The screenshot shows the same MDX editor window, but now a function list is displayed over the query text. The list is titled "Functions" and contains the following items:

- CELL_ORDINAL
- ClosingPeriod
- CoalesceEmpty
- Correlation
- Count
- Cousin
- Covariance
- CovarianceN
- CREATE
- CREATE GLOBAL CUBE
- CrossJoin
- CUBE

The "CrossJoin" item is highlighted in yellow. The list is enclosed in a light blue box with a scrollbar on the right. The background query text is still visible but partially obscured.

after ENTER

```
MDX
1  SELECT
2  NON EMPTY
3  .....
4  ... CrossJoin
5  .....
6  ON AXIS(0)
7  FROM
8  [Sales]
```

MDX functions

CubePlayer MDX Functions are those functions that have to be wrapped around expressions like, for example CrossJoin function

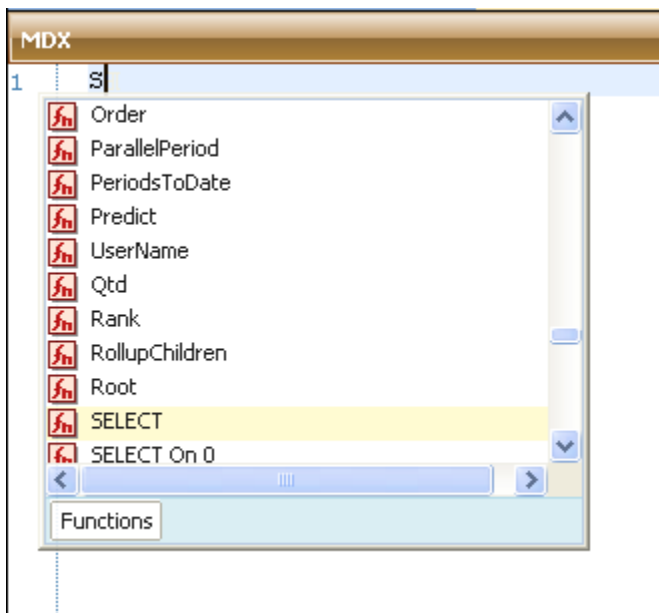
```
Crossjoin («Set1», «Set2»)
```

To initialize MDX Functions just type any character.

For example if you want to insert SELECT type:

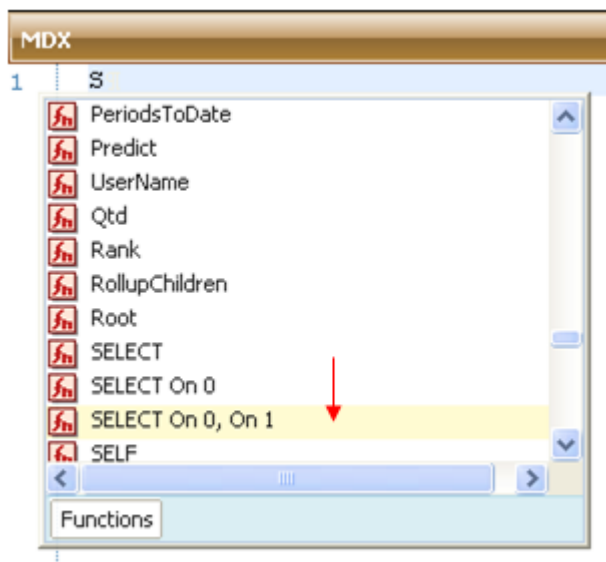
- S

You will get:



To insert not only keyword SELECT, rather entire snippet for both axes.

- move with arrows two positions down



Now press **ENTER**.

```

MDX
1  SELECT
2  NON EMPTY
3  {
4  «Axis_0_Expression»
5  }
6  ON AXIS (0),
7  NON EMPTY
8  {
9  «Axis_1_Expression»
10 }
11 ON AXIS (1)
12 FROM [Sales]
13

```

Wrap around

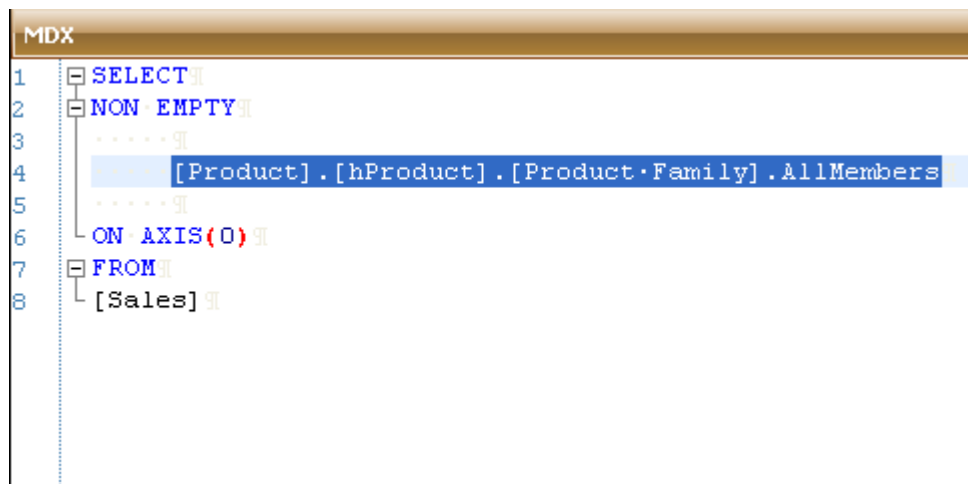
Suppose you want to add **CrossJoin** function between Products and **Customers**, where you already have **Product** dimension.

```

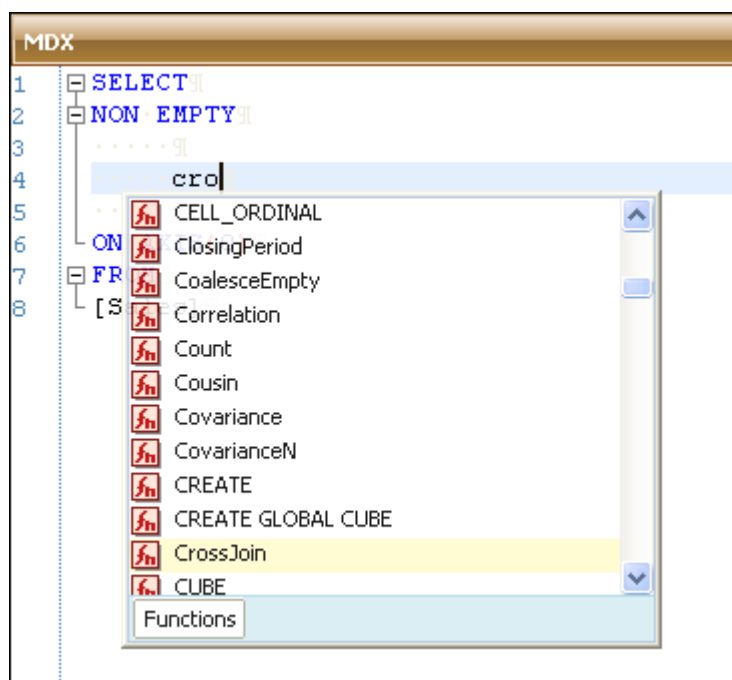
MDX
1  SELECT
2  NON EMPTY
3  {
4  [Product].[hProduct].[Product Family].AllMembers
5  }
6  ON AXIS(0)
7  FROM
8  [Sales]

```

- Select product dimension expression with mouse



- type C
- type R
- type O



- press **ENTER**

MDX	
1	SELECT
2	NON EMPTY
3	.....
4	CrossJoin
5	{
6	[Product].[hProduct].[Product Family].AllMembers,
7	{
8	<Set_2>
9	}
10	}
11	.....
12	ON AXIS(0)
13	FROM
14	[Sales]

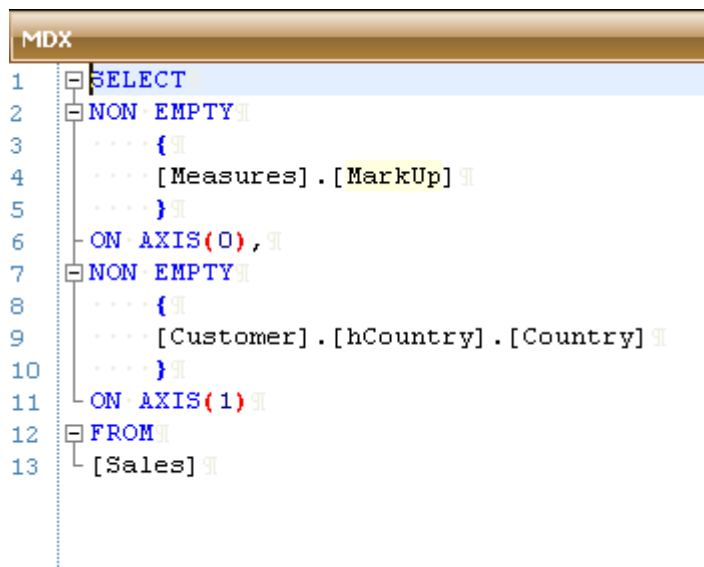
MDX element functions

CubePlayer MDX Element Functions are those functions that goes at the end of elements like dimensions name, level name, member name, like for example AllMembers function

```
[Customer].[hCountry].[Country].AllMembers
```

To initialize MDX Functions just type dot “.” at selected place.

For example if you want to add ALLMEMBERS.

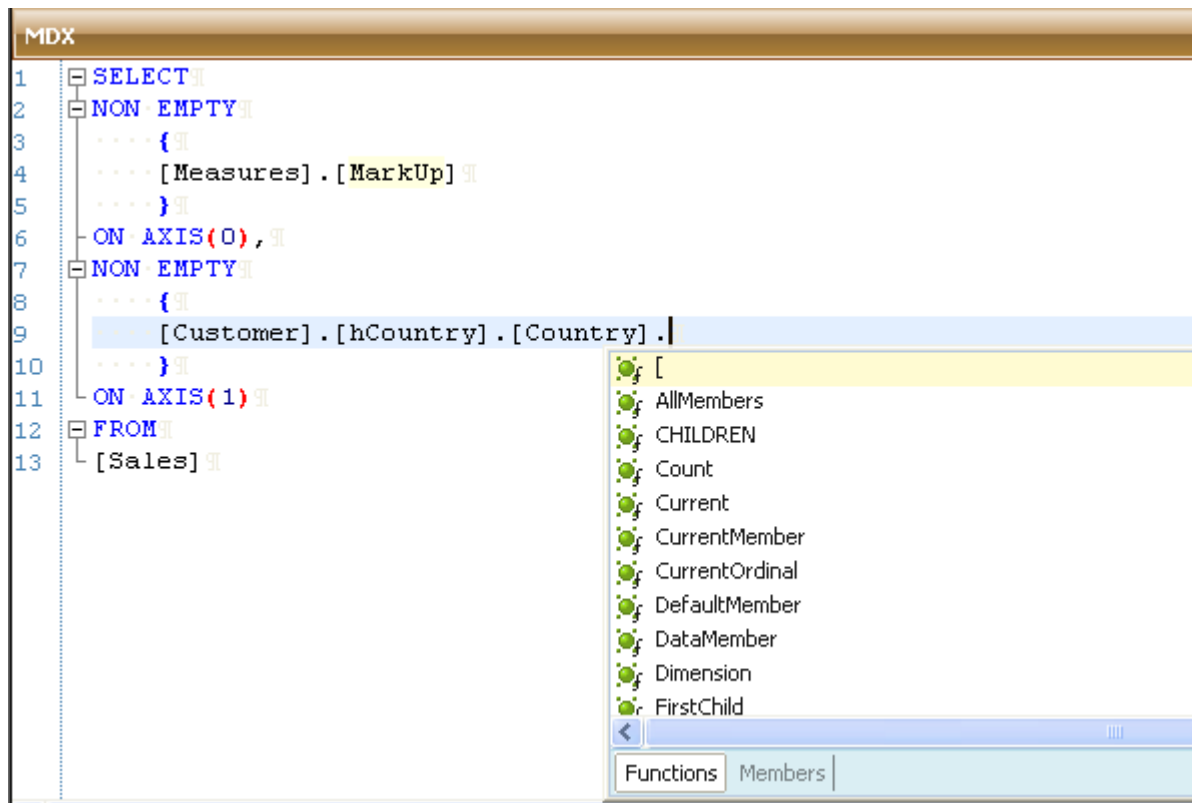


```
MDX
1 SELECT
2 NON EMPTY
3     {
4     [Measures].[Markup]
5     }
6 ON AXIS(0),
7 NON EMPTY
8     {
9     [Customer].[hCountry].[Country]
10    }
11 ON AXIS(1)
12 FROM
13 [Sales]
```

At the end of level unique [Customer].[hCountry].[Country] type:

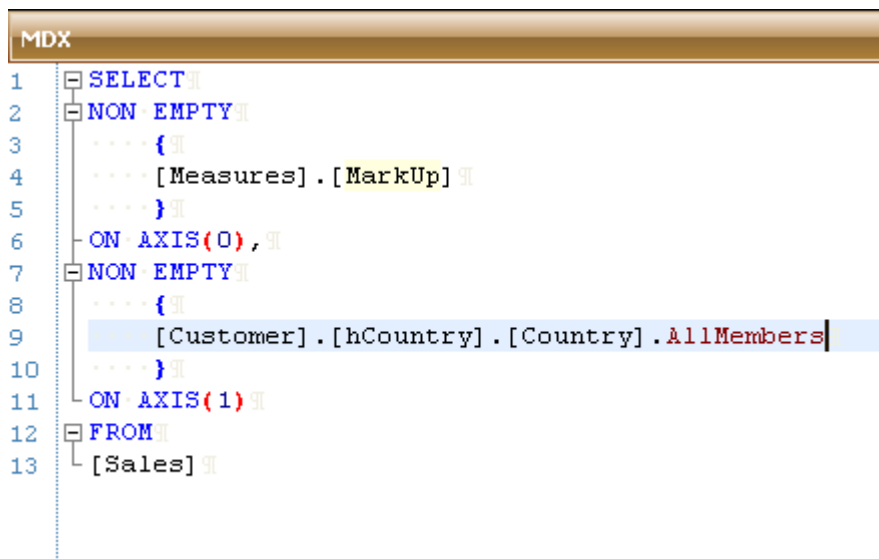
- . (dot)

You will get:



Now type:

- character **A**
- press **ENTER**



Cube elements

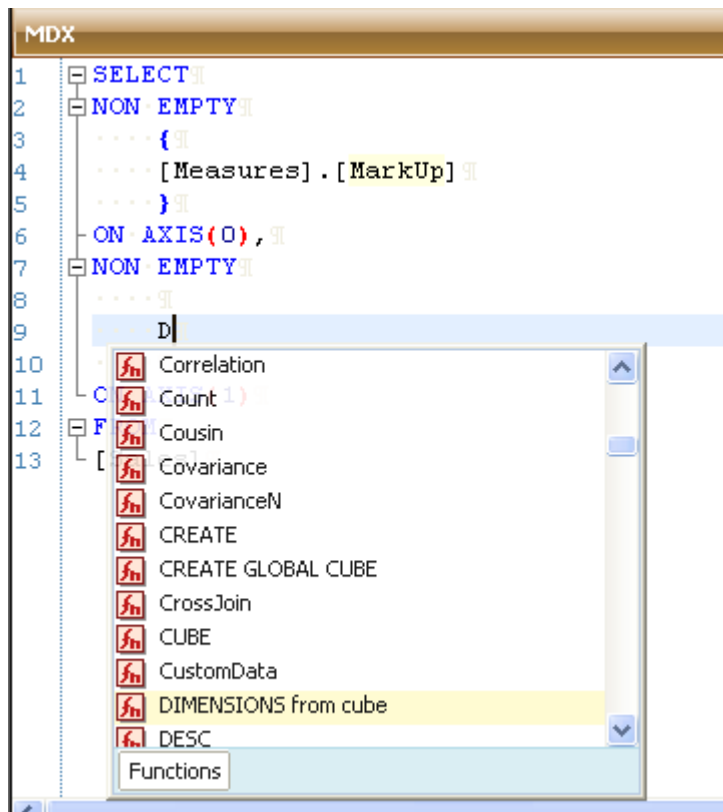
To insert Cube elements there are few possible options:

- dimension
- hierarchy
- level
- member
- measure

To start you have to type:

- D

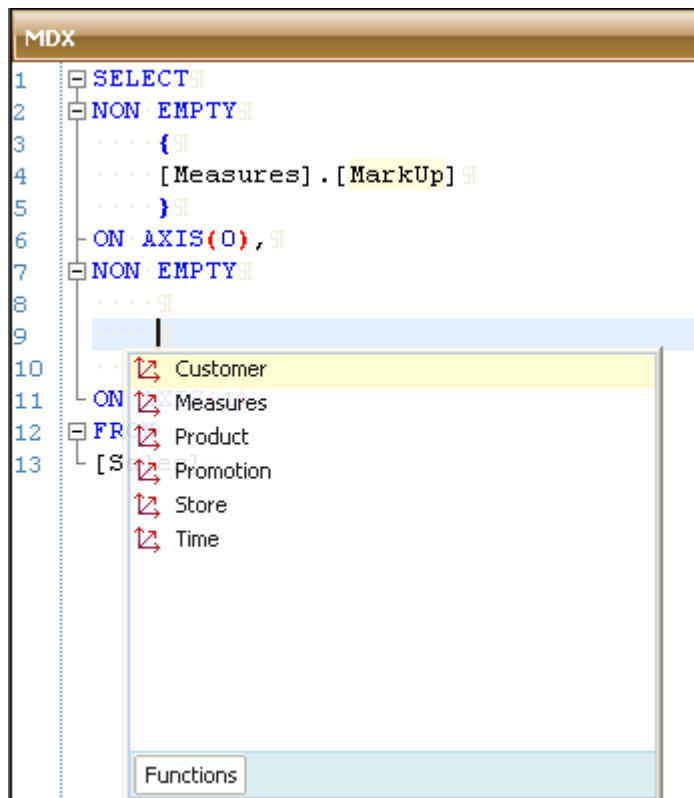
You will get:



Intellisense window will select first entry on letter "D" and that is DIMENSIONS FROM CUBE.

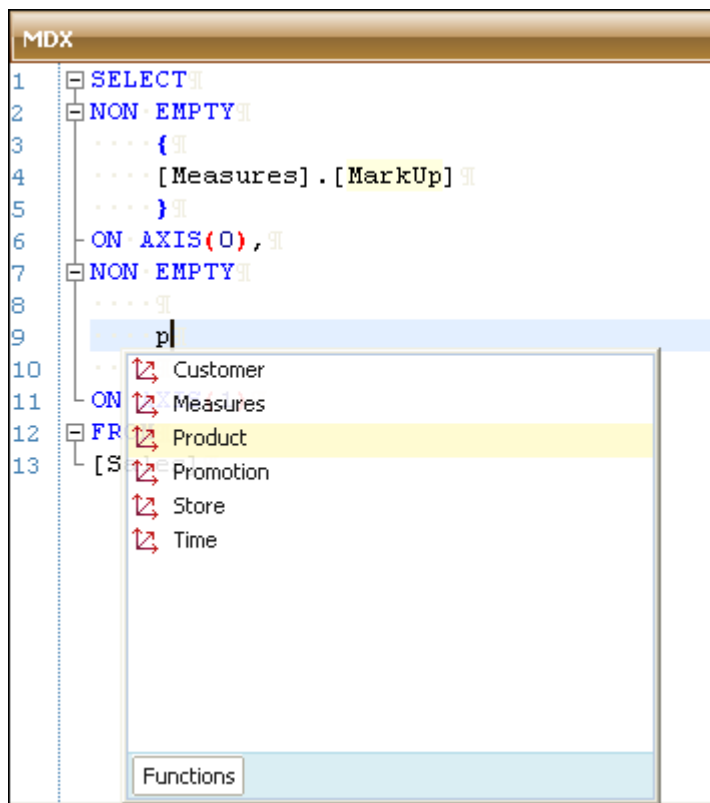
Press ENTER or TAB to use it.

Now you are browsing cube.



To select dimensions **Product**:

- type P



- press **ENTER** or **TAB**

```

MDX
1 SELECT
2 NON EMPTY
3     {
4     [Measures].[MarkUp]
5     }
6 ON AXIS(0),
7 NON EMPTY
8     {
9     [Product]
10    }
11 ON AXIS(1)
12 FROM
13 [Sales]

```

Now you are at position to make a choice:

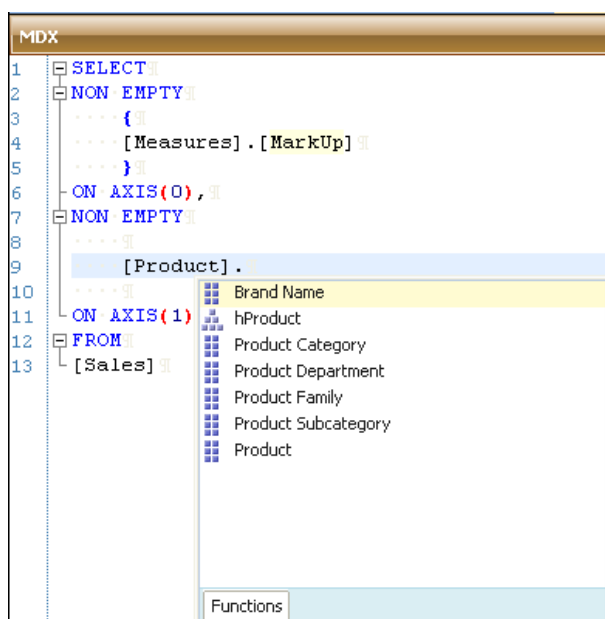
1. To add some MDX Element Function like **.CURRENTMEMBER**
2. To continue with hierarchy or,

OPTION 1 – Add MDX Element Function

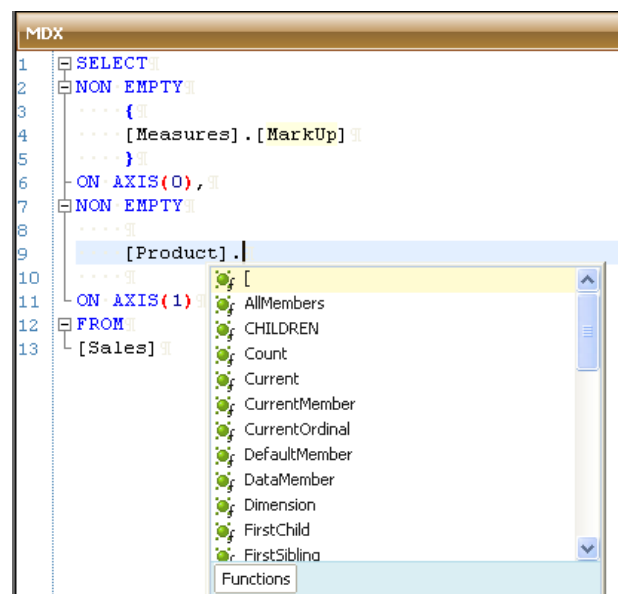
To continue adding MDX Element Functions you have to press:

- DOT once to get next level for hierarchies
- DOT second time to switch to MDX Element Functions

First DOT

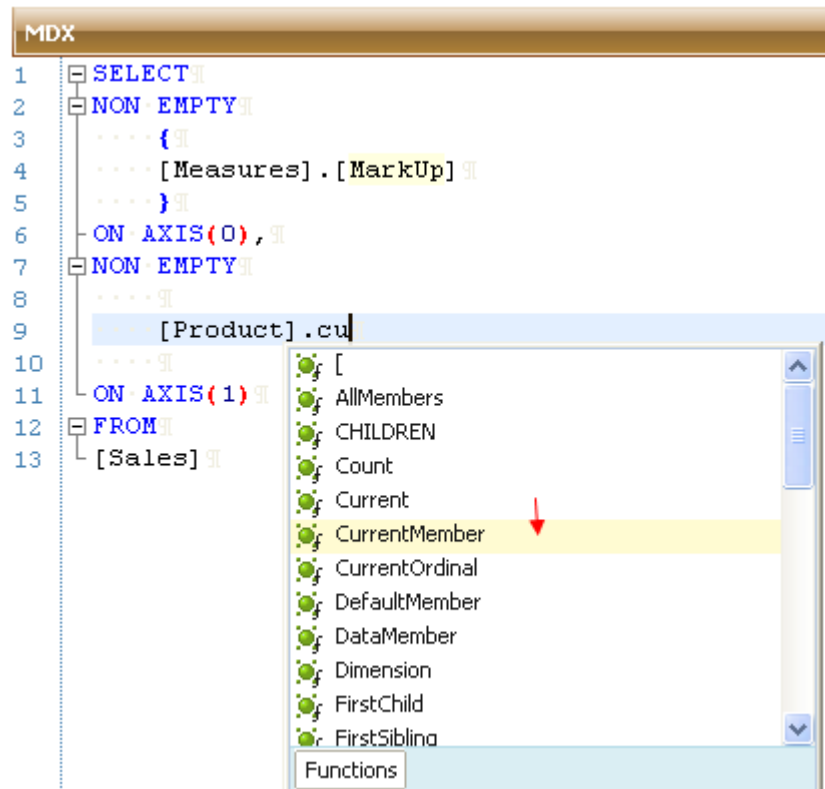


Second DOT

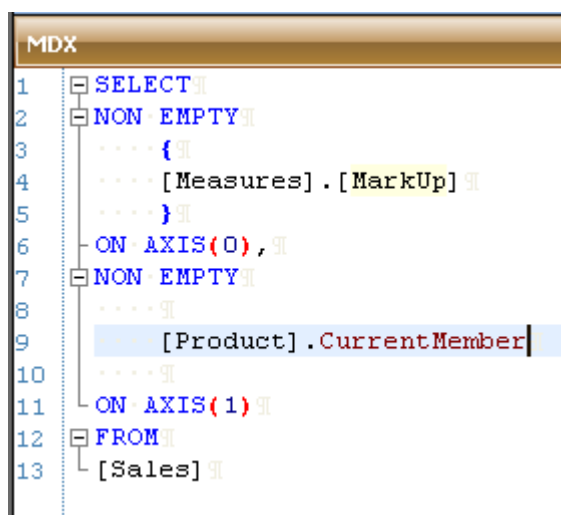


Now continue typing:

- **C**
- **U**
- move with arrows one position down



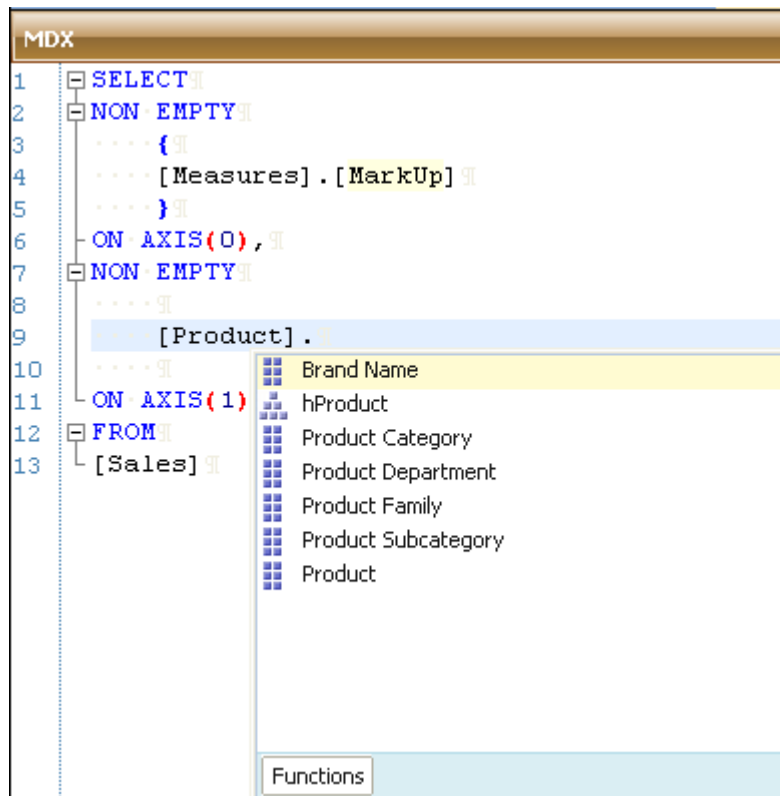
- press **ENTER** or **TAB**



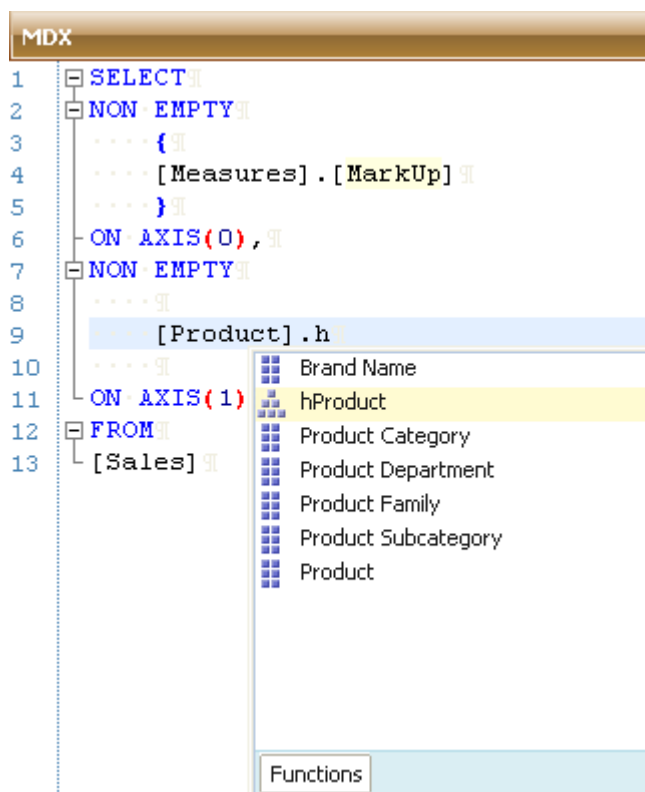
OPTION 2 – Continue adding cube elements (Hierarchy)

To continue adding hierarchy type:

- DOT once to get next level for hierarchies



- press h to get hierarchy **hProduct**



- press **ENTER** or **TAB**

```
MDX
1  SELECT
2  NON EMPTY
3      {
4      [Measures].[MarkUp]
5      }
6  ON AXIS(0),
7  NON EMPTY
8      {
9      [Product].[hProduct]
10     }
11 ON AXIS(1)
12 FROM
13 [Sales]
```

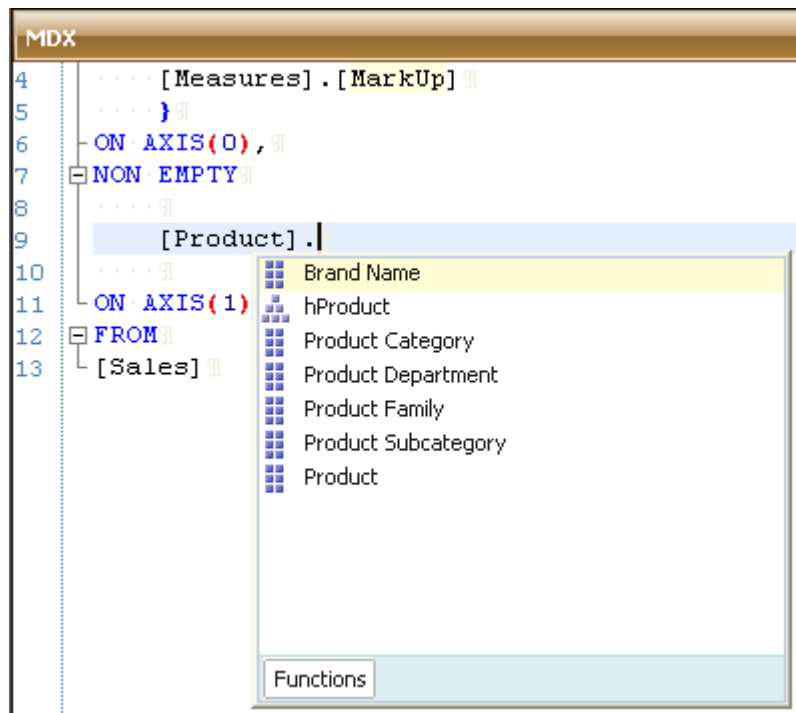
EDIT LAST SELECTION

If you made mistake:

- go backward with key **BACKSPACE**

```
4      [Measures].[MarkUp]
5      }
6  ON AXIS(0),
7  NON EMPTY
8      {
9      [Product]
10     }
11 ON AXIS(1)
12 FROM
13 [Sales]
```

- press DOT again

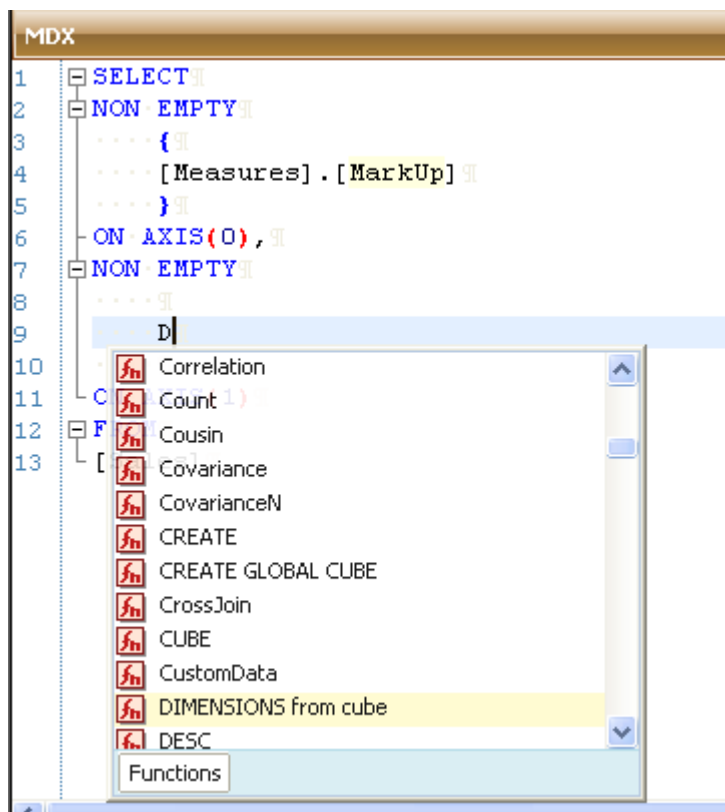


Dimension

To insert dimension type:

- **D**

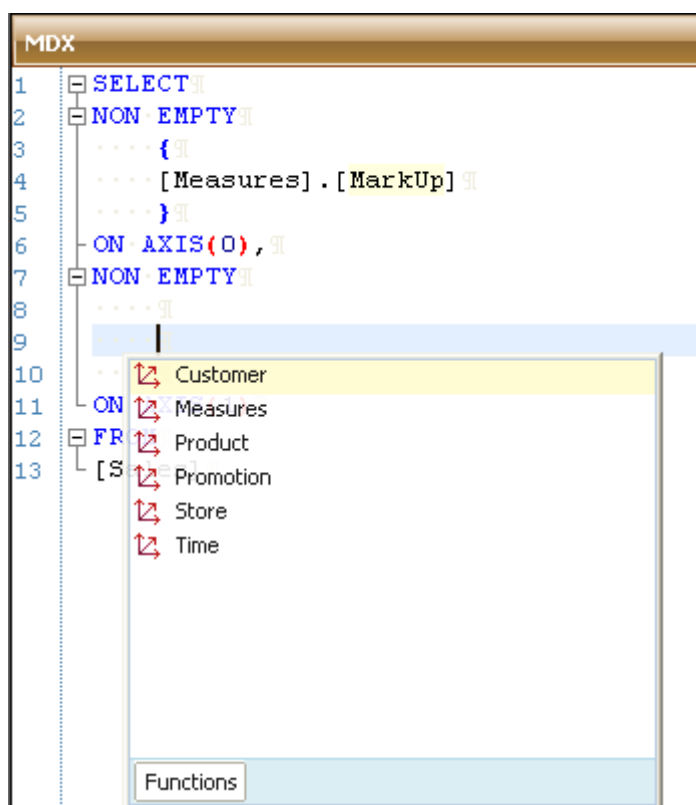
You will get:



Intellisense window will select first entry on letter "D" and that is **DIMENSIONS FROM CUBE**.

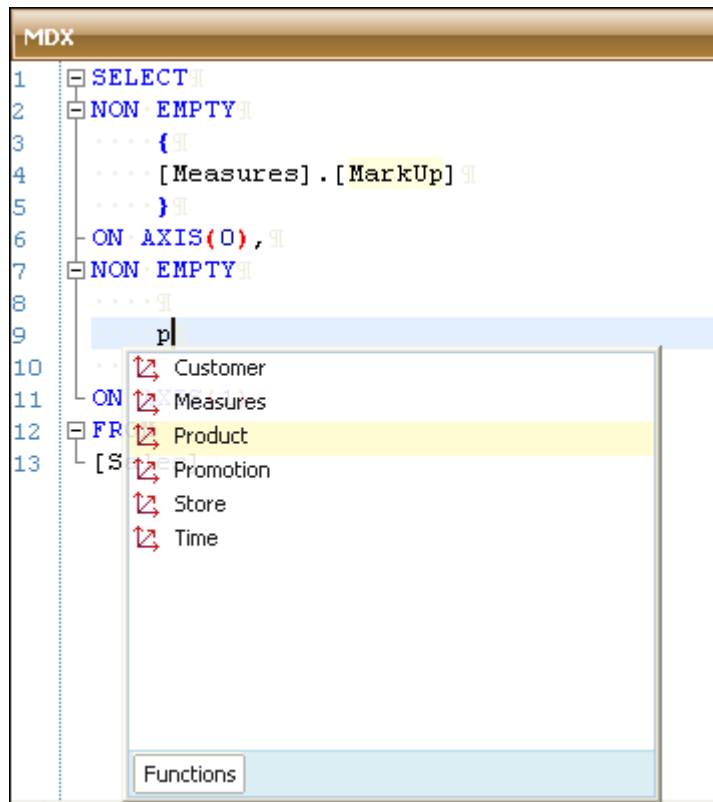
Press **ENTER** or **TAB** to use it.

Now you are browsing cube.

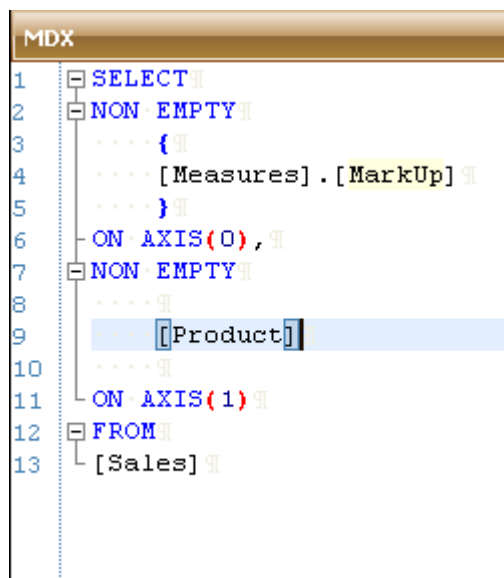


To select dimensions **Product**:

- type P



- press **ENTER** or **TAB**



Now you are at position to make a choice:

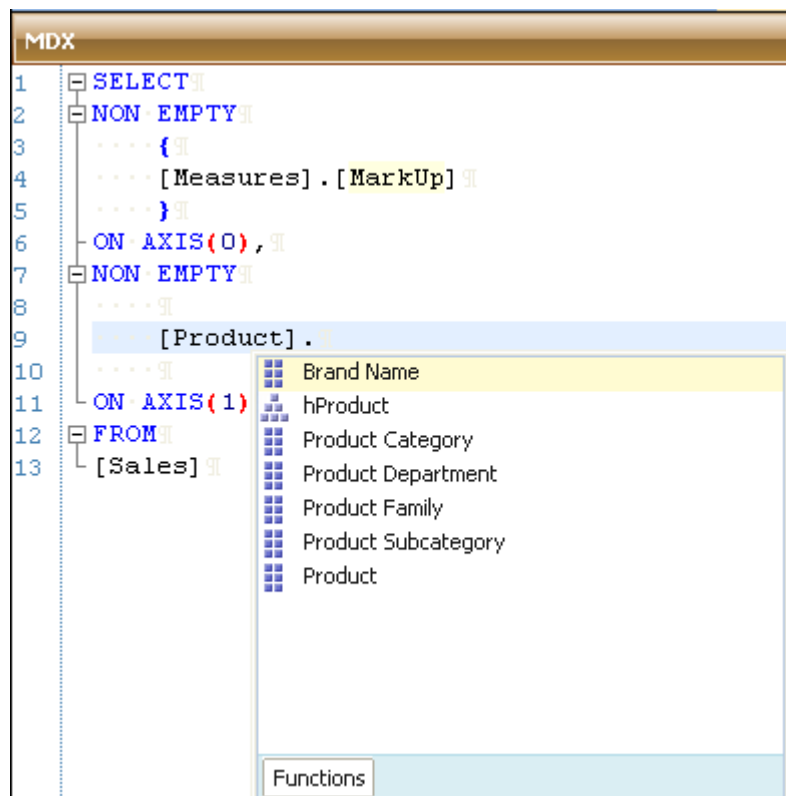
3. To add some MDX Element Function like **.CURRENTMEMBER**
4. To continue with hierarchy or,

OPTION 1 – Add MDX Element Function

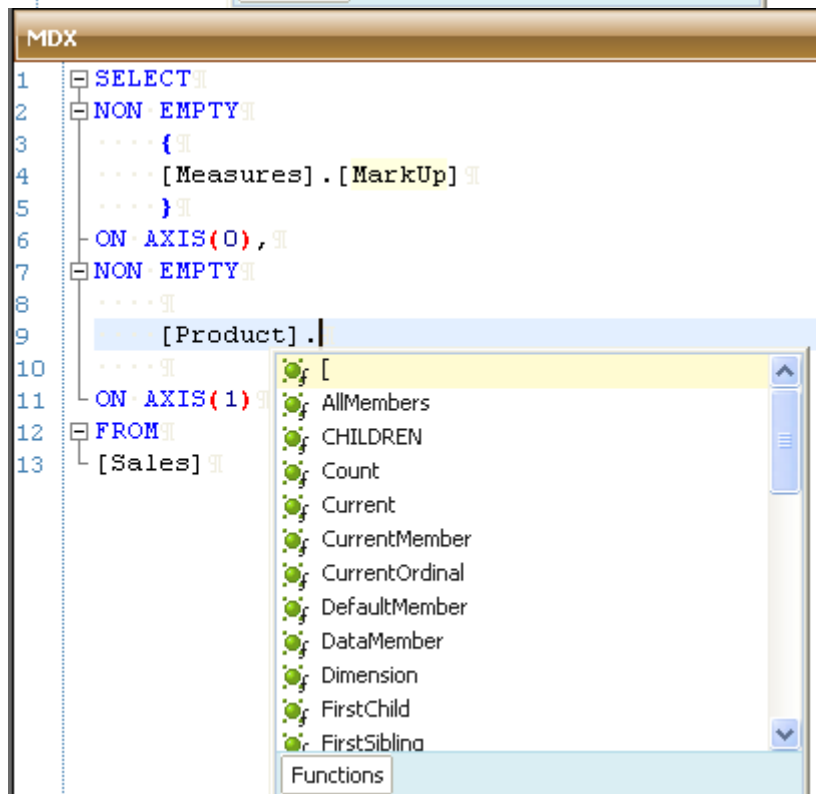
To continue adding MDX Element Functions you have to press:

- DOT once to get next level for hierarchies
- DOT second time to switch to MDX Element Functions

First DOT

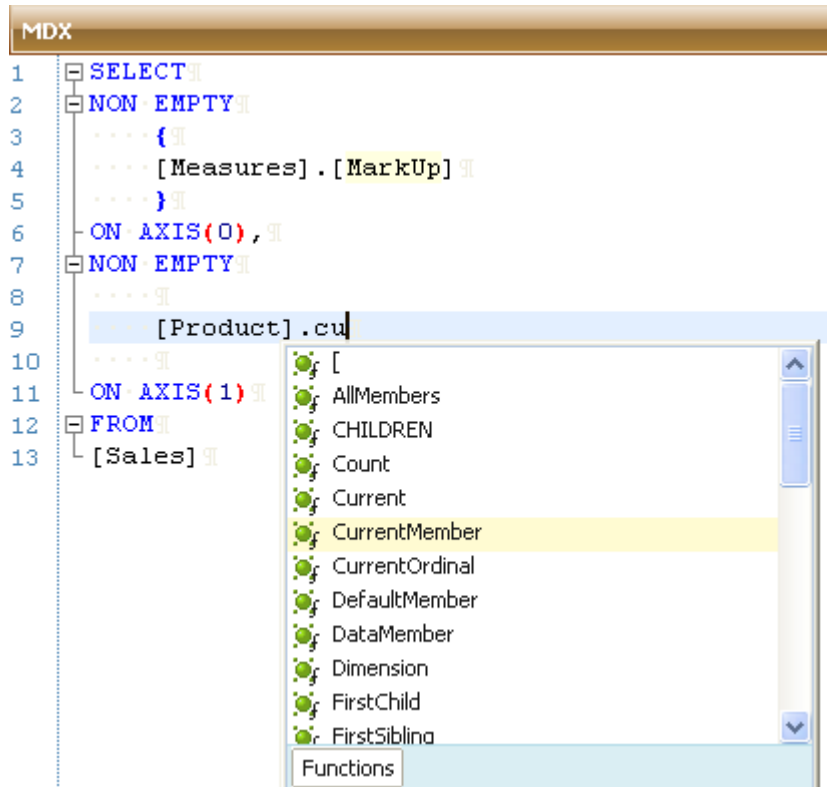


Second DOT

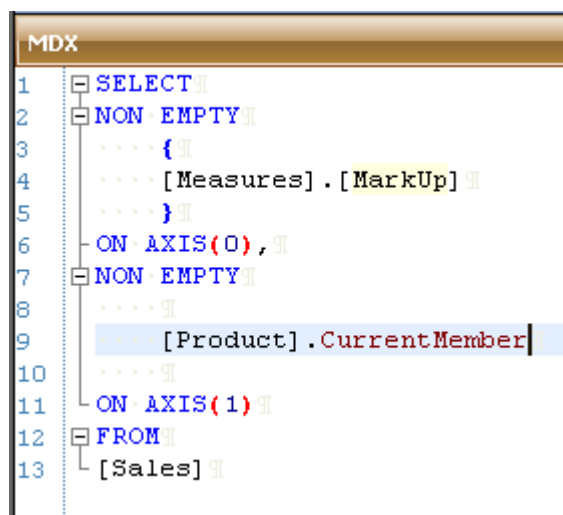


Now continue typing:

- **C**
- **U**
- move with arrows one position down



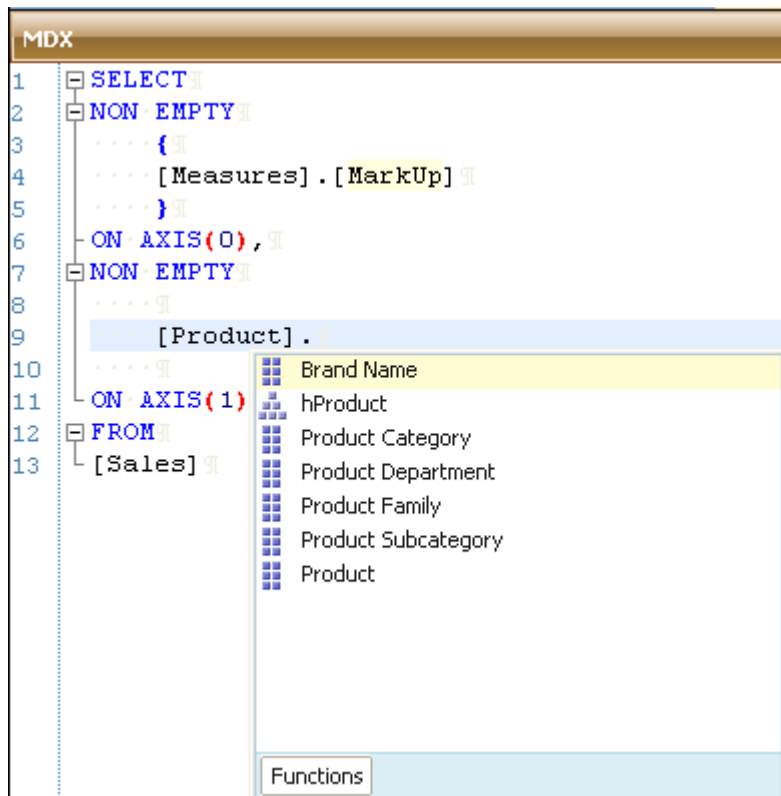
- press **ENTER** or **TAB**



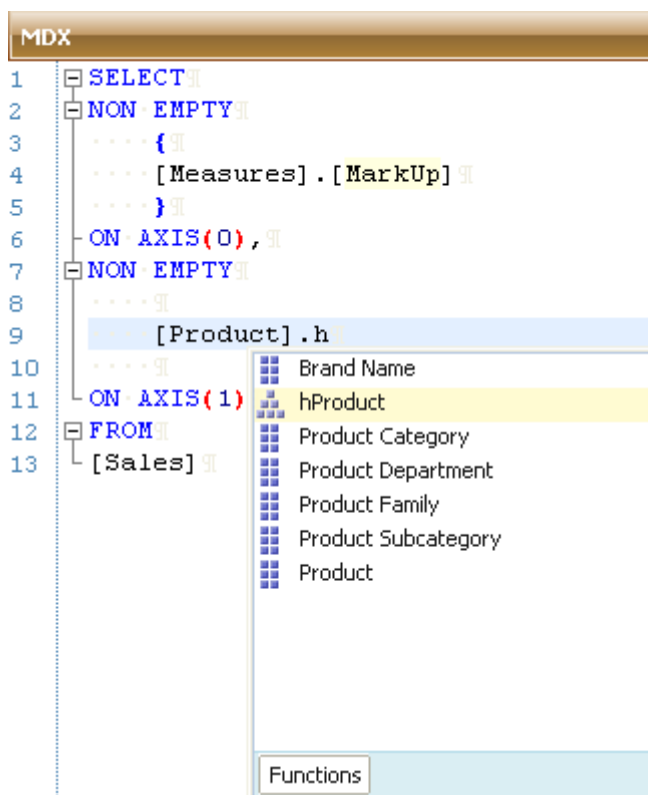
OPTION 2 – Continue adding cube elements (Hierarchy)

To continue adding hierarchy type:

- DOT once to get next level for hierarchies



- press h to get hierarchy **hProduct**



- press **ENTER** or **TAB**

```
MDX
1 SELECT
2 NON EMPTY
3     {
4     [Measures].[MarkUp]
5     }
6 ON AXIS(0),
7 NON EMPTY
8     {
9     [Product].[hProduct]
10    }
11 ON AXIS(1)
12 FROM
13 [Sales]
```

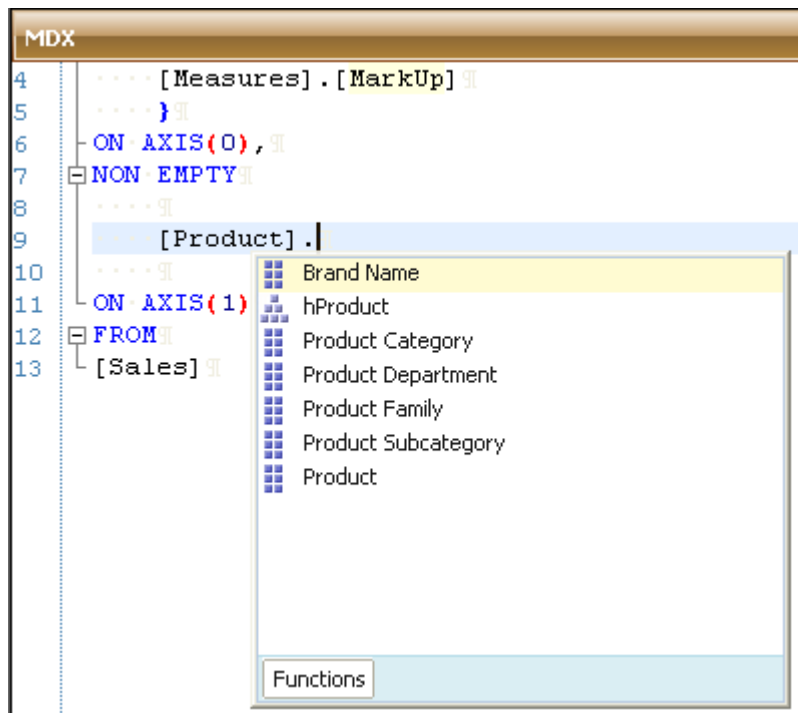
EDIT LAST SELECTION

If you made mistake:

- go backward with key **BACKSPACE**

```
4     [Measures].[MarkUp]
5     }
6 ON AXIS(0),
7 NON EMPTY
8     {
9     [Product]
10    }
11 ON AXIS(1)
12 FROM
13 [Sales]
```

- press DOT again

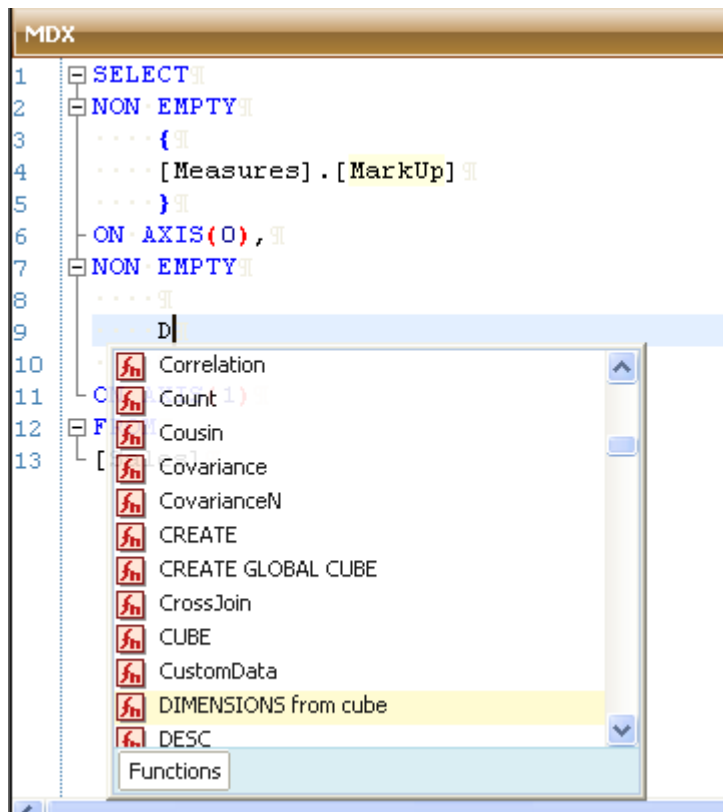


Hierarchy

To insert hierarchy type:

- **D**

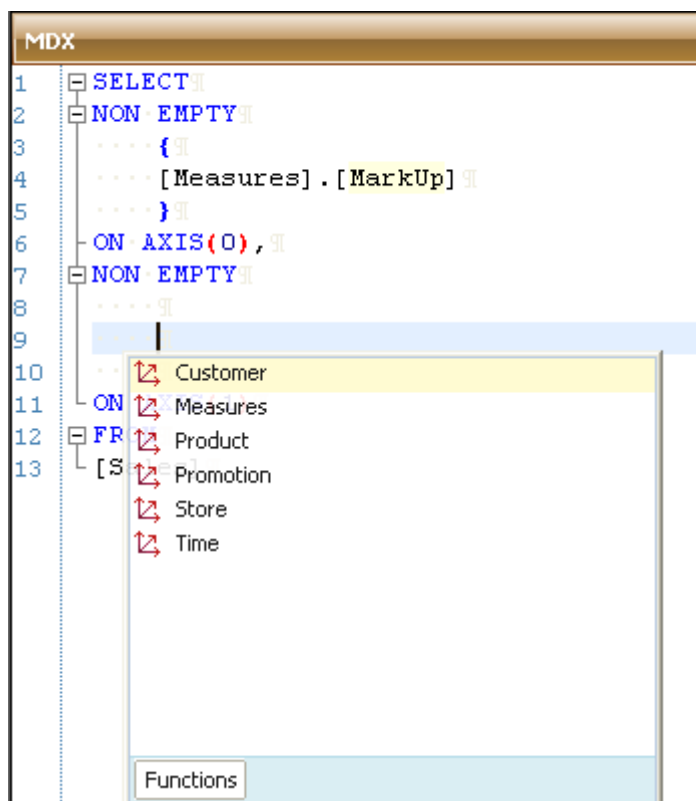
You will get:



Intellisense window will select first entry on letter “D” and that is **DIMENSIONS FROM CUBE**.

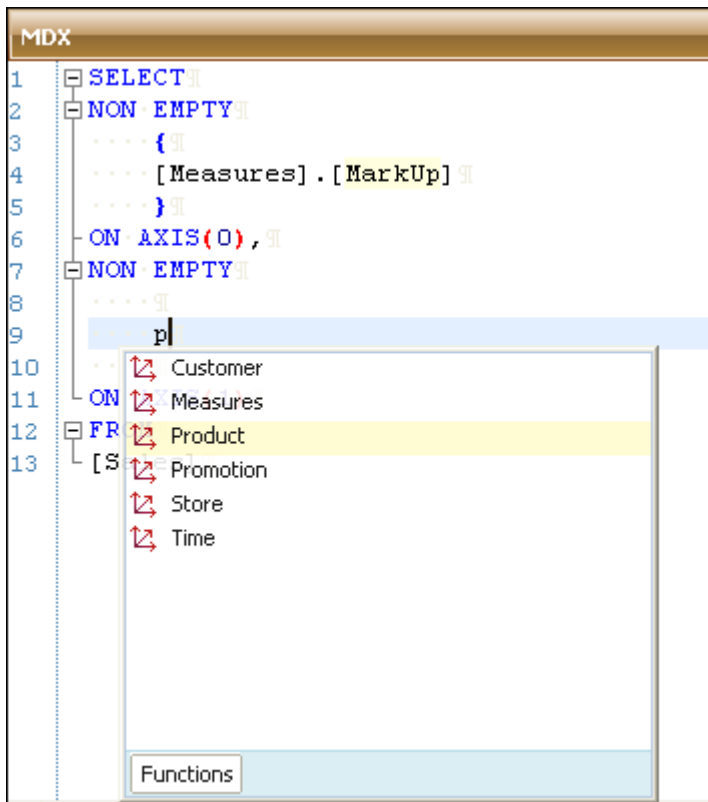
Press **ENTER** or **TAB** to use it.

Now you are browsing cube.

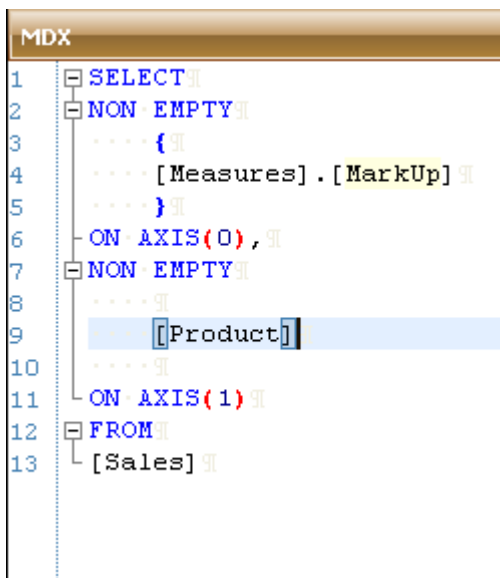


To select dimensions **Product**:

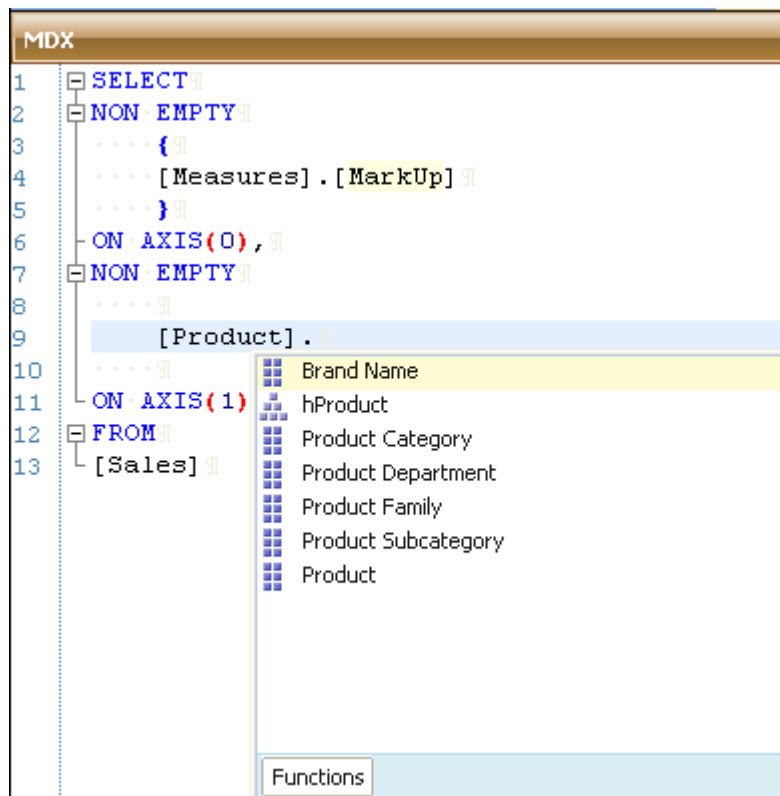
- type P



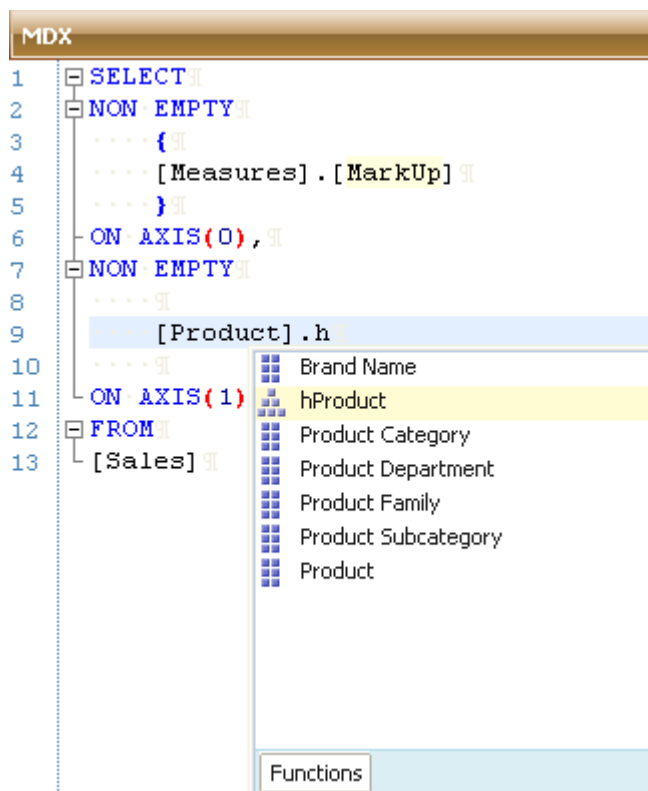
- press ENTER or TAB



- DOT once to get next level for hierarchies



- press h to get hierarchy **hProduct**



- press **ENTER** or **TAB**

```
MDX
1  SELECT
2  NON EMPTY
3      {
4      [Measures].[Markup]
5      }
6  ON AXIS(0),
7  NON EMPTY
8      {
9      [Product].[hProduct]
10     }
11 ON AXIS(1),
12 FROM
13 [Sales]
```

Now you are at position to make a choice:

5. To add some MDX Element Function like **.CURRENTMEMBER**
6. To continue with **level**

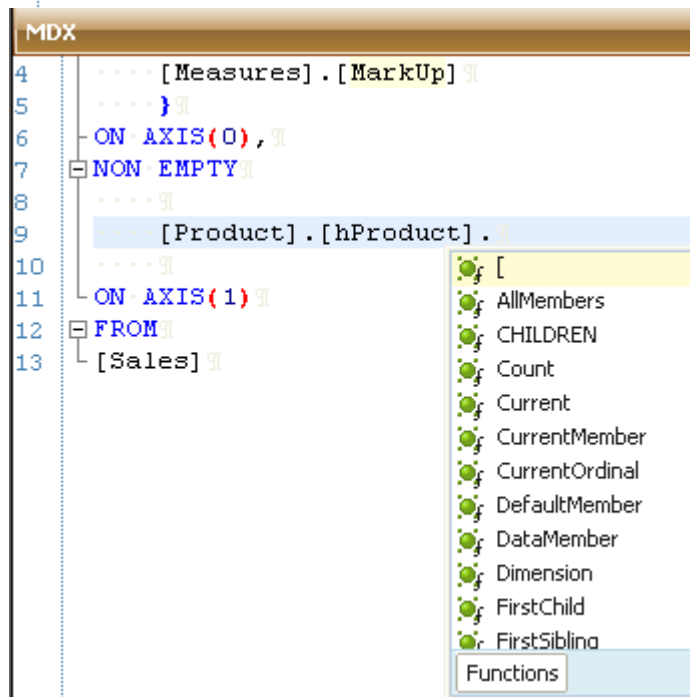
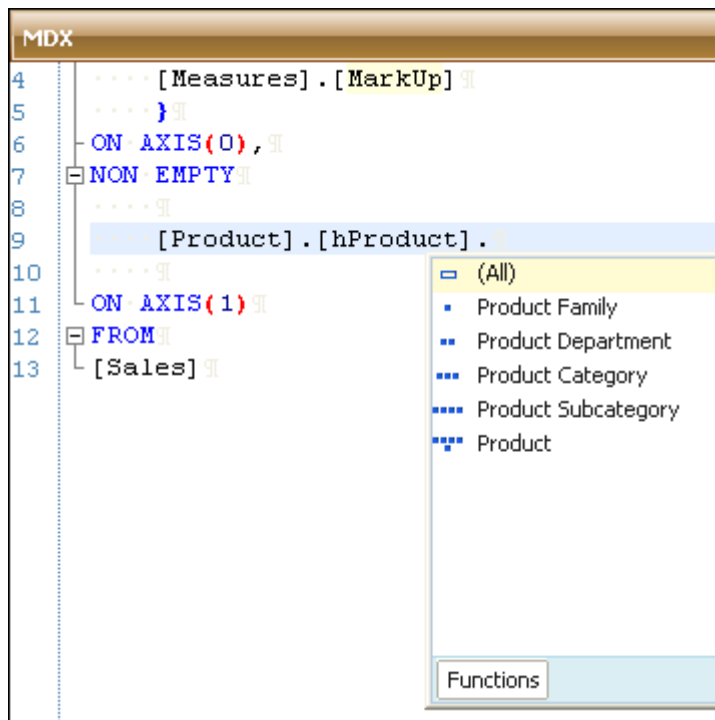
OPTION 1 – Add MDX Element Function

To continue adding MDX Element Functions you have to press:

- DOT once to get next level for hierarchies
- DOT second time to switch to MDX Element Functions

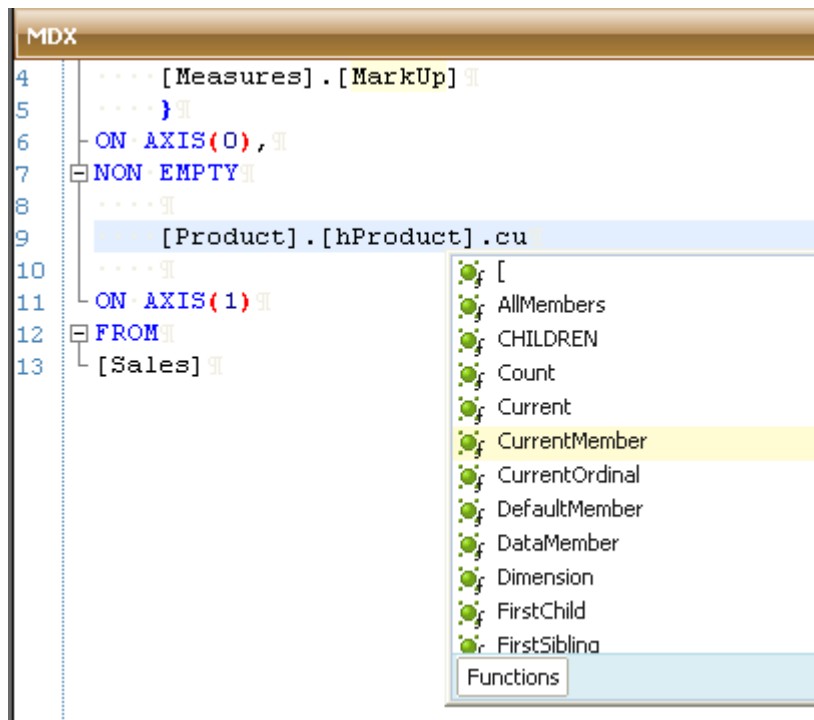
First DOT

Second DOT

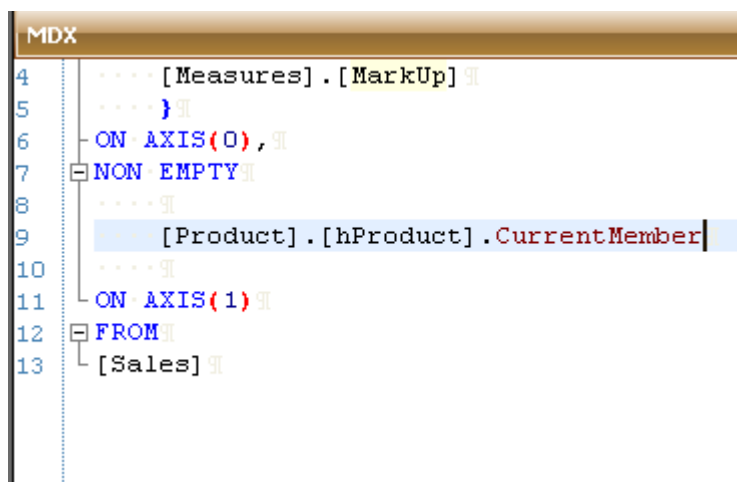


Now continue typing:

- C
- U
- move with arrows one position down



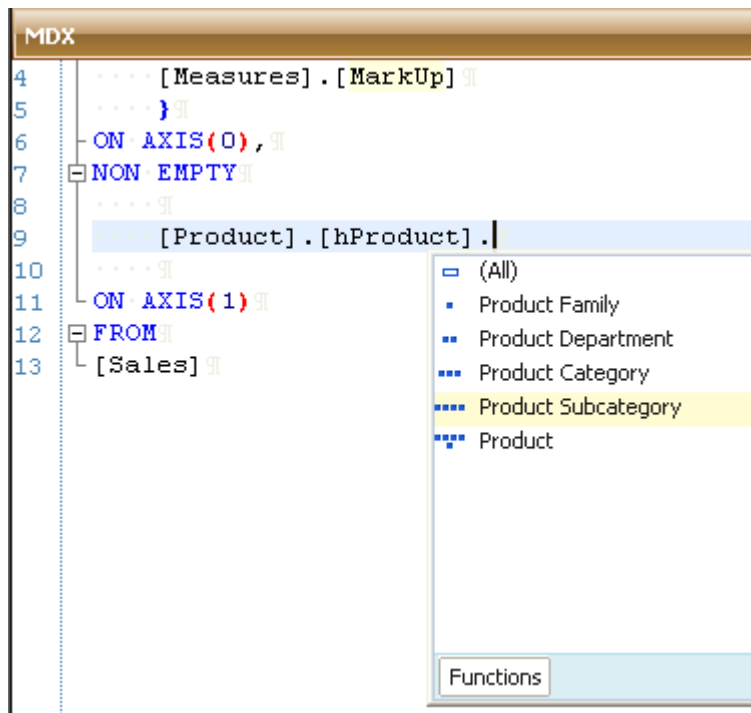
- press **ENTER** or **TAB**



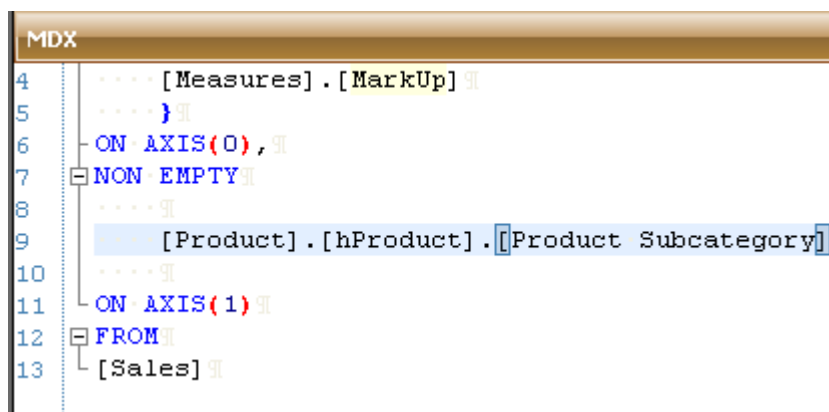
OPTION 2 – Continue adding cube elements (Level)

To continue adding level type:

- DOT once to get next level for levels
- move with arrow down to select **Product Subcategory**



- press **ENTER** or **TAB**



EDIT LAST SELECTION

If you made mistake:

- go backward with key **BACKSPACE**

```

MDX
4      .... [Measures].[Markup]
5      .... }
6      ON AXIS(0),
7      NON EMPTY
8      ....
9      [Product].[hProduct]
10     ....
11     ON AXIS(1)
12     FROM
13     [Sales]

```

- press DOT again

```

MDX
4      .... [Measures].[Markup]
5      .... }
6      ON AXIS(0),
7      NON EMPTY
8      ....
9      [Product].[hProduct] .
10     ....
11     ON AXIS(1)
12     FROM
13     [Sales]

```

(All)

■ Product Family

■ Product Department

■ Product Category

■ Product Subcategory

■ Product

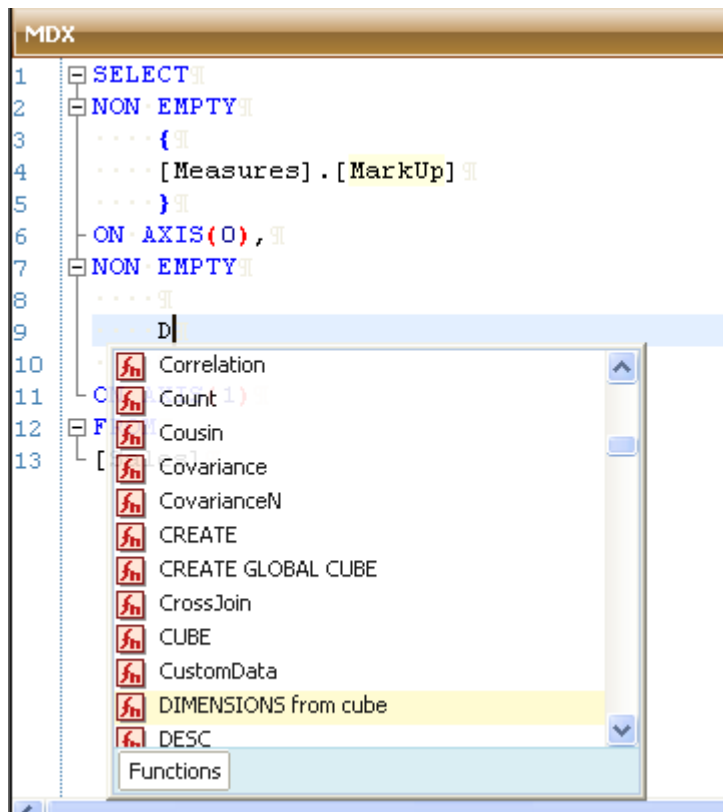
Functions

Level

To insert level type:

- D

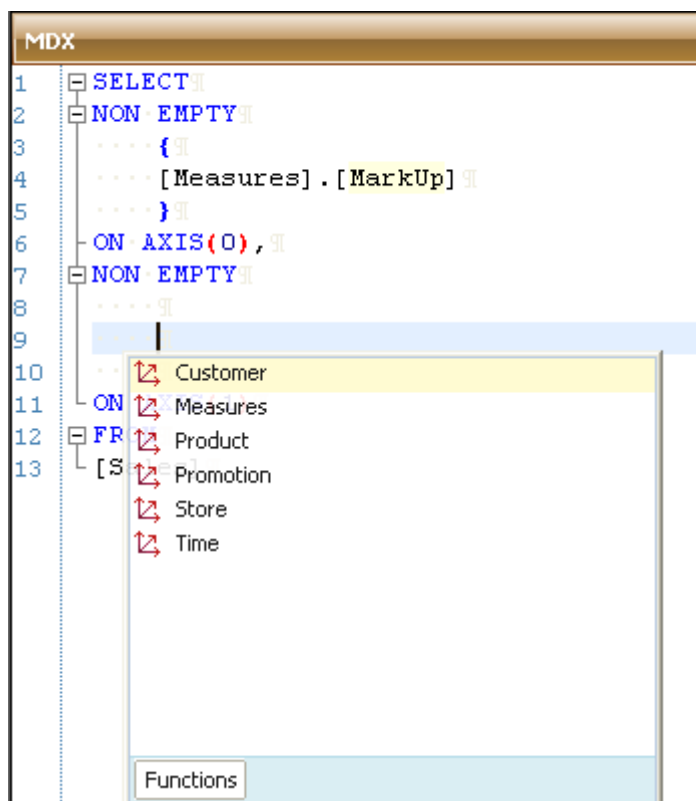
You will get:



Intellisense window will select first entry on letter “D” and that is **DIMENSIONS FROM CUBE**.

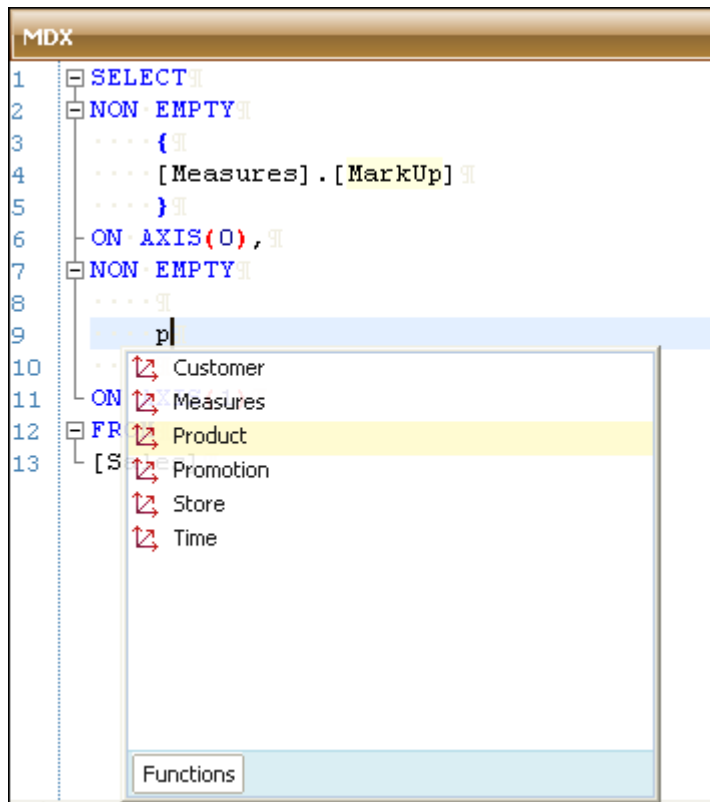
Press **ENTER** or **TAB** to use it.

Now you are browsing cube.

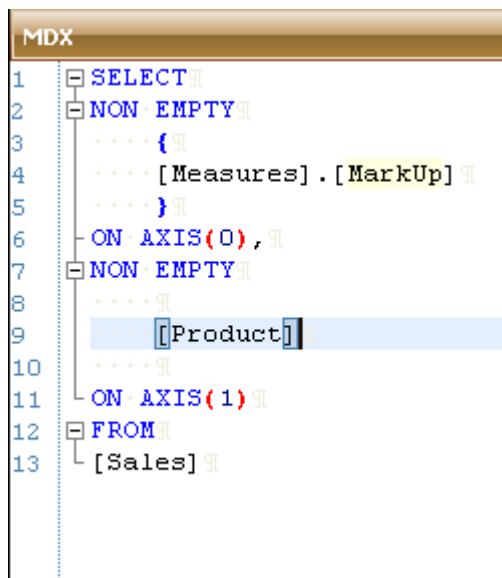


To select dimension **Product**:

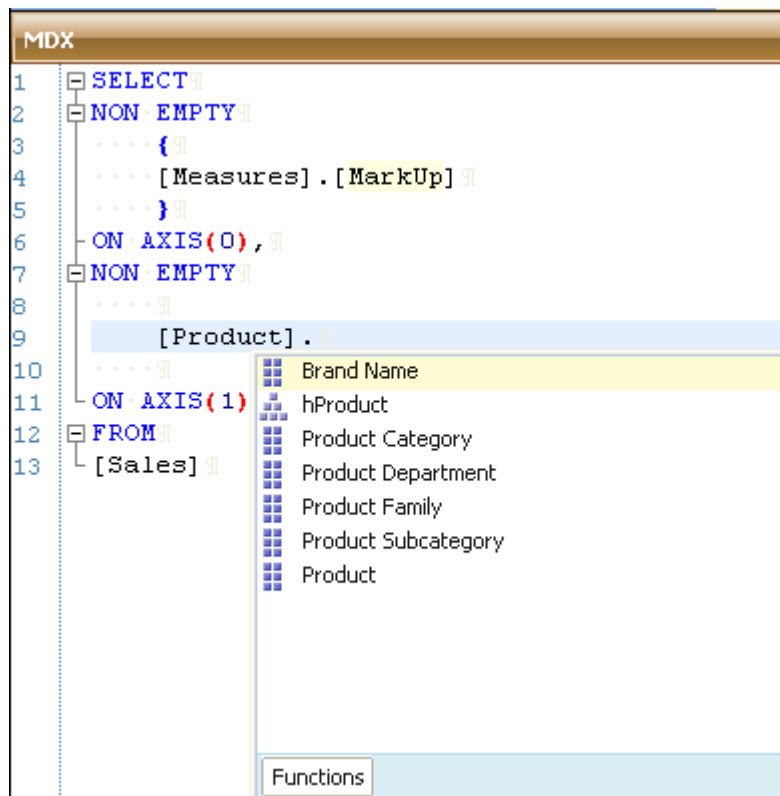
- type P



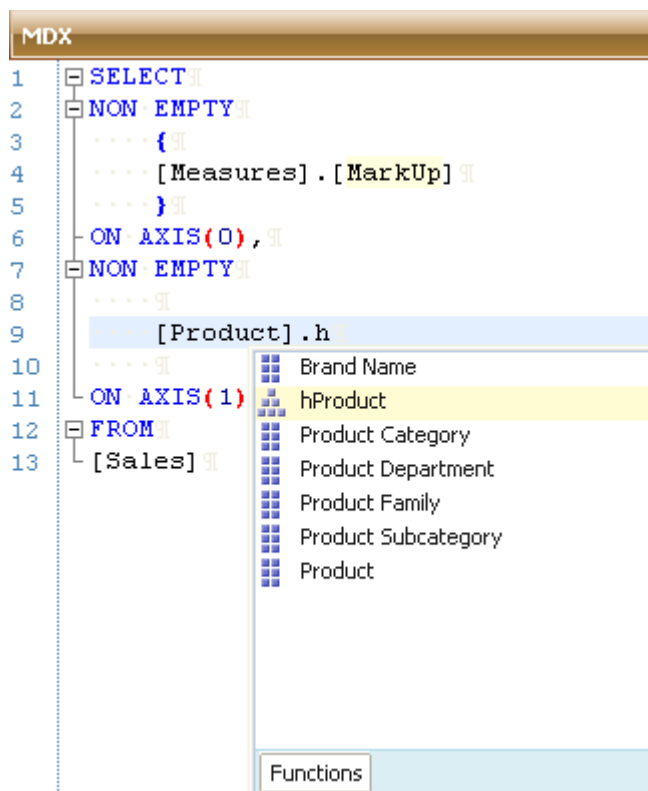
- press ENTER or TAB



- **DOT** once to get next level for **hierarchies**



- press h to get hierarchy **hProduct**



- press **ENTER** or **TAB**

```

MDX
1  SELECT
2  NON EMPTY
3      {
4      [Measures].[MarkUp]
5      }
6  ON AXIS(0),
7  NON EMPTY
8      {
9      [Product].[hProduct]
10     }
11 ON AXIS(1)
12 FROM
13 [Sales]

```

- DOT once to get next level for levels
- move with arrow down to select **Product Subcategory**

```

MDX
4      [Measures].[MarkUp]
5      }
6  ON AXIS(0),
7  NON EMPTY
8      {
9      [Product].[hProduct].|
10     }
11 ON AXIS(1)
12 FROM
13 [Sales]

```

(All)

Product Family

Product Department

Product Category

Product Subcategory

Product

Functions

- press **ENTER** or **TAB**

```

MDX
4      .... [Measures] . [Markup]
5      .... }
6      ON AXIS(0),
7      NON EMPTY
8      ....
9      [Product] . [hProduct] . [Product Subcategory]
10     ....
11     ON AXIS(1)
12     FROM
13     [Sales]

```

Now you are at position to make a choice:

7. To add some MDX Element Function like **.AllMembers**
8. To continue with **members**

OPTION 1 – Add MDX Element Function

To continue adding MDX Element Functions you have to press:

- **DOT** once to get next level for hierarchies
- **A** – for first letter of **AllMembers**

```

MDX
1      SELECT
2      NON EMPTY
3      {
4      .... [Measures] . [Markup]
5      .... }
6      ON AXIS(0),
7      NON EMPTY
8      ....
9      [Product] . [hProduct] . [Product Subcategory] .a
10     ....
11     ON AXIS(1)
12     FROM
13     [Sales]

```

Functions
Members

- [
- AllMembers
- CHILDREN
- Count
- Current
- CurrentMember
- CurrentOrdinal
- DefaultMember
- DataMember
- Dimension
- FirstChild

- press **ENTER** or **TAB**

```

MDX
1  SELECT
2  NON EMPTY
3      {
4      [Measures].[Markup]
5      }
6  ON AXIS(0),
7  NON EMPTY
8      [Product].[hProduct].[Product Subcategory].AllMembers
9  ON AXIS(1)
10 FROM
11 [Sales]

```

OPTION 2 – Continue adding cube elements (Members)

To continue adding **member** type:

- DOT once to get next level for levels

```

MDX
1  SELECT
2  NON EMPTY
3      {
4      [Measures].[Markup]
5      }
6  ON AXIS(0),
7  NON EMPTY
8      [Product].[hProduct].[Product Subcategory].
9  ON AXIS(1)
10 FROM
11 [Sales]

```

[

AllMembers

CHILDREN

Count

Current

CurrentMember

CurrentOrdinal

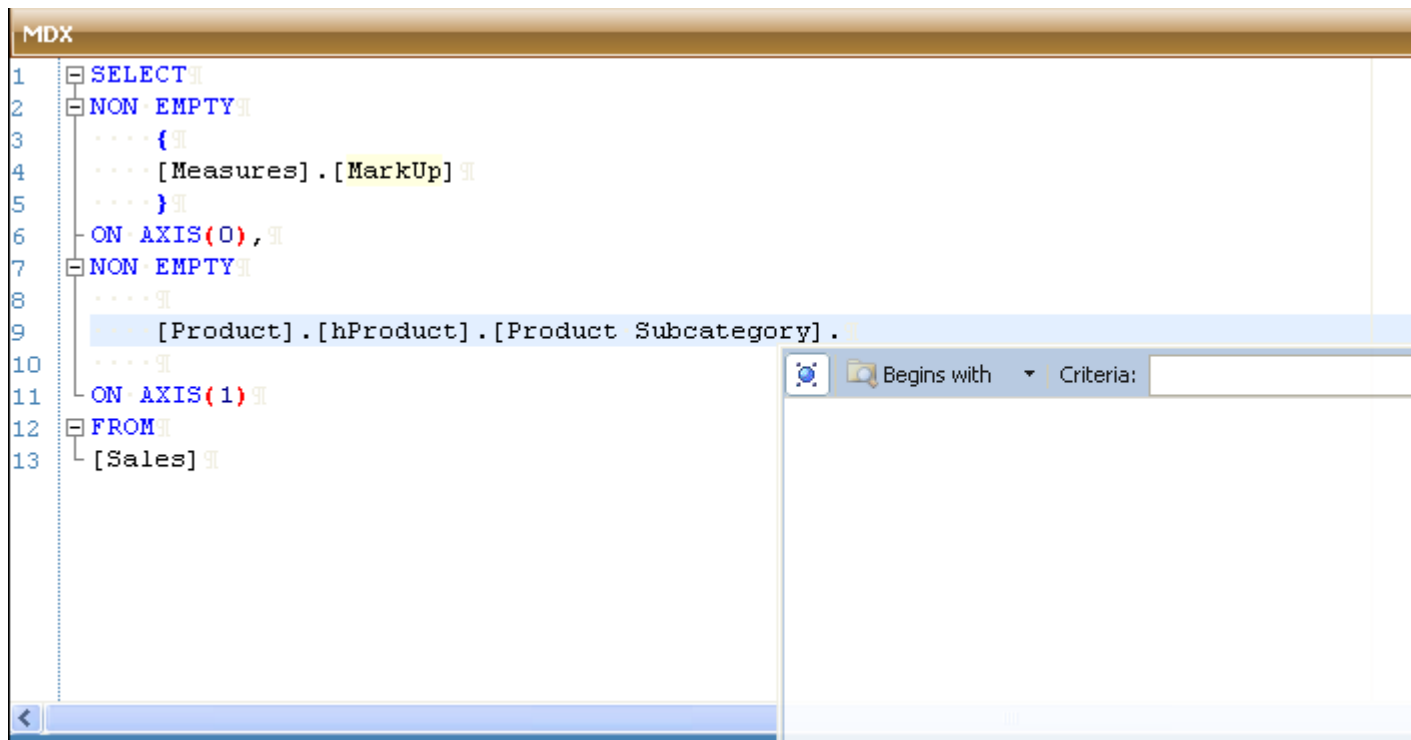
DefaultMember

DataMember

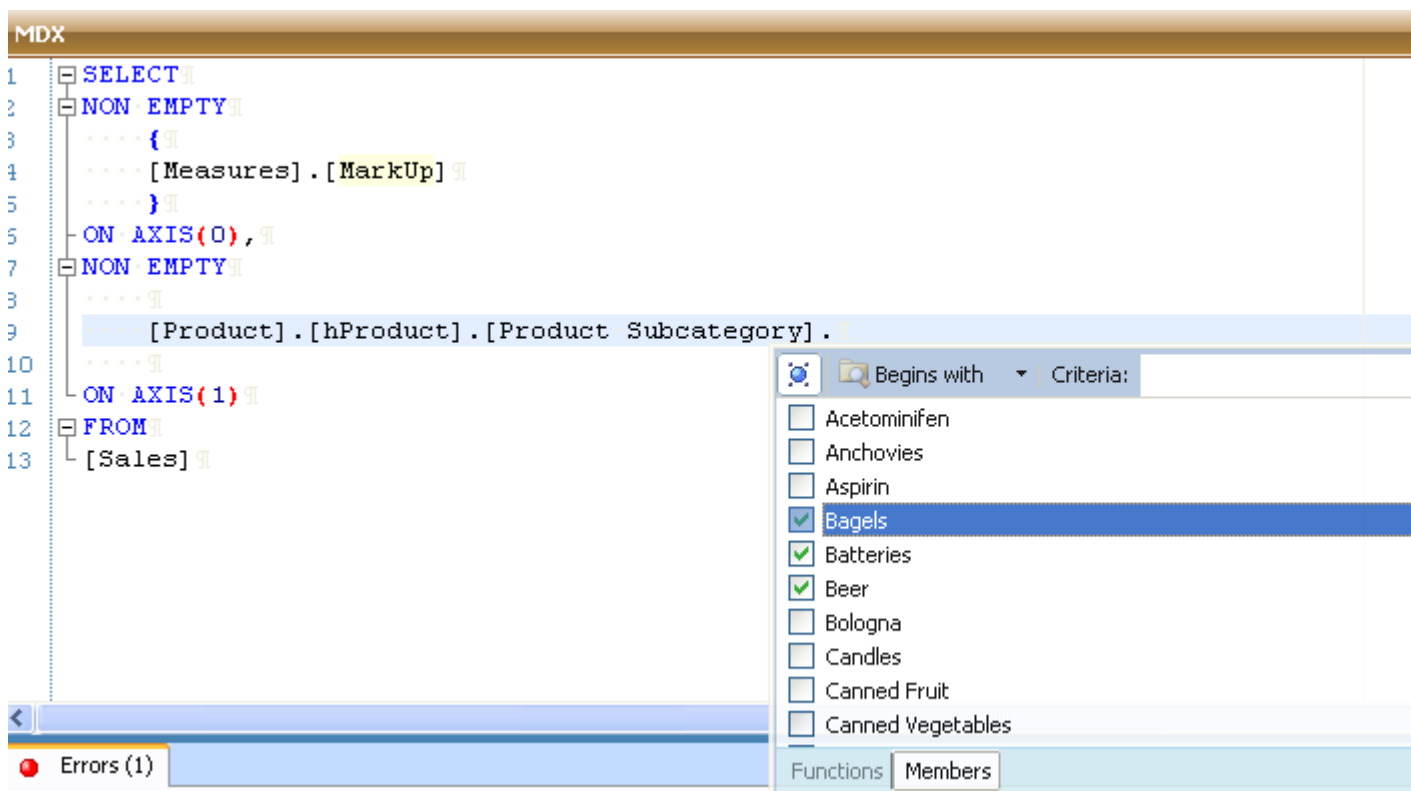
Dimension

FirstChild

- press **ENTER** or **TAB** to select **open square bracket** [



- press **Green Arrow** to see all members or select some criteria and then press **Green Arrow**



- select at least one member (marked blue) or more members
- press ENTER

MDX	
1	= SELECT
2	= NON EMPTY
3 {
4	.... [Measures].[Markup]
5 }
6	ON AXIS(0),
7	= NON EMPTY
8	....
9	.... [Product].[hProduct].[Product Subcategory].[Bagels],
10	[Product].[hProduct].[Product Subcategory].[Batteries],
11	[Product].[hProduct].[Product Subcategory].[Beer]
12	....
13	ON AXIS(1)
14	= FROM
15	[Sales]

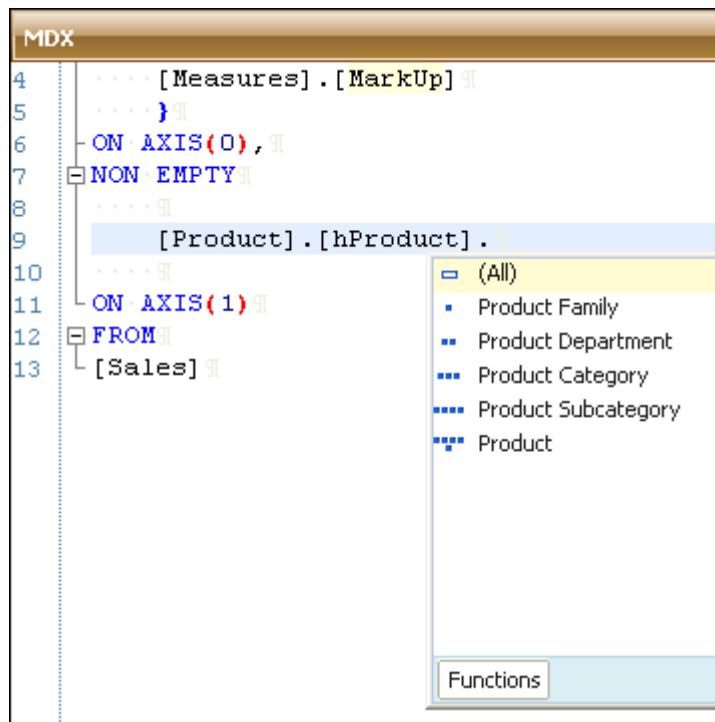
EDIT LAST SELECTION

If you made mistake:

- go backward with key **BACKSPACE**

MDX	
4	.... [Measures].[Markup]
5 }
6	ON AXIS(0),
7	= NON EMPTY
8	....
9	[Product].[hProduct]
10	....
11	ON AXIS(1)
12	= FROM
13	[Sales]

- press DOT again

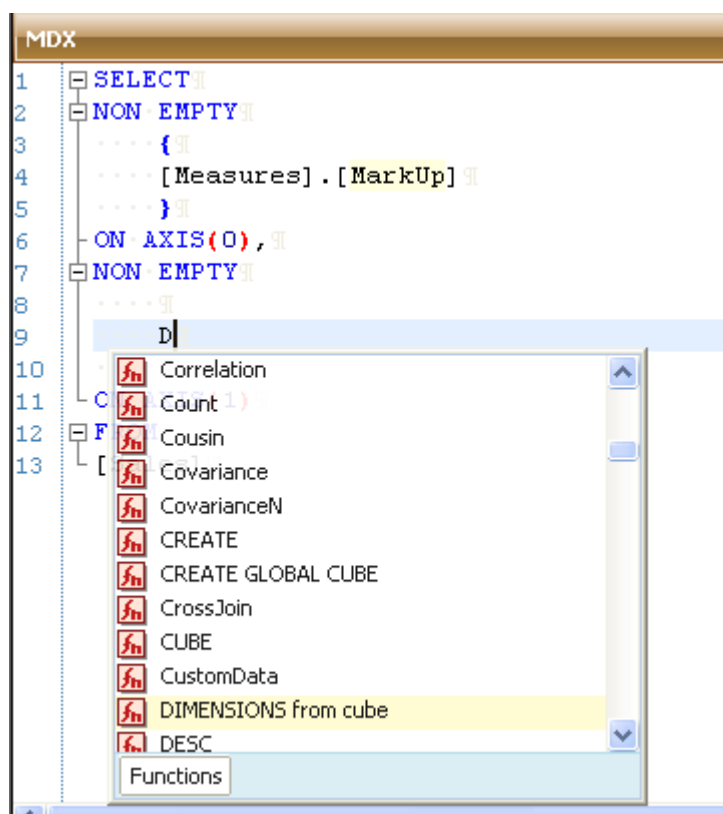


Member

To insert member, type:

- D

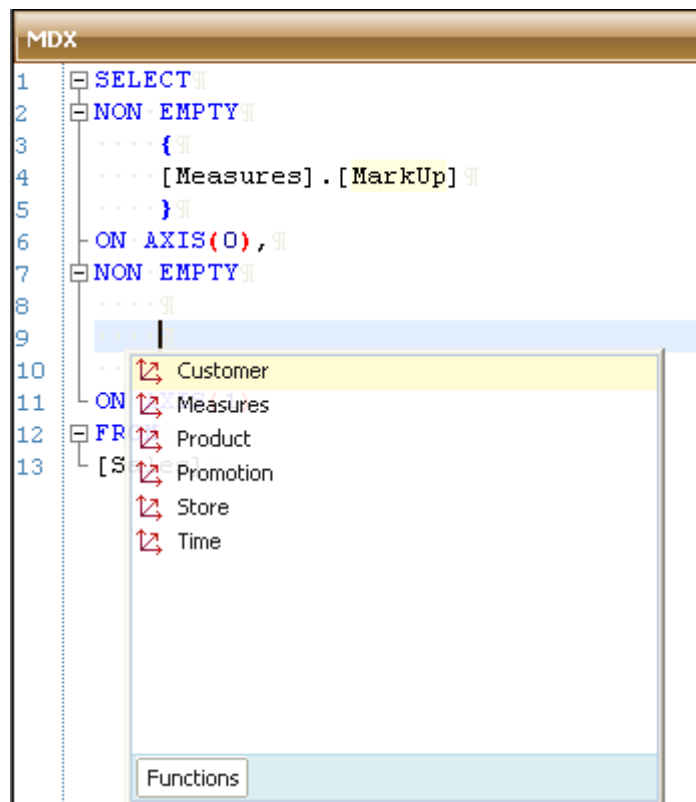
You will get:



Intellisense window will select first entry on letter “D” and that is **DIMENSIONS FROM CUBE**.

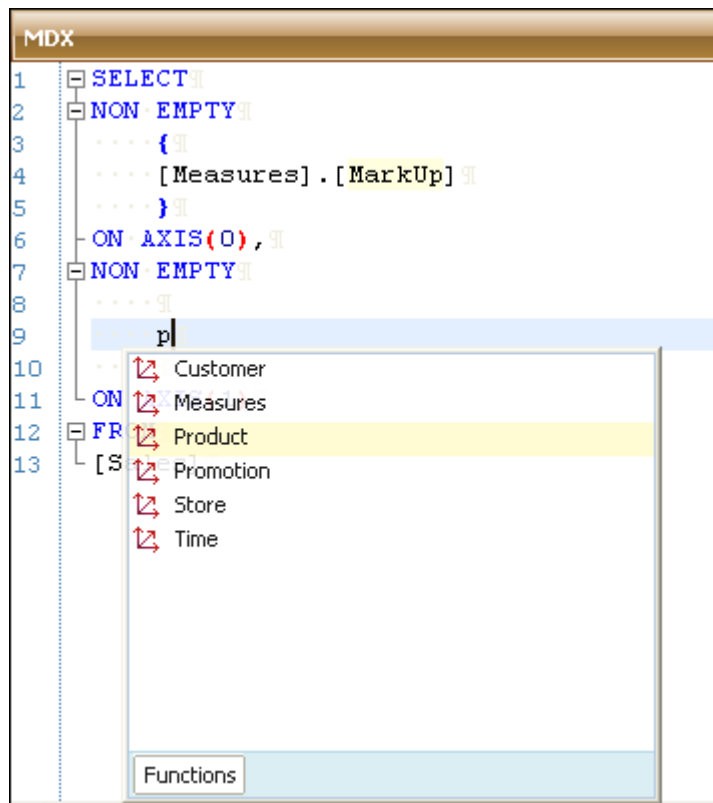
Press **ENTER** or **TAB** to use it.

Now you are browsing cube.

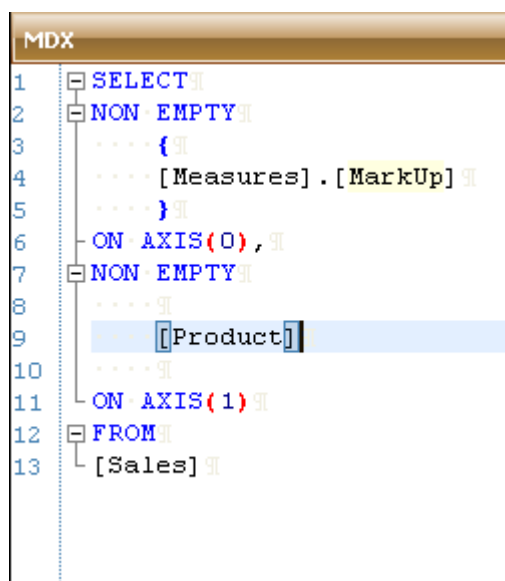


To select dimension **Product**:

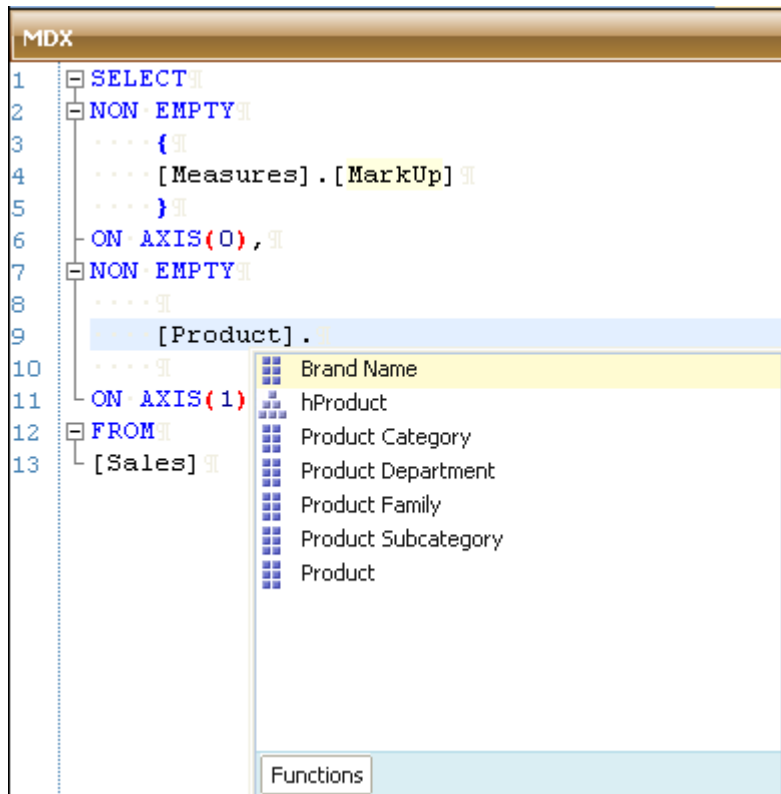
- type P



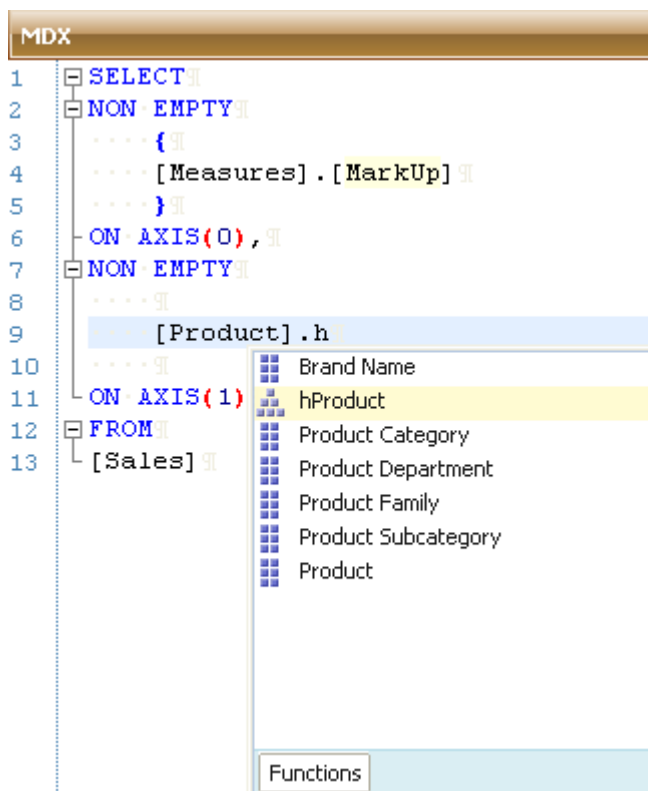
- press **ENTER** or **TAB**



- **DOT** once to get next level for **hierarchies**



- press h to get hierarchy **hProduct**



- press **ENTER** or **TAB**

```

MDX
1  SELECT
2  NON EMPTY
3      {
4      [Measures].[MarkUp]
5      }
6  ON AXIS(0),
7  NON EMPTY
8      {
9      [Product].[hProduct]
10     }
11 ON AXIS(1)
12 FROM
13 [Sales]

```

- DOT once to get next level for levels
- move with arrow down to select **Product Subcategory**

```

MDX
4      [Measures].[MarkUp]
5      }
6  ON AXIS(0),
7  NON EMPTY
8      {
9      [Product].[hProduct].|
10     }
11 ON AXIS(1)
12 FROM
13 [Sales]

```

(All)

Product Family

Product Department

Product Category

Product Subcategory

Product

Functions

- press **ENTER** or **TAB**

```

MDX
4      ....[Measures].[Markup]
5      ....}
6      ON AXIS(0),
7      NON EMPTY
8      ....
9      [Product].[hProduct].[Product Subcategory]
10     ....
11     ON AXIS(1)
12     FROM
13     [Sales]

```

- DOT once to get next level for levels

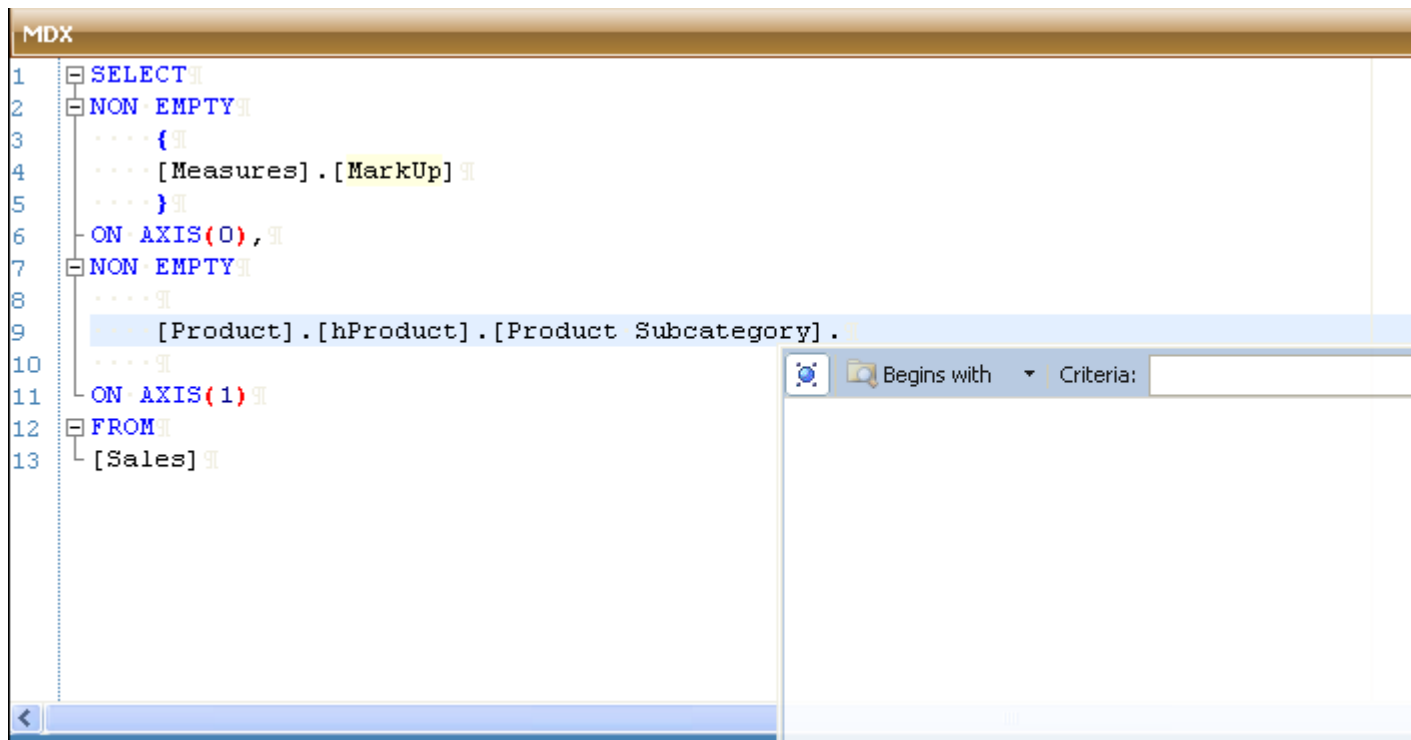
```

MDX
1      SELECT
2      NON EMPTY
3      {
4      [Measures].[Markup]
5      }
6      ON AXIS(0),
7      NON EMPTY
8      ....
9      [Product].[hProduct].[Product Subcategory] .
10     ....
11     ON AXIS(1)
12     FROM
13     [Sales]

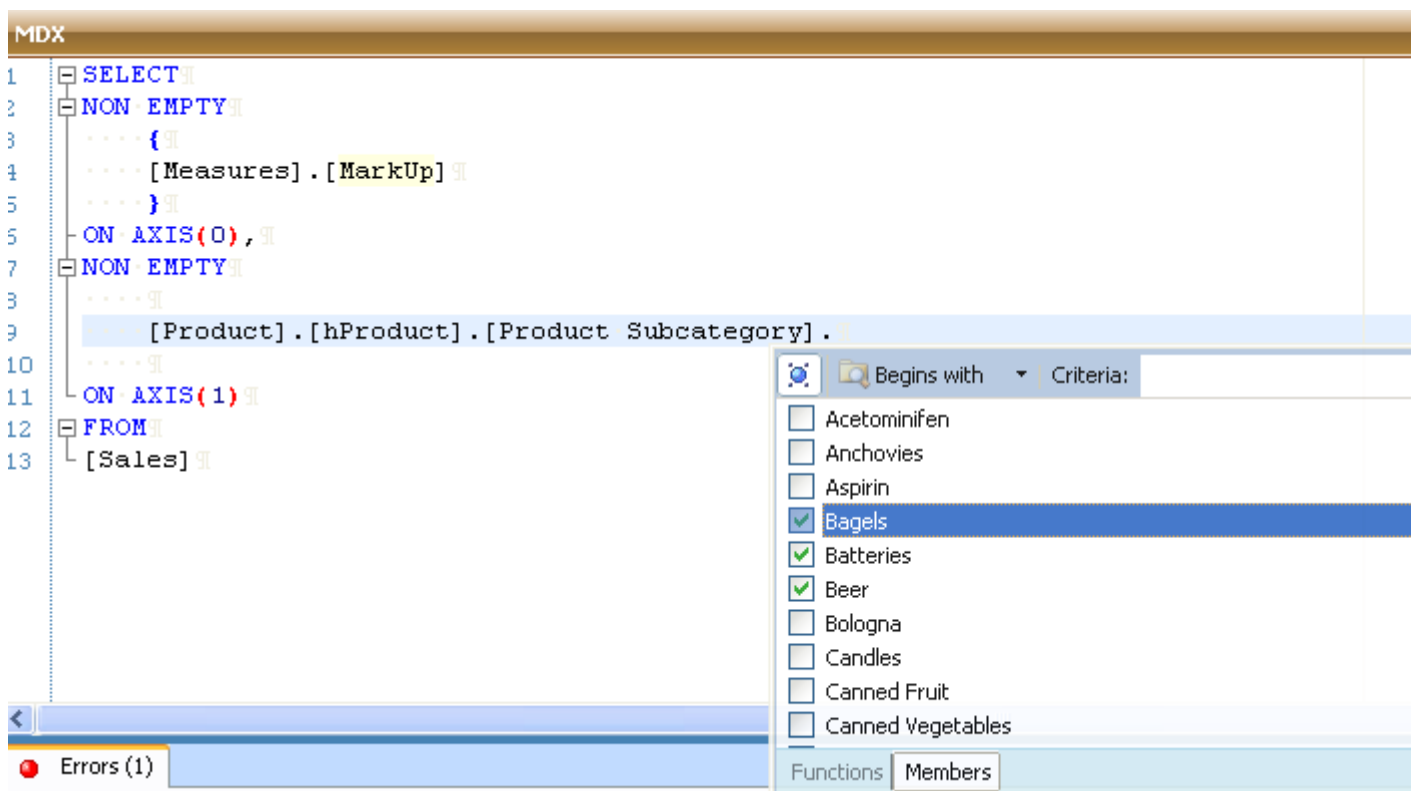
```

- [
- AllMembers
- CHILDREN
- Count
- Current
- CurrentMember
- CurrentOrdinal
- DefaultMember
- DataMember
- Dimension
- FirstChild

- press **ENTER** or **TAB** to select **open square bracket [**



- press **Green Arrow** to see all members or select some criteria and then press **Green Arrow**



- select at least one member (marked blue) or more members
- press ENTER

```
MDX
1  SELECT
2  NON EMPTY
3      {
4      [Measures].[MarkUp]
5      }
6  ON AXIS(0),
7  NON EMPTY
8      {
9      [Product].[hProduct].[Product Subcategory].[Bagels],
10     [Product].[hProduct].[Product Subcategory].[Batteries],
11     [Product].[hProduct].[Product Subcategory].[Beer]
12     }
13  ON AXIS(1)
14  FROM
15     [Sales]
```

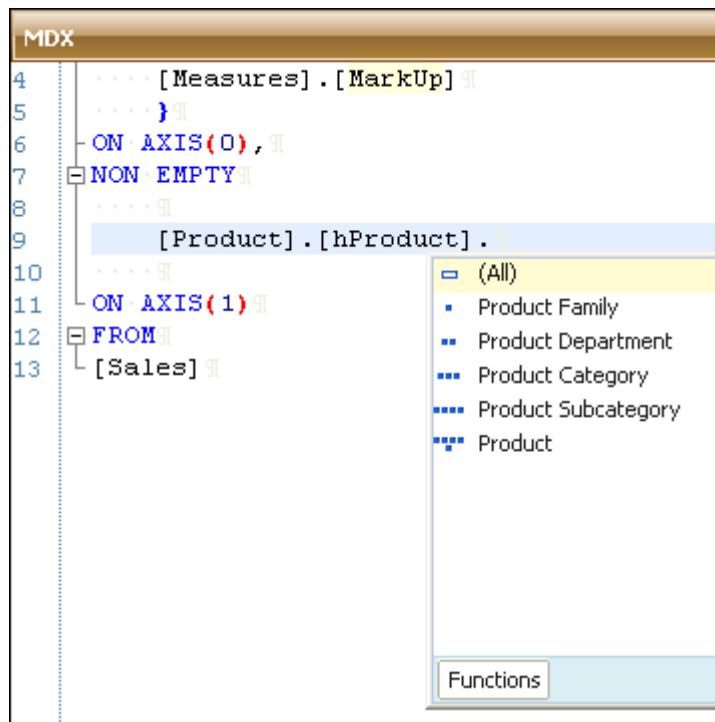
EDIT LAST SELECTION

If you made mistake:

- go backward with key **BACKSPACE**

```
MDX
4      [Measures].[MarkUp]
5      }
6  ON AXIS(0),
7  NON EMPTY
8      {
9      [Product].[hProduct]
10     }
11  ON AXIS(1)
12  FROM
13     [Sales]
```

- press DOT again

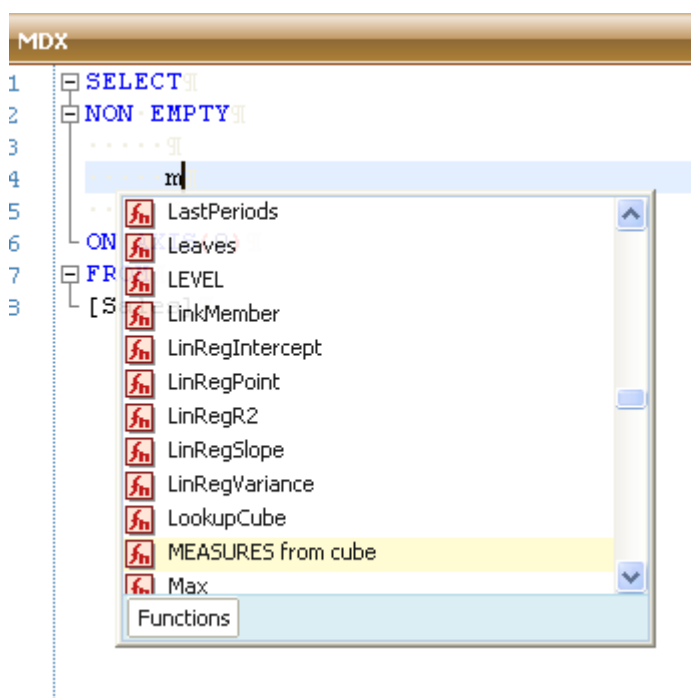


Measure

To insert measures type:

- M

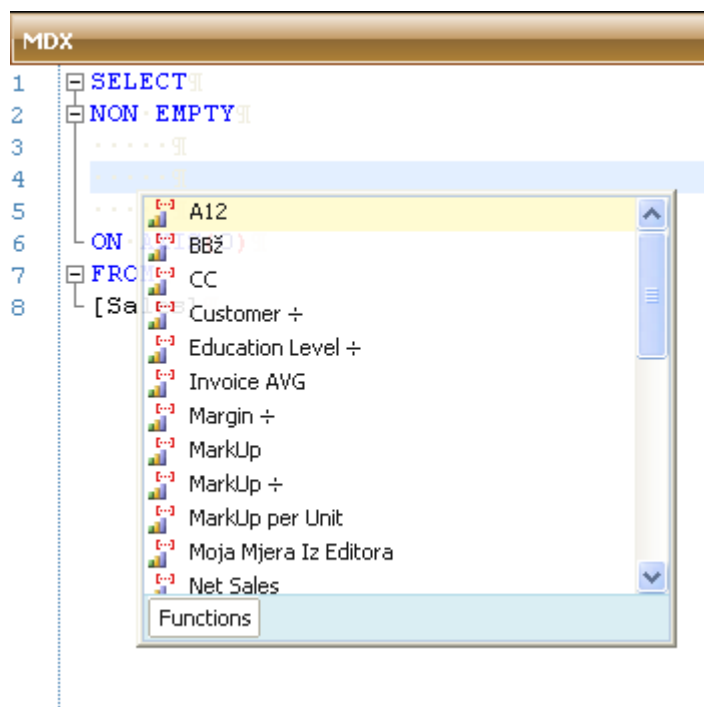
You will get:



Intellisense window will select first entry on letter "M" and that is **MEASURES FROM CUBE**.

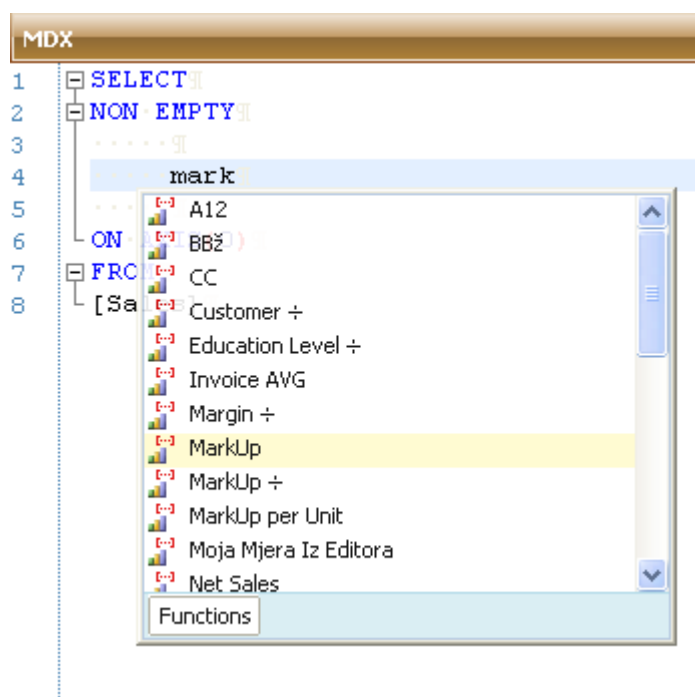
Press **ENTER** or **TAB** to use it.

Now you are browsing measures from cube.



To select measure MarkUp type:

- M
- a
- r
- k



- press **ENTER** or **TAB**

```
MDX
1 SELECT
2 NON EMPTY
3     . . . . .
4     [Measures].[Markup]
5     . . . . .
6 ON AXIS(0)
7 FROM
8     [Sales]
```

EDIT LAST SELECTION

If you made mistake:

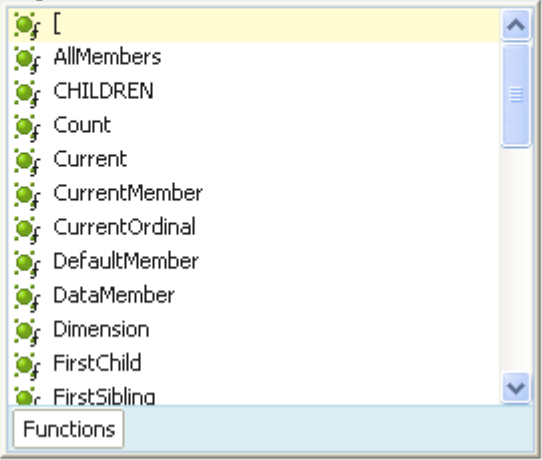
- go backward with key **BACKSPACE**

```
MDX
1 SELECT
2 NON EMPTY
3     . . . . .
4     [Measures].[Markup]
5     . . . . .
6 ON AXIS(0)
7 FROM
8     [Sales]
```

- press DOT again even intellisense is started already

MDX

```
1 SELECT
2 NON EMPTY
3 .....
4 [Measures] .
5 .....
6 ON AXIS(0)
7 FROM
8 [Sales]
```



The screenshot shows a list of MDX functions. The functions listed are: AllMembers, CHILDREN, Count, Current, CurrentMember, CurrentOrdinal, DefaultMember, DataMember, Dimension, FirstChild, and FirstSibling. The 'Functions' tab is selected at the bottom of the list.

Create local calculated elements

In editor you can create (and later use in editor or designer):

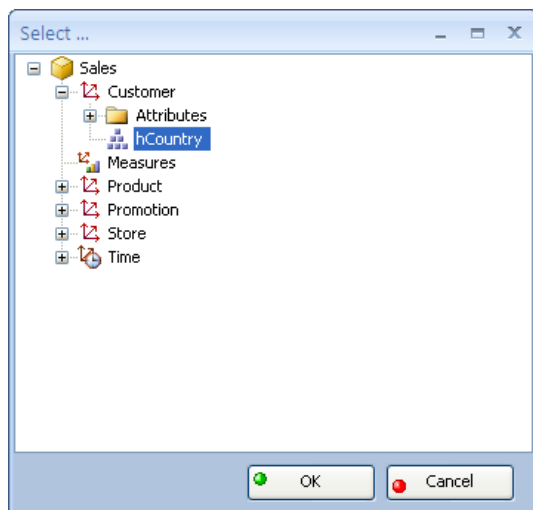
- Local calculate member
- Local calculate set
- Local calculate Named Set

Create member – Ctrl + W

If you have a part of syntax on any of your axes and you want to create member from it that you will use it immediately in your statement:

- Select **portion** of MDX
- Press **Ctrl + W**

Dialog will appear:

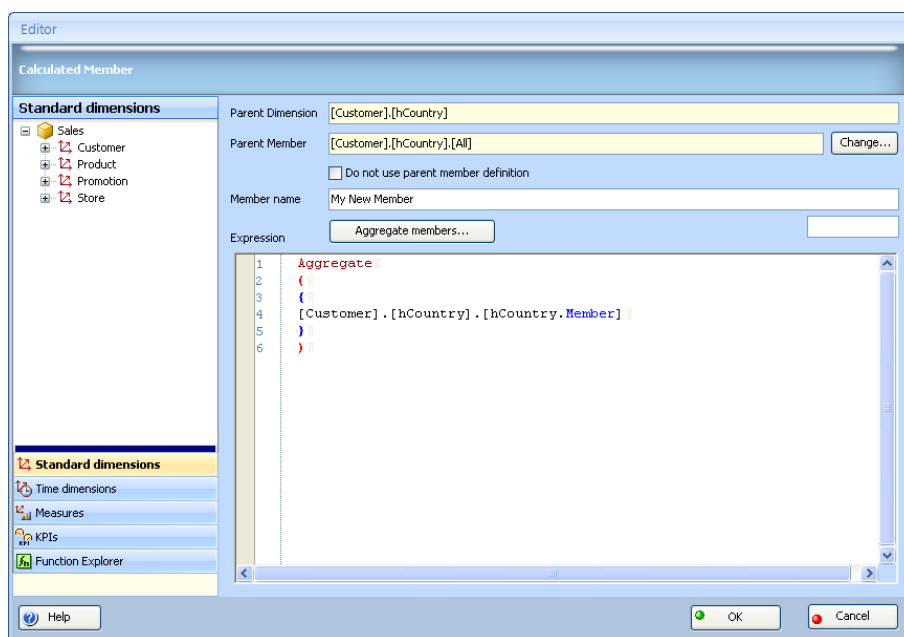


```
MDX
1 SELECT
2 NON EMPTY
3 CrossJoin
4 (
5 {
6 [Customer].[hCountry].[City].ALLMEMBERS
7 }
8 ,
9 {
10 [Product].[hProduct].[Product Family].ALLMEMBERS
11 }
12 )
13 ON AXIS(0)
14 FROM
15 [Sales]
```

Since in CubePlayer local calculated members needs definition of hierarchy that belongs to, you will

have to select appropriate hierarchy in dialog:

- Select **hCountry**
- Select **OK**

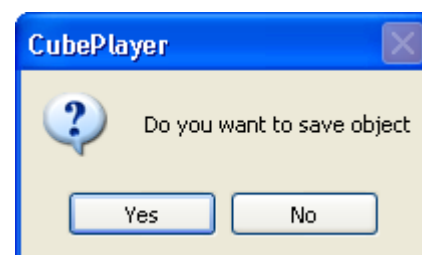


If needed add aggregate function manually. (we have done that in our case since result would be a set and not member.

If you want to modify your statement you are welcome. If not:

- Change **name** if you like
- Select **OK**

New dialog will appear:



If you want to use that member just in current MDX statement and not to save it on your computer for further use select **No**.
 If you want to save it also, select **Yes**. Your local calculated member will be saved with your cube definition on your local computer.

```

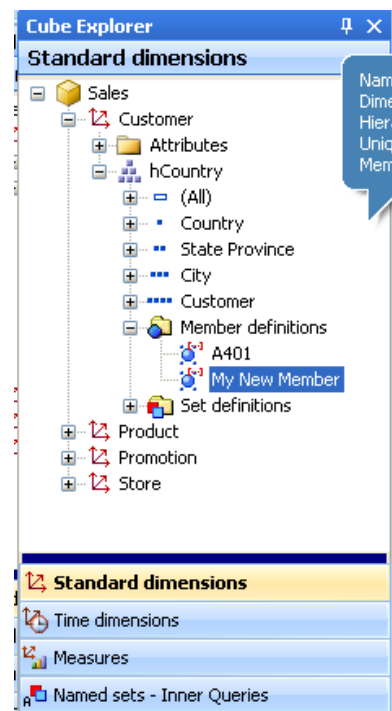
MDX
1  WITH
2  MEMBER
3  [Customer].[hCountry].[hCountry.Member]
4  AS
5  {
6  .... {
7  .... [Customer].[hCountry].[City].ALLMEMBERS
8  .... }
9  }
10 SELECT
11 NON-EMPTY
12 CrossJoin
13 (
14 .... [Customer].[hCountry].[hCountry.Member],
15 .... {
16 .... [Product].[hProduct].[Product Family].ALLMEMBERS
17 .... }
18 )
19 ON AXIS(0)
20 FROM
21 [Sales]
    
```

Your member will be added to your MDX syntax inside WITH statement.
 Selected part of MDX on the axis will be replaced with unique name of newly created member.

If you have selected to save it:

- go to **cube explorer**
- open your **hierarchy**
- open **member definition** folder
- right click
- select **refresh**

Same member will be also available in designer.



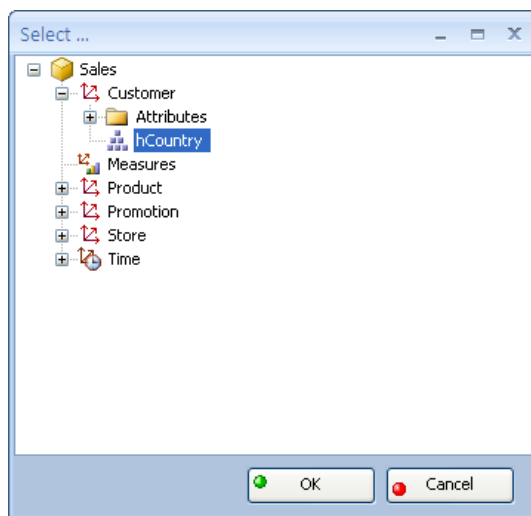
Create set – Ctrl + S

If you have a part of syntax on any of your axes and you want to create set from it that you will use

immediately in your statement:

- Select **portion** of MDX
- Press **Ctrl + S**

Dialog will appear:

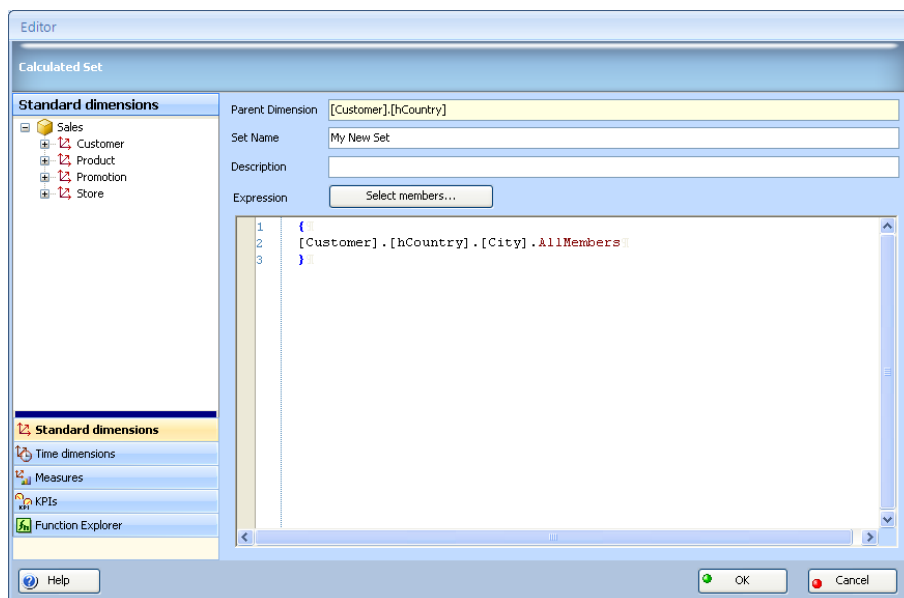


```
MDX
1 SELECT
2 NON EMPTY
3 CrossJoin
4 (
5 {
6 [Customer].[hCountry].[City].ALLMEMBERS
7 }
8 ,
9 {
10 [Product].[hProduct].[Product Family].ALLMEMBERS
11 }
12 )
13 ON AXIS(0)
14 FROM
15 [Sales]
```

Since in CubePlayer local calculated set needs definition of hierarchy that belongs to, you will

have to select appropriate hierarchy in dialog:

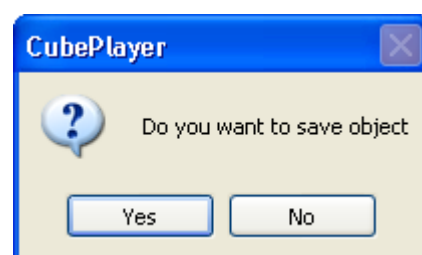
- Select **hCountry**
- Select **OK**



If you want to modify your statement you are welcome. If not:

- Change **name** if you like
- Select **OK**

New dialog will appear:



If you want to use that set just in current MDX statement and not to save it on your computer for further use select **No**.
If you want to save it also, select **Yes**. Your local calculated set will be saved with your cube definition on your local computer.

```

MDX
1  WITH
2  SET
3  [My New Set]
4  AS
5  '
6  .... {
7  .... [Customer].[hCountry].[City].AllMembers
8  .... }
9  '
10 SELECT
11 NON-EMPTY
12 CrossJoin
13 .... (
14 .... [My New Set],
15 .... {
16 .... [Product].[hProduct].[Product Family].ALLMEMBERS
17 .... }
18 .... )
19 ON-AXIS(0)
20 FROM
21 [Sales]

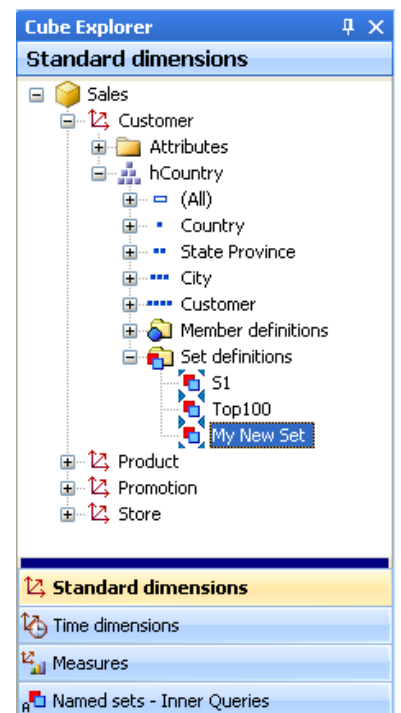
```

Your set will be added to your MDX syntax inside WITH statement.
Selected part of MDX on the axis will be replaced with unique name of newly created set.

If you have selected to save it:

- go to **cube explorer**
- open your **hierarchy**
- open **set definition** folder
- right click
- select **refresh**

Same set will be also available in designer.



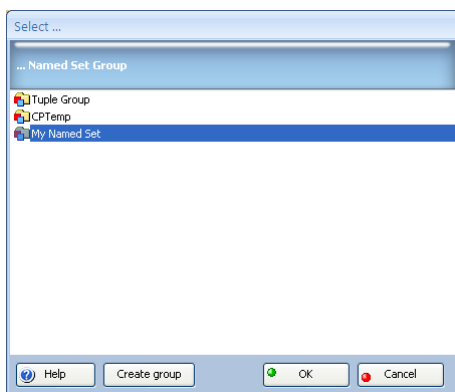
Create named set – Ctrl + N

If you have a part of syntax on any of your axes and you want to create named set from it that you will use

immediately in your statement:

- Select **portion** of **MDX**
- Press **Ctrl + N**

Dialog will appear:



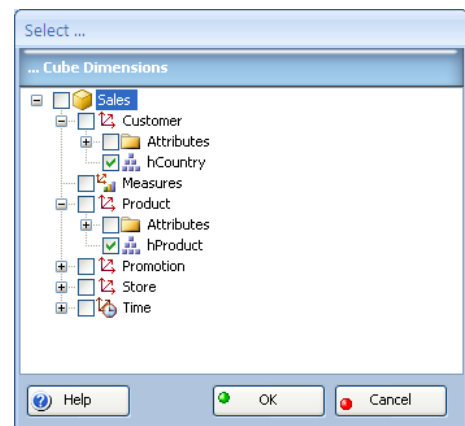
- Select **named set** group.
- Select **OK**

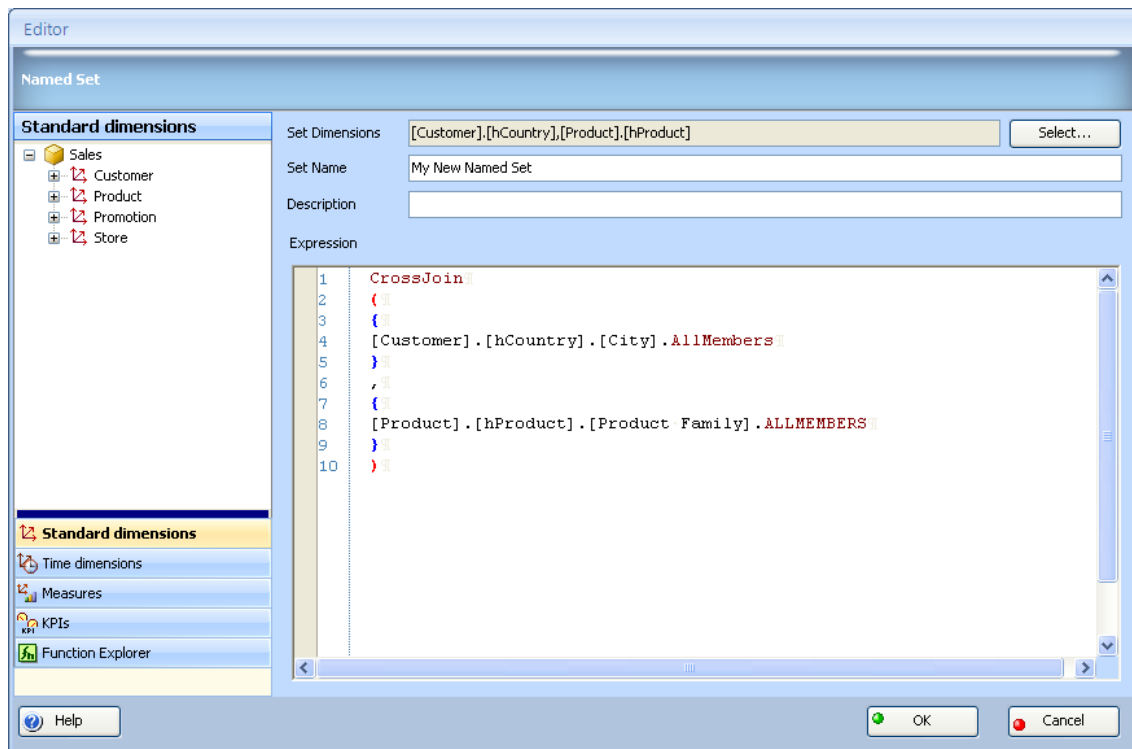
Since in CubePlayer local calculated named set needs definition of hierarchy/hierarchies that belongs to, you will

have to select appropriate hierarchy/hierarchies:

- Select button **Select**
- Select **hierarchy/hierarchies** involved in a named set
- Select **OK**

```
MDX
1 SELECT
2 NON EMPTY
3 CrossJoin
4 {
5
6 [Customer].[hCountry].[City].AllMembers
7 }
8
9 {
10 [Product].[hProduct].[Product Family].ALLMEMBERS
11 }
12
13 ON AXIS(0)
14 FROM
15 [Sales]
```





If you want to modify your statement you are welcome. If not:

- Change **name** if you like
- Select **OK**

New dialog will appear:



If you want to use that named set just in current MDX statement and not to save ion your computer for further use select **No**.

If you want to save it also, select **Yes**. You local calculated named set will be saved with your cube definition on your local computer.

```

MDX
1  WITH
2  SET
3  [My New Named Set]
4  AS
5  (
6  {CrossJoin
7  (
8  {
9  [Customer].[hCountry].[City].AllMembers
10 }
11 ,
12 {
13 [Product].[hProduct].[Product Family].ALLMEMBERS
14 }
15 })
16 )
17 SELECT
18 NON EMPTY
19 [My New Named Set]
20 ON AXIS(0)
21 FROM
22 [Sales]

```

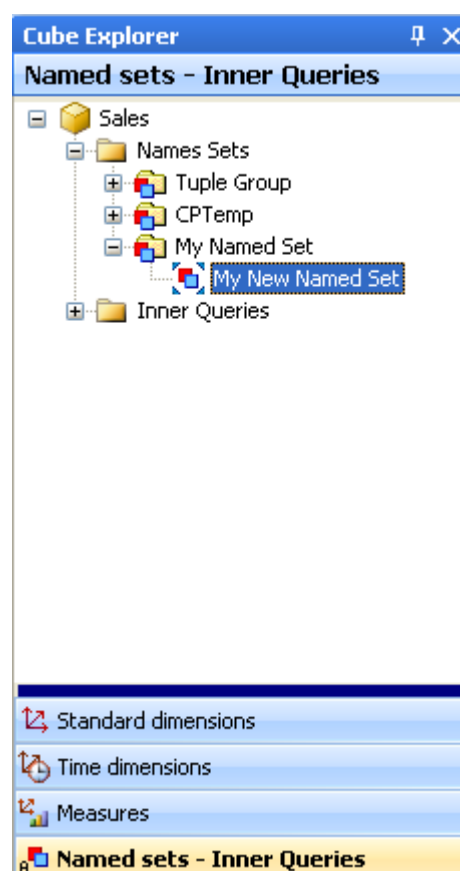
Your named set will be added to your MDX syntax inside WITH statement.

Selected part of MDX on the axis will be replaced with unique name of newly created named set.

If you have selected to save it:

- go to **cube explorer**
- open your **Named Set** explorer
- open **set definition** folder
- right click
- open **named set group**
- select **refresh**

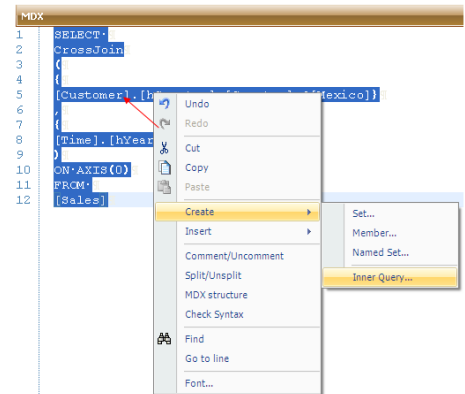
Same named set will be also available in designer.



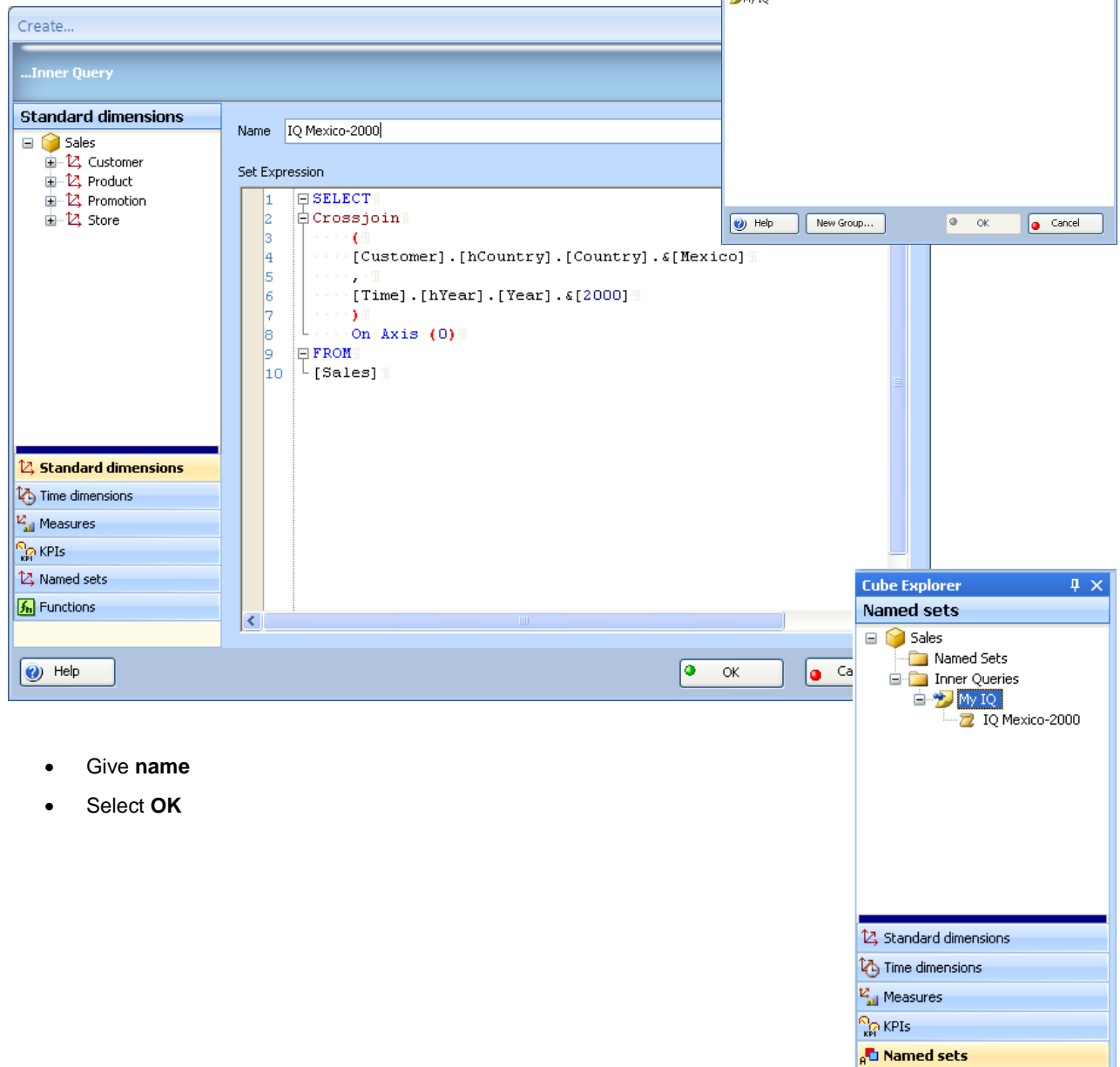
Create subselect – inner query

To create an Inner Query in editor::

- Write MDX syntax
- Select it
- Right click
- Select **Create** from menu
- Select **Inner Query** from submenu
- Select **group (My IQ)**
- Select **OK**



Create inner query form will appear.

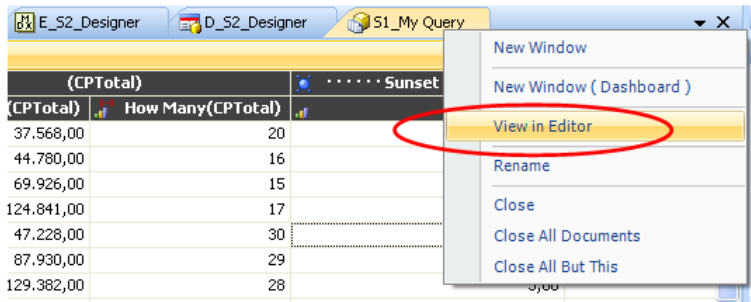


- Give **name**
- Select **OK**

Editing MDX command

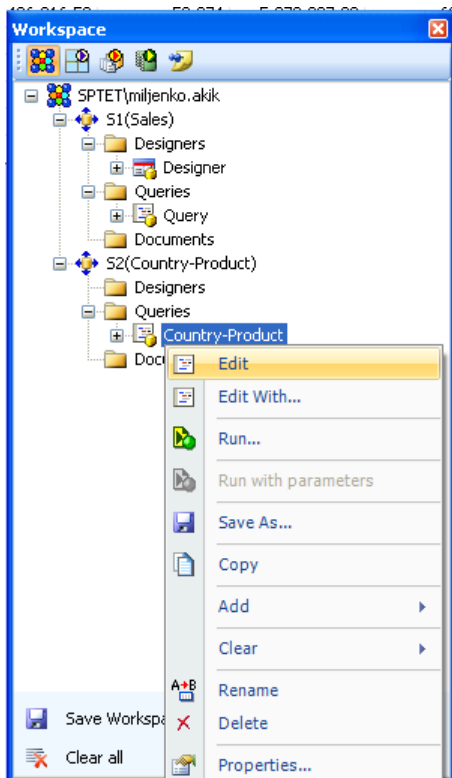
To edit MDX command for active tab:

- Select **Edit** in main menu
- Select **View in Editor** from submenu




The other way is to go to the Workspace:

- Find your object
- Right click with mouse
- Select **Edit** from menu



In both cases result will be the same, Editor will be open.

When you finish your editing you have to select Run icon  to see the result.

After Run, new object will be generated inside workspace. This way your original table and MDX will be preserved.

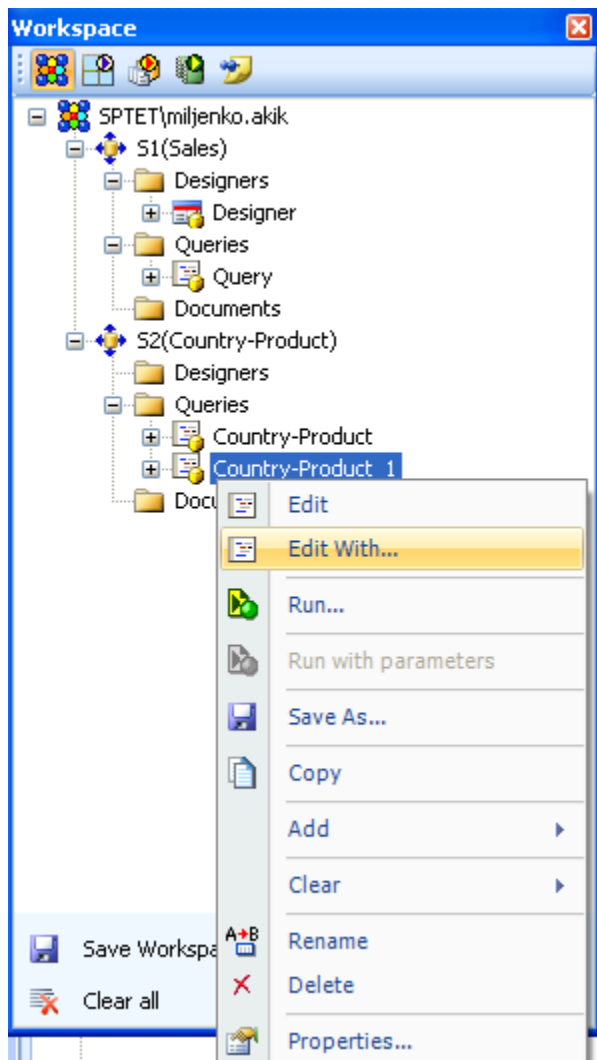
Edit with ...

Edit with option is for MDX commands that are loaded from file and can not be executed due to the fact that we can not establish connection to the selected server – database – cube.

In this particular case Editor can not be activated because there is no cube that can be displayed inside Cube explorer.

If you have this case then go to the Workspace:

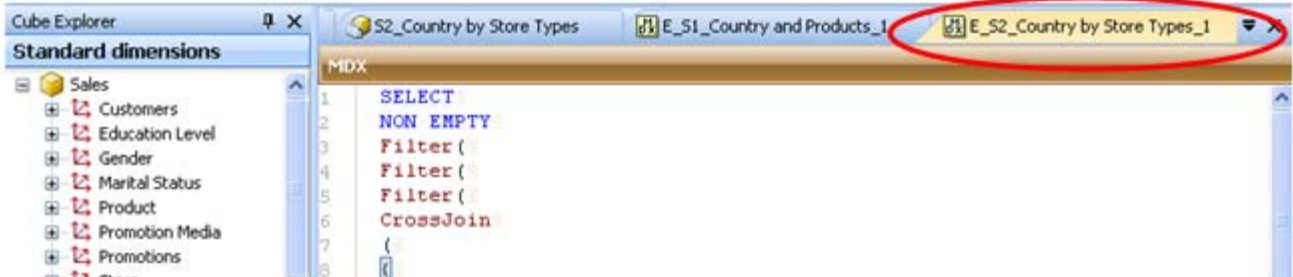
- Find your object (because object will be created even is not executed)
- Right click with mouse
- Select **Edit with** from menu



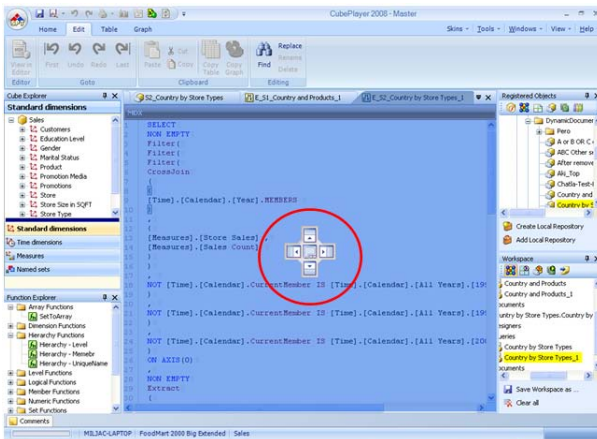
Edit two MDX - split view

CubePlayer allows you to split screen and to edit more then one MDX at the same time:

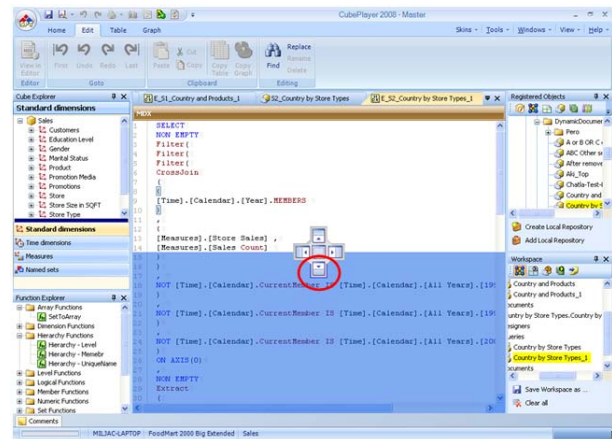
- Edit two different queries



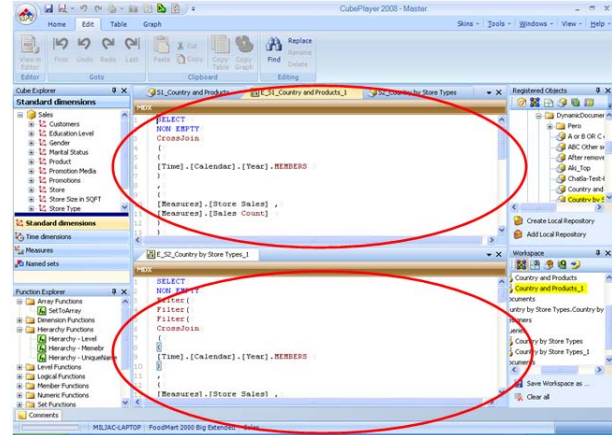
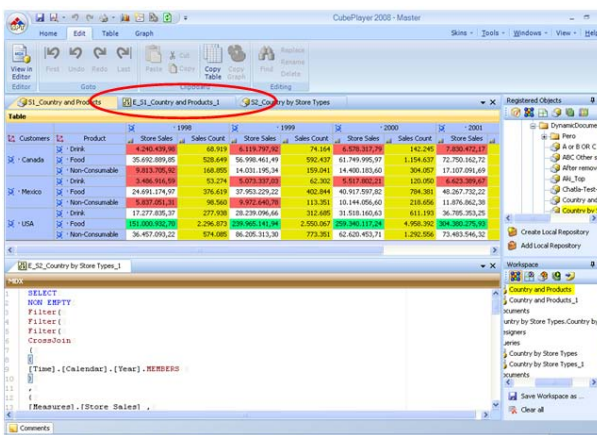
- Left click with mouse one of editor tabs
- Hold mouse until screen becomes violet



While holding left mouse button down, move mouse toward X in the middle and select one of four positions



After selection release mouse button

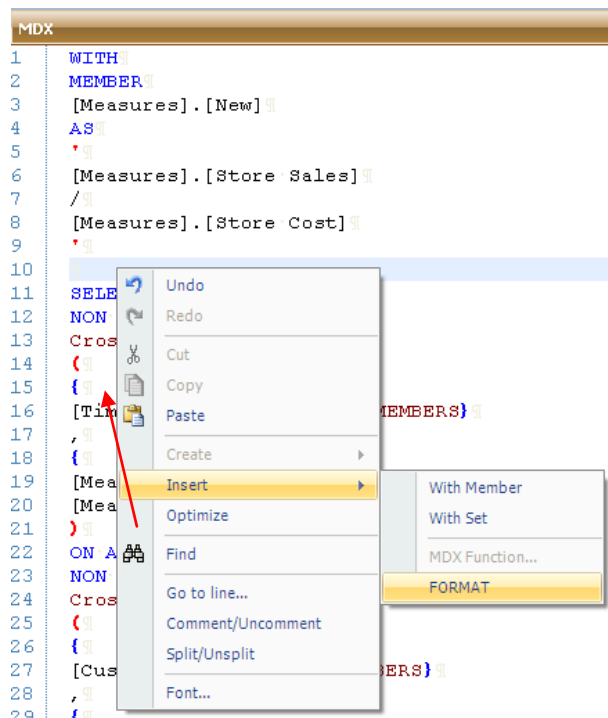


In upper window select tab with editor

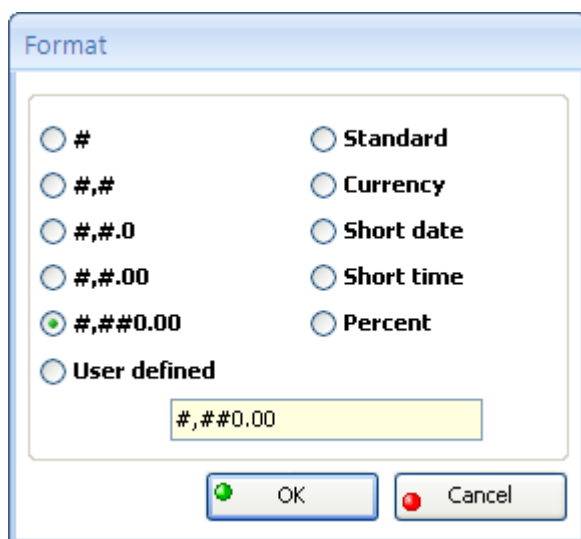
Insert format

To insert MDX Format:

- Select **place** in editor
- Right click your mouse
- Select **Insert** from menu or press f2
- Select FORMAT



Dialog will appear:



MDX structure

NOTE: At this moment, this operation REMOVES all comments.

To see MDX structure:

- Right click your mouse
- Select **MDX Structure**

Result is:

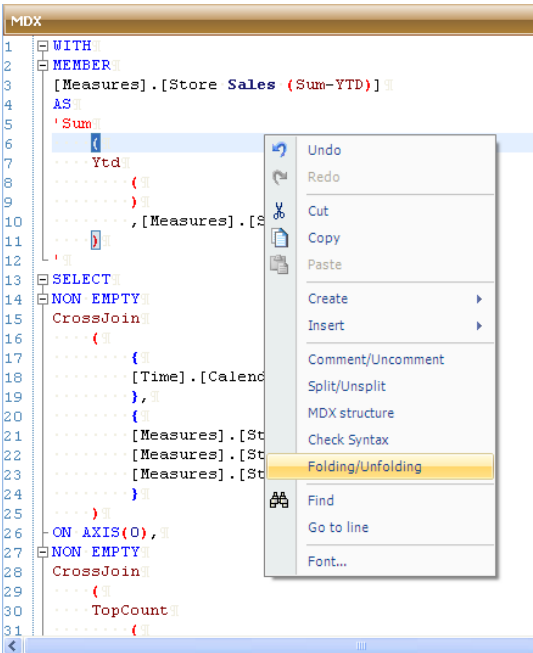
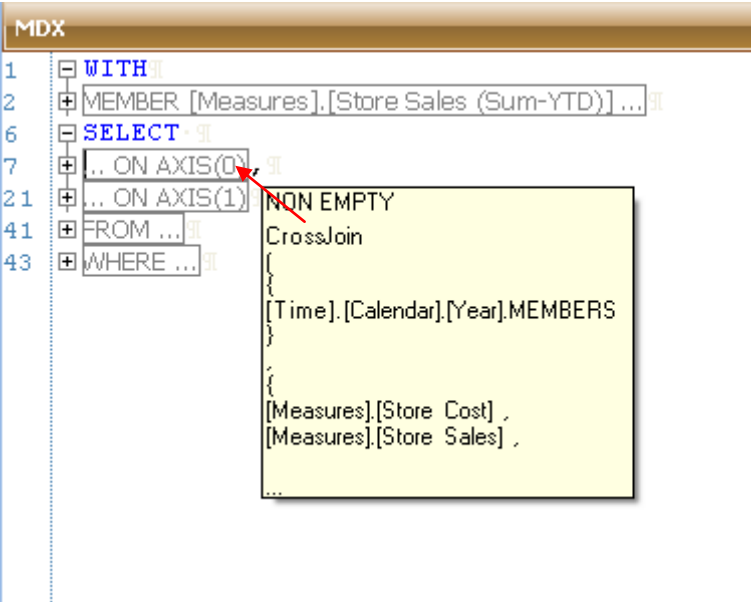
```
MDX
1  SELECT
2  NON EMPTY
3  CrossJoin
4  (
5  {
6  [Time].[Calendar].[All Years].[1999]
7  , [Time].[Calendar].[All Years].[2000]
8  , [Time].[Calendar].[All Years].[2001]
9  , [Time].[Calendar].[All Years].[2002]
10 }
11 ,
12 {
13 [Measures].[Store Sales]
14 , [Measures].[Store Cost]
15 }
16 ON AXIS(0)
17 NON EMPTY
18 CrossJoin
19 (
20 TopCount
21 (
22 {
23 [Customers].[Country].MEMBERS
24 }
25 , 3
26 , [Measures].[Iznos prodaje]
27 )
28 , {
29 [Product].[Product Family].MEMBERS
30 }
31 ON AXIS(1)
32 FROM
33 [Prodaja]
```

Folding

CubePlayer allows you to create regions within MDX command to make it more readable:

- o Right click inside editor area
- o Select **Folding/Unfolding** from menu

Result is:



MDX command will be grouped:

Group	Subgroup
WITH	Member Set Cache ...
SELECT	On axis (0), On columns, On 0, ... On axis (1), On rows, On 1, ...
FROM	
WHERE	
CELL PROPERTIES	

Result table operations

At any result table you can perform next operations:

- Dimension operations
 - Add dimension/hierarchy level
 - Add dimension/hierarchy members
 - Remove dimension/hierarchy
 - Push to filter
 - Remove dimension and push to filter
 - Move dimension to opposite axis
- Member operations
 - Add/remove member(s)
 - Add/remove measure(s)
 - Remove member one by one
 - Isolate member
 - Isolate more then ... or less then ...
 - Isolate best N or worst N
 - Isolate best N% or worst N%
- Filter operations
 - Add filter
 - Remove filter
 - Replace filter
- Calculate measure
- Predefined calculate measures
- Axis MDX functions
- Organize dimensions and members at the table
 - Organize member within dimension/hierarchy
 - Move dimension up, down ,left, right
- Sorting table data
- Order
 - Ascending
 - Hierarchical ascending order
 - Descending
 - Hierarchical descending order
 - Hierarchize
- Enumerate

Dimension/hierarchy operation

Available dimension/hierarchy operations are:

- Add dimension/hierarchy level
- Add dimension/hierarchy members
- Remove dimension/hierarchy
- Push to filter
- Remove dimension and push to filter
- Move dimension to opposite axis

Remove dimension

To remove dimension:

- Place mouse over dimension name you want to remove
- Right click
- Select **Remove (dimension name)** from menu

We will remove dimension **Customers**.

S4_Overview						
Table						
		· 1998		· 1999		
Customers	Product	Store Sales	Unit Sales	Store Sales	Unit Sales	
· Canada		3.777,00	6.119.797,92	240.366,00		
		2.248,00	56.998.461,49	2.061.862,00		€
		3.948,00	14.031.195,34	517.194,00		1
		7.113,00	5.073.337,03	202.050,00		
· Mexico	· Food	24.691.174,97	980.195,00	37.953.229,22	1.382.168,00	4
	· Non-Consumable	5.837.051,31	242.010,00	9.972.640,78	373.210,00	1
	· Drink	17.277.835,37	691.330,00	28.239.096,66	1.068.158,00	3
· USA	· Food	151.000.932,70	5.890.574,00	239.965.141,94	8.751.747,00	25
	· Non-Consumable	36.457.093,22	1.452.627,00	86.205.313,30	2.886.455,00	6

Dimension Customer will be removed from the set

S4_Overview				
Table				
	· 1998		· 1999	
Product	Store Sales	Unit Sales	Store Sales	Unit Sales
· Drink	25.005.191,95	997.220,00	39.432.231,61	1.510.574,00
· Food	211.384.997,51	8.243.017,00	334.916.832,65	12.195.777,00
· Non-Consumable	52.107.850,46	2.103.585,00	110.209.149,41	3.776.859,00

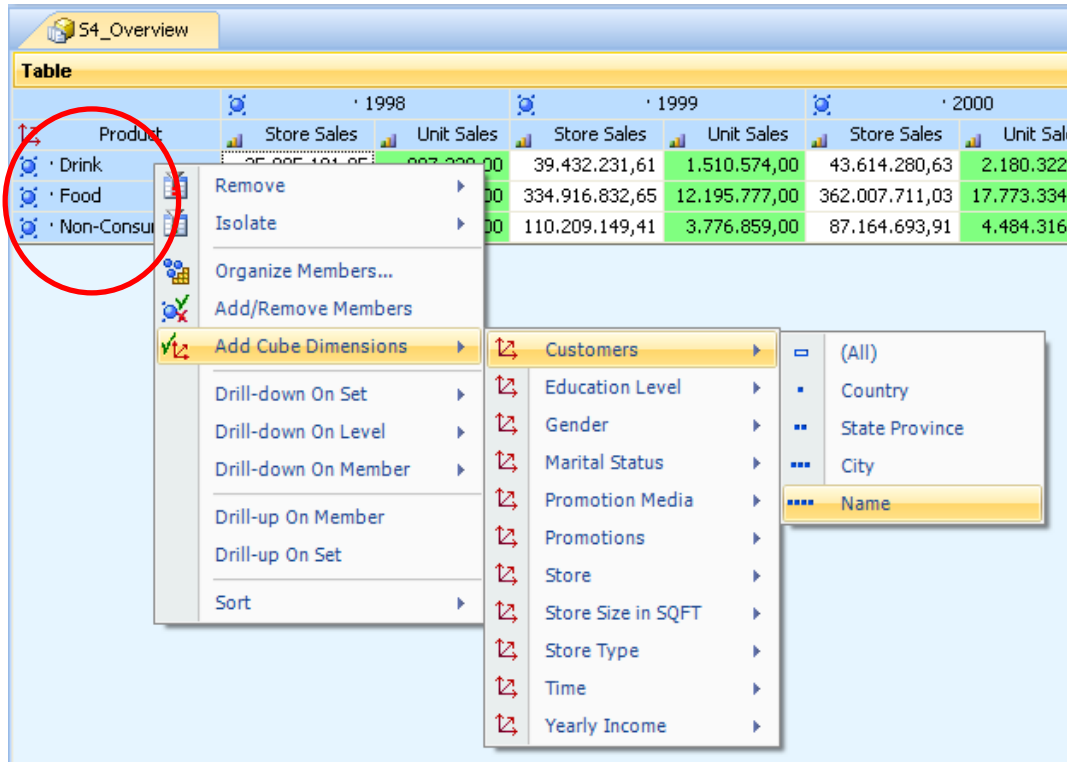
This operation will preserve original MDX context.

Add dimension level

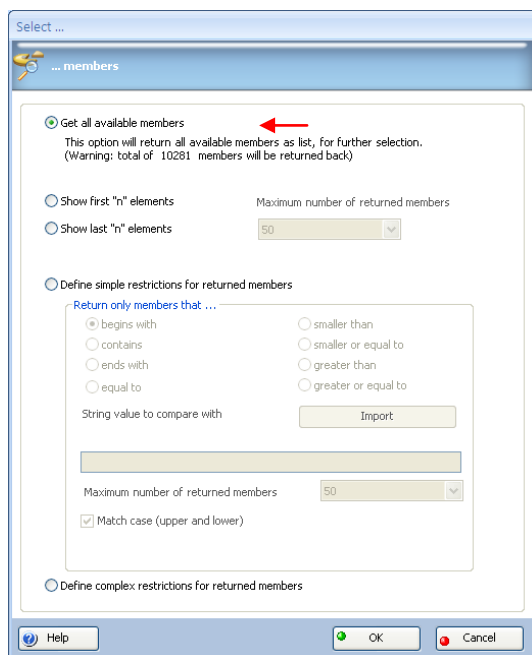
To add **level** or **member** from dimension that does not exist inside result set:

- Place mouse over rows or columns (where you want to add **level**)
- Right click the mouse
- From menu select **Add Cube Dimension**
 - From submenu select **Dimension (Customers)**
 - From submenu select **level (Name)**

Let us do it.



To select entire level, or maybe you want some specific members, dialog will appear:



Now you have two choices:

- **Get all available members** radio button (that means entire level)
- **Define simple restrictions** (that means you will get list of members according your criteria)

Select first choice:

- Select **Get all available members** radio button (that means entire level)

S4_Overview					
Table					
Product	Customers	1998		1999	
		Store Sales	Unit Sales	Store Sales	Unit Sales
Drink	Beth Moore	4.582,32	108,00	94.701,29	2.232,00
	Candice Ashe	5,13	6,00		
	Daryl Ives	173.069,62	5.372,00	109.732,83	3.103,00
	David Staisteven	2.188,62	88,00	50.537,01	2.032,00
	Elizabeth Arnold	3,72	3,00		
	Elizabeth Moss	10,50	14,00	282,04	376,00
	Everett Bontiglio	1,95	3,00		
	Fae Caprio	1,65	3,00		
	James Leatherman	266.931,34	6.412,00	167.262,20	3.618,00
	Madelaine Bonenberger	4.496,75	126,00	106.637,05	2.988,00
	Mary Hall	7.394,55	1.086,00	7.661,00	1.104,00
	Michael Spence	11,24	20,00	241,71	430,00
	Mila Lyttle	1.143,18	72,00	23.578,12	1.485,00
	Nina Metz	972,50	66,00	21.969,61	1.491,00
	Peter Rognmoe	60.119,81	2.488,00	77.360,40	2.999,00
	Rebecca Alvarez	93.900,39	4.010,00	48.657,77	1.949,00
	Shawn Trujillo	7.446,90	1.090,00	7.124,69	1.027,00
	Terry Daniel	7.545,88	822,00	10.631,48	1.131,00
	William Block	7,56	4,00		
	Winston Barnett	18,04	6,00		
	Erma Camille	2.347,61	100,00	55.779,83	2.376,00
	Jean Gradishar	11,20	4,00		
	Jim Snow	11,92	4,00		
	Karen Schultz	427,27	62,00	8.104,38	1.176,00
	Margaret Vanderkamp	5,68	2,00		
	Mary Thomas	218.440,68	5.348,00	134.585,55	2.928,00
	Michael Dorrell	12,23	5,00		

Level **Name** has been added to row axis. (as you can see there are 134.440 cells)

In case of second option:

- **Define simple restrictions** (that means you will get list of members according your criteria)
 - **For example those who are starting with "A"**

Select ...

... members

☐ Get all available members
This option will return all available members as list, for further selection.
(Warning: total of 10281 members will be returned back)

☐ Show first "n" elements
Maximum number of returned members

☐ Show last "n" elements
50

☒ Define simple restrictions for returned members

Return only members that ...

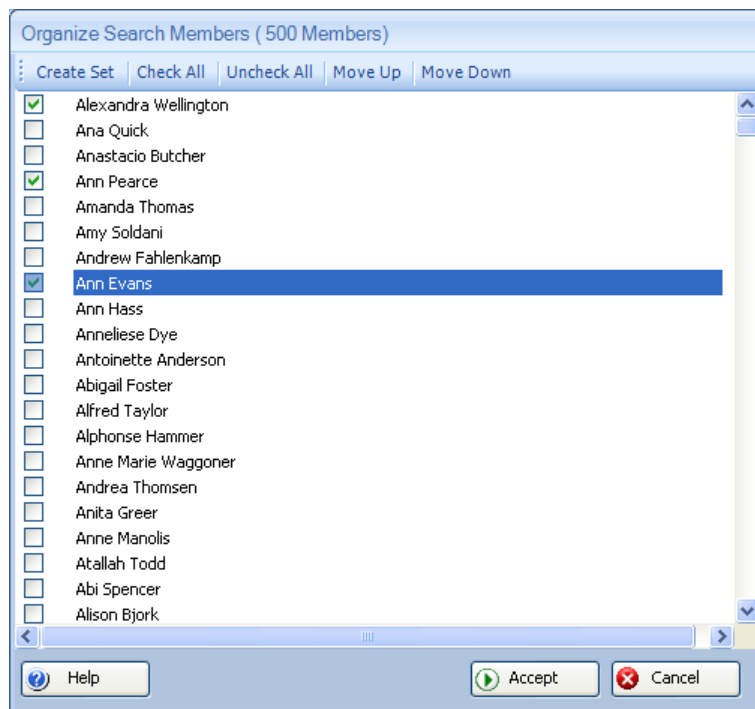
☒ begins with
☐ contains
☐ ends with
☐ equal to
☐ smaller than
☐ smaller or equal to
☐ greater than
☐ greater or equal to

String value to compare with

Maximum number of returned members
50
☒ Match case (upper and lower)

☐ Define complex restrictions for returned members

New dialog appears with list of members:



Select those you want to see at the table:

S4_Overview						
Table						
Product	Customers	1998		1999		
		Store Sales	Unit Sales	Store Sales	Unit Sales	
Food	Alexandra Wellington	3.896,70	1.335,00	1.773,34	598,00	
	Ann Pearce	350,37	36,00	7.240,99	744,00	
	Ann Evans	4.366,52	1.589,00	1.490,01	530,00	

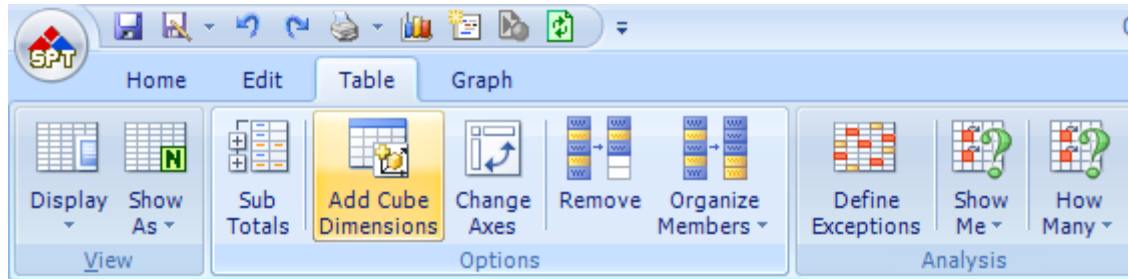
Since **NON EMPTY** is included in MDX syntax, we can see that those three customers are buying only **Food** and not **Drink** and **Non-Consumables**.

This operation will preserve original MDX context.

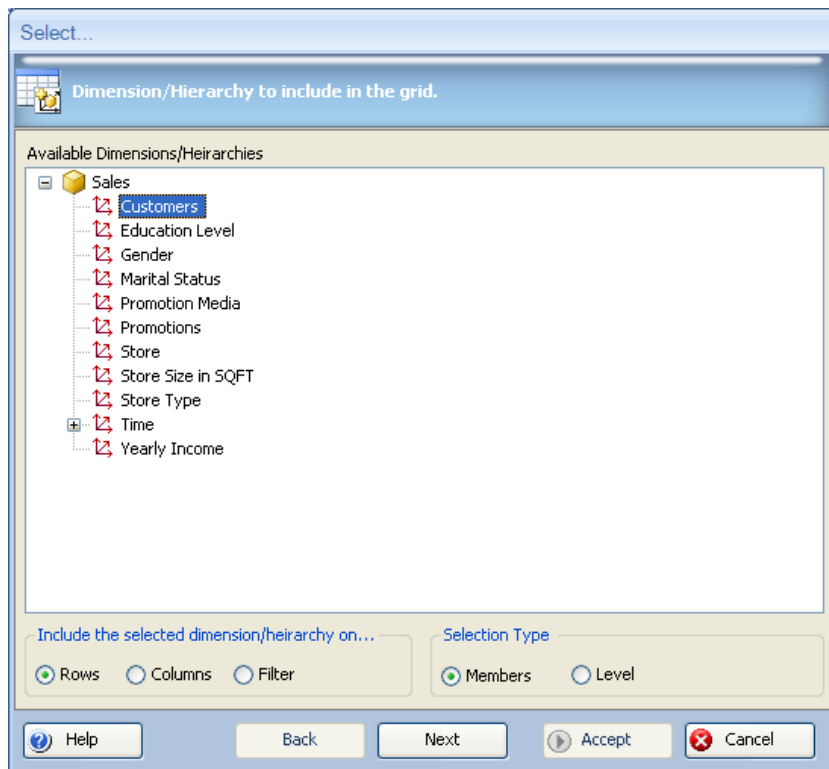
Add dimension/hierarchy

There is another way to add dimension:

- Select tab **Table** **Add dimension** button



Dialog will appear:



- Select **dimension** to add from the list
- Select where to add – **rows**, **columns** or **filter**
- Select whether to add **members** or **levels**
- Select **next**
- Select **elements**
- Select OK

This operation will preserve original MDX context.

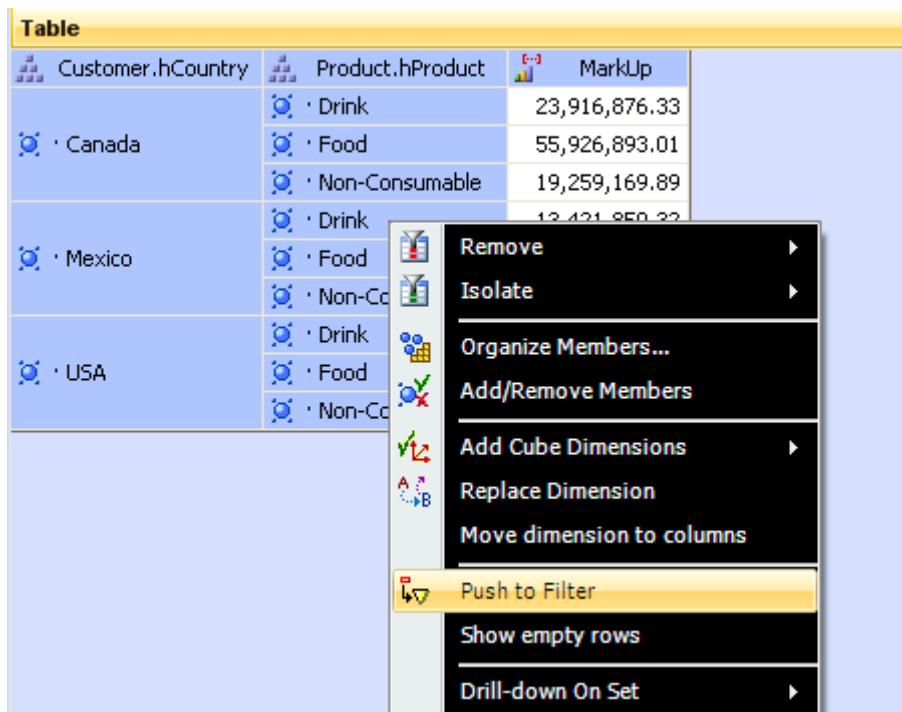
Push to filter

Push to filter is complex operation that will:

1. remove selected dimension from the table
2. add member from that dimension to filter

To perform this operation:

- Place mouse over dimension member in rows or columns that you want to push to filter axis
- Right click the mouse (we will do it over Drink)
- From menu select **Push to filter**



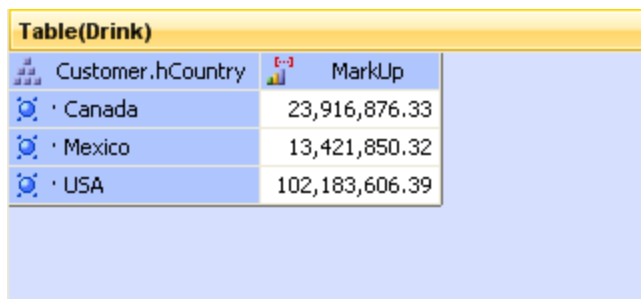
The screenshot shows a PivotTable with the following data:

Customer.hCountry	Product.hProduct	MarkUp
Canada	Drink	23,916,876.33
	Food	55,926,893.01
	Non-Consumable	19,259,169.89
Mexico	Drink	13,421,850.32
	Food	
	Non-Consumable	
USA	Drink	
	Food	
	Non-Consumable	

A context menu is open over the 'Drink' member under 'Mexico'. The menu options are:

- Remove
- Isolate
- Organize Members...
- Add/Remove Members
- Add Cube Dimensions
- Replace Dimension
- Move dimension to columns
- Push to Filter** (highlighted)
- Show empty rows
- Drill-down On Set

As you can see, dimension **Product** is removed from the table and member **Drink** is placed inside filter axis.



The resulting PivotTable, titled 'Table(Drink)', shows the 'Drink' member moved to the filter axis:

Customer.hCountry	MarkUp
Canada	23,916,876.33
Mexico	13,421,850.32
USA	102,183,606.39

This operation will preserve original MDX context.

Replace dimension and push to filter

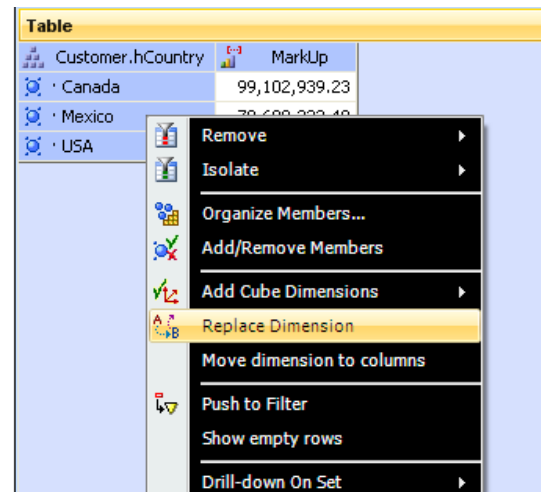
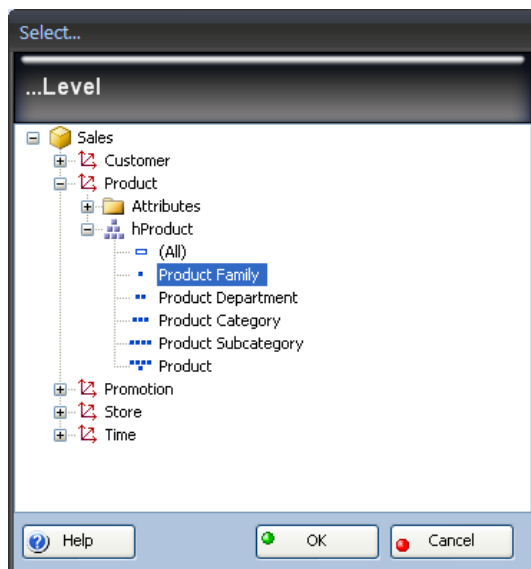
Replace dimension is complex operation that will:

3. remove selected dimension from the table
4. add member from that dimension to filter
5. add newly selected dimension to the table

To perform this operation:

- Place mouse over dimension member in rows or columns that you want to push to Filter axis
- Right click the mouse (we will do it over Mexico)
- From menu select **Replace dimension**

Dialog will appear:



From tree view you have to select new dimension that will replace “the old one”.

We will select level **Product Family** from **Product.hProduct** hierarchy.

Another dialog will appear where you can make even more precisely selection:

Select ...

... members

☒ Get all available members
This option will apply general expression Level.MEMBERS
(Warning: total of 4 members will be returned back)

☐ Show first "n" elements Maximum number of returned members

☐ Show last "n" elements 50

☐ Define simple restrictions for returned members

Return only members that ...

☒ begins with ☐ smaller than

☐ contains ☐ smaller or equal to

☐ ends with ☐ greater than

☐ equal to ☐ greater or equal to

String value to compare with

Maximum number of returned members 50

☐ Define complex restrictions for returned members

Help OK Cancel

We will select to return Entire Level, that means SelectedLevel.**ALLMEMBERS** will be added to our MDX command.

Table(Mexico)		
Product.hProduct	Markup	
· Drink	13,421,850.32	
· Food	43,248,403.59	
· Non-Consumable	14,009,968.58	

As you can see, instead of dimension **Customers** we have dimension **Products** and member **Mexico** is in filter axis.

This operation will preserve original MDX context.

Move dimension to opposite axis

To move dimension to opposite axis:

- Place mouse over dimension member in rows or columns that you want to move to opposite axis
- Right click the mouse
- From menu select **Move dimension to XXXX**

Where XXX will be rows if mouse is in **columns**

or **columns** if mouse is in **rows**

We will move Products from rows to columns.

Table			
Customer.hCountry	Product.hProduct	MarkUp	
Canada	Drink	23,916,876.33	
	Food	55,926,893.01	
	Non-Consumable		
Mexico	Drink		
	Food		
	Non-Consumable		
USA	Drink		
	Food		
	Non-Consumable		

As you can see, dimension Product is moved from rows to columns.

Table				
Customer.hCountry	Drink	Food	Non-Consumable	MarkUp
Canada	23,916,876.33	55,926,893.01	19,259,169.89	
Mexico	13,421,850.32	43,248,403.59	14,009,968.58	
USA	102,183,606.39	260,445,693.13	92,858,524.11	

This operation will preserve original MDX context.

Member operations

Available member operations are:

- Add/remove member(s)
- Add/remove measure(s)
- Remove member one by one
- Isolate member
 - Isolate more then ... or less then ...
 - Isolate best N or worst N
 - Isolate best N% or worst N%

Add-remove member(s)

Adding and removing member(s) from dimension can be done at the same time.

To add or remove dimension member or members:

- Place the mouse over column or row that belongs to desired **dimension**
- Right click
- Select **Add/Remove members**
- Select and deselect **members on the dialog**
- Select OK

Let us do it. Select dimension **Customers**.

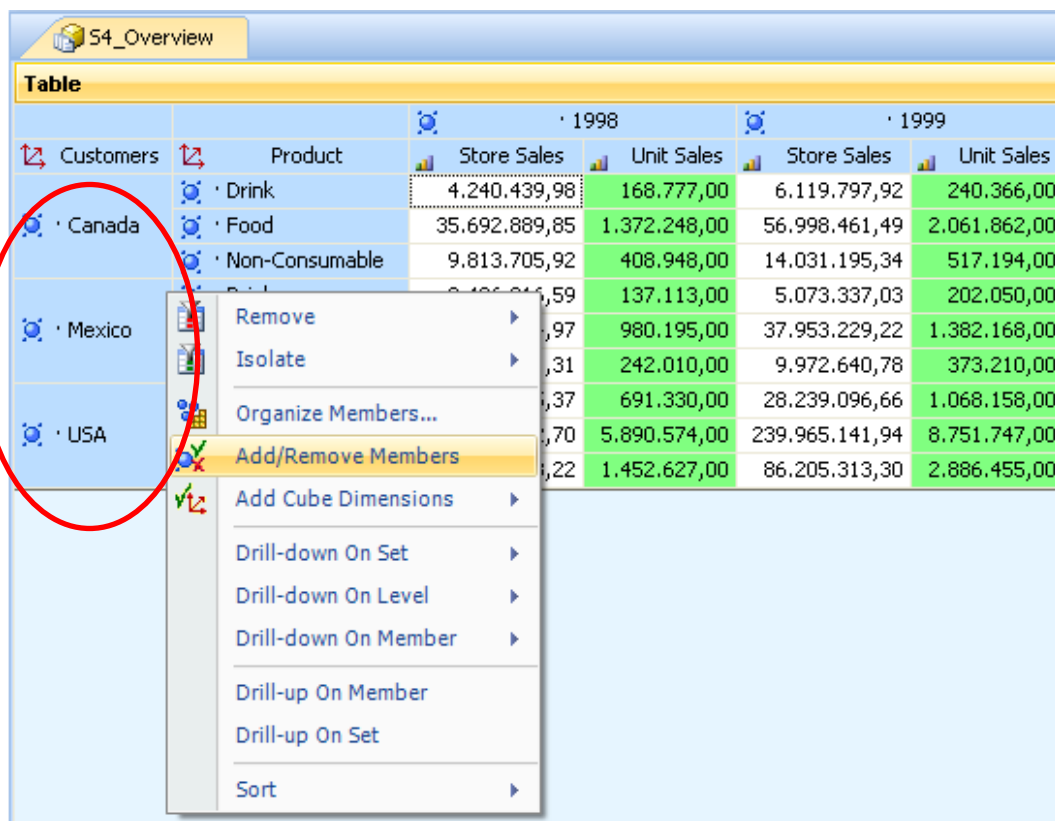
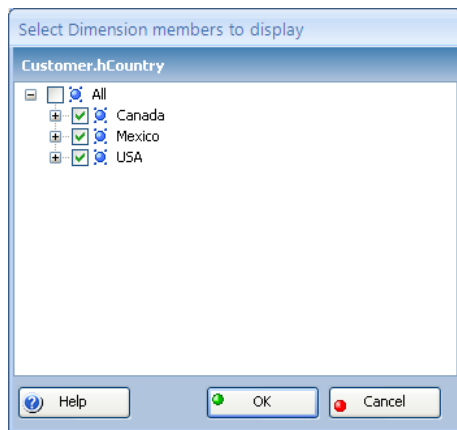


Table		· 1998		· 1999	
Customers	Product	Store Sales	Unit Sales	Store Sales	Unit Sales
· Drink	· Drink	4.240.439,98	168.777,00	6.119.797,92	240.366,00
· Canada	· Food	35.692.889,85	1.372.248,00	56.998.461,49	2.061.862,00
· Mexico	· Non-Consumable	9.813.705,92	408.948,00	14.031.195,34	517.194,00
· USA	· Drink	8.186.811,59	137.113,00	5.073.337,03	202.050,00
	· Food	1.970.970,97	980.195,00	37.953.229,22	1.382.168,00
	· Non-Consumable	1.310.310,31	242.010,00	9.972.640,78	373.210,00
	· Drink	1.370.370,37	691.330,00	28.239.096,66	1.068.158,00
	· Food	1.700.700,70	5.890.574,00	239.965.141,94	8.751.747,00
	· Non-Consumable	1.220.220,22	1.452.627,00	86.205.313,30	2.886.455,00

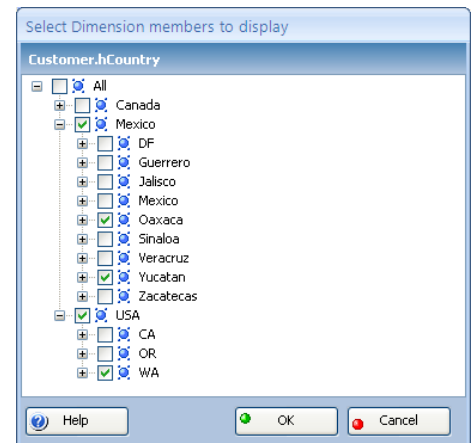
Select **Add/Remove Members** and you will get a form.



Now select members to be removed or/and select any member from any level to be added.

We will select

- **Mexico** and **Canada** to be removed
- States **Oaxaca** and **Yucatan** from **Mexico** and **WA** from **USA** to be added



Select OK.

54_Overview						
Table						
Customers	Product	1998		1999		
		Store Sales	Unit Sales	Store Sales	Unit Sales	
Oaxaca	Drink	349.829,83	13.217,00	373.969,71	15.944,00	
	Food	1.953.348,38	80.632,00	2.746.839,08	104.276,00	
	Non-Consumable	157.675,59	10.579,00	258.795,76	15.677,00	
Yucatan	Drink	514.901,54	16.744,00	780.331,56	26.626,00	
	Food	2.154.537,97	87.147,00	3.412.120,78	120.309,00	
	Non-Consumable	276.494,34	14.425,00	507.933,77	20.034,00	
USA	Drink	17.277.835,37	691.330,00	28.239.096,66	1.068.158,00	
	Food	151.000.932,70	5.890.574,00	239.965.141,94	8.751.747,00	
	Non-Consumable	36.457.093,22	1.452.627,00	86.205.313,30	2.886.455,00	
WA	Drink	4.017.163,45	164.218,00	7.698.965,13	287.198,00	
	Food	44.168.710,18	1.722.881,00	68.732.224,82	2.496.299,00	
	Non-Consumable	12.218.693,63	475.145,00	43.871.017,95	1.327.214,00	

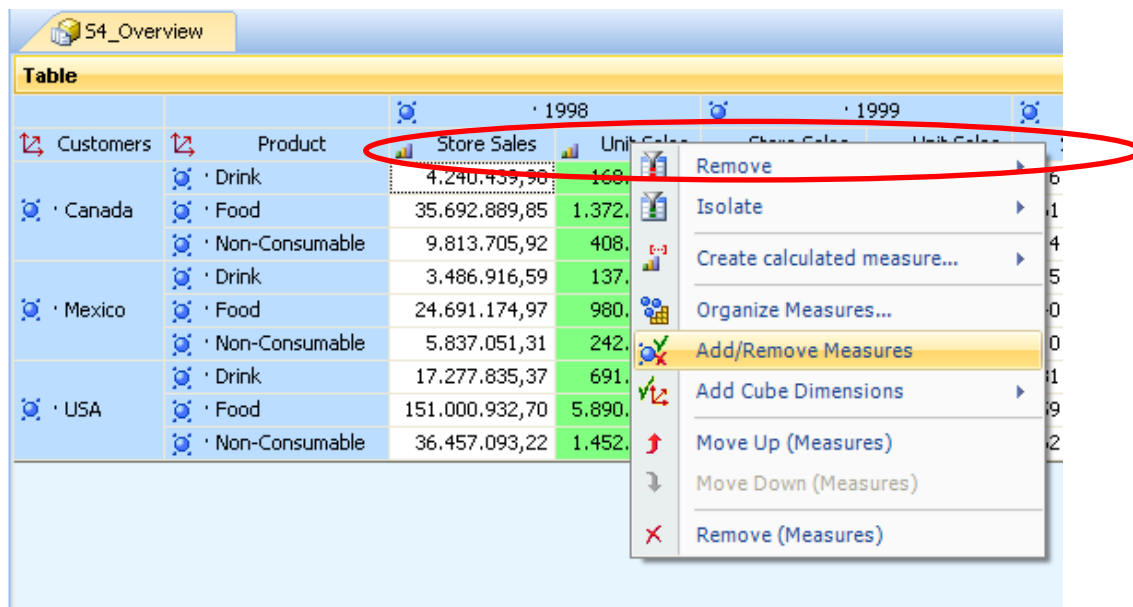
This operation will preserve original MDX context.

Add-remove measure(s)

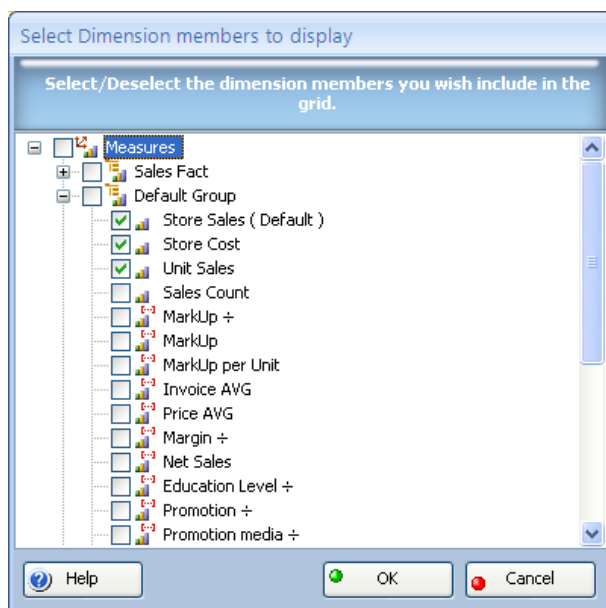
Adding and removing measure(s) from dimension can be done at the same time.

To add or remove measure(s):

- Place mouse over any measure
- Right click
- Select **Add/Remove member**



Dialog will appear.



Select measures;

- To be **removed**

- To be **added**
- Select OK.

We will remove measure **Unit Sales** and we will add measure **Store Cost**.

S4_Overview						
Table						
Customers	Product	1998		1999		
		Store Sales	Store Cost	Store Sales	Store Cost	
Canada	Drink	4.240.439,98	3.391.619,81	6.119.797,92	4.666.726,05	
	Food	35.692.889,85	28.481.126,52	56.998.461,49	43.352.768,41	
	Non-Consumable	9.813.705,92	7.877.666,11	14.031.195,34	10.671.297,62	
Mexico	Drink	3.486.916,59	2.788.372,37	5.073.337,03	3.877.483,49	
	Food	24.691.174,97	19.738.382,56	37.953.229,22	28.859.206,87	
	Non-Consumable	5.837.051,31	4.678.124,76	9.972.640,78	7.626.142,42	
USA	Drink	17.277.835,37	13.826.390,75	28.239.096,66	21.553.815,04	
	Food	151.000.932,70	120.633.304,91	239.965.141,94	182.543.148,92	
	Non-Consumable	36.457.093,22	29.138.861,52	86.205.313,30	65.614.259,34	

If there is no measures at the table use Add dimension to add measures.

This operation will preserve original MDX context.

Remove member – one by one

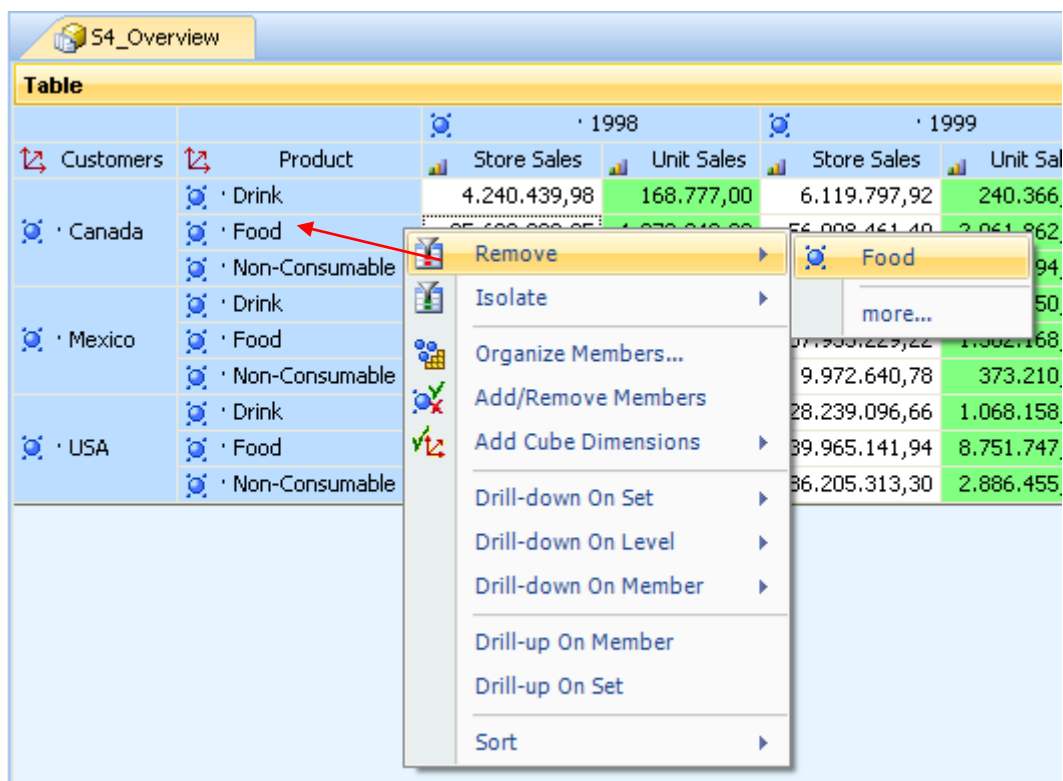
To remove one member from the result set:

Simple and Partial view

- Place mouse over **member**
- Right click
- Select Remove from menu
- Select **member** from submenu

Full view

- Select cell that belongs to that member
- Right click
- Select Remove from menu
- Select **member** from submenu



The screenshot shows a data table titled 'S4_Overview' with a 'Table' tab selected. The table has columns for 'Customers', 'Product', and sales data for the years 1998 and 1999. The 'Customers' column lists 'Canada', 'Mexico', and 'USA'. The 'Product' column lists 'Drink', 'Food', and 'Non-Consumable'. The '1998' columns are 'Store Sales' and 'Unit Sales', and the '1999' columns are 'Store Sales' and 'Unit Sales'. A right-click context menu is open over the 'Food' member under 'Canada'. The menu options are: Remove, Isolate, Organize Members..., Add/Remove Members, Add Cube Dimensions, Drill-down On Set, Drill-down On Level, Drill-down On Member, Drill-up On Member, Drill-up On Set, and Sort. The 'Remove' option is highlighted, and a submenu is open showing 'Food' and 'more...'. A red arrow points from the 'Food' member in the table to the 'Remove' option in the context menu.

Customers	Product	1998 Store Sales	1998 Unit Sales	1999 Store Sales	1999 Unit Sales
Canada	Drink	4.240.439,98	168.777,00	6.119.797,92	240.366
Canada	Food			56.008.461,40	2.061.962
Canada	Non-Consumable				94
Mexico	Drink				50
Mexico	Food			9.972.640,78	373.210
Mexico	Non-Consumable			28.239.096,66	1.068.158
USA	Drink			39.965.141,94	8.751.747
USA	Food			36.205.313,30	2.886.455
USA	Non-Consumable				

We have selected member **Food**.

S4_Overview					
Table					
Customers	Product	· 1998		· 1999	
		Store Sales	Unit Sales	Store Sales	Unit Sales
· Canada	· Drink	4.240.439,98	168.777,00	6.119.797,92	240.366,00
	· Non-Consumable	9.813.705,92	408.948,00	14.031.195,34	517.194,00
· Mexico	· Drink	3.486.916,59	137.113,00	5.073.337,03	202.050,00
	· Non-Consumable	5.837.051,31	242.010,00	9.972.640,78	373.210,00
· USA	· Drink	17.277.835,37	691.330,00	28.239.096,66	1.068.158,00
	· Non-Consumable	36.457.093,22	1.452.627,00	86.205.313,30	2.886.455,00

Member **Food** from **Product** dimension is no longer there.

If you need to remove more members:

- Select More from menu
- Uncheck those **members** that has to be removed
- Select OK

This operation will preserve original MDX context.

Isolate member

To isolate one member from one dimension:

- Place mouse over **member**
- Right click
- Select Isolate from menu
- Select **member** from submenu

54_Overview

Table

Customers	Product	· 1998		· 1999	
		Store Sales	Unit Sales	Store Sales	Unit Sales
· Canada	· Drink	4.240.439,98	168.777,00	6.119.797,92	240.366,00
	· Food			56.998.461,49	2.061.862,00
	· Non-Consumables				
· Mexico	· Drink				7.194,00
	· Food				2.050,00
	· Non-Consumables				2.168,00
· USA	· Drink			9.972.640,78	373.210,00
	· Food			28.239.096,66	1.068.158,00
	· Non-Consumables			239.965.141,94	8.751.747,00
				86.205.313,30	2.886.455,00

Selected member will remain the only one from that dimension (in our case **Drink**).

54_Overview

Table

Customers	Product	· 1998		· 1999	
		Store Sales	Unit Sales	Store Sales	Unit Sales
· Canada	· Drink	4.240.439,98	168.777,00	6.119.797,92	240.366,00
· Mexico	· Drink	3.486.916,59	137.113,00	5.073.337,03	202.050,00
· USA	· Drink	17.277.835,37	691.330,00	28.239.096,66	1.068.158,00

This operation will preserve original MDX context.

More then or Less then

Those functions are basically implementation of MDX Filter functions.

To apply function to selected column:

- Place mouse over data area inside one of the columns
- Right click
- Select Isolate from menu
- Select options
 - More then or equal to cell value
 - Less then or equal to cell value

		· 2000		· 2001		· 2002	
Customers	Product	Store Sales	Unit Sales	Store Sales	Unit Sales	Store Sales	Unit Sales
· Canada	· Drink	6.578.317,79	340.817,00	7.830.472,17	498.138,00	8.658.355,19	559.560,00
	· Food	61.749.995,97	3.009.050,00	72.750.162,72	4.359.584,00	73.505.513,64	4.497.612,00
	· Non-Consumable	14.400.183,60	7			8.681.456,57	1.210.904,00
· Mexico	· Drink	5.517.802,21	2				
	· Food	40.917.597,2	2.0				
· USA	· Non-Consumable	10.144.056,00	5				
	· Drink	31.518.160,63	1.5				
	· Food	259.340.117,2	12.7				
	· Non-Consumable	62.620.453,71	3.2				

According to your selection results will be shown at the result table.

As we can see all members with Unit Sales greater then 3.009.050,00 for Year 2000 remained at the table.

		· 2000		· 2001	
Customers	Product	Store Sales	Unit Sales	Store Sales	Unit Sales
· Canada	· Food	61.749.995,97	3.009.050,00	72.750.162,72	4.359.584,00
· USA		259.340.117,2	12.750.603,00	304.380.275,93	18.511.441,00
	· Non-Consumable	62.620.453,7	3.212.537,00	73.483.546,32	4.657.233,00

NOTE: There is a possibility that cell member selected for operation will not be at the result.

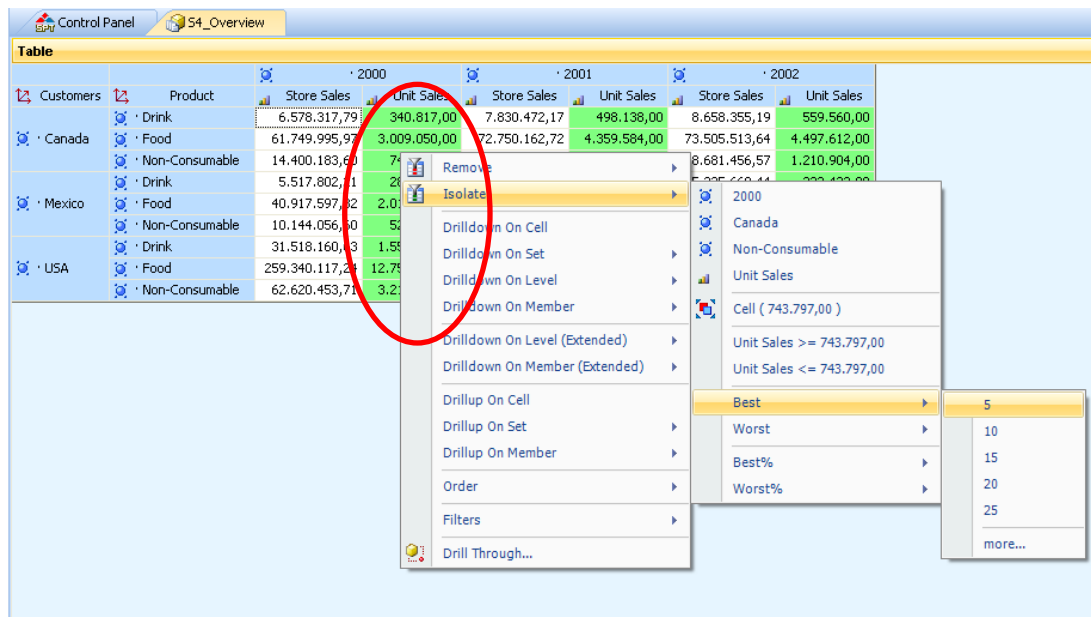
This operation will preserve original MDX context.

Best N or Worst N

Those functions are basically implementation of MDX TopCount and BottomCount functions.

To apply function to selected column:

- Place mouse over data area inside one of the columns
- Right click
- Select Isolate from menu
- Select options
 - Best
 - Worst



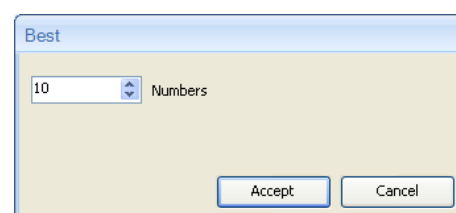
According to your selection Best N or Worst N will be shown at the result table. In our case best 5 in 1998 for Measure Sales Count.

		· 2000		· 2001	
Customers	Product	Store Sales	Unit Sales	Store Sales	Unit Sales
· USA	· Food	259.340.117,24	12.750.603,00	304.380.275,93	18.511.441,00
	· Non-Consumable	62.620.453,71	3.212.537,00	73.483.546,32	4.657.233,00
· Canada	· Food	61.749.995,97	3.009.050,00	72.750.162,72	4.359.584,00
· Mexico	· Food	40.917.597,82	2.013.681,00	48.267.732,22	2.934.160,00
· USA	· Drink	31.518.160,63	1.554.884,00	36.785.353,25	2.250.139,00

If you select **more ...** dialog will appear:

Here you can select value as you like.

This operation will preserve original MDX context.

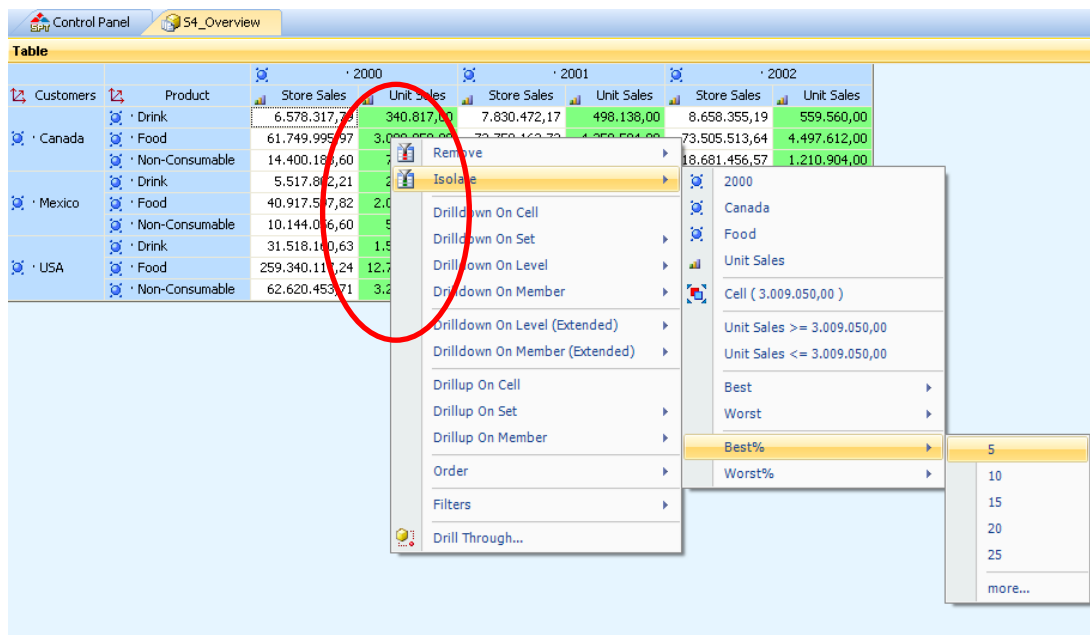


Best N% or Worst N%

Those functions are basically implementation of MDX TopPercent and BottomPercent functions.

To apply function to selected column:

- Place mouse over data area inside one of the columns
- Right click
- Select Isolate from menu
- Select options
 - Best %
 - Worst %



According to your selection Best N% or Worst N% will be shown at the result table.

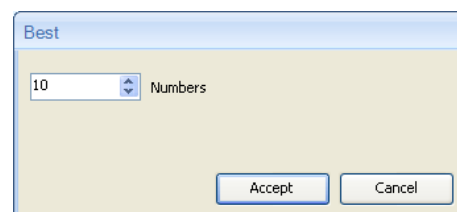
In our case best 5% (Sum of best members that contributes with 5% in total contribution of the column) in 1998 for Measure Sales Count.

		· 2000		· 2001	
Customers	Product	Store Sales	Unit Sales	Store Sales	Unit Sales
· USA	· Food	259.340.117,24	12.750.603,00	304.380.275,93	18.511.441,00

If you select **more ...** dialog will appear:

Here you can select value as you like.

This operation will preserve original MDX context.



Filter operations

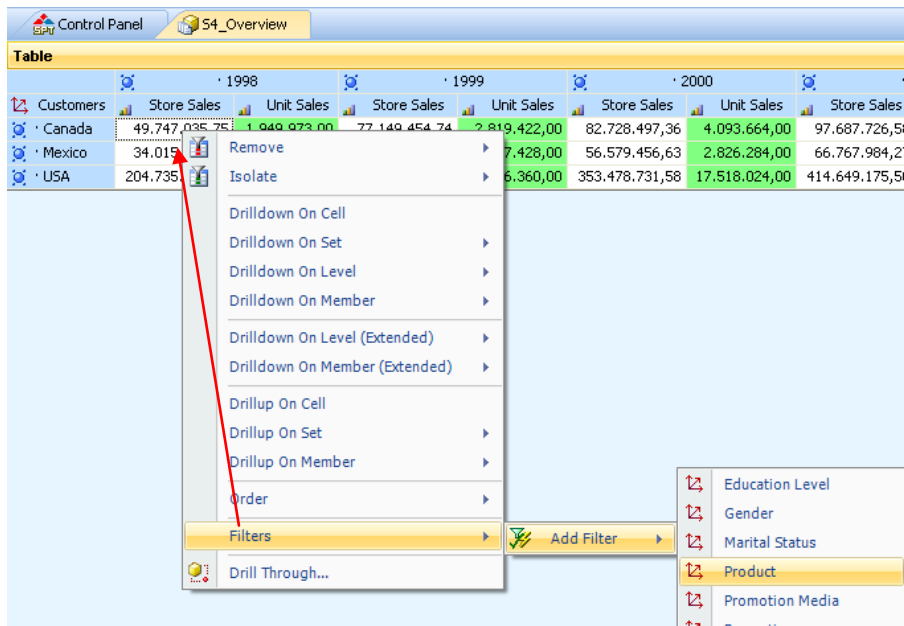
Available filter operations are:

- Add filter
- Remove filter
- Replace filter
- Push to filter (described in Dimension/hierarchy operations)
- Replace and push to filter (described in Dimension/hierarchy operations)

Add Filter

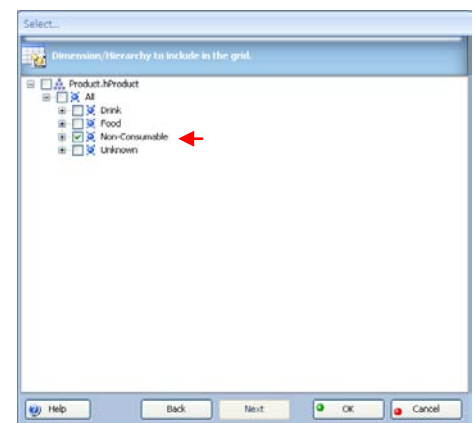
To add filter (member or members on filter axis):

- Select ANY data cell
- Right click
- Select Add Filter from menu
- Select **Dimension or Hierarchy** from submenu



Dialog will appear:

- Select member(s) to replace filter **Food**
- Select OK



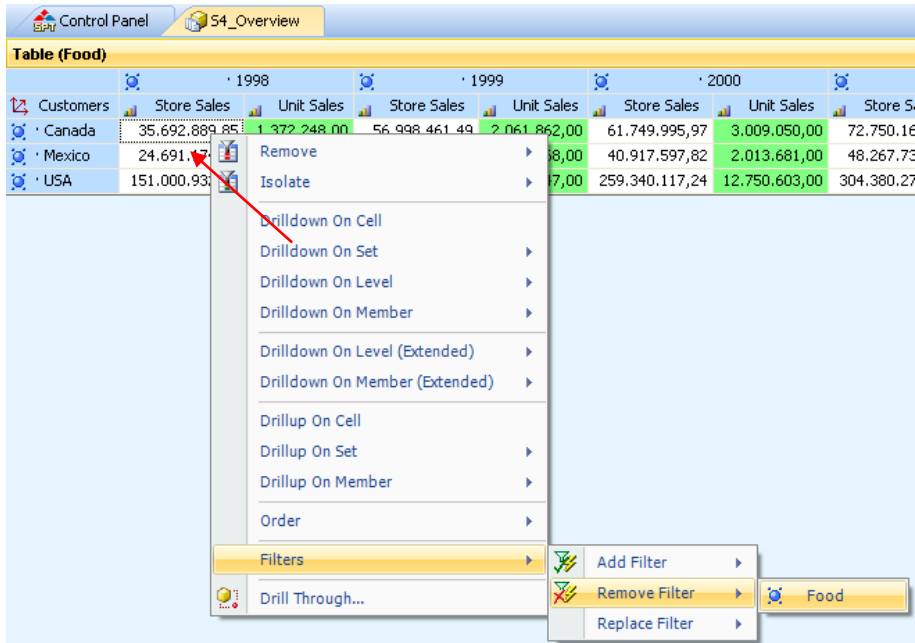
Control Panel		S4_Overview			
Table (Non-Consumable)					
		1998		1999	
Customers	Store Sales	Unit Sales	Store Sales	Unit Sales	
Canada	9.813.705,92	408.948,00	14.031.195,34	517.194,00	
Mexico	5.837.051,31	242.010,00	9.972.640,78	373.210,00	
USA	36.457.093,22	1.452.627,00	86.205.313,30	2.886.455,00	

This operation will preserve original MDX context.

Remove Filter

To remove filter member:

- Select ANY data cell
- Right click
- Select Remove Filter from menu
- Select **Filter (Food)**

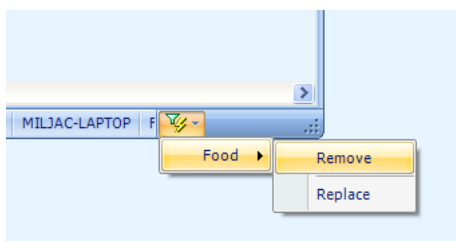


Filter is removed.

The screenshot shows the SAP BW Control Panel interface. The main table is titled 'Table' and displays data for the years 1998 and 1999. The columns are 'Customers', 'Store Sales', and 'Unit Sales'. The rows are 'Canada', 'Mexico', and 'USA'. The 'Table' header is circled in red.

	1998	1999
Customers	Store Sales	Unit Sales
Canada	49.747.035,75	1.949.973,00
Mexico	34.015.142,88	1.359.318,00
USA	204.735.861,29	8.034.531,00

The other way is to select icon in lower right corner and select options from menu:

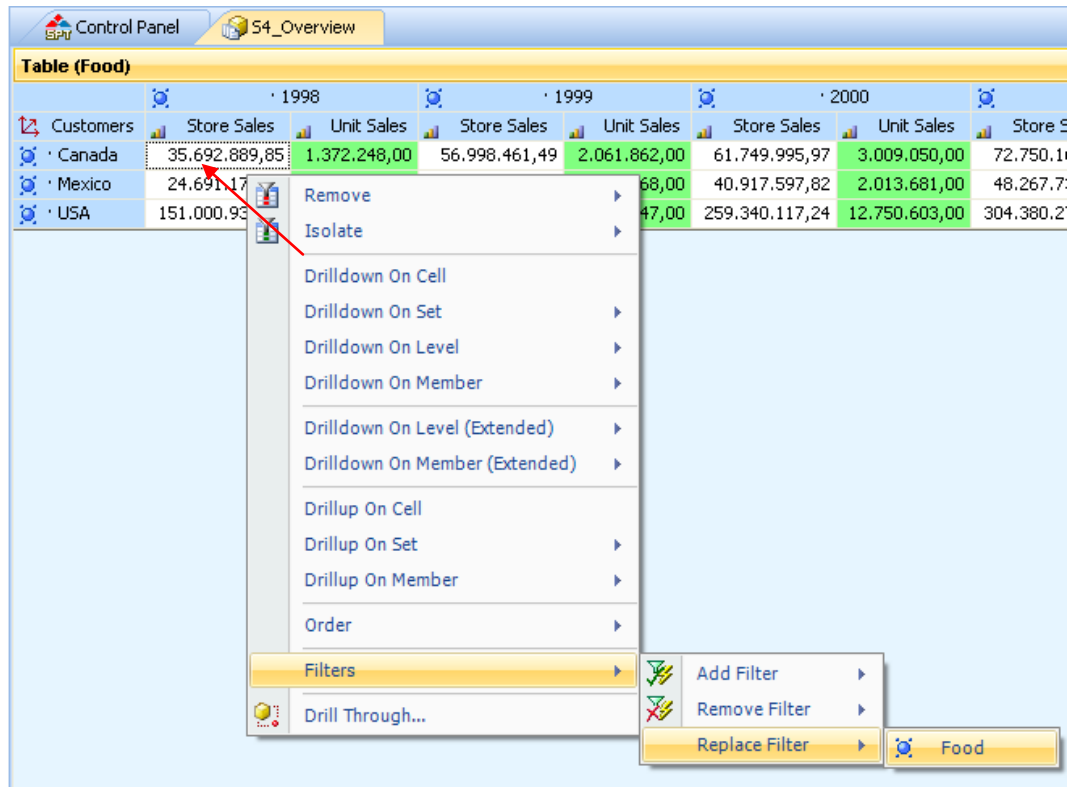


This operation will preserve original MDX context.

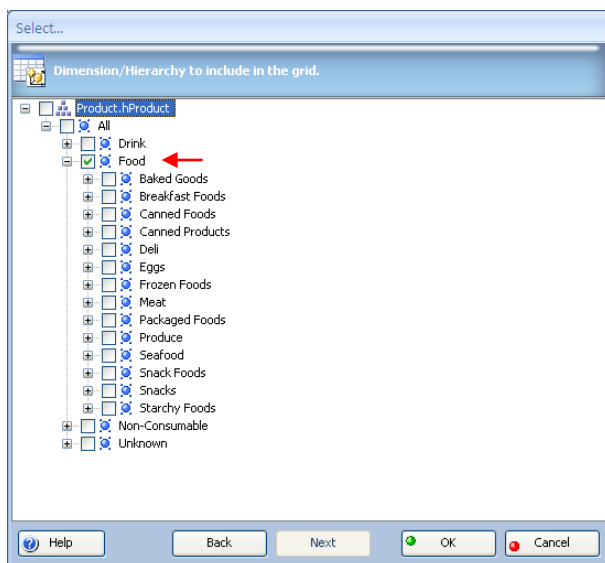
Replace Filter

To replace filter member:

- Select ANY data cell
- Right click
- Select Replace Filter from menu
- Select **Filter (Food)**

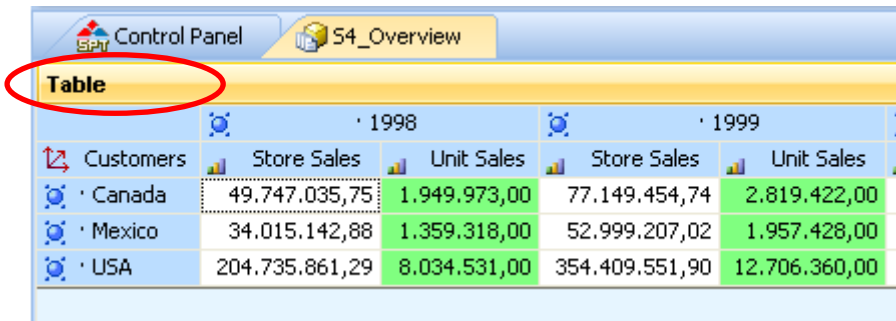


Dialog will appear.



- Select member(s) to add to filter axis (**Food**)
- Select OK

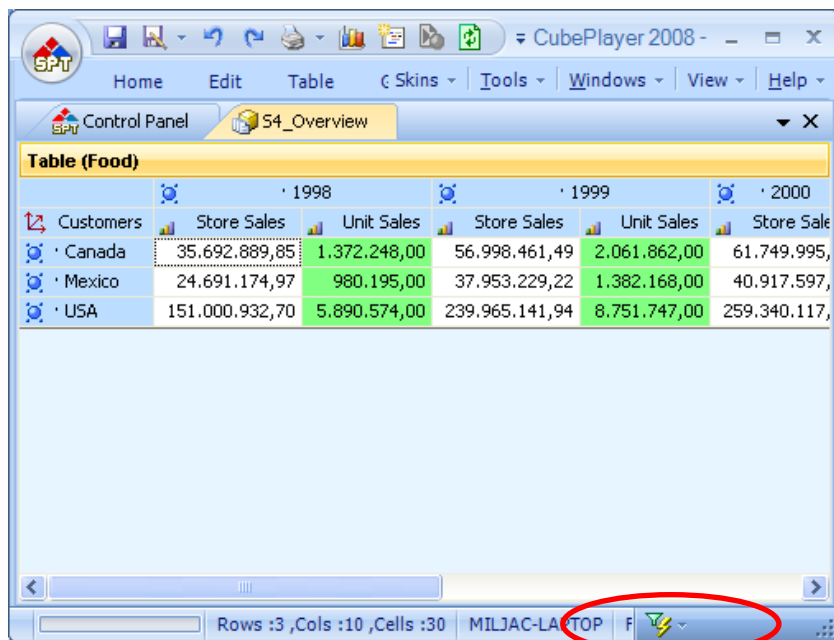
Filter is removed.



The screenshot shows the SPT Control Panel with the 'Table' tab selected. The table displays sales data for 1998 and 1999, categorized by Customers (Canada, Mexico, USA) and Store Sales/Unit Sales.

	1998		1999	
Customers	Store Sales	Unit Sales	Store Sales	Unit Sales
Canada	49.747.035,75	1.949.973,00	77.149.454,74	2.819.422,00
Mexico	34.015.142,88	1.359.318,00	52.999.207,02	1.957.428,00
USA	204.735.861,29	8.034.531,00	354.409.551,90	12.706.360,00

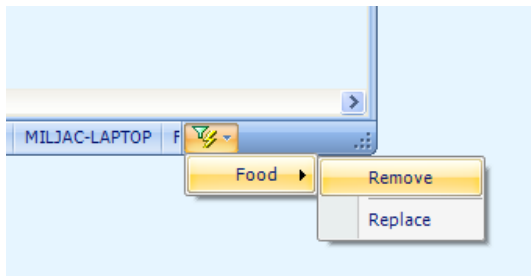
To perform same operation you can use lower left corner of application:



The screenshot shows the CubePlayer 2008 application window. The 'Table (Food)' tab is selected. The status bar at the bottom shows 'Rows :3 ,Cols :10 ,Cells :30'. A red circle highlights the 'F' icon and the 'Remove' button in the status bar.

	1998		1999		2000	
Customers	Store Sales	Unit Sales	Store Sales	Unit Sales	Store Sales	Unit Sales
Canada	35.692.889,85	1.372.248,00	56.998.461,49	2.061.862,00	61.749.995,00	2.211.111,00
Mexico	24.691.174,97	980.195,00	37.953.229,22	1.382.168,00	40.917.597,00	1.451.111,00
USA	151.000.932,70	5.890.574,00	239.965.141,94	8.751.747,00	259.340.117,00	9.451.111,00

Select icon and select options from menu:



This operation will preserve original MDX context.

Show/hide empty rows/columns

To remove/add NON EMPTY keyword, other words to show/hide empty rows/columns:

- Place mouse over dimension member in rows or columns
- Right click
- Select **Show empty ...** or **Hide empty ...**
(CubePlayer will automatically detect what is available show or hide)

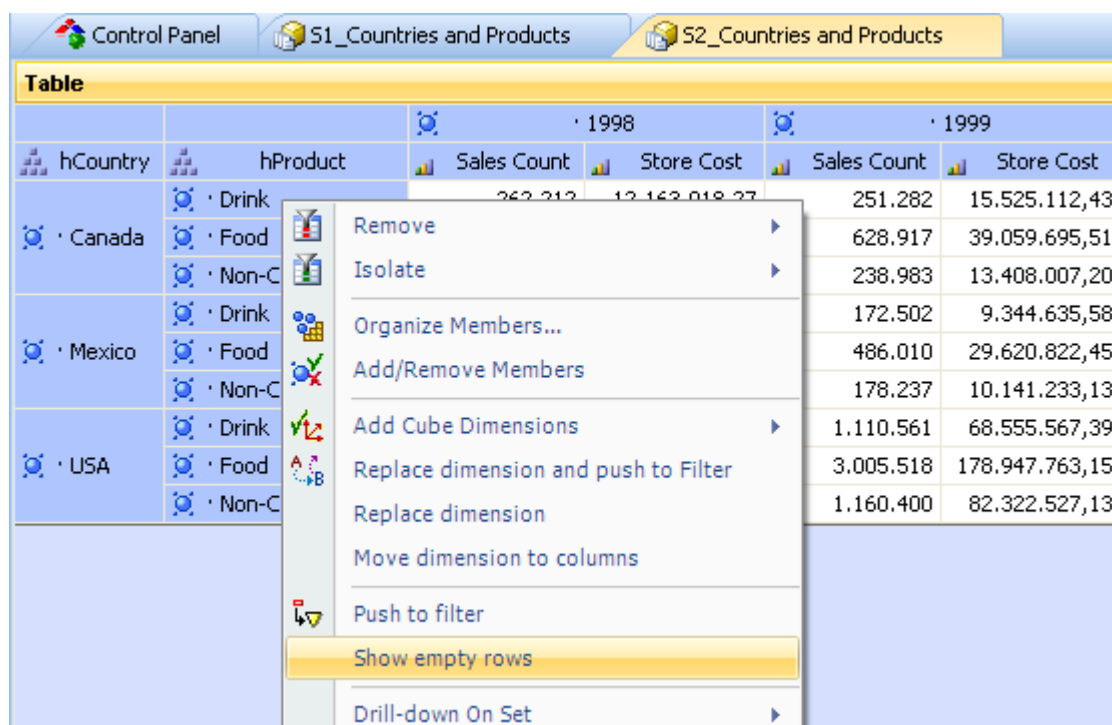


Table		· 1998		· 1999	
hCountry	hProduct	Sales Count	Store Cost	Sales Count	Store Cost
· Canada	· Drink	262.212	12.163.918,27	251.282	15.525.112,43
	· Food			628.917	39.059.695,51
	· Non-C			238.983	13.408.007,20
· Mexico	· Drink			172.502	9.344.635,58
	· Food			486.010	29.620.822,45
	· Non-C			178.237	10.141.233,13
· USA	· Drink			1.110.561	68.555.567,39
	· Food			3.005.518	178.947.763,15
	· Non-C			1.160.400	82.322.527,13

After selection execution will be performed:

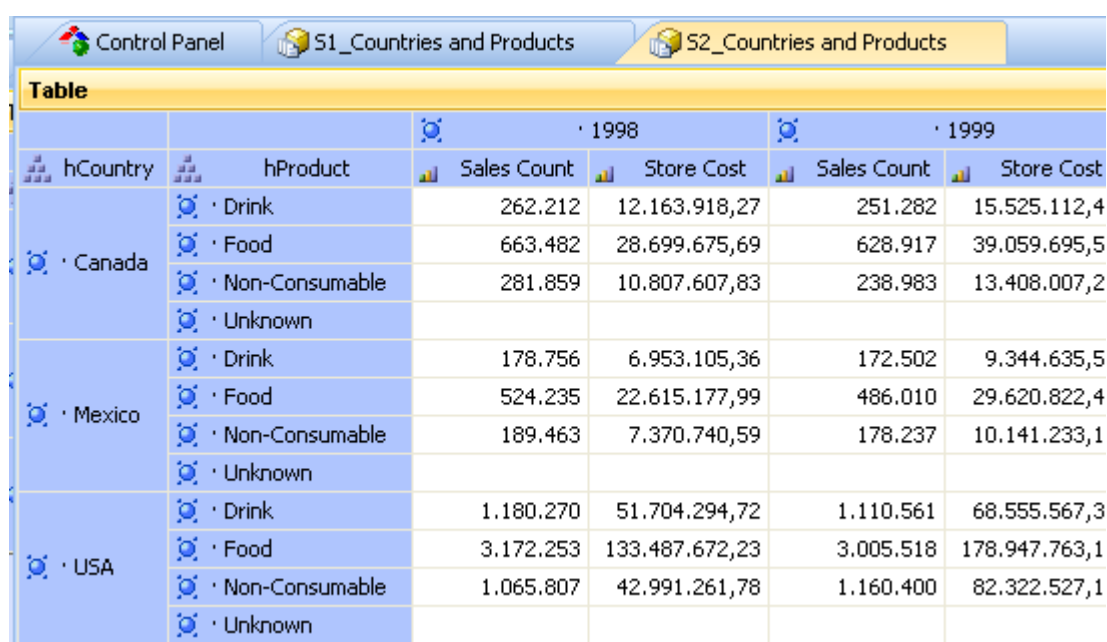
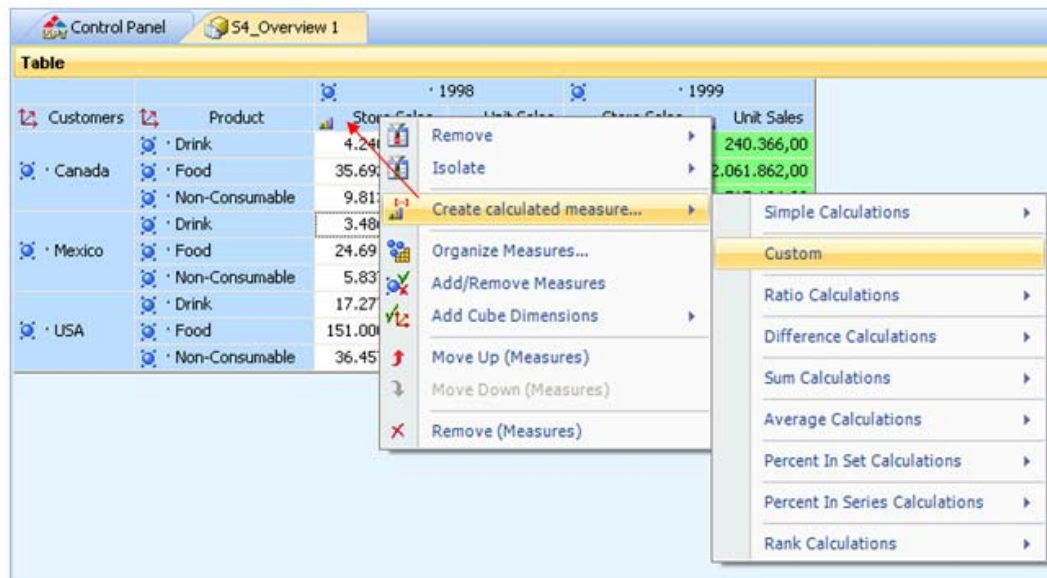


Table		· 1998		· 1999	
hCountry	hProduct	Sales Count	Store Cost	Sales Count	Store Cost
· Canada	· Drink	262.212	12.163.918,27	251.282	15.525.112,4
	· Food	663.482	28.699.675,69	628.917	39.059.695,5
	· Non-Consumable	281.859	10.807.607,83	238.983	13.408.007,2
	· Unknown				
· Mexico	· Drink	178.756	6.953.105,36	172.502	9.344.635,5
	· Food	524.235	22.615.177,99	486.010	29.620.822,4
	· Non-Consumable	189.463	7.370.740,59	178.237	10.141.233,1
	· Unknown				
· USA	· Drink	1.180.270	51.704.294,72	1.110.561	68.555.567,3
	· Food	3.172.253	133.487.672,23	3.005.518	178.947.763,1
	· Non-Consumable	1.065.807	42.991.261,78	1.160.400	82.322.527,1
	· Unknown				

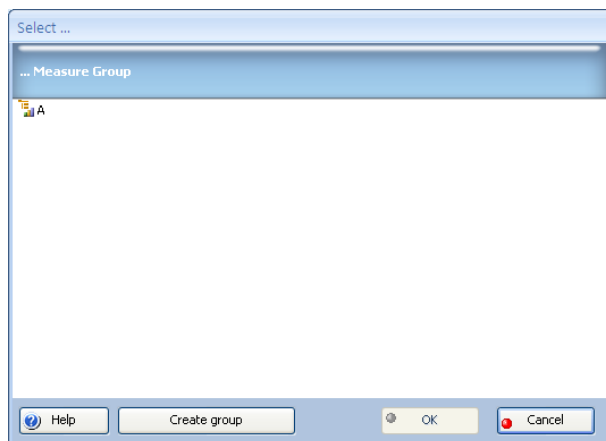
Create calculated measure

On any table:

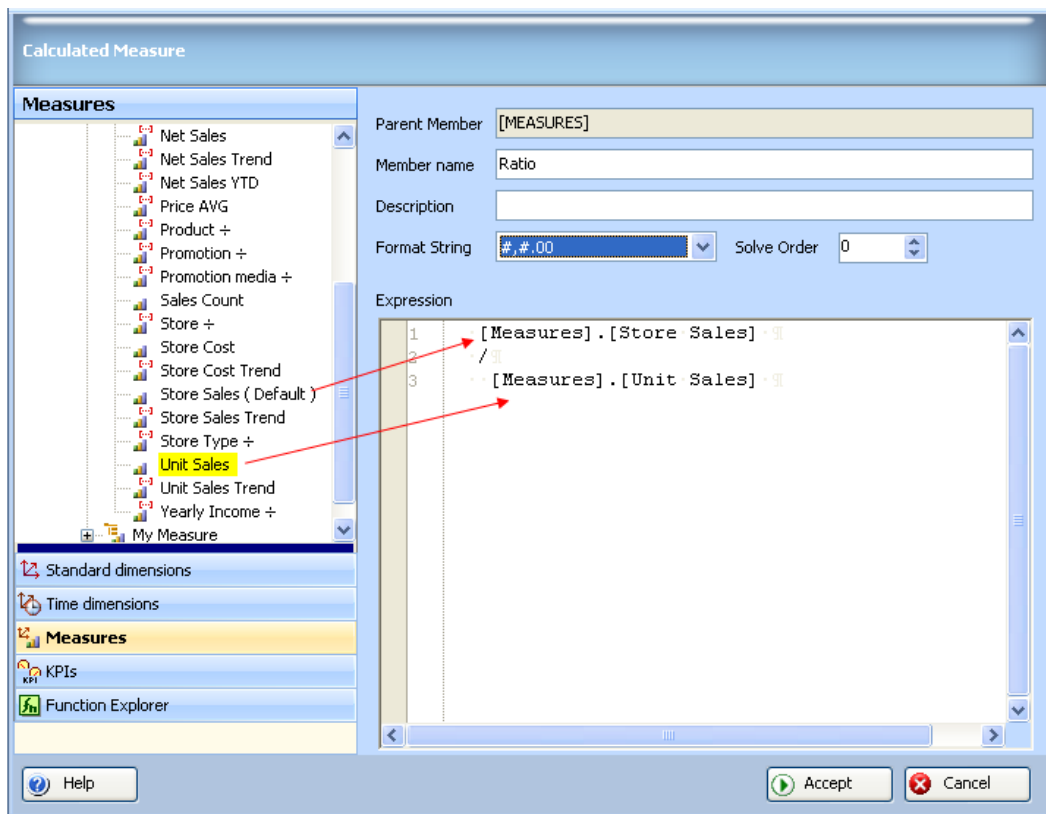
- Place mouse over existing measure
- Right click
- Select **Create calculated measure** from popup menu
- Select **Custom** from submenu



Select measure group will appear, select one or if there is no group create one.



Create calculate measure form will appear.



In this case we will calculate ratio between **Store Sales** and **Unit Sales**.

- Use left sided **Cube Explorer** to drag and drop measures.
- Give the name your new measure (**Ratio**)
- Select OK.

Control Panel		S4_Overview 1				
Table						
		· 1998				
Customers	Product	Store Sales	Unit Sales	Ratio	Store	
· Canada	· Drink	4.240.439,98	168.777,00	25,12	6.119	
	· Food	35.692.889,85	1.372.248,00	26,01	56.998	
	· Non-Consumable	9.813.705,92	408.948,00	24,00	14.031	
· Mexico	· Drink	3.486.916,59	137.113,00	25,43	5.073	
	· Food	24.691.174,97	980.195,00	25,19	37.953	
	· Non-Consumable	5.837.051,31	242.010,00	24,12	9.972	
· USA	· Drink	17.277.835,37	691.330,00	24,99	28.239	
	· Food	151.000.932,70	5.890.574,00	25,63	139.965	
	· Non-Consumable	36.457.093,22	1.452.627,00	25,10	86.205	

Predefined calculated measures

CubePlayer offers several predefined measures that can be applied directly at the result table:

1. Ratio calculations
 1. Ratio-to-parent for members on rows
2. Difference Calculations
 1. Simple
 2. Percent
 3. Index
3. Sum Calculations
 1. Right (Rows)
 2. Bottom (Columns)
 3. Both
4. Average Calculations
 1. Right (Rows)
 2. Bottom (Columns)
 3. Both
5. Percent In Set Calculations
6. Percent In Series Calculations
7. Rank Calculations

Those calculations are MDX calculations. It is not just a view.

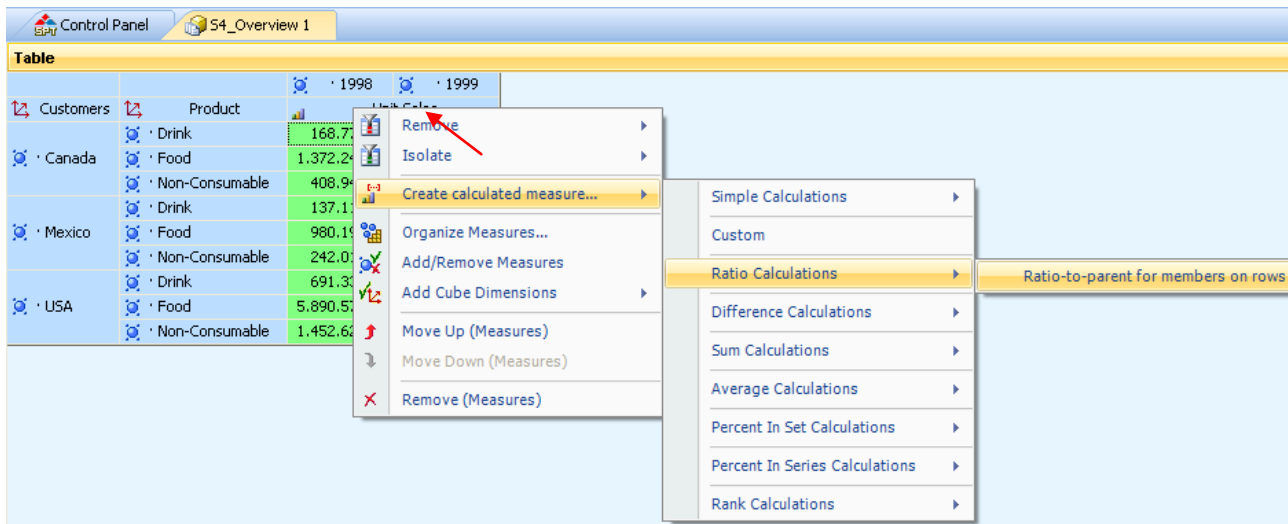
NOTE: After adding Rank calculation any attempt to add new dimension or remove existing dimension from topple will result with wrong MDX.

NOTE: Ratio Calculation is always calculated on the first dimension inside axis basis.

Ratio to parent calculation

To apply Ratio to parent:

- Select **measure from set** to be applied new calculation (**Store Sales**)
- Select **Create calculated measure** from menu
- Select any calculation type (**Ratio calculations**) from submenu
- Select any subtype (**Ratio-to-parent from members on rows**) from submenu



Results will appear:

		· 1998		· 1999	
Customers	Product	Unit Sales	Unit Sales % of Row Parent	Unit Sales	Unit Sales % of Row Parent
· Canada	· Drink	168.777,00	8,66%	240.366,00	8,53%
	· Food	1.372.248,00	70,37%	2.061.862,00	73,13%
	· Non-Consumable	408.948,00	20,97%	517.194,00	18,34%
· Mexico	· Drink	137.113,00	10,09%	202.050,00	10,32%
	· Food	980.195,00	72,11%	1.382.168,00	70,61%
	· Non-Consumable	242.010,00	17,80%	373.210,00	19,07%
· USA	· Drink	691.330,00	8,60%	1.068.158,00	8,41%
	· Food	5.890.574,00	73,32%	8.751.747,00	68,88%
	· Non-Consumable	1.452.627,00	18,08%	2.886.455,00	22,72%

This operation will preserve original MDX context.

Difference

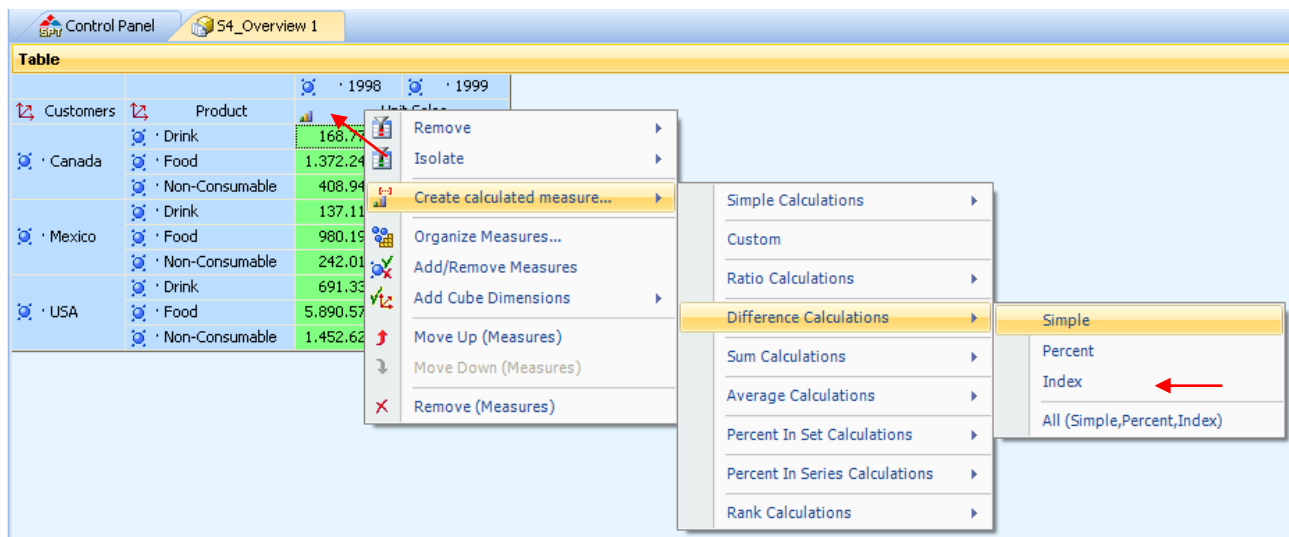
You can select between three types of Difference:

- Simple $A - B$ number format A is previous column and B is next column
- Percent $B / (B - A)$ % format A is previous column and B is next column
- Index $B / (B - A)$ number format A is previous column and B is next column
- All apply all at once

Those operations will preserve original MDX context.

To select Index difference;

- Select **measure from set** to be applied new calculation (**Store Sales**)
- Select **Difference calculation** from menu
- Select **Index difference** from menu



Results will appear:

Table		1998	1999	
Customers	Product	Unit Sales	Unit Sales	Unit Sales Diff-I
Canada	Drink	168.777,00	240.366,00	1,42
	Food	1.372.248,00	2.061.862,00	1,50
	Non-Consumable	408.948,00	517.194,00	1,26
Mexico	Drink	137.113,00	202.050,00	1,47
	Food	980.195,00	1.382.168,00	1,41
	Non-Consumable	242.010,00	373.210,00	1,54
USA	Drink	691.330,00	1.068.158,00	1,55
	Food	5.890.574,00	8.751.747,00	1,49
	Non-Consumable	1.452.627,00	2.886.455,00	1,99

This operation will preserve original MDX context.

Sum

Sum:

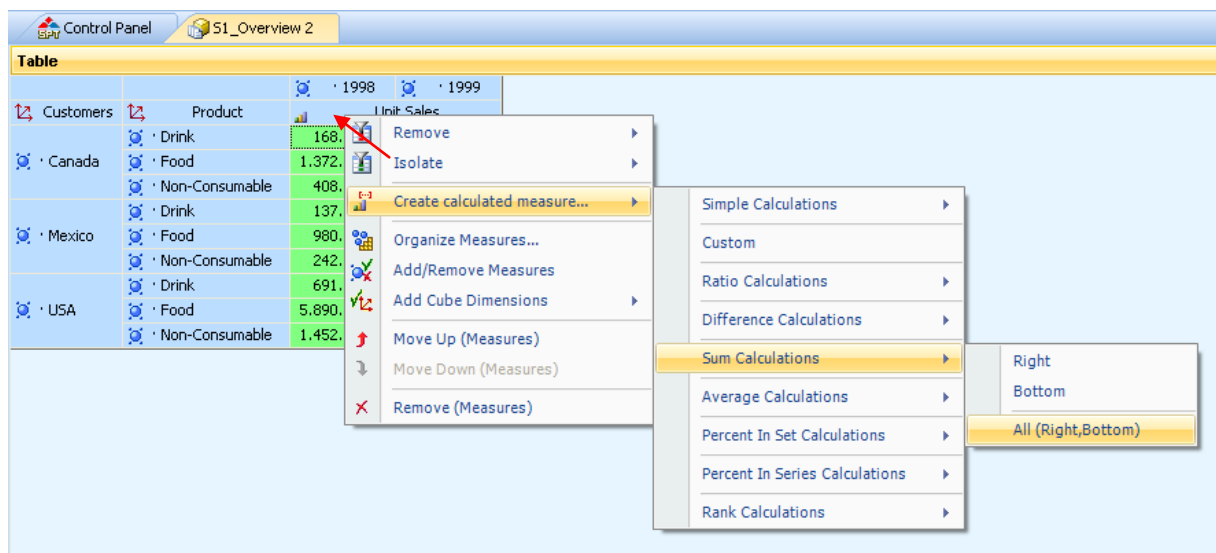
- is sum of all cells that belong to one column or one row for each measure within result set table

Be careful, this is a type of relative calculation. It means if any measure at result table is calculated measure it will not display result of column's calculations but instead of that it will evaluate measure expression against entire set

Different example are predefined views for each table. Those calculations are absolute type of calculations. They will perform mathematical operation in crud way. That means for example if you have percentage values and you want to see sums, on sum table view it will calculate each cell. Therefore result can be more than 100%.

To select sum;

- Select **measure from set** to apply new calculation (**Store Sales**)
- Select **Sum calculation** from menu
- Select one of sum calculation types from submenu
 - Right sum sum for entire row
 - Bottom sum sum for each column
 - All sums (right and bottom) both, row and column sum displayed



Results will appear:

The screenshot shows the same SAP BW Control Panel interface, but now with sum calculations applied. The 'Unit Sales' column has been replaced by 'Unit Sales (Total)'. The 'Total' column is circled in red, and the 'Total' row is also circled in red.

Customers	Product	1998	1999	Total
Canada	Drink	168.777,00	240.366,00	409.143,00
	Food	1.372.248,00	2.061.862,00	3.434.110,00
	Non-Consumable	408.948,00	517.194,00	926.142,00
Mexico	Drink	137.113,00	202.050,00	339.163,00
	Food	980.195,00	1.382.168,00	2.362.363,00
	Non-Consumable	242.010,00	373.210,00	615.220,00
USA	Drink	691.330,00	1.068.158,00	1.759.488,00
	Food	5.890.574,00	8.751.747,00	14.642.321,00
	Non-Consumable	1.452.627,00	2.886.455,00	4.339.082,00
Total	Total	11.373.822,00	17.483.210,00	28.827.032,00

This operation will preserve original MDX context.

Average

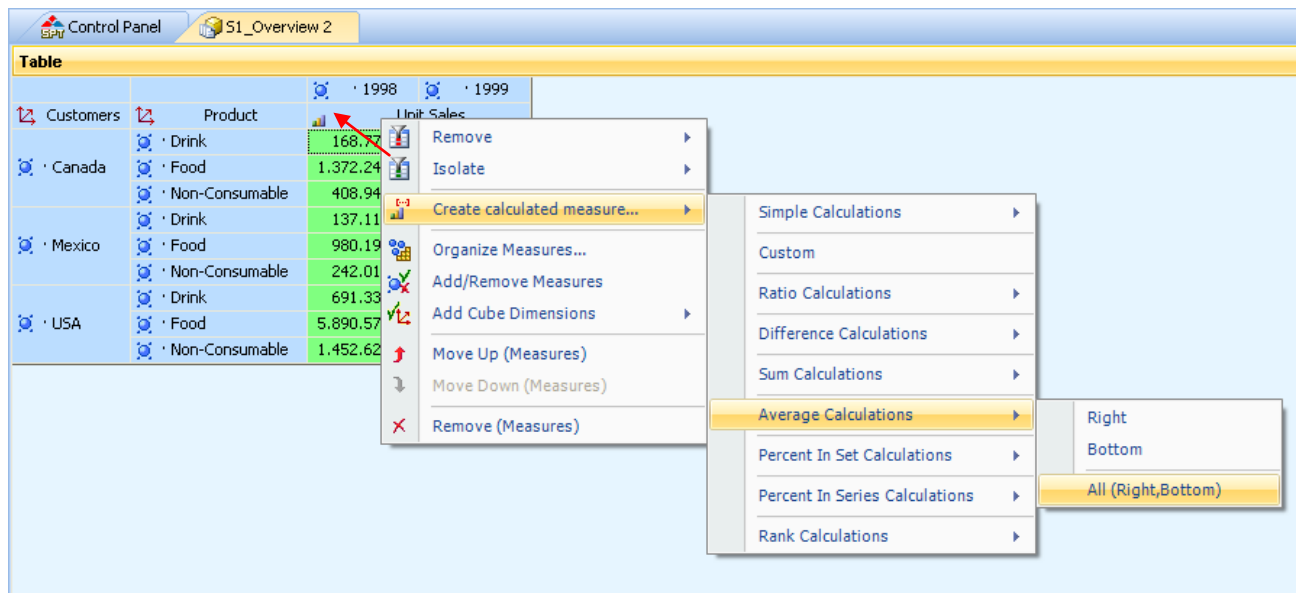
Average:

- Calculates average value for particular row or column (or entire set) according one measure in the result set table

Be careful, this is a type of relative calculation. It means if any measure at result table is calculated measure it will not display result of column's calculations but instead of that it will evaluate measure expression against entire set

To select Average:

- Select **measure from set** to apply new calculation (**Store Sales**)
- Select **Average calculation** from menu
- Select one of average calculation1 types from submenu
 - Right average average per each row
 - Bottom sum average per each column
 - All sums (right and bottom) both, row and column average displayed



Results will appear:

Table		· 1998	· 1999	Average
Customers	Product	Unit Sales		Unit Sales (Average)
· Canada	· Drink	168.777,00	240.366,00	204.571,50
	· Food	1.372.248,00	2.061.862,00	1.717.055,00
	· Non-Consumable	408.948,00	517.194,00	463.071,00
· Mexico	· Drink	137.113,00	202.050,00	169.581,50
	· Food	980.195,00	1.382.168,00	1.181.181,50
· USA	· Non-Consumable	242.010,00	373.210,00	307.610,00
	· Drink	691.330,00	1.068.158,00	879.744,00
	· Food	5.890.574,00	8.751.747,00	7.321.160,50
Average	· Non-Consumable	1.452.627,00	2.886.455,00	2.169.541,00
	Average	1.260.424,67	1.942.578,89	1.601.501,78

This operation will preserve original MDX context.

Percentage in Set

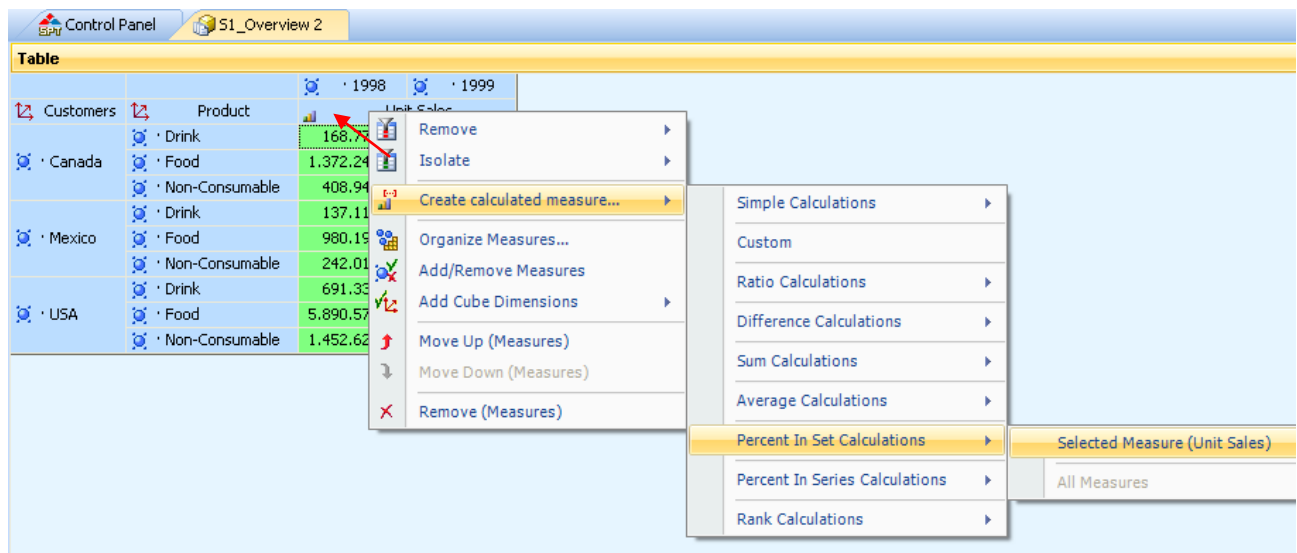
Percent in set:

- Calculates contribution of each cell (for each measure) in sum of all cells that belong to one measure within result set table

Be careful, this is a type of relative calculation. It means if any measure at result table is calculated measure it will not display result of column's calculations but instead of that it will evaluate measure expression against entire set

To select Percent in set:

- Select **measure from set** to apply new calculation (**Store Sales**)
- Select **Percent in set calculation** from menu
- Select one of Percent in set calculation types from submenu
 - Selected measure percent in set for one measure only
 - All measures percent in set for all measures within result set



Results will appear:

Table		· 1998		· 1999	
Customers	Product	Unit Sales	Unit Sales % Set	Unit Sales	Unit Sales % Set
· Canada	· Drink	168.777,00	0,59%	240.366,00	0,83%
	· Food	1.372.248,00	4,76%	2.061.862,00	7,15%
	· Non-Consumable	408.948,00	1,42%	517.194,00	1,79%
· Mexico	· Drink	137.113,00	0,48%	202.050,00	0,70%
	· Food	980.195,00	3,40%	1.382.168,00	4,79%
	· Non-Consumable	242.010,00	0,84%	373.210,00	1,29%
· USA	· Drink	691.330,00	2,40%	1.068.158,00	3,71%
	· Food	5.890.574,00	20,43%	8.751.747,00	30,36%
	· Non-Consumable	1.452.627,00	5,04%	2.886.455,00	10,01%

This operation will preserve original MDX context.

Percentage in Series

Percent in series:

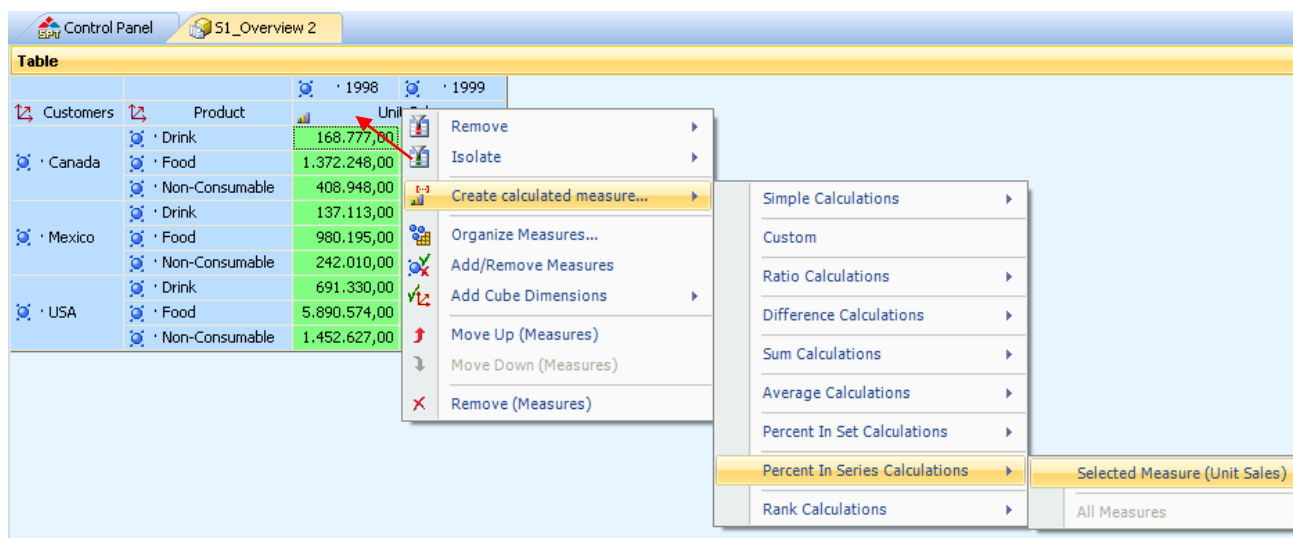
- Calculates contribution of each cell (for each measure) with sum of all cells that belong to one series (for each measure) measure within result set table

One series is defined with measure position. If measures are in rows then one row is one series, if measures are in columns then one column is one series

Be careful, this is a type of relative calculation. It means if any measure at result table is calculated measure it will not display result of column's calculations but instead of that it will evaluate measure expression against entire set

To select Percent in series:

- Select **measure from set** to apply new calculation (**Store Sales**)
- Select **Percent in series calculation** from menu
- Select one of Percent in series calculation types from submenu
 - Selected measure percent in series for one measure only
 - All measures percent in set for all measures within result set



Results will appear:

Table		· 1998		· 1999	
Customers	Product	Unit Sales	Unit Sales % Series	Unit Sales	Unit Sales % Series
· Canada	· Drink	168.777,00	1,49%	240.366,00	1,37%
	· Food	1.372.248,00	12,10%	2.061.862,00	11,79%
	· Non-Consumable	408.948,00	3,61%	517.194,00	2,96%
· Mexico	· Drink	137.113,00	1,21%	202.050,00	1,16%
	· Food	980.195,00	8,64%	1.382.168,00	7,91%
	· Non-Consumable	242.010,00	2,13%	373.210,00	2,13%
· USA	· Drink	691.330,00	6,09%	1.068.158,00	6,11%
	· Food	5.890.574,00	51,93%	8.751.747,00	50,06%
	· Non-Consumable	1.452.627,00	12,81%	2.886.455,00	16,51%

This operation will preserve original MDX context.

Rank

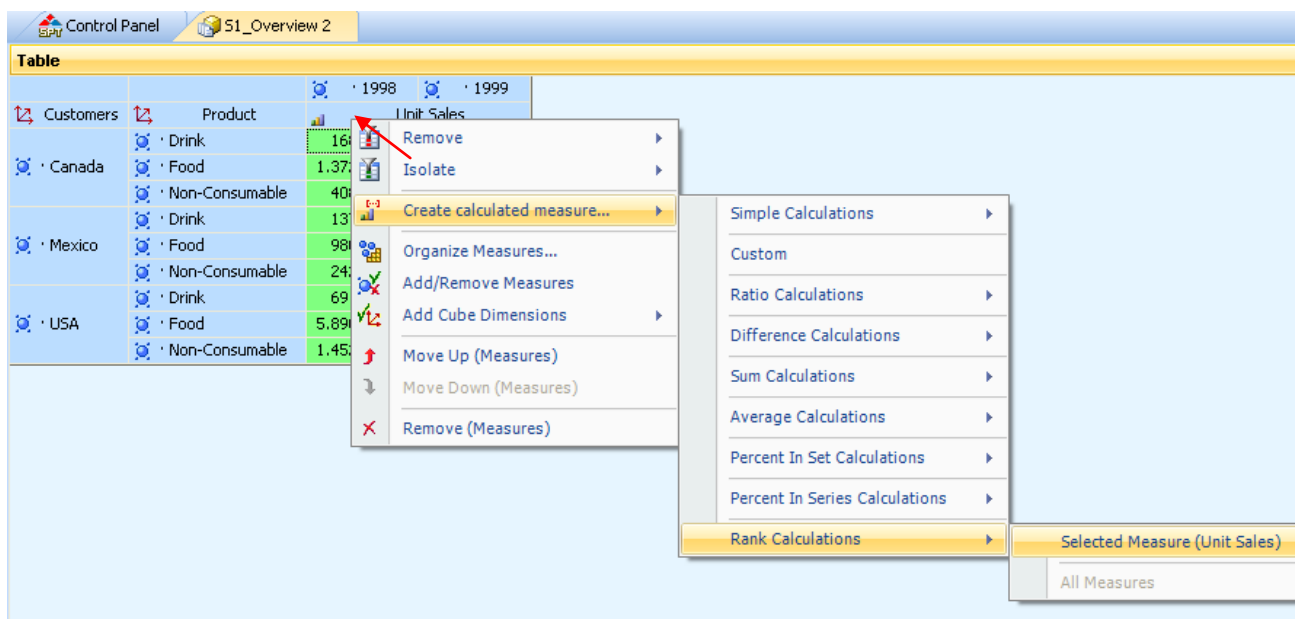
Rank:

- calculates absolute rank within one series for each measure

One series is defined with measure position. If measures are in rows then one row is one series, if measures are in columns then one column is one series

To select Rank:

- Select **measure from set** to apply new calculation (**Store Sales**)
- Select **Rank calculation** from menu
- Select one of rank calculation types from submenu
 - Selected measure rank for one measure only
 - All measures rank for all measures within result set



Results will appear:

Table		· 1998		· 1999	
Customers	Product	Unit Sales	Unit Sales Rank	Unit Sales	Unit Sales Rank
· Canada	· Drink	168.777,00	8	240.366,00	8
	· Food	1.372.248,00	3	2.061.862,00	3
	· Non-Consumable	408.948,00	6	517.194,00	6
· Mexico	· Drink	137.113,00	9	202.050,00	9
	· Food	980.195,00	4	1.382.168,00	4
· USA	· Non-Consumable	242.010,00	7	373.210,00	7
	· Drink	691.330,00	5	1.068.158,00	5
	· Food	5.890.574,00	1	8.751.747,00	1
	· Non-Consumable	1.452.627,00	2	2.886.455,00	2

This operation will preserve original MDX context.

Axis functions

CubePlayer allows you to use functions directly on the result table:

- On the entire axis
- On the each dimension on the axis

If you apply on the one dimension on the axis, and there is more dimensions then one, enumeration will take place. That means that complex MDX syntax will be replaced with the list of members from that dimension.

Functions you can apply are:

- TopCount
- TopPercent
- TopSum
- BottomCount
- BottomPercent
- BottomSum
- Head
- Tail
- Filter
- Order

Apply function on row or column axis

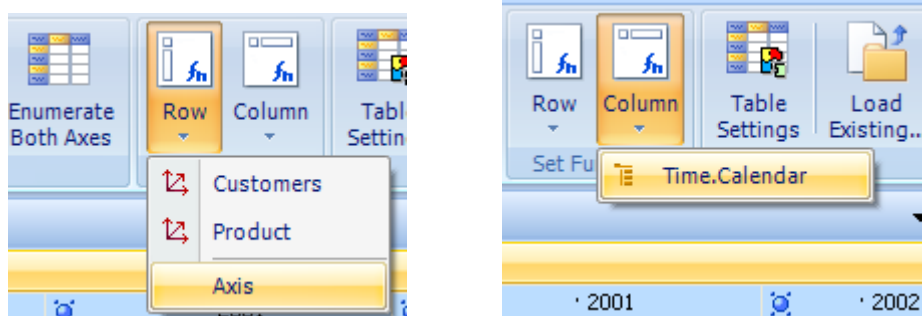
To apply function:

- Select **Table** tab
- Select buttons **Row** or **Column** functions

The screenshot shows the 'Table' tab selected in the top menu. Below the menu are several groups of icons: 'Options' (Add Cube Dimensions, Change Axes, Remove, Organize Members), 'Analysis' (Define Exceptions, Show Me, How Many), 'Enumerate' (Enumerate Row Axis, Enumerate Column Axis, Enumerate Both Axes), and 'Set Functions' (Row, Column). Below these is a yellow bar labeled 'S1_Overview'. The main area displays a data table with columns for years (1998, 1999, 2000, 2001) and rows for 'Store Sales' and 'Unit Sales'.

	1998		1999		2000		2001	
Product	Store Sales	Unit Sales	Store Sales	Unit Sales	Store Sales	Unit Sales	Store Sales	Unit Sales
	4.240.439,98	168.777,00	6.119.797,92	240.366,00	6.578.317,79	340.817,00	7.830.472,17	498.13
	35.692.889,85	1.372.248,00	56.998.461,49	2.061.862,00	61.749.995,97	3.009.050,00	72.750.162,72	4.359.58
nsunable	9.813.705,92	408.948,00	14.031.195,34	517.194,00	14.400.183,60	743.797,00	17.107.091,69	1.093.82
	3.486.916,59	137.113,00	5.073.337,03	202.050,00	5.517.802,21	284.621,00	6.623.389,67	420.10
	24.691.174,97	980.195,00	37.953.229,22	1.382.168,00	40.917.597,82	2.013.681,00	48.267.732,22	2.934.16
nsunable	5.837.051,31	242.010,00	9.972.640,78	373.210,00	10.144.056,60	527.982,00	11.876.862,38	758.37
	17.277.835,37	691.330,00	28.239.096,66	1.068.158,00	31.518.160,63	1.554.884,00	36.785.353,25	2.250.13
	151.000.932,70	5.890.574,00	239.965.141,94	8.751.747,00	259.340.117,24	12.750.603,00	304.380.275,93	18.511.44
nsunable	36.457.093,22	1.452.627,00	86.205.313,30	2.886.455,00	62.620.453,71	3.212.537,00	73.483.546,32	4.657.23

- Select whether you want to apply function to **rows** or **columns** (our case rows)
- Select:
 - One of the **dimension** to apply to that particular dimension
 - Select **Axis** to apply function over entire axis



List of available dimensions/hierarchies is automatically populated. If only one dimension or dimension and measures dimension is available only that one will be listed without Axis option.

Dialog will appear:

Function Selector

This dialog lets you apply MDX function

Apply this function
 TopCount - Best N

On measure...
 Store Sales

Members
 No Members

with value...
 100,00

Help OK Cancel

Now:

- Select **function**
- Select **measure**
- Select **conditions** if any
- Select OK

NOTE. When Axis is selected as position (means entire axis) MDX will be preserved.

When Dimension is selected, instead of complex MDX command for selected dimension Enumeration will take place. Other words, list of members for selected dimension will Be used instead of complex MDX syntax.

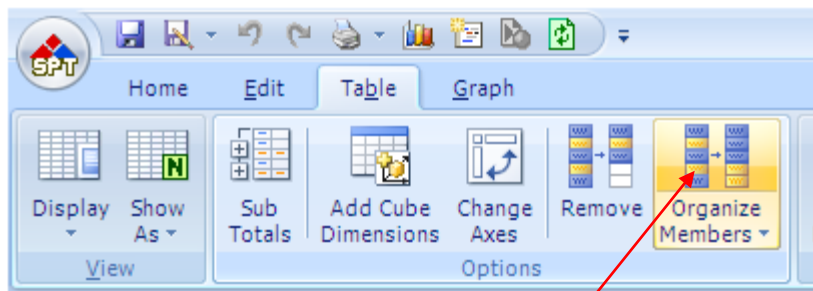
Organize dimensions and members at result table

To organize result table in terms of:

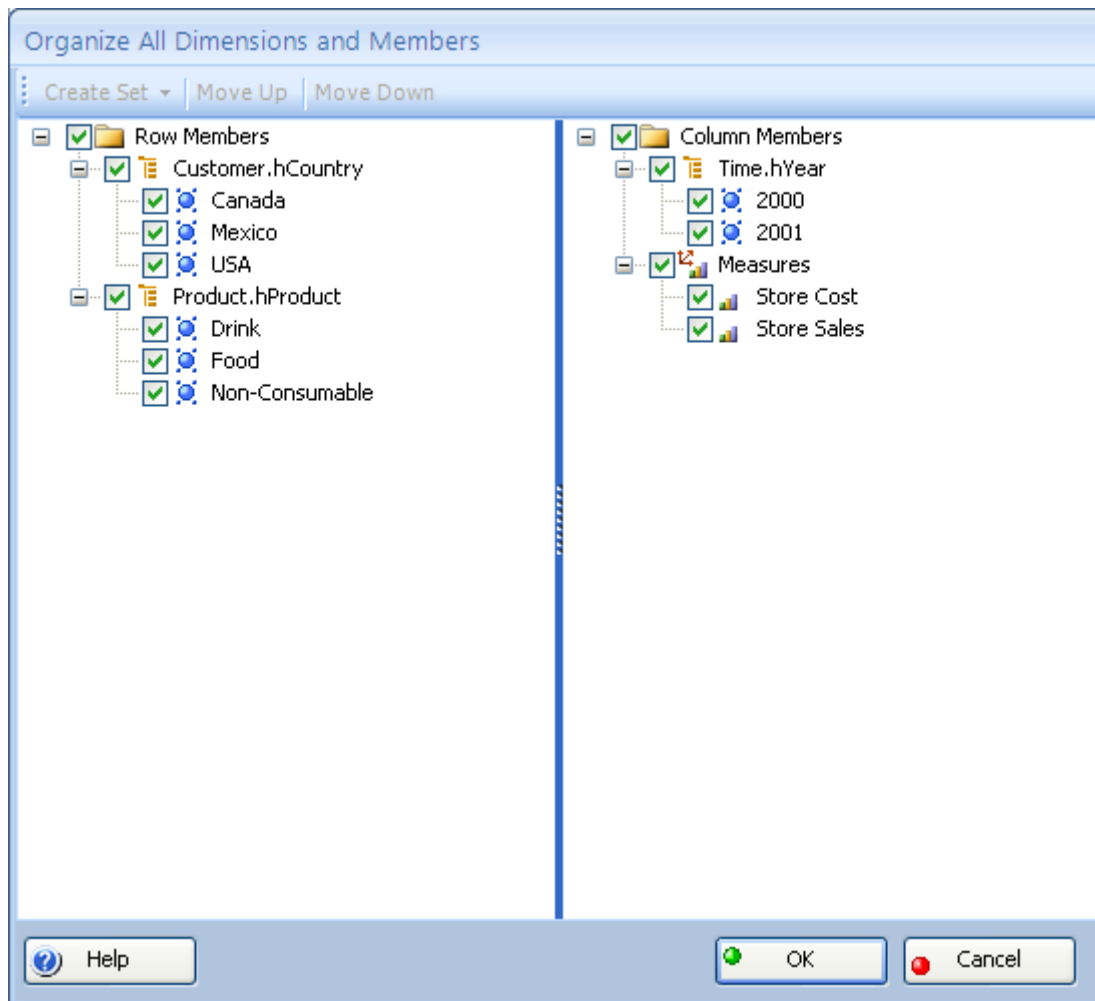
- Dimension order within axis on both axes
- Member order inside dimensions on both axes
- Uncheck dimensions on both axes
- Uncheck members inside dimension on both axes

Table		2000		2001	
Customer.Customer Country	Product.Product Family - Product	Store Sales	Store Cost	Store Sales	Store Cost
Canada	Drink	22,454,493.46	17,631,022.25	27,494,973.36	21,569,976.07
	Food	55,573,359.34	43,856,275.53	66,673,861.10	52,605,283.31
	Non-Consumable	18,428,632.77	14,578,944.01	22,256,210.39	17,619,212.88
Mexico	Drink	13,590,491.92	10,723,873.05	16,610,873.25	13,109,003.92
	Food	41,898,457.08	33,063,752.03	50,653,113.17	39,980,398.37
	Non-Consumable	13,785,168.99	10,922,974.40	16,439,947.89	13,024,146.25
USA	Drink	99,957,519.13	78,663,066.93	119,651,006.97	94,204,574.69
	Food	255,106,728.34	201,487,939.73	307,676,059.95	243,053,505.47
	Non-Consumable	85,042,455.30	67,259,574.24	102,381,596.17	80,981,071.27

- Select Table tab and select **Organize members** button (upper half of button!)



Dialog will appear:

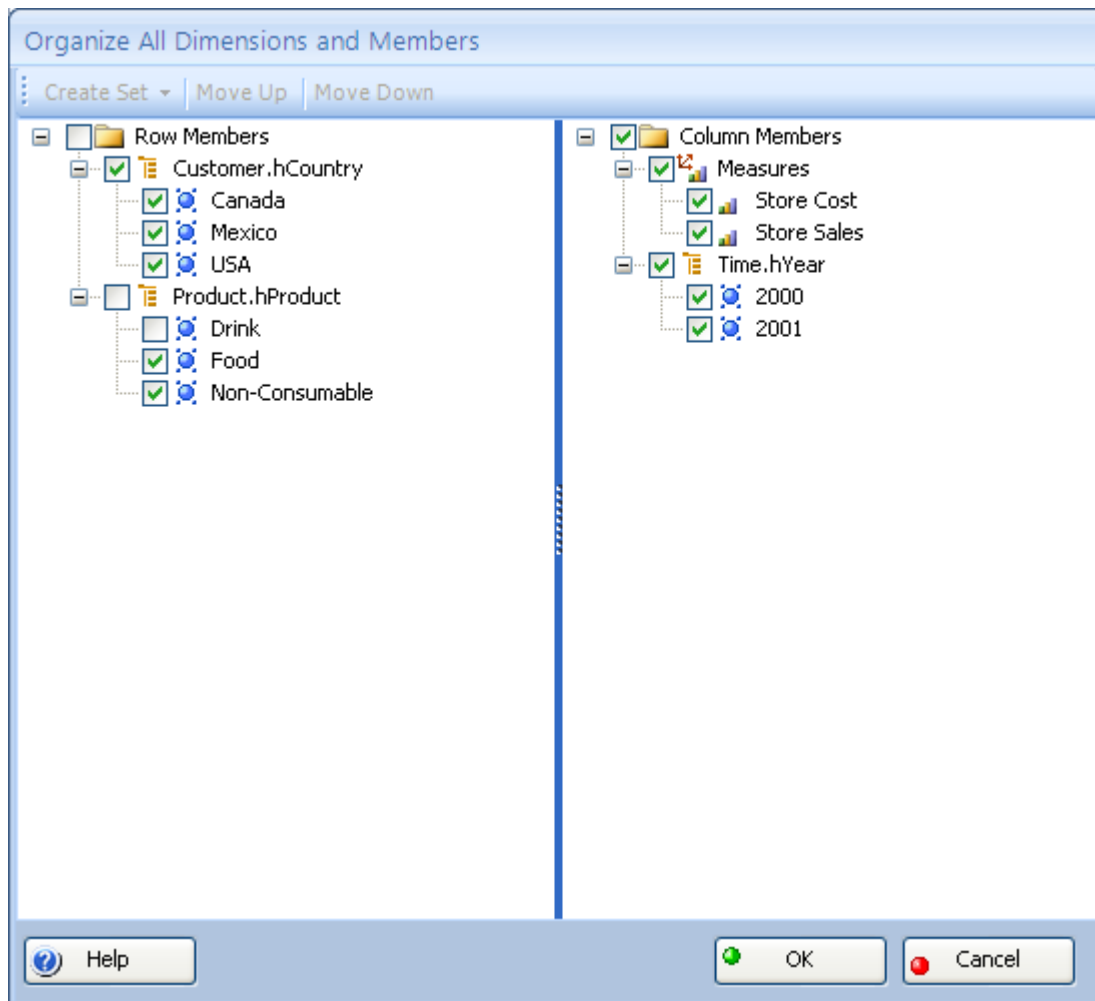


We will:

- Remove member **Drink** from the dimension **Products**
- Push up member **Non-Consumable** to come before member **Food**
- Move dimension **Measures** on top of dimension **Time**

Now, we have to organize members:

- Uncheck **Drink** (this will remove **Drink** from the table)
- Select **Non-Consumable**
- Select **Move Up**
- Select dimension **Measures**
- Select **Move Up**



- **Select OK**

Table							
Customer.Customer Country	Product.Product Family - Product	Store Sales		Store Cost			
		· 2000	· 2001	· 2000	· 2001		
· Canada	· Food	55,573,359.34	66,673,861.10	43,856,275.53	52,605,283.31		
	· Non-Consumable	18,428,632.77	22,256,210.39	14,578,944.01	17,619,212.88		
· Mexico	· Food	41,898,457.08	50,653,113.17	33,063,752.03	39,980,398.37		
	· Non-Consumable	13,785,168.99	16,439,947.89	10,922,974.40	13,024,146.25		
· USA	· Food	255,106,728.34	307,676,059.95	201,487,939.73	243,053,505.47		
	· Non-Consumable	85,042,455.30	102,381,596.17	67,259,574.24	80,981,071.27		

This operation will enumerate members in each dimension.

Organize members within dimension at result table

To organize members in rows or columns:

- Place mouse over dimension whose members you want to organize
- Right click
- Select **Organize members** from menu

We will remove member Drink from the Dimension Products and we will push up member Non-Consumable to come before member Food.

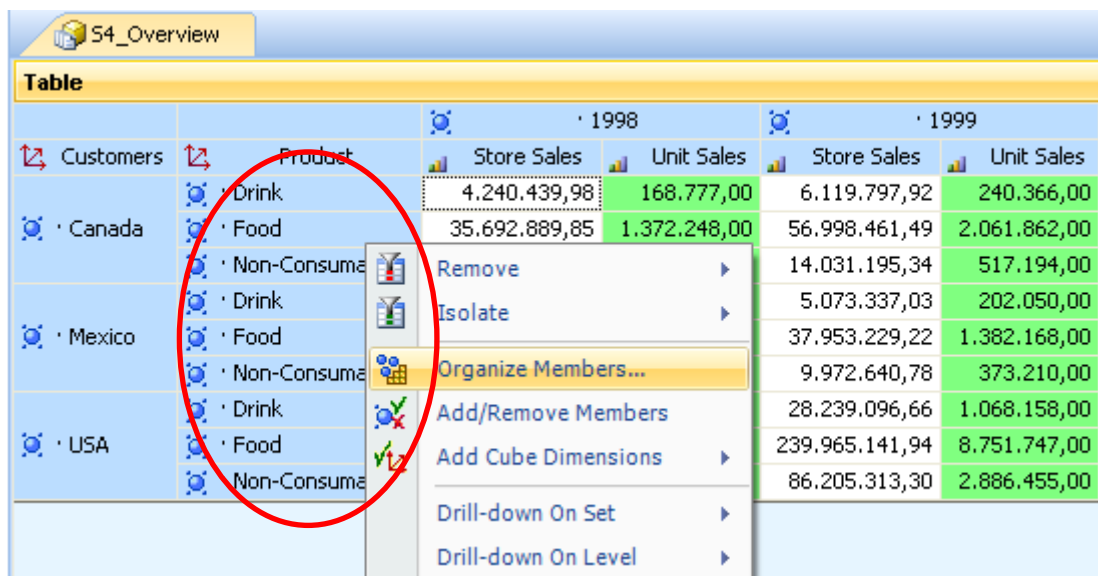
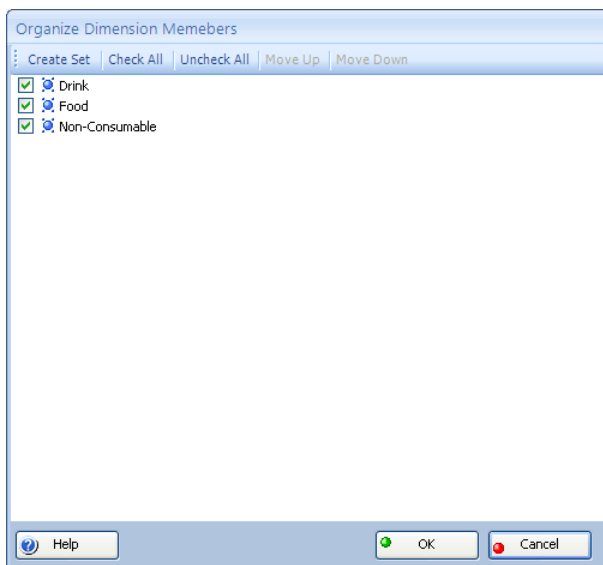


Table		1998		1999	
Customers	Product	Store Sales	Unit Sales	Store Sales	Unit Sales
Canada	Drink	4.240.439,98	168.777,00	6.119.797,92	240.366,00
	Food	35.692.889,85	1.372.248,00	56.998.461,49	2.061.862,00
	Non-Consumable			14.031.195,34	517.194,00
Mexico	Drink			5.073.337,03	202.050,00
	Food			37.953.229,22	1.382.168,00
	Non-Consumable			9.972.640,78	373.210,00
USA	Drink			28.239.096,66	1.068.158,00
	Food			239.965.141,94	8.751.747,00
	Non-Consumable			86.205.313,30	2.886.455,00

Dialog will appear:



Organize Dimension Members

Create Set | Check All | Uncheck All | Move Up | Move Down

- ☒ Drink
- ☒ Food
- ☒ Non-Consumable

Help OK Cancel

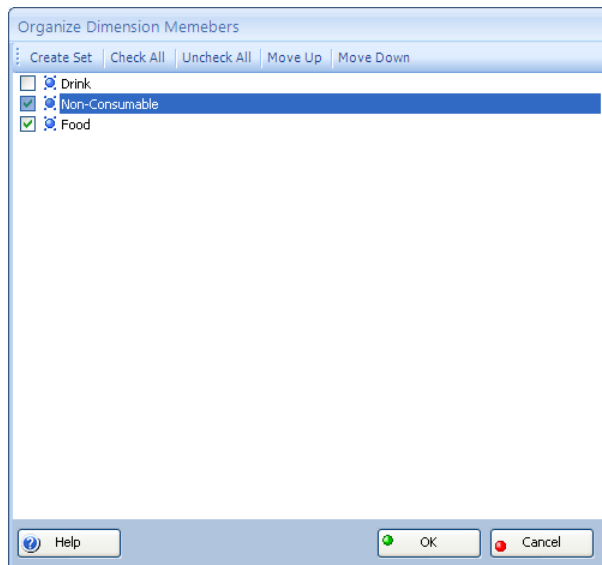
At this form you can:

- Remove members from the table
- Change position

- Isolate row set from the table and save it (it will be visible inside cube explorer)

Now, we have to organize members:

- Uncheck **Drink** (this will remove **Drink** from the table)
- Select **Non-Consumable**
- Select **Move Up**



- Select **OK**

S4_Overview						
Table						
		1998		1999		
		Store Sales	Unit Sales	Store Sales	Unit Sales	
Canada	Non-Consumable	9.813.705,92	408.948,00	14.031.195,34	517.194,00	
	Food	35.692.889,85	1.372.248,00	56.998.461,49	2.061.862,00	
Mexico	Non-Consumable	5.837.051,31	242.010,00	9.972.640,78	373.210,00	
	Food	24.691.174,97	980.195,00	37.953.229,22	1.382.168,00	
USA	Non-Consumable	36.457.093,22	1.452.627,00	86.205.313,30	2.886.455,00	
	Food	151.000.932,70	5.890.574,00	239.965.141,94	8.751.747,00	

This operation will preserve original MDX context.

Move dimensions (left, right, up, down)

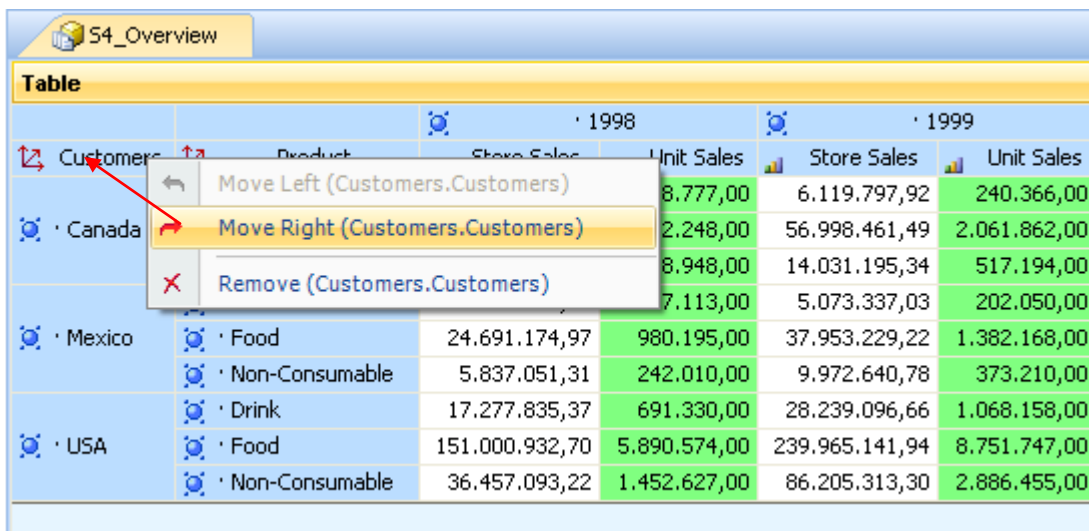
To move dimension on the set:

- Up
- Down
- Left
- Right

all you have to do is to choose dimension:

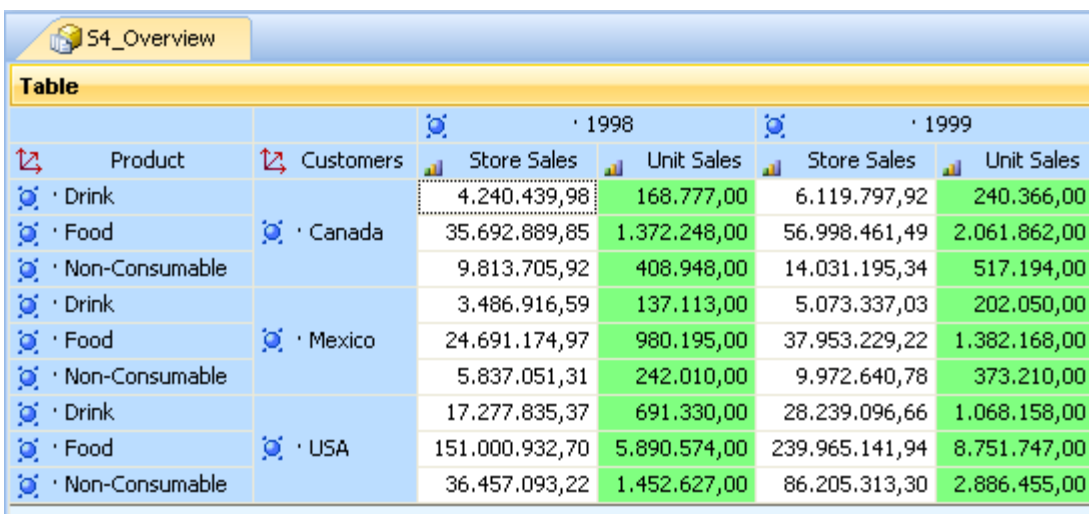
- Place muse over dimension name you want to move
- Right click
- Select **Move direction (dimension name)** from menu

We will move right our dimension **Country**.



S4_Overview						
Table						
			1998		1999	
Customers	Product		Store Sales	Unit Sales	Store Sales	Unit Sales
Canada			8.777,00		6.119.797,92	240.366,00
			2.248,00		56.998.461,49	2.061.862,00
			8.948,00		14.031.195,34	517.194,00
			7.113,00		5.073.337,03	202.050,00
Mexico	Food		24.691.174,97	980.195,00	37.953.229,22	1.382.168,00
	Non-Consumable		5.837.051,31	242.010,00	9.972.640,78	373.210,00
USA	Drink		17.277.835,37	691.330,00	28.239.096,66	1.068.158,00
	Food		151.000.932,70	5.890.574,00	239.965.141,94	8.751.747,00
	Non-Consumable		36.457.093,22	1.452.627,00	86.205.313,30	2.886.455,00

Dimension Customer will be moved to the right just after dimension Product



S4_Overview						
Table						
			1998		1999	
Product	Customers		Store Sales	Unit Sales	Store Sales	Unit Sales
Drink			4.240.439,98	168.777,00	6.119.797,92	240.366,00
Food	Canada		35.692.889,85	1.372.248,00	56.998.461,49	2.061.862,00
Non-Consumable			9.813.705,92	408.948,00	14.031.195,34	517.194,00
Drink			3.486.916,59	137.113,00	5.073.337,03	202.050,00
Food	Mexico		24.691.174,97	980.195,00	37.953.229,22	1.382.168,00
Non-Consumable			5.837.051,31	242.010,00	9.972.640,78	373.210,00
Drink			17.277.835,37	691.330,00	28.239.096,66	1.068.158,00
Food	USA		151.000.932,70	5.890.574,00	239.965.141,94	8.751.747,00
Non-Consumable			36.457.093,22	1.452.627,00	86.205.313,30	2.886.455,00

This operation will preserve original MDX context, even function Union is used.

Sorting table data

To perform sort your data inside the table column:

- Place mouse over measure inside column you want to sort
- Click once to get ascending sort
- Click again to get descending sort

To reset the table:

- Select icon refresh

or

- Sort row headers

If there are no measures at the result set:

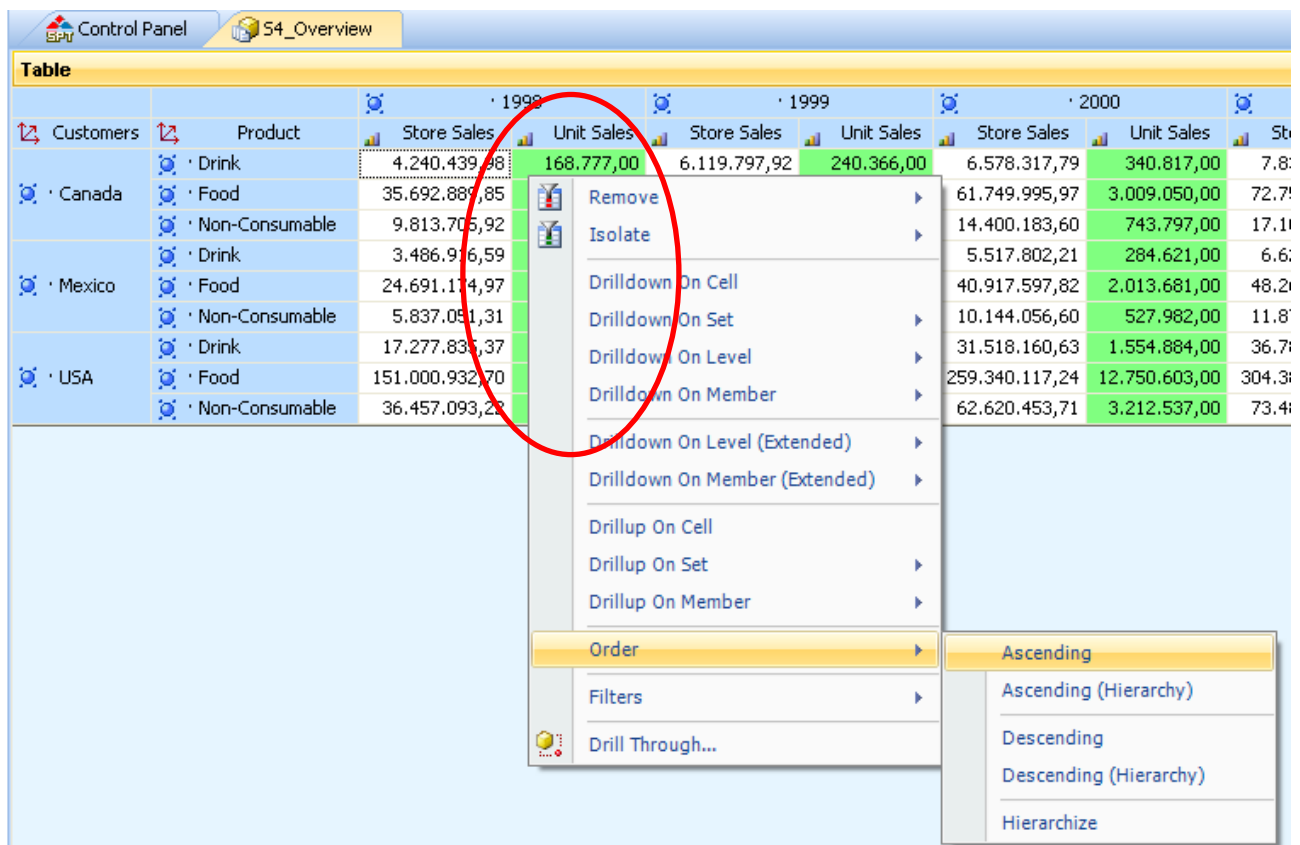
- Place mouse over the column you want to sort
- Right click
- Select **Sort** from menu
- Select **Ascending** or **Descending** from submenu

Order data

Order function is basically implementation of **MDX Order** function.

To order by selected column (only according to selected column!):

- Place mouse over data area inside of the columns you want to sort
- Right click
- Select Order from menu
- Select options
 - Ascending breaks hierarchy
 - Hierarchical ascending
 - Descending breaks hierarchy
 - Hierarchical descending



The screenshot shows the SAP BW Control Panel interface. A table is displayed with columns for Customers, Product, and Sales data for the years 1999 and 2000. A right-click context menu is open over the table, and the 'Order' option is selected, revealing a sub-menu with sorting options. A red circle highlights the 'Order' option in the main menu.

Customers	Product	1999 Store Sales	1999 Unit Sales	1999 Store Sales	1999 Unit Sales	2000 Store Sales	2000 Unit Sales	2000 Store Sales	2000 Unit Sales
Canada	Drink	4.240.439,98	168.777,00	6.119.797,92	240.366,00	6.578.317,79	340.817,00	7.819.117,79	340.817,00
Canada	Food	35.692.889,85		61.749.995,97		3.009.050,00		72.749.995,97	
Canada	Non-Consumable	9.813.705,92		14.400.183,60		743.797,00		17.113.705,92	
Mexico	Drink	3.486.916,59		5.517.802,21		284.621,00		6.604.718,80	
Mexico	Food	24.691.174,97		40.917.597,82		2.013.681,00		48.215.174,97	
Mexico	Non-Consumable	5.837.051,31		10.144.056,60		527.982,00		11.889.131,51	
USA	Drink	17.277.835,37		31.518.160,63		1.554.884,00		36.795.996,00	
USA	Food	151.000.932,70		259.340.117,24		12.750.603,00		304.340.117,24	
USA	Non-Consumable	36.457.093,22		62.620.453,71		3.212.537,00		73.469.546,93	

This operation will preserve original MDX context.

Ascending Order

To order:

- Place mouse over data area inside of the columns you want to sort
- Right click
- Select Order from menu
- Select options Ascending

breaks hierarchy

Control Panel 54_Overview

Table

		1998	1999	2000
Customers	Product	Store Sales	Unit Sales	Store Sales
Canada	Drink	4.240.439,98	168.777,00	6.119.797,92
Canada	Food	35.692.889,85	1.372.248,00	56.998.461,49
Canada	Non-Consumable	9.813.705,92	408.948,00	14.031.195,34
Mexico	Drink	3.486.916,59	137.113,00	5.073.337,03
Mexico	Food	24.691.174,97	980.195,00	37.953.229,22
Mexico	Non-Consumable	5.837.051,31	242.010,00	9.972.640,78
USA	Drink	17.277.835,37	691.330,00	28.239.096,66
USA	Food	151.000.932,70	5.890.574,00	239.965.141,94
USA	Non-Consumable	36.457.093,22	1.452.627,00	86.205.313,30

Table has been ordered:

Control Panel 54_Overview

Table

		1998	1999
Customers	Product	Store Sales	Unit Sales
Mexico	Drink	3.486.916,59	137.113,00
Canada	Drink	4.240.439,98	168.777,00
Mexico	Non-Consumable	5.837.051,31	242.010,00
Canada	Non-Consumable	9.813.705,92	408.948,00
USA	Drink	17.277.835,37	691.330,00
Mexico	Food	24.691.174,97	980.195,00
Canada	Food	35.692.889,85	1.372.248,00
USA	Non-Consumable	36.457.093,22	1.452.627,00
USA	Food	151.000.932,70	5.890.574,00

This operation will preserve original MDX context.

Hierarchical Ascending Order

To order:

- Place mouse over data area inside of the columns you want to sort
- Right click
- Select Order from menu
- Select options Ascending (Hierarchy) preserves hierarchy order

		1998		1999		2000	
Customers	Product	Store Sales	Unit Sales	Store Sales	Unit Sales	Store Sales	Unit Sales
Canada	Drink	4.240.439,98	168.777,00	6.119.797,92	240.366,00	6.578.317,79	340.817,00
	Food	35.692.889,85				61.749.995,97	3.009.050,00
	Non-Consumable	9.813.705,92				14.400.183,60	743.797,00
Mexico	Drink	3.486.916,59				5.517.802,21	284.621,00
	Food	24.691.174,97				40.917.597,82	2.013.681,00
	Non-Consumable	5.837.051,31				10.144.056,60	527.982,00
USA	Drink	17.277.835,37				31.518.160,63	1.554.884,00
	Food	151.000.932,70				259.340.117,24	12.750.603,00
	Non-Consumable	36.457.093,22				62.620.453,71	3.212.537,00

Table has been ordered:

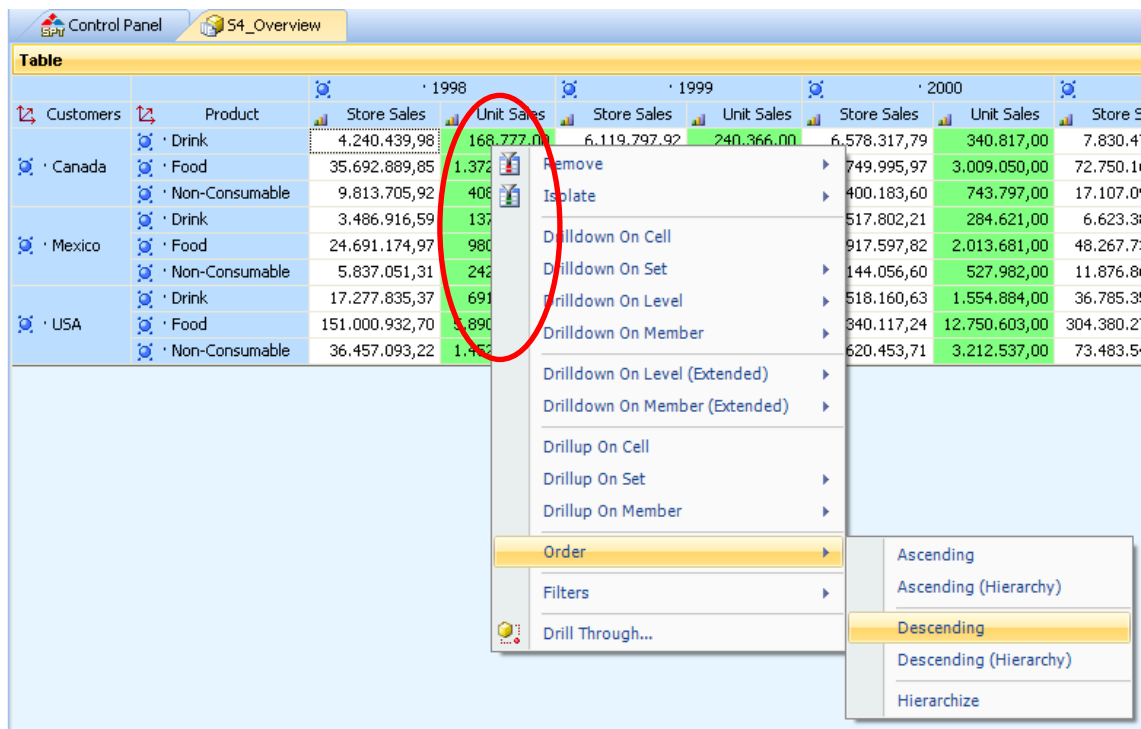
		1998		1999	
Customers	Product	Store Sales	Unit Sales	Store Sales	Unit Sales
USA	Non-Consumable	36.457.093,22	1.452.627,00	66.205.313,30	2.886.455,00
	Food	151.000.932,70	5.890.574,00	239.965.141,94	8.751.747,00
	Drink	17.277.835,37	691.330,00	28.239.096,66	1.068.158,00
Canada	Non-Consumable	9.813.705,92	408.948,00	14.031.195,34	517.194,00
	Food	35.692.889,85	1.372.248,00	56.998.461,49	2.061.862,00
	Drink	4.240.439,98	168.777,00	6.119.797,92	240.366,00
Mexico	Non-Consumable	5.837.051,31	242.010,00	9.972.640,78	373.210,00
	Food	24.691.174,97	980.195,00	37.953.229,22	1.382.168,00
	Drink	3.486.916,59	137.113,00	5.073.357,03	202.050,00

This operation will preserve original MDX context.

Descending Order

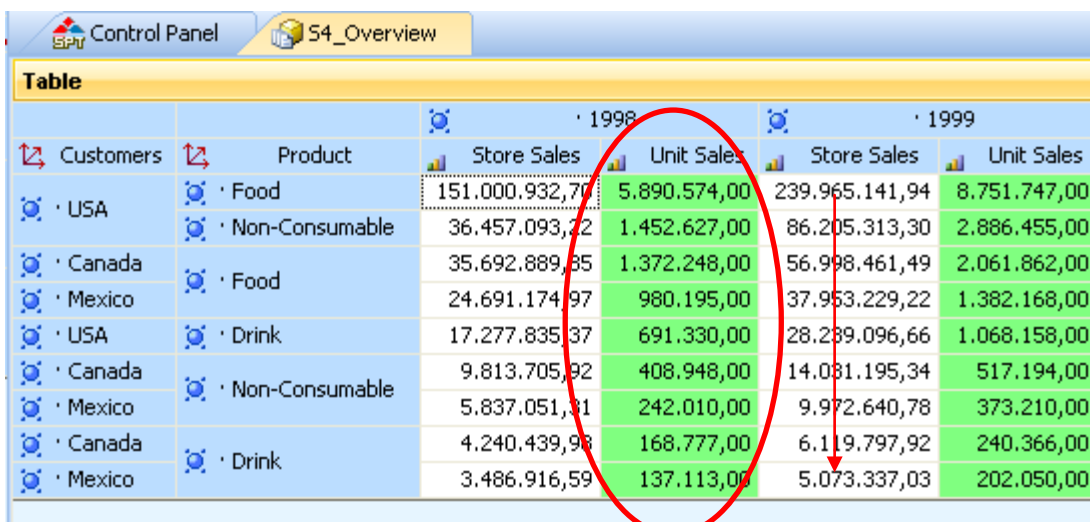
To sort in descending order:

- Place mouse over data area inside of the columns you want to sort
 - Right click
 - Select Order from menu
 - Select options Descending
- breaks hierarchy



The screenshot shows the SAP S4 Overview table with columns for Customers, Product, and Sales data for 1998, 1999, and 2000. A right-click context menu is open over the 'Unit Sales' column for 1998. The 'Order' option is selected, and the 'Descending' option is highlighted in the submenu. The 'breaks hierarchy' text indicates that this action will sort the data across the hierarchy levels.

Table has been sorted:



The screenshot shows the SAP S4 Overview table after sorting. The data is sorted in descending order by Unit Sales for 1998. A red circle highlights the 'Unit Sales' column for 1998, and a red arrow points to the 'Unit Sales' column for 1999. The 'breaks hierarchy' text indicates that this action will sort the data across the hierarchy levels.

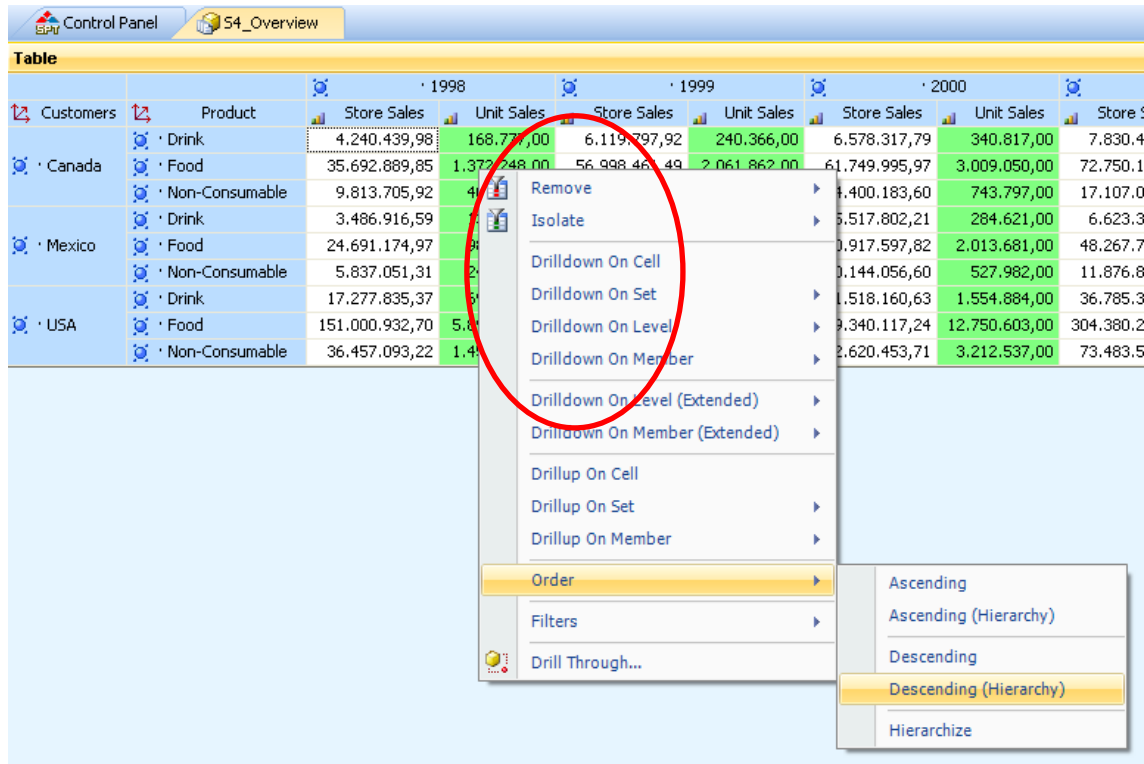
Customers	Product	1998 Store Sales	1998 Unit Sales	1999 Store Sales	1999 Unit Sales
USA	Food	151.000.932,70	5.890.574,00	239.965.141,94	8.751.747,00
	Non-Consumable	36.457.093,22	1.452.627,00	86.205.313,30	2.886.455,00
Canada	Food	35.692.889,85	1.372.248,00	56.998.461,49	2.061.862,00
Mexico	Food	24.691.174,97	980.195,00	37.953.229,22	1.382.168,00
USA	Drink	17.277.835,37	691.330,00	28.239.096,66	1.068.158,00
Canada	Non-Consumable	9.813.705,92	408.948,00	14.031.195,34	517.194,00
Mexico	Non-Consumable	5.837.051,31	242.010,00	9.972.640,78	373.210,00
Canada	Drink	4.240.439,98	168.777,00	6.119.797,92	240.366,00
Mexico	Drink	3.486.916,59	137.113,00	5.073.337,03	202.050,00

This operation will preserve original MDX context.

Hierarchical Descending Order

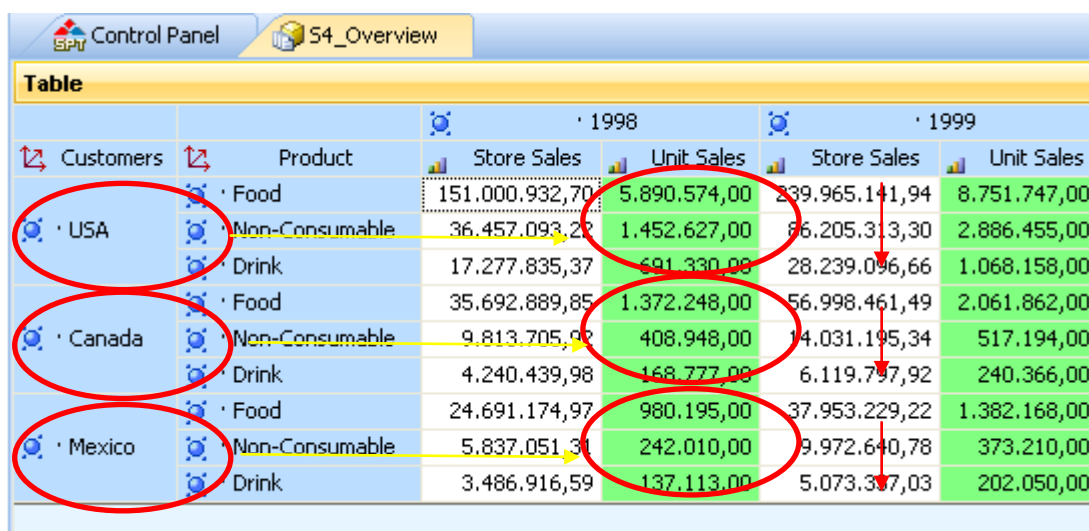
To order:

- Place mouse over data area inside of the columns you want to sort
- Right click
- Select Order from menu
- Select options Descending (Hierarchy) preserves hierarchy order



		1998		1999		2000	
Customers	Product	Store Sales	Unit Sales	Store Sales	Unit Sales	Store Sales	Unit Sales
Canada	Drink	4.240.439,98	168.777,00	6.119.797,92	240.366,00	6.578.317,79	340.817,00
	Food	35.692.889,85	1.372.248,00	56.998.461,49	2.061.862,00	61.749.995,97	3.009.050,00
	Non-Consumable	9.813.705,92	408.948,00	14.031.195,34	517.194,00	14.400.183,60	743.797,00
Mexico	Drink	3.486.916,59	137.113,00	5.073.307,03	202.050,00	5.517.802,21	284.621,00
	Food	24.691.174,97	980.195,00	37.953.229,22	1.382.168,00	40.917.597,82	2.013.681,00
	Non-Consumable	5.837.051,31	242.010,00	9.972.640,78	373.210,00	10.144.056,60	527.982,00
USA	Drink	17.277.835,37	691.330,00	28.239.096,66	1.068.158,00	1.518.160,63	1.554.884,00
	Food	151.000.932,70	5.890.574,00	239.965.141,94	8.751.747,00	19.340.117,24	12.750.603,00
	Non-Consumable	36.457.093,22	1.452.627,00	86.205.313,30	2.886.455,00	2.620.453,71	3.212.537,00

Table has been ordered:



		1998		1999	
Customers	Product	Store Sales	Unit Sales	Store Sales	Unit Sales
USA	Food	151.000.932,70	5.890.574,00	239.965.141,94	8.751.747,00
	Non-Consumable	36.457.093,22	1.452.627,00	86.205.313,30	2.886.455,00
	Drink	17.277.835,37	691.330,00	28.239.096,66	1.068.158,00
Canada	Food	35.692.889,85	1.372.248,00	56.998.461,49	2.061.862,00
	Non-Consumable	9.813.705,92	408.948,00	14.031.195,34	517.194,00
	Drink	4.240.439,98	168.777,00	6.119.797,92	240.366,00
Mexico	Food	24.691.174,97	980.195,00	37.953.229,22	1.382.168,00
	Non-Consumable	5.837.051,31	242.010,00	9.972.640,78	373.210,00
	Drink	3.486.916,59	137.113,00	5.073.307,03	202.050,00

This operation will preserve original MDX context.

Hierarchize

This function is basically implementation of MDX Hierarchize function that will order set according to the hierarchy.

To hierarchize by selected column:

- Place mouse over data area inside of the columns you want to sort
- Right click
- Select Order from menu
- Select options
 - Hierarchize

Table		1998		1999		2000	
Customers	Product	Store Sales	Unit Sales	Store Sales	Unit Sales	Store Sales	Unit Sales
USA	Food	151.000.932,70	5.890.574,00	239.965.141,94	8.751.747,00	259.340.117,24	12.750.603,00
USA	Non-Consumable	36.457.093,22	1.452.627,00			620.453,71	3.212.537,00
	Drink	17.277.835,37	691.330,00			518.160,63	1.554.884,00
Canada	Food	35.692.889,85	1.372.248,00			749.995,97	3.009.050,00
	Non-Consumable	9.813.705,92	408.948,00			400.183,60	743.797,00
Canada	Drink	4.240.439,98	168.777,00			578.317,79	340.817,00
	Food	24.691.174,97	980.195,00			917.597,82	2.013.681,00
Mexico	Non-Consumable	5.837.051,31	242.010,00			144.056,60	527.982,00
	Drink	3.486.916,59	137.113,00			517.802,21	284.621,00

If you take a closer look to the result table you will see that set is ordered by year 1998 by hierarchy in descending order.

Using function Hierarchize we will order set regarding Hierarch and disregarding values:

Table		1998		1999	
Customers	Product	Store Sales	Unit Sales	Store Sales	Unit Sales
Canada	Drink	4.240.439,98	168.777,00	6.119.797,92	240.366,00
	Food	35.692.889,85	1.372.248,00	56.998.461,49	2.061.862,00
	Non-Consumable	9.813.705,92	408.948,00	14.031.195,34	517.194,00
Mexico	Drink	3.486.916,59	137.113,00	5.073.337,03	202.050,00
	Food	24.691.174,97	980.195,00	37.953.229,22	1.382.168,00
	Non-Consumable	5.837.051,31	242.010,00	9.972.640,78	373.210,00
USA	Drink	17.277.835,37	691.330,00	28.239.096,66	1.068.158,00
	Food	151.000.932,70	5.890.574,00	239.965.141,94	8.751.747,00
	Non-Consumable	36.457.093,22	1.452.627,00	86.205.313,30	2.886.455,00

This operation will preserve original MDX context.

Enumerate MDX

During multiple operations on the same table MDX can become very complex.

Very complex MDX usually means longer execution.

To prevent such a case we are introducing Enumerate function.

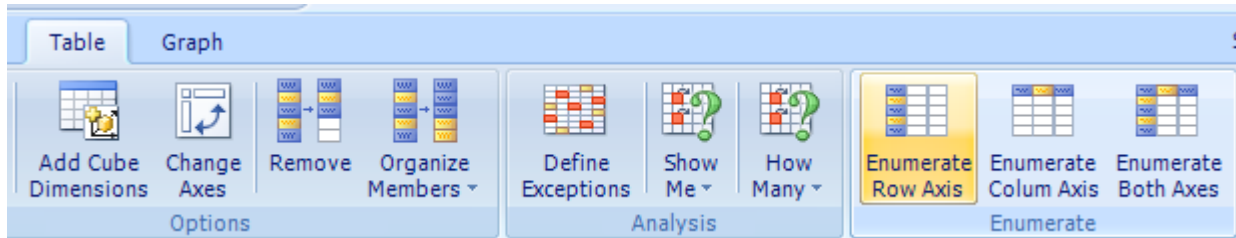
This function will change your complex MDX to set of individual members on selected axis or both axes.

You can select to enumerate:

- Row axis
- Column axis
- Both axes

To enumerate:

- Select **Table** tab and one of **Enumerate** buttons
- Select one of the options
 - Row axis
 - Column axis
 - Both axes



For example we will use next (simple) MDX syntax:

```
SELECT
NON EMPTY
CrossJoin
(
{
[Time].[Calendar].[Year].MEMBERS
}
,
{
[Measures].[Store Sales] ,
[Measures].[Sales Count]
}
)
ON AXIS(0),
NON EMPTY
Crossjoin
(
{
[Customers].[Country].MEMBERS
```

```

}
,
{
[Product].[Product Family].MEMBERS
}
)
ON AXIS(1)
FROM [Sales]

```

Both axis contains MDX sets created between two dimension using CrossJoin function.

If we select to enumerate on columns you will see:

```

SELECT
NON EMPTY
CrossJoin
(
{
[Time].[Calendar].[All Years].[1998],
[Time].[Calendar].[All Years].[1999],
[Time].[Calendar].[All Years].[2000],
[Time].[Calendar].[All Years].[2001],
[Time].[Calendar].[All Years].[2002]}
,
{
[Measures].[Store Sales],
[Measures].[Sales Count]}
)ON AXIS(0)
,
NON EMPTY
Crossjoin
(
{
[Customers].[Country].MEMBERS
}
,
{
[Product].[Product Family].MEMBERS
}
)ON AXIS(1)
FROM
[Sales]

```

As you can see set in Column axis is replaced with list of members.

Drilldown

You might have observed before that, for some strange, peculiar reason, life is rarely simple. This goes for the data drilling as well. Once you start thinking about it, you soon find out that there is more than one way to do it. To make bad things even worse, there is no universally accepted standard, and many OLAP tools take their own direction. When we talk about drilling down, the real question is '**What do we expect to get as the result of our drilling?**'. This is precisely where things get complicated. Most of the other OLAP clients support one type of drilldown operation, just a few support two types, while CubePlayer supports six (6) different types. These are:

- Drilldown on cell
- Drilldown on set
- Drilldown on level
- Drilldown on level extended
- Drilldown on member
- Drilldown on member extended

All of them will give you different results.

There is another very important consideration to be pointed out about drilling operations. It concerns the notion of preserving the existing functions in original MDX command. CubePlayer cares a lot about the business context of your work at every single step, and drilling the data is a slippery area where you may make mistakes without knowing about it. We shall illustrate this point in the examples later.

Depending on the context of the active cell, not all of the drill-down types may be available.

Drilldown on set

To perform Drilldown on Set:

- Select row or column headers member or data cell (in our case **USA**)
- Right click
- Select **Drilldown on Set**
- Select **member** from popup menu (**USA**)
- Select **member** from submenu to drill to next level
- Select **level** from submenu to drill to some other level

The screenshot shows the CubePlayer interface with a table of sales data. The 'Country' column has members: Canada, Mexico, and USA. The 'USA' cell is selected, and a context menu is open. The 'Drilldown On Set' option is highlighted, and a submenu is displayed showing the 'USA' member selected for drilling down.

The result will be that only the members that belong to the **selected member** (USA in rows!) have survived the Drilldown.

The screenshot shows the result of the drilldown operation. The 'Country' column now only displays 'USA'. The 'State Province' column is visible, showing 'CA', 'OR', and 'WA'. The 'USA' cell in the 'Country' column and the 'CA' cell in the 'State Province' column are circled in red.

The point here again is that CubePlayer preserves the original business context while performing the drilldown on member. For example if you have started with the 10 best product departments, this conditions will be preserved after the drilldown operation has been executed.

Drilldown on set – select level

To perform Drilldown on Set to certain level or to the bottom:

- Select row or column headers member or data cell (in our case **Mexico**)
- Right click
- Select **Drilldown on Set**
- Select **member** from popup menu (**Mexico**)
- Select **level** from submenu to drill to some other level

The screenshot shows the CubePlayer interface with a table of sales data. A right-click context menu is open over the 'Mexico' cell in the 'Country' column. The 'Drilldown On Set' option is selected, leading to a submenu where 'Mexico' is chosen as the member and 'City' is chosen as the level. The background table shows sales data for Canada, Mexico, and USA across various products and measures.

Customers		Country	Product	Measures			
(All)	Country	(All)	Store Sales	Sales Count	Store Sales	Sales Count	
	Canada		82,728,497,36	1,600,939	97,687,726,58	2,327,587	
	Mexico		56,529,456,63	1,123,087	66,767,984,27	1,632,913	
	USA		353			9,981,404	

The result will be that only the members that belong to the **selected member** (Mexico in rows!) drilled to the selected level have survived the Drilldown. Members Canada and USA disappeared from result set.

The screenshot shows the result of the drilldown operation. The 'Country' column now only displays 'Mexico' and its sub-levels (State Province and City). The 'USA' and 'Canada' rows have been removed. A red oval highlights the 'Mexico' row and its sub-levels.

Customers		Country	State Province	City	Product	Measures			
(All)	Country	State Province	City	(All)	Store Sales	Sales Count	Store Sales	Sales Count	
	Mexico	DF	San Andres		4,739,558,26	89,711	5,493,703,13	132,246	
	Mexico	DF	Santa Anita		4,655,289,92	89,976	5,523,192,09	132,730	
	Mexico	DF	Santa Fe		2,584,506,90	48,430	2,932,590,59	69,781	
	Mexico	DF	Tixapan		4,992,658,74	92,221	5,896,275,30	135,123	
	Mexico	Guerrero	Acapulco		4,805,178,37	100,087	5,522,671,69	143,658	
	Mexico	Balisco	Guadalajara		4,637,766,89	92,948	5,581,051,14	136,487	
	Mexico	Mexico	Mexico City		4,239,418,64	92,211	4,838,631,35	130,079	
	Mexico	Oaxaca	Tlaxiaco		3,652,072,75	86,668	4,408,111,03	126,436	
	Mexico	Snalao	La Cruz		4,003,708,13	71,134	4,951,365,59	106,436	
	Mexico	Veracruz	Orizaba		4,491,004,12	88,903	5,295,520,25	126,330	
	Mexico	Yucatan	Merida		5,126,041,72	92,821	5,989,803,93	134,322	
	Mexico	Zacatecas	Camacho		4,352,961,33	82,640	5,250,534,88	122,964	
	Mexico		Idalgo		4,299,290,86	95,337	5,084,533,28	136,321	

The point here again is that CubePlayer preserves the original business context while performing the drilldown on member. For example if you have started with the 10 best product departments, this conditions will be preserved after the drilldown operation has been executed.

Drilldown on level

To perform Drilldown on level:

- Select dimension on row or column headers or data cell
- Select **Drilldown on level** from menu
- Select **dimension** from submenu (Country)

The screenshot shows the S1_Designer interface with a table. A context menu is open over the 'Country' dimension, showing the 'Drilldown On Level' option selected. The submenu shows the 'Country' dimension with '(All)' and 'Year' members. The table data is as follows:

Customers		Product		Measures			
(All)	Country	(All)		Store Sales	Sales Count	Store Sales	Sales Count
	Canada			82.728.497,36	1.600.939	97.687.726,58	2.327.587
	Mexico			56.578	1.400.000	66.367.000,00	1.632.913
	USA			353.478			9.981.404

New set of members will appear in the table. And, as opposed to the drilling on set, the complete level (Country) has been opened here. All members from the next level of the selected dimension have been drilled-down:

The screenshot shows the S1_Designer interface with the table after a drilldown on the 'Country' dimension. The 'Country' dimension is expanded to show all members: Canada, Mexico, and USA. The 'State/Province' dimension is also expanded to show all members for each country. The table data is as follows:

Customers		Product		Measures			
(All)	Country	State/Province	(All)	Store Sales	Sales Count	Store Sales	Sales Count
	Canada	BC		82.728.497,36	1.600.939	97.687.726,58	2.327.587
		DF		16.972.013,82	320.338	19.845.761,12	469.880
		Guerrero		4.805.178,37	100.087	5.522.671,69	143.658
		Jalisco		4.637.766,89	92.948	5.581.051,14	136.487
		Mexico		4.239.418,64	92.211	4.838.631,35	130.079
		Oaxaca		3.652.072,75	86.668	4.408.111,03	126.436
		Sinaloa		4.003.708,13	71.134	4.951.365,59	106.436
		Veracruz		4.491.004,12	88.903	5.295.520,25	126.330
		Yucatan		5.126.041,72	92.821	5.989.803,93	134.322
		Zacatecas		8.652.252,19	177.977	10.335.068,15	259.285
	USA	CA		203.013.078,89	3.923.028	239.224.223,15	5.727.432
		OR		48.894.986,00	988.402	57.326.668,09	1.438.230
		WA		101.570.666,68	1.950.711	118.098.284,26	2.815.742

The point here again is that CubePlayer preserves the original business context while performing the drilldown on member. For example if you have started with the 10 best product departments, this conditions will be preserved after the drilldown operation has been executed.

Drilldown on level – extended

Drilldown on level extended allows you to select either best N or worst N members from next level to be returned.

To perform Drilldown on level extended:

- Select dimension on row or column headers or data cell
- Select **Drilldown on level extended** from menu
- Select **dimension level** from submenu (State Province)
- Select **best** or **worst** (our sections is **best**)
- Select how much (5, 10, 15, 20, 25 or more for free selection)

The screenshot shows the S1_Designer application interface. A table displays data for Customers (Country, State Province) and Measures (Store Sales, Sales Count). A context menu is open over the table, showing options like 'Remove', 'Isolate', and 'Drilldown On Level (Extended)'. The 'Drilldown On Level (Extended)' option is selected, and a submenu is visible showing 'State Province' as the dimension level. Further submenus show 'Best' as the selection type and '5' as the number of members to return. The table data includes rows for Canada (BC, DF, Guerrero, Jalisco, Mexico, Oaxaca, Sinaloa, Veracruz, Yucatan, Zacatecas) and USA (CA, OR, WA).

Customers	Product	Measures	
(All)	(All)	Store Sales | Sales Count | Store Sales | Sales Count	
Canada		82.728.497,36 | 1.600.939 | 97.687.726,58 | 2.327.587	
BC		16.972.013,82 | 320.338 | 19.845.761,12 | 469.880	
DF		4.805.178,37 | 100.087 | 5.522.671,69 | 143.658	
Guerrero		1.437.244,80 | 23.048 | 5.581.051,14 | 136.487	
Jalisco			130.079
Mexico			126.436
Oaxaca			106.436
Sinaloa			126.330
Veracruz			134.322
Yucatan			259.285
Zacatecas			5.727.432
USA			1.438.230
CA			
OR			
WA			

New set of members will appear in the table. And, as opposed to the drilling on level, only first N members, **if they exists**, (in our case Best N members) from each parent are opened here.

Please do have in mind that some State Provinces does not have 5 cities where we perform business. This is the reason why Guerrero, Jalisco, Mexico, ... shows only one city instead of requested 5.

Control Panel					D_S1_Designer					S1_Designer																			
Table																													
					Time.Calendar																								
					All Years																								
					2000					2001																			
Customers					Product					Measures																			
(All)					(All)					Store Sales					Sales Count					Store Sales					Sales Count				
All Customers	Canada	BC	N. Vancouver		5.465.956,92					92.020					6.363.513,91					134.497									
			Langford		5.143.334,65					97.499					5.989.221,69					139.687									
			Shawnee		5.130.250,45					99.683					6.030.175,96					147.500									
			Metchosin		5.077.388,59					90.408					6.145.176,79					134.618									
			Ladner		5.003.540,86					98.860					5.663.122,59					139.298									
	Mexico	DF	Tixtlan		4.992.658,74					92.221					5.896.275,30					135.123									
			San Andres		4.739.558,26					89.711					5.493.703,13					132.246									
			Santa Anita		4.655.289,92					89.976					5.523.192,09					132.730									
			Santa Fe		2.584.506,90					48.430					2.932.590,59					69.781									
			Guezero		Acapulco		4.805.178,37					100.087					5.522.671,69					143.658							
			Jalisco		Guadalajara		4.637.766,89					92.948					5.581.051,14					136.487							
			Mexico		Mexico City		4.239.418,64					92.211					4.838.631,35					130.079							
			Oaxaca		Tlaxiaco		3.652.072,75					86.668					4.408.111,03					126.436							
			Sinaloa		La Cruz		4.003.708,13					71.134					4.951.365,59					106.436							
			Veracruz		Orizaba		4.491.004,12					88.903					5.295.520,25					126.330							
			Yucatan		Merida		5.126.041,72					92.821					5.989.803,93					134.322							
	Zacatecas		Camacho		4.352.961,33					82.640					5.250.534,88					122.964									
	USA	CA	Downey		5.746.589,05					105.072					6.543.313,85					150.664									
			El Cajon		5.599.117,53					100.304					6.530.412,17					143.096									
			National City		5.485.863,87					95.759					6.087.017,78					132.221									
			Richmond		5.265.005,63					94.414					6.180.407,59					137.067									
Beverly Hills			5.227.451,76					88.717					6.263.238,30					130.262											
Lake Oswego			5.208.155,51					97.489					6.034.435,91					141.795											
Beaverton			5.033.347,41					97.713					5.822.046,08					139.809											
Corvallis			4.903.165,41					93.331					5.486.702,19					131.942											
Lebanon			4.600.427,61					102.024					5.276.582,22					140.175											
Portland			4.500.000,00					100.000					5.000.000,00					130.000											
Seattle			4.400.000,00					90.000					4.900.000,00					120.000											
Tacoma			4.300.000,00					80.000					4.800.000,00					110.000											
Vancouver			4.200.000,00					70.000					4.700.000,00					100.000											
Washouet			4.100.000,00					60.000					4.600.000,00					90.000											
Yakima			4.000.000,00					50.000					4.500.000,00					80.000											

The point here again is that CubePlayer preserves the original business context while performing the drilldown on member.

Drilldown on member

To perform Drilldown on member:

- Select member itself on row or column header or select any data cell
- Right click
- Select member from menu
- Select **member** from submenu to drill to next level
- Select **level** from submenu to drill to some other level

Control Panel D_S1_Designer S1_Designer

Table

				Time.Calendar			
				All Years			
				2000		2001	
Customers		Product		Measures			
(All)	Country	(All)		Store Sales	Sales Count	Store Sales	Sales Count
All Customers	Canada	All Products		82.728.497,36	1.600.939	97.687.726,58	2.327.587
	Mexico			56.579.456,63	1.123.087	66.767.984,27	1.632.913
	USA			353.420.141,20	6.923.141	111.649.175,59	9.981.404

The new set of members will appear in the table.

Only member selected member (USA) will be drilled down, and rest of the members will be preserved.

Control Panel D_S1_Designer S1_Designer

Table

				Time.Calendar			
				All Years			
				2000		2001	
Customers		Product		Measures			
(All)	Country	State Province	(All)	Store Sales	Sales Count	Store Sales	Sales Count
All Customers	Canada		All Products	82.728.497,36	1.600.939	97.687.726,58	2.327.587
	Mexico			56.579.456,63	1.123.087	66.767.984,27	1.632.913
	USA	CA		203.013.078,89	3.923.028	239.224.223,15	5.727.432
		OR		48.894.986,00	988.402	57.326.668,09	1.438.230
		WA		101.570.666,68	1.950.711	118.098.284,26	2.815.742

The point here again is that CubePlayer preserves the original business context.

Drilldown on member – extended

Drilldown on member extended allows you to select either best N or worst N members on selected level to be returned.

To perform Drilldown on member extended:

- Select member on row or column headers or data cell
- Select **Drilldown on member extended** from menu (**Mexico**)
- Select **dimension** from submenu (City)
- Select **best** or **worst** (our sections is **best**)
- Select how much (5, 10, 15, 20, 25 or more for free selection)

The screenshot shows the S1_Designer interface with a table of sales data. A context menu is open over the 'Mexico' member in the 'Country' dimension. The menu path for 'Drilldown On Member (Extended)' is highlighted, showing the selection of 'Mexico', 'All Products', '2000', 'City', 'Best', and '5'.

Customers		Measures	
(All)	Country	Store Sales	Sales Count
All Customers	Canada	82.728.497,36	1.600.939
	Mexico	56.570.456,62	1.122.087
	USA	353.478.731,58	6.862.141

New set of members will appear in the table. The best 5 (if there is 5 members at all) Cities from Mexico.

Control Panel

D_S1_Designer

S1_Designer

Table

						Time.Calendar			
						All Years			
						2000		2001	
	Customers				Product	Measures			
	(All)	Country	State Province	City	(All)	Store Sales	Sales Count	Store Sales	Sales Count
All Customers	Canada				All Products	82.728.497,36	1.600.939	97.687.726,58	2.327.587
	Mexico	DF	Santa Anita			4.655.289,92	89.976	5.523.192,09	132.730
			Tixapan			4.992.658,74	92.221	5.896.275,30	135.123
		Jalisco	Guadalajara			4.637.766,89	92.948	5.581.051,14	136.487
		Veracruz	Orizaba			4.491.004,12	88.903	5.295.520,25	126.330
		Yucatan	Merida			5.126.041,72	92.821	5.989.803,93	134.322
	USA					353.478.731,58	6.862.141	414.649.175,50	9.981.404

The point here again is that CubePlayer preserves the original business context while performing the drilldown on member.

Drilldown on member – select level

To perform Drilldown on member and to skip one or more levels, even to go to the bottom:

- Select member itself on row or column header or select any data cell
- Right click
- Select **member** from menu (**Mexico**)
- Select **level** from submenu to drill to some other level (level – **City**)

Customers		Product	Measures			
(All)	Country	(All)	Store Sales	Sales Count	Store Sales	Sales Count
All Customers	Canada	All Products	82.728.497,36	1.600.939	97.687.726,58	2.327.587
	Mexico		27	1.632.913		
	USA		50	9.981.404		

The new set of members will appear in the table.

Only member selected member (Mexico) will be drilled down to selected level, and rest of the members will be preserved.

Customers		Product	Measures			
(All)	Country	(All)	Store Sales	Sales Count	Store Sales	Sales Count
All Customers	Canada	All Products	82.728.497,36	1.600.939	97.687.726,58	2.327.587
	DF		4.739.558,26	89.711	5.493.703,13	132.246
	Santa Anita		4.655.289,92	89.976	5.523.192,09	132.730
	Santa Fe		2.584.506,90	48.430	2.932.590,59	69.781
	Tixapan		4.992.658,74	92.221	5.896.275,30	135.123
	Guerrero		4.805.178,37	100.087	5.522.671,69	143.658
	Jalisco		4.637.766,89	92.948	5.581.051,14	136.487
	Mexico		4.239.418,64	92.211	4.838.631,35	130.079
	Oaxaca		3.652.072,75	86.668	4.408.111,03	126.436
	Sinaloa		4.003.708,13	71.134	4.951.365,59	106.436
	Veracruz		4.491.004,12	88.903	5.295.520,25	126.330
	Yucatan		5.126.041,72	92.821	5.989.803,93	134.322
	Zacatecas		4.352.961,33	82.640	5.250.534,88	122.964
	Hidalgo		4.299.290,86	95.337	5.084.533,28	136.321
	USA		353.478.731,58	6.862.141	414.649.175,50	9.981.404

Drilldown on cell

This **Drilldown on cell** method is basically a "shortcut" to the **Drilldown on member** according to the all available dimensions that particular cell belongs to.

Select a cell (value 151.000.932,70 **Store Sales**) that belongs to:

- **USA**
- **Food**
- **1999**

Table								
Customers	Product	1998		1999		2000		
		Store Sales	Sales Count	Store Sales	Sales Count	Store Sales	Sales Count	
Canada	Drink	4.240.439,98	68.919	6.119.797,92	74.164	6.578.317,79	142.245	
	Food	35.692.889,85	528.649	56.998.461,49	592.437	61.749.995,97	1.154.637	
	Non-Consumable	9.813.705,92	168.855	14.031.195,34	159.041	14.400.183,60	304.057	
Mexico	Drink	3.486.916,59	53.274	5.073.337,03	62.302	5.517.802,21	120.050	
	Food	24.691.174,97	376.619	37.953.229,22	402.844	40.917.597,82	784.381	
	Non-Consumable	5.837.051,31	98.560	9.972.640,78	113.351	10.144.056,60	218.656	
USA	Drink	17.277.895,37	277.938	28.239.096,66	312.685	31.518.160,63	611.193	
	Food	151.000.932,70	2.296.873	239.965.141,94	2.550.067	259.340.117,24	4.958.392	
	Non-Consumable	36.457.09			773.351	62.620.453,71	1.292.556	

Only members from them will survive:

CubePlayer - M

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Full Normal Send... Print Show Styles

Control Panel D_S1_Designer S1_Designer

Table

Customers: (All) Country: USA State Province: CA, OR, WA Product: (All) Product Family: Food Product Department: Food

Time.Calendar: 1998 1998 Y 1/2 1998 Y 2/2 1998 Y 1/2 1998 Y 2/2

Measures: Store Sales Sales Count

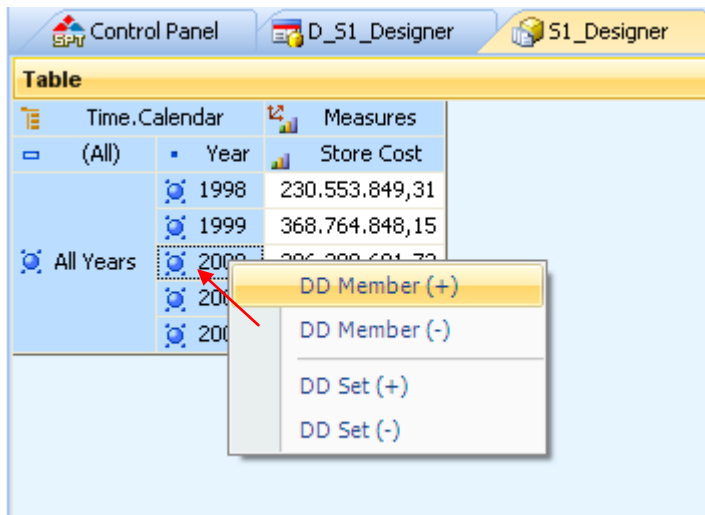
Product Department	Store Sales	Sales Count
Baked Goods	2.059.184,33	2.103.492,32
Baking Goods	5.886.536,81	5.903.476,76
Breakfast Foods	721.344,78	734.117,87
Canned Foods	3.835.051,34	3.853.616,70
Canned Products	239.569,32	238.137,72
Dairy	2.805.484,44	2.827.480,02
Deli	2.176.660,61	2.194.955,17
Eggs	1.424.704,57	1.444.136,59
Frozen Foods	4.485.138,26	4.559.825,32
Meat	219.150,16	214.573,17
Produce	9.103.417,76	9.264.066,89
Seafood	486.487,17	480.531,67
Snack Foods	6.691.655,96	6.808.435,08
Snacks	1.795.205,23	1.798.800,77
Starchy Foods	1.180.287,23	1.208.696,52
Baked Goods	370.238,00	368.966,62
Baking Goods	1.001.059,69	1.009.484,00
Breakfast Foods	76.056,19	76.834,11
Canned Foods	851.173,53	870.625,62
Canned Products	9.699,99	9.760,87
Dairy	539.008,34	537.605,47
Deli	435.805,71	430.794,43
Eggs	126.018,66	125.306,23
Frozen Foods	1.522.980,83	1.542.492,95
Meat	126.513,22	123.329,46
Produce	1.920.117,82	1.924.687,96
Seafood	132.442,93	126.569,37
Snack Foods	2.163.329,30	2.168.644,71
Snacks	316.610,00	319.833,97
Starchy Foods	428.588,77	433.423,21
Baked Goods	1.405.884,63	1.416.111,87
Baking Goods	3.099.845,04	3.144.901,39
Breakfast Foods	109.227,20	108.493,09
Canned Foods	1.203.476,18	1.201.732,07
Canned Products	289.775,28	301.289,17
Dairy	954.795,64	977.799,92
Deli	898.597,14	905.474,62
Eggs	289.462,72	288.762,66
Frozen Foods	2.598.997,28	2.613.432,13
Meat	243.133,08	247.042,18
Produce	4.540.122,84	4.585.759,35
Seafood	486.487,17	480.531,67
Snack Foods	6.691.655,96	6.808.435,08
Snacks	1.795.205,23	1.798.800,77
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Dairy	954.795,64	977.799,92
Deli	898.597,14	905.474,62
Eggs	289.462,72	288.762,66
Frozen Foods	2.598.997,28	2.613.432,13

Double-click on member

To use special drill options:

- Place mouse over selected member in rows or columns
- Double-click it

menu will appear:



DD Member (+)

DrillDown Member performed on selected member (**year 2000**)

Year 2000 will remain at the table

DD Member (-)

DrillDown Member performed on selected member (**year 2000**)

Year 2000 will be removed from the table

DD Set (+)

DrillDown Set performed on selected member (**year 2000**)

Year 2000 will remain at the table

DD Set (-)

DrillDown Set performed on selected member (**year 2000**)

Year 2000 will be removed from the table

Before we see results let us repeat what is:

Drill down member

Only selected member (**Year 2000**) will be drilled down,
and rest of the members will be preserved.

Drill down set

The result will be that only the members that belong to the **selected member**
(**Year 2000** in rows!) will survived the Drilldown

Let us see results for each option:

DD Member (+)

DrillDown Member performed on selected member (**year 2000**)

Year 2000 will remain at the table

Control Panel D_S1_Designer S1_Designer			
Table			
	Time.Calendar		Measures
(All)	Year	Half Year	Store Cost
All Years	1998		230.553.849,31
	1999		368.764.848,15
			386.398.601,73
	2000	2000 Y 1/2	192.671.390,89
		2000 Y 2/2	193.727.210,85
	2001		453.763.156,89
	2002		487.371.124,32

DD Member (-)

DrillDown Member performed on selected member (**year 2000**)

Year 2000 will be removed from the table

Control Panel D_S1_Designer S1_Designer			
Table			
	Time.Calendar		Measures
(All)	Year	Half Year	Store Cost
All Years	1998		230.553.849,31
	1999		368.764.848,15
	2000	2000 Y 1/2	192.671.390,89
		2000 Y 2/2	193.727.210,85
	2001		453.763.156,89
	2002		487.371.124,32

DD Set (+)

DrillDown Set performed on selected member (**year 2000**)

Year 2000 will remain at the table

Control Panel D_S1_Designer S1_Designer			
Table			
	Time.Calendar		Measures
(All)	Year	Half Year	Store Cost
All Years			386.398.601,73
	2000	2000 Y 1/2	192.671.390,89
		2000 Y 2/2	193.727.210,85

DD Set (-)

DrillDown Set performed on selected member (**year 2000**)

Year 2000 will be removed from the table

Control Panel D_S1_Designer S1_Designer			
Table			
	Time.Calendar		Measures
(All)	Year	Half Year	Store Cost
All Years			
	2000	2000 Y 1/2	192.671.390,89
		2000 Y 2/2	193.727.210,85

Data Analysis in CubePlayer

There are four different analysis available in CuePlayer:

- | | |
|---------------------|--------------------------------|
| • How Many Anylysis | available on any table |
| • Show Me Analysis | available on any table |
| • Hot-Spot Analysis | available on any table |
| • ABC- Analysis | available as separate analysis |

How Many Analysis

Usual question that users want to ask is for example:

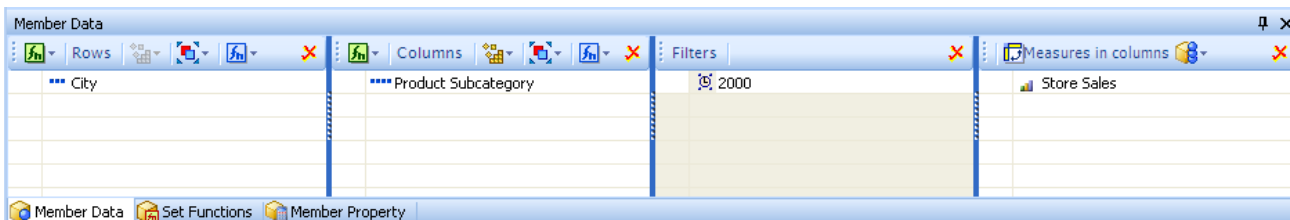
In How Many of my Cities (or which are my Cities) customers are buying 40 or more product subcategories groups from my Top 50 selling product subcategories groups in year 2000?

To get this answer in CubePlayer is very simple.

First you have to determine:

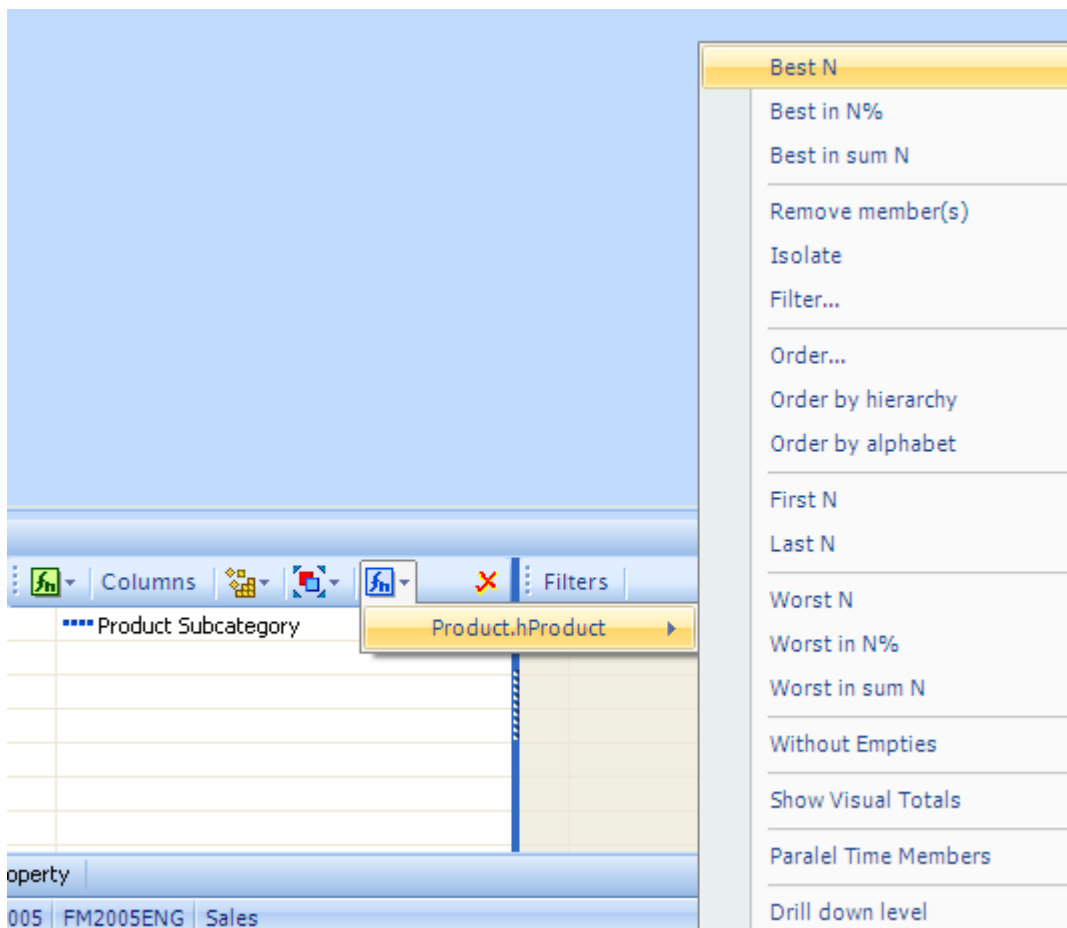
- Measure that suites your question Store Sales
(if it is bigger the 0 then customers are buying)
- Row axis members in this case Cities from dimension Customers
- Column axis members in this case Top 50 product subcategories groups
according to Store Sales measure
- Filter members year 2000,
because we are asking question for that year only

Let us create such a question:



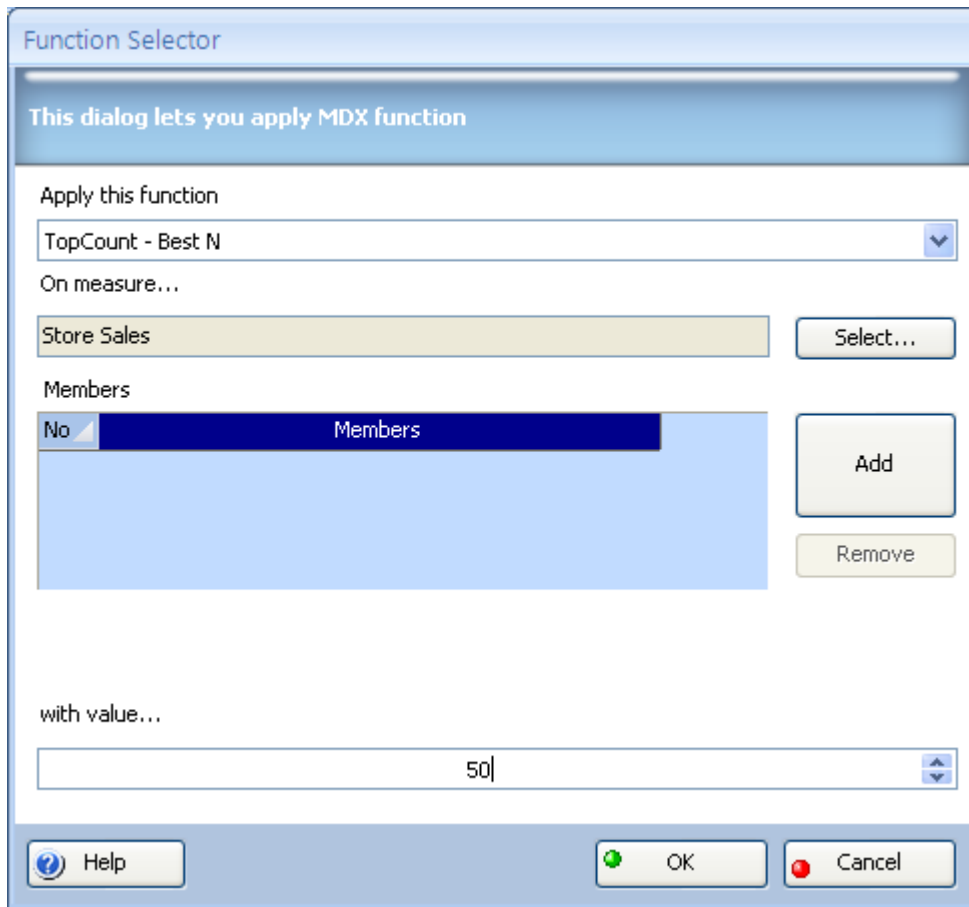
This is a begging.

Now, you have to set Top Count function for Product Subcategories:



- Select **blue icon** in columns that represent dimension functions
- Select **Top Count** from menu
- Select dimension **Product** from submenu

Dialog will appear:



Function is already selected and measure as well (it is default measure), now:

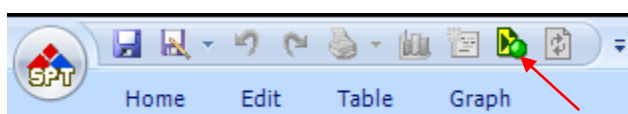
- Input correct value (it is **50**).
- Select OK

Member data area looks like this:



Blue icon is turned to red. It means we applied function to columns for particular dimension.

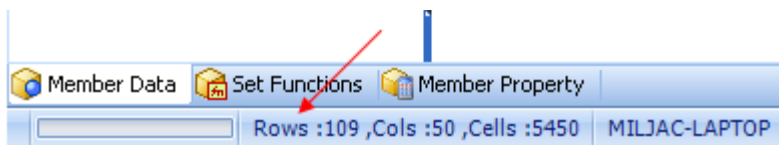
Now run query selecting Run icon from QAT.



Result will appear:

Table (2000)						
Customers	Fresh Vegetables	Fresh Fruit	Dried Fruit	Cookies	Cheese	Soups
Burnaby	240.426,94	11.374,36	391.924,11	82.877,75	69.830,37	7.014,11
Cliffside	273.889,02	156.695,22	292.127,87	402.835,03	28.229,71	29.036,11
Haney	207.707,32	211.860,49	4.234,98	195.849,97	842,60	8.259,11
Ladner	326.237,23		170.063,80	144.574,81	7.423,59	8.061,11
Langford	153.118,64	169.334,97	242.537,38	336.593,54	109.863,80	188.021,11
Langley	268.006,30	114.939,09	375.449,92	122.852,62	12.696,01	5.470,11
Metchosin	460.344,96	371.488,36	279.971,34	153.016,64	185.111,67	202.098,11
N. Vancouver	455.748,19	304.982,35	136.342,46	212.023,31	149.104,01	61.319,11
Newton	290.423,95	412.769,17	104.125,54		206.093,42	174.883,11
Oak Bay	78.751,17	318.034,30	155.420,05	138.433,30	51.775,85	848,11
Port Hammond	307.708,47	79.780,31	162.843,95	240.641,76	132.404,57	41.467,11
Richmond	247.410,90	134.251,39	313.674,17	12.316,82	129.335,25	145.005,11
Royal Oak	253.987,76	35.757,62		157.210,76	224.800,40	99.851,11
Shawnee	521.930,56	238.236,88	499.336,95	139.853,33	122.515,92	183.934,11
Sooke	132.017,72	346.185,02		514.275,97	108.521,20	191.251,11
Vancouver	416.599,01	225.023,07		184.414,87	107.047,46	5.512,11
Victoria	220.520,35	64.438,30	40.386,51	114.938,42	51.946,76	141.653,11
Westminster	234.737,74	99.340,47	233.624,40	43.695,36	208.665,72	219.322,11
San Andres	472.303,35	325.022,77	343.837,62	239.808,05	854,86	14.358,11
Santa Anita	175.880,56	169.549,91	133.256,14	223.926,37	24.922,37	
Santa Fe	416.808,21	95.654,57	60.068,88	21.126,86	125.392,34	67.440,11
Tixapan	829.346,78	146.760,04	158.246,06		159.394,87	33.513,11
Acapulco	171.001,84	318.722,63	48.761,13	50.169,44	127.334,96	50.599,11

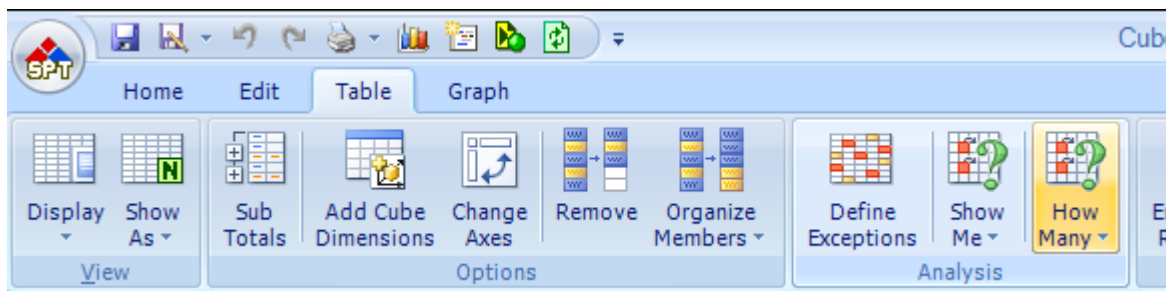
There is 109 Cities (rows) at the table.



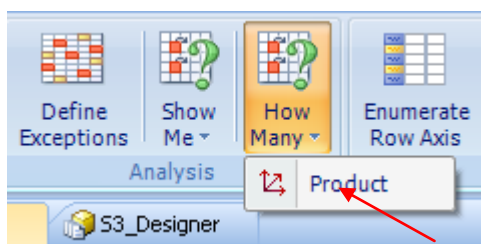
How Many analyses can be applied on any result set in designer, query or even inside dashboard panel.

To apply **How Many** analysis:

- Go to **Table** tab
- Select Analysis section **HowMany** button



Criteria for HowMany analysis can be applied only according one dimension, therefore after selecting HowMany button you will get dimension selector. Since we have only one dimension select that one.



Dialog will appear:

Analysis

How Many...

How many members from rows have relations with

>= 0 members from columns

through the measure

Store Sales

Reference Dimension

hProduct

Operator

☐ < ☐ >
☐ <= ☒ >=
☐ = ☐ <>

Measure

Store Sales

Select...

Value

0

☐ Summary Only

Now define:

- **Operator** since we said that Store sales > 0 means “buying”
we do not have to make any intervention
For example for those who are not buying we can say Store Sales <= 0
- **Measure** if there is more then one at the table
- **Value** number of relations
(if you want to see only those members that are buying
40 or more products set here **40**)

Analysis

How Many...

How many members from rows have relations with

>= 40 members from columns

through the measure

Store Sales

Reference Dimension

hProduct

Operator

☐ < ☐ >
☐ <= ☒ >=
☐ = ☐ <>

Measure

Store Sales

Select...

Value

40

☐ Summary Only

- Select OK

Since we have been in designer CubePlayer will take as out to query form:

Control Panel D_S3_Designer S3_Designer_2

Table (2000)

Customers	(CPTotal)		.... Fresh Vegetables	.... Fresh Fruit
	Store Sales(CPTotal)	How Many(CPTotal)		Sto
... Richmond	3.486.319,77	43	175.226,07	138.642,55
... Oak Bay	3.502.474,38	42	78.751,17	318.034,30
... Arcadia	3.319.477,56	42	611.102,09	37.263,84
... Langford	4.127.117,13	41	153.118,64	169.334,97
... Port Hammond	3.411.996,46	41	307.708,47	79.780,31
... Richmond	3.500.290,26	41	247.410,90	134.251,39
... Bremerton	3.524.661,62	41	261.027,48	77.730,58
... Olympia	2.930.063,32	41	288.823,09	284.251,06
... Ladner	3.759.900,81	40	326.237,23	
... Novato	3.214.530,52	40	242.380,78	91.345,53
... Pomona	4.004.188,75	40	465.503,18	128.779,91
... Santa Cruz	4.096.951,22	40	481.784,37	172.682,96
... Issaquah	3.894.868,24	40	514.639,20	234.697,44
... Puyallup	4.315.193,71	40	179.735,88	438.856,78
... Walla Walla	4.084.206,99	40	744.595,92	39.947,72

Rows :15 ,Cols :52 ,Cells :780 MILJAC-LAPTOP FoodMart 2000 Big Extended Sales

At the bottom you can see that all 109 Cities did not survive our analysis. Therefore in year 2000 only in 15 Cities customers are buying 40 or more product subcategories from our list of Top 50 product subcategories. In addition we can see that maximum number is 43 that means that there is no City where users are buying all 50 product subcategories.

First column is:

Cumulative value according to selected measure (Store Sales) for those who survived analysis.

Second column is:

Number of "events" (those who are buying 40 or more).

Rests of the columns are:

Product Subcategories involved with Cities from the rows.

Result set is ORDERED according SECOND COLUMN (HowMany CPTotal).

If you want to see only summary (first two columns):

- Check checkbox **Summary only**

Analysis

How Many...

How many members from rows have relations with

>= 40 members from columns

through the measure

Store Sales

Reference Dimension

hProduct

Operator

☐ <
 ☐ >

☐ <=
 ☒ >=

☐ =
 ☐ <>

Measure

Store Sales

Select...

Value

40

☒ Summary Only

Help < Back Next > OK Cancel

And result table is:

Table (2000)		
Customers	(CPTotal)	
	Store Sales(CPTotal)	How Many(CPTotal)
Richmond	3.486.319,77	43
Oak Bay	3.502.474,38	42
Arcadia	3.319.477,56	42
Langford	4.127.117,13	41
Port Hammond	3.411.996,46	41
Richmond	3.500.290,26	41
Bremerton	3.524.661,62	41
Olympia	2.930.063,32	41
Ladner	3.759.900,81	40
Novato	3.214.530,52	40
Pomona	4.004.188,75	40
Santa Cruz	4.096.951,22	40
Issaquah	3.894.868,24	40
Puyallup	4.315.193,71	40
Walla Walla	4.084.206,99	40

Rows :15 ,Cols :2 ,Cells :30 MILJENKO-NOTEBO FoodMar

This type analysis you can apply on any result set.

Show Me Analysis

Second type of questions user likes to ask (better to say need answer) is:

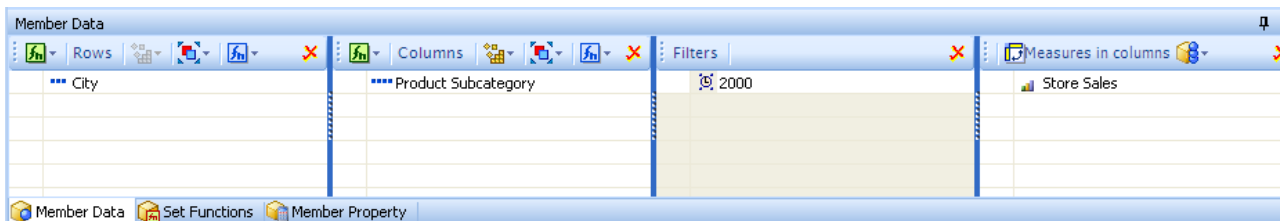
Show me those Cities (or which are my Cities) where users are buying Product Subcategories A and B together but they are not buying C and D together in year 2000?

To get this answer in CubePlayer is very simple.

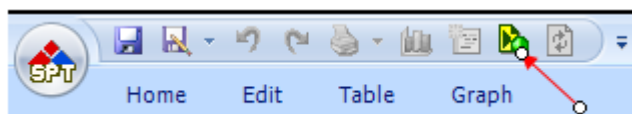
First you have to determine:

- Measure that suites your question Store Sales
(if it is bigger the 0 then customers are buying)
- Row axis members in this case Cities from dimension Customers
- Column axis members in this case all Product Subcategories groups
- Filter members year 2000,
because we are asking question for that year only

Let us create such a question:



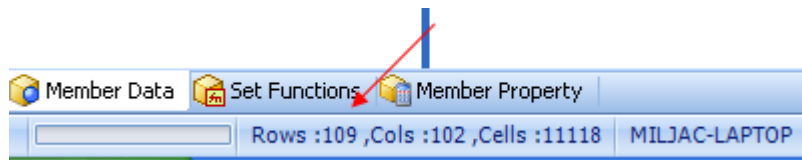
Now run query selecting Run icon from QAT.



Result will appear:

Table (2000)							
Customers	Beer	Wine	Soda	Flavored Drinks	Chocolate	Coffee	
••• Burnaby		150.215,72	74.592,13			372.670,45	77.
••• Cliffside		166.651,97					28.
••• Haney		80.981,91	52.479,17	4.784,56		63.573,49	
••• Ladner		190.161,92	169,78			77.108,51	
••• Langford		19.509,16				194.172,91	6.
••• Langley	91.512,80	457.212,34	49.247,60	74.730,43		20.386,36	3.
••• Metchosin		61.962,10	35.315,45	110.052,33		82.616,10	50.
••• N. Vancouver	100.141,71			49.208,80		378.846,75	5.
••• Newton	46.484,85	80.3		3.513,23		152.682,75	
••• Oak Bay		19.4		130,32		241.263,52	77.
••• Port Hammond	5.930,23	49.18		6.825,43		63.470,81	70.
••• Richmond		86.554,14	38.756,92	178,50			90.
••• Royal Oak	112.664,87	140.433,56	14.121,06		5.769,79		
••• Shawnee	86.961,93	99.683,11		53.471,78	58.618,58		119.
••• Sooke	70.848,63		107.097,16	107.147,96		4.833,39	
••• Vancouver	19.566,17	119.542,76	118.731,08				
••• Victoria		81.857,96	100.590,40		147.189,77	28.003,70	
••• Westminster		6.130,78		252,06	6.190,44		58.
••• San Andres	61.904,27	115.781,86	69.378,55	26.415,80	133.171,17	57.627,15	
••• Santa Anita	86.369,38	4.433,17	98.521,82	20.977,83		140.368,86	137.
••• Santa Fe			214,72				
••• Tixapan	75.971,21	181.070,77	77.491,64		47.546,77		
••• Acapulco	194.364,32	148.444,86	54.502,56	90.329,29		26.288,68	49.

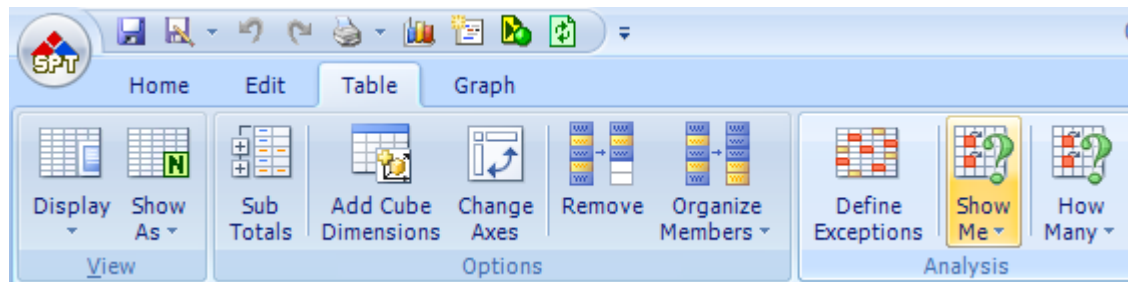
There are 109 Cities (rows) and 102 Product Subcategories at the table.
This is quite a large table. You can make this table smaller by creating set of your Product Subcategories.



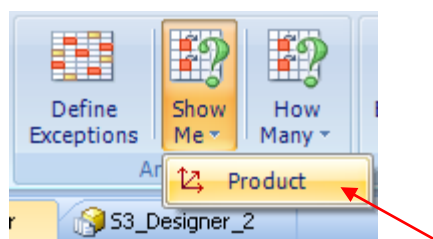
ShowMe analyses can be applied on any result set in designer, query or even inside dashboard panel.

To apply **ShowMe** analysis:

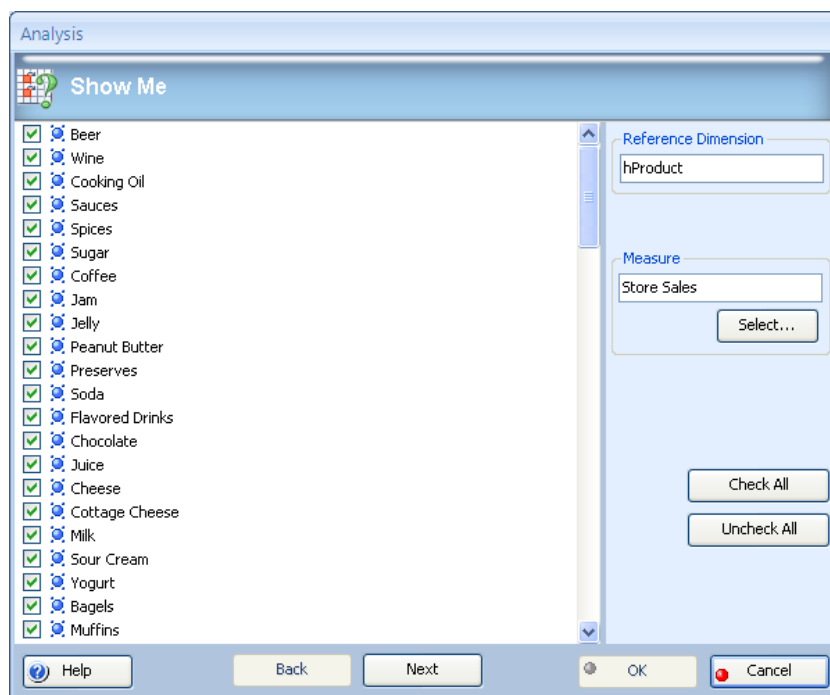
- Go to **Table** tab
- Select Analysis section **ShowMe** button



Criteria for ShowMe analysis can be applied only according one dimension, therefore after selecting ShowMe button you will get dimension selector. Since we have only one dimension select that one.



Dialog will appear:



For our analysis we will now determine our Product Subcategories A, B, C and D.

Product Subcategories

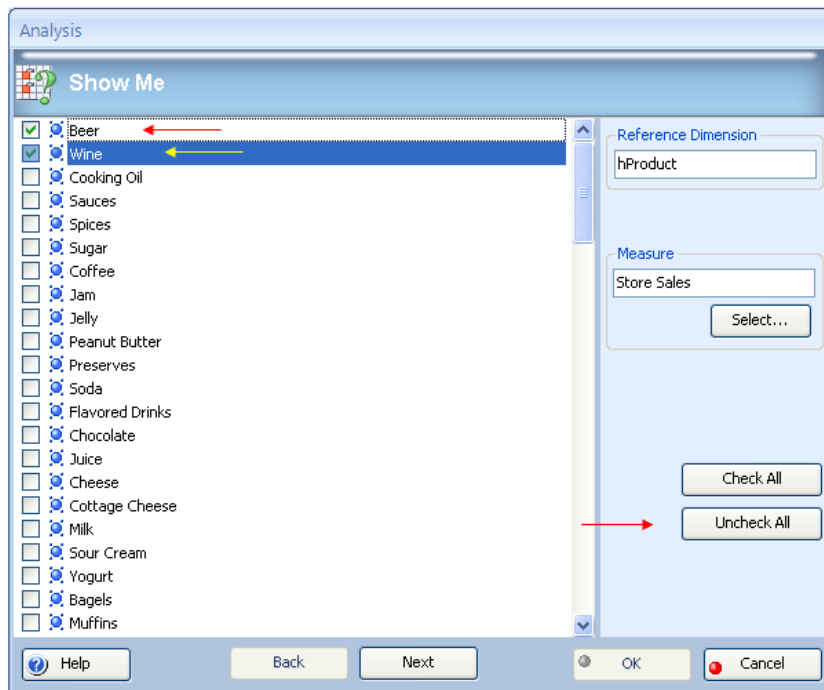
- A Beer
- B Wine
- C Flavored Drinks
- D Chocolate

That means we are trying to find those Cities where customers are buying:

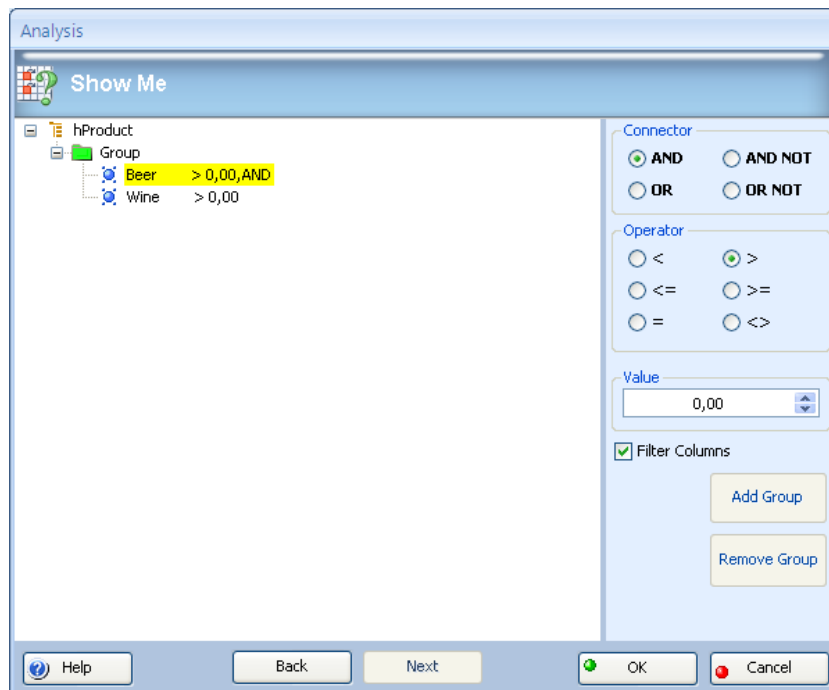
- A and B together Beer and Wine
- AND NOT
- C and D together Flavored Drinks and Chocolate

To set this condition:

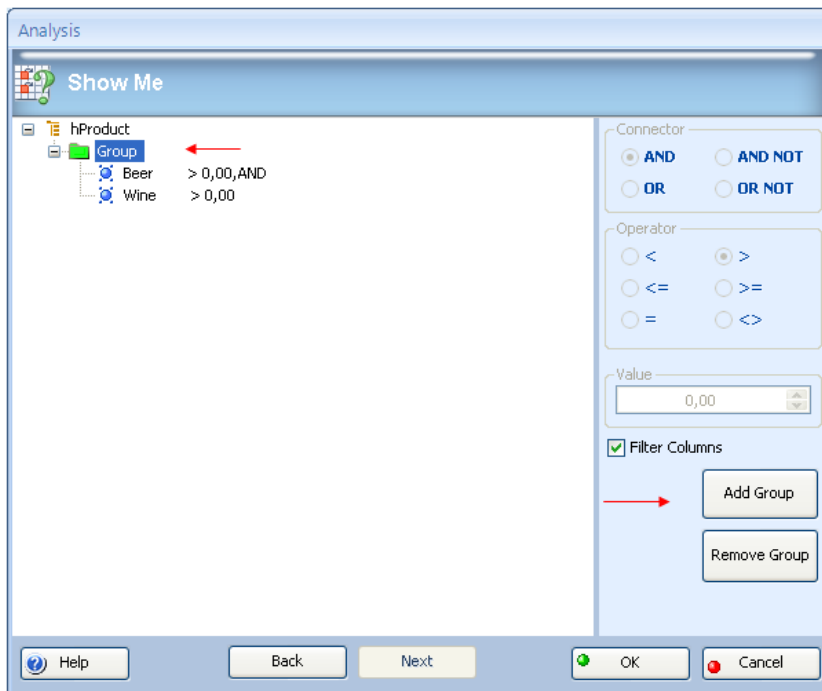
- **Uncheck All**
- Check **Beer** and check **Wine**
- Select **Next**



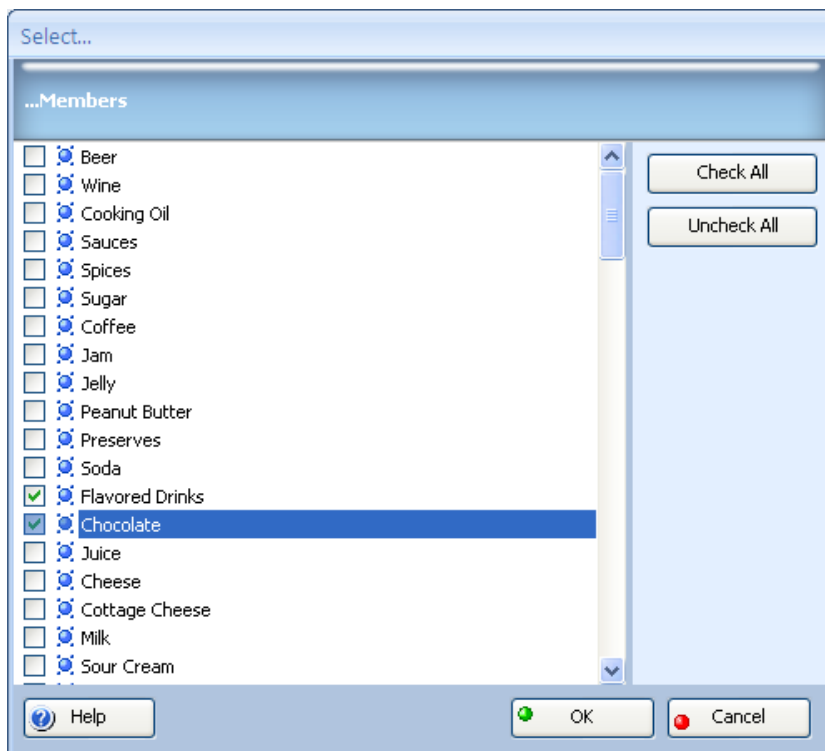
New dialog will appear. Here is settled our first group:



- Select **Group** on a tree view
- Select **Add Group** (for Flavored Drinks and Chocolate)

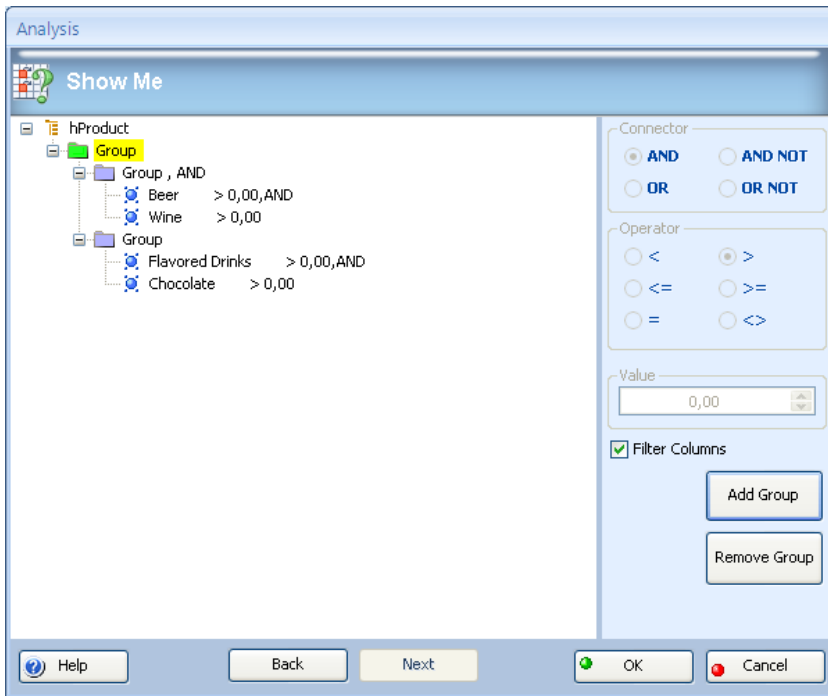


Dialog to set up new group will appear:



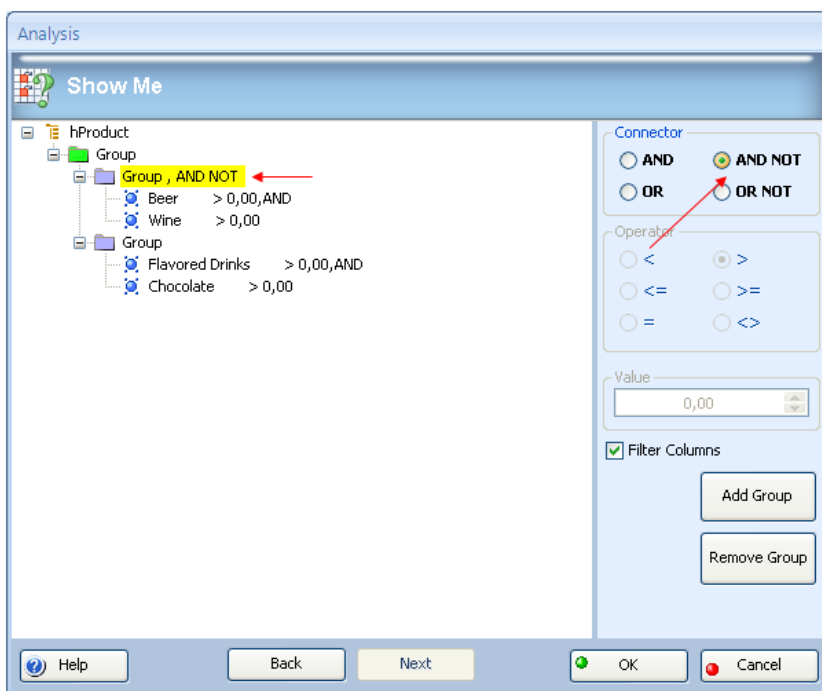
To set new group:

- **Uncheck All**
- Check **Flavored Drinks** and check **Chocolate**
- Select **OK**



Now change condition for second group:

- Select **first Group** on a tree view
- Select logical operator **AND NOT** on the right hand side



Now:

- Select **OK**

Here are our results:

D_S3_Designer		S3_Designer_4		S3_Designer_5		S3_Designer_6			
Table (2000)									
		Beer		Wine		Flavored Drinks		Chocolate	
Customers		Store Sales							
Langley		91.512,80		457.212,34		74.730,43			
Newton		46.484,85		80.308,98		3.513,23			
Port Hammond		5.930,23		49.189,82		6.825,43			
Royal Oak		112.664,87		140.433,56				5.769,79	
Vancouver		19.566,17		119.542,76					
Santa Anita		86.369,38		4.433,17		20.977,83			
Tixapan		75.971,21		181.070,77				47.546,77	
Acapulco		194.364,32		148.444,86		90.329,29			
Tlaxiaco		4.440,60		165.997,12		74,65			
Merida		60.635,07		225.684,00		38.013,31			
Altadena		1.485,08		196.843,24		137,26			
Burlingame		150.070,60		133.494,49		147.787,46			
Chula Vista		202.175,60		129.520,21		112.080,51			
Colma		72.879,36		122.277,71					
Concord		26.060,95		25.308,49		7.953,31			
Downey		50.546,26		149.137,11		24.784,98			
Imperial Beach		46.396,20		104.593,70					
La Mesa		29.009,24		60.962,24		120,57			
Lemon Grove		164.811,09		389.765,24		65.579,30			
Lincoln Acres		111.796,78		327.591,01		170,47			
Pomona		165.744,56		22.844,30		26.368,29			
Richmond		48.393,28		17.545,07		240.716,01			
San Diego		73.506,76		158.754,75					
Portland		19.320,53		132.390,88		26.135,05			
Salem		2.954,64		103.426,05		90.415,64			
Bremerton		75.495,08		65.259,44					
Issaquah		46.841,85		115.699,50		62.020,68			
Lynnwood		295.082,73		174.968,71		65.520,80			
Seattle		23.069,36		86.675,22		7.019,62			
Sedro Woolley		153.012,83		147.749,12		73.974,41			
		Rows :30 ,Cols :4 ,Cells :120		MILJAC-LAPTOP		FoodMart 2000 Big Extended		Sales	

As you can see only 30 Cities satisfy our criteria.
 In first two columns you can see that each cell has value.
 This is because our condition was to see all cities where customers are buying:

Beer and Wine product subcategories together

Those cities where users were buying only one of those product subcategories dropped out from the result table.

Next two columns displays second part of our condition:

That users are NOT buying product subcategories Flavored Drinks and Chocolate together

This is the reason why neither of those cities has populated both cells for **Flavored Drinks** and **Chocolate**.

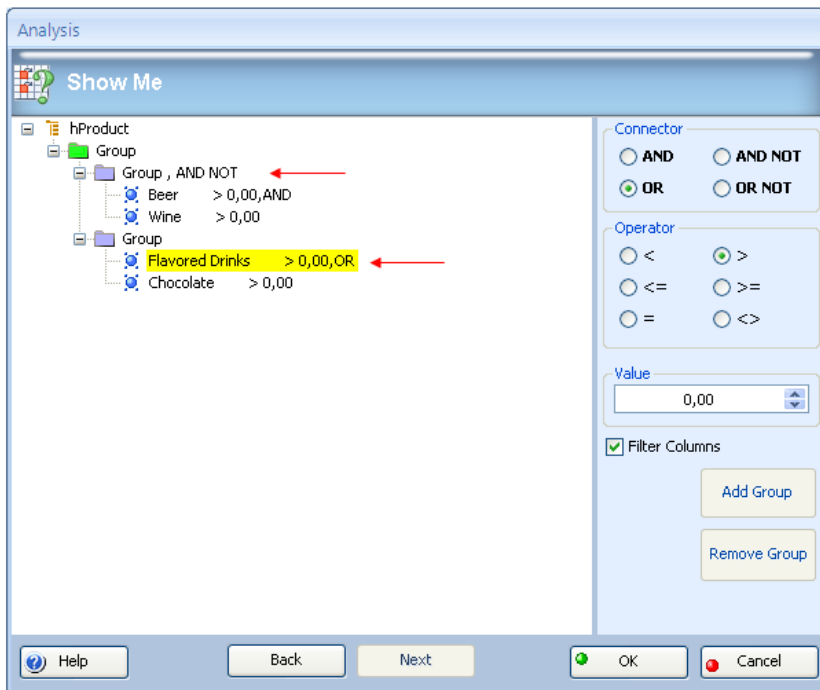
If we change our condition for second group from

Flavored Drinks **AND** Chocolate

to

Flavored Drinks **OR** Chocolate

that means we want to see those cities where customers are buying **Beer** and **Wine** but not **Flavored Drinks** or **Chocolate**



Result set is even smaller.

Now, all those cities where users have been buying Flavored Drinks or Chocolate dropped out from result set.

Table (2000)		
Customers	Beer	Wine
Vancouver	19.566,17	119.542,76
Colma	72.879,36	122.277,71
Imperial Beach	46.396,20	104.593,70
San Diego	73.506,76	158.754,75
Bremerton	75.495,08	65.259,44

Because NON EMPTY is on for rows and columns, we can not see any more members of Flavored Drinks and Chocolate on the table.

If you want to see ALL members from columns, and not only those you have selected:

- Uncheck check box **Filter Columns**

Analysis

Show Me

hProduct

- Group
 - Group , AND NOT
 - Beer > 0,00,AND
 - Wine > 0,00
 - Group
 - Flavored Drinks > 0,00,OR
 - Chocolate > 0,00

Connector

AND AND NOT

OR OR NOT

Operator

< >

<= >=

= <>

Value

0,00

☐ Filter Columns

Add Group

Remove Group

Help Back Next OK Cancel

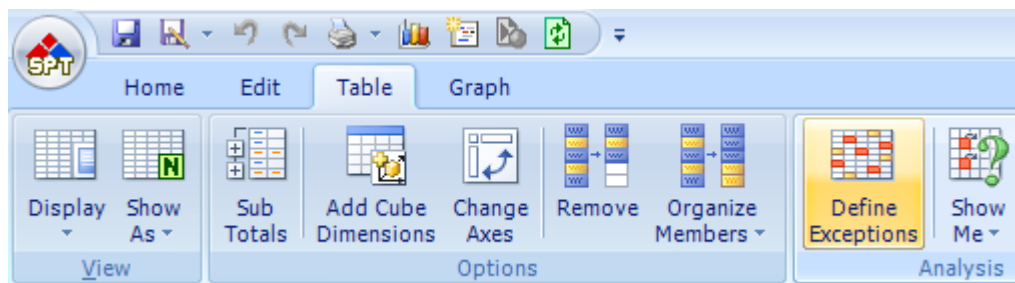
Result set will contain all other members from columns (with respect to NON EMPTY, do not forget):

Table (2000)								
	Beer	Wine	Soda	Coffee	Juice	Milk	Bagels	
Customers	Store Sales							
Vancouver	19.566,17	119.542,76	118.731,08			132.559,28		
Colma	72.879,36	122.277,71	126.055,62	115.218,09	124.594,55	69.691,93	118.271,27	
Imperial Beach	46.396,20	104.593,70		76.381,91	65.740,90			
San Diego	73.506,76	158.754,75		88.275,19	13.959,12	151.166,43		
Bremerton	75.495,08	65.259,44			27.934,54			

This type analysis you can apply on any result set.

Hot-Spot Analysis

To use **Hot-spot** analysis or so called **Exception** analysis:



- Select tab **Table**
- Select Define **Exception** button.

Control Panel D_S1_Designer S1_Overview					
Table					
Customers	Product	1998		1999	
		Store Sales	Unit Sales	Store Sales	Unit Sales
Canada	Drink	4.240.439,98	168.777,00	6.119.797,92	240.366,00
	Food	35.692.889,85	1.372.248,00	56.998.461,49	2.061.862,00
	Non-Consumable	9.813.705,92	408.948,00	14.031.195,34	517.194,00
Mexico	Drink	3.486.916,59	137.113,00	5.073.337,03	202.050,00
	Food	24.691.174,97	980.195,00	37.953.229,22	1.382.168,00
	Non-Consumable	5.837.051,31	242.010,00	9.972.640,78	373.210,00
USA	Drink	17.277.835,37	691.330,00	28.239.096,66	1.068.158,00
	Food	151.000.932,70	5.890.574,00	239.965.141,94	8.751.747,00
	Non-Consumable	36.457.093,22	1.452.627,00	86.205.313,30	2.886.455,00

Dialog will appear. Check measure you want to analyze and set minimum and maximum values.

Define...

...Exceptions

Available Measures

No	Measure Caption	Minimum	Average	Maximum	Enabled
1	Store Sales	3.486.916,59	54.450.128,58	323.309.130,35	<input checked="" type="checkbox"/>
2	Unit Sales	137.113,00	2.819.468,98	20.191.888,00	<input type="checkbox"/>

☒ Exclude Empty cells **Selected Measure : Store Sales**

Minimum

Value: 15.000.000,00

Style

Font: Tahoma

BackColor: [Select...](#)

ForeColor: [Select...](#)

BorderColor:

Preview: 12345

Maximum

Value: 50.000.000,00

Style

Font: Tahoma

BackColor: [Select...](#)

ForeColor: [Select...](#)

BorderColor:

Preview: 12345

[Help](#) [OK](#) [Cancel](#)

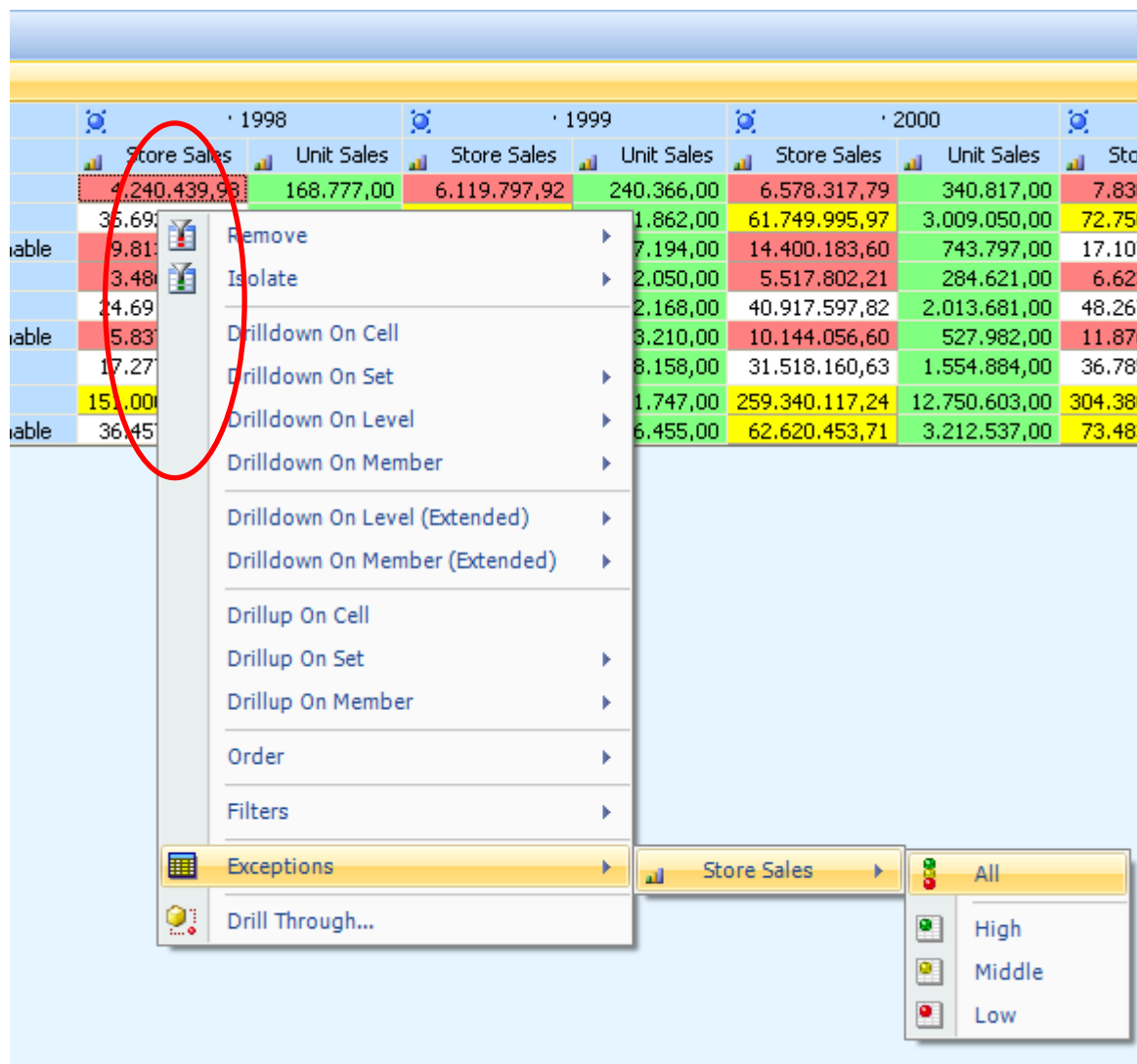
Select **OK**

Table						
		· 1998		· 1999		
Customers	Product	Store Sales	Unit Sales	Store Sales	Unit Sales	
· Canada	· Drink	4.240.439,98	168.777,00	6.119.797,92	240.366,00	
	· Food	35.692.889,85	1.372.248,00	56.998.461,49	2.061.862,00	
	· Non-Consumable	9.813.705,92	408.948,00	14.031.195,34	517.194,00	
· Mexico	· Drink	3.486.916,59	137.113,00	5.073.337,03	202.050,00	
	· Food	24.691.174,97	980.195,00	37.953.229,22	1.382.168,00	
	· Non-Consumable	5.837.051,31	242.010,00	9.972.640,78	373.210,00	
· USA	· Drink	17.277.835,37	691.330,00	28.239.096,66	1.068.158,00	
	· Food	151.000.932,70	5.890.574,00	239.965.141,94	8.751.747,00	
	· Non-Consumable	36.457.093,22	1.452.627,00	86.205.313,30	2.886.455,00	

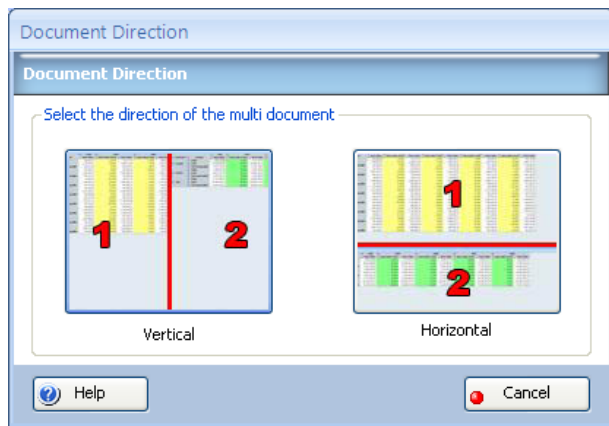
Hot spot analysis export to dashboard

If you want to Export to Dashboard all three (3) sections (High, Middle and Low) :

- Select column with measures where exceptions are defined (**Store Sales**)
- Right click
- Select **Exceptions** from popup menu
- Select **measure** (if exceptions are defined on more then one measure) from sub menu
- Select **All** from next submenu



Dialog will appear:



- Select Dashboard orientation (**Horizontal**)
- Select OK

Each section (High, Middle and Low) will be placed in separate group within Dashboard.

S1_Overview

Overview.ExAll

High_50000000

Customers	Product	Time.Calendar	Store Sales
Canada	Food	1999	56.998.461,49
		2000	61.749.995,97
		2001	72.750.162,72
2002		73.505.513,64	
Mexico		1998	50.029.040,02
USA		1999	151.000.932,70
		2000	239.965.141,94
		2001	259.340.117,24

Middle_15000000_50000000

Customers	Product	Time.Calendar	Store Sales
Canada	Food	1998	35.692.889,85
	Non-Consumable	2001	17.107.091,69
		2002	18.681.456,57
Mexico	Food	1998	24.691.174,97
		1999	37.953.229,22
		2000	40.917.597,82
		2001	48.267.732,22
USA	Drink	1998	17.277.835,37

Low_15000000

Customers	Product	Time.Calendar	Store Sales
Canada	Drink	1998	4.240.439,98
		1999	6.119.797,92
		2000	6.578.317,79
		2001	7.830.472,17
		2002	8.658.355,19
	Non-Consumable	1998	9.813.705,92
		1999	14.031.195,34
		2000	14.400.183,60

ABC+ Analysis

The ABC analysis itself is an extremely valuable tool with a wide area of applicability. It uses the well-known fact that many business processes behave according to a certain pattern. Namely, a relatively small number of members have the predominant contribution of some value (this could be a profit, for instance) while the majority does not contribute significantly. This pattern has been found to work on almost all retailers, but is applicable to many other situations too. In ABC Analysis it looks like this:

Segment	Members	Contribution
A	5% of members	... will contribute with 30% of results
B	15% of members	... will contribute with 50% of results
C	80% of members	... will contribute with 20% of results

Designer type interface is provided to prepare initial parameters for the interactive graphical ABC+ Analysis along any given set of dimensions in the existing set of data.

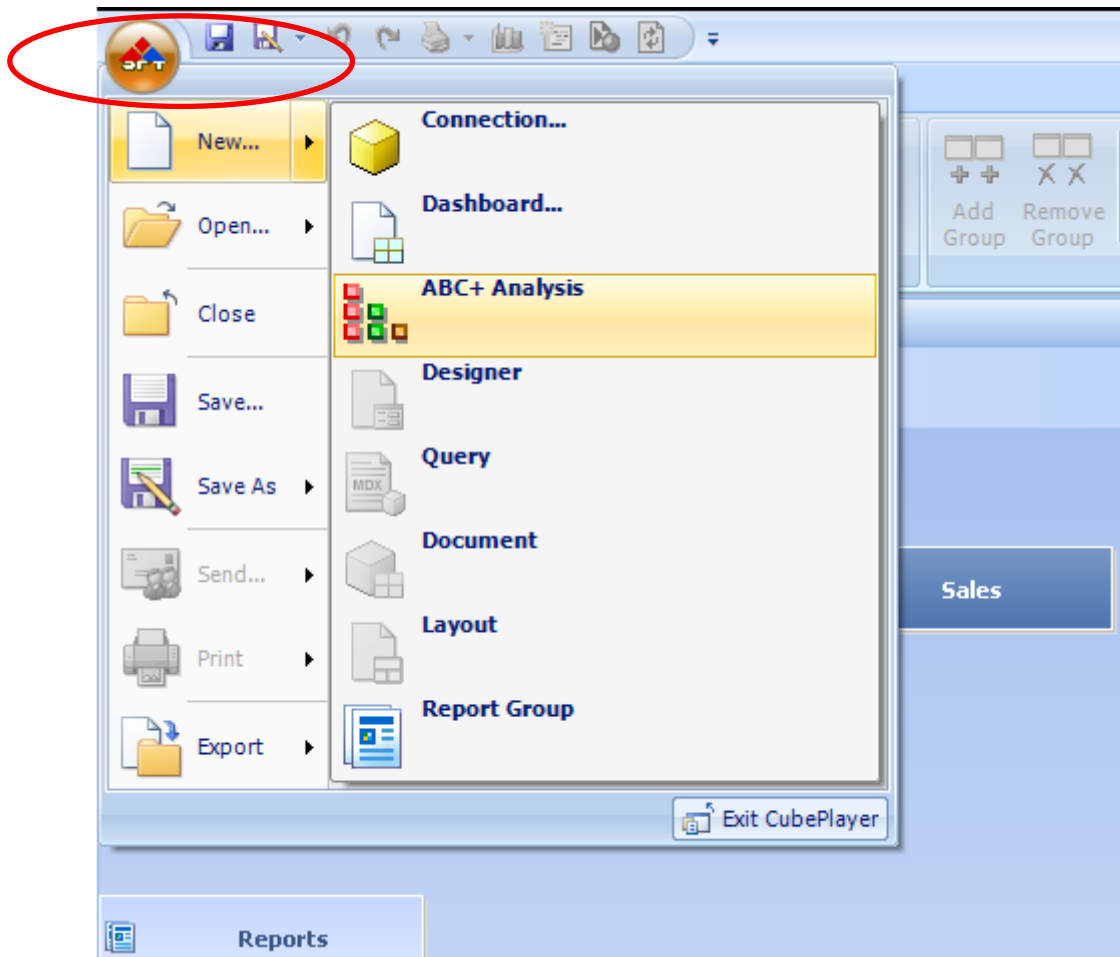
One of the unique features of the ABC+ analysis is its ability to perform a multidimensional analysis across the initial dataset frame defined by the wizard. Using a simple mouse click, end users can drill the entire cube and get quick answers about the actual distribution of the leading members, as well as the information about other, non significant members as well. At any given node a user can change the principal dimension (and select any available level within that dimension too!) and continue the analysis within the new context.

Additional feature is that user can define his own values for contribution and members count for each segment. In addition, that is why we call it ABC+, you can add up to six (6) segments with their own definition.

Create ABC+ Analysis

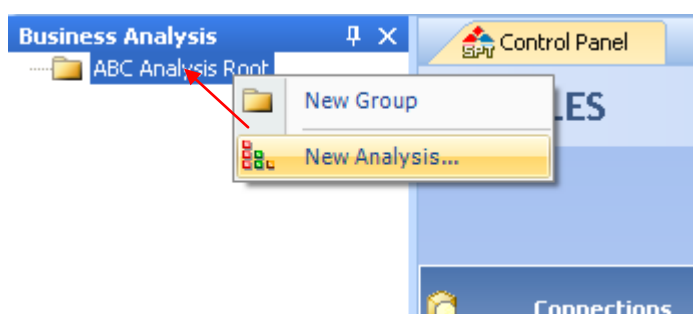
To create **ABC+ Analysis** select:

- **New – ABC+ Analysis** on Application Menu



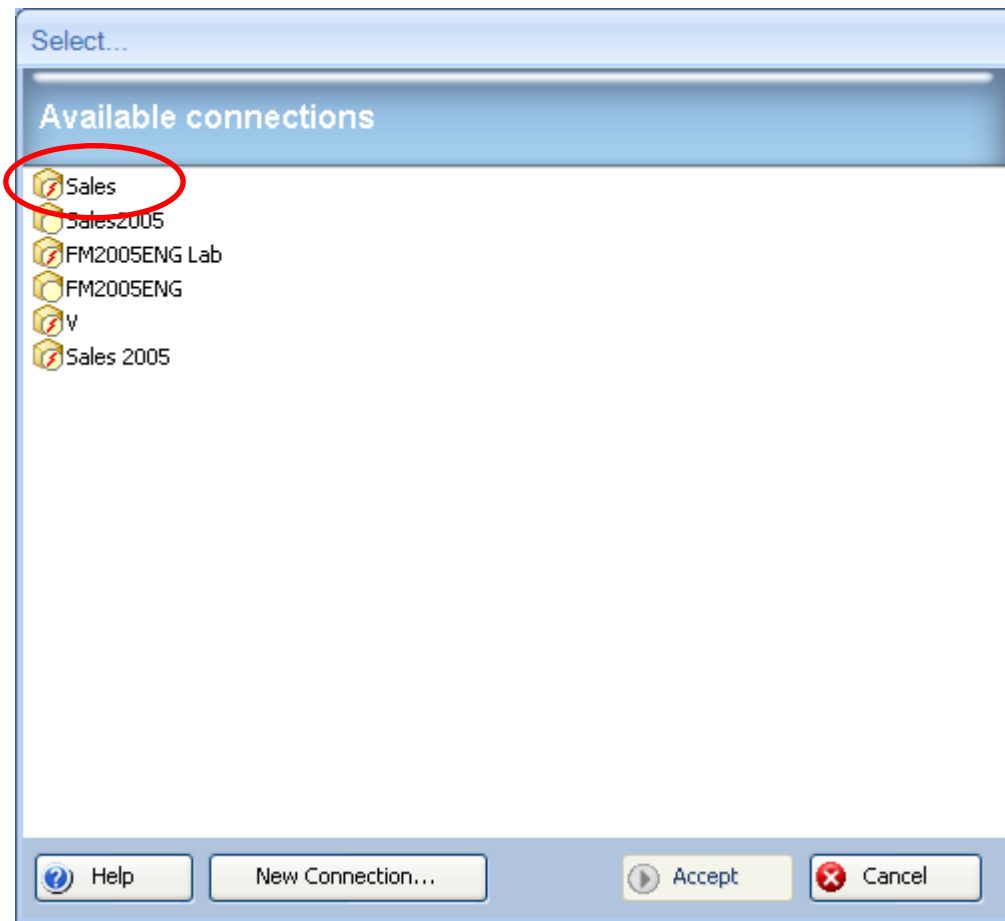
Now you have to:

- Right click your mouse over folder **ABC Analysis Root**
- Select **New analysis** from menu.

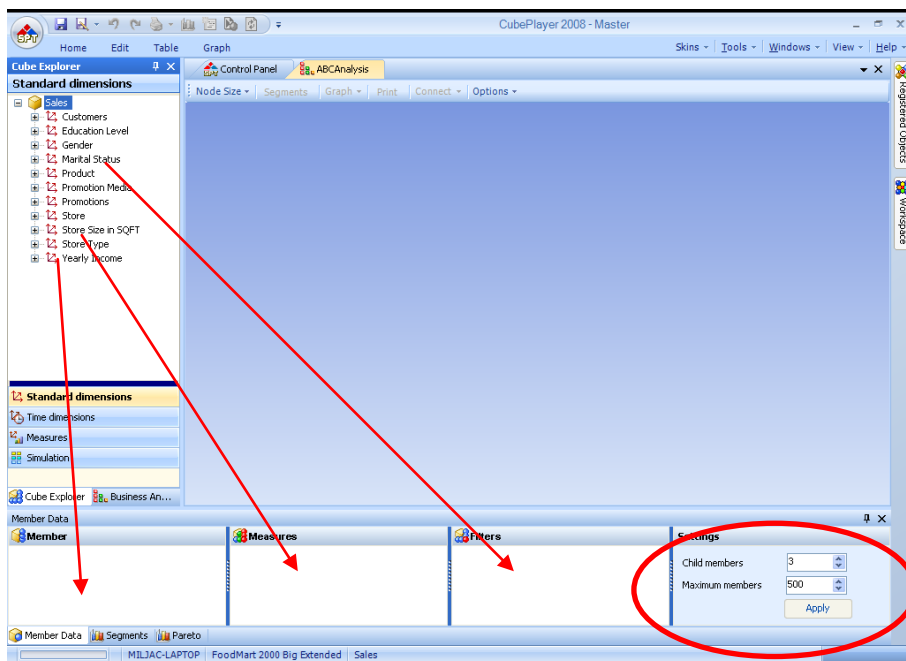


You will see a dialog where you have to define on which cube you want to define analysis:






- Select one from the list.



Now you will get ABC+ Analysis screen.



Define basic elements of analysis:

Icon	Basic element	Description
	Dimension Members	<p>From each dimension take one member only. That means those dimensions will be included in analysis and first selected Member will be starting point.</p> <p>If you select someone from lower levels, you will not be able to go back. If you want to be able to brows trough entire dimension select All Members from each dimension</p> <p>First dimension selected is default dimension for analysis.</p>
	Measure	<p>Only one measure can be selected. All results will be displayed according to that measure.</p> <p>It can not be changed.</p>
	Filters (optional)	<p>If you want to add filters here is right place. Filters are optional.</p>
	Child members	<p>Represents number of elements that will be displayed with full name, amounts and contributions.</p>
	Maximum members	<p>Represents total number of elements that can be returned. This number represents our SET.</p> <p>(Maximum number)</p> <p>- (Child number)</p> <p>-----</p> <p>= Aggregated number</p> <p>All other members starting from (Child number + 1) will be aggregated and displayed inside one box.</p>

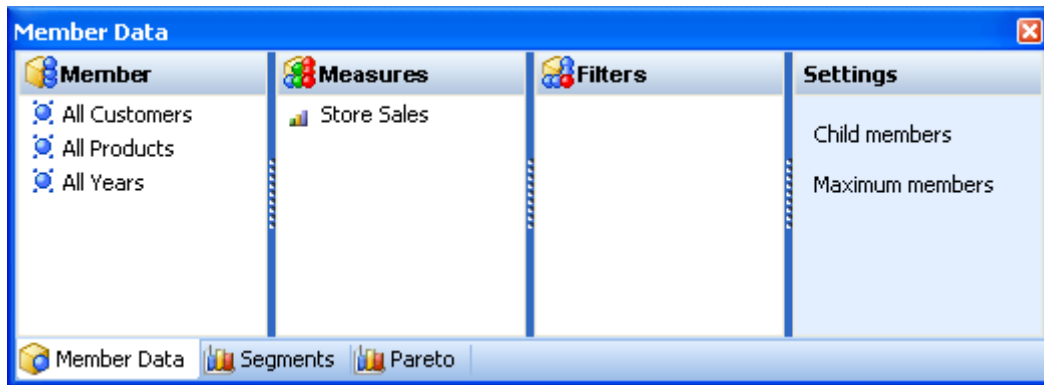
We decided to include members from:

- **Customers** **All Customers**
- **Products** **All Products**
- **Time dimension** **All Years**

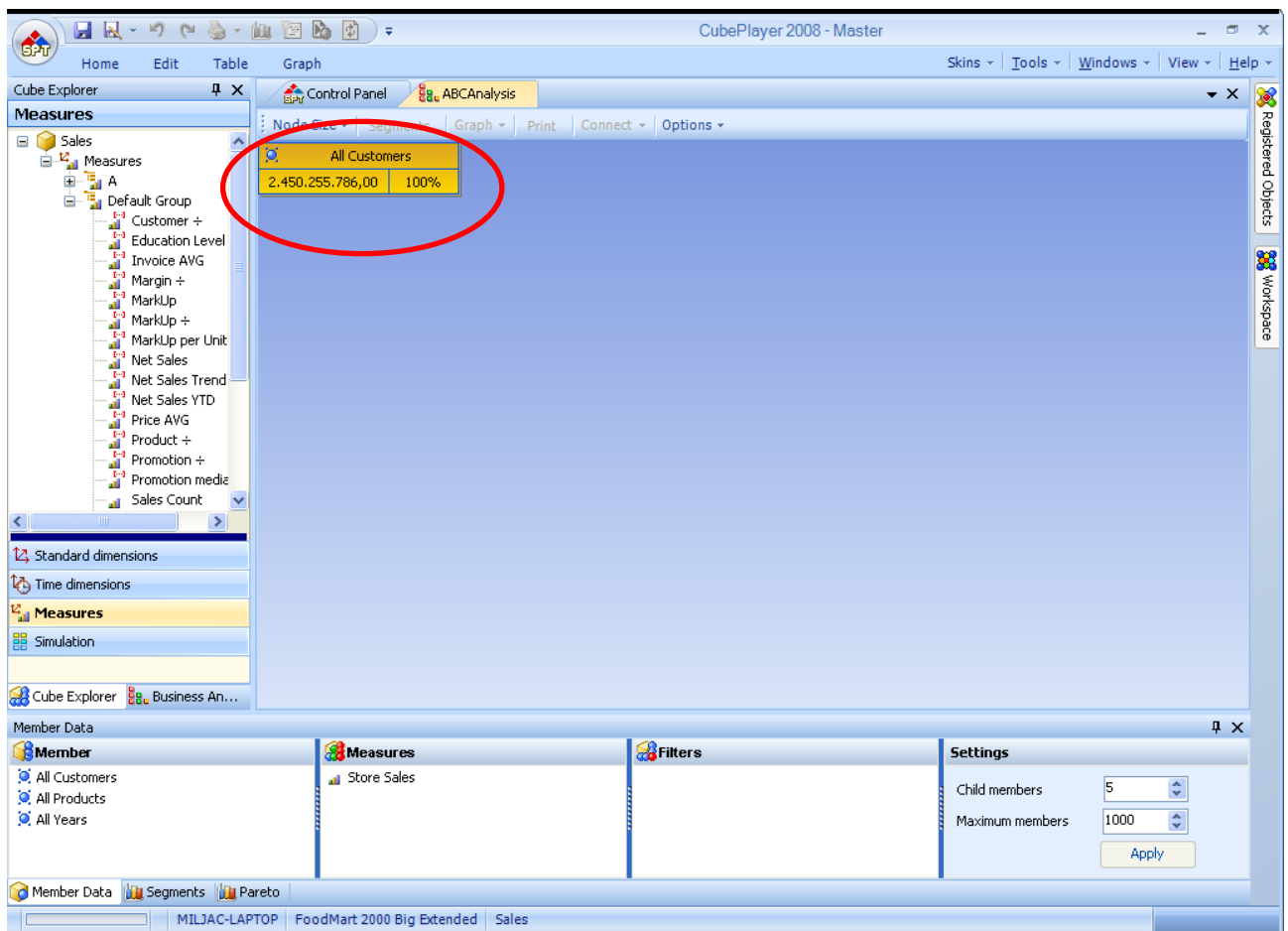
That means during the analysis we will be able to switch from one dimension to another dimension from the list above.

As well we decided that rest of parameters will be

- **Measure** **Store Sales**
- **Filters** without filters
- **Child members** **5** (5 members will be displayed individually)
- **Maximum** **1000** (up to 1000 members will be returned on each step).



Results will come.



As usual, at the begging, results are not spectacular. One box only.

That is normal because we are at the top of the dimension Customers where only one member is.

All Customers
2.450.255.786,00 100%

The number **2.450.255.786,00** represents the **Store Sales** for **All Customers**, **All Products** and **All Years**.

Of course the contribution is **100%**.

Using ABC+ Analysis

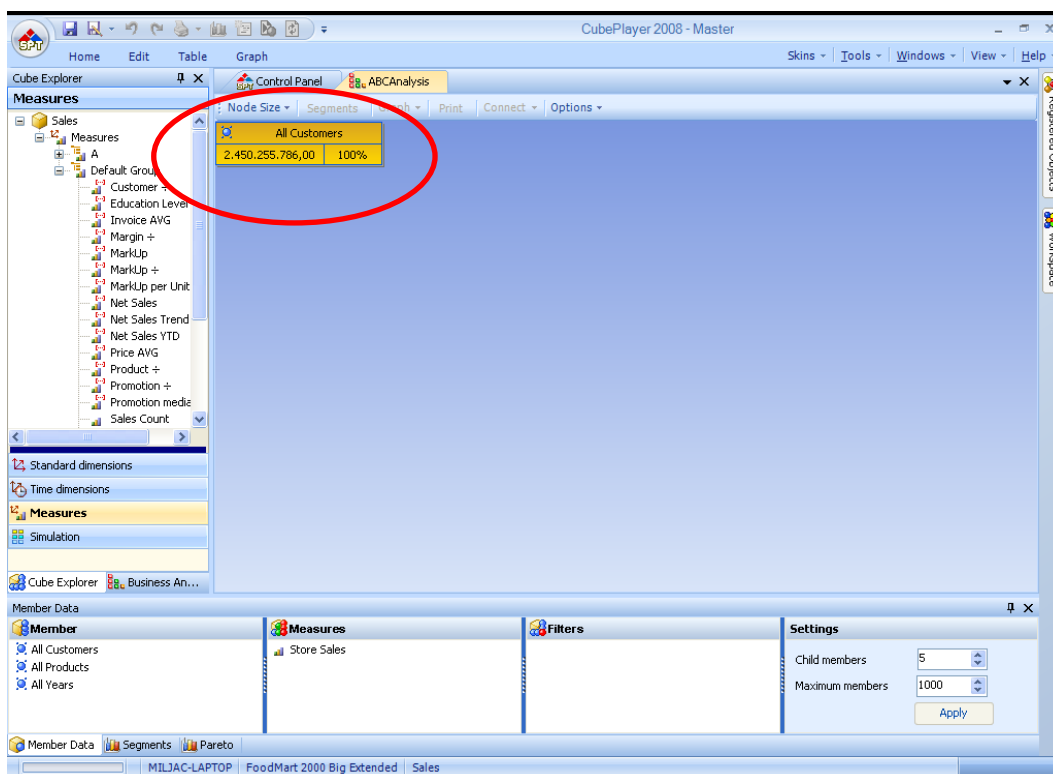
We decided to include members from:

- **Customers** **All Customers**
- **Products** **All Products**
- **Time dimension** **All Years**



That means during the analysis we will be able to switch from one dimension to another dimension from the list above. As well we decided that rest of parameters will be

- **Measure** **Store Sales**
- **Filters** without filters
- **Child members** 5 (5 members will be displayed individually)
- **Maximum** 1000 (up to 1000 members will be returned on each step).



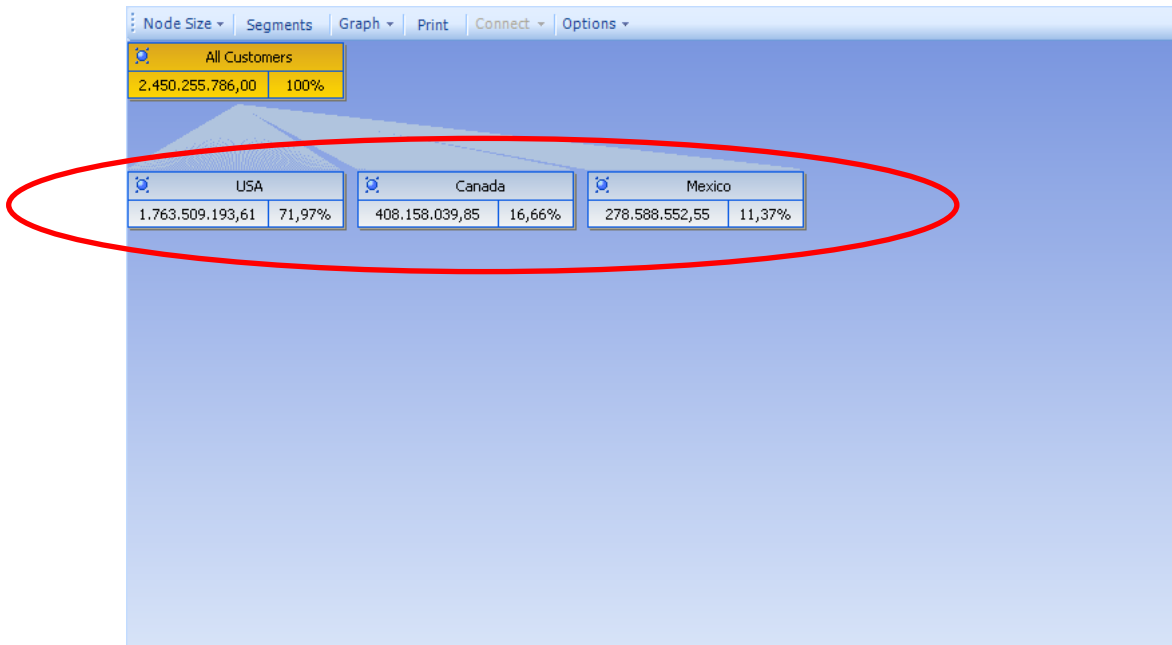
As usual, at the beginning, results are not spectacular. One box only.

That is normal because we are at the top of the dimension Customers where only one member is.

The number **2.450.255.786,00** represents the **Store Sales** for **All Customers**, **All Products** and **All Years**.

Of course the contribution is **100%**.

If we want to see one level below **All Customers** simply click with mouse on the box.



New boxes appear:

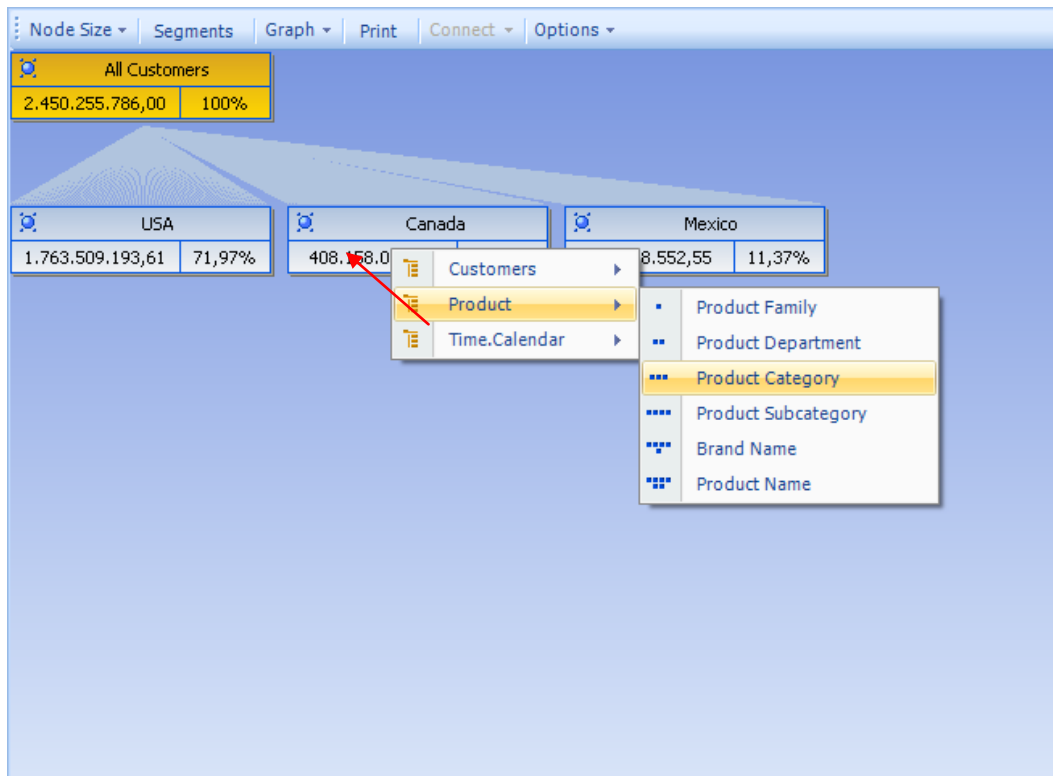
Node	Store Sales	Contribution
USA	1.763.509.193,61	71,97%
Canada	408.158.039,85	16,66%
Mexico	278.588.522,55	11,37%

These contribution percentages are calculated compared to the contribution of parent, in this case:

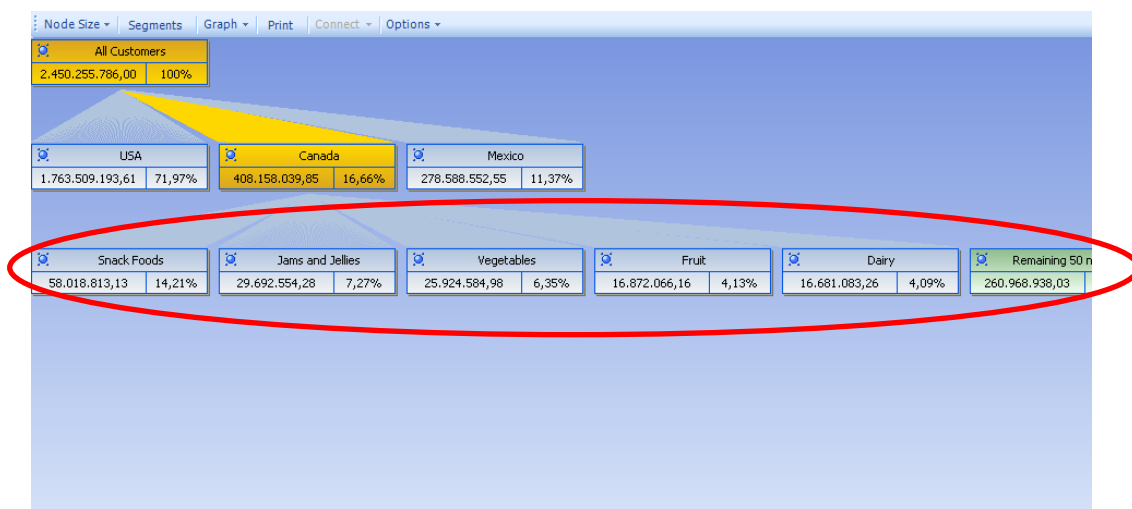
Node	Store Sales	Contribution
All Customers	2.450.255.786,00	100,00%

This way you can go down to the bottom of the dimension. In case you want to see which Product Category are the best for Canada then:

- Place the mouse over **Canada** box
- Right click it
- Move the mouse without click to **Product dimension** inside popup menu
- After appearing of submenu select **Product Subcategory** from it.



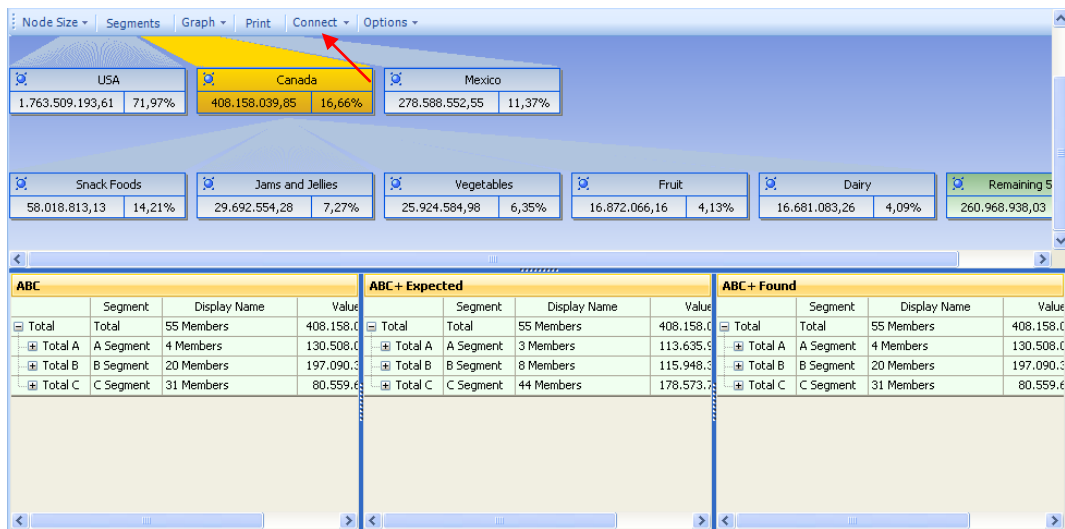
Here are results.



As you can see first five members are listed individually, and remaining 50 are presented as one box.

If you want to see all of them listed

- Select **Segments**.



Here you will find three tables:

- ABC Standard ABC distribution

Segment	Members	Contribution
A	5% of members	... will contribute with 30% of results
B	15% of members	... will contribute with 50% of results
C	80% of members	... will contribute with 20% of results

This table will always appear in this form, regardless of your selection 3 or 4 or 5 or 6 segments.

- ABC+ Expected Represents your expectation according to your settings

Segment	Members	Contribution
A	5% of members in this case 3	... will contribute with 30% of results but they contribute with 27,84%
B	15% of members in this case 8	... will contribute with 50% of results but they contribute with 28,41%
C	80% of members in this case 44	... will contribute with 20% of results but they contribute with 43,75%

- ABC+ Found Represents what you found according to your settings
(Since we did not change standard settings for segments that means according to the standard ABC)

Segment	Contribution of ...	Members
A	... 31,97% is created by ...	4 members
B	... 48,29% is created by ...	20 members
C	... 19,74% is created by ...	31 members

In case that you increase number of segments (4,5 or 6) only last two tables will display results for such a number of segments.

First table will remain the same, according to standard ABC distribution.

If you want to see list of other members (from 6th to 50th) just select one of the tables and click on "+" sign.

Node Size

Segments

Graph

Print

Connect

Options

USA	Canada	Mexico
1.763.509.193,61 71,97%	408.158.039,85 16,66%	278.588.552,55 11,37%

Snack Foods

Jams and Jellies

Vegetables

Fruit

Dairy

Remaining 5

58.018.813,13 14,21%	29.692.554,28 7,27%	25.924.584,98 6,35%	16.872.066,16 4,13%	16.681.083,26 4,09%	260.968.938,03
----------------------	---------------------	---------------------	---------------------	---------------------	----------------

ABC

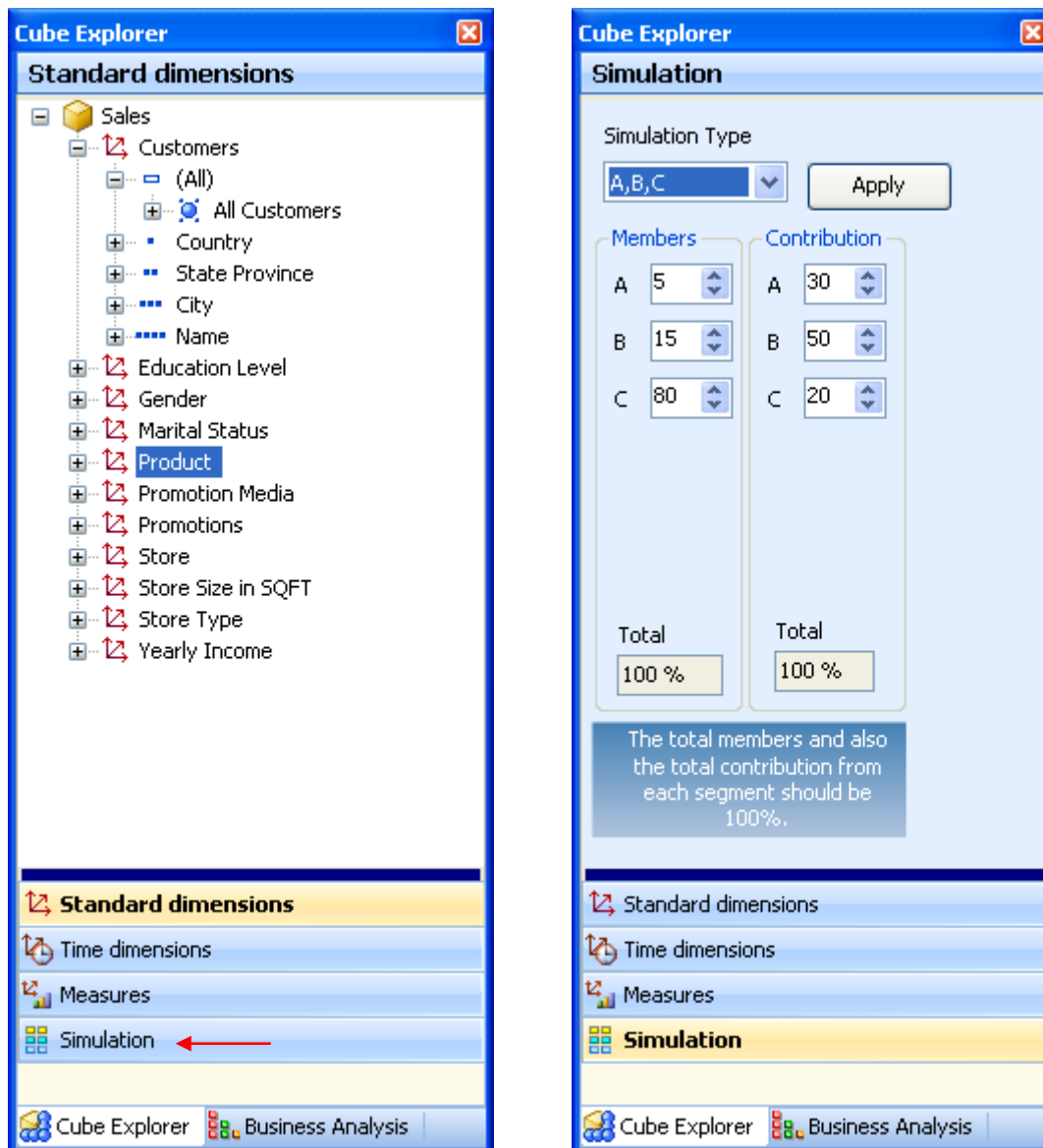
ABC+ Expected

ABC+ Found

	Segment	Display N		Segment	Display Name	Value	Percentage		Segment	Display Name	
Total	Total	55 Members	Total	Total	55 Members	408.158.039,80	100,00%	Total	Total	55 Members	408.158.039,80
Total A	A Segment	4 Members	Total A	A Segment	3 Members	113.635.952,39	27,84%	Total A	A Segment	4 Members	113.635.952,39
Total B	B Segment	20 Members	A	Snack Foods	58.018.813,13	14,21%	Total B	B Segment	20 Members	19.692.554,28	
Total C	C Segment	31 Members		Jams and Jellies	29.692.554,28	7,27%	Total C	C Segment	31 Members	8.126.197,72	
				Vegetables	25.924.584,98	6,35%					
			Total B	B Segment	8 Members	115.948.327,07	28,41%				
			B	Fruit	16.872.066,16	4,13%					
				Dairy	16.681.083,26	4,09%					
				Bread	16.282.494,22	3,99%					
				Candy	16.080.771,55	3,94%					
				Baking Goods	15.724.659,56	3,85%					
				Beer and Wine	13.176.034,97	3,23%					
				Frozen Desserts	10.830.892,05	2,65%					
				Electrical	10.300.325,30	2,52%					
			Total C	C Segment	44 Members	178.573.760,34	43,75%				
			C	Meat	10.087.212,80	2,47%					
				Hot Beverages	9.301.490,19	2,28%					
				Vegetables	8.126.197,72	1,99%					
				Magazines	7.860.904,77	1,93%					
				Canned Soup	7.752.157,77	1,90%					

Change segments in ABC+ Analysis

In case that you want to segment your business go to Cube Explorer in ABC+ Analysis and select tab **Simulation** .



This operation you can perform from the beginning or during the analysis.

Here you can define number of segments and rules for each segment (number of members and contribution).

On existing analysis we will change number of segments to five (5) and we will setup their members and contributions.

Cube Explorer

Simulation

Simulation Type
A,B,C

Members
A 5
B 15
C 80

Contribution
A 30
B 50
C 20

Total
100 %

Total
100 %

The total members and also the total contribution from each segment should be 100%.

Standard dimensions
Time dimensions
Measures
Simulation

Cube Explorer Business Analysis

Cube Explorer

Simulation

Simulation Type
A,B,C,D,E

Members
A 5
B 10
C 15
D 30
E 40

Contribution
A 20
B 30
C 20
D 20
E 10

Total
100 %

Total
100 %

The total members and also the total contribution from each segment should be 100%.

Standard dimensions
Time dimensions
Measures
Simulation

Cube Explorer Business Analysis

Before

After

After definition of our new segments and when total number of members and contribution is 100% button Apply becomes active. Select Apply.

Control Panel ABCAnalysis

Node Size Segments Graph Print Connect Options

All Customers
2,450,255,786,00 100%

USA 1,763,509,193,61 71,97% Canada 408,158,039,85 16,66% Mexico 278,588,552,55 11,37%

Snack Foods Jams and Jellies Vegetables Fruit Dairy Rem

ABC			ABC+ Expected					ABC+ Found		
	Segment	Display Name		Segment	Display Name	Value	Percent		Segment	Display Name
Total	Total	55 Members	Total	Total	55 Members	408,158,039,80	100,	Total	Total	55 Members
Total A	A Segment	4 Members	Total A	A Segment	3 Members	113,635,952,39	27,	Total A	A Segment	2 Members
Total B	B Segment	20 Members	Total B	B Segment	6 Members	94,817,109,72	23,	Total B	B Segment	7 Members
Total C	C Segment	31 Members	Total C	C Segment	8 Members	71,966,644,77	17,	Total C	C Segment	9 Members
			Total D	D Segment	16 Members	88,324,337,04	21,	Total D	D Segment	15 Members
			Total E	E Segment	22 Members	39,413,995,88	9,	Total E	E Segment	22 Members

New settings are applied immediately. First table remained same as we told that. But second and third table are extended for two new segments D and E.

Table and graph view

Every MDX query designed with Designer or written using the Editor will eventually be sent to the OLAP server and (if the SELECT command was properly constructed) return some results.

Those results obviously have to be presented to you, and it is being done by opening a new form for each new query.

The form containing the results is called:

Query Results Form (QRF).

You will probably spend most of your time within this form. Again, a very complex form not only shows the results, but also enables you to perform additional operations in order to analyze them.

The following picture shows the typical query results form immediately after the query has been executed, and the results have been returned back:

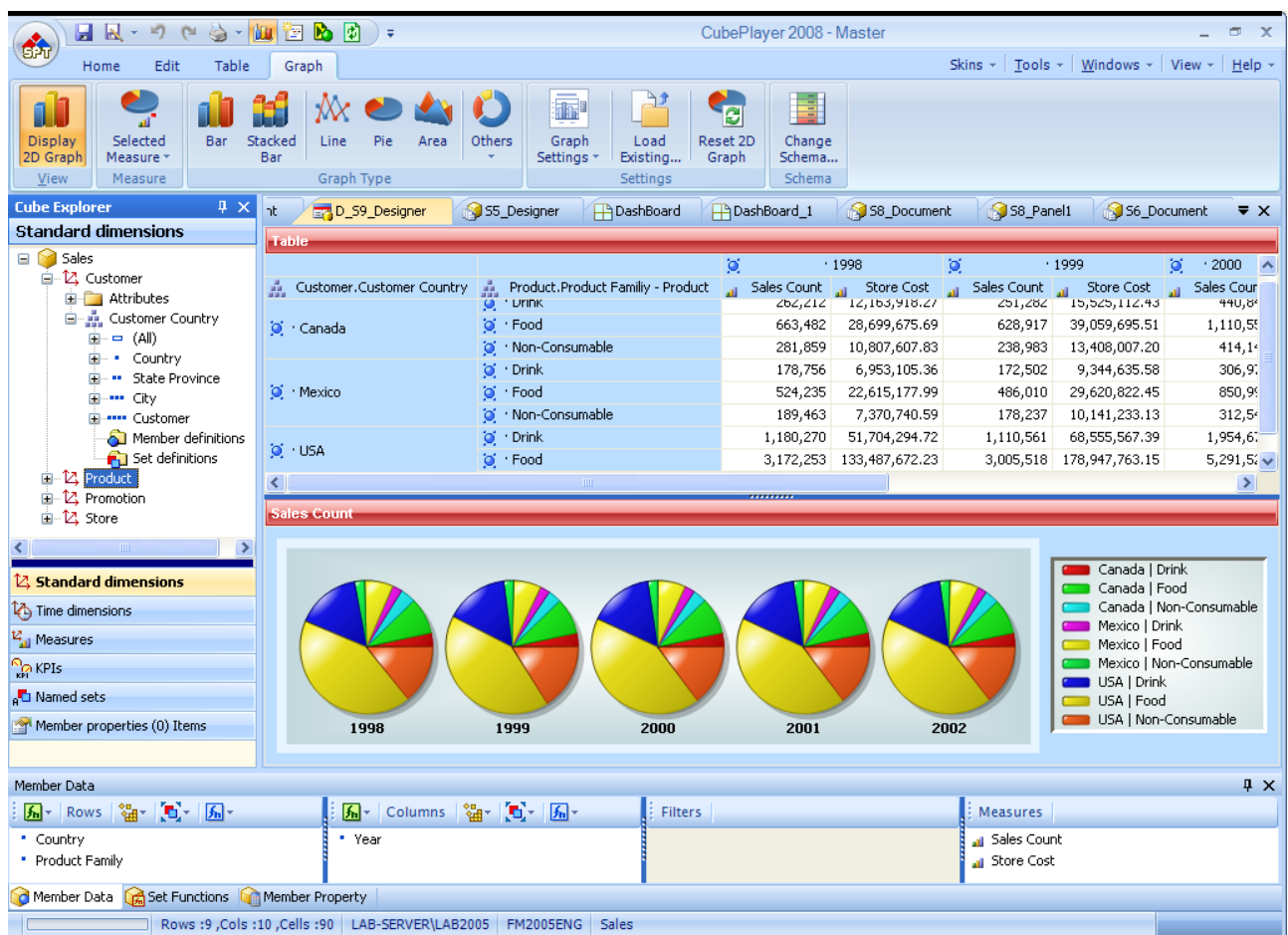
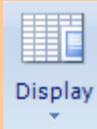





Table and graph view

This a basic type of view for all your results. In this view, they are displayed in a table, just the way you would expect them. However, there are few remarks that should be made about this table.

CubePlayer actually supports three (3) different ways of displaying table:

Icon	Name	Description
	Display	Main selector button
	Simple display	Displays table in simple view
	Partial display	Displays table in partial view
	Full display	Displays table in full view

The difference between those displays is either in the amount of overall information present in the table, or the associated functionality available when the results have been displayed. Of course, all data are always there, but the same does not apply to descriptive elements found in additional rows and columns.

Default display is always Partial.

Simple display

No icons, no markers for level depth. Fastest display.

Table					
hCountry	hProduct	2000		2001	
		Sales Count	Store Cost	Sales Count	Store Cost
Canada	Drink	440.843	17.631.022,25	633.044	21.569.976,07
	Food	1.110.552	43.856.275,53	1.574.027	52.605.283,31
	Non-Consumable	414.142	14.578.944,01	597.599	17.619.212,88
Mexico	Drink	306.974	10.723.873,05	442.048	13.109.003,92
	Food	850.998	33.063.752,03	1.214.818	39.980.398,37
	Non-Consumable	312.544	10.922.974,40	439.500	13.024.146,25
USA	Drink	1.954.671	78.663.066,93	2.778.164	94.204.574,69
	Food	5.291.523	201.487.939,73	7.558.048	243.053.505,47
	Non-Consumable	1.844.515	67.259.574,24	2.625.461	80.981.071,27

Partial display

You can notice small dots near each member icon.

Those dots represent level depth.

This way, even not using structural Full view, you can see whether all members are coming from the same level depth or not.

Table						
hCountry	hProduct	2000		2001		
		Sales Count	Store Cost	Sales Count	Store Cost	
Canada	Drink	440.843	17.631.022,25	633.044	21.569.976,07	
	Food	1.110.552	43.856.275,53	1.574.027	52.605.283,31	
	Non-Consumable	414.142	14.578.944,01	597.599	17.619.212,88	
Mexico	Drink	306.974	10.723.873,05	442.048	13.109.003,92	
	Food	850.998	33.063.752,03	1.214.818	39.980.398,37	
	Non-Consumable	312.544	10.922.974,40	439.500	13.024.146,25	
USA	Drink	1.954.671	78.663.066,93	2.778.164	94.204.574,69	
	Food	5.291.523	201.487.939,73	7.558.048	243.053.505,47	
	Non-Consumable	1.844.515	67.259.574,24	2.625.461	80.981.071,27	

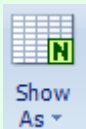



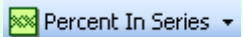




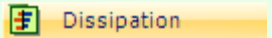
Full display

Full display will show full structure of any dimension at the table.

Table						
hCountry	hProduct	2000		2001		
		Sales Count	Store Cost	Sales Count	Store Cost	
Canada	Drink	440.843	17.631.022,25	633.044	21.569.976,07	
	Food	1.110.552	43.856.275,53	1.574.027	52.605.283,31	
	Non-Consumable	414.142	14.578.944,01	597.599	17.619.212,88	
Mexico	Drink	306.974	10.723.873,05	442.048	13.109.003,92	
	Food	850.998	33.063.752,03	1.214.818	39.980.398,37	
	Non-Consumable	312.544	10.922.974,40	439.500	13.024.146,25	
USA	Drink	1.954.671	78.663.066,93	2.778.164	94.204.574,69	
	Food	5.291.523	201.487.939,73	7.558.048	243.053.505,47	
	Non-Consumable	1.844.515	67.259.574,24	2.625.461	80.981.071,27	

Table view

For any result table, available table views are:

Icon	Name	Description
	Show As	Main selector button for table view
	Normal	Shows normal view
	Sum	Show submenu Rows sum Columns sum Both sum
	% in set	Shows percentages in set view
	% in series	Shows percentages in series view
	Min-max view	Shows minimum-maximum view
	Difference %	Shows difference as percentage view
	Average	Shows average view
	Rank	Shows rank view
	Dissipation	Shows dissipation comparing to average value for measure

Normal

This is a basic view for the data returned from the last MDX query. You can see your results here and depending on the selected display type, you can sort them. This tab shows the results in form of a standard table.

Table					
Customer.hCountry	Product.hProduct	2000		2001	
		MarkUp	Sales Count	MarkUp	Sales Count
Canada	Drink	4,823,471.20	440,843	5,924,997.29	633,044
	Food	11,717,083.80	1,110,552	14,068,577.78	1,574,027
	Non-Consumable	3,849,688.76	414,142	4,636,997.51	597,599
Mexico	Drink	2,866,618.87	306,974	3,501,869.33	442,048
	Food	8,834,705.05	850,998	10,672,714.80	1,214,818
	Non-Consumable	2,862,194.59	312,544	3,415,801.64	439,500
USA	Drink	21,294,452.20	1,954,671	25,446,432.28	2,778,164
	Food	53,618,788.61	5,291,523	64,622,554.48	7,558,048
	Non-Consumable	17,782,881.06	1,844,515	21,400,524.90	2,625,461

Sum for rows

This view enables you to see sums within each row. If there is more than one measure, you will have one set of resulting summary values per each.

Table								
Customer.hCountry	Product.hProduct	2000		2001		MarkUp (Sum)	Sales Count (Sum)	
		MarkUp	Sales Count	MarkUp	Sales Count			
Canada	Drink	4,823,471.20	440,843	5,924,997.29	633,044	10,748,468.49	1,073,887.00	
	Food	11,717,083.80	1,110,552	14,068,577.78	1,574,027	25,785,661.59	2,684,579.00	
	Non-Consumable	3,849,688.76	414,142	4,636,997.51	597,599	8,486,686.26	1,011,741.00	
Mexico	Drink	2,866,618.87	306,974	3,501,869.33	442,048	6,368,488.20	749,022.00	
	Food	8,834,705.05	850,998	10,672,714.80	1,214,818	19,507,419.85	2,065,816.00	
	Non-Consumable	2,862,194.59	312,544	3,415,801.64	439,500	6,277,996.24	752,044.00	
USA	Drink	21,294,452.20	1,954,671	25,446,432.28	2,778,164	46,740,884.48	4,732,835.00	
	Food	53,618,788.61	5,291,523	64,622,554.48	7,558,048	118,241,343.10	12,849,571.00	
	Non-Consumable	17,782,881.06	1,844,515	21,400,524.90	2,625,461	39,183,405.96	4,469,976.00	

Sum for columns

This view enables you to see sums within each column. If there is more than one measure, you will have one set of resulting summary values per each.

Table					
Customer.hCountry	Product.hProduct	2000		2001	
		MarkUp	Sales Count	MarkUp	Sales Count
Canada	Drink	4,823,471.20	440,843	5,924,997.29	633,044
	Food	11,717,083.80	1,110,552	14,068,577.78	1,574,027
	Non-Consumable	3,849,688.76	414,142	4,636,997.51	597,599
Mexico	Drink	2,866,618.87	306,974	3,501,869.33	442,048
	Food	8,834,705.05	850,998	10,672,714.80	1,214,818
	Non-Consumable	2,862,194.59	312,544	3,415,801.64	439,500
USA	Drink	21,294,452.20	1,954,671	25,446,432.28	2,778,164
	Food	53,618,788.61	5,291,523	64,622,554.48	7,558,048
	Non-Consumable	17,782,881.06	1,844,515	21,400,524.90	2,625,461
Sum		127,649,884.15	12,526,762.00	153,690,470.02	17,862,709.00

Percentage within set

When you select the **Percents within set** icon, the screen will change.

The results return orthogonal calculations where the total sum must amount to 100% (remember, this is calculated relative to the entire set of values for each existing measure).

Table							
Customer.hCountry	Product.hProduct	2000		2001		Markup (Avg)	Sales Count (Avg)
		Markup	Sales Count	Markup	Sales Count		
Canada	Drink	3,78%	3,52%	3,86%	3,54%	3,82%	3,53%
	Food	9,18%	8,87%	9,15%	8,81%	9,17%	8,84%
	Non-Consumable	3,02%	3,31%	3,02%	3,35%	3,02%	3,33%
Mexico	Drink	2,25%	2,45%	2,28%	2,47%	2,27%	2,46%
	Food	6,92%	6,79%	6,94%	6,80%	6,93%	6,80%
	Non-Consumable	2,24%	2,50%	2,22%	2,46%	2,23%	2,48%
USA	Drink	16,68%	15,60%	16,56%	15,55%	16,62%	15,58%
	Food	42,00%	42,24%	42,05%	42,31%	42,03%	42,28%
	Non-Consumable	13,93%	14,72%	13,92%	14,70%	13,93%	14,71%
Total		100,00%					

Percentage within series

When you select the **Percents within series** icon, the screen will change.

The results return orthogonal calculations where the total sum is not applicable (remember, this is calculated relative to the set of values belonging to the corresponding row or column for each existing measure).

Table							
Customer.hCountry	Product.hProduct	2000		2001		Markup (Sum)	Sales Count (Sum)
		Markup	Sales Count	Markup	Sales Count		
Canada	Drink	1,71%	1,45%	2,11%	2,08%	3,82%	3,53%
	Food	4,16%	3,65%	5,00%	5,18%	9,17%	8,83%
	Non-Consumable	1,37%	1,36%	1,65%	1,97%	3,02%	3,33%
Mexico	Drink	1,02%	1,01%	1,24%	1,45%	2,26%	2,46%
	Food	3,14%	2,80%	3,79%	4,00%	6,93%	6,80%
	Non-Consumable	1,02%	1,03%	1,21%	1,45%	2,23%	2,47%
USA	Drink	7,57%	6,43%	9,04%	9,14%	16,61%	15,57%
	Food	19,06%	17,41%	22,97%	24,87%	42,03%	42,28%
	Non-Consumable	6,32%	6,07%	7,61%	8,64%	13,93%	14,71%
Total		45,37%	41,22%	54,63%	58,78%	100,00%	100,00%

Min-Max

Yet another frequently needed feature is the ability to display relative percentage values for all cells that belong to the currently displayed cellset. Although the query results form has another closely related specialized feature (hot-spot analysis or exceptions, discussed later), you can quickly get the minimum and maximum values by selecting the **Min-Max** icon.

This view enables you to see minimum and maximum values for each row or column for each existing measure.

Table					
Customer.hCountry	Product.hProduct	2000		2001	
		Markup	Sales Count	Markup	Sales Count
Metchosin	Wine	11,659.73	1,167	10,198.36	1,275
	Cooking Oil	9,143.63	876	12,433.75	1,488
Port Hammond	Beer	729.37	1,167	640.39	1,275
	Wine	11,665.84	5,250	13,935.39	7,327
Victoria	Cooking Oil	53,831.98	4,481	68,030.55	6,940
	Wine	15,146.48	2,089	14,880.89	2,824
Santa Anita	Beer	18,761.40	875	25,531.59	1,488
	Wine	544.73	876	530.79	1,062
	Cooking Oil	8,991.88	875	10,489.30	1,275

Difference

When you select the **Difference** icon, the screen will change.

The results return the difference in percentages from previous column for particular measure. First column for each measure is displayed as original result.

Table						
Customer.hCountry	Product.hProduct	· 2000		· 2001		
		MarkUp	Sales Count	MarkUp	Sales Count	
· Canada	· Drink	4,823,471.20	440,843	22,84%	43,60%	
	· Food	11,717,083.80	1,110,552	20,07%	41,73%	
	· Non-Consumable	3,849,688.76	414,142	20,45%	44,30%	
· Mexico	· Drink	2,866,618.87	306,974	22,16%	44,00%	
	· Food	8,834,705.05	850,998	20,80%	42,75%	
	· Non-Consumable	2,862,194.59	312,544	19,34%	40,62%	
· USA	· Drink	21,294,452.20	1,954,671	19,50%	42,13%	
	· Food	53,618,788.61	5,291,523	20,52%	42,83%	
	· Non-Consumable	17,782,881.06	1,844,515	20,34%	42,34%	
Total		127,649,884,15	12,526,762,00	20,40%	42,60%	

Average

When you select the **Average** icon, the screen will change. The results return orthogonal calculations of average values belonging to the corresponding row or column for each existing measure.

Table							
Customer.hCountry	Product.hProduct	· 2000		· 2001		MarkUp (Avg)	Sales Count (Avg)
		MarkUp	Sales Count	MarkUp	Sales Count		
· Canada	· Drink	4,823,471.20	440,843	5,924,997.29	633,044	5.374.234,25	536.943,50
	· Food	11,717,083.80	1,110,552	14,068,577.78	1,574,027	12.892.830,79	1.342.289,50
	· Non-Consumable	3,849,688.76	414,142	4,636,997.51	597,599	4.243.343,13	505.870,50
· Mexico	· Drink	2,866,618.87	306,974	3,501,869.33	442,048	3.184.244,10	374.511,00
	· Food	8,834,705.05	850,998	10,672,714.80	1,214,818	9.753.709,93	1.032.908,00
	· Non-Consumable	2,862,194.59	312,544	3,415,801.64	439,500	3.138.998,12	376.022,00
· USA	· Drink	21,294,452.20	1,954,671	25,446,432.28	2,778,164	23.370.442,24	2.366.417,50
	· Food	53,618,788.61	5,291,523	64,622,554.48	7,558,048	59.120.671,55	6.424.785,50
	· Non-Consumable	17,782,881.06	1,844,515	21,400,524.90	2,625,461	19.591.702,98	2.234.988,00
Average		14.183.320,46	1.391.862,44	17.076.718,89	1.984.745,44	15.630.019,68	1.688.303,94


Rank

When you select the **Rank** icon, the screen will change.

The results return rank calculations for each column as well as for the totals.

Table							
Customer.hCountry	Product.hProduct	· 2000		· 2001		MarkUp (Sum)	Sales Count (Sum)
		MarkUp	Sales Count	MarkUp	Sales Count		
· Canada	· Drink	6	6	6	6	6	6
	· Food	4	4	4	4	4	4
	· Non-Consumable	7	7	7	7	7	7
· Mexico	· Drink	8	9	8	8	8	9
	· Food	5	5	5	5	5	5
	· Non-Consumable	9	8	9	9	9	8
· USA	· Drink	2	2	2	2	2	2
	· Food	1	1	1	1	1	1
	· Non-Consumable	3	3	3	3	3	3








Dissipation

Use icon  **Dissipation** to get dissipation according to average value for measures at the result table. Positive values are bigger then average, negative values are smaller then average value.

Control Panel S1_MG Test 1 D_S2_Designer S2_Designer								
Table								
Customer.hCountry	Product.hProduct	2000		2001		MarkUp ()	Store Sales ()	
		MarkUp	Store Sales	MarkUp	Store Sales			
Canada	Drink	-10.806.548,47	-51.749.670,35	-9.705.022,39	-46.709.190,45	-20.511.570,86	-98.458.860,81	
	Food	-3.912.935,87	-18.630.804,47	-1.561.441,89	-7.530.302,71	-5.474.377,76	-26.161.107,19	
	Non-Consumable	-11.780.330,92	-55.775.531,04	-10.993.022,17	-51.947.953,42	-22.773.353,09	-107.723.484,46	
Mexico	Drink	-12.763.400,81	-60.613.671,89	-12.128.150,34	-57.593.290,56	-24.891.551,15	-118.206.962,45	
	Food	-6.795.314,62	-32.305.706,73	-4.957.304,88	-23.551.050,64	-11.752.619,50	-55.856.757,37	
	Non-Consumable	-12.767.825,08	-60.418.994,82	-12.214.218,03	-57.764.215,92	-24.982.043,12	-118.183.210,73	
USA	Drink	5.664.432,52	25.753.355,32	9.816.412,61	45.446.843,16	15.480.845,13	71.200.198,48	
	Food	37.988.768,94	180.902.564,53	48.992.534,81	233.471.896,14	86.981.303,74	414.374.460,67	
	Non-Consumable	2.152.861,38	10.838.291,49	5.770.505,22	28.177.432,36	7.923.366,61	39.015.723,85	
Dissipation		-13.020.292,93	-62.000.167,96	13.020.292,93	62.000.167,96			

Subtotals

Select **Subtotals** icon.

Subtotals								
				Time, Calendar				
				All Years				
					2001		2002	
	Customers		Product		Measures			
	(All)	Country	(All)	Product Family	Store Sales	Sales Count	Store Sales	Sales Count
	All Customers	Canada	All Products	Drink	7.830.472,17	207.484	8.658.355,19	243.217
				Food	72.750.162,72	1.669.741	73.505.513,64	1.717.155
				Non-Consumable	17.107.091,69	450.362	18.681.456,57	490.063
 Total All Products					97.687.726,58	2.327.587,00	100.845.325,40	2.450.435,00
 Total Canada					97.687.726,58	2.327.587,00	100.845.325,40	2.450.435,00
	All Customers	Mexico	All Products	Drink	6.623.389,67	176.756	5.225.660,44	142.520
				Food	48.267.732,22	1.143.480	50.029.040,02	1.271.334
				Non-Consumable	11.876.862,38	312.677	12.972.061,30	358.653
 Total All Products					66.767.984,27	1.632.913,00	68.226.761,76	1.772.507,00
 Total Mexico					66.767.984,27	1.632.913,00	68.226.761,76	1.772.507,00
	All Customers	USA	All Products	Drink	36.785.353,25	887.850	38.163.023,15	944.268
				Food	304.380.275,93	7.218.222	323.309.130,35	7.845.406
				Non-Consumable	73.483.546,32	1.875.332	74.763.719,84	1.980.333
 Total All Products					414.649.175,50	9.981.404,00	436.235.873,34	10.770.007,00
 Total USA					414.649.175,50	9.981.404,00	436.235.873,34	10.770.007,00
 Total All Customers					579.104.886,35	13.941.904,00	605.307.960,50	14.992.949,00

Graph view


We have three (3) possibilities to activate a graph view:

- Selecting **Graph** within popup-menu at the table
- Selecting **Graph** within Main menu
- Using **Graph** icon within the QAT




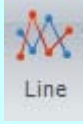

Either of those three (3) possibilities will activate a graph view, with default graph type.

In CubePlayer default graph type is **Stacked Bar**.

- To change between **Graph view** and **Table view** or to select **synchronized view**:

Icon	Name	Description
	Graph	Displays available graph settings

- To change **Graph types**, displayed measures or to use additional graph features:

Icon	Name	Description
	Display Graph	Graph on/off
	Bar	Select bar graph type
	Stacked bar	Select stacked bar graph type
	Line	Select line graph type
	Pie	Select pie graph type

Icon	Name	Description
	Area	Select area graph type
	Others	Select radar or polar type
	Graph Settings	Upper part of button to load settings form
	Graph Settings	Lower part of the button to select graph settings like labels, grids ...
	Selected Measure	Select one measure or all measures to see on the graph
	Load existing	Load existing graph settings and apply them to the graph
	Reset Graph 2D	Resets 2D graph
	Change Schema	Select and apply new graph schema

MiniGraph view

CubePlayer allows you to change your data inside grid in to MiniGraphs.

MiniGraphs are miniaturized graphs displayed inside one or more cells. It is up to user to define type and what data will be used by MiniGraph. There are several base types of MGs:

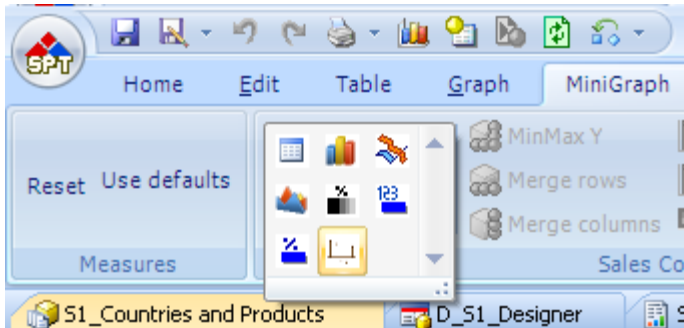
- numeric
- bars
- data bars
- bar 100%
- lines
- area
- pin

		1998 - 2002	1998 - 2002	1998 - 2002
Customer.hCountry	Product.hProduct	MarkUp	Unit Sales	Store Cost
Canada	Drink	3,83%		88.107.168,57
	Food	8,94%		211.764.987,63
	Non-Consumable	3,08%		73.943.959,44
Mexico	Drink	2,15%		50.801.539,13
	Food	6,92%		163.915.935,79
	Non-Consumable	2,24%		54.013.178,34
USA	Drink	16,34%		383.634.875,58
	Food	41,65%		990.679.560,09
	Non-Consumable	14,85%		349.756.833,57

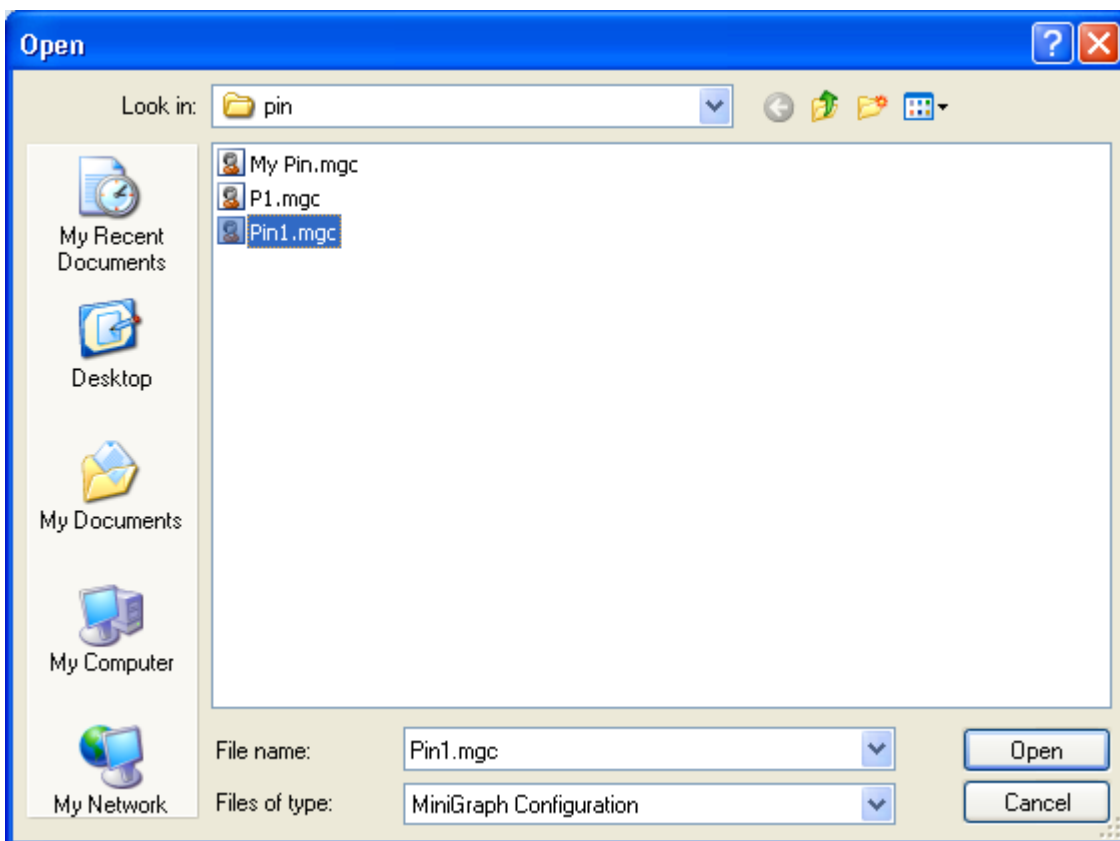
Apply MiniGraph

To apply MiniGraph style:

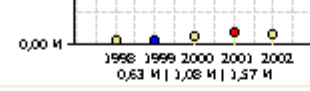
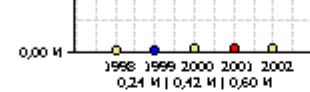
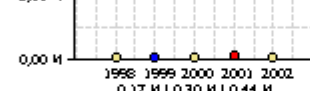
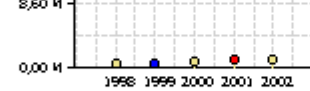
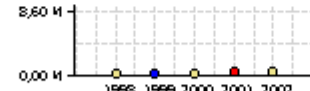
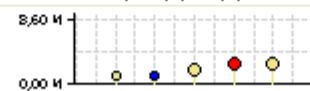

- Select **one of MG types** button (our case pin type)





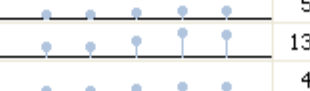





You will get dialog:



- Select **one of predefined configuration**
- Select **Open**

S1_Countries and Products		D_S1_Designer	SQL-1 A1M	S2_Set1	S1_Designer
Table					
		1998 - 2002	1998	1999	2000
hCountry	hProduct	Sales Count	Store Cost		
Canada	Food		28.699.675,69	39.059.695,51	43.856.275,53
	Non-Consumable		10.807.607,83	13.408.007,20	14.578.944,01
Mexico	Drink		6.953.105,36	9.344.635,58	10.723.873,05
	Food		22.615.177,99	29.620.822,45	33.063.752,03
	Non-Consumable		7.370.740,59	10.141.233,13	10.922.974,40
USA	Drink		51.704.294,72	68.555.567,39	78.663.066,93
	Food		133.487.672,23	178.947.763,15	201.487.939,73

In case that you have select Cancel, default configuration for MiniGraph type pin will be loaded:

S1_Countries and Products		D_S1_Designer	SQL-1 A1M	S2_Set1
Table				
		1998 - 2002	1998	1999
hCountry	hProduct	Sales Count		
Canada	Drink		12.163.918,27	15.525.112,43
	Food		28.699.675,69	39.059.695,51
	Non-Consumable		10.807.607,83	13.408.007,20
Mexico	Drink		6.953.105,36	9.344.635,58
	Food		22.615.177,99	29.620.822,45
	Non-Consumable		7.370.740,59	10.141.233,13
USA	Drink		51.704.294,72	68.555.567,39
	Food		133.487.672,23	178.947.763,15
	Non-Consumable		42.991.261,78	82.322.527,13

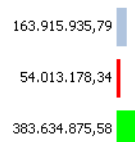
MiniGraph types

There are several base types of MGs:

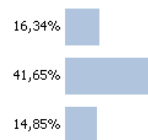
- Numeric (groups measures)
- bars



- data bar numeric



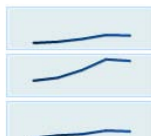
- data bar percent



- bar 100%



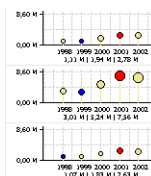
- lines



- area

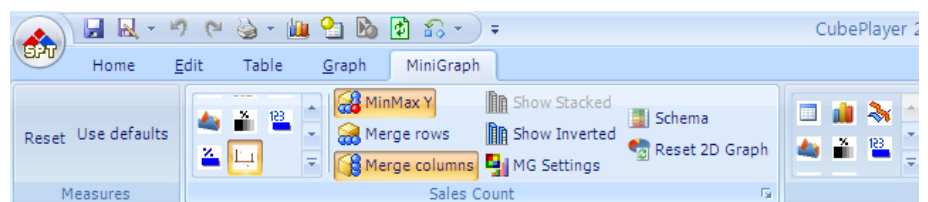


- pin



To change MiniGraph type :

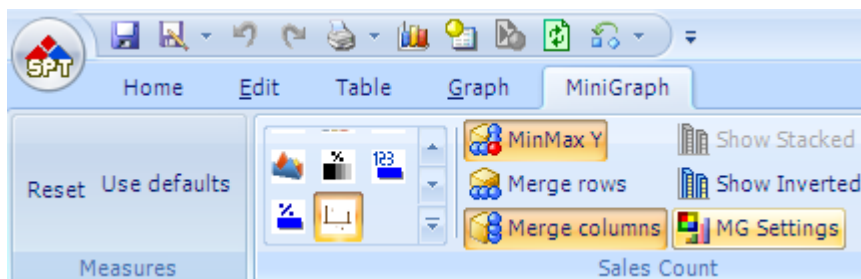
- Go to Tab MiniGraphs
- Select one of MG types



MiniGraph configuration

To change MiniGraph configuration:

- Select **MG Settings** button



You will get dialog:

MiniGraph configuration - Sales Count

MiniGraph type:

☒ Single serie color:

☒ Background white

☐ Horizontal

☐ Vertical

☐ Show Legends

Font size:

Legend width:

☒ Show X-Axis

☒ Labels

☐ 1.000 = 1.00 K

☐ 1.000 = 1 K

☒ Min/Max value

☒ 1.000 = 1.00 K

☒ Avg value

Bar area size: px

Bar will cover: % of defined area

Measure width: ☐ Automatic

Row height: ☐ Automatic

☒ Max Y

☐ Merge rows

☒ Merge columns

☐ Spread over cell (100%)

☐ Stacked

☐ Show Inverted

☒ Mark Min (blue), Max (red)

☐ Mark negative values (red)

☐ Show exceptions

☒ MG PIN type - relative size (step 25%)

Trend:

☐ Minimum

☐ Maximum

☐ Average

☐ Fourier

☐ Exponent

☐ Polynom

☐ MovingAverage

Forecast period(s):

Settings

Schema

Preview

Load configuration

Save configuration

Set as default MG for Measure

Remove as default MG for Measure

Help

OK

Cancel

MiniGraph type	changes from one type to another
Single series color	defines color for first series It overrides all other setting for 1 st series
Show legend	allow to control visibility of legend
Show outline	enables each point to be outlined
Background white	turns MG background to white
Show X axis	X axis visibility on/off
Show Y axis	Y axis visibility on/off

Show numbers

numbers on Y axis visibility on/off

Font size

size of font on MG

Show Y axis – off

Show Y axis – On

Show Numbers – Off

Show Numbers – On

Font Size 5

Fnt Size 7



Bar area size

size in pixels

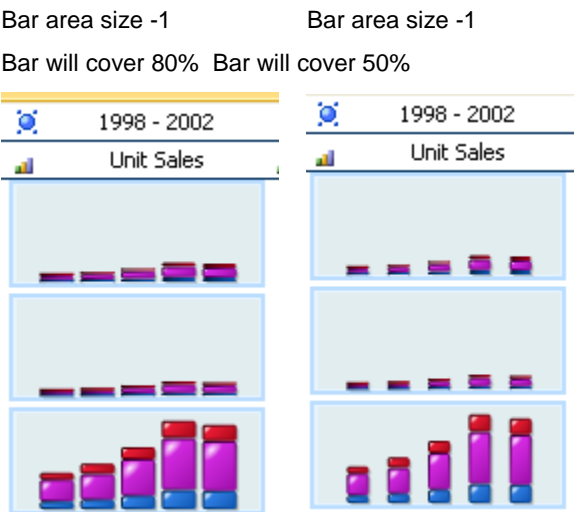
If used determines what will be width of area where bar will be drawn

Bar area size -1 will allow CubePlayer to determine size

Bar will cover

in percent. It determines what percentage of previously defined area will be used by one bar.

Those two settings will affect to whole picture to be smaller. Usually if size of bars is small to see empty area between bars you have to define second parameter smaller (40-60%).



Bar area size -1

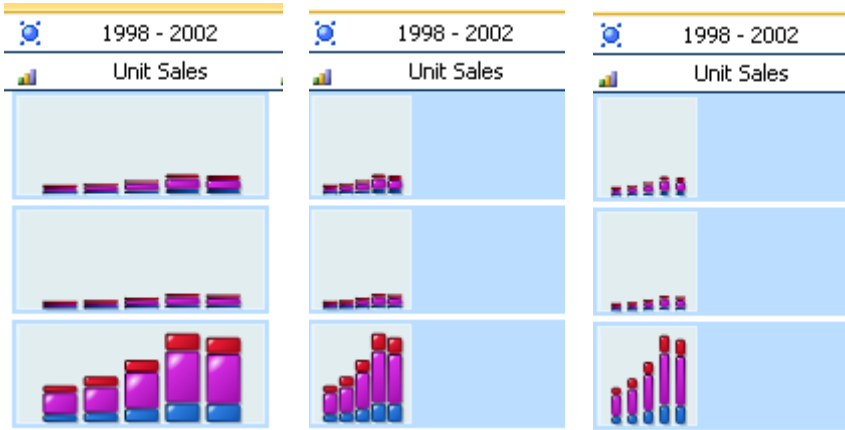
Bar area size 10

Bar area size 10

Bar will cover 80%

Bar will cover 80%

Bar will cover 50%



Measure width

Defines width of columns for one measure

Automatic – defined by CubePlayer

$X > 0$ – new column size in pixels

Row height

Defines height of each row regardless for which measure it is defined

Last setting will be distributed for all measures

Width Automatic

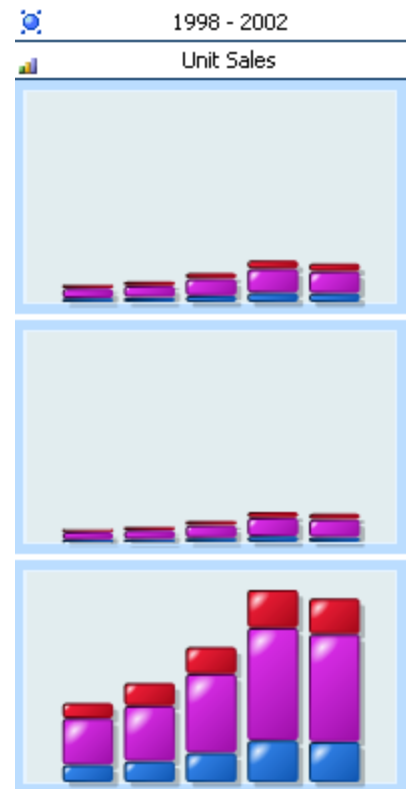
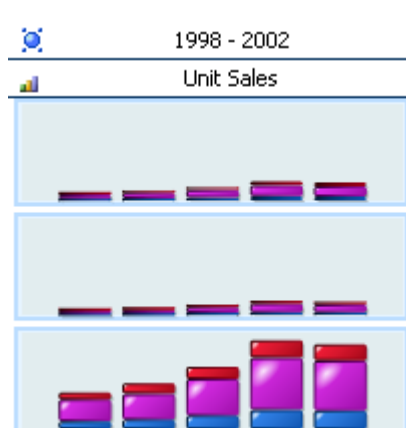
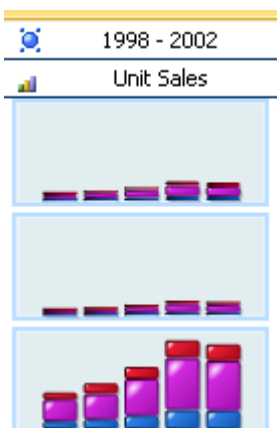
Height Automatic

Width 200

Height Automatic

Width 200

Height 40

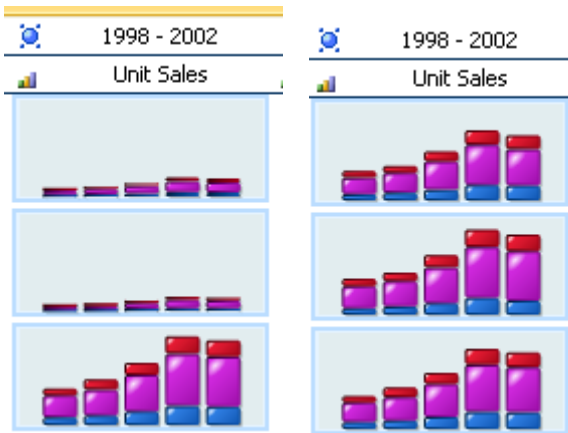


Max Y

Defines that all MiniGraphs for same measure will use same minimum and maximum value for Y axis. This setting is important to be able to compare values for each MG.

Max Y – On

Max Y - Off



Merge columns

Determines whether user wants to merge columns for one dimension

Merging will be always done on the lowest available dimension/hierarchy unless it is Measure

Dimension

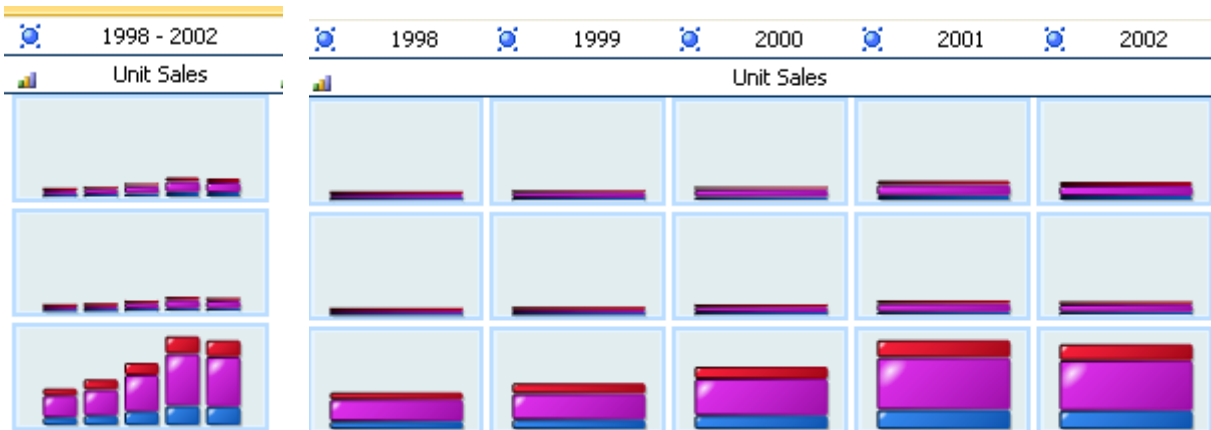
Merge rows

dimension

If more then one dimension is available on rows, allows to merge rows according to first left

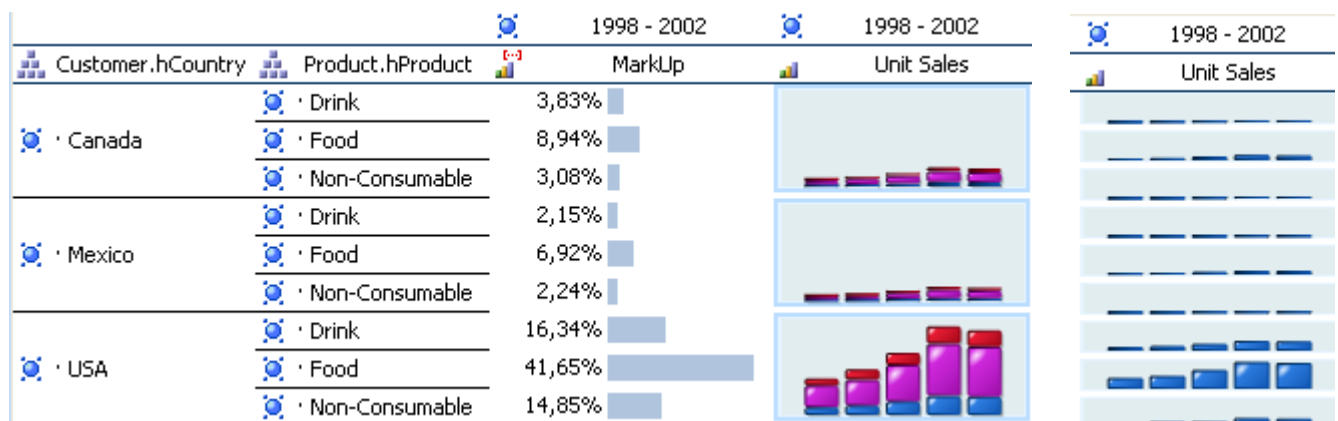
Merge columns – On
Merge rows – On

Merge columns – Off
Merge rows - On



Merge columns – On
Merge rows – On

Merge columns – On
Merge rows - Off



Show stacked

Allows to stack bars if rows are merged

Stacked – On



Stacked - Off



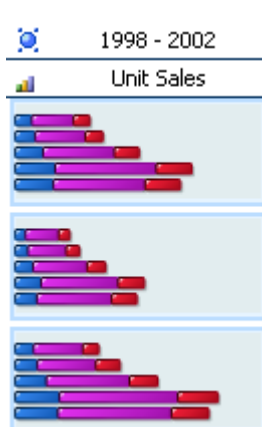
Show inverted

Switch X and Y axis

Inverted – Off



Inverted – On



Mark Min/Max

Marks minimum value blue
Marks maximum value red

Min/Max – Off



Min/Max – On



Show exceptions If Exceptions (Hot-Spots) are defined at the table they will apply it to MiniGraph

This setting is valid only for Data Bar Numeric and Data Bar Percent types

Show exceptions – Off

Show Exceptions – On

1998 - 2002	1998 - 2002
Store Cost	Store Cost
88.107.168,57	88.107.168,57
211.764.987,63	211.764.987,63
73.943.959,44	73.943.959,44
50.801.539,13	50.801.539,13
163.915.935,79	163.915.935,79
54.013.178,34	54.013.178,34
383.634.875,58	383.634.875,58
990.679.560,09	990.679.560,09
349.756.833,57	349.756.833,57

Trend settings

Minimum displays line at minimum MG value over entire MG

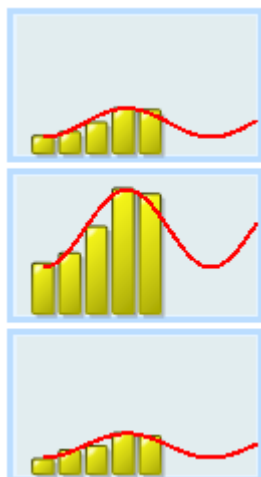
Maximum displays line at maximum MG value over entire MG

Average displays line at average MG value over entire MG



Trends and Forecast

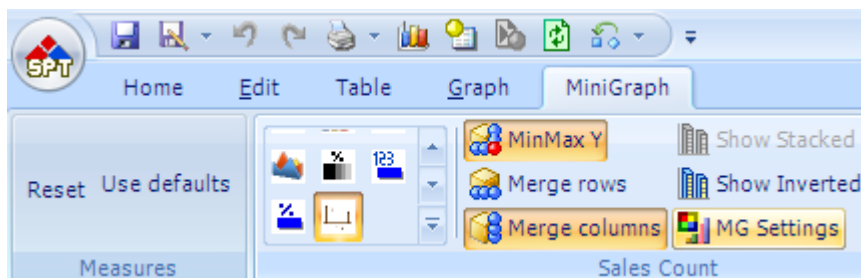
In combination with Forecast Period you may see trends or forecast for each Mg



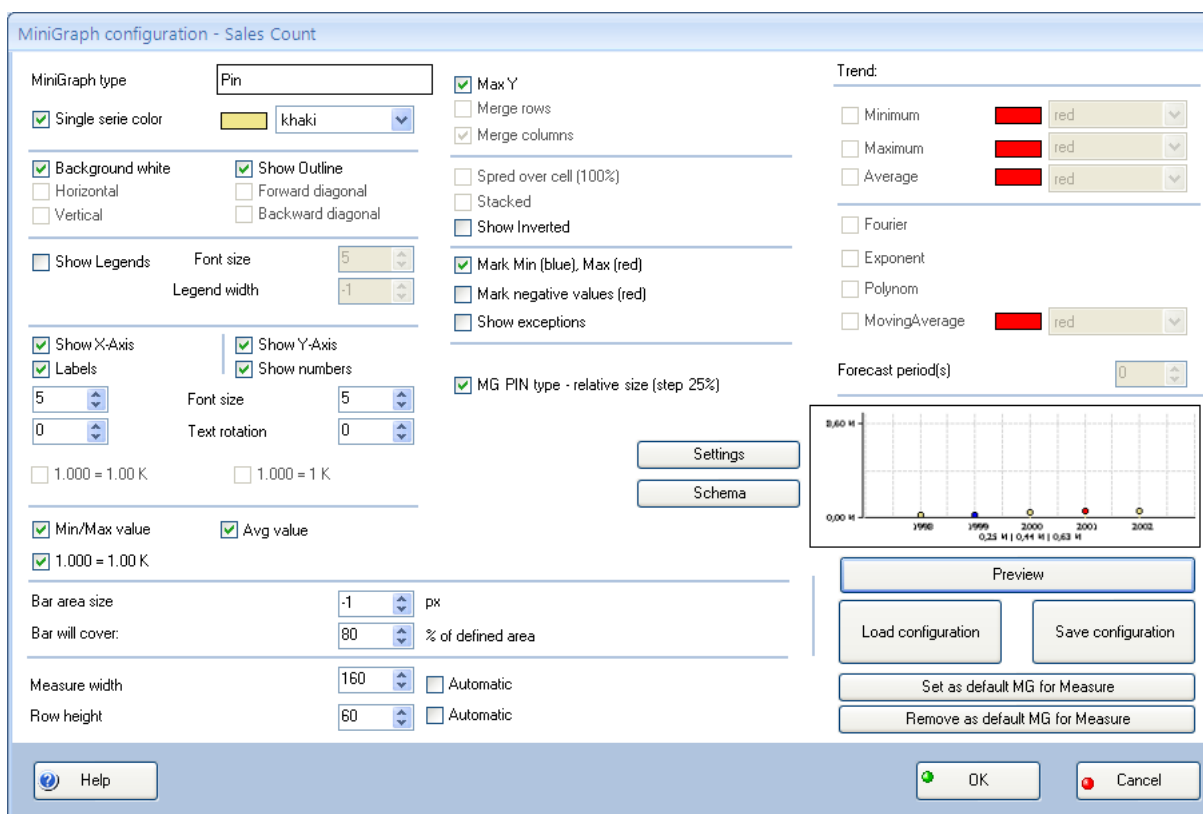
Save MiniGraph style

To save MiniGraph style:

- Select **MG Settings** button



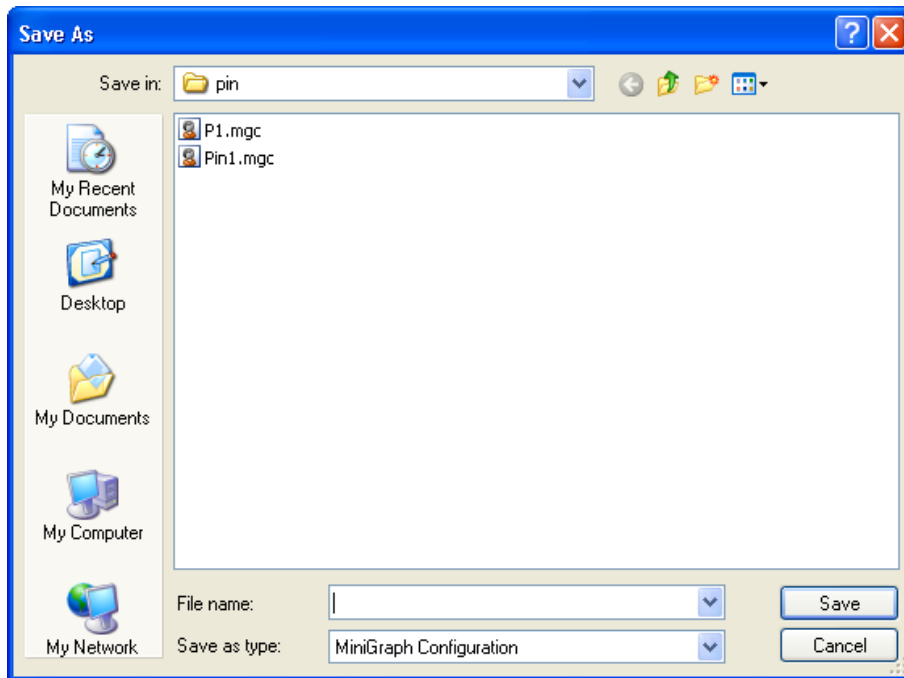
You will get dialog:



If you need set additional settings to your minigraph. When you are satisfied:

- Select **Save configuration** button

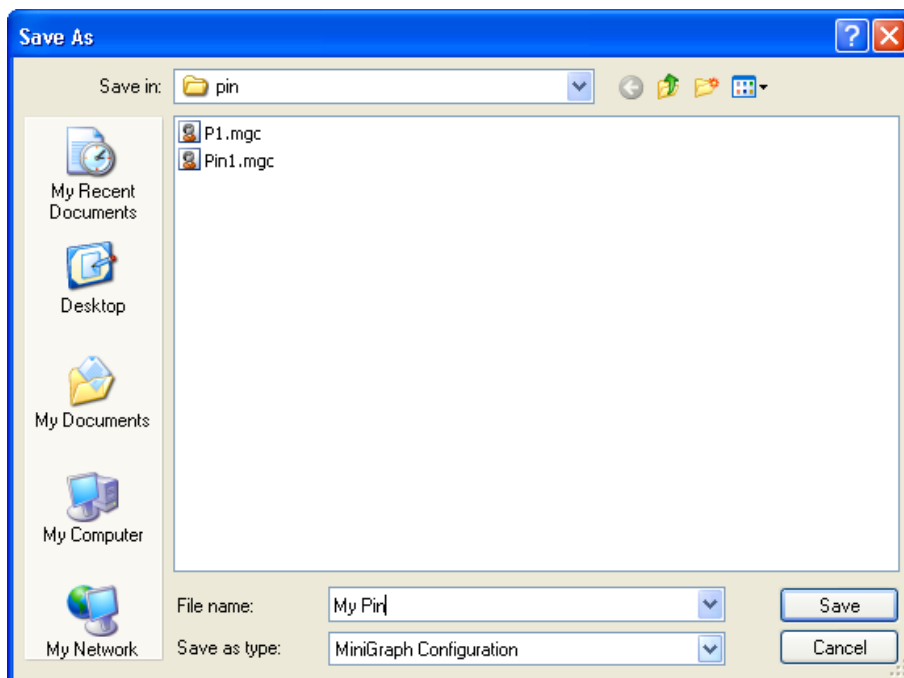
New dialog will appear.



Each MiniGraph type has it's own folder. If there is any configuration for selected type of MiniGraph you will see them.

In our case for MiniGraph type pin there are already two configurations P1.mgc and Pin1.mgc.

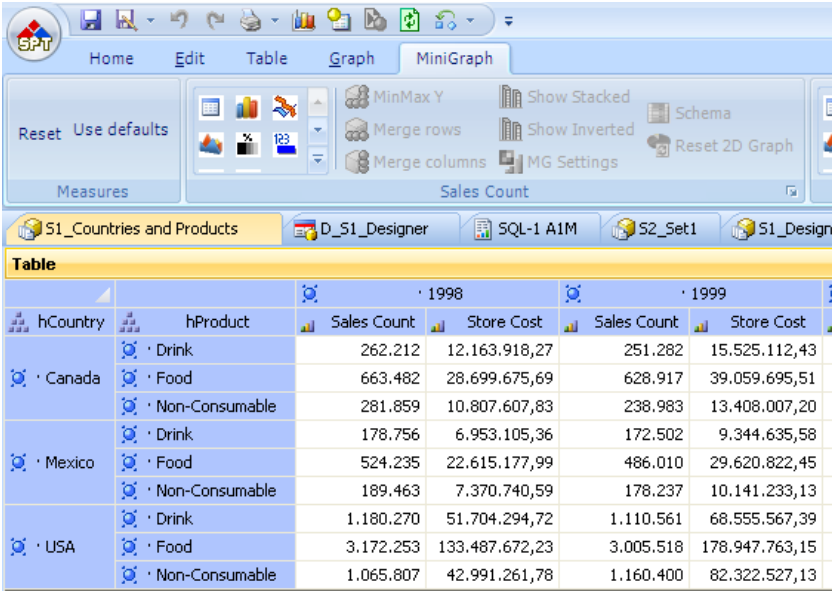
We will create new configuration called **My pin**.



- Enter name **My Pin**
- Select **Save** button

Load MiniGraph style

Let us suppose we have result table like this:

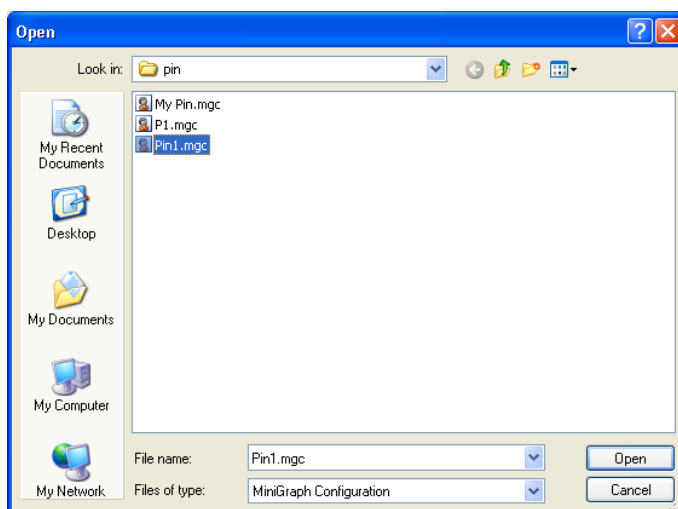


		1998		1999	
hCountry	hProduct	Sales Count	Store Cost	Sales Count	Store Cost
Canada	Drink	262.212	12.163.918,27	251.282	15.525.112,43
	Food	663.482	28.699.675,69	628.917	39.059.695,51
	Non-Consumable	281.859	10.807.607,83	238.983	13.408.007,20
Mexico	Drink	178.756	6.953.105,36	172.502	9.344.635,58
	Food	524.235	22.615.177,99	486.010	29.620.822,45
	Non-Consumable	189.463	7.370.740,59	178.237	10.141.233,13
USA	Drink	1.180.270	51.704.294,72	1.110.561	68.555.567,39
	Food	3.172.253	133.487.672,23	3.005.518	178.947.763,15
	Non-Consumable	1.065.807	42.991.261,78	1.160.400	82.322.527,13

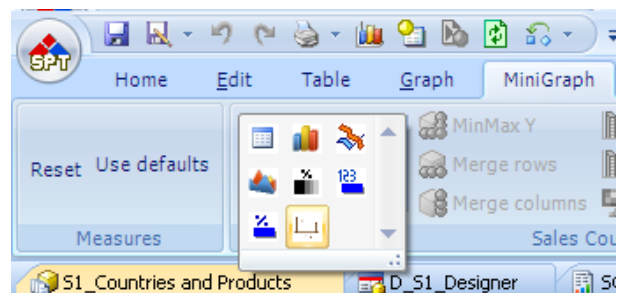
To load already predefined MiniGraph style:

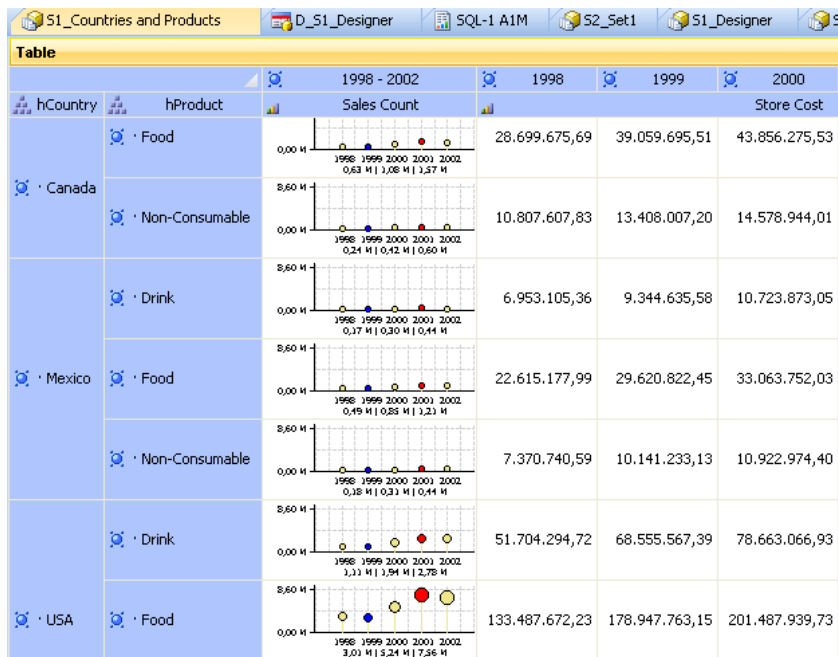
- Select **one of MG types** button (our case pin type)

You will get dialog:

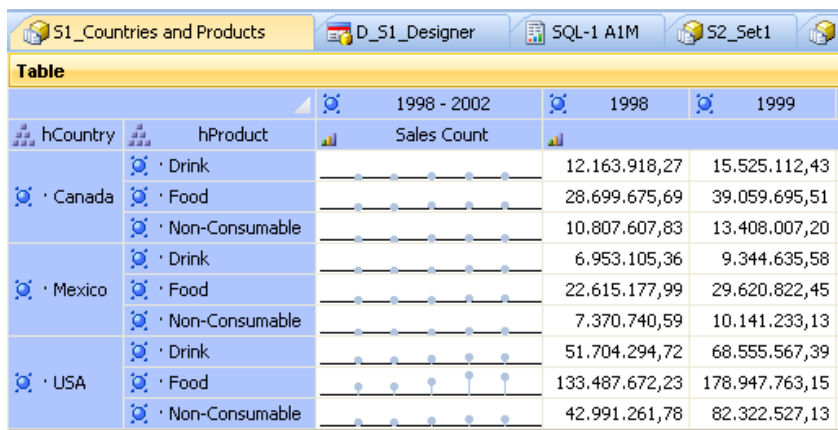


- Select **one predefined configuration**
- Select **Open**

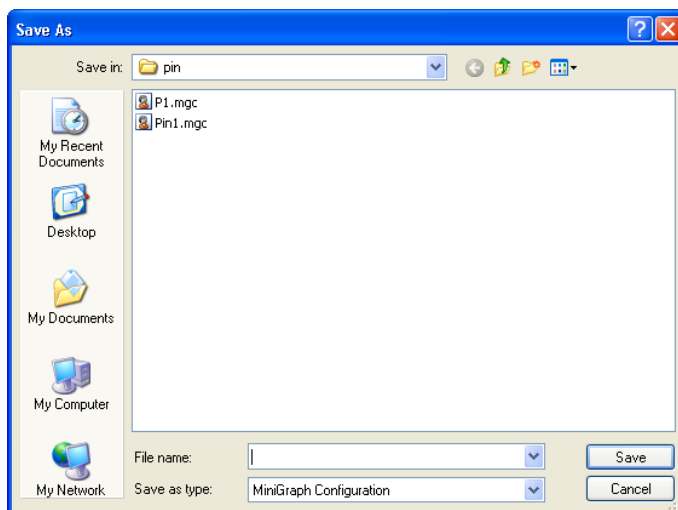




In case that you have select Cancel, default configuration for MiniGraph type pin will be loaded:

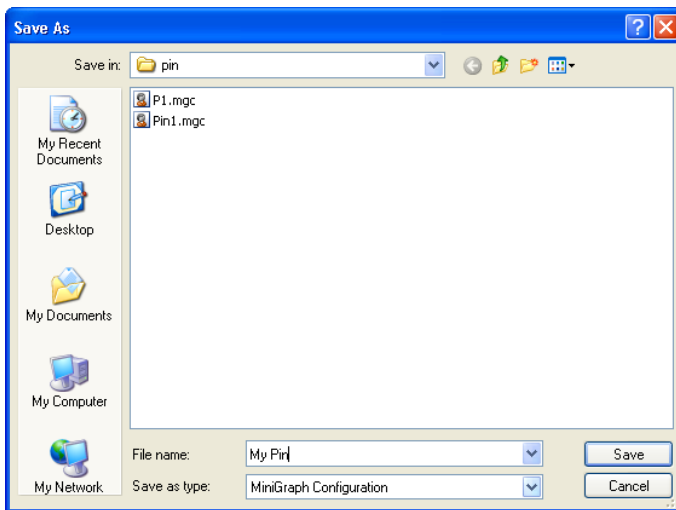


New dialog will appear.



Each MiniGraph type has it's own folder. If there is any configuration for selected type of MiniGraph you will see them.

In our case for MiniGraph type pin there are already two configurations P1.mgc and Pin1.mgc. We will create new configuration called **My pin**.



- Enter name **My Pin**
- Select **Save** button

Reporting Services Server Support

CubePlayer supports Microsoft Reporting Services Server.

It gives you ability to:

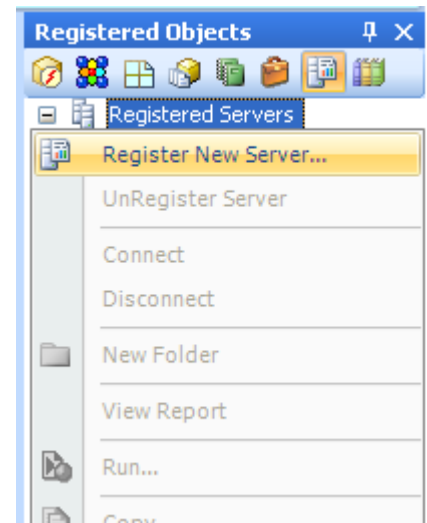
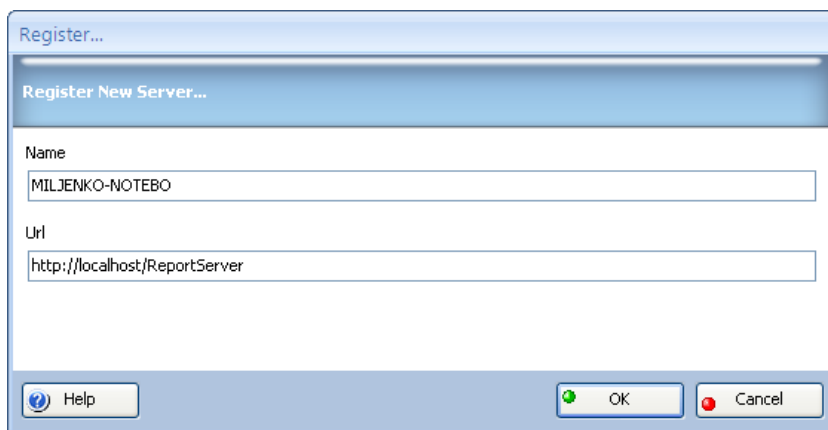
- View Reports from Reporting Services Server
- To Run reports created with Reporting Services Server as a CubePlayer object
- To export CubePlayer object to the Reporting Services Server

Register new RSS server

To create connection to the RSS:

- Select right most icon in **Registered objects explorer**
- Right click on **Registered Servers**
- Select Register New Server from menu

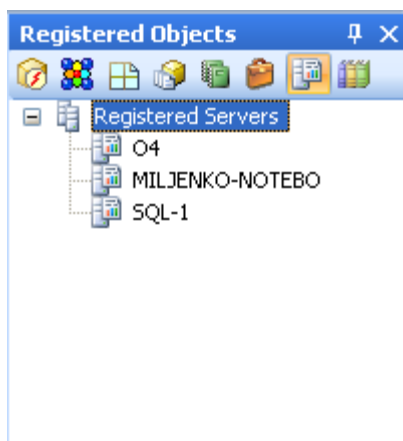
Dialog will appear:



Inside:

- Display name box enter friendly name for the report server you want to connect.
- Url box base URL of the Report Server Web service to which want to connect
- Select OK

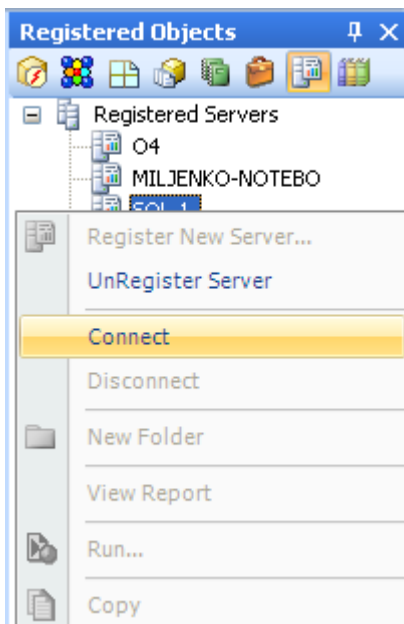
You RSS is registered,
and display name is your
friendly name from the dialog.



Connect to RSS

To connect to the RSS:

- Select right most icon in Registered objects explorer
- Select server from the list
- Right click
- Select **Connect** from menu



View report from RSS

To view report stored at RSS:

- Select report inside **Registered objects explorer**
- Right click
- Select View report from menu

And report will appear inside RSS viewer in CubePlayer:

CubePlayer

File Edit View Table Graph Document Analysis Tools Localization Windows Help

Send

Control Panel Sales Reason Comparisons

Product Category Bikes, Components

View Report

Adventure Works Cycles

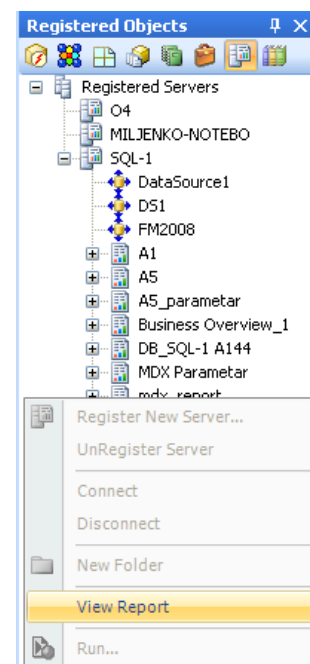
Sales Reason

	Europe			North America			Internet Total
	Internet Orders	Internet Sales Amount	Internet Total Product Cost	Internet Orders	Internet Sales Amount	Internet Total Product Cost	
Manufacturer	\$352	\$1,206,594	\$733,060	\$803	\$2,765,552	\$1,680,986	
On Promotion	\$1,110	\$2,009,804	\$1,182,740	\$1,298	\$2,217,191	\$1,292,029	
Other	\$111	\$65,666	\$39,932	\$109	\$62,743	\$38,311	
Price	\$2,275	\$3,586,028	\$2,120,140	\$2,630	\$4,158,322	\$2,425,635	
Quality	\$316	\$1,130,733	\$686,129	\$718	\$2,569,198	\$1,559,989	
Review	\$226	\$436,477	\$250,168	\$319	\$570,245	\$320,277	

Registered Objects

- Registered Servers
 - MLJAC-LAPTOP
 - AdventureWorks Sample
 - Company Sales
 - Employee Sales Sum
 - Product Catalog
 - Product Line Sales
 - Sales Order Detail
 - Sales Reason Comparison
 - Territory Sales Detail
 - Data Sources
 - Phone
 - FoodMartBigExtended

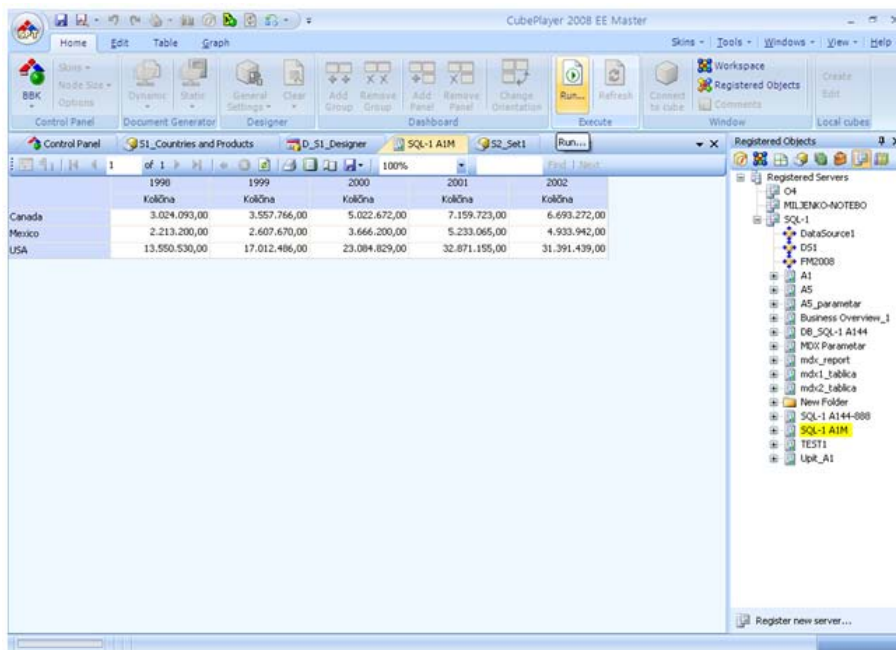
Register new server...



Run RSS object as CubePlayer object

To run RSS object as CP object (if it is OLAP query):

- Select **Run** icon inside Toolbar

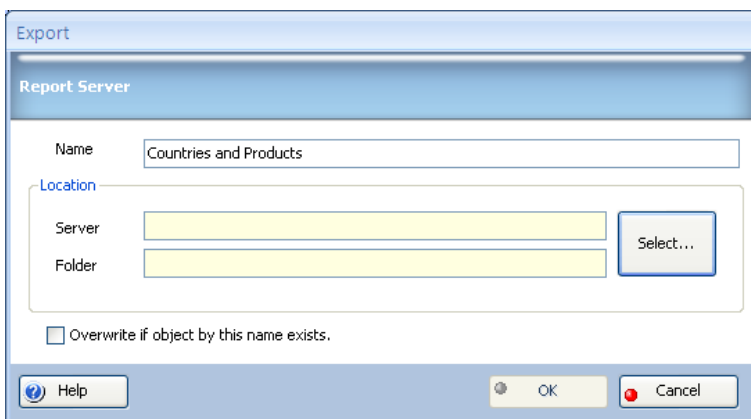


Export CubePlayer object to the RSS

To export CP object to the RSS object:

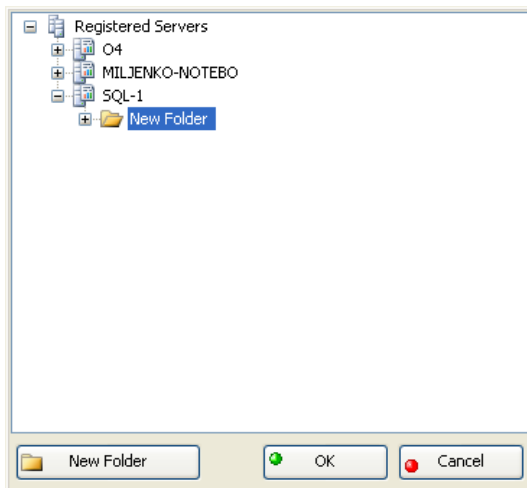
- Select any CP active window
- Select **Save As**
- Select **Export to RSS**

Dialog will appear:



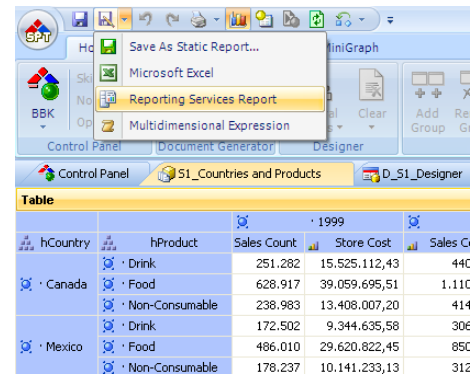
The 'Export' dialog box is shown with the 'Report Server' tab selected. The 'Name' field contains 'Countries and Products'. The 'Location' section has 'Server' and 'Folder' fields, both highlighted in yellow, and a 'Select...' button to the right of the 'Folder' field. An unchecked checkbox labeled 'Overwrite if object by this name exists.' is at the bottom left. At the bottom are 'Help', 'OK', and 'Cancel' buttons.

- Give **name** to your report.
- Select **Select ...** button



A tree view window showing 'Registered Servers'. The tree contains 'O4', 'MILJENKO-NOTEBO', and 'SQL-1'. Under 'SQL-1', there is a folder named 'New Folder' which is highlighted with a blue selection bar. At the bottom, there is a 'New Folder' button, an 'OK' button, and a 'Cancel' button.

- Select **Server** and **folder** from drop-down list (if you need you can create one)
- Select **OK**
- Select **OK** again



The screenshot shows a context menu for a report. The menu items are: 'Save As Static Report...', 'Microsoft Excel', 'Reporting Services Report' (highlighted), and 'Multidimensional Expression'. The background shows a report table with data for 1999.

		1999		
hCountry	hProduct	Sales Count	Store Cost	Sales G
	• Drink	251.282	15.525.112,43	440
• Canada	• Food	628.917	39.059.695,51	1.110
	• Non-Consumable	238.983	13.408.007,20	414
	• Drink	172.502	9.344.635,58	306
• Mexico	• Food	486.010	29.620.822,45	850
	• Non-Consumable	178.237	10.141.233,13	312

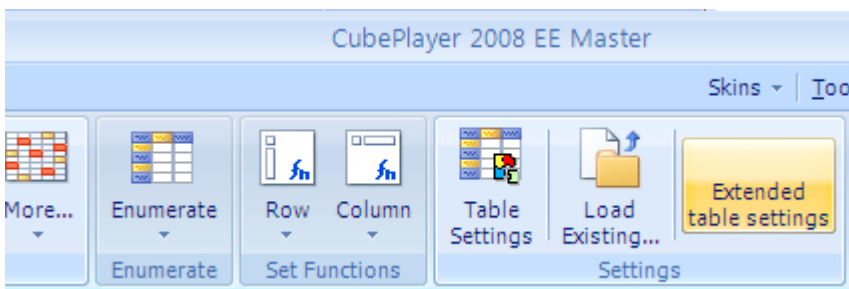
Result table configuration

CubePlayer allows you to configure different options on your result table:

- number formats
 - change number formats on the table
- row header width
 - set width of each hierarchy in rows
- row and column colors
 - colorize rows or columns according different conditions
- analysis
 - delete range analysis data if set on the table
- table operation permissions
 - set permissions for drill, remove, isolate ... operations
 - protect it with passwords

To activate table settings

- select button **Extended table settings** on tab **Table**



Number format

In CubePlayer using Designer configuration you can set whether Normal view will show

- server formatted values, or
- you will use number and apply measure format

This option is interesting if on the server you have one format for example USA, and your computer local settings is for example Croatian.

Difference is in decimal and thousand separators:

- USA format 1,000,000.00
- Croatian format 1.000.000,00

Table		
	1998	
Customer.hCountry	Sales Count	Store Cost
Canada	1,207,553	51,671,201.79
Mexico	892,454	36,939,023.94
USA	5,418,330	228,183,228.73

Server formatted value
(USA format)

Table		
	1998	
Customer.hCountry	Sales Count	Store Cost
Canada	1.207.553	51.671.201,79
Mexico	892.454	36.939.023,94
USA	5.418.330	228.183.228,73

Overridden value with local settings
(Croatian format)

However this setting can be overridden on the result table.

You can make choice:

- to override **CubePlayer** setting

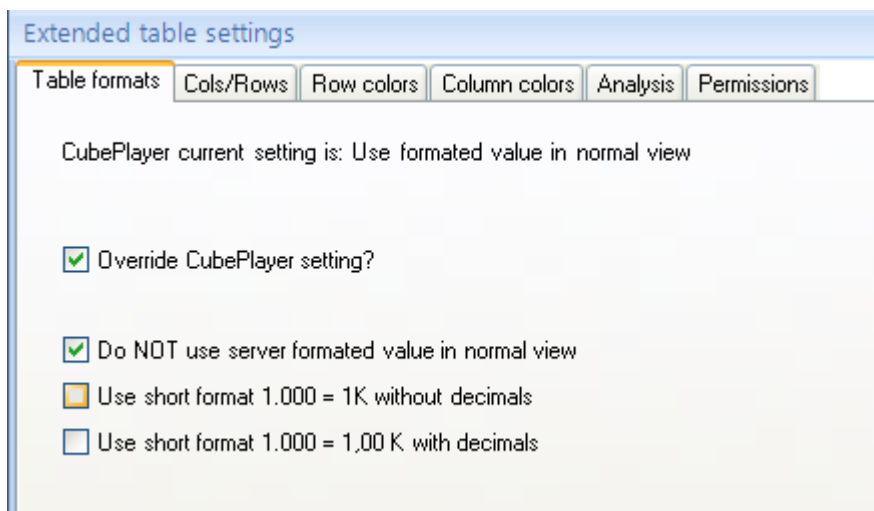
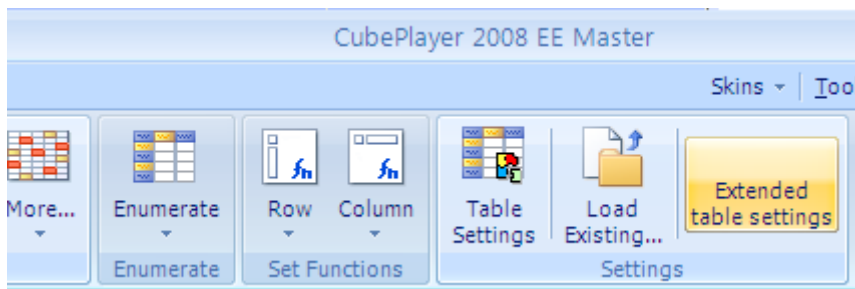
(what ever is default in Designer result table will use it's own setting)

If you select that option, next options will be available:

- **Do NOT use server formatted value in normal view**
(same setting as in designer applied only to THIS table)
- **Use short format 1.000 = 1K without decimals**
(show number 123.456,78 as 123K)
This is setting for ALL MEASURES
- **Use short format 1.000 = 1,00K with decimals**
(show number 123.456,78 as 123,46 K)
This is setting for ALL MEASURES

To activate table settings

- select button **Extended table settings** on tab **Table**



Our example will start with normal view where we can see server formatted value:

Table		
	1998	
Customer.hCountry	Sales Count	Store Cost
Canada	1,207,553	51,671,201.79
Mexico	892,454	36,939,023.94
USA	5,418,330	228,183,228.73

To override CubePlayer settings:

- select **Table formats** tab
- check box **Override CubePlayer setting**
- check **Do NOT use server formatted value in normal view**
- select **OK**

Table		
	1998	
Customer.hCountry	Sales Count	Store Cost
Canada	1.207.553	51.671.201,79
Mexico	892.454	36.939.023,94
USA	5.418.330	228.183.228,73

To change measure format short format without decimals:

- select **Use short format 1.000 = 1K without decimals**

Table formats	Cols/Rows	Row colors	Column colors	Analysis	Perm
---------------	-----------	------------	---------------	----------	------

CubePlayer current setting is: Use formatted value in normal view

☒ Override CubePlayer setting?

☒ Do NOT use server formatted value in normal view

☒ Use short format 1.000 = 1K without decimals

☐ Use short format 1.000 = 1,00 K with decimals

Result will be:

Table		
	· 1998	
Customer.hCountry	Sales Count	Store Cost
· Canada	1 M	52 M
· Mexico	1 M	37 M
· USA	5 M	228 M

To change measure format short format with decimals:

- select **Use short format 1.000 = 1,00K with decimals**

Table formats	Cols/Rows	Row colors	Column colors	Analysis	Pe
---------------	-----------	------------	---------------	----------	----

CubePlayer current setting is: Use formatted value in normal view

☒ Override CubePlayer setting?

☒ Do NOT use server formatted value in normal view

☐ Use short format 1.000 = 1K without decimals

☒ Use short format 1.000 = 1,00 K with decimals

Result will be:

Table		
	· 1998	
Customer.hCountry	Sales Count	Store Cost
· Canada	1,21 M	51,67 M
· Mexico	0,89 M	36,94 M
· USA	5,42 M	228,18 M

Row header width

For each hierarchy in rows (axis 1) you can define width of column.

Values are

- -1 hide hierarchy
- CubePlayer will set optimal width
- $X > 0$ value X is new column width

Table					
		· 2001		· 2002	
Customer.hCountry	Product.hProduct	Sales Count	Store Cost	Sales Count	Store Cost
· Canada	· Drink	633,044	21,569,976.07	591,376	21,217,139.56
	· Food	1,574,027	52,605,283.31	1,437,054	47,544,057.59
	· Non-Consumable	597,599	17,619,212.88	590,287	17,530,187.52
· Mexico	· Drink	442,048	13,109,003.92	386,236	10,670,921.22
	· Food	1,214,818	39,980,398.37	1,193,842	38,635,784.95
	· Non-Consumable	439,500	13,024,146.25	424,046	12,554,083.98
· USA	· Drink	2,778,164	94,204,574.69	2,675,405	90,507,371.85
	· Food	7,558,048	243,053,505.47	7,197,433	233,702,679.51
	· Non-Consumable	2,625,461	80,981,071.27	2,457,683	76,202,399.15

To activate table settings

- select button **Extended table settings** on tab **Table**
- select tab Cols/Rows

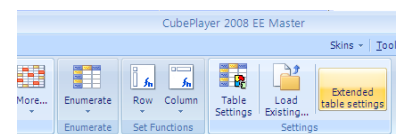


Table formats			
Cols/Rows			
Row colors			
Column colors			
Analysis			
Permissions			
			Column width
Hierarchy	Caption	Column width	
[Customer].[hCountry]	hCountry	300	
[Product].[hProduct]	hProduct	0	

- set value for **Customer.hCountry** 300
- select **OK**

Table				
		· 1998		
Customer.hCountry	Product.hProduct	Sales Count	Store Cost	
· Canada	· Drink	262,212	12,163,918.27	
	· Food	663,482	28,699,675.65	
	· Non-Consumable	281,859	10,807,607.83	
· Mexico	· Drink	178,756	6,953,105.36	
	· Food	524,235	22,615,177.95	
	· Non-Consumable	189,463	7,370,740.55	
· USA	· Drink	1,180,270	51,704,294.72	
	· Food	3,172,253	133,487,672.23	
	· Non-Consumable	1,065,807	42,991,261.76	

Row/column colors

CubePlayer allows you colorize your result table according to different conditions.

Let us suppose we have table like this:

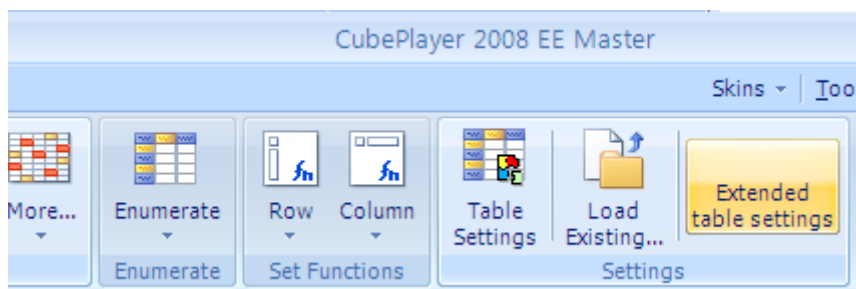
Table					
Customer.hCountry	Product.hProduct	2001		2002	
		Sales Count	Store Cost	Sales Count	Store Cost
Canada	Drink	633,044	21,569,976.07	591,376	21,217,139.56
	Food	1,574,027	52,605,283.31	1,437,054	47,544,057.59
	Non-Consumable	597,599	17,619,212.88	590,287	17,530,187.52
Mexico	Drink	442,048	13,109,003.92	386,236	10,670,921.22
	Food	1,214,818	39,980,398.37	1,193,842	38,635,784.95
	Non-Consumable	439,500	13,024,146.25	424,046	12,554,083.98
USA	Drink	2,778,164	94,204,574.69	2,675,405	90,507,371.85
	Food	7,558,048	243,053,505.47	7,197,433	233,702,679.51
	Non-Consumable	2,625,461	80,981,071.27	2,457,683	76,202,399.15

We can colorize:

- Rows or columns matching exact member unique name
- Rows or columns matching one of criteria:
 - Member caption begins with ...
 - Member caption end with ...
 - Member caption contains with ...
 - All member belonging to selected level

To start colorizing:

- select button **Extended table settings** on tab **Table**



Main rules:

- **COLUMNS will be colorized FIRST**
- **ROWS will be colorized NEXT**
- **If you have defined RANGE analysis it will be colorized AFTER rows**
- **If you have defined exceptions (HOT-SPOT analysis) it will be colorized LAST**

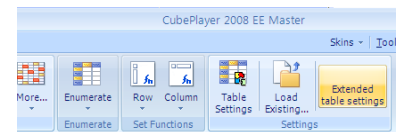
This is important to remember because order determines look of the table at the end.

Matching unique name

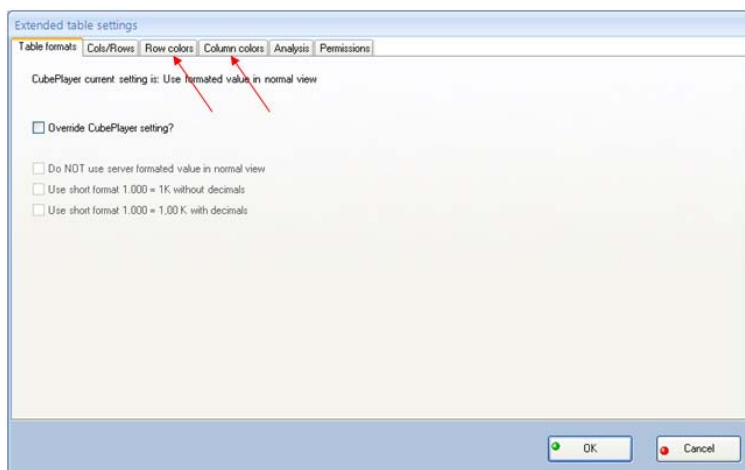
Table					
		2001		2002	
Customer.hCountry	Product.hProduct	Sales Count	Store Cost	Sales Count	Store Cost
Canada	Drink	633,044	21,569,976.07	591,376	21,217,139.56
	Food	1,574,027	52,605,283.31	1,437,054	47,544,057.59
	Non-Consumable	597,599	17,619,212.88	590,287	17,530,187.52
Mexico	Drink	442,048	13,109,003.92	386,236	10,670,921.22
	Food	1,214,818	39,980,398.37	1,193,842	38,635,784.95
	Non-Consumable	439,500	13,024,146.25	424,046	12,554,083.98
USA	Drink	2,778,164	94,204,574.69	2,675,405	90,507,371.85
	Food	7,558,048	243,053,505.47	7,197,433	233,702,679.51
	Non-Consumable	2,625,461	80,981,071.27	2,457,683	76,202,399.15

To start coloring:

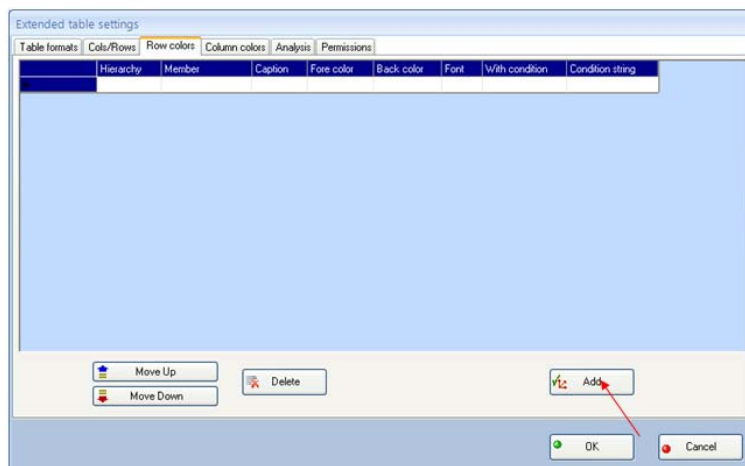
- select button **Extended table settings** on tab **Table**



Dialog will appear:

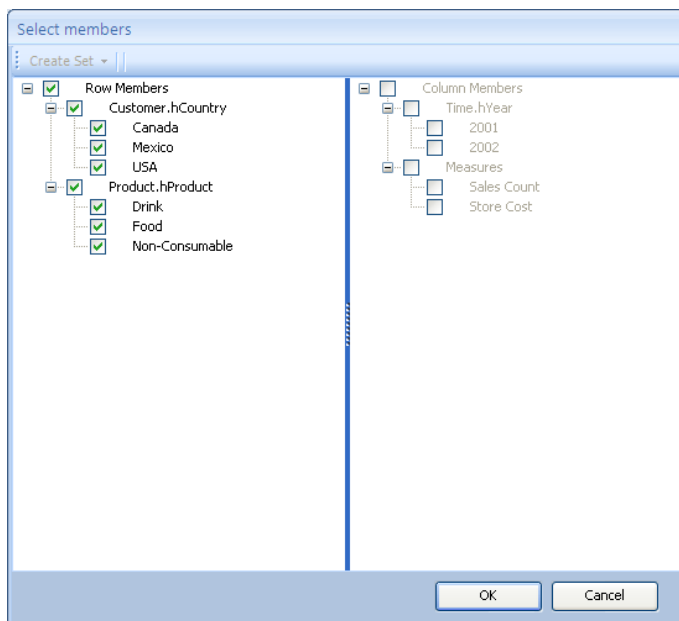


- select tab **Row colors** or **Column colors** (we will select **Row colors**)



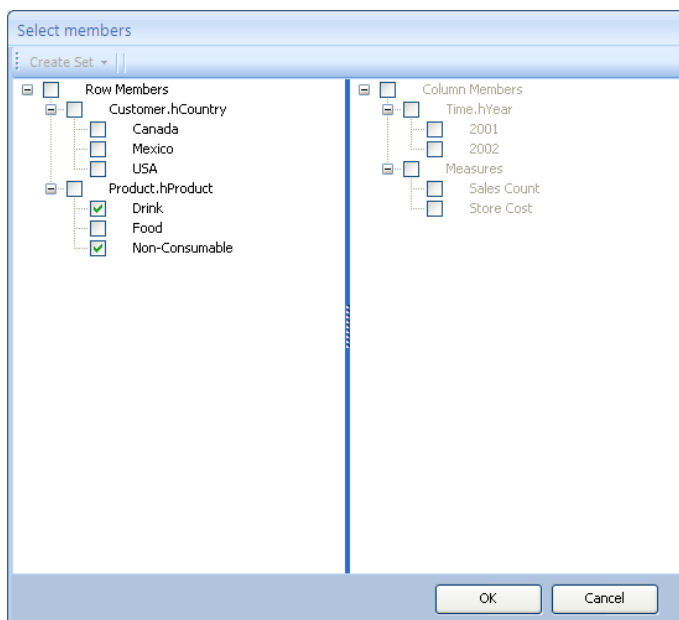
- select button **Add** to add members to be colored

Dialog that contains all member grouped by hierarchies will appear:



Now make your choice:

- uncheck Row Members box to deselect all
- select Drink and Food
- select OK



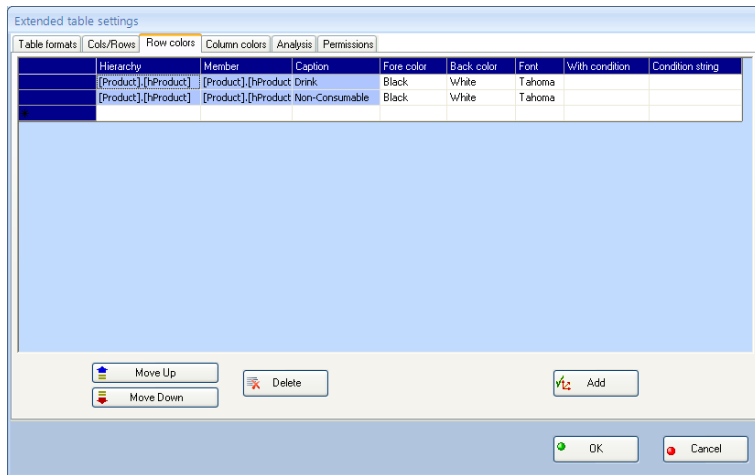
Now you are returned to previous dialog.

Selected Members are added to the table.

NOTE: **Order of members inside row or column table determines order of colorizing table.**

- Member in first row of the table will be colorized first. (in our case Drink)

- Member in second row will be colored second.
- ...
- Member in last row will be colored last.



To change order of members in the table:

- select one **row** in the table
- select **Move Up** to move it up
- select **Move Down** to move it down

To delete entry:

- select **one or more** rows
- select button **Delete**

To add more entries:

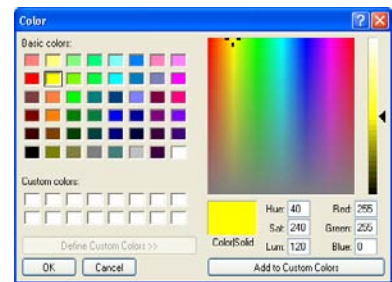
- select button **Add**
- unselect **All**
- select new members

To add colors:

- click on the cell for Fore color or Back color (our case **Back color** for **Non-Consumable**)
- click on the **button** that appears inside cell

Table formats	Cols/Rows	Row colors	Column colors	Analysis	Permissions	
	Hierarchy	Member	Caption	Fore color	Back color	Font
	[Product].[hProduct]	[Product].[hProduct]	Drink	Black	White	Tahoma
	[Product].[hProduct]	[Product].[hProduct]	Non-Consumable	Black	White	Tahoma
*						

- select color
- select OK



Selection will appear inside table:

Table formats	Cols/Rows	Row colors	Column colors	Analysis	Permissions		
	Hierarchy	Member	Caption	Fore color	Back color	Font	V
	[Product].[hProduct]	[Product].[hProduct]	Drink	Black	White	Tahoma	
	[Product].[hProduct]	[Product].[hProduct]	Non-Consumable	Black	Yellow	Tahoma	
*							

Do the same for other entries

Table formats	Cols/Rows	Row colors	Column colors	Analysis	Permissions		
	Hierarchy	Member	Caption	Fore color	Back color	Font	With con
	[Product].[hProduct]	[Product].[hProduct]	Drink	White	Maroon	Tahoma	
	[Product].[hProduct]	[Product].[hProduct]	Non-Consumable	Black	Yellow	Tahoma	
*							

- select **OK**

Table					
		· 2001		· 2002	
Customer.hCountry	Product.hProduct	Sales Count	Store Cost	Sales Count	Store Cost
· Canada	· Drink	633,044	21,569,976.07	591,376	21,217,139.56
	· Food	1,574,027	52,605,283.31	1,437,054	47,544,057.59
	· Non-Consumable	597,599	17,619,212.88	590,287	17,530,187.52
· Mexico	· Drink	442,048	13,109,003.92	386,236	10,670,921.22
	· Food	1,214,818	39,980,398.37	1,193,842	38,635,784.95
	· Non-Consumable	439,500	13,024,146.25	424,046	12,554,083.98
· USA	· Drink	2,778,164	94,204,574.69	2,675,405	90,507,371.85
	· Food	7,558,048	243,053,505.47	7,197,433	233,702,679.51
	· Non-Consumable	2,625,461	80,981,071.27	2,457,683	76,202,399.15

Matching criteria

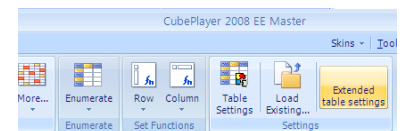
Possible criteria:

- Rows or columns matching one of criteria:
 - Member caption begins with ...
 - Member caption end with ...
 - Member caption contains with ...
 - All member belonging to selected level

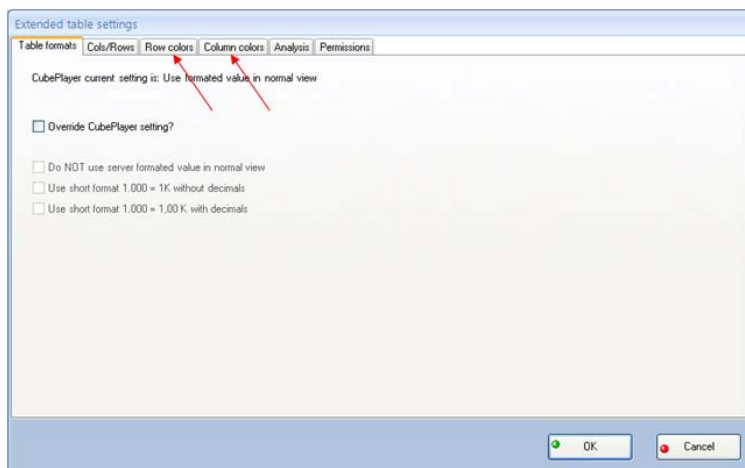
Table					
Customer.hCountry	Product.hProduct	2001		2002	
		Sales Count	Store Cost	Sales Count	Store Cost
Canada	Drink	633,044	21,569,976.07	591,376	21,217,139.56
	Food	1,574,027	52,605,283.31	1,437,054	47,544,057.59
	Non-Consumable	597,599	17,619,212.88	590,287	17,530,187.52
Mexico	Drink	442,048	13,109,003.92	386,236	10,670,921.22
	Food	1,214,818	39,980,398.37	1,193,842	38,635,784.95
	Non-Consumable	439,500	13,024,146.25	424,046	12,554,083.98
USA	Drink	2,778,164	94,204,574.69	2,675,405	90,507,371.85
	Food	7,558,048	243,053,505.47	7,197,433	233,702,679.51
	Non-Consumable	2,625,461	80,981,071.27	2,457,683	76,202,399.15

To start coloring:

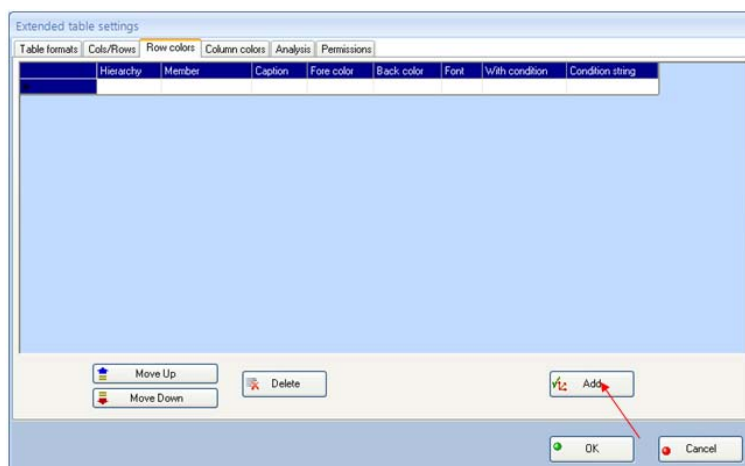
- select button **Extended table settings** on tab **Table**



Dialog will appear:

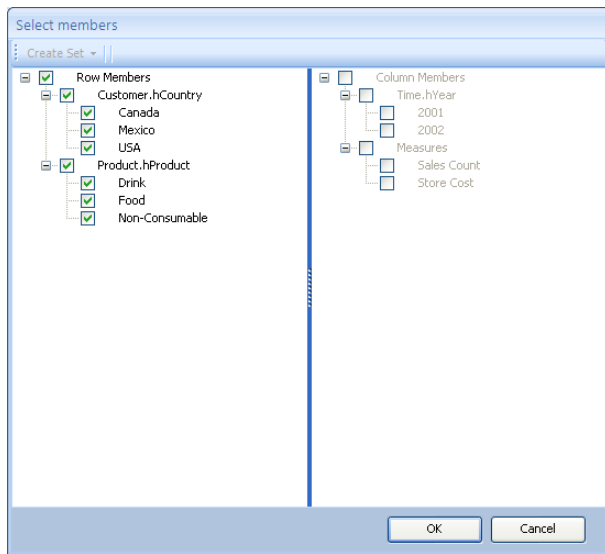


- select tab **Row colors** or **Column colors** (we will select **Row colors**)



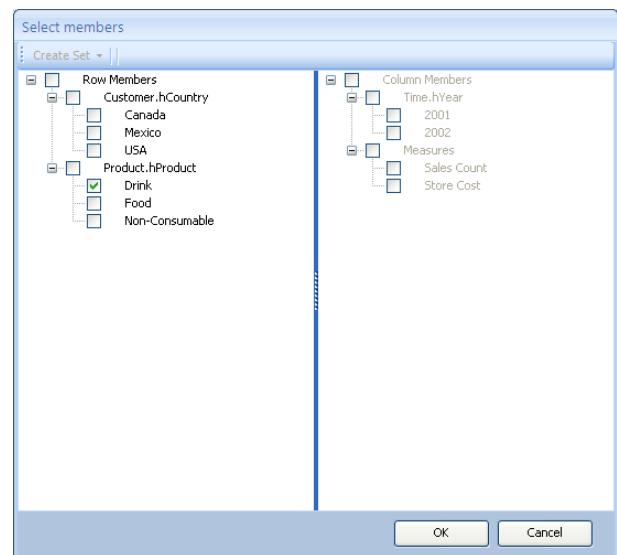
- select button Add to add members to be colorized

Dialog that contains all member grouped by hierarchies will appear:



Now make your choice:

- uncheck Row Members box to deselect all
- select Drink and Food
- select OK



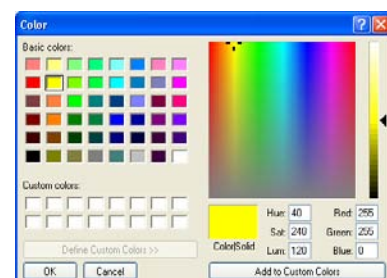
Now you are returned to previous dialog. Selected Members are added to the table.

To add colors:


- click on the cell for Fore color or Back color (our case **Back color** for **Non-Consumable**)
- click on the **button** that appears inside cell

Table formats	Cols/Rows	Row colors	Column colors	Analysis	Permissions		
	Hierarchy	Member	Caption	Fore color	Back color	Font	Wi
	[Product].[hProduct]	[Product].[hProduct]	Drink	Black	White	Tahoma	
*							

- select color
- select OK



Selection will appear inside table:

Table formats	Cols/Rows	Row colors	Column colors	Analysis	Permissions		
	Hierarchy	Member	Caption	Fore color	Back color	Font	With condition
	[Product].[hProduct]	[Product].[hProduct]	Drink	Black	Yellow 	Tahoma	
*							

- select **With condition** cell to get menu
- select one of the options from menu (we will select **4 – Contains**)

Table formats	Cols/Rows	Row colors	Column colors	Analysis	Permissions			
	Hierarchy	Member	Caption	Fore color	Back color	Font	With condition	Condition string
	[Product].[hProduct]	[Product].[hProduct]	Drink	Black	Yellow	Tahoma	<div>▼</div>	
*							<div>1 - None ... 2 - Starts with ... 3 - Ends with ... 4 - Contains ... 5 - Level Unique Name ...</div>	

After selection add condition to be matched in cell **Condition string**:

- input character “n”

Table formats	Cols/Rows	Row colors	Column colors	Analysis	Permissions			
	Hierarchy	Member	Caption	Fore color	Back color	Font	With condition	Condition string
	[Product].[hProduct]	[Product].[hProduct]	Drink	Black	Yellow	Tahoma	4 - Contains ...	n
*								

This way any member from hierarchy **Product.hProduct** that contains character “n” in CAPTION will be colored.

- select **OK**

Table					
		· 2001		· 2002	
Customer.hCountry	Product.hProduct	Sales Count	Store Cost	Sales Count	Store Cost
· Canada	· Drink	633,044	21,569,976.07	591,376	21,217,139.56
	· Food	1,574,027	52,605,283.31	1,437,054	47,544,057.59
	· Non-Consumable	597,599	17,619,212.88	590,287	17,530,187.52
· Mexico	· Drink	442,048	13,109,003.92	386,236	10,670,921.22
	· Food	1,214,818	39,980,398.37	1,193,842	38,635,784.95
	· Non-Consumable	439,500	13,024,146.25	424,046	12,554,083.98
· USA	· Drink	2,778,164	94,204,574.69	2,675,405	90,507,371.85
	· Food	7,558,048	243,053,505.47	7,197,433	233,702,679.51
	· Non-Consumable	2,625,461	80,981,071.27	2,457,683	76,202,399.15

As you can see rows with members **Drink** and **Non-Consumable** are colored since captions contains character “n”. Row with member **Food** is not colored since **Food** does not contain “n”.

Matching criteria

One of possible criteria is

- All member belonging to selected level

We will colorize members from level **Product Family** (**Drink**, **Food**, **Non-Consumable**) to yellow and then we will drill all members from level **Product Family** to level **Product**

Department with retaining parents. This way we will have members from different levels on the table.

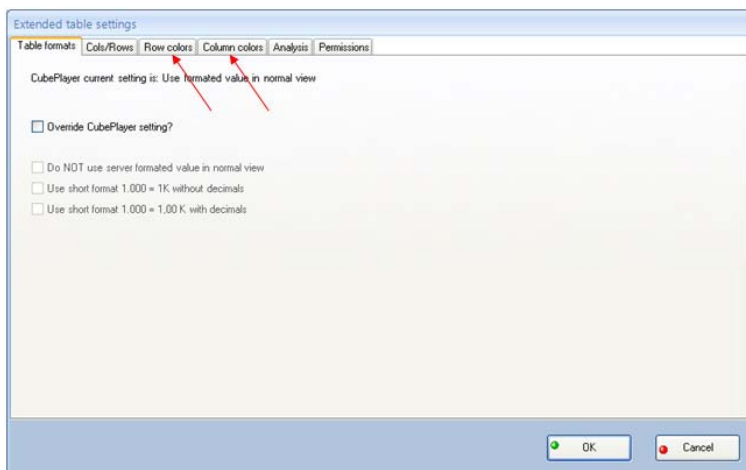
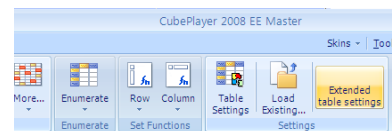
Table		2001		2002	
Customer.hCountry	Product.hProduct	Sales Count	Store Cost	Sales Count	Store Cost
Canada	Drink	633,044	21,569,976.07	591,376	21,217,139.56
	Food	1,574,027	52,605,283.31	1,437,054	47,544,057.59
	Non-Consumable	597,599	17,619,212.88	590,287	17,530,187.52
Mexico	Drink	442,048	13,109,003.92	386,236	10,670,921.22
	Food	1,214,818	39,980,398.37	1,193,842	38,635,784.95
	Non-Consumable	439,500	13,024,146.25	424,046	12,554,083.98
USA	Drink	2,778,164	94,204,574.69	2,675,405	90,507,371.85
	Food	7,558,048	243,053,505.47	7,197,433	233,702,679.51
	Non-Consumable	2,625,461	80,981,071.27	2,457,683	76,202,399.15

Rule: Level of selected member will be taken as condition.

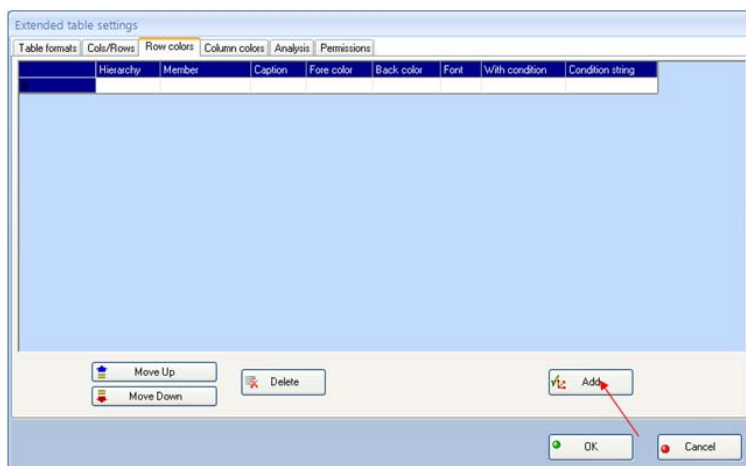
To start colorizing:

- select button **Extended table settings** on tab **Table**

Dialog will appear:

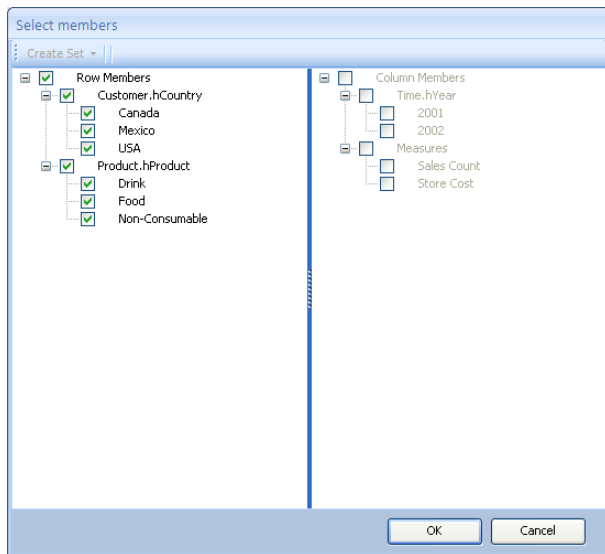


- select tab **Row colors** or **Column colors** (we will select **Row colors**)



- select button Add to add members to be colorized

Dialog that contains all member grouped by hierarchies will appear:

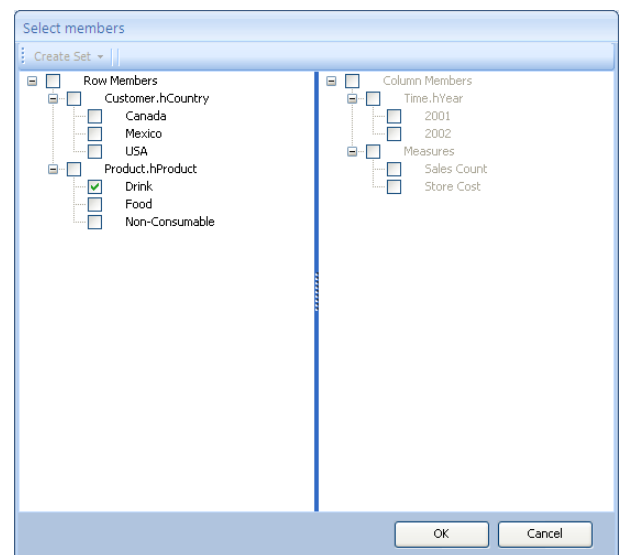


Now make your choice:

- uncheck Row Members box to deselect all
- select Drink and Food
- select OK

Now you are returned to previous dialog.

Selected Members are added to the table.

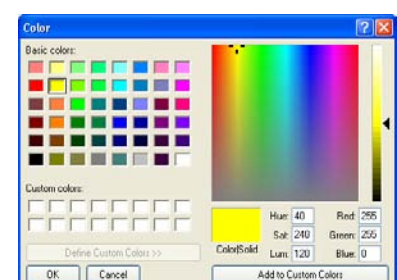


To add colors:

- click on the cell for Fore color or Back color (our case **Back color** for **Non-Consumable**)
- click on the **button** that appears inside cell

Table formats	Cols/Rows	Row colors	Column colors	Analysis	Permissions		
	Hierarchy	Member	Caption	Fore color	Back color	Font	With condi
	[Product].[hProduct]	[Product].[hProduct]	Drink	Black	White	Tahoma	
*							

- select color
- select OK



Selection will appear inside table:

Table formats	Cols/Rows	Row colors	Column colors	Analysis	Permissions		
	Hierarchy	Member	Caption	Fore color	Back color	Font	With condition
	[Product].[hProduct]	[Product].[hProduct]	Drink	Black	Yellow	Tahoma	
*							

- select **With condition** cell to get menu
- select one of the options from menu (we will select **5 – Level Unique Name**)

Table formats		Cols/Rows		Row colors		Column colors		Analysis		Permissions	
	Hierarchy	Member	Caption	Fore color	Back color	Font	With condition	Condition string			
	[Product].[hProduct]	[Product].[hProduct]	Drink	Black	Yellow	Tahoma	<div><div></div></div>				
*							<div><div>1 - None ...</div><div>2 - Starts with ...</div><div>3 - Ends with ...</div><div>4 - Contains ...</div><div>5 - Level Unique Name ...</div></div>				

After selection there is no need to add any condition to cell **Condition string**.

Level of member Drink will be taken as condition.

- select **OK**

Table						
		2001		2002		
Customer.hCountry	Product.hProduct	Sales Count	Store Cost	Sales Count	Store Cost	
Canada	Drink	633,044	21,569,976.07	591,376	21,217,139.56	
	Food	1,574,027	52,605,283.31	1,437,054	47,544,057.59	
	Non-Consumable	597,599	17,619,212.88	590,287	17,530,187.52	
Mexico	Drink	442,048	13,109,003.92	386,236	10,670,921.22	
	Food	1,214,818	39,980,398.37	1,193,842	38,635,784.95	
	Non-Consumable	439,500	13,024,146.25	424,046	12,554,083.98	
USA	Drink	2,778,164	94,204,574.69	2,675,405	90,507,371.85	
	Food	7,558,048	243,053,505.47	7,197,433	233,702,679.51	
	Non-Consumable	2,625,461	80,981,071.27	2,457,683	76,202,399.15	

As you can entire table is yellow since **Drink**, **Food** and **Non-Consumable** belongs to same level.

Now:

- double click over **any** member from **Product.hProduct** hierarchy

Table				
Customer.hCountry	Product.hProduct	· 2001		Sales
		Sales Count	Store Cost	
· Canada	· Drink	633,044	21,569,976.07	59
	· Food		2,605,283.31	1,43
	· Non-Consumable		7,619,212.88	59
· Mexico	· Drink		3,109,003.92	38
	· Food		9,980,398.37	1,19
	· Non-Consumable		3,024,146.25	42
· USA	· Drink		4,204,574.69	2,67
	· Food		3,053,505.47	7,19
	· Non-Consumable		0,981,071.27	2,45

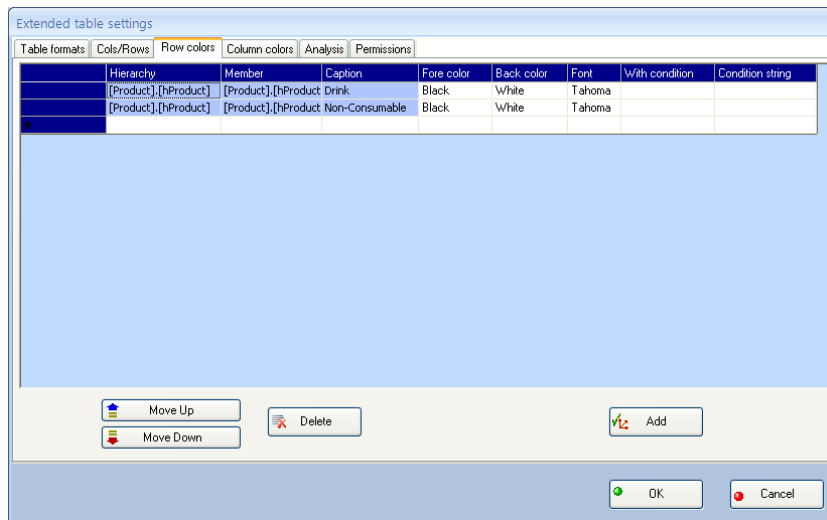
- select **DD Level (+)**
it will drill and **RETAIN** parents on the table

Table					
Customer.hCountry	Product.hProduct	· 2001		· 2002	
		Sales Count	Store Cost	Sales Count	Store Cost
· Canada	· Drink	633,044	21,569,976.07	591,376	21,217,139.56
	· · Alcoholic Beverages	84,733	3,077,146.85	87,542	3,716,602.09
	· · Baking Goods	268,038	12,028,653.60	236,380	11,760,644.69
	· · Beverages	105,886	2,053,731.14	116,622	1,508,971.75
	· · Dairy	174,387	4,410,444.48	150,832	4,230,921.02
	· Food	1,574,027	52,605,283.31	1,437,054	47,544,057.59
	· · Baked Goods	86,368	3,769,579.26	78,828	2,794,942.44
	· · Breakfast Foods	86,544	2,214,743.54	66,986	1,196,201.80
	· · Canned Foods	455,443	13,531,984.34	418,651	12,821,954.15
	· · Canned Products	137,708	4,145,317.23	126,469	4,098,044.04
	· · Deli	153,002	4,168,677.16	149,678	4,359,878.69
	· · Eggs	38,900	1,009,242.30	20,758	422,272.39
	· · Frozen Foods	145,587	4,538,664.56	142,492	4,368,483.70
	· · Produce	14,624	440,804.09	21,267	767,244.29
	· · Seafood	24,527	1,111,328.28	27,635	1,209,564.37
	· · Snack Foods	314,463	12,522,873.75	285,694	10,991,876.77
	· · Snacks	75,511	3,626,697.41	57,559	3,169,616.32
	· · Starchy Foods	41,350	1,525,371.39	41,037	1,343,978.63
	· Non-Consumable	597,599	17,619,212.88	590,287	17,530,187.52
	· · Carousel	58,970	1,586,410.79	66,891	1,816,199.67

Add, delete and reorder

Let us suppose you already entered few entries and you want to:

- add more
- delete one or more
- reorder them



To change order of members in the table:

- select one **row** in the table
- select **Move Up** to move it up
- select **Move Down** to move it down

To delete entry:

- select **one** or **more** rows
- select button **Delete**

To add more entries:

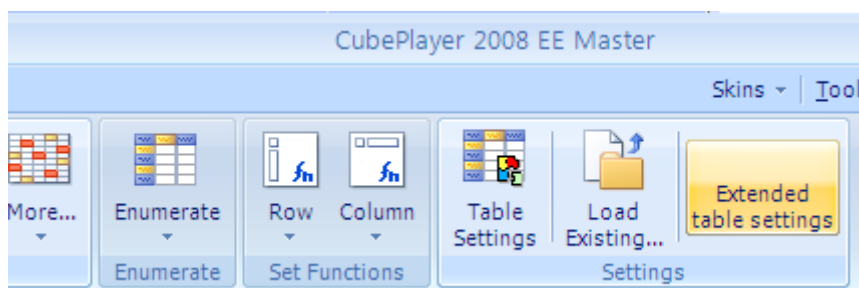
- select button **Add**
- unselect **All**
- select new members

Analysis

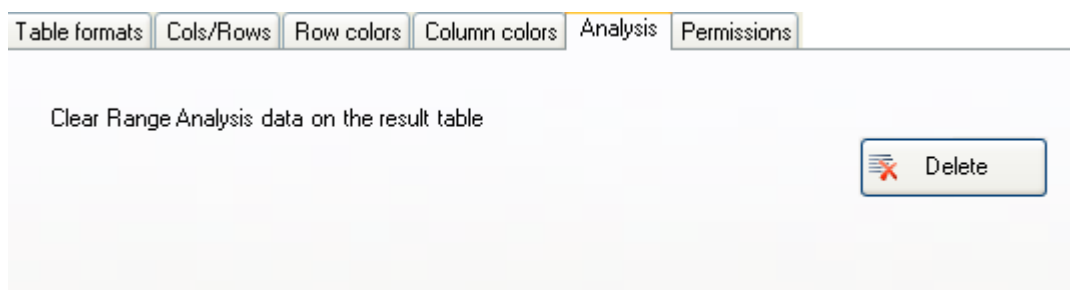
Table					
		1998		1999	
Customer.hCountry	Product.hProduct	Sales Count	Store Cost	Sales Count	Store Cost
Canada	Drink	262,212	12,163,918.27	251,282	15,525
	Food	663,482	28,699,675.69	628,917	39,059
	Non-Consumable	281,859	10,807,607.83	238,983	13,408
Mexico	Drink	178,756	6,953,105.36	172,502	9,344
	Food	524,235	22,615,177.99	486,010	29,620
	Non-Consumable	189,463	7,370,740.59	178,237	10,141
USA	Drink	1,180,270	51,704,294.72	1,110,561	68,555
	Food	3,172,253	133,487,672.23	3,005,518	178,947
	Non-Consumable	1,065,807	42,991,261.78	1,160,400	82,322

If range analysis colors are transferred to the table, to remove them:

- select button **Extended table settings** on tab **Table**



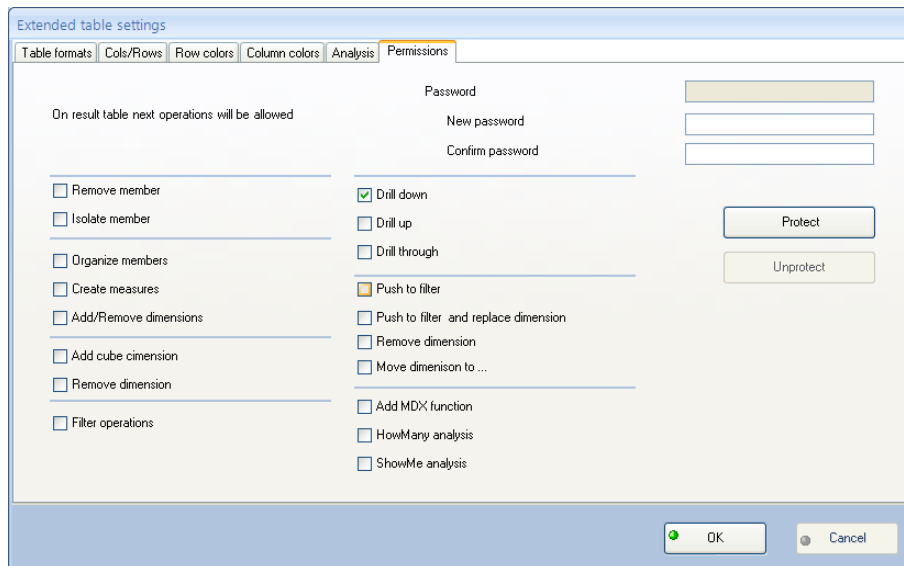
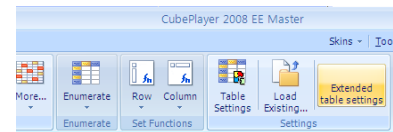
- select tab **Analysis**
- select button **Delete**



Permissions

To forbid some of possible table operations, like DrillDown, DrillUp, Remove, Add Dimension etc.:

- select button **Extended table settings** on tab **Table**
- select tab **Permissions**



- deselect some of boxes (we will deselect all except Drill Down)
- select **OK**
- right click to see operation menus

Table				
Customer.hCountry	Product.hProduct	1998 Sales Count	Store Cost	1998 Sales Count
Canada	Drink	262,212	12,163,918.27	251,282
	Food			3,917
	Non-Consumable			3,983
Mexico	Drink			2,502
	Food			5,010
	Non-Consumable			3,237
USA	Drink			0,561
	Food			5,518
	Non-Consumable			0,400

Styles in CubePlayer

In CubePlayer user has option to define:

- Table styles
- Graph styles
- Measure styles
- Subtotal styles
- Length of text in row or column headers

Create table style

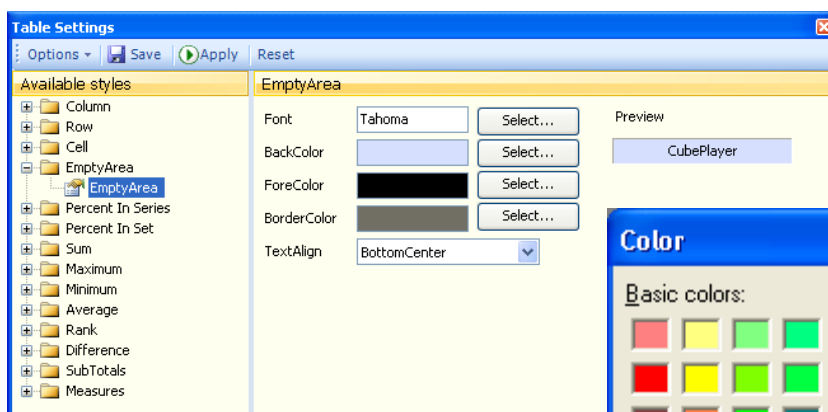
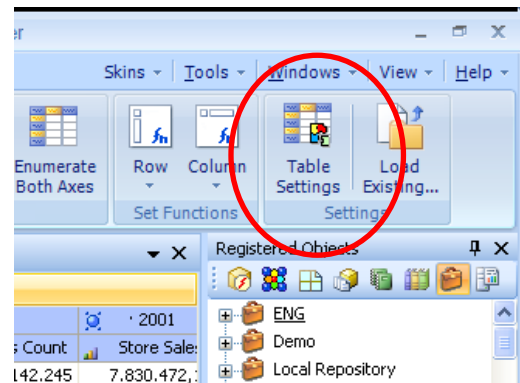
To create new table style:

- Select **Table** tab
- Select **Table settings** button

In a bottom window:

- Find group you want to change a style (**Empty area**)

In this example we will change color of empty area.



- Select **BackColor**
- Select color you want (**Blue** in our case)
- Select **Ok** button
- Select **Apply** button

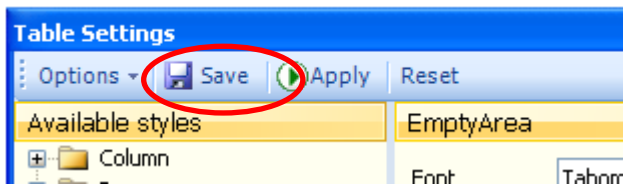


Table		1998	
Customers	Product	Store Sales	Sales Count
Canada	Drink	4,240,439,98	68,919
	Food	35,692,889,85	528,649
	Non-Consumable	9,813,705,92	168,855
Mexico	Drink	3,486,916,59	53,274
	Food	24,691,174,97	376,619
	Non-Consumable	5,837,051,31	98,560
USA	Drink	17,277,835,37	277,938
	Food	151,000,932,70	2,296,873
	Non-Consumable	36,457,093,22	574,085

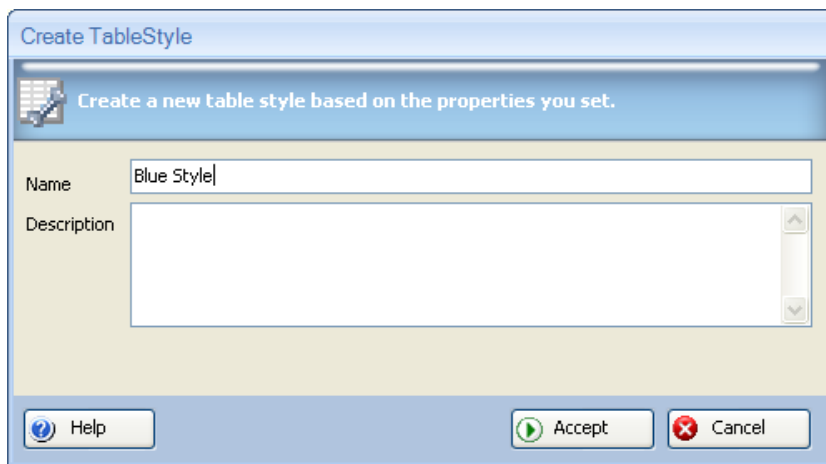
This way you can define each element at your table.

After definition (when you are satisfied):

- Select **Save** icon



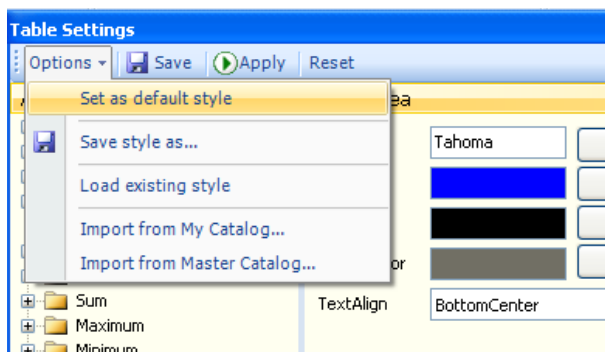
Dialog will appear:



- Give the name (**Blue Style**)
- Select OK

To use this style as default:

- Select **Options**
- Select **Set as default style** from menu



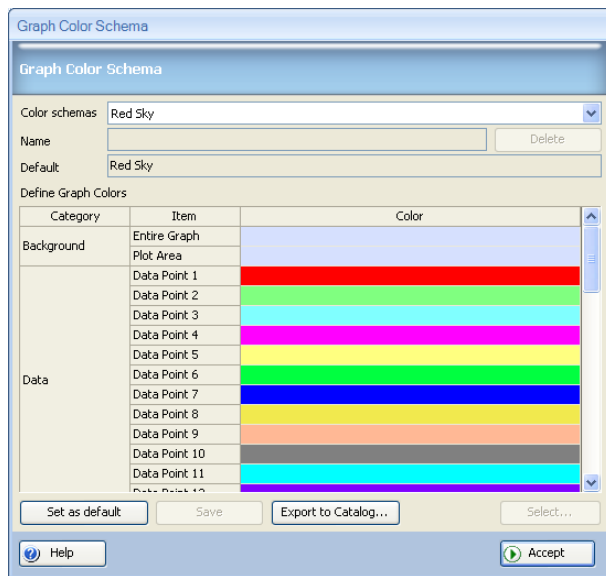
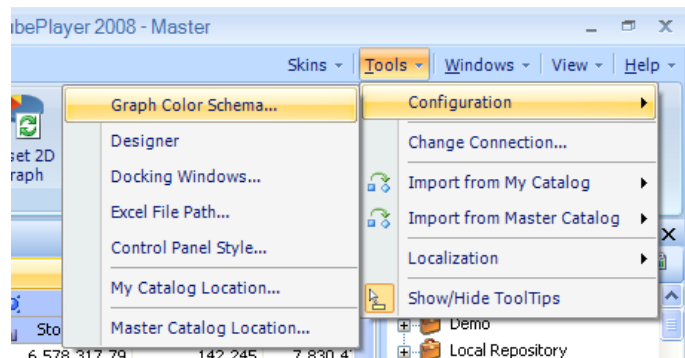
Now you have new default table style. Each time when you create new table **Default table style** will be applied.

Create graph style

To create new graph color schema:

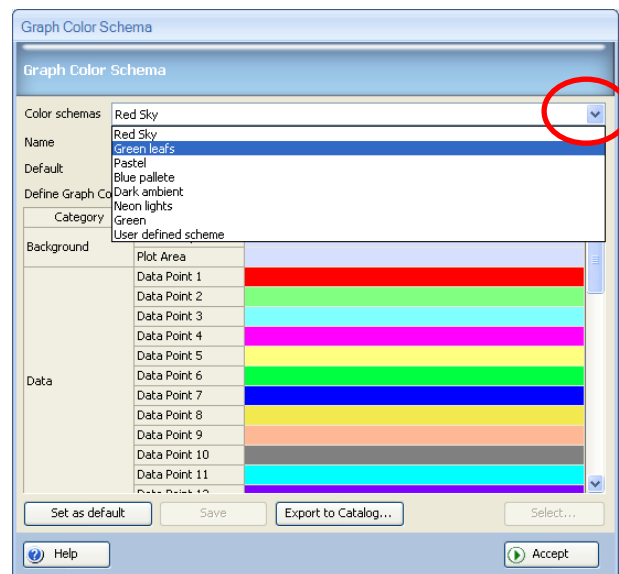
- Select **Tool-Configuration-Graph color schema** from main menu

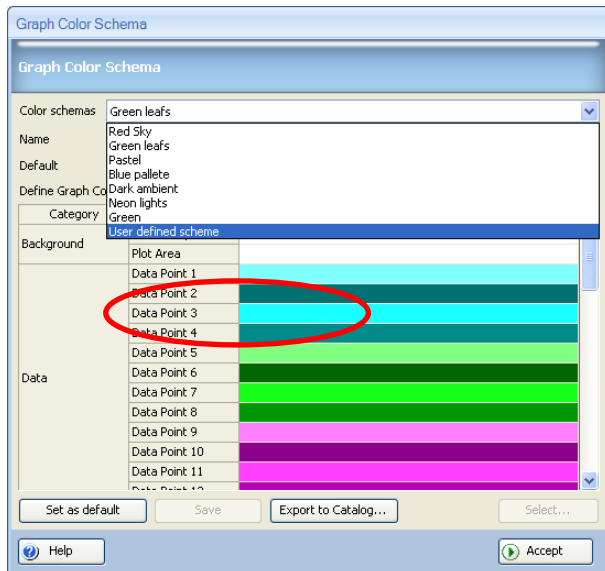
New dialog will appear.



To create new schema you have to select one as basic schema that you will use as a pattern.

- Select **Green Leafs**
- After selection select drop down menu again
- Select **User defined schema** from drop-down-list

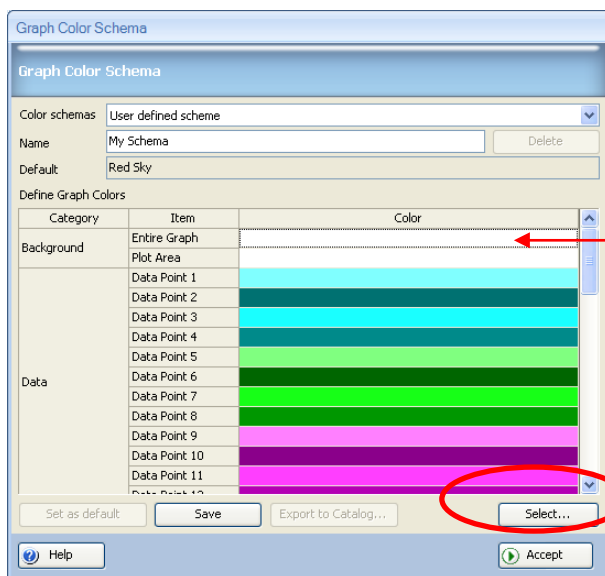
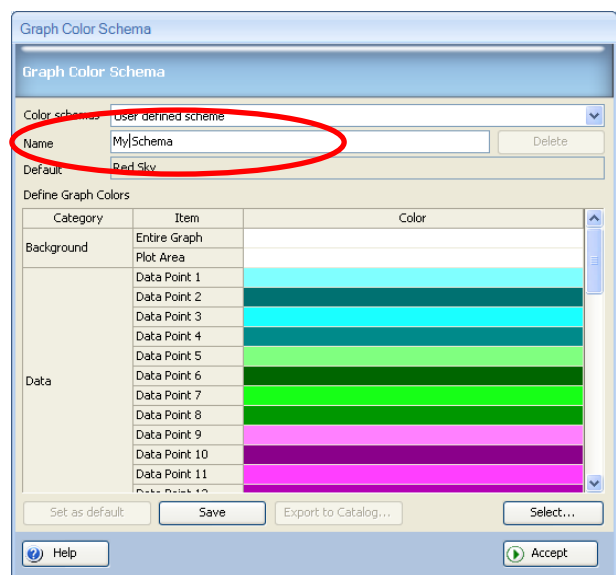




- Give the name to new schema (**My Schema**)

Now select what you want to change:

- Select **Background Entire Graph**



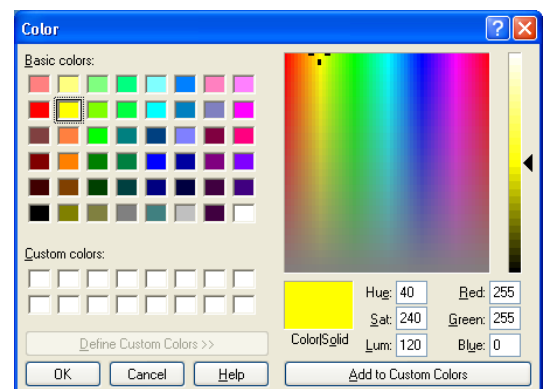
- Select button **Select ...**

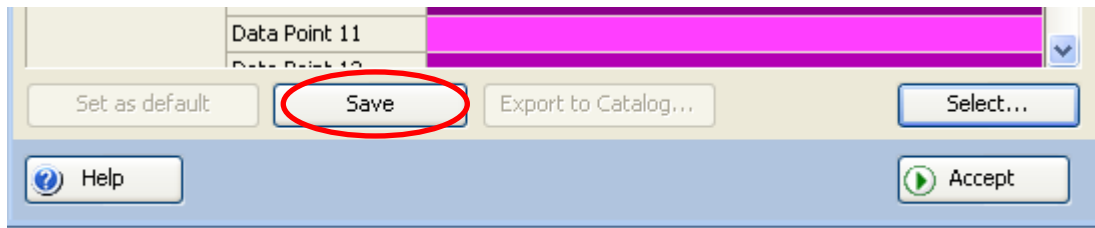
Color selector form will appear.

- Select new color for **Background** (Yellow in our example)
- Select **OK**

In your case you will continue with color definitions. In our case we will stop and:

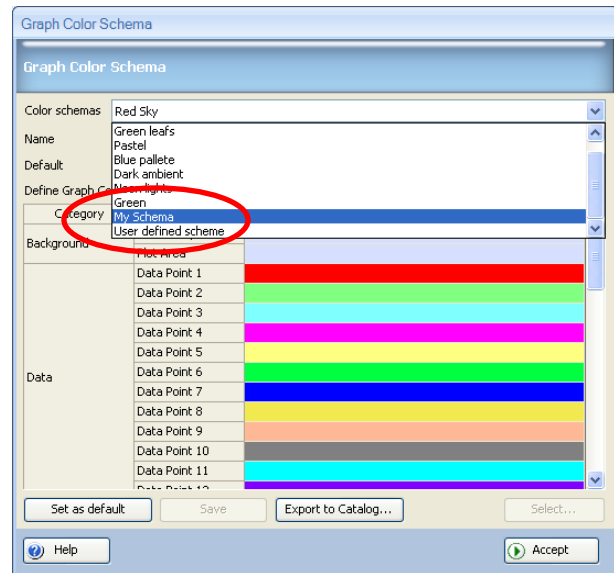
- Select **Save**





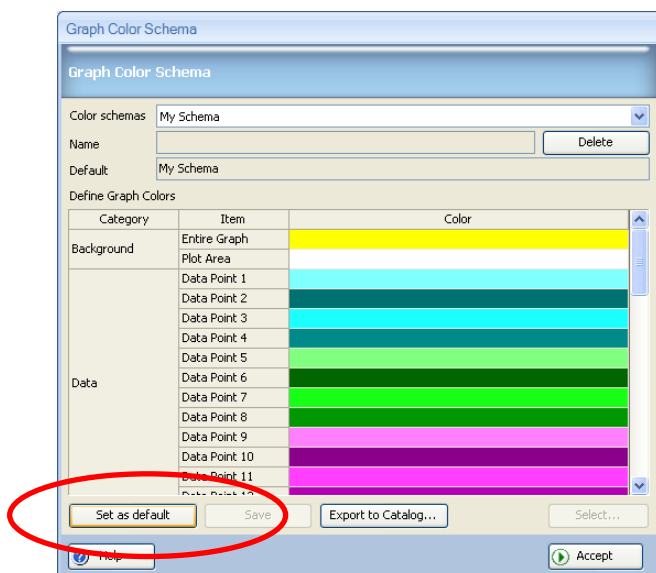
Your new Color schema (**My Schema**) is saved.
Now set it as default.

- Select **Set as Default**
- Select OK



From now any newly created query will have a graph with color schema **My Schema**.

This does not apply to saved queries and objects.



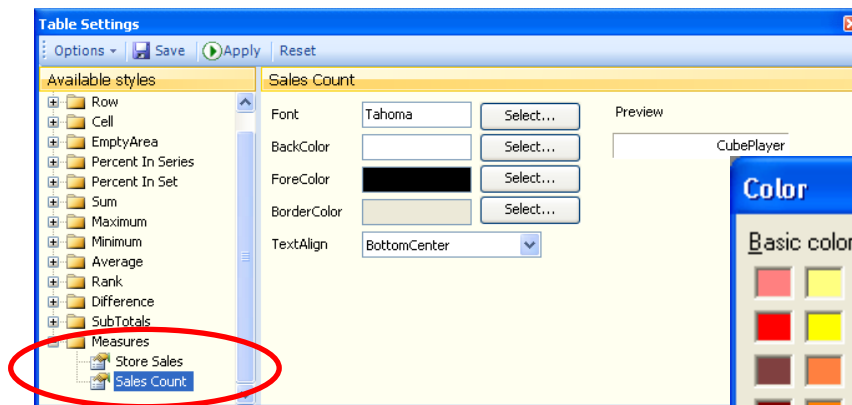
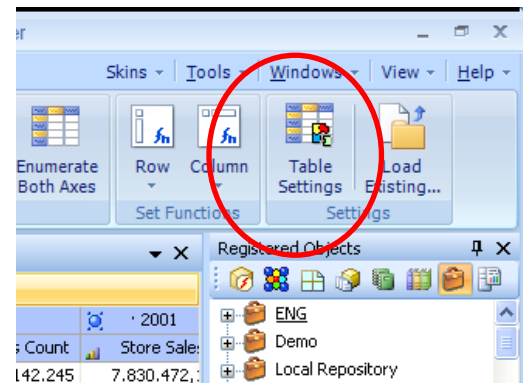
Create measure style

To set measure style:

- Select **Table** tab
- Select **Table settings** button

In a bottom window:

- Find group **Measures**
- Select **measure** to apply a style (**Sales Count**)



- Select **BackColor**
- Select color you want
- Select **Ok** button
- Select **Apply** button



Control Panel		S7_Country-Product		Define Custom Colors >>		
				OK Cancel Help		
Table						
		1998				
Customers	Product	Store Sales	Sales Count	Store Sales	Sales Count	Store S
Canada	Drink	4.240.439,98	68.919	6.119.797,92	74.164	6.578.31
	Food	35.692.889,85	528.649	56.998.461,49	592.437	61.749.95
	Non-Consumable	9.813.705,92	168.855	14.031.195,34	159.041	14.400.18
Mexico	Drink	3.486.916,59	53.274	5.073.337,03	62.302	5.517.80
	Food	24.691.174,97	376.619	37.953.229,22	402.844	40.917.55
	Non-Consumable	5.837.051,31	98.560	9.972.640,78	113.351	10.144.05
USA	Drink	17.277.835,37	277.938	28.239.096,66	312.685	31.518.16
	Food	151.000.932,70	2.296.873	239.965.141,94	2.550.067	259.340.11
	Non-Consumable	36.457.093,22	574.085	86.205.313,30	773.351	62.620.45

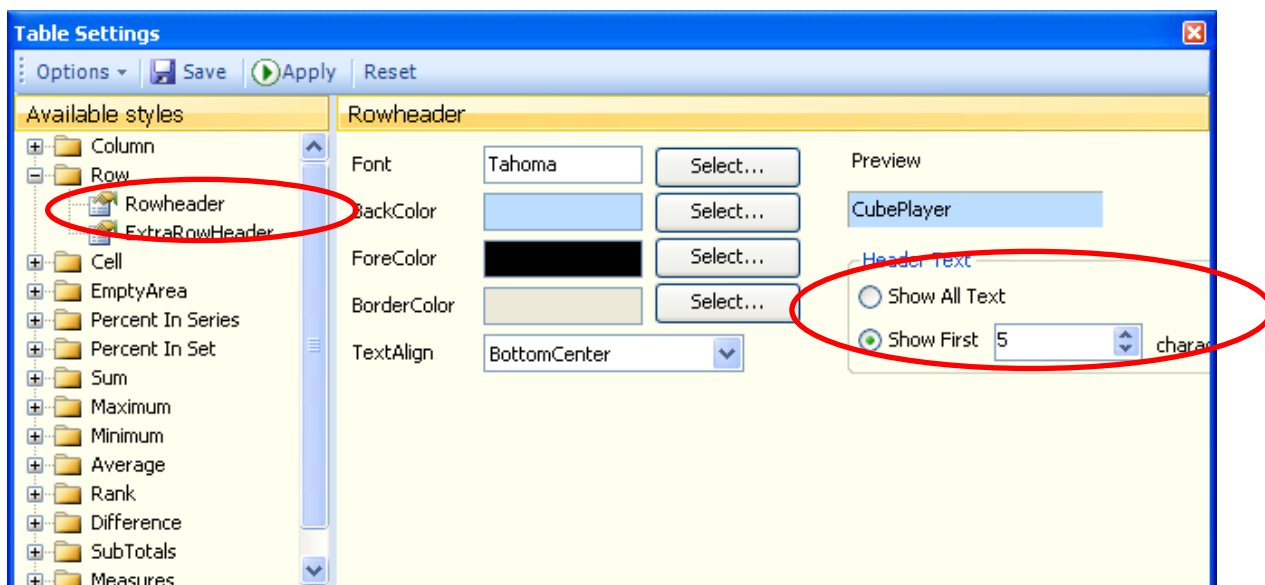
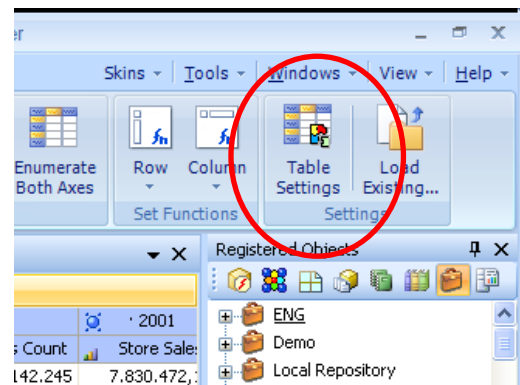
Select members name length at the table

To set names length:

- Select **Table** tab
- Select **Table settings** button

In a Table settings tab, that will appear at the bottom of the screen:

- Select **Row (or Column)**
- Select **Rowheader (or Columnheader)**
- Select **Show First** radio button (right hand side)
- Enter the number of characters to be displayed
- Select button **Apply**



Row header names at the table will be truncated to the selected length.

Control Panel		S6_Country-Product			
Table					
		1999		2000	
		Store Sales	Sales Count	Store Sales	
1999	2000				
Custo...	Produ...	119.797,92	74.164	6.578.317,79	
• Can...	• Foo...	998.461,49	592.437	61.749.995,97	
• Non...	• Non...	331.195,34	159.041	14.400.183,60	
• Dri...	• Dri...	373.337,03	62.302	5.517.802,21	
• Mex...	• Foo...	953.229,22	402.844	40.917.597,82	
• Non...	• Non...	377.640,78	113.351	10.144.056,60	
• Dri...	• Dri...	239.096,66	312.685	31.518.160,63	
• USA	• Foo...	965.141,94	2.550.067	259.340.117,24	
• Non...	• Non...	205.313,30	773.351	62.620.453,71	

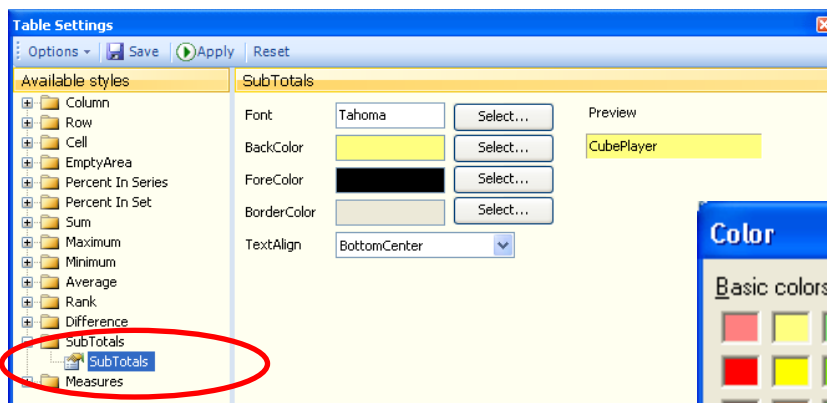
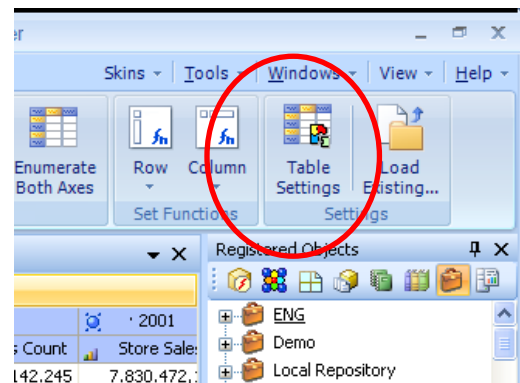
Create Subtotals style

To set subtotals style:

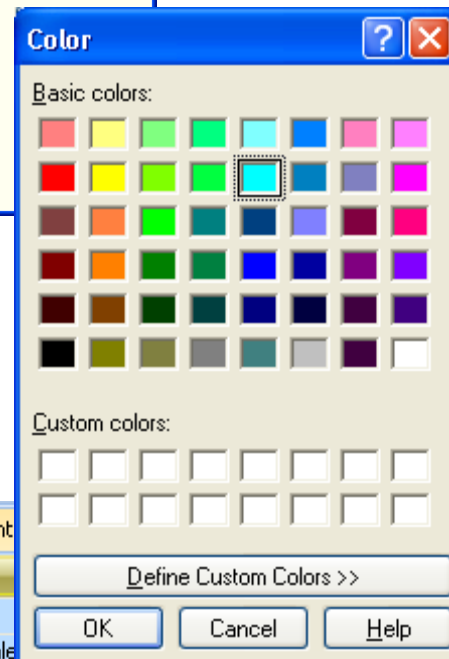
- Select **Table** tab
- Select **Table settings** button

In a bottom window:

- Find group **Subtotals**



- Select **BackColor**
- Select color you want
- Select **Ok** button
- Select **Apply** button
- Now select **Subtotals**



Subtotals						
1	2	*	Customers	Product	Store Sale	Count
Total					288.498.039,91	4.443.772,00
Total · Canada					49.747.035,75	766.423,00
	Canada	· Drink			4.240.439,98	68.919
		· Food			35.692.889,85	528.649
		· Non-Consumable			9.813.705,92	168.855
Total · Mexico					34.015.142,88	528.453,00
	Mexico	· Drink			3.486.916,59	53.274
		· Food			24.691.174,97	376.619
		· Non-Consumable			5.837.051,31	98.560
Total · USA					204.735.861,29	3.148.896,00
	USA	· Drink			17.277.835,37	277.938
		· Food			151.000.932,70	2.296.873
		· Non-Consumable			36.457.093,22	574.085

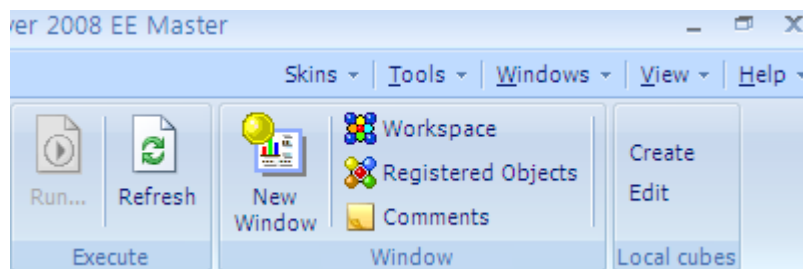
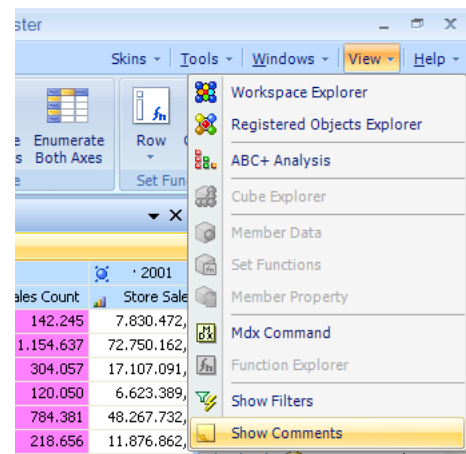
Add note – comment

To add note or comment:

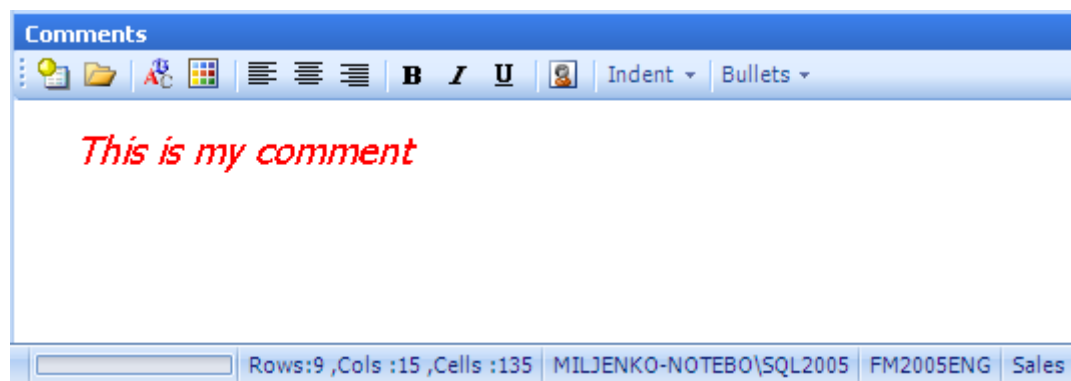
- Select **View** from right hand side menu
- Select **Show comments** from menu

or

- Select tab **Home**, and button **Comments**



- Write your comments in **Comments** tab that appears inside bottom window



Comments are automatically saved when there is “single character” inside comment area or other words text length is greater then zero (0).

If comments defined, comments tab will always be visible after execution.

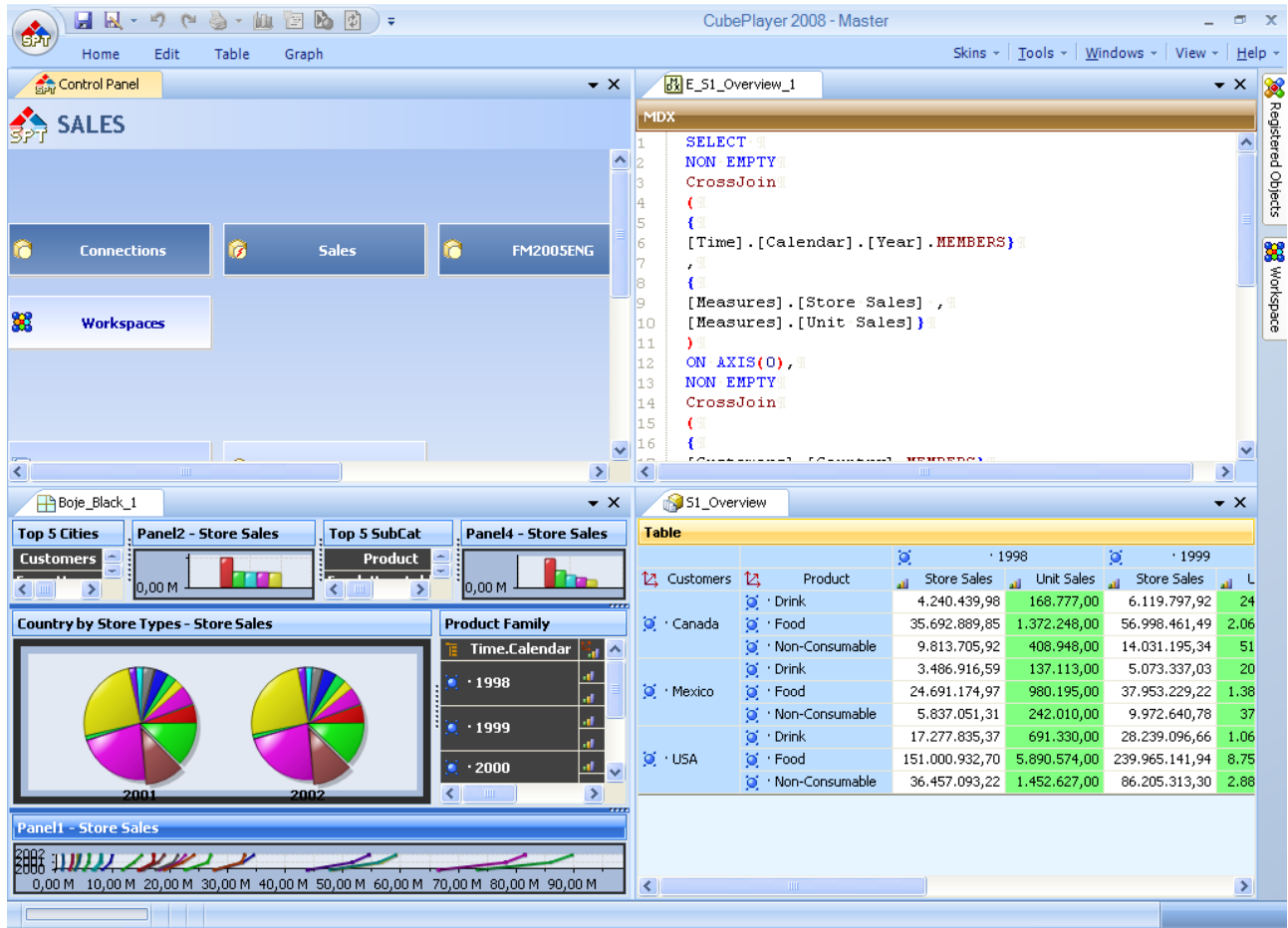
To clear comment, select entire text with mouse (or press Ctrl + A) and press delete. Since text length will be equal to zero (0), comment tab will not appear.

Do not forget to save object before closing application.

If you do not save object, comments will not be saved.

Docking windows and tabs

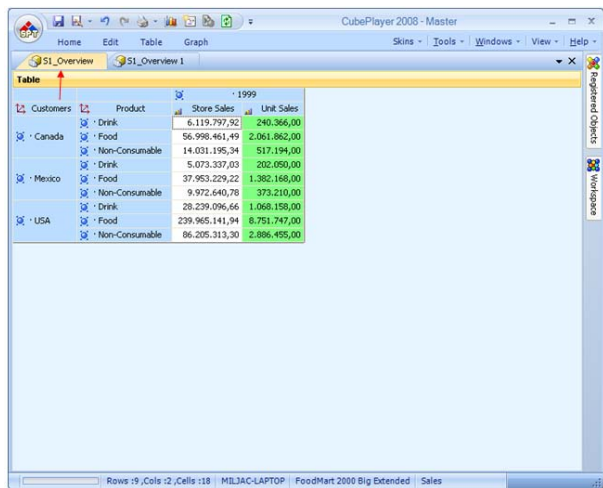
CubePlayer uses docking windows to present different elements and objects.



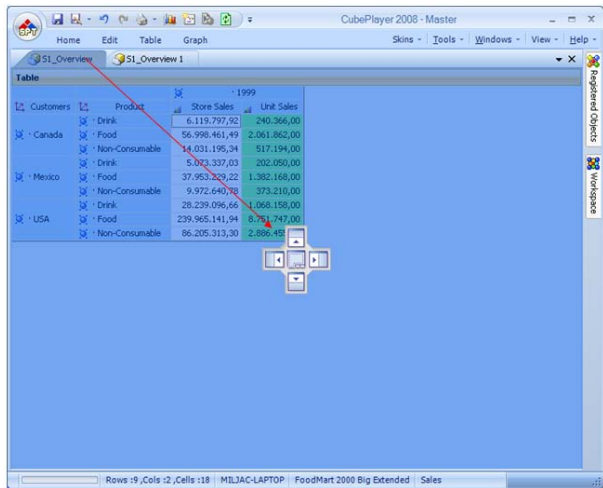
Compare tables from two or more tabs

To compare two queries:

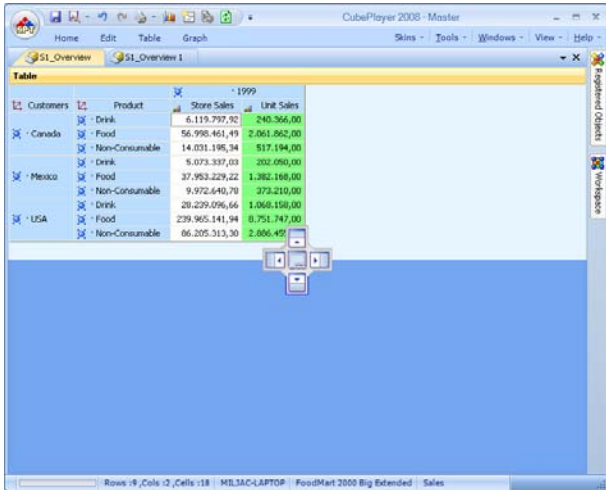
Place mouse over one tab (S1 Country-Product 1999)



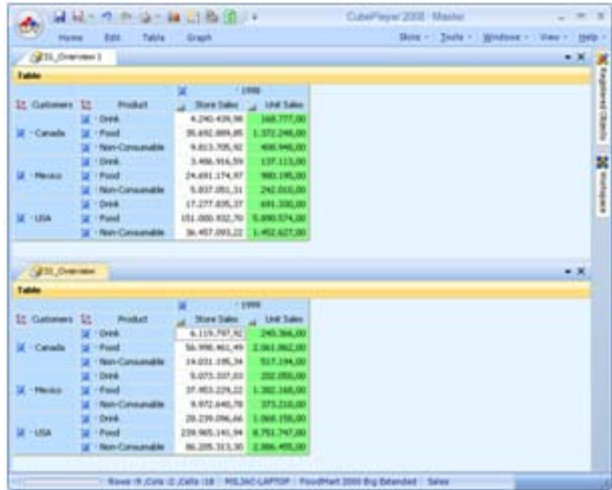
Click with left button and hold



Move mouse to the cross in the center and select where to dock (lover part)



Now you can compare and work on both queries.



Move tabs left or right

To move window left or right:

Place mouse over one tab (**S1 Country-Product 1999**)

Click with left button and hold

Customer	Product	Store Sales	Unit Sales
Canada	Food	5,119,747.51	240,366.00
Canada	Non-Consumable	14,031,196.34	517,194.00
Mexico	Food	9,073,337.00	382,090.00
Mexico	Non-Consumable	37,953,229.22	1,382,144.00
USA	Food	20,239,096.66	1,868,136.00
USA	Non-Consumable	239,965,141.94	8,751,747.00

Customer	Product	Store Sales	Unit Sales
Canada	Food	5,119,747.51	240,366.00
Canada	Non-Consumable	14,031,196.34	517,194.00
Mexico	Food	9,073,337.00	382,090.00
Mexico	Non-Consumable	37,953,229.22	1,382,144.00
USA	Food	20,239,096.66	1,868,136.00
USA	Non-Consumable	239,965,141.94	8,751,747.00

Move mouse to left or right over other tabs

Release mouse button

Customer	Product	Store Sales	Unit Sales
Canada	Food	5,119,747.51	240,366.00
Canada	Non-Consumable	14,031,196.34	517,194.00
Mexico	Food	9,073,337.00	382,090.00
Mexico	Non-Consumable	37,953,229.22	1,382,144.00
USA	Food	20,239,096.66	1,868,136.00
USA	Non-Consumable	239,965,141.94	8,751,747.00

Customer	Product	Store Sales	Unit Sales
Canada	Food	5,119,747.51	240,366.00
Canada	Non-Consumable	14,031,196.34	517,194.00
Mexico	Food	9,073,337.00	382,090.00
Mexico	Non-Consumable	37,953,229.22	1,382,144.00
USA	Food	20,239,096.66	1,868,136.00
USA	Non-Consumable	239,965,141.94	8,751,747.00

Edition difference

Features	Standard	Professional	Enterprise
MDX Query Designer	✗	✗	✓
MDX Editor	✗	✗	✓
ABC+ Analysis	✗	✓	✓
OLAP parameters	✓	✓	✓
Result forms	Standard	Professional	Enterprise
Dashboard (multiple panels with queries)	✓	✓	✓
Dynamic document (query)	✓	✓	✓
Static report (result snap-shot)	✓	✓	✓
Result analysis	Standard	Professional	Enterprise
Hot-Spot Analysis (exceptions)	✓	✓	✓
Range Analysis	✗	✓	✓
Distribution Analysis	✗	✓	✓
ABC+ Analysis	✗	✓	✓
Show Me? Analysis	✗	✓	✓
How Many? Analysis	✗	✓	✓
Result view	Standard	Professional	Enterprise
Table	✓	✓	✓
Table and Graph (in dashboard table or graph)	✓	✓	✓
MiniGraphs (Sparklines)	✓	✓	✓
Result operations	Standard	Professional	Enterprise
DrillDown Level (any level, top, bottom ...)	✓	✓	✓
DrillDown Member (any level, top, bottom ...)	✓	✓	✓
DrillDown Set (any level, top, bottom ...)	✓	✓	✓

DrillDown Through	✓	✓	✓
DrillUp Level	✓	✓	✓
DrillUp Member	✓	✓	✓
Swap axes	✓	✓	✓
Add/Remove dimension	✗	✓	✓
Add/Remove filters	✗	✓	✓
Add Calculated Measure	✗	✓	✓
Add/remove Non Empty	✗	✓	✓
Push member to Filter	✗	✓	✓
Push member to filter and replace dimension	✗	✓	✓
Move dimension from axis to axis	✗	✓	✓